RHINO AND TIGER CONSERVATION

HEARING

BEFORE THE

SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS

OF THE

COMMITTEE ON RESOURCES
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTH CONGRESS

SECOND SESSION

ON

H.R. 2807

TO AMEND THE RHINOCEROS AND TIGER CONSERVATION ACT OF 1994 TO PROHIBIT THE SALE, IMPORTATION, AND EXPORTATION OF PRODUCTS LABELED AS CONTAINING SUBSTANCES DERIVED FROM RHINOCEROS OR TIGER

H.R. 3113

TO REAUTHORIZE THE RHINOCEROS AND TIGER CONSERVATION ACT OF 1994

FEBRUARY 5, 1998, WASHINGTON, DC

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HEARING ON H.R. 2807, TO AMEND THE RHINOCEROS AND TIGER CONSERVATION ACT OF 1994 TO PROHIBIT THE SALE, IMPORTATION, AND EXPORTATION OF PRODUCTS LABELED AS CONTAINING SUBSTANCES DERIVED FROM RHINOCEROS OR TIGER AND H.R. 3113, TO REAUTHORIZE THE RHINOCEROS AND TIGER CONSERVATION ACT OF 1994

THURSDAY, FEBRUARY 5, 1998

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS, COMMITTEE ON RESOURCES, *Washington, DC.*

The Subcommittee met, pursuant to notice, at 10:03 a.m., in room 1334, Longworth House Office Building, the Hon. Jim Saxton (chairman of the Subcommittee) presiding.

Mr. SAXTON. Good morning. The Subcommittee on Fisheries Conservation, Wildlife and Oceans will come to order. Good morning. I would like to, once again, welcome everyone here.

STATEMENT OF HON. JIM SAXTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. SAXTON. As you know, today we will discuss two important wildlife conservation bills, H.R. 2807 and H.R. 3113.

[The bills may be found at end of hearing.]

Mr. SAXTON. The first bill, which I introduced, H.R. 2807, will ensure that no person may import any product labeled or containing any species of rhinoceros or tiger into or export such product from the United States.

Unfortunately, despite the fact that these species have been listed as endangered for over 20 years, there are pharmacies well located in America that have products on their shelves indicating they contain rhino and tiger parts.

While some of the products are confiscated prior to importation, it is virtually impossible to prove that the ingredients in the medicine originated from a rhinoceros or tiger. The Rhino and Tiger Product Labeling Act will solve that problem. If the label on the product says that it contains rhinoceros or tiger parts, then this legislation will prevent it from coming into the United States by making the legal presumption, without any further tests or analysis, that it violates our trade laws.

In short, if a medication says it contains components of rhinos or tigers, then we accept the manufacturer's assertion and stop its sale.

The second bill, H.R. 3113, was introduced by the distinguished Chairman of the Resources Committee, the Honorable Don Young, to extend the Rhinoceros and Tiger Conservation Act fund until September 30th, 2004. I strongly support this bill and believe the grants made from this fund are making a positive difference in the international fight to save rhinos and tigers.

[The prepared statement of Mr. Saxton follows:]

STATEMENT OF HON. JIM SAXTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Good morning, Ladies and Gentlemen. I would like to welcome everyone to our Subcommittee's first hearing in the Second Session of the 105th Congress.

Last year, our Subcommittee was extremely productive and successful in moving a number of legislative proposals forward. We held 25 days of hearings, 7 markup sessions, 12 of our bills passed the House of Representatives, and 6 were enacted into law. I am particularly pleased that the President signed into law measures creating the Asian Elephant Conservation Fund, extending the Atlantic Striped Bass Act, protecting valuable herring and mackerel stocks off the coast of New Jersey, and establishing for the first time an organic act for our Nation's Wildlife Refuge System. I am confident we will build on that record this year.

Today we will hear testimony on legislation to help save two highly endangered keystone species, the rhinoceros and the tiger. Unless immediate steps are taken, these magnificent animals will continue their slide toward extinction.

The first bill which I introduced, H.R. 2807, will ensure that no person may import any product labeled or containing any species of rhinoceros or tiger into, or export any such product from, the United States. Fortunately, despite the fact that these species have been listed as endangered for over 20 years, there are pharmacies all over America that have products on their shelves indicating they contain rhino and tiger parts.

While some of these products are confiscated prior to importation, it is virtually impossible to prove that the ingredients in the medicine originated from a rhinoceros or a tiger.

The Rhino and Tiger Product Labeling Act will solve that problem. If a label on a product says that it contains rhinoceros or tiger parts, then this legislation will prevent it from coming into the United States by making the legal presumption, without any further tests or analysis, that it violates our trade laws. In short, if a medication says it contains components of a rhino or tiger, then we accept the manufacturers' assertion and stop its sale.

The second bill, H.R. 3113, was introduced by the distinguished Chairman of the full Resources Committee, the Honorable Don Young, to extend the Rhinoceros and Tiger Conservation Fund until September 30, 2004. I strongly support this bill and believe that the grants made from this Fund are making a positive difference in the international fight to save rhinos and tigers.

I look forward to hearing from our prominent witnesses and would like, in particular, to welcome back to our Subcommittee the distinguished Secretary of the Interior, Bruce Babbitt.

Mr. SAXTON. Let me recognize Mr. Miller at this point, for any statement he may have.

STATEMENT OF HON. GEORGE MILLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. MILLER. Thank you, Mr. Chairman. I will not have an opening statement. I just wanted to reiterate the point that was made by the Secretary, and that is prior to a lot of changes in international trade we had tools, I believe, that were available to us, that are not available today. That is one of the reasons that we need this legislation. I look forward to the testimony.

Mr. SAXTON. Thank you, Mr. Miller. I would now just like to ask unanimous consent that all Subcommittee members be permitted to include their opening statements in the record. Without objection.

[The prepared statement of Mr. Young follows:]

STATEMENT OF HON. DON YOUNG, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALASKA

Mr. Chairman, I am pleased that you are conducting this hearing today on two pieces of legislation to help conserve highly endangered rhinos and tigers.

There is no question that human population growth and intense competition for land has resulted in destruction of critical habitat for these species. After all, we are talking about some of the most densely populated countries in the world.

Nevertheless, the major cause for the decline of rhinos and tigers is the huge ongoing demand for products made from these animals. For generations, Oriental medicines have contained ingredients of rhino and tiger parts that are consumed to fight headaches and fever in children, kidney and liver problems, convulsions, and heart conditions. In almost all cases, rhino horn and tiger bones are obtained from illegal sources.

We must eliminate the market for these products to have any real hope of saving these flagship species. The legislation before us today is designed to assist in that effort and, in particular, I would like to highlight the important work of the Rhinoceros and Tiger Conservation Fund.

Since its inception in 1994, the Department of the Interior has funded 30 conservation projects to assist rhinos and tigers. These projects have included: aerial monitoring of the Northern white rhinoceros in Zaire; investigation of poaching and illegal trade in wild tigers in India; and the training of wildlife staff for four black rhino populations in the Selous Game Reserve in Tanzania. The sponsors of these projects intend to match the $585,000 they have received in Federal funds, and I am confident that these grants will make a positive difference.

Since I believe the Fund is an effective investment of Federal money, I introduced H.R. 3113, which will allow the Secretary of the Interior to approve rhino and tiger conservation projects until September 30, 2004.

I look forward to hearing from our distinguished witnesses and to early Subcommittee consideration of this important legislation.

Mr. SAXTON. Now I would like to introduce our first witness, or I guess I should say reintroduce. Panel No. 1 is, of course, the distinguished Secretary of Interior, long-time friend of all of ours, the Honorable Bruce Babbitt. I am told the Secretary is also accompanied by Mr. Brooks Yeager and Mr. Marshall Jones.

Let me remind our witnesses that under the Committee rules we must limit our oral statements to 5 minutes or thereabouts, but your entire statement will be recorded in the record. Mr. Secretary?

STATEMENT OF HON. BRUCE BABBITT, SECRETARY, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY BROOKS YEAGER, DEPUTY ASSISTANT SECRETARY FOR POLICY AND INTERNATIONAL AFFAIRS, DEPARTMENT OF THE INTERIOR, AND MARSHALL P. JONES, ASSISTANT DIRECTOR FOR INTERNATIONAL AFFAIRS, U.S. FISH AND WILDLIFE SERVICE

Secretary BABBITT. Mr. Chairman, good morning, and thank you. I appreciate the opportunity to come before you and Congressman Miller and the Committee.

I will be very brief because there are witnesses here with, I think, a lot of really valuable information that you should hear from in the course of your deliberations.

I would like, No. 1, of course, to add the administration's enthusiastic endorsement of both of these pieces of legislation.

And second, congratulate you for the emerging bipartisan interest in these issues that relate to endangered species. With Republicans and Democrats on the bill, Senator Jeffords I am told has now introduced comparable legislation in the Senate. It is my hope that the emergence of this legislation is a harbinger of more to come in the entire area of protecting wildlife and endangered species.

The legislation extending the conservation fund simply builds on a demonstrated success. The Fish and Wildlife Service, I think, can point with pride to the way these appropriations have been parceled out in the range states in Africa and Asia. The money is moving down to the ground level of assisting in the administration of reserves, equipment, training, and that kind of thing.

I would simply say that I believe the impact of these appropriations has gone way beyond just a dollar figure, in terms of match, in terms of demonstrating the commitment of the United States to take the lead and to be a strong partner in range state conservation.

Lastly, a word about the product labeling legislation and its importance. The trade in rhino horn and tiger bone is still an enormous problem. I am told, for example, by the Fish and Wildlife Service, that a prime Asian rhino horn from which purchasers are delivered shavings onsite can command a price of $50,000 a kilo, which means that for poachers that rhino target out there in the range states is an animal worth a couple of hundred thousands dollars. That simply underlines the extraordinary importance of moving to shut down this trade.

The administration has been working hard on this, through Pelly Amendment certification and, in the case of Taiwan, through trade sanctions which were levied back in 1995. Those tools are quite successful. We have had, I think, a significant turn around in Taiwan, in terms of legislation, administrative changes, and the emergence of Taiwan as a partner in solving the problem rather than being part of the problem.

But this legislation today talks about our goal here in the United States. The fact is that there is a market flourishing for traditional medicines, including tiger bone and rhino horn.

The Fish and Wildlife Service has taken the initiative with an educational campaign because the bottom line is that the purchasers of these traditional medicines are not criminals and the owners of the shops, for the most part, are innocent parties unaware of the larger problem here. As other witnesses can describe to you, these campaigns have had a real impact in changing patterns and practices, a particular success story in Los Angeles.

But the bottom line is that behind the traditional culture of purchasers and small sellers is a large pipeline of distribution which cannot claim to be innocent, which is fully aware of the problem and really the lack of enforcement tools that have prevented us from cracking down on them.

That is really the ultimate need for this legislation, is to say that we are going to have, and will have, criminal sanctions based on product labeling alone which the Service can apply at the point of entry into the United States, through the distribution channels quick, effectively, and unequivocally as a result of the violation of

the law which says the violation is the labeling itself. It is for that reason that we enthusiastically support this legislation.

Thank you.

[The prepared statement of Secretary Babbitt may be found at end of hearing.]

Mr. SAXTON. Mr. Secretary, thank you very much.

I am just curious, can you think of any reason why highly endangered species parts, of any kind, should be sold in our country?

Secretary BABBITT. Mr. Chairman, I think the answer is no. In fact, there is a broad spectrum of issues here that you are well aware of, bear gall, a number of other issues, that presumably should have attention, as well.

Mr. SAXTON. We are aware of the bear problem as well and are looking at that as an upcoming project. One of the problems with the bear bill is it has gotten referred to a half a dozen committees and we would like to try to perhaps rewrite the bill to make it possible to streamline the process some.

Secretary BABBITT. Mr. Chairman, one way to go about that would be to look at the CITES lists of all of these products and it might be possible, actually, to consider legislation which imposed these kinds of sanctions as a function of determinations that have been made by the CITES group itself.

Mr. SAXTON. Are there any changes, based on our experience, that we might want to look at with regard to the Rhino and Tiger Conservation Act?

Secretary BABBITT. Mr. Chairman, I thought Mr. Maple had it just about right when he said yes, money.

Mr. SAXTON. Very good. Thank you. Mr. Miller?

Mr. MILLER. He is talking to the right guy.

Thank you very much, Mr. Secretary. Let me ask you, does the Department have under consideration any further Pelly Amendment actions? Have you looked at this and matched this against activities in other countries with respect to this problem?

Secretary BABBITT. Mr. Chairman, we have had a lively discussion about that. I think the consensus right now is that the Taiwan experience has really made a big difference in many of the Asian countries that we are working with, Korea, Vietnam, Laos, Thailand. I would say that at this moment, I think the Taiwan experience is still sufficiently resonant and has enough positive impact that we are not near a certification decision at this time.

Mr. MILLER. The reason I raise it is obviously there are very active discussions in the Congress and the administration and around the world about the IMF situation. I know that there are negotiations currently underway. As we know, fast track ran into serious problems because of both labor and environmental concerns, and a number of organizations are engaged in active conversations with the Secretary of Treasury and others about some of those concerns and how those can partially be addressed.

When I see Indonesia is a serious problem with compliance with CITES and also has the Javan rhino, I just wonder whether or not there is an opportunity here to enter into those discussions as part of this because again, in some instances, we have very direct actions within these nations and these are the same nations now that are on the table for $18 billion of our money.

I raise that because I know that the questions of both labor and environment are being raised in a number of forums with the Department of Treasury and others. I just wonder if we might look for an opportunity to join those. I do not suggest that IMF would hinge on this or not, but I think it is going to be an important consideration because it appears that we are down to some pretty serious thin margins, with respect to consideration of that legislation.

If there are potential recipient countries that are in serious violation either of CITES or our efforts to deal with, certainly in this case with the tiger and the rhino, I think that those ought to be brought to the other party administration's attention.

Secretary BABBITT. Mr. Miller, there is, I think, an interesting gap here that your comments go to. The CITES convention and the Pelly Amendment are aimed primarily at a fairly narrow spectrum, which is the trade issue. Underlying that is the larger issue of habitat conservation and classic species conservation. The CITES and Pelly Amendment really do not reach to that. It is a subject that I think could deserve a lot more attention.

Mr. MILLER. Thank you.

Mr. SAXTON. Mr. Secretary, thank you again for being here with us this morning, and for your extensive work on these issues. Members may have some additional questions. If so, we will submit them in writing.

Thank you for being with us this morning.

Secretary BABBITT. Mr. Chairman, thank you.

Mr. SAXTON. I will now introduce our second panel. On panel two, we have our friend Dr. Terry Maple, President and CEO of Zoo Atlanta; Ms. Kathryn Fuller, the President of the World Wildlife Fund. I understand Ms. Fuller is accompanied by Ms. Ginette Hemley, director of the international wildlife policy; and Dr. Lixing Lao, assistant professor, family medicine, at the University of Maryland.

Welcome folks. If you would like to take your places. Let me just remind you, while you are on your way to your places, that we do have this 5 minute rule for all the appropriate reasons. Your full testimony, of course, will be included in the record. When you are in place and comfortable, Dr. Maple, please begin.

STATEMENT OF DR. TERRY MAPLE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ZOO ATLANTA

Mr. MAPLE. I represent the American Zoo and Aquarium Association and I am very grateful for the opportunity to support these two very important propositions.

The American Zoo and Aquarium Association represents 182 accredited institutional members and over 6,000 zoo and aquarium professionals. We attract over 120 million people who visit our member zoos and aquariums.

We are very grateful for the concern and interest that this Subcommittee has shown for conservation, not only for the rhino and the tiger, but the African and Asian elephant and many other highly endangered and threatened species.

AZA is very pleased, as well, that the Asian Elephant Conservation Act has now been signed into law. We will work hard to see

that funding can be secured for this and the programs presented here today.

As the Subcommittee is well aware, the situation facing all species of rhinoceros and tigers in the world has reached crisis levels with 95 percent of the tiger population having disappeared since the turn of the century. Today, fewer than 11,000 rhinoceros and 6,000 tigers are left in the wild, and these numbers continue to drop rapidly.

Since the 1940's, three tiger subspecies, the Caspian, Bali, and Javan have become extinct. The Sumatran rhino, numbering less than 500 animals, and the South China tiger are now among the most highly endangered mammals on earth.

While pressure from an expanding human population and the development of natural resources to supply booming economies have certainly contributed to a decline in worldwide populations, poaching has taken center stage since the 1980's as the primary reason for the decline of these animals.

The AZA strongly believes solving these serious problems requires a two-pronged attack. H.R. 2807 would ensure that no persons may import any product labeled or actually containing any species of tiger or rhinoceros or export any such products from the United States. While the bill would not affect the market within Asia, it would stop the increased importation of rhino and tiger products into the United States.

According to a recent report by our friends at the World Wildlife Fund and the World Conservation Society, more than 50 percent of all retail stores in North American Chinatowns continue to sell illegal endangered species products despite a 20-year ban.

Although all species of rhinos and tigers have been listed as Appendix I of the Convention on International Trade in Endangered Species for nearly 20 years, the prohibition on trade of these animals and their parts has not been well enforced in some Asian countries. Passage of H.R. 2807, combined with increased appropriations, will certainly be a bold step by the United States in ending the slaughter of rhinos and tigers in the wild.

The AZA and other conservation organizations must continue educating the public on the harmful effects of purchasing rhino and tiger products. The 182 institutional members of AZA are in a unique position to help.

For example, in this past year, AZA unveiled a new traveling exhibit designed to promote the survival of the tiger. The AZA Save the Tiger traveling exhibit Tiger in Crisis is designed to help education people about tigers, the problems they face as an endangered species and the efforts zoos and other conservation organizations are making to save them. This exhibit was funded by the Exxon Save the Tiger Fund program of the National Fish and Wildlife Foundation.

The zoos and aquariums of AZA have also greatly expanded their conservation efforts well beyond their gates. We are involved in many field conservation programs on every continent, including rhino and tiger conservation programs in Asia and in Africa.

AZA zoos have also had the fortune of maintaining a number of endangered species under our care, which has given us the opportunity to develop successful techniques in reproduction, animal

radio and satellite telemetry, veterinary techniques, genetic make-up, and population densities and disease control. These have been transferred to field conservationists who have used them well to work with tigers, rhinos and other creatures in the wild.

The AZA strongly supports the reauthorization of the Rhinoceros and Tiger Conservation Act. The AZA especially believes the Rhinoceros and Tiger Fund has already proven itself effective for critical conservation programs in Africa for the highly endangered northern and southern black rhinoceros, and for developing workshops in India and Indonesia for improving enforcement programs.

Fourteen projects at a total of $251,000 were funded in 1996. Like the African Elephant Conservation Fund, this fund is designed to be a quick strike in assisting conservation organizations on the front lines in saving these animals from extinction.

We support it and we hope that it can be elevated in funding to that level appropriate for elephants in Asia and Africa. Thank you.

[The prepared statement of Mr. Maple may be found at end of hearing.]

Mr. SAXTON. Dr. Maple, thank you very much.

Ms. Fuller?

STATEMENT OF KATHRYN FULLER, PRESIDENT, WORLD WILDLIFE FUND, ACCOMPANIED BY GINETTE HEMLEY, DIRECTOR OF INTERNATIONAL WILDLIFE POLICY, WORLD WILDLIFE FUND

Ms. FULLER. Thank you, Mr. Chairman. And thank you very much, on behalf of World Wildlife Fund, for your leadership on these and other species conservation issues.

World Wildlife Fund is an organization created in 1961. It works in about 100 countries around the world to save species and their habitat. There have been no higher priority species for us in our history than rhinos and tigers.

I am here this morning to make four basic points within the framework of a very enthusiastic endorsement of both bills. First, reauthorization of the Rhino and Tiger Conservation Act of 1994 and appropriations to the special fund it creates are very important.

The statistics that you have heard from Dr. Maple already are, of course, pretty grim. But there is some good news. In places where we have seen infusions of small amounts of funding through this fund, through the African Elephant Fund in that example, you can see real progress and in a very short period of time.

In Siberia, where the world's most majestic tigers live, the pressure was enormous, the tiger populations plummeting. The community came in with very small amounts of funding to increase anti-poaching assistance with the result now that the Siberian tiger population appears to have stabilized.

The black rhino population across Africa, again with modest amounts of funding, is stabilizing. The one-horned rhino populations of Southern Nepal are actually rapidly increasing as a result of support through the Rhino and Tiger Conservation Act, support from non-governmental organizations like World Wildlife Fund and other agencies.

We would very much like to see not only the reauthorization but funding of this Act at the $1 million level, which is where the request is for both the African and the Asian Elephant Conservation Acts.

Second, we think that the Rhino and Tiger Product Labeling Act is enormously important. The limitations on enforcement of existing laws to get these products labeled as containing rhino horn and tiger bone are quite significant. Agents and inspectors have to be able to prove what is in these products if they find them in large shipments at the ports of entry or in the shops themselves, and that is no easy matter.

In fact, the forensics are so limited currently that the best you can do is tell perhaps that something contains bone. You cannot even tell, if you are looking for tiger bone, that it is cat bone. So being able to address the problem of product labeled as containing rhino horn and tiger bone is quite significant. Just having those products in the marketplace, whether or not they contain rhino and tiger parts, perpetuates a market that is driving additional poaching in the wild.

Third, we would urge the U.S. Government to maintain and even increase the priority it has placed on enforcement of existing authority it has to protect rhinos and tigers in U.S. marketplaces and to, with passage of the new labeling Act, to take forward the good experience in Los Angeles of helping to reduce the availability of these products in the marketplace, and intensify its efforts particularly in ports of entry, where the Fish and Wildlife Service is already present.

The report that World Wildlife Fund's trade monitoring arm, TRAFFIC, issued recently called *While Supplies Last: the Sale of Tiger and Other Endangered Species Medicines in North America*, shows that here in our own backyard, in seven North American cities, almost 50 percent of the shops, 110 shops surveyed, were found to have products that appeared to contain rhino horn and tiger bone.

And finally, we invite the Congress, the administration, other non-profits, and the zoo community to join us in a national outreach effort with the traditional Chinese medicinal community. We are now working, at World Wildlife Fund, with the American College of Traditional Chinese Medicine on better outreach to that community to help identify culturally appropriate substitutes to the use of products that contain rhino horn and tiger bone.

Thank you very much.

[The prepared statement of Ms. Fuller may be found at end of hearing.]

Mr. SAXTON. Thank you very much, Ms. Fuller.

Ms. Hemley, I understand that you are going to be available for questions, but that you do not have an opening statement?

Ms. HEMLEY. That is correct.

Mr. SAXTON. Thank you. Dr. Lao?

STATEMENT OF DR. LIXING LAO, ASSISTANT PROFESSOR, FAMILY MEDICINE, UNIVERSITY OF MARYLAND

Dr. LAO. Thank you. Good morning. My name is Lixing Lao and I am both a Doctor of Oriental Medicine and a Ph.D. I am here be-

fore you on behalf of the American College of Traditional Medicine in San Francisco, the Maryland Institute of Traditional Chinese Medicine at Bethesda, and the Complementary Medicine Program at the University of Maryland School of Medicine.

The following is a joint statement prepared by Ms. Lixing Huang, the president of the American College of Traditional Chinese Medicine, and myself.

We would like to thank the members of the Committee for providing the opportunity to testify today about the critical need for ensuring safe habitat for the endangered tiger and rhino, and about the most effective and pragmatic ways to achieve that goal in the near future.

1998 marks the Year of the Tiger in the Chinese calendar, which began on January 28th, the Chinese New Year. In the Chinese culture, the tiger is regarded as the king of the wildlife, a symbol of energy, strength, speed, agility, and power, as well as of threat and danger. There are a number of Chinese idioms with the character representing tiger in them.

To describe, for example, an individual or a business within certain conditions as being more successful, it is often expressed as tiger with wings. To praise active, healthy and energetic people, they are called a tiger come to life. The accomplishment of a task that includes great risk or danger is described as pulling the teeth out of a tiger's mouth. To have worked with a fine start and a poor finish is described as in like a tiger, out like a lamb.

For many, many years, people of Chinese descent have had an affinity for the image of the tiger, which has been reflected in the language, in literature, graphics, art and medicine.

Traditional Chinese medicine, known as TCM, and acupuncture has been developed over several millennia as an integral part of Chinese culture. In the United States, 34 states have passed legislation to support the practice of acupuncture and Chinese medicine and consumer demand has resulted in a growing number of insurance carriers and HMOs making some oriental medicine available.

The exploitation of the tiger and other endangered species for use in patent traditional Chinese medicine has been a major conservation concern over the last decade. Our associates in the World Wildlife Fund and in the Wildlife Conservation Society have already testified to the overwhelming threat faced by tigers in the wild, and we need not underscore the continuing threat to human life posed by the decreasing biodiversity of the planet.

Although CITES has banned the trade in tiger parts and products for over a decade, illegal commerce has continued because of the consumer demand, even though viable and effective alternatives to parts from endangered species are available. One of the key problems to be addressed is the lack of education about the alternatives to the use of endangered species parts among both consumers and practitioners.

One of the other major problems is the perception, because TCM is so thoroughly a part of Asian culture, that conservation efforts are a result of cultural imperialism and insensitivity. The initial approach to the problem of severe international mandates and government enforcement did not service to increase understanding.

Therefore, there is an urgent need for a new conservation approach.

An effective and pragmatic approach would be to educate consumers and, rather than impose upon, to work with TCM communities, bringing the awareness of the need for tiger conservation and useful medical alternatives directly into the community.

The World Wildlife Fund and our organizations have joined together in an effort to take this new conservation approach. Together, we have developed an outreach program which will serve as the first systematic effort in North America to educate TCM users and practitioners, both those within and outside of the Asian-American communities about endangered species issues. We will use culturally sensitive approaches and community based educators to reach each target audience. In addition, we will be joining several conferences and holding our own symposium in San Francisco on tiger conservation and TCM.

What our organizations and our colleagues now need from the Committee is not only this helpful public airing of these issues, but a commitment to help us secure the necessary private, and perhaps public, financial support to carry out this critical plan of education and outreach. We need an indication that you understand the gravity of the issues, and the usefulness and pragmatism of our approach to addressing them. In essence, we need for the Committee not to go in like a tiger and out like a lamb, but to instead pull that bad tooth from the mouth of the tiger so that the tiger can come alive and our project can be like a tiger with wings.

Please do whatever is in the scope of the Committee and of our individual offices to help us make this a year for the tiger. Thank you very much. We very strongly support the legislation.

[The prepared statement of Dr. Lao may be found at end of hearing.]

Mr. SAXTON. Thank you, Dr. Lao.

Dr. Lao, in your statement, you say there is an urgent need for a new conservation approach. Are you referring, sir, to——

Dr. LAO. Education approach, which is more education approach. Instead of oppose, rather educate the people to understand why they must support this. And also, people will understand there are lots of alternative parts we can use. For example, in China they have research that indicates you can use pig bone instead of tiger bone as medicine.

Mr. SAXTON. What is your feeling about the labeling bill that we are discussing today?

Dr. LAO. I strongly support the legislation.

Mr. SAXTON. Thank you.

Dr. Maple and Ms. Fuller and Ms. Hemley, in general, how large do you believe the problem of medicines being imported into the United States is, and to what degree does this affect the taking of tigers and rhinos?

Ms. FULLER. We are quite concerned about the U.S. market. I had a chance to mention, in the press briefing we did earlier, that some of the work that WWF and its trade monitoring arm, TRAFFIC, have done to survey markets in China itself have shown that the availability of these products has gone down, and yet they are really on the increase here.

That suggests to us that there is a very deliberate illicit trade, a pipeline to the United States, that is not going directly into Chinese markets, whether it is stockpiles or new products that are being manufactured specifically for our market.

Mr. SAXTON. Ms. Hemley?

Ms. HEMLEY. Just to add to that, Mr. Chairman, one of the conclusions of the TRAFFIC study that was completed a couple of weeks ago is that there appears to be a wider variety of medicines labeled as containing tiger bone on the U.S. market now than ever before. We need to get at the root of the problem, obviously.

The markets in China appear to be much reduced, as you heard earlier, but we are not sure where these products are coming from. The United States needs to engage in dialog with the Chinese government to investigate if these are still being produced in factories in China.

In terms of gauging the impact on tigers in the wild, it is obviously very difficult to do. But one of the concerns we have is that with the U.S. emerging as a bigger market than we had previously thought, clearly something needs to be done. CITES has called upon all countries to pass the kind of legislation that we are discussing today, so regardless of the numbers that are being killed, we know that tigers are still being killed and the U.S. is likely to be contributing to that.

Mr. SAXTON. Can you speak, there are what, 1.2 billion Chinese people that live in China? Is this a problem there as well? And how does that problem—I mean, it seems like there is such an immense population and if the cultural events occurring with regard to this subject there, do they dwarf the problem that exists here? Or is this a more significant part because of American economics and availability of moneys to be spent on these types of medicines?

Ms. HEMLEY. One of the things that we have discovered is that the open markets in China are not showing as much trade in these products as 5, 6 or 7 years ago. China did, in 1993, enact a very strict law that, somewhat to our own surprise, seems to be quite well enforced on the market there. China has banned the trade and sale and manufacture of medicines containing rhino and tiger.

China is the heart of traditional Chinese medicine and whatever happens there does impact the rest of the world. I think the emphasis that we need to place on this issue, in terms of the products, is on substitutes. To that end, as Dr. Lao has said, the good news from China in recent months is that there are substitutes available. We understand the Chinese government is promoting them. That is, I think, where we really can make progress in stemming the demand.

Mr. MAPLE. One point I would like to make on this issue is that this is kind of an interesting question that normally you apply these funds in the field, in the range countries, and certainly education in China is very important, throughout the Far East, in fact.

But in America, really, this is an example of targeted social marketing and we are pretty good at this sort of thing normally, and I think we really do need to get together. I think the AZA and WWF, for example, might get together to focus efforts on these Chinese communities.

I am quite excited about returning to Atlanta to begin an educational process there, but we will have to allocate funds from some source to be able to get those issues to the people that need to know about this.

Mr. SAXTON. Thank you. My time is about to expire, but just for the record, let me ask the administration has requested $400,000 for the Rhino and Tiger Conservation Fund in the next fiscal year. Do you believe that is enough? If not, what should the number be?

Mr. MAPLE. We would like $1 million. We think that is a good start.

Ms. FULLER. We concur.

Mr. SAXTON. Thank you. Mr. Miller?

Mr. MILLER. Thank you, Mr. Chairman. Let me, Ms. Hemley, just to follow up on the question the Chairman asked on the China market, in your report on 33 you discuss the China market and the laws that have changed. And then you list a series of manufacturers. Would those manufacturers not be manufacturing contrary to the law?

Ms. HEMLEY. They could be. They could also be exporting stockpiles of medicines that were manufactured before the 1993 Chinese ban. I known the administration has tried to get information from China to ascertain the source of some of these medicines. Clearly, more investigation is needed.

Mr. MILLER. So when you are making tiger bone wine, and you list four factories in China that do this, conceivably they could be making this legally within the law?

Ms. HEMLEY. No, they cannot be manufacturing it now.

Mr. MILLER. You said from stockpiles or something.

Ms. HEMLEY. They may have existing stockpiles of products that were manufactured before 1993.

Mr. MILLER. The product would have had to have already been manufactured?

Ms. HEMLEY. Right, so they could have stockpiles there. However, the fact that we have found more new products, at least more labels, currently on the market makes us wonder just what is going on. It appears that manufacturing could be going on now in China illegally.

Mr. MILLER. So it may or may not be that this is a list of manufacturers who could be manufacturing illegally or their products on the shelves in the cities you investigated may or may not be there contrary to Chinese law? You do not know that?

Ms. HEMLEY. We do not know definitively.

Mr. MILLER. Dr. Lao, your testimony is that—and I ask you if this is testimony on behalf of the Traditional Chinese Medicine Institute—that there are effective substitutes for these products; is that correct?

Dr. LAO. Yes. These products are used for many years. But however, I want to point out that even though in thousands of years of Chinese medicine, using the products in the medicine, but it is a very small component. It is not a major—there will not an impact on practice. I have been practicing many, many years and I never use any kind of this medicine.

Mr. MILLER. If it was a major component, we would not be here today, it would have unfortunately gone by us. But I think it is im-

portant that we establish that your testimony is that there are effective alternatives to the medicinal use of these parts?

Dr. LAO. Yes.

Mr. MILLER. Now we get back to the legislation. How do you respond to the charge, other than people would engage in illegal activity, that when we do this we then create a black market, if you will, which probably already exists? To those people who still insist on, either for traditional beliefs or however, that they still want the parts of these tiger or rhino?

Ms. FULLER. The black market, you know, it is illegal to stand these products in interstate commerce, to begin with.

Mr. MILLER. I understand that.

Ms. FULLER. So the black market exists. The real issue has been education. It is a central piece of this and I do think that, working with the traditional Chinese medicinal community, the U.S. Government, the zoo community, organizations like WWF, we can make significant inroads.

Consumer behavior does change very dramatically with a combination of enforcement and public awareness. We have seen that, for example, with the wild bird trade. Congress enacted wild bird legislation. The number of illegally smuggled birds in the United States plummeted dramatically. So I think it can have a real effect.

Mr. MILLER. I think that is an important point and again, Terry suggested that you want to do this education, you want to go back to Atlanta and do this education. I do not know if we can do it in this bill or not, but I think that transitional education is an important part of this when you are dealing with people's traditional concepts of medicines and, as Dr. Lao has pointed out, this is not newly found.

This is been part of, in the case of the Chinese culture, has been this way for thousands of years about the tiger and all of its related cultural aspects. So when you start substituting and taking products off of the shelf, I think it would be very helpful to have some kind of educational component for people. Otherwise, I think you almost reinforce the belief that the tiger parts or the rhino parts are what you really want if you really have an ailment, as opposed to some kind of transitional education program.

Mr. MAPLE. We could do a wonder of good by targeting this next generation. I think we could do wonderful things.

Mr. MILLER. We always put these burdens on the next generation, but you are right.

Ms. FULLER. But interestingly, of course, the change in legislation and the educational effort in China and the formal promotion of alternatives by the Chinese government has made a huge difference in that country.

Mr. MILLER. I see my time is up, but thank you very much for your support and for your testimony on this. I look forward to working with you.

Mr. SAXTON. Thank you, Mr. Miller. Before we move to Mr. Farr, let me say to you folks who are standing in the back, if you would like to take a seat up here if you are weary of standing, please feel free to just walk right up here and take a seat or at the table. Help yourselves.

Mr. Farr?

STATEMENT OF HON. SAM FARR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. FARR. Thank you, Mr. Chairman. First of all, I want to thank you for having this hearing. I think it is too bad that it is not better attended, particularly that it is not on C–SPAN, because I think this is the kind of issue that the American people want Congress to be discussing.

I have a question for anybody on the panel. One of the complaints that I have heard, and not necessarily related to tiger and rhino issues, is that the native take of endangered sea mammals, specifically the ability of natives to harvest certain species and then use those parts for artistic purposes, is essentially creating a loophole in the law. In other words, using the claim that these are allowable native takes, is getting a lot of endangered species products into the market.

Have you noticed any of that? Is that a problem with species that we are dealing with here today?

Ms. FULLER. Ginette Hemley has worked extensively on International Whaling Commission and other marine mammal issues, and I think is probably well-versed in the issue.

Ms. HEMLEY. I am not aware of that kind of problem applying to the tiger and rhino issues that we are discussing here today and I know it has been raised as an issue in the context of some whale takes and other marine mammals, walrus and seals. So as far as rhinos and tigers go, it is essentially the poaching for the open, illegal commerce that is driving the problem.

And addressing that, both at the range state and in the field, with increased moneys for anti-poaching and now, as we are discussing here today, the consumer end, coming at it from both sides is really going to be the way to address it.

Mr. FARR. What do you think we, as the Congress, can best do? Passing legislation can be important, but if the world does not know about it, it is just another law on the books. It seems to me that most of this effort we go through is a matter of trying to educate people that there are rights and wrongs and that we, in enacting laws, make things wrong and subject to penalties. But it is not enough.

I have been in enough elective offices to know that that is not the final answer. Getting a law on the law book does not necessarily solve the problem if the world does not know the law is there.

So you are speaking to a group of lawmakers. Are there any suggestions you have as to how we can use our roles as Members of Congress to——

Mr. MAPLE. Personally, I would like to see more elected officials talking about conservation. When I was flying in here and I was reading The Hill, looking at the issues that both parties were addressing in the next year, and not a single line about conservation or about environmental issues of this kind.

So I think we all have an obligation to speak out a little more loudly, a little more frequently. You mentioned C–SPAN. I wish they were here. They rarely cover issues of this type. It would be very good for them to do so.

We just need to put it on the radar screen. It is very, very important that we do so.

Ms. HEMLEY. Just to add to that, I think the collective efforts, as demonstrated here today with the various types of panelists, in the last couple of years we at World Wildlife Fund have joined with the Traditional Medicine community, with the zoo community and others, as well as Members of Congress. And that alone has really helped elevate the issue.

In Los Angeles, the Fish and Wildlife Service has effectively run an interagency task force that has really made an impact on the availability of medicines in Los Angeles, again working broadly with the different agencies as well as the traditional medicine community.

So that is, I think, where we can really make some move forwards. And this year, being the year of the tiger in the Chinese calendar, as Dr. Lao mentioned, is a key opportunity to really elevate awareness and I think we are off to a good start with this hearing.

Mr. FARR. But in that, we are going into a new era of collaboration. It seems to me that what is really important here is to develop these collaborative efforts. It may be rhino or tiger, but that is not really the issue. It is how do you mobilize society to eliminate things that are unwanted or declared illegal? And that is a process where I think governments can be much more effective.

We seem to only be able to do these collaborative things when there is a national priority. Take drug issues, for example. There used to be the fight between whether it was local control, State control or Federal control. Now we have all these enforcement agencies working in collaboration without regard to whose jurisdiction it is.

We have not yet done that in this field very well, except in the instance that you indicated in Los Angeles. There is probably something we can do to make those collaborations work better all over the world.

Ms. FULLER. Those of us in the conservation community, particularly organizations like World Wildlife Fund that have been field-based historically, putting money into specific parks and protected areas, species conservation work, we have really broadened our own set of activities to say to ourselves it is all very well and good to have a local success, but unless you really can influence the broader public, both in the United States and in other countries around the world, we are not going to be successful in conservation for the long term.

So we are investing more and more every year in public outreach, looking for collaborative partnerships with all stakeholders on an issue to elevate awareness and change behaviors. So we welcome opportunities to reach out.

Mr. FARR. I would be interested in following up. If you have any ideas of how we might create incentives to encourage those collaborations to be developed, I think that is where Congress could play a very effective role.

Mr. MAPLE. That is one of the great things about this fund is that it does encourage collaboration, the elephants funds as well. We are seeing more and more of this, and I delight at the collabo-

ration at this table, and I believe that that is the secret to solving these problems.

Mr. FARR. Thank you, Mr. Chairman.

Mr. SAXTON. Thank you very much, Mr. Farr.

Dr. Maple, Ms. Fuller, Ms. Hemley, and Dr. Lao, thank you very much for your contribution and for taking time to be here with us today. Your contribution today, as always, has been very valuable. Thank you very much.

We will now move to our third panel. We have Ms. Dorene Bolze, senior policy analyst with the Wildlife Conservation Society; Dr. John Seidensticker, curator of mammals at the National Zoological Park here in Washington; Mr. Richard Parsons, Safari Club International; and Dr. Thomas Foose, program officer of the International Rhino Foundation.

Ms. Bolze, when you are prepared, you may begin.

STATEMENT OF DORENE BOLZE, SENIOR POLICY ANALYST, WILDLIFE CONSERVATION SOCIETY

Ms. BOLZE. I would like to thank the Subcommittee for the opportunity to express the Wildlife Conservation Society's support for these two bills today. We are a member of AZA, we are based out of the Bronx Zoo, and we have been dedicated to protecting wildlife since 1895.

In 1995, we launched a specific and concentrated effort called the WCS Tiger Campaign, which is a suite of research and conservation efforts throughout the range of the tiger. One of the important aspects is that it includes the first program in mainland China to reduce demand for these products.

You have been talking today a lot about what is really social marketing, and that is what we have launched in mainland China. We are going to see how well it works.

I have attached a summary of the tiger campaign to my written testimony if you are interested in other details.

Since we have had a number of panelists speak eloquently in support for the Rhino and Tiger Conservation Fund, I would like to focus my 4 minutes or so to the Rhino and Tiger Product Labeling Act. I guess the one important message that we would like to say regarding the fund is that we would love to see it fully financed at $10 million. We do not understand why we are still bickering over $1 million.

In 1996, when I testified before this Subcommittee on the fund, I brought to its attention this whole problem of the illegal trade of tiger and rhino products in the U.S. and the need for this labeling bill. At that time, there was a bill in the Senate that Senator Jeffords had introduced.

The sale of these products is fueling poaching of these species in the wild, and we know that from a lot of our field projects in Indochina. There is no question that this is a serious problem in a lot of places for tigers and for rhinos. These products are patently illegal under CITES.

The Wildlife Conservation Society just completed a market survey in New York City. Our report, along with the TRAFFIC study, was jointly released for the press a couple of weeks ago, and we generated some press attention on this issue. A copy of this report

is in your packets. We have a second printing and more copies will be available next week.

We found that 67 percent of the herbal stores in New York City carry illegal tiger products, and we found that most of the store owners knew that it was illegal. Interestingly enough though, most of the people in the Chinese community are not aware of the problem.

We combined our market study work with efforts in a pilot outreach project, which I will discuss in a second.

It is ironic, as you know, that these products are illegal and difficult to obtain in China, according to a separate TRAFFIC study, and yet these products were manufactured in China and they are found all over the United States.

Something else we found with some of the products we were able to obtain is that their lot numbers indicate that some of them were manufactured upwards of 10 years ago. We do not know if this implies that there are some stocks that have been in the U.S. for that long, or whether these are stocks that are illegally leaving China, but there are a lot of unanswered questions.

Nonetheless, the U.S. needs to take action. First, the Department of Interior needs to make law enforcement on the illegal trade in tiger and rhino products a priority. They did this in Los Angeles and it worked. Only one shop in 17 was found to have a tiger or rhino product for sale. But as far as we know, there has been no such effort anywhere else, and this is really inexcusable, especially since the Fish and Wildlife Service has known about this problem for several years.

As you probably know, some of this inaction has to do with the limitations in the ESA and in some of the State laws. In New York State, they are very interested in trying to remove these products from the shelves but they are deeply concerned that if they seize these products they will not be able to prove that they actually contain tiger or rhino as ingredients. So therefore, secondly, we need the Rhino and Tiger Product Labeling Act and we need it as soon as possible. It would really facilitate efforts in law enforcement.

I would like to make the recommendation, and I think some of the panelists already have, that if possible the Committee should explore how to broaden this bill beyond tigers and rhinos so that it applies to claims to contain species listed on Appendix I of CITES and those that are listed as endangered under the ESA. It just seems obvious that products should not be allowed to claim they contain species whose trade or use is prohibited.

Thirdly, we need to get these products off the shelves tomorrow, regardless of whether we have the Product Labeling Act. There are ways of doing this and exploring this. The Department of Interior really has not given that a lot of focus. They have done a fair amount of work in Los Angeles with focusing on imports rule.

These products potentially violate food and drug safety laws and product labeling laws, which are the jurisdiction of the FDA, and the FDA has really not shown much interest. We really would like to encourage the Department of Interior and the FDA to explore these options so that these products can be removed from the shelves.

In conclusion, regardless of whether these products actually contain tiger or rhino ingredients, their presence on the shelves maintains the demand for authentic ingredients. They must be removed. We really would want to encourage the Department of Interior to make this a top priority action. And of course, we would love to see the Rhino and Tiger Product Labeling Act passed as swiftly as possible.

Based on our own work in New York City with pilot outreach efforts and on other studies, we have learned that the Chinese consumer and the American public in general is just simply unaware that the purchase of these products is directly related to poaching of these species in the wild. However, one of the encouraging things we learned with our pilot effort was that it was not that difficult to make that connection and actually to get people to want to take specific action, such as informing others to avoid using these products.

This is classic social marketing efforts. It is the key to reducing demand and eliminating the black market.

WCS really believes that additional financial resources are needed for stepped up law enforcement, to develop the reliable forensic tests, to do public outreach efforts. We want to see that going into increased budgets to the Department of Interior and not coming out of the Rhino and Tiger Conservation Fund. These funds should be applied to the countries where there are scarce resources to devote to conserving the tiger and the rhino in the wild.

Thank you very much for the opportunity to testify. We fully support these bills and we are willing to do whatever it takes to help pass them.

[The prepared statement of Ms. Bolze may be found at end of hearing.]

Mr. SAXTON. Thank you very much for your very eloquent testimony. We have a 15 minute vote followed by a 5-minute vote and so, rather than to go further at this point, we are going to vote. We will be back and that way we will be able to hear your testimony in a more relaxed atmosphere. Thank you.

[Recess.]

Mr. SAXTON. I believe we were about to move to our next witness, Dr. Seidensticker, who is taking his place. Doctor, the floor is yours.

STATEMENT OF JOHN SEIDENSTICKER, CURATOR OF MAMMALS, NATIONAL ZOOLOGICAL PARK

Mr. SEIDENSTICKER. Good morning. Thank you for inviting me here today, Mr. Chairman.

About 25 years ago, I led the team that put the first transmitter on a tiger in Nepal, a radio transmitter. I was working in Indonesia at the passing of the last Javan tigers. Believe me, to watch a species or subspecies go extinct is a horrible experience. It is like losing a family member.

There is great trouble in tiger land. The tiger is in crisis. Tiger poaching and trade in tiger parts and products have not been stopped in the tiger range states or internationally. The great protectors, which are suitable habitat and adequate prey populations really are shrinking at human hands. Much of the tiger's survival

problem today can be traced to human poverty and increased accessibility to tiger habitats.

Three of the eight tiger subspecies are extinct. The remaining five subspecies are endangered. Their remaining populations are carved up into more than 160 fragments separated by inhospitable habitat. We will lose the tiger, the very symbol of power and grace in wild Asia, unless we immediately take up the challenge of saving the tiger.

To save the tiger in its principal habitats and its essential prey populations, we must have the support of those people that live with tigers on a daily basis and are directly impacted by tigers living in their midst. We must make live tigers worth more than dead tigers for these people and landscapes with tigers worth more than landscapes without tigers.

To save the tiger we must have the support of the decision-makers who make the hard decisions. We can help by reducing incentives to poach tigers and by providing road maps for reducing human-tiger conflicts and incentives for making tigers worth more alive than dead.

To save the tiger we must engage the public and gain broad public support because the public must be a partner in saving the tiger because it is the public that supports the legal framework that protects tigers and foots much of the bill. An ongoing public education program is of highest priority.

There are good building blocks for realistic tiger conservation in place. Money, political will, key legislation and cooperation and integration are really needed to start cementing these building blocks together into a future for the tiger. Partnerships are beginning to show that there is a hope for the tiger's future and we must encourage such partnerships.

In the Russian Far East, for example, there is hope for the outlook for the Siberian, or Amur, tiger, where it was really quite grim just 3 years ago. The Save The Tiger Fund joined with the World Wildlife Fund and many other organizations, including USAID, and invested in an anti-poaching program and research on the tigers' needs and survival. And most importantly, into taking this research and turning it into an ongoing land use planning process that includes the tiger for the future.

The fund has joined with these same partners in a remarkable collaboration in the lowlands of Nepal adjacent to the Royal Chitwan National Park to create six square miles of new critical habitat where there was only degraded forest patches when I worked there years ago. This is a model program that can be adapted to many tiger areas in the future to give incentives for those people living near tigers to keep them alive.

We must respond to both the short and the long-term processes facing this splendid great predator to save it. We must stop the poaching and provide the training and other law enforcement activities to control this. We must sustain the legal structure of CITES to control trade in tiger parts and their products.

The programs that curtail tiger poaching must go hand in hand with convincing users that there are alternatives to medicines made of tiger parts, and we must act to take tiger bones out of traditional Chinese medicine. We must build on the existing beginning

of partnerships with TCM users and practitioners to gain their support in saving the tigers and also have a substitute for tiger bone in TCM that is sufficiently sanctioned.

We must plug the gap in our national legislation. If the product label indicates the product contains rhino or tiger parts, it must be treated as legally so. We must give this tool to our conservation agents if we are going to make headway here at home to save the tiger. This reduces the incentive for poaching tigers, but more importantly the message is we care about the tiger's future.

The endangered tiger is an indicator of ecosystems in crisis and we must direct our attention to the tiger's long-term future and support sustainable ecosystems and landscapes in terms of resource production that also sustain valuable tiger populations. Protecting tigers means managing habitat for long-term rather than short-term exploitation for forest products.

Many of the remaining tiger habitats are also critical watershed protection areas and long-term sustainable management for these areas is essential for all those who live downstream. This is good for people living in tiger land, for their economy, and in the long term the tiger benefits.

We are at an important, critical juncture where continued and expanded financial support for such programs that are an integral part of the Rhino and Tiger Conservation Act is a key to securing the tiger's future.

Thank you.

[The prepared statement of Mr. Seidensticker may be found at end of hearing.]

Mr. SAXTON. Thank you very much, Doctor. Mr. Parsons?

STATEMENT OF RICHARD M. PARSONS, DIRECTOR, DEPARTMENT OF WILDLIFE CONSERVATION AND GOVERNMENTAL AFFAIRS, SAFARI CLUB INTERNATIONAL

Mr. PARSONS. Good morning, Chairman Saxton. My name is Richard Parsons and I am the director of the Department of Wildlife Conservation and Governmental Affairs for Safari Club International. We appreciate the invitation to testify before the Subcommittee.

We support the passage of both H.R. 2807 and H.R. 3113, although in the case of H.R. 2807, we would like the opportunity to work with the Subcommittee to include some language that would avoid possible unintended impacts on legal shipments.

In regard to H.R. 3113, the reauthorization bill, we testified in support of the passage of the original Rhinoceros and Tiger Conservation Act. In fact, we worked with the sponsors to help develop that legislation.

We definitely support the continuation of funding for this important piece of conservation legislation and, like all the speakers before me, we would like to call on the administration to increase their request for funds during the appropriation process so that the many needed programs for rhino and tiger conservation can be considered and funded.

We would like to take this opportunity to discuss for a moment the important role that sport hunting plays in the conservation of rhinoceros. Both international and United States law allow the im-

portation of sport hunting trophies from one subspecies, the southern white rhino. We would like to submit for the record, and we have in our testimony, the following points on the benefits of this particular program in the range state itself, in South Africa.

The program involves the taking of approximately 40 animals per year out of a population of more than 4,200, which is only 1 percent of that population, well within the limits of sustainability. The shipments are strictly controlled. There is no indication of illicit trade.

In managing that species, expenditures can go up to $1,200 per square kilometer per year. The hunting activity itself has generated more than $22 million, much of which has been reinvested in management of that species. The species has climbed from 4,000 animals in 1984 to more than 7,000 presently.

This brings us to our concern with H.R. 2807. We understand that this bill is aimed at enhancing enforcement by allowing agencies to prosecute cases where powdered substances, for example, come into the country or are sold in interstate commerce and are purported to be medicinal or similar items such as rhino horn and tiger bone. And we understand that the agencies would have to go through expensive and difficult testing in order to actually provide evidence that the materials are, in fact, rhino or tiger. And we support the enforcement of the law as it should be.

However, we have a concern that language of the bill as it stands at the moment is rather broad and we note that there were statements made this morning during the hearing that, as opposed to the language in the bill, have assumed a broad coverage. What we want to avoid is the unintended effect that something like the importation of the sport hunting trophy from the southern white rhino, which is completely legal and which enhances conservation of that species in South Africa in the field would not be interfered with, so we would appreciate the opportunity to work with the Committee on that.

We have spoken informally to officials of the Interior Department. They agree with the concern and they agree that it can be rather simply solved.

We appreciate the opportunity to appear before you and we would be glad to answer any questions.

Thank you.

[The prepared statement of Mr. Parsons may be found at end of hearing.]

Mr. SAXTON. Thank you very much, Mr. Parsons. Mr. Foose?

STATEMENT OF THOMAS J. FOOSE, PROGRAM DIRECTOR, INTERNATIONAL RHINO FOUNDATION

Mr. FOOSE. Thank you, Mr. Chairman.

I am here representing the Asian and African Rhino Specialist Groups of IUCN, the World Conservation Union. Also the International Rhino Foundation, which is an NGO that works exclusively with rhinos and contributes or coordinates about $1 million a year in rhino conservation projects. I am also representing the Rhinoceros Advisory Group of the American Zoo and Aquarium Association.

My comments today are going to relate obviously to rhinos and mostly to the reauthorization of the Rhino and Tiger Conservation Act and Fund. (Foose presents slides.)

Mr. SAXTON. Dr. Foose, if you could just—somebody please help us with the lights there?

Mr. FOOSE. The Rhino and Tiger Conservation Act was passed in a time of crisis for these species. This crisis continues, as is most cogently and poignantly conveyed by the current estimates of the numbers for the five species and 11 subspecies of rhino.

There are fewer than 13,000 rhinos of all five species and 11 subspecies combined. However, that number is deceptive because well over half of the 13,000 are of a single subspecies, the southern white rhino. The numbers of four of the species, the black, the Indian, the Sumatran and the Javan, are fewer than 6,000 combined. And the numbers of the three Asian species combined are only about equal to the rarer of the two African species, in other words, the black rhino.

Just one more point to observe on the numbers that I think is relevant to these considerations, and that is that the numbers of all the rhinos combined and indeed all the rhinos and tigers combined are fewer in number than the estimated numbers of either species of elephant.

All of the species and subspecies of rhino are far below the levels of numbers that conservation biologists consider viable.

Rhinos are capable of recovery. Indeed, the two species of rhino that have done the best in recent years, the Indian rhino and the southern white rhino, were almost lost around the turn of the century due to over-exploitation. Both species have recovered from very small numbers of animals, perhaps as few as 20 in each case.

As has already been mentioned this morning, since the Rhino and Tiger Act was passed, there has been improvement in the numbers and status of rhinos. The numbers of black rhino in Africa have stabilized and are indeed recovering. In fact, they have recovered about 10 percent from their low point of 2,300 in the years that the Rhino and Tiger Act has been operative. Southern white rhino and Indian rhino continue to increase well. The establishment of an effective system of rhino protection units in Southeast Asia is assisting the extremely rare Sumatran and Javan rhino.

Also during this period a number of the range states and regions have been actively attempting to develop more income generation activities that will contribute to financial sustainability of the programs.

The Rhino and Tiger Conservation Fund has been contributing significantly to this stabilization and recovery of rhinos. Moreover, reiterating a comment by Secretary Babbitt this morning, in addition to the benefits of the funds themselves, the Rhino and Tiger Conservation Fund has been serving an extremely significant function to help better coordinate and improve the quality and rigor of many of the rhino conservation programs.

A prime example of this is the Javan rhino situation. Through support for and participation in a Javan rhino colloquium which got all of the parties involved with this species together, and through the RTC, the Rhino and Tiger Conservation Fund, review

and critiques of project proposals, a much improved and coordinated program for this species has emerged.

The organizations that I represent really want to commend the Fish and Wildlife Service and the Department of the Interior for the manner in which it has administered the Rhino and Tiger Conservation Fund.

Having stated all of that, there remain very critical and precarious areas in trends for rhino conservation. The northern white rhino is literally on the brink of extinction. There are fewer of them than there are people in this room. This, ironically, was a success story in rhino conservation until the recent civil war in Zaire, now the Democratic Republic of Congo. The northwestern species of black rhino, which survives only in Cameroon, is even rarer. And the numbers of Sumatran and Javan rhino remain perilously low.

Moreover, much of the success in rhino conservation in Africa has occurred in four or five countries, notably Kenya, the Republic of South Africa, Namibia and Zimbabwe. These countries have been, over the last decade, investing enormous amounts of their own resources in rhino conservation, but all of them are now confronting other problems and priorities that are going to translate into reduced budgets for rhino conservation in those range states. For example, in Natal province in South Africa, the budget has already been reduced $1 million for this next year.

The economic crisis that has been going on in Southeast Asia is obviously also not going to contribute to the capacity of range states to support rhino conservation.

Hence, there should be no complacency. The next 5 to 7 years are going to be critical in terms of whether rhino species and subspecies survive.

The two rhino specialist groups have assisted range states in developing their continental and national action plans. Basically over the next 5 to 7 years it is estimated that there is need for at least $3 million a year in Asia and another $3 million a year in Africa in external support for the range states if the rhino programs are to be sustained.

NGO's and the private sector can provide some of these funds, but it is vital that the U.S. Government and, in particular, the Rhino and Tiger Conservation Fund, continue and, if possible, increase the level of their support.

The organizations I represent, therefore, reinforcing the recommendations that have already occurred here this morning, would encourage an increase in the appropriations for the Rhino and Tiger Conservation Fund to at least $1 million in fiscal year 1999 and perhaps moving toward $1.5 million in subsequent years, to be distributed among rhinos and tigers.

This amount would compliment and stimulate continued matching funds from other NGO's and private partners. This kind of matching has already occurred with the Rhino and Tiger Conservation Fund where the ratio of rhino and tiger funds to matching funds has been about 30 percent to 70 percent. It would also move rhinos and tigers toward more parity with elephants, in terms of the support that it gets from the U.S. Government.

Finally, just as a final comment, I want to observe something relative to this slide. This is not a scene from Africa or Asia. It is a

scene from our own great plains a number of millions of years ago. It is both appropriate and ironic that the U.S. has become so central to rhino conservation. The U.S., a long time ago, was the center of rhino distribution on the planet. Rhinos were the most common large mammals in North America from about 40 until about 5 million years ago, when we lost our native rhinos.

Through the Rhino and Tiger Conservation Fund, as well as the efforts of AZA institutions and their species survival programs and other conservation programs that have been described here this morning, the U.S. has the opportunity to help save these species from extinction.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Foose may be found at end of hearing.]

Mr. SAXTON. Thank you all very much.

I have a question for each of you, but before I do that we have some guests here this morning that I would just like to take a minute to recognize. Mr. Brian Kirby is a government teacher at Highland High School in Warrenton, Virginia and he is here with several students. Where are you folks? There they are, in the back.

Welcome. We are really glad you are here and we hope that you have enjoyed your morning and learned something at the same time.

Mr. KIRBY. Thank you. It has been very informative.

Mr. SAXTON. Let me just ask a question for each of you to try and respond to. Obviously, we know that there is an economic incentive to destroy these animals. We also know that human conflict takes place with these animals and that may be part of the problem, as well. We also recognize that there is a habitat conservation effort which is necessary in this case, as in other cases.

We have tried to, over the past 4 or 5 years, design some solutions that Congress feels is appropriate. We have two bills which we are discussing today.

My question is this, if you had a clean blackboard and a chalk and you wanted us to design a program to move forward from here on, to do what it is that we are here to talk about, mainly saving these species, what would you suggest in addition to or different from that which we are doing? Anyone want to start? You all look puzzled.

Ms. BOLZE. Congress is the legislative body in the United States. If you are going to design a broad based tiger conservation strategy, which WCS produced in a report that we did about 2 years ago, it is going to involve lots of different countries and lots of different activities.

So Congress is not going to be able to put the entire program in action. I think therefore the role of Congress right now is to fix some of the legal inadequacies that we have in our U.S. law. Hopefully, Congress can light a fire under the Department of Interior and FDA to pay some attention to trying to remove these products from the shelves. And the Rhino and Tiger Conservation Fund is a very useful vehicle for transferring U.S. money to other countries, a very supportive effort in trying to conserve these species in the wild.

There is also the role of the Pelly Amendment or other types of issues that were discussed earlier regarding the larger issues of trade and how that affects conservation issues and environmental issues. Those are the key issues that Congress can take on and they should be taking on.

Mr. FOOSE. I think that what Congress has enacted so far represents a very diversified and effective program for virtually all aspects of the problem. As I believe it was Terry Maple that observed, what really is needed now are more funds to better implement those programs.

Mr. SAXTON. I would suspect that each of you would agree that the $400,000 requested by the administration is insufficient?

Mr. FOOSE. Certainly.

Mr. SAXTON. Any further comments?

Mr. SEIDENSTICKER. I neglected to mention, I am also chairman of the Save The Tiger Fund, which is a partnership between the National Fish and Wildlife Foundation and the Exxon Corporation.

We are seeking projects, like I mentioned, that really try to stabilize what is going on at the edge of reserves and to create habitat where there has not been habitat before. Tigers are divided up into about 160 populations. We think we have a pretty good chance if we work on saving about 50 of those populations.

We need good projects like we have going in Nepal at every single one of those areas. That is the sort of thing that I would invest in. I think that the Rhino and Tiger Conservation Act can do that.

And so I would go for the $10 million versus the $1 million.

Mr. SAXTON. Well thank you, very much. Mr. Parsons?

Mr. PARSONS. I am not going to get giddy with the government surplus, but when we first supported this bill we had in mind the good work that had been done under the Elephant Conservation Act. Our perspective is that the U.S. can help by putting money out into the range states. We have heard in the past the many promises that were made by many environmental organizations and governments to provide money to save rhinos. And in fact, very little has happened.

This law and the Elephant Act, have been the first real efforts to provide funding on a reliable basis, and we commend everybody for doing it. We think that the clean slate was there a few years and the Congress is acting properly.

Our concern has been to urge the administration to consider programs in the range states, where the real needs are conserving the habitats and giving an incentive to the local people to be willing to share their land and their lives with animals which are both large and dangerous.

So we think that we are going in the right direction. We agree with everyone that some more money is needed and we would like some attention to the programs in the range states. Thank you.

Mr. SAXTON. Thank you very much.

I would like to thank all of you for being here this morning. Your insights have been very valuable.

The members of the Subcommittee may have some additional questions for you and, if so, we will ask you if you would be kind enough to respond in writing. The hearing record will be kept open for 30 days for those responses.

[The testimony of the Environmental Investigation Agency may be found at end of hearing.]

Mr. SAXTON. I know of no other business and, at this point, I will adjourn the hearing. Thank you.

[Whereupon, at 11:56, the Subcommittee was adjourned.]

[Additional material submitted for the record follows.]

STATEMENT OF LIXING LAO, PH.D., THE AMERICAN COLLEGE OF TRADITIONAL CHINESE MEDICINE, THE MARYLAND INSTITUTE OF TRADITIONAL CHINESE MEDICINE, THE COMPLEMENTARY MEDICINE PROGRAM, SCHOOL OF MEDICINE, UNIVERSITY OF MARYLAND

Good morning. My name is Lixing Lao and I am both a Doctor of Oriental Medicine and a Ph.D. I am appearing here before you today on behalf of the American College of Traditional Chinese Medicine (ACTCM) in San Francisco; the Maryland Institute of Traditional Chinese Medicine at Bethesda (MITCM); and the Complementary Medicine Program (CMP) at the University of Maryland School of Medicine. I am an Assistant Professor at the University of Maryland and also serve as Clinic director at the Maryland Institute of Traditional Chinese Medicine. In case any of your staff wish to search our web site, the U.R.L. address is, for ACTCM: *www.actcm.org:* for MITCM: *www.mitcm.org;* for CMP at the University of Maryland: *www.compmed.ummc.ab.umd.edu*

The following is an jointed statement prepared by Ms. Lixin Huang, the President of the American College of Traditional Chinese Medicine, and myself.

We would like to thank the members of the Committee for providing the opportunity to testify today about the critical need for ensuring safe habitat for the endangered tiger, and about the most effective and pragmatic ways to achieve that goal in the near future.

1998 marks the Year of the Tiger in the Chinese calendar, which began on January 28th, the Chinese New Year. In Chinese culture, the tiger is regarded as the "King of Wildlife," a symbol of energy, strength, speed, agility, and power, as well as of threat and danger. There are a number of Chinese idioms with the character representing "tiger" in them. To describe, for example, and individual or a business within certain conditions as being more successful, it is often expressed as "tiger with wings"; to praise active, healthy and energetic people, they are called "a tiger come to life"; the accomplishment of a task that includes great risk or danger is described as "pulling the teeth out of a tiger's mouth"; to have worked with a fine start and a poor finish is described as "in like a tiger, out like a lamb." For many, many years, people of Chinese descent have had an affinity for the image of the tiger, which has been reflected in the language, in literature, graphics, art, and medicine.

Traditional Chinese Medicine (hereby TCM) and acupuncture has been developed and perfected over several millennia as an integral part of Chinese culture. It has counterparts in the Ayurvedic system of India and in some Western practices. It is widely used today throughout the world, often integrated with allopathic biomedicine, the most prevalent form of medical practice in the United States. In the United States, 34 states have passed legislation to support the practice of acupuncture and TCM, and consumer demand has resulted in a growing number of insurance carriers and HMOs making some Oriental Medicine available.

TCM is a system of health care based on the concepts of Chinese natural philosophy, and it encompasses internal medicine, gynecology, pediatrics, dermatology, mental dysfunction, gerontology, immunology, oncology and pain management. Its applications range from the therapeutic practice of herbology and nutrition to acupuncture, massage, and Tai-Ji and Qi Gong exercises. As a long-standing and evolving form of human health care, TCM relies primarily on botanical materials and acupuncture needles as the basis for treatments, the latter have been classified by FDA as medical devices and confirmed by NIH as a safe and effective therapy "for the relief of pain and for a variety of health conditions."

Chinese *materia medica* are usually used in two ways: in traditional whole remedies and in "patent medicines." In traditional whole remedies, unprocessed *materia medica* are mixed according to ancient formulae as modified and prescribed by a trained practitioner, who may perhaps also follow an established standard of care in certain syndromes. "Patent medicines" are also combined according to traditional formulations or standards of care, but are processed into tablets, tonics, pills and powders produced in large quantities. These are packaged in a medical factory and sold, exported to markets worldwide. The United States and Canada both import and produce such "patent medicines."

The exploitation of the tiger and other endangered species for use in "patent medicines" has been a major conservation concern over the last decade. Our associates in the World Wildlife Fund and in the Wildlife Conservation Society have already testified to the overwhelming threat faced by tigers in the wild, and we need not underscore the continuing threat to human life posed by the decreasing biodiversity of the planet. Although CITES has banned the trade in tiger parts and products for over a decade, illegal commerce has continued because of the consumer demand, even though viable and effective alternatives to parts from endangered species are available. One of the key problems to be addressed is the lack of education about

the alternatives to the use of endangered species parts among both consumers and practitioners. One of the other major problems is the perception, because TCM is so thoroughly a part of Asian culture, that conservation efforts are a result of cultural imperialism and insensitivity. The initial approach to the problem of severe international mandates and government enforcement did not serve to increase understanding.

Therefore, there is an *urgent* need for a new conservation approach.

An effective and pragmatic approach would be to educate consumers and, rather than impose upon, to *work with* TCM communities, bringing the awareness of the need for tiger conservation and useful medical alternatives directly *into* the community.

The World Wildlife Fund and our organizations have joined together in an effort to take this new conservation approach. Together, we have developed an outreach program which will serve as the first systematic effort in North America to educate TCM users and practitioners, both those within and outside of the Asian-American communities, about endangered species issues. We will use culturally sensitive approaches and community-based educators to reach each target audience. In addition, we will be joining several conferences and holding our own symposium in San Francisco on tiger conservation and TCM.

What our organizations and our colleagues now need from the Committee is not only this helpful public airing of these issues, but a commitment to help us secure the necessary private, and perhaps public, financial support to carry out this critical plan of education and outreach. We need an indication that you understand the gravity of the issues, and the usefulness and pragmatism of our approach to addressing them. In essence, we need for the Committee not to go in like a tiger and out like a lamb but to, instead, pull that bad tooth from the mouth of the tiger so that the tiger can come alive and our project can be like a tiger with wings.

Please do whatever is in the scope of the Committee and of your individual offices to help us make this a Year *for* the Tiger.

Thank your very much for your time.

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105TH CONGRESS
1ST SESSION

H. R. 2807

To amend the Rhinoceros and Tiger Conservation Act of 1994 to prohibit the sale, importation, and exportation of products labeled as containing substances derived from rhinoceros or tiger.

IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 4, 1997

Mr. SAXTON (for himself and Mr. MILLER of California) introduced the following bill; which was referred to the Committee on Resources

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A BILL

To amend the Rhinoceros and Tiger Conservation Act of 1994 to prohibit the sale, importation, and exportation of products labeled as containing substances derived from rhinoceros or tiger.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Rhino and Tiger Product Labeling Act".

1 **SEC. 2. PROHIBITION ON SALE, IMPORTATION, AND EXPOR-**
2 **TATION OF PRODUCTS LABELED AS CON-**
3 **TAINING A SUBSTANCE DERIVED FROM RHI-**
4 **NOCEROS OR TIGER.**

5 (a) FINDINGS.—The Congress finds the following:

6 (1) The populations of several magnificent and
7 unique endangered species of rhinoceros and tigers,
8 such as the Indian rhinoceros, the Javan rhinoceros,
9 the African black rhinoceros, and all of the tiger
10 subspecies, continue to decline.

11 (2) Growing demand throughout the world for
12 wildlife and wildlife parts and products has created
13 a market in which commercial exploitation has
14 threatened certain rhinoceros and tiger populations.

15 (3) There are insufficient legal mechanisms en-
16 abling the United States Fish and Wildlife Service
17 to forcefully interdict products that are labeled as
18 containing substances derived from rhinoceros or
19 tiger species and prosecute the merchandisers for
20 sale or display of those products.

21 (4) Although approximately 77,000 import and
22 export shipments occur annually in the United
23 States, the United States Fish and Wildlife Service
24 is able to maintain only 92 wildlife inspectors at 30
25 ports of entry, including 13 designated ports, to
26 monitor the shipments.

1 (5) Wildlife inspectors are able to physically in-
2 spect only an estimated 5 to 10 percent of all import
3 and export shipments, making the rate of detection
4 of contraband wildlife products extremely low.
5 (b) PROHIBITION.—The Rhinoceros and Tiger Con-
6 servation Act of 1994 (16 U.S.C. 5301 et seq.) is amended
7 by redesignating section 7 as section 8, and by inserting
8 after section 6 the following new section:
9 **"SEC. 7. PROHIBITION RELATING TO LABELING.**
10 "(a) PROHIBITION.—No person shall sell, import, or
11 export any product labeled as containing any substance
12 derived from any species of rhinoceros or tiger.
13 "(b) PENALTY.—Any person who knowingly violates
14 subsection (a) shall be fined under title 18, United States
15 Code, imprisoned for not more than 1 year, or both.".

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105TH CONGRESS
2D SESSION

H. R. 3113

To reauthorize the Rhinoceros and Tiger Conservation Act of 1994.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 27, 1998

Mr. YOUNG of Alaska introduced the following bill; which was referred to the Committee on Resources

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A BILL

To reauthorize the Rhinoceros and Tiger Conservation Act of 1994.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Rhinoceros and Tiger Conservation Reauthorization Act of 1998".

SEC. 2. REAUTHORIZATION OF RHINOCEROS AND TIGER CONSERVATION ACT.

Section 7 of the Rhinoceros and Tiger Conservation Act of 1994 (16 U.S.C. 5306) is amended by striking "fiscal years" and all that follows through "2000" and insert-

1 ing "fiscal years 1998, 1999, 2000, 2001, 2002, 2003,
2 and 2004".

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TESTIMONY OF BRUCE BABBITT, SECRETARY, UNITED STATES DEPARTMENT OF THE INTERIOR, BEFORE THE HOUSE SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS, HOUSE RESOURCES COMMITTEE, REGARDING H.R. 3113, REAUTHORIZATION OF THE RHINOCEROS AND TIGER CONSERVATION ACT OF 1994 AND H.R. 2807, THE RHINO AND TIGER PRODUCT LABELING ACT.

February 5, 1998

Thank you Mr. Chairman for the opportunity to testify on H.R. 3113, the Reauthorization of the Rhinoceros and Tiger Conservation Act of 1994 and H.R. 2807, the Rhino and Tiger Product Labeling Act. The Department strongly supports the reauthorization of the Rhinoceros and Tiger Conservation Act through the year 2004 as well as the enactment of the product labeling legislation. I commend the Congress for its commitment and continuous support to conserve these important endangered species.

It is a great pleasure for me to be here today to address a subject which has been one of my personal priorities for the Department of the Interior. One of the first international issues which confronted me when I became Secretary was the drastic decline of rhino and tiger populations in Africa and Asia, due in large part to poaching for the traditional medicine trade. It was clear to me that we would not be able to turn this situation around without aggressive action on two fronts: expanded assistance to range countries to build their capacity to conserve rhinos, tigers, and their essential habitats; and concerted international pressure to halt the terrible trade in rhino and tiger parts and products.

I note with great satisfaction that these are also exactly the areas covered by the two pieces of legislation which you have asked me to address today, and that we are truly building a bipartisan consensus to continue the U.S. leadership role in conservation of these magnificent but imperiled species. Today I would like to summarize for you some of the important actions we have already undertaken for rhino and tiger conservation, and outline the reasons why there is an urgent need for more action -- action which will be enormously enhanced by the legislation you have put forward today.

The Interior Department, through the U.S. Fish and Wildlife Service, has had a long history of proactive programs on behalf of endangered species and their habitats in Asia and Africa. The Service's two decades of conservation efforts in India and South Asia, for example, emphasizing local institutional development and training, greatly facilitated local wildlife researchers and mangers protecting their resources more effectively. However, prior to 1994, this effort was chronically underfunded, particularly for programs outside of India, with available resources falling far short of the conservation needs. In Africa, the Service had built a successful program for elephant conservation, assisting a number of countries under the African Elephant Conservation Fund, but that program could at best produce only indirect benefits for African rhinos, despite the fact that rhino populations were in far more desperate straits than elephants.

In order to explain why I feel so strongly about the need for increased action, let me summarize what we know of the situation facing our world's remaining tiger and rhino populations.

The situation with most of the world's remaining rhinos in Africa and Asia is indeed very serious. Poaching for rhino horn is the major threat for all five species, and habitat degradation is also a significant threat for the Asian species which live in tropical rainforests. All three species of Asian rhinos are in danger of extinction, two critically so. The total population numbers for all three Asian species combined may in fact be less than the number of black rhinos remaining in Africa, in spite of the fact that the decline of the African species has received much more publicity over the last decade.

While the overall paucity of rhino numbers is one factor of concern, another is their distribution. The Javan rhino is the rarest, with fewer than an estimated 100 individuals surviving. Most are in a single protected area in Indonesia, with a few more in an unprotected area in Vietnam. Although the Sumatran rhino numbers may be slightly larger, at 250-450 animals, its situation is considered the most critical, because of its fragmented distribution in small pockets of Sumatra, Peninsula Malaysia, Sabah. Tiny remnants may remain in Sarawak, Thailand, Myanmar, and Laos, but if they still exist at all their viability is very low. The Indian rhino was once in the same condition as the other Asian rhinos, but a vigorous effort by governments in India and Nepal has succeeded in increasing its numbers to over 2000 animals. However, this species is still under serious threat, particularly from poaching, and increased protection is still needed to ensure its survival.

In Africa, the situation for the black rhino and the Northern white rhino is similar. Over the past few decades, black rhino populations have declined by at least 96%, due to poaching for the trade in traditional medicines and dagger handles. The Northern white rhino has been reduced to nine individuals in zoos and a wild population of no more than 30 individuals in a single national park in the Democratic Republic of the Congo. Only the Southern white rhino in South Africa is prospering; here, intensive protection and management and have brought its numbers in the wild to almost 8,000.

Wild tigers are arguably in even worse peril. The Cat Specialist Group of the IUCN-World Conservation Union has assembled information from government sources and independent specialists in tiger range countries about the status of the world's wild tiger population. Their best estimate -- given the secretive nature of tigers and the lack of resources in range countries to conduct accurate surveys -- is that there are no more than 5,000 to 7,500 remaining tigers. There are no comparable scientific data from earlier times, but with suitable habitat and prey the tiger is a prolific hunter and breeder, and there were undoubtedly many tens of thousands of tigers up to a century ago. Unfortunately, since then, loss of tiger habitat, reduction in prey populations, and deliberate tiger killing have taken a terrible toll: three of the recognized subspecies of tigers have become extinct, and the remaining five subspecies have come under severe threat. During this same time period, human populations have increased from about 1.5 billion to nearly six billion, resulting in extensive conversion of forest for human use, loss of tiger habitat, and a steep decline

of tigers and their prey. Furthermore, over the last decade, poaching and illegal trade -- driven by the demand for bones and other parts of the tiger for the oriental medicine market -- have become an increasing threat.

In most of its 14 range countries, the tiger has adequate legal protection on paper. International commerce in tigers and their products is banned under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and Laos is the only one of the 14 range countries not a Party to CITES. Even the principal consumers, China, Taiwan and South Korea, have banned trade -- after strong pressure from the United States which I will discuss later in this testimony. However, despite these existing national and international legal mechanisms, the enforcement is sometimes weak or non-existent, due to a combination of factors including poor communication and coordination, lack of local governmental support, inadequate or no local infrastructure, funds, personnel, or equipment.

While the status of tigers and many rhino populations is bleak, the rhino situations in South Africa and India give us some reasons for optimism. Where governments and private conservation organizations have made a serious commitment to conservation, these animals can survive and prosper. To accomplish this, however, they need our help. This is the kind of help made possible by the Rhinoceros and Tiger Conservation Act.

Reauthorization of the Rhinoceros and Tiger Conservation Act

When the concept of a rhino conservation bill -- patterned after the African Elephant Conservation Act, which has made an enormous contribution to restoring elephant populations -- was first presented to me, I was enthusiastic. However, I asked Mr. Fields, Mr. Studds, and Mr. Beilenson, drafters of the legislation, to make one key change, by adding tigers to the legislation. Not only were tigers just as endangered as the rhinos which often share their habitats, but in addition it was clear to me that the American people were also particularly concerned with their fate.

The legislation which resulted was the Rhinoceros and Tiger Conservation Act of 1994. It assigned responsibility for implementation to the Department of the Interior, in consultation with the Administrator of the Agency for International Development, for undertaking a rhino and tiger conservation program. Within the Department of the Interior, the U.S. Fish and Wildlife Service was been given the lead to administer the Act, because of its twenty years of experience in administering programs in Asia and Africa. The first Congressional appropriation to the fund was for $200,000 in FY 1996; this amount was doubled to $400,000 in FY 1997 and another $400,000 was appropriated in FY 1998.

To initiate this new program, the Fish and Wildlife Service sent out a call for proposals to an extensive mailing list of potential cooperators, developed from its long experience with regional and range country agencies and organizations in Asia and Africa, including CITES partners and the CITES Secretariat. The Act gave clear guidance that priority was to be given to proposals

which directly supported and enhanced wild rhinoceros and tiger populations and which included matching funds. A review panel composed of representatives from the Service and the Agency for International Development -- a very beneficial partnership -- was set up to evaluate proposals received and recommend the awarding of funds.

During the 1996-1997 grant cycle, 68 proposals were submitted for consideration, and 77 new proposals have been received thus far in FY 1998. Of the total 145 proposals received, 30 have so far been funded in 10 range countries in Africa and Asia, at a cost of $582,000 disbursed or committed. Another 25 grant applicants have been provided suggestions about how their proposals can be modified so that they might meet the criteria for approval.

This is a small grant program, but it is amazing how much even a small amount of money can mean to our partners in other countries. The simple act of providing boots, raincoats, radios, and basic training can make an enormous difference in the ability of rangers in India or Tanzania to undertake effective monitoring and anti-poaching patrols. Something more intangible -- but often even more important -- is the boost to their morale when they realize that we the United States care enough to help them. Some examples of current projects, and what they mean to rhino and tiger range countries:

- In India, the Fund is providing clothing, equipment, and radio networks to help guards stop poaching in Kaziranga National Park and Pobitora, Orang, and Laokhowa wildlife sanctuaries in Assam. While the Assam rhino conservation program is considered one of the best in the country, the lack of even the most basic protective clothing and equipment is illustrative of what is needed in many countries if we are to win the war against poaching. Project Manager Anne Wright reports that the new equipment provided by the Fund has given hope and encouragement for guards working long and dangerous assignments in difficult terrain. She intends to broaden this initial effort by obtaining critical transportation equipment and developing programs among local villagers to increase awareness and encourage reporting of illegal activity.

- In Viet Nam, where tiger habitats are highly fragmented and degraded, the Fund is helping researchers map areas such as Phuoc Son/Tra My Reserve, which is populated by ethnic minorities and possibly up to 30 tigers. Tigers which kill livestock are in turn killed by the villagers to protect their herds or profit from poaching. This collaborative project will assess the tigers' presence in the reserve and surrounding forest and develop a model for reducing conflicts between human land use and tiger conservation.

- In Tanzania, extensive poaching has fragmented and reduced the Tanzanian black rhino population to less than 100. The Selous Game Reserve, one of the largest protected areas in Africa, may be the last hope for survival of the black rhinoceros in that country. The Fund has enabled surveillance and monitoring training for field staff and a survey on the Selous rhino population that will yield specific recommendations for establishing potential Intensive Protection Zones in the reserve.

In the short history of the program, the Service has received many comments about the utility and importance of the Fund, both within the United States and from other countries. Dr. Thomas Foose, of the International Rhino Foundation says that "The Rhino and Tiger Conservation Fund is an important component of the entire package of partnerships. Many had origins before (the Fund), but it helps them flourish, and stimulates matching requirements." From India, Ms. Belinda Wright of the Wildlife Protection Society, says that "FWS (U.S. Fish and Wildlife Service) is perhaps the one (organization) we respect the most, because we have had such a long and close interaction with them. They are genuinely aware of all the issues...they understand and care."

The Service has also developed a strong partnership with the National Fish and Wildlife Foundation's "Save the Tiger Fund", serving on the Council which oversees it and coordinating reviews for all of the project proposals received by each program.

The Rhino and Tiger Conservation Fund has gotten off to an excellent start over the past three years. The job has only just begun, however. There is much more work to do and no shortage of committed partners seeking our help in Africa and Asia. Reauthorization of the Rhinoceros and Tiger Conservation Act will send a strong message that the American people care deeply about these resources of commitment by the U.S. Government to provide sufficient funding and continued support to the conservation of these key representatives of the Asian and African continents and fill an important void.

The Administration supports the passage of H.R. 3113 and also seeks some technical amendments consistent with our FY99 budget proposal to consolidate the African elephant, Asian elephant, and rhino and tiger conservation funds under a Multinational Species Conservation Fund. The purpose of the consolidation would be to streamline bookkeeping and eliminate unnecessary duplication and overhead. Separate sub-accounts would be retained for the Rhino and Tiger Conservation program and each of the other specialized programs under this Fund.

The Rhino and Tiger Product Labeling Act/H.R. 2807

I would now like to discuss the Rhino and Tiger Product Labeling Act, introduced by Chairman Saxton. Chairman Saxton's bill, H.R. 2807, addresses a critical part of there remaining problem. Conservation assistance is only half of the job, however. In order to break the cycle of poaching and illegal trade which has devastated so many rhino and tiger populations, we must also work to break supply lines and remove rhino and tiger products from the marketplace.

In 1993, after I concluded that authorities in China and Taiwan were ignoring or even, in some cases, aiding and abetting a flourishing trade in rhino and tiger parts within their borders, I determined that coordinated U.S. and international action was necessary. I invoked the Pelly Amendment to the Fisherman's Protective Act by certifying both China and Taiwan and worked

with other CITES nations to obtain an international consensus on the need for corrective action. In response to a clear statement of our expectations for improvement in the situation, China took some immediate positive steps to improve their laws and enforcement. Taiwan failed to make similar progress, however, and in 1994 the President took the unprecedented step of applying trade sanctions. The sanctions -- combined with continued efforts at constructive engagement -- eventually resulted in enormous improvements on Taiwan. As a result, in 1995 the President was able to remove the sanctions, and as progress continued I was able to lift the Pelly certification in 1996. I'm happy to say that with strong U.S. encouragement, Taiwan has continued these positive efforts.

Unfortunately, not all of the problems with the trade in rhino and tiger parts is in Asia. There is also a thriving trade in medicines which are at least *labeled* as containing tiger or rhino parts in traditional medicine shops in major cities having large Asian communities all around the world -- and we are not exempt from this problem in the United States. Recognizing this, in 1994 I asked the Fish and Wildlife Service to undertake a program to help remove these medicines from the U.S. marketplace. As a result, the Service began a pilot program in Los Angeles involving outreach to local Asian communities, incorporation of the plight of rhinos and tigers into the curriculum in local schools, and other community-based activities. In addition, in Los Angeles an interagency wildlife law enforcement task force has also made concentrated efforts to interdict shipments of wildlife products -- including rhino and tiger medicines -- with excellent results.

The Los Angeles programs have clearly had an impact. A recent survey by TRAFFIC, the World Wildlife Fund's wildlife trade monitoring organization, found that of seven U.S. and Canadian cities, Los Angeles had by far the lowest incidence of medicines labeled as tiger and rhino medicines in traditional medicine shops. On the other hand, the survey also reveals the depth of the problem which we are facing in other cities, and highlights a continuing problem which no amount of educational outreach or enforcement task forces can solve -- the lack of authority to take enforcement action against medicines which are labeled as containing tiger or rhino parts. Every year, Service wildlife inspectors all over the country routinely encounter shipments containing wildlife products labeled as containing protected species parts -- especially tiger and rhino. These mass-produced products from Asia are destined to be sold as "cure alls" in traditional medicine shops. Investigations in Asia have clearly shown that rhino horn, tiger bone, and other tiger and rhino parts are used in manufacture of some of these medicines.

Once these products reach the United States -- even when their labels blatantly claim that the items contain rhino or tiger parts -- the burden of proof is still on the Service to demonstrate scientifically whether the products contain what the label says. This is a time-consuming and expensive process. Forensics experts estimate a cost of up to $100,000 to develop a DNA analysis test to identify any particular group of wildlife, such as all rhinos or all tigers, and the process would only work if DNA markers had not been destroyed when the product was manufactured. For example, if a product reported to contain tiger bone has been heated to high temperatures during compounding, a DNA analysis test could not be conclusive. The only substance which could be confirmed is the presence of calcium, an ingredient just as likely to represent cow bone and tiger bone.

Given these results, seized items must often be returned to the importer because no violation of existing U.S. law can be shown. Some ports have chosen not to seize tiger bone products because the burden of proof with respect to content has made enforcement so difficult. As a result, products claiming to contain tiger and rhino continue to be readily for sale. Even if some of these products contain no rhino or tiger parts, they serve as a smokescreen for other products which clearly do contain the real thing. As a result, such products continue to stimulate demand and feed a market that ultimately depends on the killing of these critically endangered species.

H.R. 2807, the Rhino and Tiger Product Labeling Act, would close this major gap in our existing laws by adding new criminal prohibitions to the existing Rhino and Tiger Conservation Act. The Administration strongly supports this new measure, which is designed to prohibit the importation and sale of products that claim to contain rhinoceros horn or tiger products. The proposed prohibition on import and export of such products will allow us to seize these illegal substances at U.S. ports of entry and demand their immediate forfeiture, and the prohibition on sale of these products will help keep stockpiles which are already in the country off store shelves. Furthermore, this bill is fully in keeping with an international consensus on the need for such legislation in every country. Recognizing that trade in rhino and tiger medicines is a global problem, the CITES Conference of the Parties has adopted a series of resolutions calling on all countries to adopt new legislation to control this trade. Resolution Conf. 9.13, for example, adopted in Fort Lauderdale in 1994, urges tiger range and consumer countries to prohibit trade in "..products *labeled as containing* parts and derivatives of tiger." Resolution Conf. 10.19, adopted in Harare last year, asks parties to ensure that "..their national legislation effectively controls trade in all parts and derivatives of species used for healing purposes and trade in medicinal products *containing or purporting to contain* them." [Emphasis added] Other countries are also moving forward to implement these CITES recommendations: the United Kingdom, for example, has adopted similar legislation which has enabled it to remove 20,000 items from shelves in traditional medicine shops in London alone.

Because H.R. 2807 would be an amendment to an existing statute which currently has no criminal prohibitions, we do have some proposed technical amendments to offer you which would help improve its effectiveness. Our suggestions will include such topics as adding authority to seek civil penalties and forfeiture for violations of the prohibitions, adding some definitions of who is subject to the law, and establishing court jurisdiction.

In summary, the Administration is strongly in favor of the adoption of H.R. 2807, with some technical amendments. It will help to ensure that commercial trade in rhino and tiger medicines in the United States does not undermine the benefits to range countries from Congressional appropriations to the Rhino and Tiger Conservation Fund and compound the cost of conserving these species in the wild. Passage of H.R. 2807 would complement and enhance our ongoing conservation efforts under the Rhino and Tiger Conservation Act, the Pelly Amendment, CITES, and other domestic and international measures. We believe that the Rhino and Tiger Product Labeling Act will help continue the global leadership role of the United States in rhino and tiger conservation.

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STATEMENT

of

DR. TERRY MAPLE
PRESIDENT AND CEO, ZOO ATLANTA
AND
PRESIDENT-ELECT
AMERICAN ZOO AND AQUARIUM ASSOCIATION (AZA)

before the

SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS

of the

Committee on Resources

on

H.R. 2807, The Rhino and Tiger Products Labeling Act
and
H.R. 3113, Reauthorizing the Rhinoceros and Tiger Conservation Act of 1994

5 February 1998

Mr. Chairman and Members of the Subcommittee:

My name is Dr. Terry Maple. I am the President and CEO of Zoo Atlanta and President-elect of the American Zoo and Aquarium Association (AZA). Thank you for the opportunity to testify before you today on two very important bills - H.R. 2807, the Rhinoceros and Tiger Products Labeling Act, and H.R 3113, to reauthorize the Rhinoceros and Tiger Conservation Act to 2004. The AZA strongly supports both bills.

The American Zoo and Aquarium Association (AZA) represents 182 accredited institutional members - virtually every professionally operated zoological park, aquarium, oceanarium and wildlife park in North America, and over 6000 zoo and aquarium professionals, commercial suppliers, and interested individuals. In 1996, over 120 million people visited AZA members zoos and aquariums - more than those who attended professional baseball, basketball, football and hockey games combined.

First, I would like to express AZA's appreciation for the concern and interest this Subcommittee has shown for the conservation of not only the rhinoceros and tiger, but the African and Asian Elephant and many other highly endangered and threatened species. I especially thank you, Mr. Chairman, Congressman Abercrombie, and the other Members of the Subcommittee for introducing the Asian Elephant Conservation Act and shepherding its passage last fall. Like you, AZA was very pleased when President Clinton signed the bill into law. We will work this year, along with our colleagues, to secure funding for this new program.

Rhinoceros and Tiger Products Labeling Act

As this Subcommittee is well aware, the situation facing all species of rhinoceros and tigers in the wild has reached crisis levels with ninety-five percent of the tiger population having disappeared since the turn of the century. At the beginning of the 20th century, an estimated 100,000 tigers roamed India, Indochina, and other parts of Asia. Today, fewer than 11,000 rhinoceros and 6,000 tigers are left in the wild, and those numbers continue to drop rapidly. Since the 1940's, three tiger subspecies - the Caspian, Bali, and Javan have become extinct . The Sumatran rhino - numbering less than 500 animals - and the South China tiger are now among the most highly endangered mammals on earth. While pressure from an expanding human population and the development of natural resources to supply booming economies have attributed to a decline in worldwide tiger populations, poaching has clearly taken center

stage since the 1980's as the primary reason for the decline of these magnificent animals.

According to Joshua Ginsberg of the Bronx Zoo/Wildlife Conservation Society, the collapse of the Soviet Union opened the illegal market for the Siberian tiger which, combined with an improved standard of living for millions of Asian consumers, has increased the demand for expensive tiger products. However, recognizing the problem and solving it are two very different things - as many of my colleagues have come to realize. Stopping the demand for rhinoceros horn and tiger parts in light of 1000 years of proven traditional Asian medicinal practices, and a strong cultural affinity for tiger bone and rhino horn is extremely difficult.

The AZA strongly believes solving this serious problem needs a two-pronged attack. H.R. 2807 must be enacted into law. This legislation would ensure that no person may import any product labeled as or actually containing any species of tiger of rhinoceros into, or export any such product from, the United States. While the bill would not affect the market within Asia, it would stop the increased importation of rhino and tiger products into the United States. According to a recent report by the World Wildlife Fund and World Conservation Society, more than 50 percent of all retail stores in North America Chinatowns continue to sell illegal endangered species products despite a twenty year ban. The bill also would eliminate the expensive and time consuming laboratory testing necessary to determine if a confiscated product contains ingredients originating from rhinos or tigers. Finally, the bill would help to alleviate the constant budgetary constraints faced by U.S. Customs agents and U.S. Fish and Wildlife Service to fully inspect all products prior to importation rather than just those that are labeled to derive from rhinoceros and tiger parts.

Although all species of rhinoceros and tiger have been listed as Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) for nearly twenty years, the prohibition on trade of these animals and their parts has not been well enforced in some Asian countries. Passage of H.R. 2807 - combined with increased appropriations for law enforcement - will certainly be a bold step by the United States in ending the slaughter of the rhinoceros and tigers in the wild.

Also, the AZA and other conservation organizations must continue educating the public on the harmful affects of purchasing rhino and tiger products. The 182 institutional members of AZA are in a unique position to help. Our members have the opportunity to educate millions of visitors on a daily basis on the devastating affects that development has, and continues to have, on the critical habitat for these two highly endangered species, and the long-term consequences

of purchasing products that claim to contain rhino or tiger parts. Stopping the existing illegal trade is important, but educating people on the affects of their individual actions is essential to keeping tigers and rhinoceroses from going the way of the Dodo bird.

For example, last year AZA unveiled a new traveling exhibit designed to promote the survival of the tiger. The AZA "Save The Tiger Traveling Exhibit - Tiger in Crisis" - is designed to help educate people about tigers, the problems they face as an endangered species, and the efforts zoos and other organizations are making to conserve them. The exhibit was funded by the Exxon Save the Tiger Fund Program of the National Fish and Wildlife Foundation. The display consists of five freestanding kiosks attached to dramatic life-size tiger cut-outs. Highlighted with magnificent photography and hands-on interactive elements, each kiosk tells a different chapter in the story of the tigers, what's being done to help them, and offers the public the opportunity to get involved in tiger conservation. Between January 1998 and September 2000, the exhibit will have visited nine AZA zoos across the country, allowing for millions of visitors to become better educated on the plight of tigers.

The zoos and aquariums of AZA have also greatly expanded their conservation responsibilities well beyond their gates. AZA members are very involved in a number of field conservation programs on every continent, including rhinoceros and tiger field conservation programs in Asia and Africa. For example, the AZA Sumatran Tiger Species Survival Plan (SSP) continues to work with Indonesian wildlife authorities in developing their Center for the Reproduction of Endangered Species benefiting both native rhinoceros and tigers, and the Minnesota Zoological Garden has adopted the Ujung Kulon National Park on the island of Java in Indonesia to protect the last stronghold of the Javan rhino. A number of AZA institutions have combined their efforts with the International Rhino Foundation in Zimbabwe on several conservation projects to protect southern black rhinoceros. Attached are the 1996-1997 Conservation and Science reports outlining the collective efforts of AZA members in rhinoceros and tiger conservation and research.

AZA zoos also have had the fortune of maintaining a number of endangered species under their care, which has given them the opportunity to develop successful techniques in reproduction, animal radio and satellite telemetry, veterinary techniques, genetic makeup and population densities, and disease control that have been transferred to field conservationists. In essence, AZA zoos and aquariums have become the classrooms for field conservation.

AZA believes that H.R. 2807 will compliment the historical role the United States has played to combat the illegal trade of animals and animal parts. Combining H.R. 2807 with the Endangered Species Act, the Wild Bird Conservation Act, and the Lacey Act with the actions the U.S. took against China and Taiwan in 1994 under the Pelly Amendment to the Fishermen's Protective Act for engaging in trade of tiger parts and rhino horn, will certainly tighten the grip around the worldwide illegal trade of rhinoceros horn and tiger parts.

Extension of the Rhinoceros and Tiger Conservation Fund

The AZA strongly supports the reauthorization of the Rhinoceros and Tiger Conservation Act. The AZA especially believes the Rhinoceros and Tiger Fund has already proven itself effective for critical conservation programs in Africa for the highly endangered northern and southern black rhinoceros, and for developing workshops in India and Indonesia for improving enforcement programs. Fourteen projects at a total of $251,000 were funded in 1996. Like the African Elephant Conservation Fund, this fund is designed to be "a quick-strike" in assisting conservation organizations on the front lines in saving these animals from extinction. As I said before this Subcommittee in 1996, "while AZA zoos and aquariums have become the last stronghold for tigers and rhinoceros, we realize we cannot save them from extinction by zoo propagation alone." Field conservation work and anti-poaching efforts are critical. These funds have, and will continue to keep several important conservation efforts moving forward. AZA will continue to seek increased appropriations for the rhinoceros and Tiger Fund.

In conclusion, AZA believes our ability to educate 120 million annual visitors - including 10 million students as part of their classroom and summer camp activities - with our expanding field conservation programs, has placed us in the forefront of wildlife conservation education. AZA and its members institutions will continue to work with the FWS and Congress in combating the senseless destruction of these magnificent animals.

The AZA strongly supports the efforts of the Subcommittee.

Thank you.

SSPs

GREATER ONE-HORNED ASIAN RHINOCEROS (*Rhinoceros unicornis*)

Species Coordinator: Michael Dee, Los Angeles Zoo
Regional Studbook Keeper: Tom Foose, The Wilds

Introduction

The goal of this SSP is to preserve 90% of the gene diversity from the wild population for a period of 100 years. To achieve this goal, it has been determined that the target population for the SSP is 90 rhino. In accordance with the 1994 Global Captive Action Plan for Rhino, the 7/50/100 the target population goals are 50/90/90.

Current Population Status

At the current rate of increase, the SSP population should have no problem attaining its 7-year (i.e. from 1994 to 2001) target population of 50 by the year 2001. There are currently 17 institutions participating in the Greater One-horned Asian Rhinoceros SSP. Several transfers have taken place to enhance the breeding potential for the SSP. However, there are still only eight institutions that have bred this species. Five institutions have single males and two have animals that have reached sexual maturity, but have not produced offspring yet.

A female calf was born at the Oklahoma City Zoo, becoming an F2. This is not the first time second generation calves have been born in the SSP, however, the sire of this calf is the only living offspring of its founder parents.

A male and a female, both founders that had failed to reproduce died during this reporting period. The SSP is still negotiating the transfer of a founder male from India.

Data Table (current through 1 July 1997)

	Two years ago	One year ago	Current year
Participating Institutions	15	16	17
Global Captive population	76.59	80.62*	70.64
#SSP animals managed	42	45	43
Total recommended births	5	3	3
# of SSP deaths	2	1	2
# of non recommended births	0	0	0
# of imports	0	0	0
# of exports	1	2	2
# of founders w/represented descendants	17	17	17

There are no non-SSP animals in North America, however, one female has been designated as over represented to the current SSP population. This animal currently resides at the San Diego Wild Animal Park.* In the data table it should be noted that not all of holders of this species have replied to the International Studbook questionnaire, as a result the numbers in the total population is skewed for 1996 reporting period.

Poaching continues to be a problem in both range states, but does not appear to be any more significant than in past years. The wild population of about 2100 appears to be increasing slightly.

Demographic Trends

Life history table analysis of the North American population indicates a growth rate (r) of 1.043,a generation time(T) of 19 years, a rate of population increase per generation(Ro) of 2.122, and a life expectancy at birth of twenty years. This SSP species has grown at an annual rate of 1.3 animals per year since 1982, even with a number of exports.

Population Genetics

The gene diversity in the population is .917. Descendant population mean kinship is .0832. There are 17 actual founders and 7 more potential founders.

Inbreeding coefficients (f) has been calculated for each living animal. There are several animals with f=0.25. If the founder population is going to effectively meet the SSP's goals, we still need to obtain six to eight new founders for the North American population. The acquisition of any animals from India or Nepal will put the SSP closer to its goals.

Research

There are several major research projects in progress involving Greater One-Horned Asian Rhino under the auspices of the AZA Rhinoceros Advisory Group and with funding from the International Rhino Foundation.

Basic Reproductive Biology of the Rhinoceros being conducted by Mike Fouraker of the Ft.Worth Zoo, Dr. Terri Roth of the Center for Reproduction of Endangered Wildlife at the Cincinnati Zoo, and Dr. Janine Brown of the National Zoo's Conservation and Research Center-Smithsonian Institution.

Basic Rhino Nutrition being conducted by Dr. Ellen Dierenfeld at the Wildlife Conservation Society.

Possible Determinants of Skew Towards Males in the Sex Ratio of Rhino Calves in North American facilities being conducted jointly by Ms. Shirley Atkinson of the Wilds, Dr. Ellen Dierenfeld of WCS and Dr. Tom Foose of the IRF and the Wilds.

Field Conservation

The SSP is working with the International Rhino Foundation (IRF) to provide support selected in situ projects for both Rhinoceros unicornis and its congeneric species Rhinoceros sondaicus (the Javan rhino). A probable project for the next year is support of the newly formed rhino protection units for Javan rhino in Ujung Kulon National Park, Indonesia.

Short-term Goals for the Upcoming Year

(1) Pair single animals where possible.
(2) Locate new founders for the SSP.
(3) Encourage more institutions to become participants in the SSP.
(4) Encourage more breeding within genetic guidelines.

Progress Toward Goals

The SSP is actively pursuing new founders. New holders are coming on line at the rate of one per year.

Financial Report

At this point the SSP does not have a separate account, but works through the Rhinoceros Taxon Advisory Group and the International Rhinoceros Foundation.

BLACK RHINOCEROS (*Diceros bicornis*)

Species Coordinator: Dr. Don Farst, Director, Gladys Porter Zoo
Regional Studbook Keeper: Thomas J. Foose, Ph.D., The Wilds & International Rhino Foundation

Introduction

The AZA Black Rhino SSP continues its attempts to develop self-sustaining populations of two subspecies or geographical varieties of the species as a back-up to wild populations and as a resource to conduct management-oriented research and generate funds for *in situ* conservation. Updated SSP Master Plan recommendations were issued as part of the consolidated AZA SSP Rhino Master Plan in February 1996. An update of this Master Plan will be produced at an AZA Rhinoceros Advisory Group workshop in November 1997 at White Oak Conservation Center.

Target population objectives for black rhino in the AZA SSP were proposed: 90 *michaeli* and 80 *minor*. The goal is to preserve 90% of the gene diversity in the population for 110 to 150 years (i.e. 8-10 rhino generations). In 1994 based upon feedback from the regional programs to the GCAP/GASP, these population targets were further

refined to reflect a time frame for achievement. This change recognizes the need for more performance measurement and attainable objectives in captive breeding programs for rhino. The 7 year/50 year/ and 100 year target population objectives are: *michaeli* 90/90/90 and *minor* 50/80/80.

Data Table (current through 1 July 1997)

D. b. michaeli	2 Years Ago (July 1995)	1 Year Ago (July 1996)	Current Year (July 1997)
Participating Institutions	27	27	31
Total World Captive Population			87.98 = 185
Total N. American Captive Population	37.29 = 66	39.30 = 69	41.31 = 73
# of SSP animals managed	37.29 = 66	39.30 = 69	41.31 = 73
# of SSP recommended births	4	3	3.0
# of nonrecomended births	0	0	0
# of deaths of SSP animals	6	1	0.3 = 3
# of imports	0	0	0.4 = 4
# of exports	1	0	0
Total founders with descendants	37	38	39

Data Table (current through 1 July 1997)

D. b. minor	2 Years Ago (July 1995)	1 Year Ago (July 1996)	Current Year (July 1997)
Participating Institutions	10	10	10
Total World Captive Population			29.32 = 61
Total N. American Captive Population	11.17 = 28	13.18 = 31	18.20 = 38
# of SSP animals managed	11.17 = 28	13.18 = 31	18.20 = 38
# of SSP recommended births	0	5	5.2 = 7
# of nonrecomended births	0	0	0
# of deaths of SSP animals	1	2	0
# of imports	0	0	0
# of exports	3	0	0
Total founders with descendants	18	22	27

Current Population Status

The SSP population of *minor* is now growing vigorously and should attain its desired size of 80 in less than a rhino generation. The *michaeli* population is larger and nearer to its target population size but has been more or less stagnant for a number of years. According to the International Studbook for African Rhinoceros, the global captive population of *michaeli* is 87.98 = 185 and of *minor* 29.32 = 61 for a total of 116.130 = 246.

Wild populations of black rhino appear to have stabilized at about 2,400 and are actually recovering slowly in some areas although the threat of significant poaching remains throughout the range.

Demographic Trends

Objectives for reproduction in the Master Plan are more specific and ambitious than in previous Black Rhino Master Plans: *michaeli* 7 births per year for next 5 years, with a total of 29 recommended breedings, and recruitment of 8 more of the breeding-age non-breeder males and 11 more of the breeding-age non-breeder females to reproduction so there will be 20.17 breeders instead of the current 12.16; *minor* 4-5 calves per year for next 5 years, with a total of 14 recommended breedings, and recruitment of 3 more breeding-age non-breeder males and especially 6 more of the breeding-age non-breeder females to reproduction so there would be 7.13 breeders instead of the current 4.7. Reproduction over the last two years appears to be fulfilling these admittedly ambitious goals for *minor* but not for *michaeli*. The skew in sex ratio of *michaeli* calves over the last 7 years in conjunction with the aging of the breeder female population is impeding achievement of the demographic objectives.

The greatest demographic problem in *michaeli* is now the serious skew toward males in sex ratio of calves born in the SSP : 20 of the last 25 surviving births have been male. The pattern is now statistically significant. A similar trend, although not yet statistically, may be developing in *minor*. In an endeavor to redress this demographic imbalance, 3 females were imported over the last year from the *michaeli* population in Addo Elephant National Park in South Africa. An attempt to acquire another female, captive born, from Japan failed with the death of the rhino to congestive heart failure soon after its arrival in North America. However, a further importation of a female from Japan is being arranged as part of an exchange between the SSP and Species Survival Committee SSC Japan SSCJ.

There continues to be unsatisfactory survival of black rhino under intensive management due to a complex of heath problems (including hemolytic anemia, liver toxicities, encephalomalacia, various infectious disease, etc.). However, with various preventative and therapeutic measures suggested by the continuing research on these problems, mortality has declined appreciably over the last several years.

Population Genetics

The genetic foundation of the *michaeli* population seems adequate at this time: there are 39 founders; gene diversity is about .97. The addition of new founder lines with animals imported for demographic reasons will further secure this situation. The genetic status of *minor* in the N.A. population is also sound: there are 27 founders

with another potential one; gene diversity is about 0.96.

There is an ongoing effort to increase founder representation through recruitment of reproduction from non-breeder founders already in the population.

Special Concerns

The possible causes of the skew towards males in sex ratio of calves needs to be intensively investigated to determine if there are possible management factors causing this pattern. Health and husbandry need to be improved to increase survival and reproduction in this species. Additional space for both subspecies needs to be increased and coordinated with each other and with the 2 other major rhino taxa in SSP programs, i.e. the white and Indian rhino. The Black Rhino SSP has been working in particular with the White Rhino SSP in hopes of moving white rhino from selected institutions to open up more space for black rhino. Better coordination is the reason for combining the black and white rhino first in the African Rhino SSP Master Plan of 1994 and now in the totally consolidated AZA Rhino Master Plan of 1996. The question of whether or not to keep *michaeli* and *minor* as two subspecies is still pending and the possibility of a workshop on the issue remains under consideration.

Research

There are several major research projects in progress involving black rhino, under auspices of the AZA Rhinoceros Advisory Group and with funding from the International Rhino Foundation:

- Pathophysiologic Basis of Diseases Affecting Captive African Black Rhinoceros being conducted by Dr. Don Paglia of UCLA and Dr. Eric Harley of the University of Cincinnati.
- Basic Reproductive Biology of Rhinoceros being conducted jointly by Mike Fouraker of the Fort Worth Zoo, Dr Terri Roth of the Center for Reproduction of Endangered Wildlife at the Cincinnati Zoo, and Dr. Janine Brown of the National Zoo's Conservation and Research Center, Smithsonian Institution;
- Basic Rhino Nutrition being conducted by [illegible] of the Wildlife Conservation Society;
- Possible Determinants of Skew Towards Males in the Production of Rhino Calves in North American Facilities being conducted jointly by Ms. Shirley Atkinson of the Wilds, Dr. Ellen Dierenfeld of the Wildlife Conservation Society and Dr. Tom Foose of the IRF and the Wilds.

Field Conservation

The SSP is working with the International Rhino Foundation (IRF) to provide support for selected *in situ* projects throughout Africa. Due to problems in the Department of National Parks and Wildlife Management in Zimbabwe, the major program of support for conservation programs there has been terminated. However, an alternative program through the new rhino agency being developed jointly by Chipangali Wildlife Trust in Zimbabwe and the Marwell Preservation Trust in the U.K. is developing. Significant support for *in situ* conservation has commenced in South Africa where a cooperative agreement has been concluded with National Parks Board in South Africa.

Progress Toward Goals

(1) There is a new AZA SSP Species Coordinator, Dr. Don Farst, who previously served as the Sub-Species Coordinator for Southern Black Rhino.

(2) An appreciable number of rhino continue to be relocated in an endeavor to induce more reproduction. There are already positive results from these moves and more relocations are planned.

(3) To redress the demographic imbalance caused by the skew towards males in sex ratio of *michaeli* calves born in the SSP, 3 females have been acquired from the free-ranging population in Addo Elephant National Park, South Africa to which this subspecies had been translocated in the 1960s from Kenya.

(4) Major research projects on health, nutrition, and reproduction are in progress with support from the International Rhino Foundation.

(5) Captive habitat for black rhino in North America has been and continues to be expanded through coordination with the White Rhino SSP.

Financial Report

The Black Rhino SSP does not maintain a separate bank account but works through the AZA Rhinoceros Advisory Group account and the International Rhino Foundation.

Short-term Goals for Upcoming Year

(1) The SSP Master Plan recommendations for black rhino will be updated at a meeting of the Rhinoceros Advisory Group at White Oak Conservation Center in November 1997.

(2) Attempts will continue to reproduce all breeding age females and recommendations will continue to wean calves as soon as possible to be able to expose post-lactational cows to bulls.

(3) There will be an intensive research effort to determine if there are management factors causing the skew towards males in the sex ratio of black rhino calves born in the SSP.

(4) The SSP will continue to interact with other regional *ex situ* breeding programs as well as *in situ* protection and management efforts. In particular, an additional female *michaeli* will be imported from Japan (under auspices of the SSCJ) to redress the current imbalance in sex ration in this SSP population. In return, a male *michaeli* will be provided to the Japanese SSCJ population.

(5) More space will be sought for both *michaeli* and *minor* in order to achieve the carrying capacity of 170 animals.

WHITE RHINOCEROS (*Ceratotherium simum*)

Species Coordinator: Michael Fouraker, Fort Worth Zoological Park
Regional Studbook Keeper: Tom Foose, Ph.D., The Wilds

Introduction

In spite of five births this year within the White Rhino SSP, the population continues to face a demographic crisis. Immediate concerns for the white rhino SSP continue to be the demographic status of the population, the need for additional founders, and the need for adequate captive space and herd management.

Data Table (current through July 1997)

	Two Years Ago	One Year Ago	Current Year
Participating Institutions	42	42	39
Total Captive Population	53.71	55.67	55.65
#SSP animals managed	124	120	120
#SSP recommended births	1.2	2.1	3.2
#SSP nonrecommended births	0	0	0
#deaths of SSP animals	0.3	0.1	3.5
#of imports	0	0	0
# of exports	4	4	4
# of founders with descendants	38	38	38

Demographic Trends

The Southern white rhino population is not self-sustaining and is in a demographic crisis. As indicated last year, only 3% of the captive population is captive born and bred, numerous genetically valuable individuals have not reproduced, and the age structure is senescing (46% of the population is older than 25 years of age).

As noted in the above Data Table, the managed population declined by 4 animals due to exports this year and there were 5 births within the population. Four of these births, however, were to previously proven breeders and only one was to a previously unproven breeder. A particular concern of the SSP is the recruitment of unproven individuals into the breeding population.

As reported last year, the northern white population consists of only four (2.2) animals, none of which have reproduced. Furthermore, all are more than 20 years of age and thus may be post-reproductive.

Population Genetics

The genetic objective of the white rhino SSP is to maintain 90% gene diversity for 110-150 years. This goal may be achievable if the current attempts at improved reproduction succeed.

The situation for the northern white rhino continues to look bleak. Without reproduction and with such a low number of founders, this population is not likely to be genetically viable without the global management of both captive and remnant wild animals.

Special Concerns

(1) Demographic crisis: The major problem facing the White rhino SSP that requires immediate attention is the demographic status of the population. Reproduction to date has been sporadic across institutions, and only a few institutions have produced calves consistently . As noted previously, unproven breeders must be recruited into the breeding population in order to meet the population's genetic goals. The number of requests from institutions to the SSP for animals exceeds the number of individuals available.

(2) Continued need for large enclosures and social groups: Large captive spaces must be identified that can hold white rhinos in herd situations to encourage reproduction. There are a total of 86 adult spaces and 35 calf spaces in 13 facilities (current and proposed). If transfer recommendations are completed and institutions are successful in managing the additional animals, these numbers would bring the target breeding population closer.

(3) Transit deaths: Four white rhino died within transit this year.

Research

(1) Understanding basic reproductive biology to conserve the African rhinoceros (T. Roth (Principal Investigator), Center for the Reproduction of Endangered Wildlife (CREW))

To date, nine white rhino SSP institutions are participating in an International Rhino Foundation (IRF)-funded project examining the basic reproductive biology of the African rhino (additional institutions propose to join this effort). The project encompasses four studies with the following specific objectives: (A) to establish the reproductive status of the extant population by measuring reproductive cycle patterns via hormonal profiles and relating these data to reproductive behavior, seasonality and stress; (B) to determine the feasibility of non-invasively estimating time of ovulation; C to examine the impact of seasonality on male reproductive hormones; (D) to begin developing and testing the feasibility of transcervical artificial insemination; and (E) to set the stage for the development of a rhino genome resource bank.

Data collection is on-going and includes the collection of feces (to monitor hormonal patterns) and behavioral data (to identify behaviors that may correlate to estrus; coordinated by T. Wagener, Fort Worth Zoological Park). Data collection will continue for 18 months from the onset of the project (March, 1996). Preliminary results of the first 12 months of data will be presented to the IRF and Rhino TAG this year.

(2) Research populations

Twenty southern white rhinos, including 12 females, have been designated for research programs at both the Wilds and White Oak Conservation Centers. Research priorities at these institutions are being evaluated. Additionally, reproductive research using ultrasonography continues at the Fossil Rim Wildlife Center (R. Radcliffe).

Progress Toward Goals

(1) Compliance with SSP Master Plan recommendations is good. Thirteen animals have been transferred to date based on the SSP and Master Plan recommendations.

(2) Significant research projects have been funded which will set the stage for hopefully increasing the population growth rate and recruiting additional founders into the population. Additional research projects are in being pursued by several individuals.

(3) The AZA Rhino Husbandry Resource Manual (which includes sections on white rhino) continues to be requested, and has been distributed to over 300 institutions throughout the world.

Financial Report

Starting Balance as of July 15, 1995:	$0
Funds Raised:	$0
Funds Expended:	$0
Current Balance as of July 15, 1996:	$0

Short-term Goals for Upcoming Year

(1) Continue to facilitate and encourage the compliance with all Master Plan recommendations.
(2) Continue to support and conduct research leading to increasing the population growth rate and recruiting additional founders.
(3) Hold another Master Plan workshop to analyze the current status of the population.

TIGER (*Panthera tigris*)

Species Coordinator: Ronald Tilson, Minnesota Zoo
Sumatran Tiger Coordinator/Studbook Keeper: Gerald Brady, Potter Park Zoo
Indochinese Tiger Coordinator: Edward Maruska, Cincinnati Zoo
Siberian Tiger Regional Studbook Keeper: Kathy Traylor-Holzer
International Studbook Keeper: Peter Muller, Leipzig Zoo, Germany

Introduction

Three of five Panthera tigris subspecies (P.t. altaica, P.t. corbetti, and P.t. sumatrae) will be protected under the aegis of the AZA Tiger SSP when all programs are mature. At the 1992 IUCN/SSC CBSG Tiger Global Animal Survival Plan (GASP) meeting in Edinburgh, Scotland, representatives from regional tiger programs recommended that the AZA Tiger SSP be responsible for jointly coordinating programs for P.t. altaica (with Europe and Japan), P.t. corbetti (with range countries only) and P.t. sumatrae (with Europe, Australasia and Indonesia). The Bengal subspecies P.t. tigris will be managed in Europe and India only. The South China subspecies P.t. amoyensis will be managed in China. These recommendations were ratified at the 1992 Annual AZA Tiger SSP Meeting in Toronto.

Data Tables

	Siberian (through 30 June 1997)			
	2 Years Ago	1 Year Ago	Current Year	
Participating Institutions		91	93	93
Total Captive Population		82.69.0	87.76.0	87.66.0
# SSP animals managed		104	100	104
# of SSP recommended births		6	10	12
# of nonrecommended births		0	5	0
# of deaths of SSP animals		18	8	14
# of imports	0	0	2	
# of exports	0	0	0	
# of founders with descendants		45	45	47

	Sumatran (through 30 June 1997)			
	2 Years Ago	1 Year Ago	Current Year	
Participating Institutions		26	27	31
Total Captive Population		30.31.0	30.31.0	29.28.0
# SSP animals managed		61	61	57
# of SSP recommended births		0	0	0
# of nonrecommended births		0	0	0
# of deaths of SSP animals		2	0	4
# of imports	0	0	0	
# of exports	0	0	0	

# of founders with descendants	17	17	17

Demographic Trends

Up until 1994 the Siberian tiger population was being managed for zero population growth at about 160 animals, and has been nearly stable for the past ten years. This population is now being slowly reduced to accommodate the expansion of the Sumatran and Indochinese tiger populations. Generation time for this population is just over seven years, sex ratios at birth are equal, and the average litter size is 2.4. Mortality prior to reproductive age (4 years) is close to 40%.

The Sumatran tiger population has been under a breeding moratorium since March 1994 pending the results of a molecular DNA study to determine the origin and possible hybridization of animals from Indonesia. Once breeding is resumed, the population will be slowly increased to about 75-100 animals.

With one death and no births this year, there are now only nine (3.6) Indochinese tigers in the SSP population at four institutions, most of which are related to each other. Importation of unrelated animals and expansion into additional institutions will be necessary to expand this population.

Population Genetics

"Gene drop" analyses conducted on the Siberian population revealed that 96.2% of the genetic diversity present in the original founders of the population had thus far been retained. Founder genome equivalents are at 13.300. Founder representation in the population continues to approach target levels. The mean inbreeding coefficient of the managed population is 0.019 while the descendant population mean kinship is 0.0376.

Genetic analyses of the Sumatran population indicates that 90% of the genetic diversity present in the original founders has been retained. Thirteen founder equivalents (17 actual founders) are represented in the population. The mean inbreeding coefficient of the Sumatran population is 0.062 while the descendant population mean kinship is 0.095.

Recruitment of new founder stock for the Sumatran and Indochinese tiger programs is a high priority. Animals are continually being sought from other regional programs through direction from the IUCN/SSC CBSG Tiger GASP.

Special Concerns

During the 1994 and 1995 evaluation of Sumatran tigers in Indonesian zoos, evidence arose surrounding the origin of several founders to the population as well as questions regarding parentage and possible hybridization with other subspecies. This had a profound impact on the AZA Sumatran tiger population, as most of the SSP population is related to the Indonesian animals in question. This led to a breeding moratorium issued in March 1994 for Sumatran tigers across all institutions in the AZA Tiger SSP. When available, the results from a molecular DNA analyses by Stephen O'Brien at the National Cancer Institute will be used to re-evaluate the status of Sumatran tigers currently held in SSP institutions as well as tigers in the other Sumatran tiger regional programs in Europe, Indonesia and Australasia. This report has not yet been submitted to the Tiger SSP.

Progress Toward Goals

(1) The AZA Tiger SSP Coordinator continued to coordinate the IUCN/SCC CBSG Tiger GASP and pursue funding to implement programs recommended in the Tiger GASP.

(2) The South China Tiger Project Team visited four Chinese zoos to evaluate tiger facilities, management, animal health and population status. Twenty-two South China tigers were immobilized, examined, and given tattoos and transponders; sperm was collect from 11 males and [illegible] recommendations were made to the GASP regarding animal health, [illegible] population. The CAZG South China Tiger Master Plan was translated, [illegible] and distributed.

(3) A field study was initiated in Way Kambas National Park, [illegible] Sumatran tiger biology, monitoring of wild tiger populations, and development [illegible] local communities.

(4) An Indochinese Tiger Master Plan workshop was held in [illegible] Zoological Parks Organization of Thailand, and the Indochinese Tiger Master Plan [illegible] translated into Thai and distributed.

(5) The International Tiger Information Center was established [illegible] information center includes an extensive web site (http://www.tigers.[illegible]ERS).

Financial Report
N/A

Short-term Goals for Upcoming Year
(1) Continue the implementation of recommendations from the IUCN/SSC CBSG Tiger Global Animal Survival Plan.
(2) Complete and publish the PKBSI Sumatran Tiger Regional Master Plan once the results of the molecular DNA analysis are available.
(3) Initiate the development of programs for the Indochinese tiger in Malaysia, including securing funding, conducting a PHVA workshop, initiating a captive regional program and Master Plan, expanding breeding facilities, and pursue obtaining additional founders for the AZA Tiger SSP population.

TAGS

FELID (Tiger+)

Co-Chairs: David E. Wildt, Ph.D., NZP Conservation & Research Center, Front Royal, VA
Jill D. Mellen, Ph.D., Disney's Animal Kingdom, Lake Buena Vista, FL

Primary Goals
The overall aim of the Felid TAG continues to be a commitment to conserve all felid species in their natural habitats supported by scientific captive breeding of threatened and endangered species. During the inaugural 1991 meeting, the following long-term goals were developed: 1) establish and encourage communication among all existing felid SSPs; 2) cooperate with other regional captive breeding programs and ongoing field research/conservation efforts, especially in the context of sharing expertise and resources; 3) develop a database on the status of free-living felid species and ongoing field research in cooperation with IUCN/SSC's Cat Specialist Group and Conservation Breeding Specialist Group; 4) assess and coordinate the optimal use of "cat spaces" in North American zoos by determining relative need and by allocating of species, populations and/or individuals to these spaces; 5) recommend additional species for studbook or SSP inclusion and recruit qualified studbook keepers and SSP coordinators; 6) promote and guide the development of improved captive breeding within SSPs by facilitating research efforts in exhibitry, animal husbandry, reproduction, genetics, population biology, systematics (especially subspecies issues), disease/mortality, nutrition and behavior; 7) coordinate new programs designed to conserve felid genetic diversity, especially the establishment of genome resource banks for the purposes of preserving genetic materials, delineating subspecies and providing resources for forensic purposes; and 8) assist all felid SSPs in defining husbandry/captive breeding guidelines, obtaining needed animals for SSP programs and, when necessary, resolving surplus animal problems and/or contraceptive needs.

Data Table (current through 1 July 1997)

	Two Years Ago	One Year Ago	Current Year
# of meetings this year	2	2	2
Present # of studbooks under umbrella	12	14	15
Present # of SSPs under umbrella	7	6	6
# of new studbook petitions submitted	1	3	2
# of new studbook approved	1	1	1
# of new SSP petitions submitted	0	0	0
# of new SSPs approved	0	0	0

Special Concerns
The Seventh Annual Mid-Year Meeting of the North American Felid Taxon Advisory Group (TAG) was held March 14-16, 1997 at the Travel Lodge, Escondido California. The meeting again was generously hosted by Pat Quillen of S.O.S. Care, Inc. This is the third consecutive year that Pat has taken on this arduous task, and the entire Felid TAG membership is grateful for her dedication and hospitality. This year's meeting had three distinct components. As in past years, there were reports on extensive activities that comprised either updates of felid

population management plans (SSP, PMP, regional collection planning) or conservation and research progress. These activities included the following: 1) collaborative felid projects in Latin America, North America, Laos and southern Africa; 2) the importance of FIV in felid sperm; 3) the use and distribution of MGA implants, including the latest data on the effects of these contraceptives on felid health; 4) a review of cheetah health; and 5) an overview of the power of fecal hormone monitoring for assessing reproductive status in diverse felid species. William Peake of the Massachusetts Institute of Technology gave a presentation on "Felidae as a Model for Size Variation in Hearing Ability." Dr. Peake is seeking cooperation from zoos that are anesthetizing felids, for the purpose of conducting brief auditory testing. This request is endorsed by the Felid TAG. Stephen O'Brien of the National Cancer Institute/NOAHS presented his latest finding on Latin America cat systematics and taxonomy, results from more than 3 years of research endorsed by the Felid TAG and supported, in part, by the Ralston Purina Company and the AZA Conservation Endowment Fund. Other presentations included descriptions of a Regional Plan for Managing and Conserving Mesoamerican Felids to be held in San Jose, Costa Rica in April 1997. A second component of this year's annual meeting was three working groups addressing the following topics: felid contraception; role of private cat facilities; and function, limitations, and future of SSPs, PMPs and TAGs. A third component involved an annual executive meeting attended only by Felid TAG working group members. Details of progress made in working groups and in the executive meeting are presented below.

Progress Toward Goals

Highlights from the Conception Working Group. Felid managers have been using the steroid melengestrol acetate (MGA) administered as a implant for more than 2 decades. Recent investigations have revealed, however, significant adverse health effects of chronic MGA use, especially the development of uterine cancers. After generating a history of contraceptive use and research in felids, this working group identified explicit problems and needs, and then made the following recommendations: 1) Linda Munson will serve as Chairperson of a Felid TAG Contraception Working Group. The Working Group will meet formally at the annual Felid TAG mid-year meeting, and the Chairperson also will report its progress to the AZA Contraceptive Advisory Group; 2) No further prospective, systematic research should be conducted with MGA. Because of the now well-established negative effects in a host of wild felids, this TAG recommends that MGA continue to be used only as a stop-gap measure until new approaches are developed; 3) Other female contraceptives should be explored (e.g., Lupron [GnRH agonist], Histrelin [GnRH agonist], other progestins that can be used in implants [e.g., Norplant, levonorgestrel], Porcine zona pellucida (PZP) vaccination); 4) The male contraceptive, bisdiamine, should be considered for study in the near future, if there is adequate interest among felid managers and if it is cost effective; 5) Everyone interested in this issue, including scientists and managers, should become stronger advocates for establishing and conducting contraception studies in non-domestic felids.

Highlights from the Private Cat Facilities Working Group. The Felid TAG has historically recognized and appreciated the expertise and commitment of private breeders of non-domestic felids and encouraged their participation in working group meetings. There is substantial interest by the private sector in the holding and breeding of wild felids. The exact role of these facilities in the context of organized management plans under the umbrella of AZA programs has never been addressed. This group began by defining these facilities as privately-owned institutions that maintain collections of non-domestic felids and either are non-AZA institutional members or are accredited as AZA-related organizations. The focus of these institutions may include breeding, exhibition and/or rescue/rehabilitation. Recommendations included: 1) The AZA/WCMC needs to be informed of concerns of the private cat facilities, and we suggest they clarify guidelines for accreditation as AZA-related organizations or developing adjunct status. The AZA/WCMC should be encouraged to streamline the accreditation process and to establish a tiered fee system based on the size of the facility; 2) A database of private cat facilities needs to be compiled and made available to AZA institutions to provide background information for possible interactions with the private sector. Pat Quillen has agreed to compile this information for the Felid TAG; 3) All private breeders are strongly encourage to activity participate in ISIS.

Highlights from the Future of SSPs, PMPs and TAGs Working Group. Discussions included growing concern about the current and future role of various AZA animal management groups. Specifically, there is a high degree of frustration among managers about the efficiency and effectiveness of the overall process. Some of these issues already are surfacing at the level of AZA's WCMC. This working group made the following recommendations:

1) During the institutional AZA re-accreditation process, the issue of participating in managed groups should be expanded beyond simply requesting if participation is occurring. The objective should be to explore if the applicant institution is indeed complying with the goals set forth by the various SSPs and TAGs with which it is cooperating. In other words, if an institution promotes its participation in animal management groups, then its accreditation status should reflect the quality of its participation; 2) Suggest that AZA develop a committee that oversees the activities

and productivity of the management groups (SSPs, PMPs, TAGs). This committee should: a) More clearly define and articulate the function and purpose of each management group, including developing a set of standard operating procedures; b) Define the precise duties and responsibilities of the Coordinators and Chairpersons; c) Establish consistent membership criteria for each management group that considers the level of individual participation anticipated for each institution; d) Review and revise the current Memorandum of Participation Agreement, taking into consideration the newly refined and developed ideas from points a-c; e) Devise an evaluative process for managed group performance that is proactively oriented to help Coordinators perform their duties; f) Develop a "mentorship" mechanism so that new Coordinators, or Coordinators facing a particularly difficult issue, have an identifiable contact for receiving sound advice; g) Formulate an effective mechanism that can be used across programs to deal with the issue of institutional non-compliance; 3) There is a need to re-evaluate the issue of non-member institutional participation in the management process, with the goal being to ensure the credibility and long-term integrity of our animal management programs. This working group requested this report be forwarded by the Felid TAG Co-Chairpersons to the WCMC.

Highlights from Annual Executive Meeting. This meeting was attended only by Felid TAG working group members. Research proposals submitted for Felid TAG endorsement were reviewed for inclusion in the 1997 5-Year Action Plan. Four proposals were accepted (Improving AI success in the tiger by optimizing hormonal ovulation induction therapy by Janine Brown; Impact of husbandry and diet on behavior, adrenal activity and reproduction of Latin American felids by Bill Swanson; Conservation of the Amur leopard, a plan for field investigation of the Amur leopard in the Russian far east by Alan Shoemaker; and Monitoring contraception safety in zoo mammals by Linda Munson). The highest priority proposals recommended for funding were those submitted by Drs. Swanson (which met both *in situ* and education criteria) and Munson (which met the high priority need for more contraception research).

Financial Support

The Felid TAG has received generous support from the Purina Big Cat Survival Fund through AZA's Conservation Endowment Fund. The Felid TAG currently has no funds raised or expended through other sources.

Short-term Goals for Upcoming Year

(1) Jill Mellen agreed to submit a petition to become the International Studbook Keeper for the Pallas' cat.
(2) Potential candidates were identified as SSP or PMP managers for the black-footed cat, sand cat and fishing cat. Jill Mellen will follow up by contacting each potential candidate.
(3) Dan Wharton has agreed to be the SPMAG advisor for the black-footed cat, sand cat and fishing cat.
(4) Norah Fletchall has agreed to contact the AZA Public Education Committee to continue our search for a Felid TAG Education Advisor.
(5) Dan Wharton has agreed to prepare a Felid TAG website format that could be connected to the AZA website. This information site would include the Felid TAG North American Collection Plan.
(6) The highest priority for 1997 is a masterplanning meeting for the clouded leopard. This SSP now is recruiting a new SSP Coordinator, and Dan Morris and Susan Millard have agreed to coordinate the new Clouded Leopard Research Council. The masterplanning/research meeting will be scheduled in the Fall of 1997
(7) Linda Munson, Chairperson of a Felid TAG Contraception Working Group, will choose the working committee by the Annual AZA meeting in Albuquerque, NM.
(8) The Felid TAG meeting at the AZA meeting in Albuquerque will be used to discuss ideas for soliciting more high quality proposals for inclusion in the 5 year Plan.

RHINOCEROS

Chair: Robert W. Reece, The Wilds
Program Assistant: Thomas J. Foose, The Wilds, IRF

Primary Goals

Considering the continuing crisis in rhino conservation, the primary goals of the AZA Rhinoceros Advisory Group are:

(1) Development of viable *ex situ* populations as:
  (A) reservoirs of genetic and demographic material as potential reinforcement of populations in the wild;
  (B) subjects for research to improve conservation management *in situ* as well as *ex situ*;

(C) ambassadors to stimulate public awareness and support, especially financial, for rhino conservation.
(2) Toward Goal (1), improvement of captive husbandry and management through research in health, nutrition, behavior and reproduction.
(3) Facilitation of and coordination among the SSP Programs for all rhino species (in collaboration with the Species Coordinators and the Management Groups).
(4) Assistance (financial, technical, and administrative) with selected *in situ* efforts for rhino with emphasis on those projects that are significant, feasible, and provide appropriate opportunities for application of the particular expertise that the captive conservation community can provide in terms of intensive management technology.
(5) Partnership with the International Rhino Foundation (IRF) particularly in pursuit of Goal (4).

Data Table: (current through 1 July 1997)

	Two Years Ago (1 July 1995)	One Year Ago (1 July 1996)	Current Year (1 July 1997)
# of meetings	1	1	0
# of studbooks under umbrella	4	4	4
# of SSPs under umbrella	4	4	4
# of new studbook petitions submitted	4	0	0
# of new studbooks approved	0	4	0
# of new SSP petitions submitted	0	0	0
# of new SSPs approved	0	0	0

Special Concerns

The conservation crisis for rhinoceros remains acute. There has been improvement on some fronts; setbacks on others.

In Africa, the situation for Northern white rhino has deteriorated more than for any other taxa over the last year as a result of the civil war in Zaire (now Democratic Republic of Congo). There has been virtually a total breakdown of the protection system in Garamba National Park with a number of rhino known and suspected of being lost to poachers. Numbers of rhino are now estimated at 24 maximum, down from a high of 32 in 1994. The zoo conservation community including many AZA institutions, led by Columbus Zoo and facilitated by the International Rhino Foundation, will continue to assist with their major project of support for guards as the situation permits. The southern white rhino have continued to increase (now ~ 7,600). Numbers of black rhino have continued their stabilization and even recovery over the last year at about 2,400 but the poaching threat is still serious. However, 85 % of southern white rhino and 40% of black rhino are in South Africa which is still in early days of new nationhood.

In Asia, the Sumatran rhino with fewer than 400 individuals remains under intense poaching pressure although the rhino protection units (RPUs), formed with International Rhino Foundation (IRF) and IUCN/SSC Asian Rhino Specialist Group (AsRSG) facilitation, seem to be ameliorating the situation. A major colloquium on Javan rhino conducted on the two known populations in Indonesia (~50) and Vietnam (~20), under auspices of AsRSG/ IRF with support from the USFWS Rhinoceros and Tiger Conservation Fund (RTCF), has been encouraging in delineating more effective conservation action and greater coordination among the many organizations involved in conservation for this species (e.g. Minnesota Zoo Adopt-A-Park Program, AAZK Bowling for Rhinos, WWF, Fauna & Flora International, PHPA, IRF, AsRSG). Poaching pressure on the Indian rhino (~ 2,000) remains high and the possibility of a major decline is real.

The AZA Rhinoceros Advisory Group also remains concerned with the successful implementation and management of sustainable *ex situ* populations, especially considering the critical state of wild populations. All of the rhino SSP programs have deficiencies which are receiving attention. Major problems relate to husbandry, health, and reproduction of the animals as well as financial and physical resources. There has been improvement over the last year, e.g. in growth and health of the black rhino population. However, a major demographic problem persists in the sex ratio of births in the populations of both eastern and southern black rhino (and perhaps is

developing in Indian rhino). The captive populations must attain stability and sustainability. Additionally, there is need to develop the methodology and programs to use captive populations for reestablishment and reinforcement of wild populations.

The Sumatran rhino continues as the greatest challenge in rhino conservation both *ex situ* and *in situ*. All 3 (1.2) surviving individuals in the SSP population (from a maximum of 7) have been consolidated at the Cincinnati Zoo. Last year it was stated in the Rhinoceros Advisory Group report that if no reproduction occurred during the year, the RAG recommendation would be that these animals be moved to larger and more natural enclosures in the southern U.S. Since then, a major new reproductive research program has been initiated at the Cincinnati Zoo. Concurrently, efforts continue to develop managed breeding centers in native habitat in both Indonesia and Malaysia have progressed, especially at Way Kambas National Park in Sumatra, which should be ready to receive animals by September 1997. The situation for the SSP program for this species will be reassessed at the RAG meeting in November 1997.

There is continuing need to identify feasible and significant ways in which AZA institutions can assist with selected *in situ* programs for rhino conservation both financially and technically.

Progress Toward Goals

(1) Implementation, with adaptive adjustments, has continued on the AZA SSP Masterplan for Rhino (consolidating all species) issued in February 1996. An update will be produced through a RAG workshop in November 1997 at White Oak Conservation Center.
(2) Further implementation of the AZA Regional Collection Plan for Rhino has occurred as several new institutions have added rhinos and others have converted species.
(3) The AZA Rhinoceros Husbandry Manual has been published during the last year.
(4) A new AZA SSP Species Coordinator has been appointed for the Black Rhino.
(5) The 8 major research projects which the RAG and IRF have been supporting are generating useful results. These projects comprise:
- 1 on health of black rhino;
- 1 on nutrition of all rhino
- 3 on reproductive research on Sumatran rhino
- 3 on reproductive research on African rhino but with extension to all rhino.
- 1 on improved health/husbandry data bases and tissue sample collections.

A major new research project on possible management factors causing the skew toward males in sex ratios of rhino calves born in the SSP has been initiated.
(6) The RAG has provided letters of support for other research projects applying for funding from sources other than IRF.
(7) In an effort to correct for the skew toward males in sex ratio of calves in the black rhino, 3 female eastern black rhino have been acquired from the population in Addo Elephant National Park as part of a program through which 2 AZA institutions have provided National Parks Board of South Africa with funds for their *in situ* rhino conservation programs.
(8) There has been significant progress on several components of the 5-Year Plan's *in situ* programs, through partnership with the International Rhino Foundation (IRF), i.e.:
- Development of sanctuary programs for Sumatran rhino in Indonesia and Malaysia has advanced, especially in Way Kambas National Park (Sumatra) which should be ready to receive rhino in September 1997.
- Deployment of rhino protection units (RPUs) for Sumatran rhino in Javan Rhino in Indonesia and Malaysia
- Finalization of plans to form RPUs for Javan Rhino in Ujung Kulon National Park, Indonesia, and prepare for them in Cat Loc Nature Reserve, Vietnam.

(9) The RAG/IRF Program Office has been working closely with the Office of International Affairs, U.S. Fish & Wildlife Service, on various projects involving implementation of the Rhinoceros and Tiger Conservation Fund (RTFC) including:
  (A) Review of proposals submitted to USFWS for support under RTCF;
  (B) Receipt of grants for several IRF projects (RPUs and SRS)
  (C) Conduct of the major Colloquium on Javan Rhino
(10) The website, established in conjunction with the IRF (at new address http://www.rhinos-irf.org) has continued to evolve and now has a listserve operational to facilitate communication among various rhino constituencies including the Rhino TAG.
(11) The RAG Program Office has continued to provide technical services for the AZA Rhino Masterplans and to

maintain the AZA Rhino Regional Studbooks as well as the International Studbook for Sumatran Rhino.
(12) The RAG has continued to facilitate interactions between the SSP and other Regional Captive Breeding Programs and the International Studbooks for African and Indian Rhinoceros.
(13) There have been delays in publication of *Around the Horn, The Rhino Conservation Newsletter* (the joint newsletter of the AZA Rhino Advisory Group, the IRF, and the Rhino Global Action Plan (GCAP)) due to reorganization of the Program Office.

Financial Report

Starting Balance as of 31 July 1996:		$ 1,910.76
Funds Raised*:		$ 0.00
Funds Expended*:	Support for AZA Husbandry Manual	$ 1,800.00
	Bank Charges	82.50
	Total	$ 1,882.50
Ending Balance 30 June 1997:		$ 28.26

* Much of the AZA Rhino Advisory Group's activities relative to *in situ* programs and research projects is in partnership with the International Rhino Foundation (IRF) which from Sept. 1996 to Sept. 1997 is committing $ 500,000 to *in situ* and $ 244,000 to research projects.

Short-term Goals for Upcoming Year
(1) Continue with implementation and produce update of the AZA SSP Masterplan for Rhino.
(2) Continue financial support of management-oriented research on rhinos, especially in conjunction with the IRF Research Program. Continue efforts to better coordinate and catalyze research on rhino reproduction;
(3) Continue and increase support of programs for *in situ* conservation of rhinos, again in conjunction with IRF;
(4) Facilitate additional exchanges of rhino between SSP and other Regional Rhino Breeding Programs;
(5) Contribute to improvement of the SSP Program for Sumatran Rhino.
(6) Form technical support teams for management/manipulation of rhino.

January 26, 1998

The Honorable Jim Saxton, Chairman
Subcommittee on Fisheries Conservation,
Wildlife and Oceans
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Saxton:

Pursuant to the truth and testimony act, I am providing the following information on Federal Grants received by Zoo Atlanta:

1. Institute of Museum Services - $112,500 for 1995-1996 and for 1997-1999
   General Operating Support

2. National Science Foundation grants received Morehouse College/Zoo Atlanta
   1994 - $31,000 - 1995 - $44,000
   To support minority undergraduate research program in conservation, biology and animal behavior.

3. National Fish & Wildlife Foundation - $250,000 grant pledged 1993*
   * (paid through 1997)
   To support construction of the Conservation Action Resource Center.

4. U.S. Fish & Wildlife Service Cooperative Agreement- $90,000 awarded 1993 rcvd March 1995 - To support construction of new Education animal holding facility.

5. U.S. Fish & Wildlife Service Cooperative Agreement - $20,000 awarded 1994
   To support curriculum development of programs to be used as part of partnership.

6. U.S. Fish & Wildlife Service Cooperative Agreement - $40,000 awarded 1995
   To support participation of underprivileged urban audiences in zoo education programs.

Sharing The Joy And Wonder Of Wildlife
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(404) 624-5600 Facsimile (404) 627-7514

The Honorable Jim Saxton
Page Two
January 26, 1998

7. U.S. Fish & Wildlife Service Cooperative Agreement - $7,000 awarded 1995
To support the development of CD-ROMs for use in USFWS GSAMS (Georgia Statewide Academic Medical System) distance learning programs.

8. Institute of Museum Services - $1,975 - 1/3/95 - 1/2/96
To support participation in the Museum Assessment Program (MAP).

Respectfully submitted,

Terry L. Maple, Ph.D.
President and Chief Executive Officer

/gk

Attachment: Curriculum Vitae

The Rhino and Tiger Product Labeling Act
and Reauthorization of the Rhino and Tiger Conservation Act

Testimony of Kathryn S. Fuller
President, World Wildlife Fund
before the Subcommittee on Fisheries, Wildlife, and Oceans
of the House Committee on Resources
February 5, 1998

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to appear here today. I am Kathryn Fuller, President of World Wildlife Fund. WWF is the largest private conservation organization working internationally to protect wildlife and wildlife habitats. We currently support conservation efforts in more than 100 countries, including almost all tiger and rhino range states.

My testimony today focuses on the proposed Rhino and Tiger Product Labeling Act and the reauthorization of the Rhinoceros and Tiger Conservation Act. I want to provide WWF's perspective on why the Labeling Act is vital to strengthening the capacity of law enforcement agencies to police the illegal trade in rhino and tiger products and why an appropriation of $1 million for FY 1999 for the Rhino and Tiger Conservation Fund is critical.

I want to commend the Subcommittee, and particularly Chairman Saxton, for your leadership in protecting wild tigers and rhinos. I also want to thank Chairman Young for introducing legislation to reauthorize the Rhino and Tiger Conservation Act. The Rhino and Tiger Conservation Fund has given a tremendous boost to conservation efforts for tigers and rhinos across Asia and Africa — and it has the potential to do even more.

The United States has long been a leader in international conservation. For more than 25 years, the Endangered Species Act has served as model legislation for countries worldwide struggling to protect imperiled species such as tigers and rhinos. By addressing the range of threats — from poaching to illegal trade to habitat loss — the ESA has served as a critical weapon in the global fight to stop species' decline. In recent years, the United States also has taken unprecedented action under other laws such as the Pelly Amendment to the Fisherman's Protective Act to encourage stronger endangered species protection measures in other countries. By imposing wildlife trade sanctions on Taiwan for its failure to stop the illegal trade in tiger and rhino products, the United States stimulated much-needed conservation progress, not only in Taiwan but elsewhere in Asia as well. And, through programs administered by the Department of the Interior, U.S. Fish and Wildlife Service, and USAID, the United States has provided critical on-the-ground support for efforts to protect dwindling populations of tigers, rhinos, elephants, and other threatened species.

Why We Need the Rhino and Tiger Product Labeling Act

This Subcommittee is well aware of the crisis facing rhinos and tigers in the wild, and the staggering declines these species have experienced. Ninety-five percent of the world's wild tigers have disappeared since the turn of the century, with losses to poaching accelerating over the past decade. There are fewer than 6,000 tigers remaining in the wild today. Similarly, more than 95 percent of Africa's black rhinos have been lost in just three decades. Today there are fewer than 2,500 animals in the wild. Asian rhinos face even longer odds. Take the Javan rhino, for instance — there are probably no more than 70 living in the wild today.

We know all too well where the blame lies for these dramatic declines. In addition to having lost so much habitat to expanding human use, tigers and rhinos have been poached nearly out of existence for their highly valued body parts. Poaching represents the most immediate threat to the survival of these species, a problem driven by the demand for bone, horn and other parts used in traditional Chinese medicines. In the past decade alone, as many as one-quarter of the world's tigers may have been killed to supply an international black market trade. As economies have grown in East Asian countries and trade centers such as China, South Korea, Taiwan, and Hong Kong, so has the commerce in tiger, rhino and other species used in traditional medicine, in spite of a 20-year-old ban under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Many people do not realize that the United States is also a significant market for packaged traditional Chinese medicines containing or claiming to contain tiger bone, rhino horn, and other protected species. Two weeks ago, World Wildlife Fund released a report produced by its wildlife trade monitoring program, TRAFFIC, highlighting an alarming trend. There are more medicinal products advertised as containing tiger bone in North American markets today than there were five years ago. According to TRAFFIC's investigation, which covered seven major cities in the United States and Canada (Atlanta, Los Angeles, New York, San Francisco, Seattle, Toronto and Vancouver), over 40 percent of the nearly 110 traditional medicine shops surveyed had tiger and rhino medicines for sale. Investigators found 31 different types of tiger and rhino medicines available, the vast majority made in China. Mr. Chairman, I would like to submit a copy of the TRAFFIC report for the record.

Why, in spite of the Endangered Species Act, CITES, the Lacey Act and other laws, are these products readily available for sale on the U.S. market? There are three primary reasons: (1) inadequate enforcement of existing import prohibitions established under the Endangered Species and Lacey Acts; (2) lack of domestic legislation prohibiting the sale of products *labeled* as containing endangered species; and (3) lack of public awareness about the illegality of such products and the threats to tigers and rhinos in the wild.

Inadequacies in laws regulating domestic tiger and rhino trade have attracted increasing scrutiny in recent years. At each of the past two Conferences of Parties to CITES in 1994 and 1997, resolutions were passed calling on member governments to improve legislation controlling trade in tiger and rhino parts, including the prohibition of internal trade in these species and their derivatives as well as in products *labeled* as containing their parts or derivatives. Yet, while

China, Taiwan, and Hong Kong have strengthened their laws to comply with the CITES recommendations, the United States has still to act.

The United States has allowed a fundamental weakness in current trade controls to remain, which makes it relatively risk-free to sell rhino and tiger products in this country. Although import of and interstate commerce in rhino and tiger medicines are prohibited under both the Endangered Species and Lacey Acts, these laws place the burden of proof that a product actually contains the prohibited wildlife ingredients upon the government. Forensic analysis of these products is costly, time-consuming, and generally inconclusive, presenting a powerful disincentive to prosecuting suspected violations. The Rhino and Tiger Product Labeling Act would allow enforcement agencies to take immediate action against anyone caught importing, exporting or selling products *advertised* as containing tiger or rhino.

Controversy continues over whether products in the U.S. marketplace do in fact contain endangered wildlife ingredients. Their low cost and widespread availability would seem to defy the laws of supply and demand. However, if these products contain even trace amounts of tiger bone or rhino horn, the volume of sales represent an imminent threat to the survival of these critically endangered species. Furthermore, even if they contain no rhino or tiger derivatives, the promotion of these products stimulates the demand for real rhino and tiger medicines, and makes consumers less receptive to medicinal substitutes made from non-endangered species.

To address this problem, Congress should pass the Rhino and Tiger Labeling Act and make the sale of any product *advertised* as containing rhino or tiger illegal. Next, the U.S. Fish and Wildlife Service should implement a national strategy. The TRAFFIC study helps pinpoint where attention is most needed. Notably, Los Angeles, the one city where the federal government has made a concerted effort to enforce the import laws and increase public awareness, ranked as the "cleanest" city for endangered species medicines in the study. Finally, the conservation community and federal and state agencies responsible for wildlife trade control must work closely with traditional Chinese medicine and Asian communities to raise awareness about both the trade problem and the plight of the endangered species involved. We must work together to find and advocate culturally appropriate substitute medicines. To this end, we at WWF are very pleased to have launched, with the American College of Traditional Chinese Medicine in San Francisco represented by Dr. Lixing Lao at this hearing today, a national outreach effort on tigers and other endangered species used in traditional medicines.

Why the Rhinoceros and Tiger Conservation Act Should Be Reauthorized

We have all heard the grim statistics about the dire status of tigers and rhinos. Equally deserving of recognition, though, is the heartening progress made in recent years toward halting and reversing these trends. In 1985, a survey of tigers in the Russian Far East reached the alarming conclusion that only about 250 of these animals — the world's largest and perhaps most dramatic tigers — remained. In the chaotic aftermath of the breakup of the former Soviet Union in the early 1990s, poaching escalated further. Russian and international conservationists and many governments, including the United States, quickly joined forces — and contributed

financial resources — to shore up protection for tigers. A 1996 survey counted as many as 475 tigers in Siberia — strong evidence that the population may be rebuilding.

There are rhino success stories as well. In Royal Chitwan National Park in Nepal, a population of greater one-horned rhinos that numbered about one thousand at the beginning of the century had shrunk to a seemingly doomed 60 individuals only two decades ago. Today, this population is estimated at a robust 450 rhinos, thanks to intensive conservation efforts — made possible by steady funding — that have staved off human encroachment and reduced poaching incidents to near zero. In Africa, black rhinos also have benefited from vigorous protection measures that have helped many populations stabilize during this decade after the poaching carnage of the 1970s and 1980s.

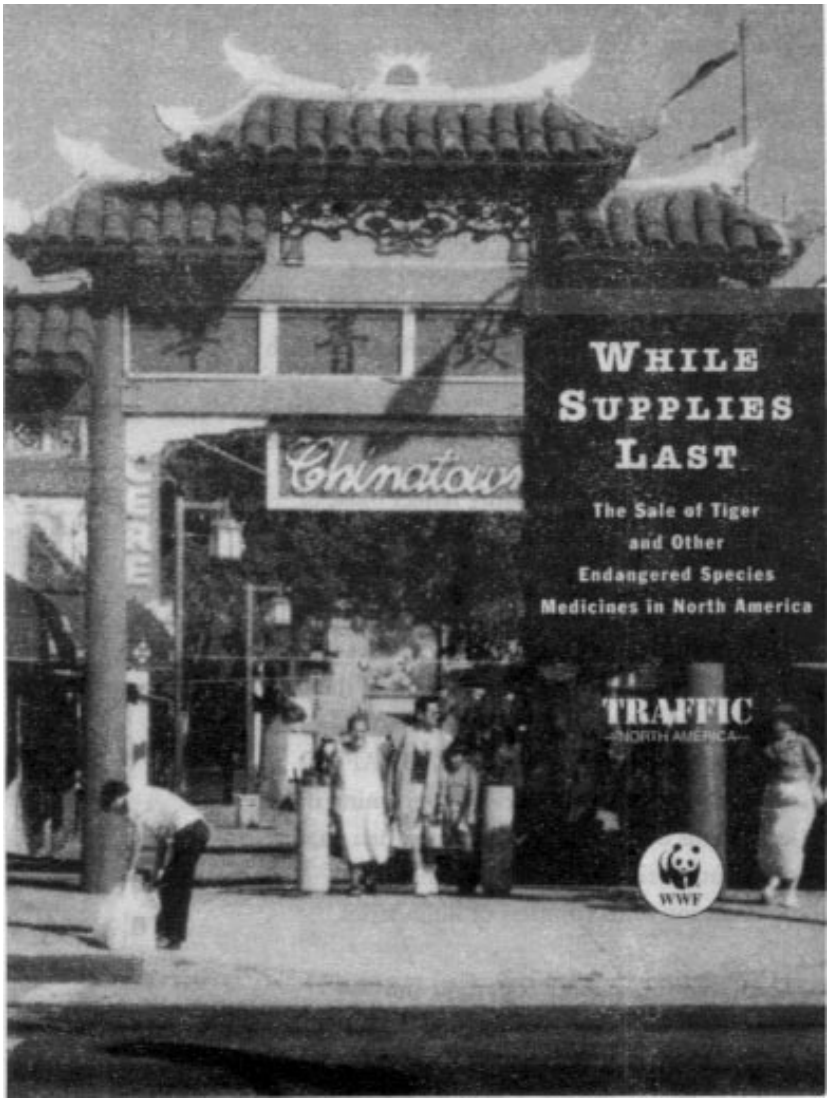
The message here is simple: the situation for tigers and rhinos is critical, but it is by no means hopeless. When financial support is available, and reliable, the improvements can be rapid and dramatic. We know what needs to be done. We have better data on these species and their habitat, closer international coordination among stakeholders, and a more strategic vision than ever before. An example of research that pinpoints specific places and projects for tiger protection is *A Framework for Identifying High Priority Areas and Actions for the Conservation of Tigers in the Wild*, a joint publication of World Wildlife Fund, the Wildlife Conservation Society, and the National Fish and Wildlife Foundation's Save the Tiger Fund. This report delineates 25 remaining habitat areas where tigers stand the best chance of long-term survival. By concentrating on these 25 areas, we can maintain representation of tigers across their full range. The report also analyzes the viability of existing tiger reserves, pointing out that many are too small to sustain tiger populations, and that many tigers live outside reserve boundaries. Ultimately, each critical tiger habitat area should contain a network of tiger reserves surrounded by buffer zones where limited human activities are permitted and linked by corridors that allow tigers to disperse among once-isolated islands of habitat. Securing such protected area networks — and the tiger's future — hinges upon securing long-term investment from sources like the Rhino and Tiger Conservation Fund.

WWF has a comparable recovery strategy for African rhinos, and will complete an assessment of Asian rhino needs later this year. WWF's African Rhino Action Plan identifies key rhino populations — those with the greatest probability of long-term survival — and sets out a blueprint for achieving stable rhino populations. Priority projects such as expanding rhino reserves and intensifying anti-poaching efforts require a major commitment of resources at a time when many African countries have scaled back wildlife conservation budgets in response to other pressing development needs. And wildlife management agencies in many Asian countries are no better off financially than they are in Africa. Here, too, funding from the Rhino and Tiger Conservation Fund is a critical complement to the support already coming for rhino conservation from other private and public sources.

As with the African Elephant Conservation Fund, widely recognized as a success, the Rhino and Tiger Conservation Fund represents a long-term commitment by the United States government to these threatened species. While the U.S. supported 31 important projects in FY 1996 and FY 1997, many remained unfunded and the number of proposals to the Fish and

Wildlife Service continues to rapidly increase. The Fund, which must be shared among tigers in 14 countries and five species of Asian and African rhinos, is spread far too thin. Although the Rhino and Tiger Conservation Act authorizes up to $5 million a year, only $400,000 per year has been appropriated. We at WWF urge Congress to appropriate $1 million for the Rhino and Tiger Conservation Fund in FY 1999. This additional investment will make a significant and measurable difference for these imperiled species.

Thank you for the opportunity to appear before the Subcommittee today. Mr. Chairman, I will be happy to answer any questions.


Chinatown
WHILE SUPPLIES LAST
The Sale of Tiger and Other Endangered Species Medicines in North America
TRAFFIC
NORTH AMERICA
WWF

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Front cover photograph: Chinatown Gate, Los Angeles, California

Photo credit: A. Lacklan, TRAFFIC North America

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WHILE SUPPLIES LAST

The Sale of Tiger and Other Endangered Species Medicines in North America

1996-1997

Edited by

Andrea L. Gaski

January 1998
(Revised)

ACKNOWLEDGMENTS

TRAFFIC North America wishes to acknowledge the investigator and his colleague, both of whom wish to remain anonymous. Their combined knowledge of traditional Chinese medicine trade and their experience in conducting comparable surveys made it possible to undertake this project. Without their expertise, the data might never have been systematically compiled and analyzed, nor the report completed for publication.

The editor wishes to acknowledge the contribution of TRAFFIC North America staff, Craig Hoover and Nathalie Chalifour. These staff compiled demographic, law enforcement, and public outreach information on each of the seven cities reviewed in this report and also wrote and reviewed the national legal analysis presented herein.

TRAFFIC particularly thanks our wordprocessing wizard, Holly Reed, who not only helped this report to become a more readable document but also rescued it from wordprocessing oblivion a number of times. Finally, TRAFFIC wishes to thank TRAFFIC International and WWF US for providing helpful and substantial comments on the draft report and recommendations.

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EXECUTIVE SUMMARY

Rhinos and tigers are among the most critically endangered large mammals in the world and are the focus of extensive global conservation efforts aimed at halting their decline. Consumer demand for and trade in the parts and derivatives of these species supply luxury markets as well as markets for cultural and medicinal needs. One of the most complex and far-reaching of these demands is for use in traditional medicines. Traditional Chinese medicine (TCM) uses these animal derivatives to prepare medications in two forms--as individually prepared prescriptions and as over-the-counter packaged medicines. Most of the latter medicines are manufactured in China and are sold in markets worldwide.

While the illegal trade in raw products of endangered species is an undisputed problem, conservationists have long debated the degree of threat posed by the trade in prepared medicines containing or claiming to contain protected and regulated species. But most conservationists believe that whether or not the medicines always contain these species, the advertising and promotion of such ingredients sustains consumer demand for them and perpetuates the conservation problem. As such, these products should be treated as if they contain these derivatives and their trade should be prohibited or regulated as dictated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Commercial trade of raw rhino horn and tiger or leopard bone and their derivative products is prohibited by CITES (all species are listed in Appendix I of the Convention), as well as by domestic legislation in several countries, including Canada, the United States, and China. In Canada and the United States, the burden of proving that those products actually contain the species listed rests with the government. Unfortunately, although seizures occur at the port of entry when products are occasionally intercepted, few, if any, prosecutions of those dealing in these medicines have taken place because current forensic techniques are as yet unable to detect many of the derivatives in these products. The offer for sale of these otherwise illegally imported medicines continues because of lack of a strong law enforcement deterrent and, presumably, lack of consumer awareness about the problem. Conservationists believe that the ongoing availability of these products in North America constitutes a violation of CITES and of domestic legislation, is a threat to the species concerned, and should be stopped by wildlife law enforcement agencies.

TRAFFIC North America investigated the display and sale of endangered species products in two Canadian and five U.S. cities beginning in late 1996 through fall of 1997. TRAFFIC focused on North American Chinatowns because of the concentration of shops that presumably sell those products and because these neighborhoods are visited by Chinese and non-Chinese alike. The TRAFFIC investigator posed as a customer but did not make any attempt to deceive any shopowner into offering to sell a product that might not normally have been readily available in the shop.

TRAFFIC gathered information on offers to sell medicines that contained or claimed to contain legally protected species--rhino (Rhinocerotidae spp.), tiger *(Panthera tigris)* and leopard *(P. pardus)*. TRAFFIC also collected information on medicines that contained or claimed to contain legally regulated species--musk deer (*Moschus* spp.) and bear (Ursidae spp.). Legally *protected species* are those that cannot be commercially imported into Canada and the United States for commercial purposes under CITES provisions. Legally *regulated species* are those that are governed by CITES and that generally may be imported with a permit from the country of origin or reexport.

Of the 110 shops surveyed, 50 percent offered for sale one or more protected species medicines or medicines or products that contained or claimed to contain the target protected species--tiger, rhinos, and leopard. The medicines most commonly found offered for sale were those that contained or claimed to contain tiger parts and products, although musk deer products were almost as common. The least commonly found medicines were those containing or claiming to contain bear parts and products. At least 31 different types of rhino-or tiger-containing medicines, produced by between 29 and 34 different manufacturers, were found offered for sale during the survey. The cities with the greatest proportion of shops that offered for sale medicines containing protected species which were presumably illegally imported are, in descending order: New York, Vancouver, Seattle, Toronto, Atlanta, San Francisco, and Los Angeles.

TRAFFIC concludes that:

- Protected species medicines are readily available In North America
- Protected species medicines are available because of legal inadequacies
- North America appears to be significant market for these medicines
- Illegal stockpiles of these medicines may exist
- Public outreach must be initiated to eliminate these markets

TRAFFIC recommends that:

- √ Regional law enforcement must be increased
- √ Legislation to control internal trade needs to be strengthened
- √ Stockpiles and manufacturers should be identified and inventoried
- √ Collaborative North American public outreach efforts are required
- √ U.S. governmental funding for tiger and rhino conservation and trade control efforts should be increased

WHAT IS THE CURRENT SITUATION?

In the twelve-year Chinese calendar, 1998 is the Year of the Tiger. It is also the 25th anniversary of CITES--the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The coincidence of these two auspicious events, one in Chinese culture and one in wildlife conservation, provides an appropriate backdrop to the release of this report, which is part of a two-part research project on the market for and use of rhinoceros and tiger products in North America. The project was designed to assist the CITES parties, North American governments, and other interested organizations and agencies in reducing and eventually eliminating the demand for wild tiger and rhino parts in North America.

Rhinos and tigers are among the most critically endangered large mammals in the world and are the focus of extensive global conservation efforts to halt their decline. Although habitat loss was and is the primary cause of the decline of these animals, international illegal trade of their parts and derivatives is also of intense concern. Consumer demand for and trade in these parts and derivatives supply luxury markets as well as markets for cultural and medicinal needs. One of the most complex and far-reaching of these demands is for use in traditional medicines. Hundreds of millions of people throughout the world depend on traditional medicine systems that, in turn, depend on wild animal and plant derivatives as ingredients of medicines and tonics. Conservationists believe that uncontrolled demand--particularly of endangered species, such as tigers and rhinos--is a threat to those species' survival. Examples of the species used in traditional medicine along with the disorders and illnesses they are intended to treat appear in Table 1.

Spearheading the international initiative to halt the trade of tiger and rhinoceros parts, the parties to CITES passed two resolutions in 1994 (see appendices 1 and 2) that highlighted ongoing problems with illegal trade of these species. The resolutions requested that the CITES parties and other relevant organizations escalate their law enforcement efforts to halt persistent poaching and illegal trade to eliminate demand for rhino and tiger products, and to consolidate stockpiles of tiger parts and derivatives. In 1997, the CITES parties strengthened the tiger resolution, asking the CITES Standing Committee to periodically provide annual updates on country-by-country progress in law enforcement efforts and legislative amendments to stop the illegal trade. During discussions before the passage of this amended resolution in 1997, many parties affected by the export ban strongly expressed their concern that some countries, particularly developed countries, were not making a sufficient effort to eliminate the trade in products labeled as containing tiger parts or derivatives.

At the same time, CITES parties passed another resolution (see appendix 3) recommending that parties increase collaborative public awareness efforts within the traditional medicine industry and medical systems. The parties determined that these efforts needed to focus on conservation of overexploited wild species, such as rhinos and tigers. The resolution also recommended that law enforcement be increased, forensics analyses be developed or improved, substitutes or alternatives be sought, and captive-bred or artificially propagated sources of wild specimens be developed. A number of nongovernmental organizations responded to the CITES requests that countries develop public outreach projects and materials and provide technical support. The international TRAFFIC Network, which now consists of 20 offices worldwide, provides

governments with up-to-date information on these exploited species to help develop a profile of the trade and to identify those dealing in and consuming the products (Callister and Bythewood 1995; Leader-Williams 1992; Mills 1997; Mills and Jackson 1994; Mulliken and Haywood 1994; Nowell et al. 1992; Gaski and Johnson 1994, and others).

Table 1. Traditional Chinese Medicinal Use of Select Wild Animal Parts

Part Used	Indication Treated*
Bear Gall	high fever and convulsions; spasms; hot skin lesions; red, painful, swollen eyes; trauma; sprains; swelling and pain; hemorrhoids
Musk Grains	convulsions; delirium; stupor and fainting; closed disorders; tetanic collapse; phlegm collapse; seizures; swelling and pain; toxic sores; carbuncles; coronary artery disease
Rhino Horn	extreme heat or heat signs; high fever; erythema; purpura; nosebleed; vomiting of blood; convulsions; delirium; manic behavior
Tiger Bone	migratory joint pain and stiffness; paralysis; weak knees and legs; spasms; stiffness and pain the lower back; pain in bones

Source: Bensky & Gamble, 1993

* TCM evaluates disorders or inbalances in the whole body or system rather than focusing solely on symptoms or indications.

The North American Market for Endangered Species

Long before CITES passed the 1994 and 1997 rhino and tiger resolutions, it was presumed that the demand for rhino and tiger parts and products had been reduced or almost eliminated in the United States. In 1973, when the U.S. Endangered Species Act (ESA) came into effect, the commercial trade of many ESA-designated species, including the tiger and all endangered rhino populations, was prohibited. The ban restricted supplies for the consumer's luxury demand to buy tiger skins for decoration and adornment, and tiger and rhino sport-hunting trophies, but the some demand for tiger and rhino parts and products--as used in traditional East Asian medicine--persists in North America and has yet to be addressed regionally or nationally.

Traditional Chinese medicine (TCM) uses animal and plant derivatives to prepare medications in two forms--as individually prepared prescriptions and as over-the-counter medicines. Unprocessed or partially processed animal and plant parts--"materia medica"--are mixed according to ancient formulas, usually by a traditional practitioner. Just as in so-called modern Western medicine, prescriptions are dispensed after a practitioner has diagnosed the disorder or illness of the patient. The medicines are usually mixed in traditional medicine shops or clinics but may be prepared and consumed at home. These same animal parts may also be mixed according to such formulas but then processed into pills, tablets, or tonics. These medicines are produced in mass quantities and packaged in a factory. The consumer purchases these products the same way as Western over-the-counter medicines, often selecting the medication upon the recommendation of a sales clerk or family member, or using their own judgment. Most of these medicines are manufactured in China and are sold in markets worldwide.

Conservationists have long debated the threat posed by the trade in medicines containing or claiming to contain protected and regulated species. To date, wildlife forensics analyses of these medicines indicate that many do not actually contain the parts or derivatives of the animals identified on the medicines' lists of ingredients. These same tests, however, often cannot detect very low levels of animal parts in medicines nor identify parts or derivatives that have been changed by high temperatures or other processing. Also, some of the tests used are not very specific. For example, the test to verify the presence of tiger bone can determine the presence of bone but cannot identify the species or even recognize the source as cat. Conservationists believe, for the most part, that whether or not the medicines contain these species, the advertising and promoting of these products as containing animal parts sustains consumer demand and perpetuates the conservation problem. Recognizing this and the still growing science of wildlife forensics, the parties to CITES decided (Resolution Conf. 9.6) that these medicines should be treated as if they contain these derivatives or as "readily recognizable" parts and derivatives in CITES lingo. As such, trade in these medicines should be prohibited or regulated, depending on the species. In the 1994 resolutions on tiger and rhino trade, CITES parties also recommended that all parties eliminate the demand for tiger and rhino products.

Eliminating the demand for a product--especially one that has humanitarian and cultural roots--is a difficult task and one that requires a multidisciplinary approach. Traditional tools, such as better implementation of CITES or increased efforts toward cooperative law enforcement, will not fully stop the illegal trade. Because most of the international trade of tiger parts used in traditional medicine is illegal in countries under CITES and the ESA--as well as in China, where the manufactured medicines are produced--TRAFFIC recognized that before efforts could be undertaken to eliminate the trade (as requested by the resolutions), the market would have to be more defined and consumers identified. By its very nature, the illegality of the market precludes precisely documenting the exact numbers of consumers and products used. By using standard surveying techniques and sociological research, TRAFFIC planned, instead, to identify and assess the behavior of the persons demanding the products, as well as the nature of the demand itself.

To understand the behavior of the person demanding these products, in July 1997, TRAFFIC North America hired a professional market research firm. Using East Asian researchers and the appropriate languages, the firm surveyed ethnic Chinese-Americans on their use and knowledge of endangered species derivatives for medicines. Traditional East Asian medicine has used the parts and products of rhinos, tigers, and other animals for centuries. A recent TRAFFIC report highlights the persistent trade in these products among some consumers in spite of legal prohibitions (Mills 1997). Because East Asian traditional medicine has its roots in the more ancient traditional Chinese medicine, TRAFFIC decided to focus on TCM rather than the larger and more broadly defined East Asian medicine market and its demand. Focusing on the roots of the tradition should make the results more applicable. The results of that survey will be released in the near future.

To clearly understand the nature of the demand, TRAFFIC North America investigated the display and sale of endangered species products in Canada and the United States. Initiated in late 1996 and completed in the fall of 1997, the investigation documented the variety and availability of manufactured traditional medicines that contained or claimed to contain parts and products from endangered and regulated wildlife throughout the region. The investigator used for comparison a 1995 TRAFFIC report that documented the types of products containing protected and regulated species sold in the United States (Gaski and Johnson 1994). The 1996-97 survey results also were compared with a similar survey (Mills 1996) that was conducted over a three-year period in mainland China, where most tiger and rhino products are manufactured and may still be, despite a manufacturing and export ban imposed in the mid-1990s. These comparisons helped to gauge the importance and, therefore, the significance of North American markets for these products. This report chronicles the results of that survey.

The Legality of the North American Market

Commercial trade of raw rhino horn and of tiger or leopard bone and their derivative products is prohibited by international treaty (all are listed in Appendix I of CITES) as well as by domestic legislation in several countries, including China (Notice Promulgated by the State Council on the Prohibition of Trade in Rhinoceros Horn and Tiger Bone), the United States (Endangered Species Act [ESA] and the Lacey Act), and Canada (The Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act [WAPPRIITA]).

The ESA prohibits the import of, export of, and interstate commerce in live animals, raw parts, or products of taxa listed as threatened or endangered, including rhinos (except Southern white rhinos) and tigers. Thus, the import and interstate commerce of medicines containing rhino horn and/or tiger bone is a violation of the ESA. The Lacey Act prohibits the import, export, transport, sale, or purchase of fish and wildlife taken or possessed in violation of state, federal, Indian tribal, or foreign laws. Thus, tiger bone or rhino horn medicines possessed in violation of foreign law and subsequently imported to the United States would violate the Lacey Act.

There are, however, two important drawbacks to the current legal situation in the United States. First, although a product may be labeled as containing rhino horn or tiger bone, under the ESA

and the Lacey Act, the burden of proving that those products actually contain the species listed rests with the government. As a result, few, if any, prosecutions have occurred involving the illegal importation of manufactured tiger bone and rhino horn medicines because current forensic techniques are as yet unable to identify tiger bone or rhino horn in medicinal products. Second, both the ESA and Lacey Act address the issue of import of, export of, and interstate commerce in rhino and tiger products, but they largely fail to address the sale of those products within a state. This enforcement area is currently left to state law, though few states have passed legislation to address the sale of foreign endangered species.

In 1993, China issued the Notice Promulgated by the State Council on the Prohibition of Trade in Rhinoceros Horn and Tiger Bone, which prohibited all use of derivatives of rhino horn and tiger bone, including the manufacture and export of commercial products (all production was banned after 29 May 1993 and export after 30 November 1993).

In Canada, WAPPRIITTA prohibits commercial import, export, or possession for commercial sale of any part of or product derived from a listed endangered species under WAPPRITA, which includes all CITES Appendix I species (Anon. 1997). It is also illegal to import any wildlife part or derivative that was obtained or exported in violation of the law of another country. Thus, the import and the interprovincial or interterritorial commerce of medicines containing rhinoceros horn or tiger bone would be a violation of WAPPRIITA. However, Canada has the same problem with enforcement as does the United States because the burden of proof lies with the government and it generally cannot be proven that these medicines contain tiger or other endangered species. As a result, no prosecutions have ever been successful. And while possession for the purpose of sale is federally prohibited, it is generally difficult, if not impossible, to trace the origin of medicines in shops back to their import into Canada.

Despite these legal prohibitions and the efforts of wildlife enforcement agencies (Gaski and Johnson 1994, Chalifour 1996), products containing or claiming to contain rhinoceros horn and tiger bone continue to be available in North America, particularly within Asian communities in large cities such as New York, San Francisco, Toronto, and Vancouver, where these items are used in TCM. Conservationists believe that this ongoing availability constitutes a violation of CITES and of domestic legislation, is a threat to the species concerned, and should be stopped by wildlife law enforcement agencies.

Canadian Efforts to Eliminate the Illegal Market

In mid-1994, a joint investigation by the Royal Canadian Mounted Police and the Canadian Wildlife Service (CWS) uncovered more than 19,000 illegally imported packaged tiger medicines and more than 26,000 other illegally imported packaged wildlife medicines in a British Columbian warehouse (Chalifour 1996). This discovery prompted a crackdown on illegal medicinal wildlife trade in the Pacific and Yukon CWS region of Canada. As part of this crackdown the region has adopted a policy of 100 percent referral by customs officials to CWS for inspection of any shipment declared as containing East Asian medicines (Chalifour pers. comm. 1998). Careful inspection of these shipments by CWS follows. A similar referral system

is in effect in the Ontario region of CWS, and other proactive or preventive efforts have also been undertaken in other regions as well. For example, many regional CWS offices work closely with importers of traditional East Asian medicine to ensure that importers are complying with the laws relating to medicines containing endangered species.

In 1996, a search warrant served by Revenue Canada Customs on another British Columbian company resulted in the seizure by CWS of 180 boxes of goods that contained illegally smuggled items such as raw tiger bone, bear gall bladders, and alligator parts (Chalifour 1996). Although there have been many seizures of tiger and rhino parts and products (including some raw parts) in Canada, there have been no successful prosecutions relating to the illegal trade in tiger or rhino parts or products.. Many CWS regions are also training customs agents to screen for and identify CITES goods coming into Canada.

Environment Canada has produced some materials to inform travelers and the traditional Asian medicine community about Canadian wildlife laws. For example, Environment Canada has published a multilingual brochure, poster, and video, "Endangered Species and the Traveler." (The brochure and video are available in English, French, Chinese, Vietnamese, Korean, and Japanese.) Environment Canada also teamed up with WWF-Canada and Karuna Community Services (a community Buddhist group in Toronto) in 1997 to produce a brochure on how WAPPRIITA legislation applies to medicines that claim to contain wildlife and other ingredients derived from tigers or rhinos. Some CWS regions display CITES exhibits at international airports within their jurisdiction. The Pacific and Yukon CWS region, for instance, has an interactive, multilingual exhibit at the Vancouver airport. In partnership with WWF-Canada, the Ontario CWS office is hoping to place a similar exhibit in the Toronto airport.

Regulating trade in CITES products falls under federal jurisdiction. WAPPRIITA also makes it an offense to transport any wild animal or plant part from one province or territory to another if it was taken, possessed, distributed, or transported in violation of a provincial or territorial law, or transported without provincial or territorial permits.

U.S. Efforts to Eliminate the Illegal Market

U.S. efforts to stop illegal trade are comparable to those in Canada, where most law enforcement efforts focus first on regional problems and then become even more focused on problems around urban ports. There does not seem to be a concerted national or even regional effort to address the illegal trade associated with traditional East Asian medicines. However, two interagency task forces, one in Los Angeles and a more recent one in San Francisco, arose from the preliminary law enforcement efforts that required the cooperation, expertise, and authority of a number of federal, state, and city wildlife, judicial, and health agencies. A more comprehensive discussion of these task forces can be found in the Los Angeles and San Francisco sections of this report. The efforts of these two task forces need to be emulated in other urban areas of the United States, particularly in New York City.

The CITES Management Authority of the United States and the U.S. Fish and Wildlife Service (USFWS) Office of Management Authority launched a pilot public outreach project in Los Angeles in 1995. The project is reviewed in the Los Angeles section of this report. While the USFWS has not been able to maintain the intensity of its efforts because of financial limitations, it has maintained contact with the traditional medicine community in Los Angeles and has continued to provide information through its Web site, factsheets and other materials, plus occasional presentations at symposia and traditional medicines meetings, when invited. In addition, the USFWS used materials developed by World Wildlife Fund to collaborate on a project with WWF and the American Zoo and Aquarium Association (AZA) to initiate a public outreach program in the traditional medicine community in Los Angeles. TRAFFIC North America and the World Wildlife Fund undertook this sociological survey of Chinese Americans to identify the demand for and use of medicinal products that use parts of endangered species, the attitudes of Chinese Americans toward the use of such medicines, and the conservation of endangered species. The report of that work is described in the introduction of this publication and will form the basis of an informative education outreach project in Los Angeles. In 1996, a small group of interested teachers attended a training session, and the USFWS provided substitute teachers to take their classes during that period (Anonymous 1997).

This U.S. outreach effort will involve the traditional medicine community in ongoing efforts to eliminate the trade and use of medicines made from illegally imported protected species. As a prelude to that effort, WWF will launch a plan for its "Year for the Tiger" during the Chinese lunar new year that is the "Year of the Tiger." Elements of that plan are to eliminate the trade of tiger products, establish tiger conservation trust funds for habitat protection, increase resources for tiger antipoaching efforts, and help to build public awareness of tiger endangerment around the world.

Other nongovernmental organizations in the United States, such as the Wildlife Conservation Society in New York, will be launching similar initiatives in 1998 for the Year of the Tiger.

HOW DID WE FIND OUT?

TRAFFIC gathered information on offers to sell medicines that contain or claim to contain legally protected species--rhino (Rhinocerotidae spp.) and tiger *(Panthera tigris)*. TRAFFIC also collected information on medicines that contain or claim to contain legally regulated species--musk deer (*Moschus* spp.) and bear (Ursidae spp.). This compilation was to differentiate between medicines that could never have been legally imported into North America and those that may have been legally imported if certain requirements had been met under Canadian or U.S. law or under CITES provisions. Another legally protected species--leopard *(Panthera pardus)*--was added as the survey began in response to increasing evidence that leopard is being used in place of tiger in many traditional medicines (Mills 1997; Gaski and Johnson 1995). Table 1 lists the medicinal uses of the parts and derivatives of those species. For this report, such medicines will be called protected species medicines or regulated species medicines.

Legally *protected species* are those that cannot be imported into the United States or Canada for commercial purposes under CITES provisions. The parts of all of those animals are prohibited from commercial trade by CITES Appendix I. In addition, the tiger, leopard, and all but one rhino population (the southern white rhino subspecies) are also listed in the United States as endangered under the ESA and cannot be traded commercially. The offer to sell medicines containing or claiming to contain those species in North America suggests that they were illegally imported.

Legally *regulated species* are those that are governed by CITES and that generally may be imported with a permit from the country of origin or of reexport. Two taxa in this investigation--musk deer and bears--are identified as regulated, although some populations or species within these taxa are listed in CITES Appendix I or II. Therefore, medicines that contain these taxa *may or may not* have been legally imported, depending on the species or population used. Six national populations of musk deer are listed in CITES Appendix I, and a few--notably the Chinese population--are listed in Appendix II . The former *may not* be imported for commercial purposes but the latter *may be* imported with permits. Most populations or species of bears also are listed in Appendix I, but a few--such as the North American black bear--are listed in Appendix II. Again, the former *may not* be imported for commercial purposes, and the latter *may be* imported with permits. So the offer to sell medicines containing or claiming to contain the words "musk" or "bear" does not necessarily suggest that they were illegally imported.

The United States is home to a small population of ethnic-Chinese, some of whom have lived here for many generations and some of whom have recently arrived from mainland China and other countries. The 1990 population of Chinese in the United States was 1.7 million, or about 0.7 percent of the U.S. population. The ethnic-Chinese population of Canada is about a third of the population of the United States, but it represents a larger percentage of the total population of Canada. The 1991 population of ethnic-Chinese in Canada was 587,000, or about 2 percent of Canada's population.

Because tradition and culture are such an intrinsic part of the lives of Chinese people, physical manifestations are evident wherever they live, particularly where they establish and maintain uniquely Chinese neighborhoods, known as Chinatowns in North America. TRAFFIC decided

to focus on documenting the availability of tiger and rhino medicines in North American Chinatowns because of the concentration of shops that presumably sell those products. TRAFFIC recognized that Chinatowns were visited by Chinese and non-Chinese alike and that the results of the survey would represent the market throughout North America.

Although the final study covered seven cities, TRAFFIC initially identified two U.S. cities with the largest Chinese populations--New York City and San Francisco--and two cities in Canada--Vancouver and Toronto. TRAFFIC thought Toronto would provide a central regional perspective. TRAFFIC added Atlanta to provide a southern U.S. perspective, plus two U.S. cities on the West Coast--Seattle and Los Angeles--because demographic information suggests that most of the Chinese-North American population lives on the West Coast.

TRAFFIC engaged the services of an independent researcher of Chinese descent (hereinafter referred to as the investigator, who is an expert in conducting such surveys. The investigator spoke fluent Mandarin Chinese. He was chosen for his expertise in traditional Chinese medicine in general and for his knowledge of manufactured TCM products specifically. Although the investigator posed as a customer and did not introduce himself as an investigator for TRAFFIC, there were no attempts to trick any shopowner into offering to sell a product that might not normally have been readily available in the shop. TRAFFIC wished to document products that would be readily available to any customer. However, if information on products not displayed was provided by the shopowner or sales clerk during conversations with the investigator, that information was noted.

TRAFFIC sent the investigator to the Chinatown section of each city to locate East Asian pharmacies and markets (hereinafter referred to as "shops") to be surveyed. The investigator surveyed every shop he encountered for the display of or offer to sell the target medicines. No effort was made to randomize the sample; however, this potential limitation in sampling design was likely offset by the high percentage of shops that were surveyed in each city. In other words, the investigator surveyed most shops in the Chinatowns of each city. TRAFFIC believes that this method strongly suggests that the samples were representative of each city and, therefore, comparable.

The investigator surveyed all open display areas for raw parts of rhino and tiger, as well as for manufactured medicines containing rhino horn and/or tiger bone. Whenever possible, the investigator reviewed the ingredients lists of manufactured medicines in both Chinese and English to see if rhino horn and/or tiger bone were listed. After exiting the shop, all displayed medicines listing rhino horn, tiger bone, leopard bone, musk, or bear bile were recorded along with the prices and dates of manufacture, if listed (normally, the medicines had no dates). During the course of a conversation, the investigator sometimes asked about the availability of raw rhino horn, tiger-bone wine, or tiger-bone plaster in a number of other shops. No assumptions were made regarding the actual ingredients of any commercial medicine, and only those medicines that listed the ingredients on or within the packaging were listed as protected species or regulated species medicines.

TRAFFIC used the same sampling methodology as that used in a survey conducted over a three year period, from 1993 through 1995 by TRAFFIC East Asia in China (Mills 1997) so that the results could be compared. Overall, TRAFFIC wanted to derive an accurate count of (1) the number of shops offering for sale one or more medicines listing tiger, rhino, leopard, bear, or musk deer as ingredients; (2) the average number of medicines of protected or regulated taxa offered for sale per shop; and (3) the number of different brands or types of medicines offered for sale.

WHAT IS AVAILABLE?

The seven cities selected as targets for the market survey represent a significant percentage of Chinese-North American populations. The five U.S. cities--Atlanta, Los Angeles, New York, San Francisco, and Seattle--included 61 percent of all Chinese-Americans living in the United States (according to the U.S. Bureau of the Census for 1990). The two Canadian cities--Toronto and Vancouver--had 69 percent of the total Chinese-Canadian population (according to Statistics Canada figures for 1991).

The survey results are summarized on a city-by-city basis in this section. Of the 110 shops surveyed, 50 percent (55 shops) offered for sale one or more protected species medicines, or medicines or products that contained or claimed to contain the target protected species--tiger, rhinos, and leopard. Forty-six percent (42 shops) offered for sale one or more regulated species

The cities with the greatest percentage of shops that offer for sale medicines containing protected species are in descending order: New York (83 percent, or 10 of 12 shops); Vancouver (63 percent, or 15 of 24 shops); Seattle (50 percent, or 6 of 12 shops); Toronto (50 percent, or 10 of 20 shops); Atlanta (50 percent, or 3 of 6 shops); San Francisco (42 percent, or 8 of 19 shops); and Los Angeles (18 percent, or 3 of 17 shops).

As shown in Figure 1, the medicines most commonly found offered for sale in North America were those that contained or claimed to contain tiger and musk parts and products. The least commonly found medicines were those containing or claiming to bear parts and products.

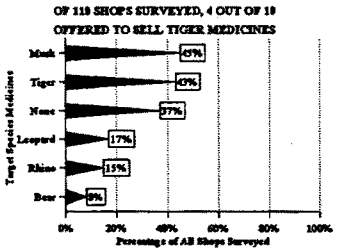

Figure 1.

Of protected species medicines, raw parts or medicines listing rhinoceros horn or tiger bone as ingredients were found in 55 shops (50 percent).

Raw rhinoceros horn was found in only one shop (less than one percent) in Vancouver. All other items found for sale were manufactured medicines. Tiger-bone plaster was found in 14 shops (13 percent) in six cities. Tiger-bone wine was found in six shops (6 percent), five of which were

in Vancouver. Medicines listing leopard bone as an ingredient were found in 18 shops (17 percent).

On a positive note, 40 shops (37 percent) surveyed did not offer to sell any protected or regulated species medicines. Of the total shops surveyed, 12 percent offered to sell regulated species medicines only--bear or musk deer--that may or may not have been legally imported.

At least 31 different types of rhino-or tiger-containing medicines, produced by between 29 and 34 different manufacturers, were found offered for sale during the survey. A precise count of manufacturers is not possible because the names of some manufacturers differed slightly on different labels and might actually represent the same company. For example, Guiyang Chinese Medicine Factory and Guiyang Chinese Medicine Pharmaceutical Factory may or may not be the same manufacturer.

Atlanta

The Chinese-American population in Atlanta, Georgia, was the smallest in all the cities surveyed. Approximately 11,000 Chinese-Americans live in Atlanta, representing about 0.6 percent of the U.S. Chinese-American population (according to the U.S. Bureau of the Census figures for 1990). The six shops surveyed in Atlanta's Chinatown were on New Peach Road and Buford Highway.

To TRAFFIC's knowledge, there have been no focused federal, state, or local law enforcement efforts to eliminate or even control the trade of protected species products in Atlanta. Also, there no outreach efforts appear to be in place to advise or educate Atlanta citizens about this problem.

What's For Sale?

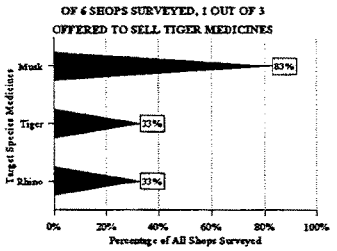

Figure 2.

The results and percentages shown in Figure 2 (and the discussion that follows) are not cumulative. Most Atlanta shops sold more than one medicine, and some shops sold protected and regulated species medicines. This small sample size limits the conclusions and comparisons that can be made regarding this city.

Because Atlanta's Chinatown is small, the investigator visited only six shops. As seen in Figure 2, musk was the most common species medicine found in those shops. Protected species medicines--containing or claiming to contain tiger, leopard, or rhino--were offered for sale in three shops (50 percent). One shop (17 percent) had tiger-bone plaster; none had raw rhino horn or tiger-bone wine. Three shops (50 percent) had other medicines that contained or claimed to contain rhino horn or tiger bone, with an average of one such item offered for sale per shop. One shop offered for sale five different types of medicines containing or claiming to contain tiger

bone or rhino horn as ingredients. All of the shops sold at least one protected or regulated species medicine.

In two shops, the salespeople told the investigator that tiger bone had been banned a long time ago. A musk medicine was recommended as a substitute for a tiger-bone plaster in one shop.

Only 3 of the 14 protected or regulated species medicines available for sale had the date of manufacture on the package--two were dated 1993 and the other 1991. In one shop, the salesperson said the medicine with tiger bone was shipped to the store within the past year. Two of the medicines offered for sale had crudely altered packaging. On one medicine, the tiger bone ingredient was listed but then crossed out with ink. On the other, a completely new list without tiger bone was glued over a list claiming the medicine contained tiger bone.

Los Angeles

The Chinese-American population in Los Angeles, California, is the third largest in all U.S. and North American cities surveyed. About 308,000 people, represent about 19 percent of the U.S. population of Chinese-American population (according to Bureau of the Census figures for 1990). The 17 shops surveyed in Los Angeles were on Broadway, North Spring, New High, and Hill streets.

Los Angeles is the site of major law enforcement and public outreach efforts, among them a law enforcement task force that focuses on traditional medicines. The recently-formed Wildlife Task Force is a multiagency initiative consisting of inspectors and agents from the U.S. Customs Service, U.S. Fish and Wildlife Service, Food and Drug Administration, and U.S. Department of Agriculture. The task force, developed by a team of U.S. Customs import specialists, seeks to address illegal wildlife trade in general and the illegal importation of traditional Chinese medicines specifically. The focus on TCM occurred largely because the rate of consumption of illegally imported endangered species in the Los Angeles area is one of the most significant in North America and there has been little success in combating the illegal trade into the city.

The task force meets regularly to discuss the successes and failures of past interdiction efforts and to make future plans to address the trade. The task force has conducted a number of concerted law enforcement efforts (called "blitzes") by thoroughly inspecting international cargo shipments, passenger flights from target countries, and packages from key countries at the international mail division.

One example of a successful blitz was an inspection of a China Eastern Airlines passenger flight. The agencies involved in the task force inspected the baggage of 223 passengers and found 45 violations, including 18 agriculture violations, 12 fish and wildlife violations, and 15 food and drug violations. Violations ranged from personal shipments of tiger bone plasters and musk deer medicines to a commercial shipment of herbal medicines.

On 28 January 1994, agents from the California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Alcohol, Tobacco and Firearms, and Los Angeles Police Department broke up a bear parts poaching and smuggling operation. William Jin Taek Lee, a Korean-American businessman, allegedly operated a hunting club that arranged illegal bear hunts for overseas clients. Capping the 18-month investigation was the arrest of Joseph Chang, who purchased thousands of dollars worth of bear gallbladders from undercover agents. Chang was allegedly involved in a bear parts trading operation that extended to four western states (Anon. 1994).

In September 1994, Chang Hao An was apprehended at Los Angeles International Airport as he attempted to import a complete Amur tiger (*Panthera tigris altaica*) skeleton, along with 200 vials of dried bear bile, two large bear gallbladders, and 60 boxes containing rhinoceros horn, saiga antelope, and musk deer pills. U.S. Customs discovered the items in Chang's baggage and

detained him. Chang was arrested by U.S. Fish and Wildlife Service agents, prosecuted for smuggling, and sentenced to 21 months in prison (Anon. 1995).

On 6 September 1995, U.S. Customs and U.S. Fish and Wildlife Service officials seized more than five kilos of bear bile at Los Angeles International Airport. Agents also confiscated musk deer glands, rhinoceros horn pills, and tiger bone plasters from the clothes and baggage of four Chinese nationals. The subjects were charged with 10 counts of smuggling, unlawful importation of wildlife, and violations of the U.S. Endangered Species Act. All four defendants pled guilty to a misdemeanor, Two were released with time already served; the other two were sentenced to prison: one for one year and one for eight months (Anon. 1995a).

On 25 September 1995, U.S. Fish and Wildlife Service agents in Alaska seized 60 brown bear (*Ursus arctos*) gallbladders that were concealed in a shipment of two tons of Russian reindeer (*Rangifer tarandus*) velvet antler headed for Los Angeles (Anon. 1995b)

On 8 September 1995, U.S. Fish and Wildlife Service authorities at Los Angeles International Airport seized 45 brown bear gallbladders and 20 seal (*Callorhinus ursinus*) penises smuggled inside a commercial shipment of reindeer antlers from Russia (Anon. 1995c).

On 19 October 1995, the U.S. Fish and Wildlife Service launched a public education pilot program in Los Angeles to inform citizens that certain products for sale in Asian medicine shops may contain parts from endangered species, as well as toxins that may be potentially harmful to human health. The event was a joint effort among federal and state agencies and nongovernmental organizations to provide new information to consumers and to clarify U.S. law enforcement responsibilities for protecting endangered species.

The U.S. Fish and Wildlife Service worked closely with the Los Angeles Unified School District, the Los Angeles Zoo, TRAFFIC, and WWF to develop a TCM educational program that could be offered in middle schools, adult education programs, and workshops. Teachers received training enabling them to explain the health risks associated with the use of some packaged medicines, the laws protecting endangered species, and the reasons that possession and sale of products containing parts of endangered species may be illegal (Anon. 1995d).

What's for Sale?

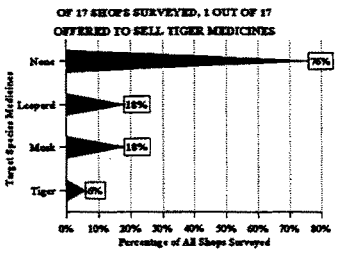

Figure 3.

The percentages in Figure 3 (and the discussion that follows) are not cumulative because some of the shops offered for sale more than one medicine and some offered for sale both protected and regulated species medicines.

Of the 17 shops in Los Angeles surveyed by the investigator, 13 (76 percent) did not offer for sale any protected or regulated species medicines. Leopard and musk were the most common species medicines offered for sale in the shops. Three shops (18 percent) offered for sale protected species medicines that contained or claimed to contain leopard or tiger, and one of those shops had two different brands. The average number of tiger and rhino items offered for sale per shop was insignificant, since only one shop offered to sell one rhino or tiger medicine. Three shops (18 percent) offered for sale protected species medicines and three offered for sale regulated species medicines.

Sales clerks in 12 of the 17 shops (71 percent) were aware of a ban on selling tiger bone. One clerk indicated that the sale of musk was also prohibited, and another indicated that the Food and Drug Administration prohibits the sale of any medicine containing tiger bone or musk. Another clerk said that tiger bone could not be imported or sold, and yet another said that it cannot be sold anywhere in the world because the tiger is a protected animal.

No medicines were seen with altered packaging and none had dates of manufacture. Coincidentally, Los Angeles was the last city surveyed, and the investigator concluded that Los Angeles was the "cleanest" city he had visited in North America.

New York City

The Chinese-American population in New York City was the second largest in all U.S. and North American cities surveyed. The approximate 321,000 people represent about 19 percent of the U.S. population of Chinese-Americans (according to U.S. Bureau of the Census figures for 1990). The 12 shops visited in New York City were on Canal, Lafayette, Mulberry, Elizabeth, Baxter, Bayard, and Mott streets.

To TRAFFIC's knowledge, there have been no focused federal, state, or local law enforcement efforts to eliminate or even control the trade of protected species products in New York City. However, the Wildlife Conservation Society in New York initiated a pilot strategy for public outreach that focuses on Chinese communities in the Flushing, Queens, and Manhattan Chinatowns, along with an education project that is initially working with school children of 8-10 years of age in the Brooklyn Chinese community (Bolze, pers. communication).

What's for Sale?

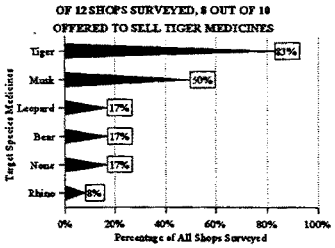

Figure 4.

The percentages in Figure 4 (and the discussion that follows) are not cumulative because some shops offered for sale more than one medicine and some offered for sale both protected and regulated species medicines.

Twelve shops were surveyed in New York City and only two (17 percent) did not offer for sale any protected or regulated species medicines. The most common species medicines offered for sale were those that contained or claimed to contain tiger and musk. Ten shops (83 percent) offered for sale protected species medicines that contained or claimed to contain tiger, leopard, or rhino. Five shops (42 percent) had tiger-bone plaster; none had raw rhino horn or tiger-bone wine. One shop offered up to four rhino or tiger medicines. The average number of rhino and tiger items offered for sale per shop was two.

Six shops (50 percent) offered for sale regulated species medicines that contained or claimed to contain musk or bear bile. One shop offered to sell four different brands of medicines that listed tiger bone, rhino, or a combination of both, as ingredients.

In 3 of the 12 shops (25 percent), sales clerks told the investigator that tiger bone was banned, and one clerk also indicated that musk was banned. Another sales clerk indicated that he was aware that someone in the city had been caught selling rhino horn.

None of the medicines offered for sale had dates of manufacture, and none had altered packaging. The name of one medicine, "Tianqi Shexiang Hugu Zhuifenggao," suggested that it contained tiger bone, but no ingredient list was printed or inserted in the package to confirm this.

San Francisco

The Chinese-American population in San Francisco, California, is the largest of all U.S. and North American cities surveyed. Approximately 332,000 people represent about 20 percent of the U.S. population of Chinese-Americans (according to U.S. Bureau of the Census figures for 1990). The 19 shops visited in San Francisco's Chinatown were on Stockton, Clay, Washington, Pacific, Grant, and Jackson streets.

Two years ago, San Francisco created a multiagency task force similar to the one in Los Angeles to address the illegal wildlife import and export in San Francisco. The task force is headed by a member of the U.S. Attorney's Office and has members from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Customs, U.S. Department of Agriculture, Food and Drug Administration, and California Department of Health Services. Given the large Chinese population and the TCM industry in the San Francisco area, the illegal trade in endangered species parts and products is the task force's primary concern.

To TRAFFIC's knowledge, there have been no focused public outreach efforts in San Francisco.

What's for Sale?

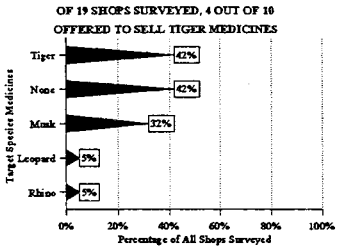

Figure 5.

Of the shops surveyed in San Francisco, 8 of 19 (42 percent) did not offer for sale any protected or regulated species medicines. The most common species medicines found in the 19 shops were those that contained or claimed to contain tiger (the most common) and musk. Eight shops (42 percent) offered for sale protected species medicines containing or claiming to contain tiger, leopard, or rhino. Two shops (11 percent) had tiger-bone plaster, but none had raw rhino horn or tiger-bone wine. Eight shops (42 percent) offered for sale other medicines with rhino horn or tiger bone or both. The average number of rhino horn or tiger bone items offered per shop was less than one. One shop offered to sell five different types of medicines that listed tiger bone or rhino horn as an ingredient.

Six shops (32 percent) offered to sell regulated species medicines. Six shops (32 percent) offered to sell medicines listing musk as an ingredient.

In six shops (32 percent), the sales clerks told the investigator that tiger bone was banned. None of the medicines had dates of manufacture. The packaging and ingredients lists of three medicines which were seen for sale elsewhere in the United States and Canada and were known to have tiger bone as an ingredient, did not list it on the package. No packages were altered nor were any ingredients struck off the lists, as seen in other cities.

Seattle

The Chinese-American population in Seattle, Washington, was the second smallest in all the cities surveyed. Approximately 29,000 people represent about two percent of the U.S. population of Chinese-Americans (according to the U.S. Bureau of the Census figures for 1990). The 12 shops surveyed in Seattle's Chinatown were on Maynard, King, and Weller streets, and on Beacon, Seventh, and 128th avenues.

To TRAFFIC's knowledge, there have been no focused federal, state, or local law enforcement efforts to eliminate or even control the trade of protected species products in Seattle. Also, no outreach efforts appear to have advised or educated Seattle citizens about this problem.

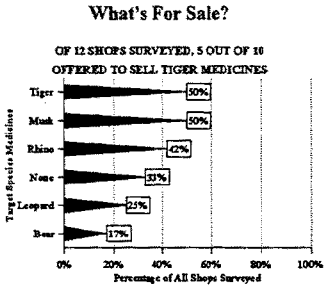

Figure 6.

The percentages in Figure 6 (and the discussion that follows) are not cumulative because some shops offered for sale more than one medicine and some offered for sale both protected and regulated species medicines.

Of the shops surveyed in Seattle, 4 of 12 (33 percent) did not offer for sale any protected or regulated species medicines. Of the 12, only 10 shops had commercial Asian medicines of any type. Tiger, rhino, and musk were the most common species medicines found in the shops surveyed. Six shops (50 percent) offered to sell protected species medicines. Rhino horn or tiger bone items were offered for sale in six shops (50 percent). The average number of rhino horn or tiger bone items offered for sale per shop was two.

Six shops (50 percent) had regulated species medicines. One shop had 11 different types of medicines listing tiger bone, rhino horn, musk, or leopard bone, or combinations of those, as ingredients.

In six shops (50 percent), sales clerks told the investigator that tiger bone was banned. One clerk said that tiger bone is illegal in the United States but is available in Asia. Another indicated that musk was also banned.

None of the medicines had dates of manufacture. None had altered packaging, although one medicine previously identified as claiming to contain rhino did not have an ingredient list, so it could have contained rhino.

Toronto

The Chinese-Canadian population in Toronto, Ontario, is the largest in any Canadian city and third largest in all North American cities surveyed. Approximately 210,000 people represent about 36 percent of the Chinese-Canadian population (according to Statistics Canada figures for 1991). The 20 shops visited in Toronto's Chinatown were on Dundas, St. Andrews, Huron, and Spadina streets.

Efforts to control trade in protected species in Toronto has been focused largely on importation. The CWS Ontario region recently completed a pilot project wherein they trained two customs officers in Toronto to be CITES specialists. Although successful, such training projects are not yet a permanent policy of the region. The same region also produced a multi-lingual brochure on WAPPRIITA and the trade in medicines containing wildlife ingredients, in cooperation with WWF Canada and Karuna Community Services (Anon. 1997).

To TRAFFIC's knowledge, there has been no comprehensive provincial or local law enforcement efforts to eliminate or even control the trade of protected species in Toronto. The above-mentioned brochure has been distributed and there are plans to have a formal meeting with importers of traditional medicine, however, no overall public awareness effort has been undertaken and no outreach efforts appear to have been initiated to advise or educate Toronto citizens about this problem.

What's for Sale?

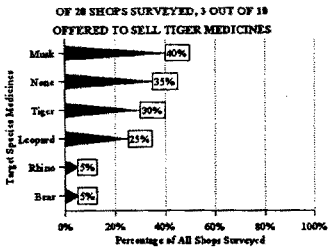

Figure 7.

The percentages in Figure 7 (and the discussion that follows) are not cumulative since some shops offered for sale more than one medicine and some offered for sale both protected and regulated species medicines.

Of the shops surveyed in Toronto, 7 of 20 (35 percent) did not offer for sale any protected or regulated species medicines. Tiger and musk were the most common species medicines found in the 20 shops surveyed. Protected species medicines containing or claiming to contain tiger, leopard, and rhino were found in ten shops (50 percent). Rhino horn or tiger bone items were found in seven shops (35 percent). Two shops (10 percent) had tiger-bone plaster; one shop (5 percent) claimed to have tiger-bone wine and no shops had raw rhino horn. Five shops (25 percent) had other commercial medicines with rhino horn or tiger bone. One shop offered to sell five rhino or tiger medicines. Eight shops (40 percent) offered regulated species medicines for sale. The average number of items per shop was less than one.

In nine shops (45 percent), the sales clerks told the investigator that tiger bone is banned from sale. One clerk said that tiger bone plasters cannot be found anywhere in the world because tigers are fully protected animals. Another said that rhino horn is banned from sale and that antelope or other horn can be used instead; even if rhino horn could be found in the city, it would be too expensive. Still another clerk said that rhinos are class one protected animals and that anyone caught selling horn can get 15 years in jail. One clerk helpfully offered another tiger bone plaster as an alternative, and another suggested that tiger bone wine may be available for between C$25 and C$125, a bottle depending on the brand, but it is kept in a secret place because of the ban.

None of the medicines had dates of manufacture and none of the packages were altered. Some brands were known from previous shops to have contained or claimed to contain tiger or rhino, but the packages examined did not list those ingredients. Interestingly, one of the medicines listed "African tiger bone" on the package. Because lion bone has been noted on medicine lists that formerly listed tiger bone, it is not certain if this was lion bone or the result of an effort to bypass prohibitions on "Asian tiger bone."

Vancouver

The Chinese-Canadian population in Vancouver, British Columbia, was the second largest in the two Canadian cities and fourth largest of all North American cities surveyed. Approximately 198,000 people represent about 33 percent of the Chinese-Canadian population (according to Statistics Canada figures for 1991). The 24 shops surveyed in Vancouver's Chinatown were on Main, Pender, Gore, Keefer, and Hasting streets.

The Pacific and Yukon CWS region of Canada has adopted a policy of 100 percent referral by customs officials to CWS for inspection of any shipment declared as containing East Asian medicines (Chalifour pers. comm. 1998). Careful inspection of these shipments by CWS follows. CWS regional staff have also been working closely with the importers of traditional East Asian medicine into the region to ensure that they are aware of WAPPRIITA rules. CWS staff in this region have occasionally gone into shops and seized CITES Appendix I items under WAPPRIITA prohibitions on sale. However, no prosecutions have ensued.

A number of federal cooperative law enforcement efforts have occurred in Vancouver. Reportedly, more than 211,000 items whose ingredients contained or claimed to contain endangered species derivatives were seized at the port of Vancouver in 1995, compared to only 1,200 items seized in 1987 (Anon. 1996).

On 28 June 1996, Canadian Customs inspectors and Canadian Wildlife Service (CWS) officers in Vancouver seized almost 20,000 items of illegally imported Asian medicines containing or claiming to contain parts or derivatives of endangered wildlife. The shipment, sent from Hong Kong, was destined for Canada's growing East Asian communities in Vancouver and Toronto (Anon. 1996).

On 29 March 1997, officers of the Ministry of Environment, Land and Parks along with regional conservation officers assisted by the Royal Canadian Mounted Police, seized 21 bear gallbladders at the Vancouver International Airport from a man traveling from Toronto to Vancouver (Anon. 1997).

On 11 April 1997, officers of the Ministry of Environment, Lands and Parks in Victoria, British Columbia, reported that charges had been filed against Chun Mau Wong for selling bear gallbladders between Seattle, Washington, and Vancouver, British Columbia, to an undercover officer on two occasions (Anon. 1997a). Although most of these cases have received local, national, and even international publicity, the only efforts to advise or educate Vancouver citizens about this problem are the CWS distribution of a joint CWS and WWF brochure on WAPPRIITA, meetings with importers of medicines, and visits to retail shops.

What's For Sale?

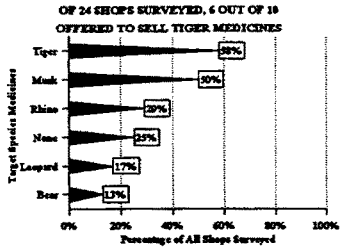

Figure 8.

The percentages shown in Figure 8 (and the discussion that follows) are not cumulative because shops offered for sale more than one medicine, and some offered for sale both protected and regulated species medicines.

Of the shops surveyed in Vancouver, 6 of 24 (25 percent) did not offer to sell any protected or regulated species medicines. Musk, tiger, and rhino were the most common species medicines found in the 24 surveyed shops. Protected species medicines were offered for sale in 15 shops (63 percent), with rhino horn or tiger bone items offered for sale in 14 shops (58 percent). Three shops had tiger-bone plaster (13 percent), and five had tiger-bone wine (21 percent). Raw rhino horn was offered for sale in one shop (4 percent). Twelve shops (50 percent) had only regulated species medicines. The average number of rhino and tiger items offered for sale in all shops surveyed was two.

In 14 shops (58 percent), the sales clerks told the investigator that tiger bone, rhino horn, and musk were banned. One clerk told the investigator that rhino horn might be available in the city but that no one would sell to a stranger because someone had been arrested for selling musk or bear bile. Another clerk also indicated that rhino horn might be available. Still another indicated that musk was illegal, but was not certain why.

None of the medicines had dates of manufacture. Two medicines had altered packaging on which the musk, tiger bone, and bear bile were covered by black ink. One medicine, "Huguzhuifeng" plaster, had tiger in its name but did not list tiger as an ingredient. Three medicines were known to have once had tiger bone as an ingredient, but it was no longer listed on the package. One medicine, "Diedazhitonggao," specifically indicated on its package that it "excluded any part of tiger."

HOW DOES NORTH AMERICA COMPARE TO OTHER MARKETS?

Canada and the United States are not the only non-Asian countries that have an internal market for traditional medicines that contain or claim to contain protected species such as tiger and rhino. According to an analysis of Chinese CITES data by TRAFFIC International, 16 non-Asian countries--Australia, Belgium, Bulgaria, Canada, Cuba, Denmark, France, Ghana, Italy, Mauritius, the Netherlands, Panama, the former Soviet Union, Togo, the United Arab Emirates, and the United States--were documented destinations for tiger products from China (Mulliken and Haywood 1994). But, as noted in this 1994 analysis, these medicines are found in markets worldwide.

Australian and New Zealand Markets

An investigation by TRAFFIC Oceania in 1995 (Callister and Bythewood 1995) revealed that Australia and New Zealand had small markets and legislative problems that deterred effective implementation of CITES and internal controls. TRAFFIC Oceania visited 144 shops in three cities in Australia and 30 shops in two cities in New Zealand. TRAFFIC found that 3 of 20 shops in Australia and 4 of 20 shops in New Zealand sold tiger medicines, compared to 9 of 20 in Canada and 8 of 20 in the United States. (See Table 2.)

Table 2. Comparison of the Availability in Five Countries of Manufactured Products Claiming to Contain Rhino and Tiger Parts or Derivatives

Country	Number of Shops/Cities Surveyed	Survey Year(s)	Percentage of Surveyed Shops Selling Tiger Products	Percentage of Surveyed Shops Selling Rhino Products
Australia	144 shops in 3 cities	1995	14 percent	3 percent
Canada	44 shops in 2 cities	1996-1997	45 percent	18 percent
China	280 shops in 7 cities	1993-1995	3 percent	4 percent
New Zealand	30 shops in 2 cities	1995	20 percent	0 percent
United States	66 shops in 5 cities	1996-1997	41 percent	14 percent

Source: Callister and Bythewood 1995, Mills 1997.

The China Market

In mid-1993, China prohibited the internal and external trade and manufacture of tiger and rhino medicines. Following that ban, TRAFFIC East Asia began a three-year survey to determine the continued availability of medicines and of raw rhino and tiger products in China. In total, 13 cities were surveyed in China, however, to better compare the survey results with the North American survey (see Table 3), TRAFFIC North America calculated the results using seven Chinese cities visited in 1995 (see Table 4).

Results from China in 1996 showed that in these select seven cities, 54 of the 280 shops (19 percent) offered for sale rhino or tiger items. Eleven different types of rhino-or-tiger-containing commercial medicines were found that were produced by approximately 13 manufacturers (see Table 5). In the seven cities surveyed, 6 of 20 shops sold tiger medicines.

Based upon this information, TRAFFIC North America notes that the current availability of protected or regulated species medicines in these five western countries appears to be even greater than what was found by TRAFFIC East Asia in China in 1995. TRAFFIC East Asia found only a small residual trade of such medicines within China in the years since the complete prohibition on their sale, manufacture, and export. At the same time, however, TRAFFIC East Asia found that a few manufacturers were still willing to ship (and even manufacture) prohibited medicines to potential buyers outside China despite these prohibitions. The North American availability of rhino and tiger medicines manufactured in China suggests that there might be other manufacturers or exporters willing to break the law to export these medicines, or that stockpiles of these medicines remain both within or outside China.

This speculation on illegal manufacture in China, illegal export from China, or stockpiles in other countries is further supported by the fact that TRAFFIC North America identified a total of 31 medicines from at least 29 Chinese manufacturers for sale in North America (see Table 6). If we compare these results to those mentioned above from China, more than twice as many medicines are found in the United States and Canada than those found in China, the manufacturing source of such medicines. The list of medicines sold in the United States and Canada was compared to a list previously compiled by TRAFFIC of the late 1980s through the early 1990s (Gaski and Johnson 1994) documented 73 medicines containing or claiming to contain tiger parts. More information on the manufacturers and their stockpiles, if any, is needed.

Table 3. Summary of Data Collected During the TRAFFIC North America Survey of Asian Pharmacies and Markets in Selected North American Cities, 1996-1997.

	Atlanta	Los Angeles	New York	San Francisco	Seattle	Toronto	Vancouver
Number of businesses surveyed	6	17	12	19	12	20	24
No. of businesses (%) with at least one RH/TB item [RH/TB item - raw RH, TBP, TBW, or other commercial medicine containing TB, RH, or both]	3 (50.0%)	1 (6.0%)	10 (83.0%)	8 (42.0%)	6 (50.0%)	7 (35.0%)	14 (58.0%)
Number of businesses (%) with raw RH	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.17%)
Number of businesses (%) with TBP	1 (16.7%)	1 (5.9%)	5 (41.7%)	2 (10.5%)	0 (0.0%)	2 (10.0%)	3 (12.5%)
Number of businesses (%) with TBW	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (5.0%)	5 (20.8%)
Number of businesses (%) with other commercial medicines containing TB, RH, or both	3 (50.0%)	0 (0.0%)	9 (75.0%)	7 (36.8%)	6 (60.0%)	5 (25.0%)	11 (45.8%)
Average number (range) of RH/TB items per business [includes only businesses with at least one item]	2.33 (1-4)	1.00 (1)	2.70 (1-4)	2.00 (1-5)	5.17 (2-11)	2.50 (1-5)	2.71 (1-6)
Number of businesses (%) with commercial medicines containing LB [includes plasters and wines]	0 (0.0%)	3 (18.0%)	2 (17.0%)	1 (5.0%)	3 (25.0%)	5 (25.0%)	4 (17.0%)
Number of businesses (%) with commercial medicines containing MK [includes plasters]	5 (83.0%)	3 (18.0%)	6 (50.0%)	6 (32.0%)	6 (50.0%)	8 (40.0%)	12 (50.0%)
Number of businesses (%) with commercial medicines containing BB	0 (0.0%)	0 (0.0%)	2 (17.0%)	0 (0.0%)	2 (17.0%)	1 (5.0%)	3 (13.0%)

Formula: RH = rhinoceros horn; TB = tiger bone; TBP = tigerbone plaster; TBW = tigerbone wine or tigerbone-papaya wine; LB = leopard bone; MK = musk; BB = bear bile

Table 4. Summary of Data Collected During the TRAFFIC Network Survey of Businesses in Selected Cities in the People's Republic of China, 1996.

	Beijing	Chengdu	Nanchang	Shanghai	Tianjin	Xi'an	Zhengzhou
Number of businesses surveyed	49	53	33	25	35	50	35
No. businesses (%) with at least one RH/TB item [RH/TB item- raw RH, TBP, TBW, or other commercial medicine containing TB, RH, or both]	11 (22.4%)	1 (1.9%)	6 (18.2%)	2 (8.0%)	23 (65.7%)	4 (8.0%)	7 (20.0%)
Number of businesses with raw RH or RHP	0	1	2	0	1	2	4
Number of businesses with TBP or TBW	0	0	4	0	2	0	1
Number of businesses (%) with other commercial medicines containing TB,RH, or both	11 (22.4%)	0 (0.0%)	0 (0.0%)	2 (8.0%	22 (62.9%)	2 (4.0%)	2 (5.7%)

Formula: RH = rhinoceros horn; RHP = rhinoceros horn powder; TB = tiger bone; TBP = tigerbone plaster; TBW = tigerbone wine or tigerbone-papaya wine

Table 5. Commercial Medicines and Manufacturers Found During the TRAFFIC Network Survey of Businesses in Selected Cities in the People's Republic of China, 1996.

Name of Medicine	Manufacturer	Contents
Angongniuhuangwan	Tianjin Darentang Pharmaceutical Factory	RH
Dahuoluodan	Beijing Tongrentang Pharmaceutical Factory	TB
Dahuoluodan	Beijing Tongrentang 2nd Pharmaceutical Factory	RH, TB
Dahuoluodan	Fushun 2nd Chinese Medicine Pharmaceutical Factory	RH
Hugujiu	Beijing Tongrentang Pharmaceutical Factory	TB
Huitianzaizaowan	Harbin 1st Chinese Medicine Factory	TB, LB*
Huitianzaizaowan	Harbin 2nd Chinese Medicine Factory	RH, TB
Huitianzaizaowan	Liaoning Benxi Chinese Medicine Factory	RH, TB
Huitianzaizaowan	Chengchun People's Pharmaceutical Factory	RH, LB
Huitianzaizaowan	Heilongjiang Mudanjiang Pharmaceutical Factory	RH, TB
Huitianzaizaowan	Heilongjiang Mudanjiang Chinese Medicine Pharm. Factory	RH, TB
Jianbuhuqianwan	Tianjin Darentang Pharmaceutical Factory	TB
Jufangzhibaosan	Beijing Tongrentang Pharmaceutical Factory	RH
Jufangzhibaodan	Beijing Tongrentang Pharmaceutical Factory	RH
Niuhuangqingxinwan	Tianjin Darentang Pharmaceutical Factory	RH, AH
Rhino Horn Powder	???	RH
Tiger Bone Plaster	Hubei Suizhou Zutian Pharmaceutical Factory	TB
Tiger Bone Wine	Wuhan Jianmin Pharmaceutical Factory	TB
Tiger Bone Wine	Wuhan Fifth Pharmaceutical Factory	TB
Tiger Bone Wine	Wuhan Zhonglian Pharmaceutical Factory	TB
Tiger Bone Wine	Tianjin 2nd Chinese Medicine Factory	TB

* = ingredients list not seen; these are probable contents

Table 6. Commercial Medicines and Manufacturers Found During the TRAFFIC North America Survey of Asian Pharmacies and Markets in Selected Cities in North America, 1996-1997.

Name of Medicine	Manufacturer	Contents
Chinese Chufeng Toukuwan	China Nat'l Chemicals I & E Corp., Kwangtung Branch	TB
Dahuoluodan	Beijing Tongrentang Pharmaceutical Factory	TB
Dahuoluodan	Beijing Tongrentang Pharmaceutical Factory	RH, TB
Dahuoluodan	Foshan 1st Pharmaceutical Factory	TB, RH
Dahuoluodan	Guangzhou Chengliji Pharmaceutical Factory	RH, LB
Dahuoluowan	Lanzhou Foci Pharmaceutical Factory	TB, Musk, RH
Duzhonghuguwan	Huabei Pharmaceutical Factory	TB
Duzhonghuguwan (To Chung Fu Quat Pills)	Guangchang Pharmaceutical Factory (Hong Kong) ("Kwong Cheong Medicine Manufactory")	TB
Duzhonghuguwan	Guiyang Chinese Medicine Factory	TB
Duzhonghuguwan	Guiyang Chinese Med. Pharmaceutical Factory	TB
Hugubeitongwan (Tiger-bone Pain Relieving Pills)	Medicine No. 1 Manufactory of China Guangchow	TB
Hugujiu (Tiger Bone Wine)	Beijing Tongrentang Medical Wine Factory	TB
Hugujiu (Tiger-bone Wine)	Shandong ?? Pharmaceutical Factory	TB
Hugumuguajiu (Tiger-bone Papaya Wine)	Guangxi Wuzhou Longshan Pharmaceutical Factory	TB
Hugumuguajiu (Tiger Bone-Papaya Wine)	Lung Shan Distillery, Wuchow, China	TB
Hugumuguajiu (Tiger-bone Papaya Wine)	Shanghai Chinese Medicine Works	TB
Jianbuhuqianwan	Beijing 5th Pharmaceutical Factory	TB
Jianbuhuqianwan	Lanzhou Foci Pharmaceutical Factory	TB

Table 6 continued.

Name of Medicine	Manufacturer	Contents
Medicated Plasters of Moschus, Fel Ursi, Os Tigris and Yunnan Baiyao	"A Product of Yunnan, China"	Musk, BGB (TB not listed although name says TB)
Niuhuangqingxinwan	Beijing Tongrentang Pharmaceutical Factory	RH
(Qiangli) Renshenzaizaowan	Foshan Lianhe Pharmaceutical Factory	TB, Musk, RH
Qianglizhuifengtouguwan	Guangzhou Lianhe Pharmaceutical Factory	TB
Rhinoceros Skin and Green Turtle Pills	Guangdong (Lianhe?) Pharmaceutical Factory	RH
Shengronghuguwan (Ginseng Antler Tiger-bone Pill)	Fusong Pharmaceutical Factory	TB
Shenronghuguwan ("Shenyung Huku Wan"; also labelled "Ginseng Antler Tiger-bone Pills")	Fu Sung Pharmaceutical Works	TB
Shenyung Huku Wan (Ginseng Antler Tiger-bone Pills)	Fusung Pharmaceutical Works	TB
Shexiangchuifengtouguwan	Guangzhou Medicinal Industry Company	Musk, TB
Shexiangduzhonghuguwan (capsules)	Sichuan Medicines and Health Products Company	"Synthetic" Musk, "Synthetic" TB
Shexianghugugao (Musk and Tiger-bone Plaster)	Shenyang Changqing Pharmaceutical Factory	Musk, TB
Shexianghuguwan (Musk-Tiger Bone Pills)	Chongqing Chinese Medicine Factory	Musk, TB
Shexiangtianqihuguwan (Radix Caulophylli Pill)	Weimin Medicine Manufactory	Musk, TB
Shexiangxiongdanzhuifengwan (Rheumatism Pill)	Jilin Chinese Medicine Manufactory	TB, Musk, BGB
Shexiangzhuifentouguwan	Guangzhou Chinese Medicine No. 1 Pharm. Factory	Musk, TB

Table 6 continued.

Name of Medicine	Manufacturer	Contents
Shihuyeguangwan	Shandong Jinan Renim Pharmaceutical Factory	RH
Tianma Duzhonghuguwan (Tianma Duzhong Tiger-bone Pills)	China Nat'l Native Produce and Animal By-Products I & E Corp., Fukien Branch, Chuanchow Office (Qianzhou, Fujian)	TB
Tianmahuguwan	Chengdu 7th Pharmaceutical Factory	TB
Tianmahuguwan	Chengdu Dongfeng (possibly = 7th) Pharm. Factory	TB
Special Strong *Tianmahuguwan*	Qingdao Pharmaceutical Factory	TB
Tianqihuguwan	Chengdu 7th Pharmaceutical Factory	TB
Tianqihuguwan	Weimin Medicine Manufactory	TB, Musk
Tiger Bone Pills	Yat Chau Medicine Manufacturing Co. Ltd. (HK)	TB
Tiger Bone Plaster	China Chongqing Traditional Medicine Factory	TB paste, Musk
TBP	Chongqing Traditional Medicine Factory	Musk, TB
TBP (Musk and Tiger-bone Plaster)	5th Chengdu Pharmaceutical Factory	Musk, TB
TBP	NOTE: Simplified packaging with no brand name or factory listed; trademark looks like that of "Emeishan Brand", therefore likely made by 5th Chengdu Pharm. Fact.	Musk, TB
Tsei Hung Chui Fung Touku Wan	Beijing Tongrentang Pharmaceutical Factory	Musk, TB, BGB
Wulongerhujiu (Five-dragon Two-tiger Wine)	Guangxi Wuzhou Longshan Pharmaceutical Factory	TB?
Xianghushefengshiwan (Bear Tiger Snake Rheumatic Pills)	Shandong ?? Pharmaceutical Factory	TB, BGB
Yenshunzaizaowan (= Renshenzaizaowan)	Foshan Lianhe Pharmaceutical Factory	Musk, TB, RH
Zhenzhunluhuangxijiaojieduwan	Guangdong ?? Company	RH

WHAT DO WE NOW KNOW?

1. Protected Species Medicines Are Readily Available In North America

Protected species medicines--those containing or claiming to contain tiger, rhino, and leopard--continue to be widely and openly available on the North American market as seen in the graphic below.

This is supported by the results that show that:

√ a high percentage of shops (50 percent) offered to sell manufactured medicines listing rhino horn and/or tiger bone as ingredients were identified;

√ these protected species medicines were offered for sale in all cities surveyed; and

√ a large number and variety of brands of manufactured medicines were offered for sale.

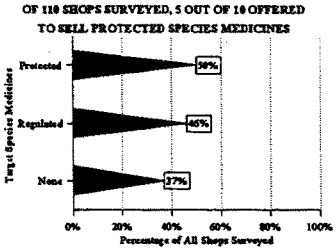

Figure 9.

These survey results are especially relevant because they were obtained by an investigator of Chinese descent who was a total stranger to the clerks and shopkeepers surveyed. If a stranger could obtain these results--in a system based strongly on trust and long-standing personal relationships--one might conclude that many more items, possibly even raw tiger bone or rhino horn, might be available to trusted regular customers.

2. Protected Species Medicines Are Available Because of Legal Inadequacies

The protected species medicines found in the survey are available because legal inadequacies or loopholes allow these medicines to be legally sold since they cannot be proved to be illegally imported. For example, since tiger bone medicines cannot at this time be forensically proved to contain tiger bone, the illegal import of these medicines cannot be proved in a court of law.

Prosecutors for both the Canadian and U.S. governments are required by federal law to show that the products do contain tiger bone. Because of this burden of proof requirement under both countries' federal laws and because most of these medicines are smuggled into both countries, these medicines are "legally sold" throughout the region since their illegality cannot be proved otherwise.

The market flourishes because of the "legal availability" of these medicines and the fact that almost 10 percent of ethnic-Chinese surveyed by TRAFFIC in July 1997 use or have used tiger bone medicines. This market continues even though it has been illegal to commercially import tiger products into the United States since 1972.

Therefore, of the 1.7 million Chinese-American population, at least 153,000 have used tiger medicines at least once. Thus, at least 153,000 individual packages of medicine that contain or claim to contain tiger were purchased or will be purchased by this small group of consumers in the United States. These numbers do not take into account other ethnic East Asian or even non-Asian users of these medicines. Herbal--and therefore traditional--packaged medicines have become popular with people of all ethnic background in Canada and the United States.

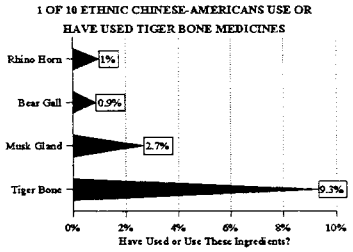

Figure 10.

3. North America Appears to Be a Significant Market for These Medicines

The openness and effective "legality" of the offer for sale of these products in North America suggests and even promotes the idea that the United States and Canada are significant Western markets for protected species medicines. Virtually all (except one in Hong Kong) of the rhino horn and tiger bone items found in the North American survey were commercially manufactured in China. There is also a greater variety of these medicines in North America than in China--41 percent of the shops in North America offered these products for sale as compared to 19 percent in China.

Overall, considerably more brands or types of manufactured medicines, made by more manufacturers, were offered for sale in North America in 1996-1997 than in China in 1996. Is the North American market encouraging the development of new products or sustaining a market for products that have been outlawed in China? The survey found that North America had 31 types of medicine compared to 11 types of medicine in China. Approximately 29 manufacturers were associated with the medicines offered for sale in North America, compared to approximately 13 manufacturers in China.

4. Illegal Stockpiles of These Medicines May Exist

The widespread availability and variety of manufactured medicines in North America three to four years after the Chinese ban went into effect suggests that commercial medicines claiming to contain rhino horn or tiger bone continue to be manufactured in or exported from China. This situation would clearly be a violation of Chinese law as well as U.S. and Canadian laws; therefore, it is important to document whether such manufacture and export is actually taking place. A second possibility for the continuing supply of these medicines is that another country is illegally reexporting stockpiled manufactured medicines that were imported at one time from China. Still another reason may be that one or more North American importers purchased and stockpiled these medicines as the Chinese ban went into effect and those stocks are a source of the trade.

Determining the age of medicines identified in the survey is difficult because very few of the medicines surveyed had a manufacture date on the package, and those that did were dated September 1993. (The Chinese prohibition went into effect in mid-1993.) Illegal imports of these medicines have been documented in the past in a TRAFFIC analysis of U.S. imports of protected and regulated medicines (Gaski and Johnson 1995), and such imports have been intercepted in law enforcement investigations.

5. Public Outreach Must Be Initiated to Eliminate These Markets

A lesson may be learned from the results of this survey. Los Angeles was the "cleanest" of all North American cities. In normal circumstances, the profile of Los Angeles would be very similar to that of San Francisco. Both are in California, both have large and historic Chinese-American populations, and both harbor a well-established and defined Chinatown. However, Los Angeles has been subjected to intensive, multi-year, cooperative law enforcement efforts by federal, state, and local law enforcement authorities. Subsequent court cases and sentences received extensive press coverage in the city and throughout the region, as well as in East Asia. During that time, the U.S. government also initiated a brief pilot project on public outreach on the use of traditional medicines that exploit endangered species.

WHAT CAN BE DONE?

ACTION 1. Increase Regional Law Enforcement.

Both Canada and the United States have comprehensive laws to implement most of the provisions of CITES and to strongly penalize and deter illegal trade. Both countries also have wildlife legislation--the U.S. Lacey Act and a provision in Canada's WAPPRIITA--that prohibit the import and interstate, interprovincial, or interterritorial commerce of animals taken in violation of the wildlife laws of any country, state, province, or territory. In addition, the combined force of law enforcement personnel in Canada and the United States focusing on wildlife trade issues exceeds the entire wildlife enforcement capacity of some continents. Therefore, although inadequacies exist in both countries' wildlife legislation that impede prosecution of illegal trade in endangered species medicines, these countries are clearly not doing enough on a nation-wide basis to stop illegal imports and eliminate markets and demand.

In addition, a key issue for law enforcement agencies in North America is the ability to determine whether commercially available medicines actually contain the rhino horn or tiger bone listed as ingredients. Forensic testing has thus far failed to detect measurable quantities of rhino horn or tiger bone in any of the many medicines tested. Without a way to definitively prove that parts and derivatives of protected species are actually present in these medicines, the U.S. and Canadian governments appear reluctant to prosecute businesses that sell these medicines.

Recommendation A: The U.S. Fish and Wildlife Service and the Canadian Wildlife Service should develop national strategies to address the issue of illegal trade in medicines advertised as containing endangered species. These strategies should draw upon the expertise and knowledge of federal, state, provincial, and territorial wildlife and other agencies. They should also utilize the legal authority of other government agencies, such as health, food and drug, and customs agencies. These strategies should centralize intelligence and other information related to source countries and importation methods most likely to involve illegal trade in endangered species parts. Since Canada and the United States are major markets for illegal endangered species products, both countries have an obligation to CITES to devote additional resources to wildlife trade controls.

Recommendation B: Individual states within the United States should consider adopting legislation that would prohibit the sale of medicines claiming to contain endangered species and their parts and products.

Recommendation C: U.S. states and Canadian provinces and territories should adopt legislation to prohibit the sale of products whose labels list protected or regulated species, especially medicines that list tiger and rhino as ingredients.

Recommendation D: The U.S. Fish and Wildlife Service's Clark R. Bavin National Forensics Laboratory, working with the Canadian Wildlife Service and other forensics scientists, should continue to promote the development of techniques (including the application of forensic science) for identifying parts and derivatives of endangered and protected species used in

traditional medicines, and should assist other countries by sharing this expertise and helping to solicit other external expertise.

ACTION 2. Strengthen Legislation to Control Internal Trade

At the 1994 CITES meeting held in Ft. Lauderdale, Florida, the parties to CITES specifically recommended that all countries interpret the term "readily recognizable derivative" as "any specimen which appears from an accompanying document, the packing or a marking or label, or from any other circumstances, to be a part or derivative of an animal or plant of a species included in the appendices," unless otherwise exempted. This recommendation was reinforced at the 1997 CITES meeting. As clearly illustrated by the results of the TRAFFIC survey, neither country has responded to this resolution or amended its legislation, regulations, or even national policy with regard to addressing this identification issue.

The lack of detectable quantities does not necessarily mean that rhino horn or tiger bone was *not* used to manufacture the medicine. Because the Chinese government recognized this problem, China's 1993 ban assumes that any commercial Chinese medicine listing rhino horn or tiger bone as an ingredient actually contains horn or bone. Most protected and regulated species medicines offered for sale in North American shops were manufactured in China.

Recommendation E: The U.S. Congress should pass the Rhino and Tiger Product Labeling Act in either its House or Senate form. The Act would prohibit the import, export, and sale of products labeled to contain certain endangered species. Subsequent to passage of the Act, the U.S. Fish and Wildlife Service, with the assistance and support of other agencies, including U.S. Customs, U.S. Food and Drug Administration, and state agencies, should make a concerted effort to aggressively enforce this legislation by pursuing and prosecuting those who violate its prohibitions.

Recommendation F: Canada should actively pursue the passage of a second regulation to WAPPRIITA or to non-wildlife legislation (such as that regulating customs or food labeling), prohibiting the import, export, and sale of products *labeled* to contain CITES Appendix I species. The Canadian Wildlife Service should work with other federal, provincial, and territorial agencies to enforce existing legislation, particularly on possession to sell, by aggressively prosecuting those who violate these prohibitions.

ACTION 3. Identify and Inventory Stockpiles and Manufacturers.

It is not a simple task to determine the dates of manufacture or of importation of commercial medicines. Whereas some of those medicines formerly displayed a production date on the box or ingredients list, very few of the commercial medicines seen in the current North American survey had manufacture dates (and all dates seen were before 29 May 1993). The only way to verify an importation date is to be present when the items are actually imported (as a Customs or wildlife inspector might be).

From the Chinese government's perspective, the only legal medicines now in the United States or Canada would have to come from stockpiles that existed before the ban, because the manufacture of these medicines has been illegal since May 1993. Whether such stockpiles actually exist is impossible to determine because no detailed inventories of manufacturers or importers in China or elsewhere are known to have been conducted at the time of the ban. Research done in 1995 by TRAFFIC East Asia (Mills 1997) suggests that some manufacturers were willing to export prohibited stockpiles to overseas buyers or even to manufacture prohibited medicines if specifically requested. The 1997 CITES tiger resolution specifically asks parties to consolidate and ensure adequate control of stocks of tiger parts and derivatives. China has made positive efforts to respond to CITES requests for such stockpile inventories in the past, and an immediate call for an inventory of any stockpiles by manufacturers or others would assist CITES law enforcement efforts throughout the world.

Recommendation G: The United States and Canadian CITES authorities, with the assistance of the CITES Secretariat, should ask the Chinese government to confirm that the status and security of stockpiles of these products in China and Hong Kong. These authorities should also ask for the same confirmation from other CITES parties, such as Singapore, Malaysia, Korea, Japan, Vietnam, and other countries that have exported similar manufactured medicines (made in China and elsewhere) to the United States and Canada. Both countries should also investigate the potential existence of such stockpiles within North America.

Recommendation H: It is critical to determine if commercial medicines containing or claiming to contain rhino horn or tiger bone continue to be manufactured in China. This knowledge can best be obtained by the Chinese increasing their use of overt monitoring of the manufacturing industry, combined with undercover investigations.

ACTION 4. Initiate Collaborative North American Public Outreach Efforts.

TRAFFIC believes that the impact of law enforcement initiatives, the subsequent publicity stemming from them, and associated public outreach efforts have changed the patterns of sale and use of protected species medicines in Los Angeles, although there are no baseline data to support this conclusion. Undoubtedly, when local--or, even better--nationwide or regionwide law enforcement efforts work in concert with focused public outreach initiatives, then shopowners and consumers will learn that trade in these medicines constitutes a law enforcement violation and a conservation problem and people will no longer offer them for sale or purchase them. This conclusion is supported by the anecdotal information collected during the survey of salesclerks' knowledge of local law enforcement efforts.

Recommendation I: Interested federal, state, provincial, and territorial government agencies, nongovernmental organizations, and traditional medicine communities and practitioners in North America should work together to initiate new outreach and education efforts in key consumer areas within the United States and Canada. These efforts should focus on the following:

√ create an awareness of the plight of endangered species;

- √ establish a causal link between the decline of endangered species and the use of TCM;
- √ highlight effective alternatives and sustainable substitutes to these medicines;
- √ ensure that the message is not pointed solely at TCM use, which only villianizes TCM users. Present a clear message that TCM is only one element in a larger problem of habitat loss, human encroachment, poaching, and other pressures on wildlife.

ACTION 5. Increase U.S. Governmental Funding for Tiger Conservation and Trade Control.

The United States is one of the richest nations on earth and can provide, under the U.S. Rhino and Tiger Conservation Act and other programs, funds to organizations and governments to undertake research projects related to rhino and tiger conservation. It should especially direct those funds to projects intended to stop the chronic and extremely detrimental illegal trade in endangered species.

Recommendation J: The U.S. Congress should at least double the funding appropriated under the Rhino and Tiger Conservation Act as a response to the efforts of CITES parties to help tiger range states "demonstrably reduce the illegal trade in tiger parts and derivatives by the 11th meeting of the Conference of the Parties to CITES" (See appendix 1).

Recommendation K: The United States should proactively encourage governments of tiger range and consuming countries to apply for this funding and also to provide support to pursue effective alternatives and sustainable substitutes for protected or endangered species medicines, especially with regard to tiger bone and rhino horn.

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Appendix 1.

Conf. 9.13 (Rev.)*

Conservation of and Trade in Tigers

AWARE that three subspecies of tiger, *Panthera tigris*, have become extinct within the last 50 years and that many of the surviving populations of the species have declined sharply within the last five years;

NOTING that wild populations of tigers are threatened by the combined effects of poaching and of habitat loss caused by disturbance, fragmentation and destruction;

AWARE also that the tiger is listed in Appendix I and international commerce in the species is prohibited;

NOTING that, despite inclusion of the species in Appendix I, illegal trade in tiger specimens has escalated, and could lead to extinction in the wild;

NOTING with alarm that the use of medicines and products containing tiger parts and derivatives exists in many countries of the world;

NOTING further that the Standing Committee has called upon all Parties and non-Parties to the Convention to take such measures as are required to halt the illegal trade in tigers and tiger parts and derivatives;

RECOGNIZING that strengthened technical co-operation between range and non-range States, and financial support, would contribute to more effective tiger conservation;

RECOGNIZING also that long-term solutions to the protection, conservation and management of the tiger and its habitat require the adoption of bold and unprecedented actions;

ACKNOWLEDGING that increased political commitment, financial resources and expertise in some range and consumer States will significantly improve the control of the illegal killing of tigers, trade in their parts and derivatives, and protection of their habitat;

APPRECIATING the positive actions taken by some consumer States to address the illegal trade in tiger parts and derivatives;

COMMENDING the initiatives by some range Parties to facilitate co-operation in tiger conservation, including:

a) India, which, with co-sponsorship from the United Nations Environment Programme (UNEP), convened the first meeting of tiger range States, in March 1994, to establish a Global Tiger Forum, and also facilitated, with governmental and non-governmental support, the Global Tiger Forum in organizing a meeting of 11 tiger range States, three non-tiger range States and two donor agencies in March 1997 for the promotion of technical co-operation, inter-State tiger conservation strategies, training and capacity building programmes and developing information-sharing systems for conservation of the tiger and control of trade in tiger parts and derivatives through international co-operative efforts;

b) Thailand, which convened a workshop in October 1994 to map distribution of tigers and the status of their forest habitat in a Geographic Information System and to initiate regional co-operative action in this regard;

c) Nepal, which convened a workshop in March 1996 of 11 tiger range States to prepare a manual on systematic census techniques for tigers;

d) the Russian Federation, which, with the co-operation of other governments and NGOs, has established effective anti-poaching patrols, officially expanded protected areas for tigers, adopted a national strategy for the conservation of the Amur tiger and completed a national tiger census;

e) China, which convened a meeting of Asian countries, including tiger range and consumer States, to discuss means of strengthening co-operation on wildlife trade matters, which resulted in the adoption of the Beijing Statement (1995);

f) Viet Nam, which hosted as workshop in March 1995 to promote co-operation between the Lao People's Democratic Republic, Cambodia and Viet Nam to conserve tigers;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

URGES:

a) all Parties and non-Parties, especially tiger range and consumer States, to adopt comprehensive legislation and enforcement controls as a matter of urgency, with the aim of eliminating trade in tiger parts and derivatives, in order to demonstrably reduce the illegal trade in tiger parts and derivatives by the 11th meeting of the Conference of the Parties;

b) the Secretariat, where possible, to assist those Parties seeking to improve their legislation, by providing to them technical advice and relevant information;

c) all Parties seeking to improve their legislation controlling the trade in tigers and tiger parts and derivatives, or to adopt such legislation, to include penalties adequate to deter illegal trade and to consider introducing national measures to facilitate implementation of CITES, such as voluntarily prohibiting internal trade in tigers and tiger parts and derivatives, as well as in products labelled as containing parts and derivatives of tiger;

d) all Parties to treat any product claiming to contain tiger specimens as a readily recognizable tiger derivative and therefore subject to the provisions relating to Appendix-I species, as provided for in Resolution Conf. 9.6, and to enact legislation where it does not exist, to fully implement these provisions for such products;

e) those Parties and non-Parties in whose countries stocks of tiger parts and derivatives exist to consolidate and ensure adequate control of such stocks;

f) all range States and consumer States that are not party to CITES to accede to it at the earliest possible date; and

g) tiger range and non-range States to support and participate in international tiger conservation programmes and consider joining the Global Tiger Forum;

* Amended at the 10th meeting of the Conference of the Parties.

Appendix 1 cont.

RECOMMENDS:

a) that the governments of tiger range States and, where appropriate, non-range States, establish co-operative bilateral and multilateral arrangements for the management of shared wildlife species and protected habitats with common boundaries in order to achieve more effective control of illegal transborder movement of tigers and tiger parts and derivatives;

b) that Parties and non-Parties convene regional workshops on law enforcement needs associated with transborder movement of tiger parts and derivatives, with technical assistance from the CITES Secretariat and, where available, financial support from interested governments and NGOs;

c) that all range and consumer States strengthen communication and sharing of information by designating at least one contact person in order to establish a regional network to assist in the control of the illegal trade in tiger parts and derivatives; and

d) all Parties and non-Parties to use fully the ECO-MESSAGE of ICPO-Interpol, which relates to standard procedures for exchange of intelligence data, for improved collaborative enforcement in the control of tiger trade;

REQUESTS:

a) countries with the relevant expertise to encourage and support range and consumer States, as a matter of urgency, in the development of a forensic protocol for identifying tiger-bone derivatives in medicines and the establishment of forensic facilities, and to provide technical assistance to aid the detection and accurate identification of tiger parts and derived manufactured products; and

b) that, since biological and distribution data are essential for the implementation of the Convention, donor nations assist in funding the infrastructure and the provision of expertise to develop computer databases and mapping, as well as any other necessary conservation management and enforcement techniques;

RECOMMENDS that the governments of tiger-consumer States:

a) work with traditional-medicine communities and industries to develop strategies for eliminating the use and consumption of tiger parts and derivatives;

b) carry out appropriate education and awareness campaigns, making use of indigenous knowledge and traditional wisdom, directed at appropriate rural urban communities and other targeted groups in range States, on the ecological importance of the tiger, its prey and its habitat; and

c) where necessary and appropriate, remove tiger parts and derivatives from the official pharmacopeia and include acceptable substitute products that do not endanger other wild species, and introduce programmes to educate industry and user groups in consumer States in order to eliminate the use of tiger-derived substances and promote the adoption of alternatives; and

CALLS UPON all governments and intergovernmental organizations, international aid agencies, and non-governmental organizations to provide, as a matter of urgency, funds and other assistance to stop the illegal trade in tigers and tiger parts and derivatives and to ensure the survival of the tiger in the wild.

Appendix 2.

Conf. 9.14

Conservation of Rhinoceros in Asia and Africa

DEEPLY CONCERNED that many rhinoceros populations have continued to decline drastically and that four of the five species are threatened with extinction;

RECALLING that the Conference of the Parties included all species of rhinoceros in Appendix I of the Convention in 1977 and adopted Resolution Conf. 3.11 on the Trade in Rhinoceros Horn (New Delhi, 1981) and Resolution Conf. 6.10 on the Trade in Rhinoceros Products (Ottawa, 1987);

RECALLING further that, at its eighth meeting (Kyoto, 1992), the Conference of the Parties directed the Standing Committee to address rhinoceros conservation problems;

NOTING the detailed consideration given to rhinoceros conservation at the 28th (Lausanne, 1992), 29th (Washington, D. C., 1993), 30th (Brussels, 1993) and 31st (Geneva, 1994) meetings of the Standing Committee, and the recent actions of the Committee;

NOTING also the recommendations of the Animals Committee (Harare, 1992; Brussels, 1993);

RECALLING the resolutions and recommendations of the United Nations Environment Programme Conference between the Rhinoceros Range States, Consumer States and Donors on Financing the Conservation of the Rhinoceros (Nairobi, 1993);

COMMENDING the efforts made by range States to protect their rhinoceros populations against illegal hunting, often under very difficult circumstances;

COMMENDING further the recent measures taken by countries to control and reduce use of rhinoceros horn, especially countries where use is part of a cultural tradition extending back many centuries;

CONCLUDING that all the above measures have not arrested the decline of rhinoceros populations;

RECOGNIZING that the illegal trade in rhinoceros horn is now known to be a global law enforcement problem, extending beyond range States and traditional consuming countries;

AWARE that, given the social, economic and cultural realities in many producer and consumer States, emphasis solely on law enforcement has failed to remove the threat to rhinoceroses;

CONSCIOUS that stocks of rhinoceros horn continue to accumulate in some countries and that the call for their destruction, as recommended by Resolution Conf. 6.10, has not been implemented and is no longer considered appropriate by a number of Parties;

CONCERNED that the destruction of stocks of rhinoceros horn could in all probability increase the risks to remaining rhinoceros populations;

RECOGNIZING that recent international measures have had a number of unintended consequences, including driving the trade further underground, and have coincided with a rise in price in some consumer countries;

RECOGNIZING further that there is a diversity of opinion as to the most effective approaches to the conservation of rhinoceroses in Asia and Africa;

CONCERNED that the direct threats to rhinoceros populations are not being reduced, and that the cost of ensuring adequate security for them is increasing and can not easily be met by many range States under the present conditions;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

URGES:

a) those Parties that have legal stocks of rhinoceros horn to identify, mark, register and secure all such stocks;

b) all Parties to implement adequate legislation, including internal trade restrictions, aimed at reducing illegal trade in rhinoceros products;

c) range States to be vigilant in their law enforcement efforts and to place increased emphasis on the prevention of illegal hunting and on early detection of potential offenders;

d) that law enforcement co-operation between States be increased in order to curtail trafficking in rhinoceros horn; and

e) the consumer States to work with traditional-medicine communities and industries to develop strategies for eliminating the use and consumption of rhinoceros parts and derivatives;

DIRECTS the Standing Committee to continue to pursue actions aimed at reducing illegal trade, ensuring that:

a) all such activities are accompanied by evaluations of their effectiveness;

b) standardized indicators of success are developed to measure changes in levels of illegal hunting and of the status of rhinoceros populations in the range States; and

c) the policies guiding interventions are responsive to the outcome of evaluations and are modified accordingly;

RECOMMENDS that each range State develop for its rhinoceros population a recovery plan that, *inter alia*:

a) is appropriate for the situation in its country;

b) will not adversely affect rhinoceros conservation in other range States;

c) includes provisions for the reinvestment of revenues derived from use of rhinoceros that is consistent with the Convention, in order to offset the high costs of their conservation; and

d) aims towards a long-term goal of sustaining, on a basis of self-sufficiency, their rhinoceros conservation efforts;

URGES:

a) potential donors to assist with the funding efforts of the range States to implement rhinoceros recovery plans; and

b) the Global Environment Facility to fund the protection of rhinoceros populations within the context of broadly based projects for the conservation of biological diversity;

CALLS for constructive engagement amongst all Parties to the Convention to achieve the aims of this Resolution; and

REPEALS the Resolutions listed hereunder:

a) Resolution Conf. 3.11 (New Delhi, 1981) – Trade in Rhinoceros Horn; and

b) Resolution Conf. 6.10 (Ottawa, 1987) – Trade in Rhinoceros Products.

Appendix 3.

Conf. 10.19

Traditional Medicines

RECOGNIZING that wild fauna and flora are used in many forms of traditional medicine and that continued and uncontrolled use of several endangered species in traditional medicine has been the subject of concern among range States and consumer countries in view of the potential threat to the long-term survival of these species and the development of traditional medicines on a sustainable basis;

RECOGNIZING that most traditional-medicine systems in East Asia were derived from traditional Chinese medicine which is a rational system of thought and practice developed over several millennia and involving extensive clinical observation and testing;

AWARE that the World Health Organization has acknowledged the importance of traditional medicines to the world's medicinal security and that millions of people depend on these medicines for primary health care;

CONVINCED of the need to improve understanding about the significance of traditional medicines in the world's health care systems whilst addressing the problems of over-exploitation of certain wild species;

ACKNOWLEDGING that many forms of traditional medicine depend on the sustainable harvesting of wild species;

RECALLING Resolutions Conf 8.15 and Conf. 9.19, adopted at the eighth and ninth meetings of the Conference of the Parties (Kyoto, 1992; Fort Lauderdale, 1994) which acknowledge that pressure on wild populations may be relieved by captive breeding and artificial propagation;

RECOGNIZING the importance of research into the use of substitutes for specimens of endangered species;

BELIEVING that adequate measures should be taken to conserve wild species at risk of over-exploitation to avoid their becoming threatened to the point where more severe measures may be necessary as in the case of the rhinoceroses and the tiger;

CONVINCED of the importance of comprehensive national legislation and its effective enforcement for the implementation of the Convention in all party States;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

RECOMMENDS that the Parties:

a) work closely with groups of traditional-medicine practitioners and consumers in developing public education and awareness programmes towards the reduction and eventual elimination of illegal use of endangered species, and developing awareness of the need to avoid over-exploitation of other wild species;

b) ensure that, in accordance with Resolution Conf. 9.6 adopted at the ninth meeting of the Conference of the Parties (Fort Lauderdale, 1994), their national legislation effectively controls trade in all parts and derivatives of species used for healing purposes and trade in medicinal products containing or purporting to contain them;

c) strengthen efforts to enforce legislation governing trade in threatened and endangered species and capitalize on the value of such action in focusing public attention on the importance of safeguarding wild populations;

d) promote the development of techniques, including the application of forensic science, for identifying parts and derivatives used in traditional medicines;

e) investigate the potential for further use in traditional medicines of substitutes for specimens of threatened wild species, ensuring that this does not lead to other species becoming threatened; and

f) consider, where appropriate and with sufficient safeguards, the application of artificial propagation and, in certain circumstances, captive breeding, to meet the needs of traditional medicines where this would relieve pressure on wild populations of species and is in accordance with their national legislation; and

URGES potential donors to assist with funding actions to implement the measures in this Resolution.

IUCN
The World Conservation Union

The TRAFFIC Network is the world's largest wildlife trade monitoring program with offices covering most parts of the world. TRAFFIC is a program of WWF-World Wildlife Fund and IUCN-The World Conservation Union, established to monitor trade in wild plants and animals. It works in close cooperation with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The TRAFFIC Network shares its international headquarters in the United Kingdom with the World Conservation Monitoring Centre.

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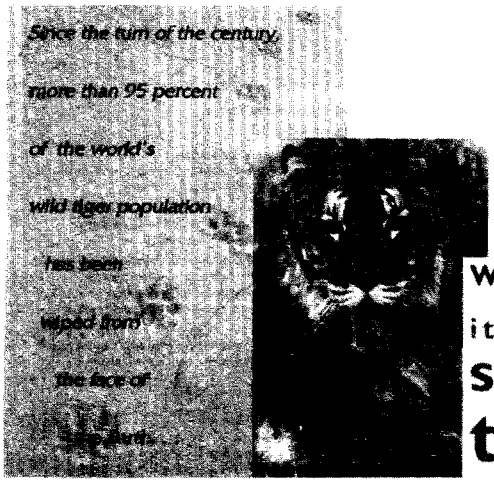
TIGERS

WWF's Year for the Tiger Action Plan



What will it take to save the tiger?

1998 marks the Year of the Tiger in the Chinese calendar. World Wildlife Fund (WWF) sees this as an auspicious opportunity to bring East and West together in the cause of tiger conservation. To mark the Year of the Tiger, WWF is spearheading a new tiger conservation initiative that builds on the successes from past conservation efforts.

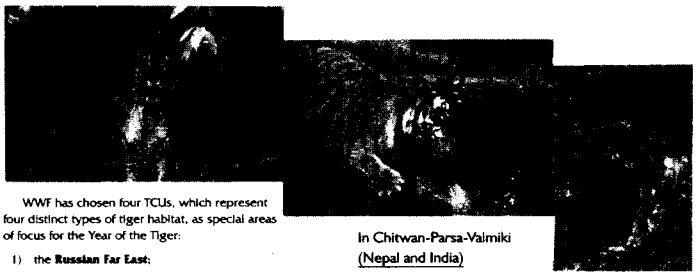
Based on the following strategic tiger conservation plan, WWF will build a foundation of public, political, and financial support to ensure that we leave our children a planet on which tigers still roam wild.

Protect Critical Tiger Habitat

In 1997 World Wildlife Fund and the Wildlife Conservation Society published *A Framework for Identifying High Priority Areas and Actions for the Conservation of Tigers in the Wild* with support from the National Fish and Wildlife Foundation's Save the Tiger Fund. The report emphasized two major points:

- To save the tiger, we must preserve representation of all the evolutionary adaptations that have equipped tigers to thrive under varied ecological conditions across their range.
- Most existing tiger reserves are too small to sustain viable tiger populations, and many tigers live outside the boundaries of these reserves. The report delineates large blocks of habitat, called tiger conservation units (TCUs), where tigers stand the best chance of long-term survival. A broader approach is needed to protect these important tiger habitats, which often extend across national borders.

— Ultimately, each TCU should feature a network of tiger reserves, surrounded by buffer zones where limited human activities are permitted, and linked by corridors that allow tigers to disperse among once-isolated islands of habitat.



WWF has chosen four TCUs, which represent four distinct types of tiger habitat, as special areas of focus for the Year of the Tiger:

1) the **Russian Far East**;
2) the Indochinese region of **Virachay-Xe Piane-Yok Don**, encompassing parts of Vietnam, Cambodia, and Laos;
3) the **Chitwan-Parsa-Valmiki** region straddling Nepal and India; and
4) the **Sundarbans**, a vast mangrove forest shared by India and Bangladesh.

The tigers that inhabit these areas have made special adaptations to the environmental conditions — climate, topography, prey, etc. — found in each habitat type. For instance, tigers of the Russian Far East tolerate bitterly cold winters and negotiate rugged, rocky terrain, preying on the occasional black bear in addition to a more standard tiger diet of deer and wild boar. By contrast, tigers in the Sundarbans, the last tigers adapted to a mangrove forest ecosystem, swim among islands in pursuit of aquatic monitor lizards, sea turtles, and fish.

WWF supports tiger conservation projects in 10 of the 14 tiger range countries but will be intensifying efforts in the four areas described above during the Year of the Tiger, through the following activities:

In the Russian Far East

- Support antipoaching operations in Khabarovski Krai, to protect both tigers and their prey, by providing vehicles, radios, and other equipment.
- Support development of a regionwide, long-term tiger monitoring program to track population trends, poaching, etc.
- Train protected areas staff in the most up-to-date monitoring techniques.
- Continue testing and improving the accuracy of tiger census methodology, focusing on data from radio-collared tigers in Sikhote-Alin State Reserve.

In Chitwan-Parsa-Valmiki (Nepal and India)

- Strengthen the antipoaching network in Royal Chitwan National Park, Parsa Wildlife Reserve, and Valmiki Tiger Sanctuary.
- Provide tiger management training for park staff, including antipoaching, monitoring, field data collection, and computer analysis.
- Expand tiger habitat at the periphery of Royal Chitwan National Park by restoring natural vegetation, including grasslands for limited livestock grazing and wooded areas for sustainable harvesting for fodder and fuelwood.
- Survey and monitor the restored area's tiger population using camera traps and pugmark analysis.

In Virachay-Xe Piane-Yok Don (Cambodia, Laos, and Vietnam)

- Conduct tiger surveys in Kon Tum Province in Vietnam and Attapeu Province in Laos to determine the distribution and relative abundance of tigers.
- Support antipoaching efforts in Mom Ray National Park in Vietnam by training forest guards, providing equipment and vehicles, and promoting public awareness about tiger conservation.
- Help the Cambodian, Laotian, and Vietnamese governments to map out and set up areas for tiger reserves, corridors, buffer zones, and development zones.

In the Sundarbans (India and Bangladesh)

- Conduct a survey of tigers and their prey.
- Develop a strategic action plan for tiger conservation in this region in cooperation with the governments of India and Bangladesh.

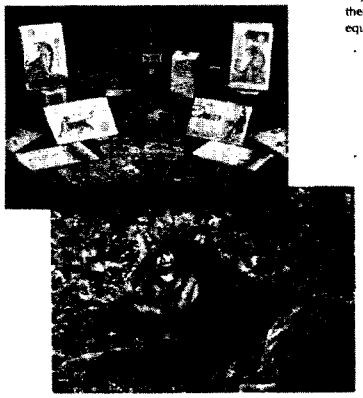
Close Down North American Markets for Tiger Products

North America is a significant secondary market for tiger medicines imported from East Asia. In spite of efforts in parts of East Asia to crack down on the illegal trade, TRAFFIC's* recent research shows greater availability and variety of tiger medicines than ever in five major U.S. cities.

Medicines containing or purporting to contain tiger derivatives can be sold legally in the United States today unless it can be proven that they entered the country illegally or that they contain genuine tiger bone. Despite sophisticated forensic techniques, it is nearly impossible to distinguish tiger bone from the bone of other species. WWF will take the following steps in 1998 to shut down the illegal tiger trade:

Push for the **adoption of a national interagency law enforcement strategy** to improve interdiction, investigation, and prosecution of those involved in illegal tiger trade.

Work with Congress to **secure passage of legislation prohibiting the sale of all medicinal products *labeled* as containing tiger parts.** This would eliminate the need for forensic analysis to test the authenticity of medicines purporting to contain tiger derivatives and allow for immediate and direct law enforcement action.



Eliminate Demand for and Promote Alternatives to Tiger Bone Medicines

Laws banning the sale and use of tiger bone in medicines cannot single-handedly halt the illegal tiger trade. Legislation and enforcement must be accompanied by a comprehensive campaign to stem the demand based on

- a culturally sensitive and compelling message and
- acceptable alternatives to these products.

WWF will join with the American College of Traditional Chinese Medicine (ACTCM) as partners working toward the common goal of protecting tigers while preserving the integrity of traditional Chinese medicine—a time-honored cultural tradition and time-tested health care system—through these activities:

- A special symposium on wildlife conservation and traditional Chinese medicine, which WWF will cohost with ACTCM and other specialists in the San Francisco area.
- An extensive public outreach program with schools, community centers, and professional associations, featuring tiger conservation education and information about effective substitutes for tiger-based medicines.

Promoting the use of acceptable substitutes is crucial to reducing demand for tiger medicines. Research is under way to identify natural ingredients that possess the same therapeutic properties as tiger bone and can replace it with equal efficacy.

- In December 1997, TRAFFIC, with support from WWF, sponsored a symposium in Hong Kong to bring together prominent traditional medicine researchers from around the world to present their latest findings on effective alternatives to tiger bone to over 100 international participants.
- This information will be broadly disseminated to traditional Chinese medicine practitioners and consumers around the world to encourage them to prescribe and use these substitutes instead of tiger medicines.

— A recent survey commissioned by WWF revealed that most Chinese Americans who use TCM are concerned about the decline of wild tiger populations and would be willing to accept substitutes for tiger bone if they were reliable and available.

*TRAFFIC is the wildlife trade monitoring program of World Wildlife Fund and IUCN (The World Conservation Union).

Establish New Tiger Funding Mechanisms

Resources available for tiger conservation tend to fluctuate from year to year, impeding efforts to maintain consistent, long-term monitoring and protection of tigers. Innovative funding mechanisms that provide a sustained source of funding for tiger conservation are urgently needed.

Conservation trust funds

A conservation trust fund starts off with a large endowment, and the interest it generates is available year after year to sustain ongoing conservation initiatives. The Bhutan Trust Fund, for example, with total assets in excess of $25 million, has been yielding continuous support for a wide range of critical tiger conservation activities since it was established in 1991. These activities include training for park managers and antipoaching teams, tiger monitoring and census taking, and environmental education for local communities.

WWF will help develop and implement two new trust funds in the Year of the Tiger:

- Through a joint initiative with the U.S. Agency for International Development (USAID), WWF will work to establish a conservation trust fund in the Russian Far East that will support an array of tiger conservation initiatives including habitat protection and antipoaching strategies. From an initial USAID investment of $1.2 million, the trust fund is expected to grow over the next five years to a total of $4 million, which WWF will help to raise.
- WWF will help the Indian government to structure and capitalize a tiger trust fund for India, home to two-thirds of the world's remaining wild tigers.

Recycling ecotourism revenue

Ecotourism in tiger range countries can generate significant income. If managed judiciously, such funds can be recycled into tiger conservation projects. The government of Nepal recently passed sweeping legislation requiring that 30 to 50 percent of all park revenues be channeled into conservation. This rewards people living near a park for protecting tigers and other park wildlife.

- WWF will work with governments of other tiger range countries to promote adoption of similar measures.

Emergency Rapid Response Fund

To mark the Year of the Tiger, the WWF network is establishing an Emergency Rapid Response Fund for Tiger Conservation. The fund, which aims to start with an initial capital endowment of $1 million, will provide support for a wide range of urgent tiger conservation problems, from countering sudden rises in poaching to mounting legal challenges to development projects or policies threatening to destroy tiger habitat.

Secure New U.S. Commitments to Tiger Conservation

The Rhino and Tiger Conservation Act of 1994 established a special fund to support rhino and tiger conservation efforts around the world. This fund has supported such projects as a tiger census methodology workshop; a large-scale investigation of tiger poaching and illegal trade in India; and a community education center in Sumatra to teach local people to play a role in protecting tigers.

Although the Rhino and Tiger Conservation Act authorizes up to $5 million a year for the fund, only $400,000 per year has been appropriated so far, leaving many worthy projects unfunded. The tiger's range is vast, its conservation needs are extensive, and the number of proposals to the fund is rapidly increasing. The fund, which must be shared among tigers and five species of Asian and African rhinos, is spread far too thin.

WWF will work to **increase congressional appropriations for the Rhino and Tiger Conservation Fund** to at least $1 million.

Let's leave our children a living planet.

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WILDLIFE CONSERVATION SOCIETY

THE RHINO AND TIGER PRODUCT LABELING ACT (H.R. 2807)
and
THE RE-AUTHORIZATION OF THE RHINOCEROS AND TIGER CONSERVATION ACT (H.R. 3113)

TESTIMONY
before the
SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE and OCEANS
of the
COMMITTEE ON RESOURCES
of the
U.S. HOUSE OF REPRESENTATIVES

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February 5, 1998

I would like to thank the members of the Subcommittee on Fisheries Conservation, Wildlife and Oceans for the opportunity to participate in this hearing to discuss the urgent need for the Rhino and Tiger Product Labeling Act (H.R. 2807) and to support the re-authorization of the Rhinoceros and Tiger Conservation Act (H.R. 3113). On behalf of the Wildlife Conservation Society (WCS), I would like to convey our strong support for these bills and emphasize the importance of passing the Rhino and Tiger Product Labeling Act. I have testified before this Subcommittee and its predecessor both in 1994 and 1996 in support of the Rhinoceros and Tiger Conservation Act and the fund it would establish. Today, I will focus my testimony on key findings of our 1996 market survey of the presence of tiger-based traditional Chinese medicine (TCM) products in New York City and the need for the Rhino and Tiger Product Labeling Act.

WCS has been dedicated to understanding and protecting wildlife and ecosystems since it was founded in 1895 as the New York Zoological Society. WCS scientists have greatly expanded our knowledge of species and habitats through pioneering, long-term field studies; have effectively promoted the cause of conservation through their direct role in establishing more than 100 national parks and reserves, have trained innumerable conservationists and wildlife managers in developing countries; have helped to nurture the institutions in which the latter must work; and have contributed key ideas to the ongoing debates about natural resource management and conservation.

WCS, headquartered at the world-renowned Bronx Zoo, is presently pursuing its mission through more than 250 field projects in over 50 countries in Latin America, Africa, Asia, and in North America; environmental education programs reaching schools in 47 states and overseas; endangered species propagation in New York and Georgia; clinical and research programs in wildlife health sciences; and five public wildlife conservation centers in the Bronx, Brooklyn, Manhattan, and Queens, including the Aquarium for Wildlife Conservation.

WCS has been dedicated to protecting tigers in the wild since the 1960s when Dr. George Schaller, WCS Director for Science, completed the first scientific study of tigers in Kanha National Park, India. In 1995 we launched The WCS Tiger Campaign to mobilize field research and conservation initiatives in countries where tigers remain including India, Myanmar, Lao People's Democratic Republic (PDR), Cambodia, Malaysia, Indonesia, Thailand, and, the Russian Far East. While much of our work focuses on conserving tigers in the wild in these countries, it is also complemented with public awareness and educational campaigns, particularly in China, to reduce the demand for tiger bones and tiger-based products that has fueled widespread poaching and illegal hunting throughout much of the tiger's remaining range. Finally, our commitment to saving the tiger includes our participation in captive breeding programs and educational programs administered at the Bronx Zoo. Please see Appendix I for more detail on the WCS Tiger Campaign.

WCS has been working to protect rhinos in the wild since 1928 when it supported work by the Wild Life Protection Society of South Africa to create Kruger National Park. WCS efforts have involved purchases of vital rhino habitat for protected areas, ecological and behavioral studies, captive-breeding, genetic studies to address the validity of subspecies for conservation purposes, assessments of the range and status of rhinos, translocation of rhinos in Africa to reestablish populations, the establishment of protected sanctuaries in Kenya, and the funding of anti-poaching efforts in Africa.

I. The Rhinoceros and Tiger Conservation Fund: Re-authorize and fully finance it at $10 million annually.

In 1994 and 1996 I testified on behalf of WCS in favor of the Rhinoceros and Tiger Conservation Fund (RTCF) and the need to allocate the full $10 million for this fund. In many of the African and Asian countries where the tiger and rhinos occur, financial resources are scarce. Thus, the RTCF offers funds that would otherwise simply not exist for specific efforts to conserve these species. We strongly support the re-authorization of the RTCF that would extend the fund to September 2004, and we believe that the allocation of funds to the RTCF should be the full $10 million annually.

In both my previous testimonies I also provided information on the status of and threats to the tiger and all five species of rhinoceros and our perspective on the immediate efforts that are needed to conserve these species in wild. A key component of the WCS Tiger Campaign was to assess past conservation efforts, assess the current threats, and develop a conservation strategy

for protecting the tiger in the wild. Our assessment and approach were presented in Saving the Tiger: A Conservation Strategy, a WCS Policy Report (Norchi and Bolze 1995). WCS then built upon this effort in a collaboration with the World Wildlife Fund-US to develop a priority-setting framework to identify the most important tiger populations based on ecological criteria (Dinerstein et al. 1997). This study also highlighted the need to focus on controlling the illegal trade in tiger parts and reduce demand for tiger-based products, especially for use in TCM (Hemley and Bolze 1997). Both of these reports have been provided to the United States Fish and Wildlife Service (FWS) to guide their funding support from the RTCF.

II. The Rhino and Tiger Product Labeling Act: Passage is urgently needed.

In June 1996, during the 104th Congress, Senator Jeffords introduced the precursor of the Rhino and Tiger Product Labeling Act (H.R. 2807) that we are discussing today. At that time, this Subcommittee held a hearing on the merit of the RTCF during which I strongly urged the Subcommittee to secure the passage of that precursor bill. In that testimony, I highlighted that several preliminary market surveys were indicating that the United States and other Western nations were important markets for illegal tiger and rhino-based TCM products. Until that time, almost all of the attention with regard to reducing the threat from poaching of tigers and rhinos for the use of their parts in TCM had been appropriately aimed at the major East Asian consumer nations

WCS commended the United States and the Department of Interior (DOI) for taking a lead role in pressuring the consumer nations, particularly China, Taiwan, South Korea, and Hong Kong, to significantly improve their efforts to control the illegal trade in tiger and rhino parts and products. We were supportive of the use of the Pelly Amendment to the Fisherman's Protective Act against China and Taiwan by the Secretary of Interior. This led to a year-long import embargo by the United States from mid-1994 to 1995 on wildlife products from Taiwan for continuing to undermine the effectiveness of the international prohibition on trade in tiger and rhino parts under CITES (Convention on International Trade in Endangered Species of Fauna and Flora). But, we have also urged the DOI all along not to overlook the very same problems in its own backyard.

THE PROBLEM: Western countries, especially the United States, are important markets for illegal tiger and rhino-based TCM products.

TCM is a holistic approach to curing illness and maintaining health. It focuses on rest, exercise, and the consumption of plant, animal and mineral substances, or *materia medica*, as foods and medicines. Herbalism, as an approach in TCM, is a centuries old tradition based on the use of these ingredients, some of which include endangered species like the tiger and rhinos. Tiger bone and rhino horn, the most valued of the many parts of these species that are used, are prescribed by TCM practitioners and are also listed as ingredients in a variety of manufactured or "patented" TCM products. With the relatively large Asian communities in the West and the growing interest among Westerners in TCM herbalism, tiger and rhino-based TCM products have

become widely distributed outside Asia, including in Europe, Canada, and the United States. This is despite the fact that international trade in any tiger or rhino product is prohibited by CITES.

It is important to determine the extent and nature of the market for tiger and rhino-based TCM products to guide efforts to reduce demand and control illegal trade in Western countries. Reports of two market surveys were released on January 22, 1998, at a joint press conference by WCS and World Wildlife Fund on behalf of TRAFFIC-North America. The major finding of both surveys is that tiger and rhino-based TCM products are widely available throughout the major Asian communities in the United States.

WCS conducted an in-depth, six month market study of the demand for tiger-based TCM products in New York City, both the location of the second largest Chinese community in the United States, after Los Angeles, and the headquarters of WCS. From June through December 1996, repeated visits to 37 Asian herbal shops, pharmacies and supermarkets established that 24, or 67% of them, carried at least one tiger-based TCM product (Bolze et al. 1998). Sixteen different products in the form of pills, plasters and capsules were easily purchased. These products claimed to treat rheumatism and a variety of ailments of the bones, muscles, and joints. Products ranged from $2 to $8 in price, with one product selling for $50. Raw tiger bone or any other bone that was labeled as tiger was not observed for sale nor did any of the TCM practitioners approached offer to fill a prescription that called for tiger bone as an ingredient.

TRAFFIC-North America conducted a survey during 1996-1997 in five cities in the United States and two in Canada and found that 50% of the stores visited contained at least one tiger, rhino or leopard-based TCM product (Gaski 1998). In New York City, 83% of the stores contained at least one tiger or rhino-based TCM product, the highest percentage availability of all seven cities. A total of 31 different products that contained or claimed to contain tiger or rhino were readily available for sale. Both of these market surveys underscore that the United States is an important market for these illegal products. This is corroborated by reviews of the annual country reports to CITES which indicate that the United States is a major importer of tiger and rhino-based TCM products (Mulliken and Haywood 1994, Mills and Jackson 1994).

While a variety of tiger and rhino-based TCM products are widely available in the United States, these same products are not readily available in China where almost all of these products were manufactured. TRAFFIC-East Asia conducted a three-year market survey of seven cities in China. In 1996, of the 255 stores visited, only one store displayed a tiger bone wine or plaster product and merely 3% had them upon request (Mills 1997). Fourteen percent of all the stores visited displayed other types of tiger or rhino-based TCM products. Only 11 different tiger or rhino products were found in the stores in China compared to 31 in the United States Asian herbal stores, pharmacies and supermarkets. Also Mills (1997) saw no tiger bone on display or available upon request from 1994-1996 in contrast to findings from surveys conducted in 1992.

It is ironic that illegal tiger and rhino-based TCM products are widely available in the United States when these products are illegal and difficult to obtain in China. It is more ironic

that this is a result of the United States certification of China under the Pelly amendment for its continued violations of CITES prohibitions on trade in tiger and rhinos. China responded to international concerns and pressure from CITES by instigating law enforcement efforts and legislative action to control the illegal trade. In 1993, China banned the domestic trade in tiger and rhino parts and products, prohibited manufacture and export of tiger and rhino products, and removed the species from the official pharmacopeia of the *materia medica* in China. This ban includes any claims to contain these species as ingredients in products. The issuance of this prohibition and subsequent law enforcement efforts are the primary reasons that tiger and rhino-based TCM products are not currently on display in China (Mills 1997). Clearly, the United States needs to follow suit.

RECOMMENDATION 1: The United States needs to make law enforcement on the illegal trade in tiger and rhino-based TCM products a top priority.

To its credit, DOI and the United States Customs Service made the illegal trade in tiger and rhino-based TCM products a priority in Los Angeles by forming a multi-agency law enforcement effort in 1994, called the Wildlife Task Force. The inspectors and agents from the Customs Service, FWS, the Food and Drug Administration (FDA), and the Department of Agriculture meet regularly and have coordinated specific efforts including thoroughly inspecting all international cargo shipments, passenger flights from East Asian countries, and international mail (Gaski 1998). As a result, the presence of these products on the shelves plummeted in Los Angeles, according to the TRAFFIC-North America market survey. In the largest Chinese community in the United States, the survey found only one shop out of 17 displaying a tiger or rhino-based TCM product (Gaski 1998).

The absence of tiger and rhino-based TCM products in the Asian herbal stores in Los Angeles demonstrates the effectiveness of law enforcement when this problem is made a priority. Unfortunately, as far as we know, there has been no such effort in any other city with a large Chinese community. With the successful Los Angeles law enforcement effort as a model, it is inexcusable that illegal tiger and rhino-based TCM products are openly sold in this country and that there has been little or no effort by federal and state authorities to stop it outside of Los Angeles, though the FWS has been aware of the problem for several years.

In our discussions with the FWS based in the New York region and the New York State Department of Environmental Conservation (DEC), the main effort to control the illegal trade in these products in New York is through the confiscation of any tiger or rhino-based products at the point of importation. To date, the DEC, which has the authority to seize products at the point of sale, has done nothing. This inaction is the result of the DEC's concern that seized products could not be proven to actually contain the prohibited tiger or rhino ingredients as labeled. Such proof is necessary under both the federal Endangered Species Act (ESA) and New York State law since neither makes it expressly illegal to claim to contain tiger or rhino derivatives. Not only is forensic analysis costly, but current forensic tests cannot verify if some of the TCM products were actually made with tiger or rhino parts (Espinoza et al. 1994, E. Espinoza personal

communication). With limited staff, money and time, many tiger and rhino-based TCM products are escaping detection at import and are openly for sale in New York City in direct contradiction to the CITES prohibition.

RECOMMENDATION 2: Congress needs to make passage of the Rhino and Tiger Product Labeling Act a top priority.

As alluded to above, a complicating factor in the trade in tiger and rhino-based TCM products is that many of them do not actually contain real tiger bone or rhino horn at all. Forensic testing conducted at the FWS National Forensics Lab in Ashland, Oregon, found no presence of rhino horn or of hydroxyapatite, a mineral signature for bone, in various tiger-based TCM products seized on importation into the United States (Espinoza et al. 1994). A further complication is that some processing methods used to produce tiger and rhino-based TCM products destroy the traces of minerals and proteins needed for forensic analysis. Therefore, without extensive testing and investigative research, it is difficult to "prove" that a TCM product actually contains tiger or rhino ingredients.

The problem of verifying the presence or use of tiger or rhino parts in TCM products has hamstrung law enforcement, at least in New York state, where under existing federal and state law only products that actually contain tiger or rhino derivatives are in violation. The claim to contain tiger or rhino is <u>not</u> in and of itself a violation of the ESA or the New York state Environmental Conservation Law, the two primary laws that apply to tiger and rhino-based TCM products found in New York City.

The Rhino and Tiger Product Labeling Act (H.R. 2807) would address this inadequacy at the federal level by making products that claim to contain tiger or rhino expressly illegal to import, export and sell. The passage of this bill would bring the United States into accord with CITES which prohibits international trade in any product that states it contains tiger, rhinoceros, or any other species listed on Appendix I of the treaty. In 1994, at the Conference of the Parties, CITES called on all signatory nations to pass domestic legislation that makes it expressly illegal for products to make claims to contain tiger or rhino (COP resolutions 9.13 and 10.19). The language in H.R. 2807 would make it a violation to claim to contain tiger or rhino, regardless of the claim's veracity. Thus, this bill would remove the burden to prove a product actually contains tiger or rhino, because there would now be a legal presumption that the claim is true and violates the law.

The passage of this bill will facilitate law enforcement at the point of sale. Nonetheless, there is still an important need to develop forensic techniques that can verify if tiger or rhino parts are contained in or used in the manufacture of TCM products. Undoubtedly, products will continue to be produced using tiger and rhino ingredients, but simply not labeled as such. It will be important for law enforcement efforts to be able to identify these authentic TCM products that are not stating the contents truthfully.

While we are very supportive of this piece of legislation, we would like to recommend that the Subcommittee consider broadening the concept of the bill to apply to all species listed on Appendix I of CITES and to all species listed as endangered under the ESA. It is obvious that products should not be allowed to claim to contain species whose trade or use in any way is strictly prohibited even if the claim is false. Even though this legislation only applies to tiger or rhino products, these products comprise much of the illegal market. Also, for some of the other prohibited or regulated species used in TCM products, there are reliable forensic tests. But, it would seem most appropriate to reduce the cost and burden to federal and state law enforcement efforts by broadening the scope of this bill beyond tigers and rhinos to make all products claiming to contain species listed on Appendix I of CITES and listed as endangered under the ESA expressly illegal.

RECOMMENDATION 3: Remove tiger and rhino-based TCM products from the shelves. New York City should be a top priority for this effort.

The successful effort of the Los Angeles Wildlife Task Force demonstrates that there is no need to wait for the passage of the Rhino and Tiger Conservation Act before taking action to control the illegal importation and domestic trade in tiger and rhino-based TCM products. WCS strongly believes that the DOI needs to make it a priority to remove these products from the shelves now, especially in New York City. Regardless of whether tiger and rhino-based TCM products do or do not contain these species, they maintain the demand for authentic tiger ingredients in TCM prescriptions and manufactured products.

Not only do these tiger and rhino-based TCM products violate endangered species protection laws at the international, federal and state level, these products are also potentially violating current federal food and drug laws and product labeling laws. The DOI needs to work with the FDA to explore these legal options for removing these products from the shelves, and the FDA needs to make this issue a priority. For example, when TCM products make claims with respect to curing, diagnosing, preventing, mitigating, or treating a disease or symptom, they are potentially violating the Federal Food, Drug, and Cosmetic Act if the product has not been approved to make such claims. The law defines such a product as a drug and as such is subject to stringent testing before the manufacturer can legally make such claims. It is possible that the indications and actions described on inserts and packages of many of the tiger-based TCM products meet these criteria with such claims of treating rheumatism, arthritis, and other ailments. However, potential violations of this law seem to be a low priority with the FDA. Additionally, the potential health risks associated with some of these products have received little attention from the FDA. Detection of toxic metals such as arsenic and mercury during testing for the presence of endangered species in rhino-based TCM products should be a cause for concern with the agency (Espinoza et al. 1994, 1995, 1996).

Another legal option under the FDA's jurisdiction is the fair Packaging and Labeling Act which prohibits the use of a label on a product that purports to contain an ingredient when the product does not. The FDA has been criticized for failing to apply this law to TCM products that

falsely claim to contain tiger or rhino. The agency has shown little interest in pursuing this legal avenue despite results from forensics testing that some of these products do not contain tiger or rhino even though they are labeled as such.

RECOMMENDATION 4: The DOI should support and collaborate with targeted public awareness efforts in major Asian communities to reduce demand for tiger and rhino-based TCM products.

Though the first three recommendations have focused on the need to control the illegal trade, the resolution of the illegal trade in tiger and rhino-based TCM products is to ultimately reduce demand. The effort to reduce demand requires using social marketing which is the application of commerical marketing techniques to social causes. Social marketing involves determining the specific target groups, developing the message and delivery technique for each group, and assessing if attitudes and behavior have changed as a result. The goal of a strategic public awareness campaign in the Asian communities in the United States would be to raise support for the removal of tiger and rhino-based TCM products from the shelves and to reduce demand for authentic tiger and rhino ingredients in TCM.

Based on our pilot project, it is clear that a strategic public awareness effort is needed in New York City's Chinese communities (Bolze et al. 1998). We found that the Chinese community, not unlike the broader American public, is generally ignorant of the threats facing the tiger in the wild and unaware that the purchase of tiger and rhino-based TCM products is directly threatening these species in the wild. Sixty-five eight to ten-year-old students, attending a Chinese community public school, knew little about the biology or the threats facing the tiger. Sixty-four percent thought that tigers were found in Africa, a similar finding to other surveys (Bolze et al. 1998). Encouragingly, the pilot outreach effort in the form of a 35 minute presentation using slides and video was effective in improving the students' knowledge and making the link between the threat to the tiger and the use of tiger parts in TCM. Students also demonstrated a strong interest in taking specific actions to address this problem such as informing others to avoid using tiger-based TCM products.

Based on informal interviews with many sectors of the Asian community, we found a strong interest from Chinese community groups and schools in participating in public awareness efforts. We also identified several TCM store owners and practitioners that did not support the use of endangered species in TCM and who were interested in conserving wildlife. Our overall perspective is that various sectors of the Chinese community are concerned about conserving wildlife and are willing to modify their behavior by avoiding the use of tiger and rhino-based TCM products.

The FWS has already demonstrated that it supports the need for public awareness efforts in its work in Los Angeles. The agency complemented the Wildlife Task Force law enforcement effort with radio spots aired in the Asian languages appropriate for Los Angeles and collaborated in the development of educational curriculum materials on TCM with TRAFFIC-North America,

the Los Angeles Zoo, WWF, and the Los Angeles Unified School District (Gaski 1998).

III. Conclusions

- The removal of tiger and rhino-based TCM products from the shelves must be a top priority for the DOI and New York City should be a focal area. DOI needs to collaborate with other federal and state agencies to explore and apply the range or legal options that would best achieve this goal.

- The DOI needs to increase its port inspection efforts, develop reliable forensic tests to verify the presence of endangered species ingredients in TCM products, and support public outreach efforts in the Asian communities. These needs will require additional financial resources which **should not** come from the RTCF. Such additional financial needs should be added to the DOI's budget and not taken from its other valuable programs.

- The House Resources Committee needs to make it a top priority to get the Rhino and Tiger Product Labeling Act passed as soon as possible. This bill offers a valuable tool to expedite law enforcement efforts to reduce the trade in illegal tiger and rhino-based TCM products.

The increasing growth in Western consumer interest in Eastern medicinal philosophy, including herbal TCM, is fueling demand beyond that generated by the Asian communities in Western countries. Numerous books and articles have been published in English by Asian and non-Asian authors on the herbal practice of TCM, although some are including less about the use of animal ingredients and offering substitutes (Bolze et al. 1998). Much of the Western interest in herbal TCM is based on assumptions that TCM herbal products for sale are both legal and safe even though these products are mostly unregulated by most Western nations' food and drug safety laws. With a clear lack of awareness among the Asian and Western public that the tiger or rhinos are threatened by poaching for use in TCM, the presence of TCM products on the shelves purporting to contain tiger and rhino ingredients falsely implies that the purchase of these products does not threaten the species. It is imperative to crack down on the illegal importation and sale of these tiger and rhino-based TCM products and publicize the fact that the purchase of these products poses a serious threat to tigers and rhinos in the wild.

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APPENDIX 1:

WILDLIFE CONSERVATION SOCIETY

THE WCS TIGER CAMPAIGN

THE WILDLIFE CONSERVATION SOCIETY (WCS) has been dedicated to protecting tigers in the wild since the 1960s when Dr. George Schaller, WCS Director for Science, completed the first scientific study of tigers in Kanha National Park, India. In 1995, a comprehensive effort was launched with a generous matching challenge grant from Gary Fink and MCG HealthCare Inc. The WCS Tiger Campaign has mobilized field research and conservation initiatives in countries where tigers remain including India, Myanmar, Lao People's Democratic Republic (PDR), Cambodia, Malaysia, Indonesia, Thailand, and, the Russian Far East. While much of our work focuses on conserving tigers in the wild in these countries, it is also being complemented with public awareness and educational campaigns, particularly in China, to reduce the demand for tiger bones and tiger-based products that has fueled widespread poaching and illegal hunting throughout much of the tiger's remaining range.

The WCS Tiger Campaign builds on rigorous scientific research to: determine the status of tigers and their prey; identify key tiger populations; assess the effects of various human activities, such as hunting and habitat degradation on tigers; and, implement conservation strategies in cooperation with national and local governments. We help build a permanent local capacity for conservation and management by training guards and senior staff in protected areas as well as local researchers in scientific methods and management techniques. The WCS Tiger Campaign encompasses public awareness initiatives and education programs among consumers of tiger products in both Asia and the United States to reduce the demand for tiger bones and tiger-based products. Finally, our commitment to saving the tiger includes our participation in captive breeding programs and educational programs administered at the Bronx Zoo.

In southern India's Nagarahole National Park, WCS Conservation Zoologist Dr. Ullas Karanth has conducted studies on tiger and prey ecology since 1986. This work is coupled with an education program in the local communities surrounding the National Park. Currently, he is conducting a survey of tigers and their prey in critical tiger habitats throughout the country to develop a long-term conservation strategy for India's tigers. His work has been funded primarily by the United States Fish and Wildlife Service and involves collaboration with the state and local governments of India and a number of non-governmental organizations. The model for tiger conservation developed in Nagarahole will be extended to three additional protected areas in the State of Karnataka. Major funding for this initiative comes from the "Save the Tiger Fund," administered by the National Fish and Wildlife Foundation and funded by the Exxon Corporation.

Indochina, with Asia's largest tracts of remaining forests, may be the best hope for the future of tigers, yet little is known about where they remain and how many persist. WCS supports, conducts, and directs field surveys in a number of countries to assess and monitor the status and distribution of the Indochinese tiger. WCS also facilitates workshops and training programs for local researchers. In Myanmar and Lao PDR, we are providing critical support to national agencies responsible for the management and conservation of wildlife. In Cambodia, we have initiated a collaborative project with the government to develop a tiger action plan. In Vietnam, WCS has funded tiger surveys conducted by national and international scientists. In Malaysia, WCS has just begun a comprehensive training program to assist the national government in surveying their protected areas to assess the status of tigers, and to implement monitoring programs. In southern Sumatra, one of the few places where the tiger can survive in Indonesia, WCS scientists have initiated a long-term tiger conservation project incorporating the techniques and approaches developed in

India and Thailand. In Thailand, Dr. Alan Rabinowitz, WCS Director of Science for Asia, in collaboration with Wildlife Fund Thailand, a national nongovernmental organization, has carried out field research in Thailand's extensive network of protected areas since 1987. He has conducted a country-wide assessment of tiger and prey abundance and has developed and conducted local field training workshops. In 1996, WCS Indochina Tiger Coordinator, Dr. Tony Lynam, began a comprehensive scientific survey of the tiger in Thailand and continues to train staff members of the Thai Royal Department of Forestry.

In the Russian Far East, WCS formed a partnership with the Hornocker Wildlife Research Institute. Since 1991, the Institute's Russian and American biologists, led by WCS Conservation Scientist, Dr. Dale Miquelle, have conducted field research on the Siberian tiger, trained local researchers in census methodology, initiated anti-poaching efforts, and improved the existing protected area system to conserve this subspecies.

The border areas of many Asian countries contain a significant portion of the region's remaining biodiversity that is shared amongst countries. WCS has led the way in conservation by co-sponsoring three Transboundary Biodiversity Conferences. The first conference, held in China, brought together officials from China, India, Lao PDR, Myanmar, Nepal, Thailand, and Vietnam to discuss trans-national environmental cooperation, including joint surveys of wildlife such as tigers and monitoring of trade across borders. Cambodia, China, Lao PDR, Malaysia, and Thailand attended the second conference held in Thailand. In 1998, the third conference will focus on the issue of trans-national parks and reducing the illegal trade in wildlife products across borders.

Tigers play an important role in Traditional Chinese Medicine (TCM). Their bones are used in prescriptions and in mass-produced, over-the-counter, TCM products to treat a variety of ailments including rheumatism and arthritis. Consumers of these products are unaware that their demand for these products fuels poaching and illegal hunting of tigers in the wild. With funds from the Cline Foundation Fund, WCS launched the Asian Conservation Communication Program, directed by Dr. Endi Zhang. This is the first effort ever to raise public awareness and reduce demand for tiger products in mainland China. With support from the "Save the Tiger Fund", this project is assessing the most effective techniques for reaching consumers through its work with the TCM community, middle school children, the Shanghai zoo, and Shanghai Ogilvy & Mather among others. Shanghai Ogilvy & Mather is collaborating with WCS to develop and implement a public service advertising campaign for the Chinese Year of the Tiger in 1998. This is the first time advertising has been used in mainland China on a conservation issue. This continues our successful partnership with Ogilvy & Mather-Worldwide who implemented an extensive *pro bono* and internationally award-winning advertising campaign on the tiger that targeted the Asian region in 1995.

In 1996, WCS conducted a pilot study in New York City's Chinese communities and found that a wide variety of tiger-based TCM products were readily available and openly for sale. WCS is working to improve law enforcement, educate consumers, and pass national legislation that would make the sale of these products expressly illegal as well as increase funds for tiger conservation. WCS has offered expert testimony in support of legislation efforts and assisted in drafting the Rhino and Tiger Conservation Act of 1994 that established a $10 million dollar fund for conservation efforts for tigers and rhinos. WCS continues to advise the United States and Indochinese governments on trade activities in tiger parts and products.

At its world-renowned Bronx Zoo, WCS ensures the perpetuity of tigers through our participation in the American Zoo and Aquarium Association's (AZA) Species Survival Plan (SSP), a cooperative captive breeding program among North American zoos. The tiger was the subject of the first SSP. The Bronx Zoo's Education Program educates zoo visitors and school children across the United States and in China on wildlife conservation issues, including the status and conservation of tiger.

The Availability of Tiger-Based Traditional Chinese Medicine Products and Public Awareness about the Threats to the Tiger in New York City's Chinese Communities

A Pilot Study

BY DORENE BOLZE,
CHERYL CHETKIEWICZ, QIU MINGJIANG,
AND DOUGLAS KRAKOWER

WORKING PAPER NO. 12

WILDLIFE CONSERVATION SOCIETY
FOUNDED IN 1895 AS THE NEW YORK ZOOLOGICAL SOCIETY

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Tiger and Tiger Products/Wildlife Conservation Society

Dorene Bolze, M. E. S., is the Senior Policy Analyst and Director of the Conservation Policy Program for WCS. The Policy Program integrates the Wildlife Conservation Society's international field and facility based expertise into efforts that range from designing legislation and treaties to expressing the Society's findings to a range of audiences from governmental officials to the public. The Program and much of her work has focused on the host of issues related to the use of wildlife, international commercial fisheries, sustainable logging practices, and the design of parks and management practices to conserve wildlife.

Cheryl Chetkiewicz, M. Sc., is the Policy Analyst with the Conservation Policy Program. Her previous research has included predator and prey systems in Alaska, California and the Northwest Territories, Canada.

Qiu Mingjiang, M. Sc., was the Principal Investigator for this six-month study under contract to the Conservation Policy Program. He has conducted wildlife surveys and research in mainland China and southeastern Tibet.

Douglas Krakower was the Conservation Policy Program summer intern in 1997.

WCS Working Paper Series

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By

Dorene Bolze[2], Cheryl Chetkiewicz, Qiu Mingjiang, and Douglas Krakower

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Dorene Bolze is very appreciative of the tireless efforts of Cheryl Chetkiewicz to flesh out and finalize this report, of the questionnaire analysis by Douglas Krakower, and for valuable input from Dr. Endi Zhang, Director of the WCS Asian Conservation Communication Program.

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EXECUTIVE SUMMARY

Traditional Chinese Medicine (TCM) is a holistic approach to curing illness and maintaining health. It focuses on rest, exercise, and the consumption of plant, animal and mineral substances, or *materia medica*, as foods and medicines. Herbalism as an approach in TCM is a centuries old tradition based on the use of these ingredients, some of which include endangered species like the tiger. Tiger bone, the most valued of the many parts of the tiger that are used, is prescribed by TCM practitioners and is also listed as an ingredient in a variety of manufactured or "patented" TCM products. With the relatively large Asian communities in the West and the growing interest among Westerners in TCM herbalism, tiger-based TCM products have become widely distributed outside Asia, including in Europe, Canada, and the United States, despite the fact that international trade in any tiger product is prohibited under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). During the 1980s, it became apparent that the demand for these products was fueling widespread poaching of tigers for their bones and continues to pose a serious threat to tigers in the wild today.

One purpose of this study was to assess the nature of the market and demand for tiger-based TCM products in New York City, the largest Asian community on the East Coast of the United States. This study, conducted from June through December, 1996, found that tiger-based TCM products were widely available. Sixteen different products in the form of pills, plasters, capsules and wine were easily purchased. These products claimed to treat rheumatism and a variety of ailments of the bones, muscles, and joints.

Repeated visits to 37 Oriental herbal shops and supermarkets in New York City's Chinese communities found that 67% of them carried at least one tiger-based TCM product. Products ranged from $2 to $8 in price, with one product selling for $50. Raw tiger bone or any other bone that was labeled as tiger was not observed for sale nor did any of the TCM practitioners approached offer to fill a prescription that called for tiger bone as an ingredient.

All of the tiger-based TCM products purchased during this study that had manufacture dates on them, post-dated CITES and are consequently illegal. However, a complicating factor is that many of these tiger-based TCM products do not actually contain real tiger bone or bone at all. Forensic tests have failed to positively identify tiger derivatives in a number of products. This may be because the preparation of some tiger-based TCM products destroys the elements necessary for positive identification using forensic analysis. While United States law enables the authorities to confiscate TCM products labeled as containing tiger on importation, the laws do not expressly prohibit products claiming to contain tiger or other endangered species. In New York, this has hamstrung law enforcement efforts to confiscate these products at the point of sale. Current legislation requires that the law enforcement agencies prove that the seized products actually contain tiger ingredients. Some of the tiger-based TCM products also potentially violate consumer product labeling laws by making false claims to contain tiger ingredients as well as potentially violating federal food and drug safety laws by making unsubstantiated claims to cure and treat diseases or symptoms. Further research has shown that some of them may pose serious health risks to users. Regardless of whether tiger-based TCM products do or do not contain any tiger ingredients, these products maintain the demand for

authentic tiger ingredients for TCM prescriptions and products. The various federal and state agencies with authority over endangered species protection laws, food and drug laws, and product labeling laws have not made it a priority to determine how to remove tiger based TCM products from the shelves in New York using existing laws.

The public outreach component of this study found that New York City's Chinese community, not unlike the broader American public, is generally ignorant of the threats facing the tiger in the wild. Sixty-five eight to ten year old students, in a Chinese community public school, knew little about the biology or the threats facing the tiger. Sixty-four percent thought that tigers were found in Africa, a similar finding to other surveys. This pilot outreach effort, in the form of a 35 minute presentation using slides and videos, was effective in improving the students' knowledge and making the link between the threat to the tiger and the use of tiger parts in TCM. Students also demonstrated a strong interest in taking specific actions to address this problem such as informing others to avoid using tiger-based TCM products. Based on informal interviews with many sectors of the Asian community, we found a strong interest from Chinese community groups and schools in participating in public awareness efforts. We also identified several TCM store owners and practitioners that did not support the use of endangered species in TCM and who were interested in conserving wildlife. Different segments of the TCM community along with the Chinese community at large were identified as potential target groups for a strategic public awareness campaign to raise support for eliminating the sale of tiger-based TCM products and to reduce the demand for the use of tiger in TCM.

The following recommendations are made based on this study:

1. **Remove tiger-based TCM products and other products claiming to contain endangered and threatened species from store shelves.**

2. **Initiate law enforcement efforts, using current laws, at the federal and state level to remove products containing or claiming to contain endangered species. This would require increasing financial resources for law enforcement efforts and supporting coordinated efforts between the agencies responsible for protecting endangered species and human health.**

3. **Pass federal legislation that prohibits the sale of products claiming to contain tiger and all other CITES Appendix I listed species, as well as those species listed as endangered under the Endangered Species Act (ESA).**

4. **Design and implement a targeted public awareness effort in New York and other Asian communities in the United States to reduce the demand for tiger and other endangered species in TCM and TCM products.**

INTRODUCTION

Traditional Chinese Medicine (TCM) is a holistic approach to curing illness that focuses on rest, exercise, and the consumption of plant, animal and mineral substances, or *materia medica*, as foods and medicines. TCM includes a variety of approaches to curing illness, including acupuncture and herbalism. The focus of this report is on herbalism in TCM. It is a centuries old tradition that has evolved through empirical observations on the therapeutic and clinical effects of *materia medica* as well as from folklore traditions (Bensky et al. 1993). It is thought that the classical *materia medica* was first written in the late Fifth Century A.D.; however, there is no consensus on what constitutes the "official" body of herbal TCM. Over the past 50 years, the herbal practice of TCM has expanded dramatically with official encouragement and subsidies from the Chinese government (Bensky et al. 1993). In addition, throughout the West, there has been a huge surge in the use of herbal TCM, used as a complement to Western medical treatment and drugs (Carter 1996).

The majority of TCM herbal ingredients is derived from plants; however, domestic and wild animals are also used (Read 1982, Reid 1993, Bensky et al. 1993, Gaski and Johnson 1994). The tiger is one of a number of endangered, threatened, or rare animal and plant species whose parts are ingredients in TCM. Tiger bone, fat, stomach, kidney, eyes, whiskers, gall bladder, nose, teeth, claws, feces, and even animals bones in the feces are all considered ingredients either among the folk herbal traditions or in the texts used by trained TCM herbal practitioners. The bones are the most valued body part of the tiger in the TCM herbal texts. In general, it is used in formulas for rheumatism and ailments of the bones, joints, and muscles (Read 1982, Ou 1989, Zhang 1991, Nowell 1993). Tiger ingredients are mixed with other raw materials according to traditional formulas that can be customized for the patient. These prescriptions can be individually prepared by the practitioner or prepared at clinics and pharmacies.

In addition, there has been a surge in over-the-counter or "patented" TCM products that are mass-produced and distributed to Asian communities throughout the world. Tiger-based TCM "patented" products are in the form of pills, tablets, boli, tonics, wines, plasters, and capsules (Gaski and Johnson 1994, Mills and Jackson 1994). Many of these products are based on the folk traditions of using animal parts to strengthen the function of the equivalent human organ or body part. The use of tiger and other animal penises as an aphrodisiac is based on this concept as well, but the use of this body part as an aphrodisiac is not prescribed in the herbal TCM literature.

In the 1980s, it became apparent that besides habitat loss, the demand for tiger parts to supply the TCM market was posing a serious and immediate threat to the tiger. Populations of tigers (*Panthera tigris*) have declined dramatically throughout the species' range as the result of poaching and illegal trade in tiger parts, particularly for the bones (Read 1982, Mills and Jackson 1994, Norchi and Bolze 1995). Under the Convention on International Trade in Endangered Species of Fauna and Flora (CITES), the international commercial trade in tiger products has been prohibited for four of the five subspecies since 1975, and for all subspecies of tigers since 1987. Recent efforts to design comprehensive strategies to protect the tiger across its remaining range have highlighted the need to focus on controlling the illegal trade and to reduce demand for tiger-based products, especially for tiger-based TCM products (Norchi and Bolze 1995, Hemley and Bolze 1997).

A complicating factor in the market for tiger in TCM is determining the authenticity of the ingredients in "patented" medicines and of the raw bones used in prescriptions. The bones of other large cats, bears, cattle, pigs, and dogs are commonly sold as raw tiger bone or used in manufacturing medicines. There are numerous "patented" medicines on the market that purportedly contain tiger derivatives, but forensics testing could not detect them (Espinoza et al. 1994, E. Espinoza, personal communication). It is also possible that the preparation of certain products destroys any trace of the derivatives. Ultimately, regardless of whether these products do or do not contain tigers, their presence in the market maintains the demand for authentic tiger ingredients in prescriptions and TCM products.

With the increasing interest in TCM in the West, it is important to determine the extent and nature of the market for tiger-based TCM products to guide efforts in reducing the demand and controlling illegal trade in these products. The demand for tiger-based TCM medicines and raw bones is predominantly in East Asia, primarily in China, Japan, Hong Kong, and South Korea (Mulliken and Haywood 1994, Mills and Jackson 1994). However, market surveys of Asian medicine shops in Asian communities in Australia, the United Kingdom (UK), Belgium, Canada and the United States, found a variety tiger products for sale (Mills and Jackson 1994, Callister and Bythewood 1995, Chalifour 1996). Based on the annual country reports to CITES that document seizures, refusals, and confiscations of prohibited materials, the United States is considered a major importer of tiger-based products (Mulliken and Haywood 1994, Mills and Jackson 1994). Even recognizing the limitation of these data, such as the overall inadequate or total lack of reporting by other major consumer nations which would tend to over-emphasize the role of the United States as a leading market, tiger products are still being seized or confiscated on importation and are readily available for sale in TCM shops and pharmacies in the Asian communities on the East and West coasts.

The Chinese communities in New York City are the largest on the East coast of the United States, though the Chinese communities on the West coast are larger. Two characteristics offered justification for this pilot study to assess the nature of the market in New York City's Chinese communities for tiger-based TCM products and the community's awareness of the threats to the tiger from the demand for these products. First, these communities interact in many ways with China. Second, a limited survey of Asian pharmacies and herb stores along Canal Street in Manhattan in 1993 found that a number of tiger-based TCM products were readily available (Gaski and Johnson 1994). The overall intent of this pilot study was to determine what level of effort, if any, is needed to eliminate the availability of tiger-based TCM products and increase consumer awareness to reduce the illegal trade and demand for these products.

This project consisted of two components: 1) a market study; and, 2) a public awareness effort. The market study focused on the availability and use of products labeled as containing tiger or their parts in stores in the major business districts in the Chinese communities in New York City. The market study attempted to describe the market for tiger-based TCM by examining product forms, the nature of the retailers, doctors, pharmacists, practitioners, and wholesale businesses as well as their customers. Another objective of the market study was to ascertain the types of consumers and retailers involved with herbal TCM, their views and knowledge of the conservation issue with respect to tiger-based TCM and the conservation of the tiger in general. The second component of this project focused on assessing the attitudes and knowledge of students about the threats facing the tiger and the use of tiger-based TCM products. The primary objective of this component was to help target future public awareness campaigns by identifying areas of misconception, ignorance and their willingness to reduce demand.

STUDY AREA

New York City has a large, well-established, and relatively wealthy Asian community. The Asian communities in New York City are located in lower Manhattan and in two satellite communities: Main Street and Roosevelt Avenue in Flushing, Queens, and in the vicinity of Sunset Park in Brooklyn. Approximately 230,000 Asian Chinese live in these three areas of New York City (United States Census Bureau statistics from 1990). The Asian community in Manhattan is concentrated around the core area defined by Mott, Pell, Mulberry, and Bayard Streets and along portions of Canal Street, Broadway and adjacent streets. The concentration of Chinese in this area of Manhattan is a result of the historical settlement of Chinese immigrants from the 1840s to early 1900s (Kwong 1996).

The establishment of the newer satellite communities in Queens and Brooklyn have been in response to the high rents and limited space in Chinatown, the overall decentralization of Chinatown, and the immigration patterns from other Asian countries such as Korea and Taiwan (Kwong 1996). Cantonese is the main dialect used, although Mandarin, the official Chinese dialect, is now more accepted because of the business links between Asian communities in the United States with mainland China. Taiwanese and Korean are also important languages in the satellite communities as a result of recent Asian immigration patterns.

METHODS

1. MARKET STUDY

Stores in the major Asian communities in New York City were selected based on a review of the telephone directory for "herbal" shops and trading companies and through advertisements in the *World Journal*, the largest Chinese language daily in the United States. The Chinese Business Directory was also consulted to obtain pharmacy names and telephone numbers. The nature of training in TCM that is offered in the New York area was determined by contacting State approved Acupuncture and TCM schools (Appendix I).

The Principal Investigator, Qiu Mingjiang, was fluent in Mandarin Chinese and English. Although he had no previous experience with this type of assessment, attempts were made to maintain anonymity and the investigator presented himself as a potential customer when approached by the storekeeper, using methods similar to those of other organizations such as TRAFFIC and World Wildlife Fund (WWF) (see Callister and Bythewood 1995, for example). In all situations, the Principal Investigator remained flexible, using his judgement to inquire about the products without creating suspicion.

In the stores, the name of each product and the manufacturer's name were recorded. The Principal Investigator also attempted to acquire the following: 1) samples of all medicines that claimed to contain tiger parts; 2) business cards, to ensure accuracy and authenticity of the business; and, 3) the availability and cost of tiger products that were not on display, such as tiger bones and tiger bone wine. The Principal Investigator also asked the store owners if they were aware of the legalities regarding the sale of tiger-based TCM products. Many of these interactions involved informal discussions about the products, their availability, and the status of the tiger. He did not attempt to ascertain the volumes of products available (e.g., establish or conduct an inventory) or the transit routes for these products into the United States and ultimately to the store.

At three major herbal TCM shops on Canal Street and Bowery Street in Manhattan, systematic questions were asked of the customers, such as their age and what they thought the efficacy was of the TCM product that they were purchasing. The ethnicity of the customer was noted after the conversation.

In addition, the Principal Investigator made telephone calls to advertised TCM practitioners to fill a prescription for arthritis that required tiger bone. This method was used to find out whether any practitioners or pharmacists would prepare medicinals on-site or offer "home-made" preparations containing tiger bone or if they had any raw bones that were labeled as tiger bone. This effort was to determine the availability of on-site preparations of prescriptions as opposed to the "patented" products.

2. PUBLIC OUTREACH

A pilot presentation on the threats to the tiger and the role of the market for tiger-based TCM products was developed and given to school and community groups as a possible component in a strategically designed public awareness effort. A one-page announcement describing the conservation issue regarding the tiger and the role of tiger-based TCM was sent to the Chinese community public schools and some private schools. Based on the response received from these schools, a focal area for this pilot study was selected.

A ten-question, multiple-choice questionnaire, in English, was designed to both assess the knowledge and attitudes of the audience and the effectiveness of the presentation as a tool in educating and encouraging changes in attitude and behavior. The student completed the questionnaire prior to watching a presentation given by the Principal Investigator. They were then asked to complete the same questionnaire again immediately following the presentation.

A 35 minute educational presentation, based on the major themes of the WCS Policy Report, *Saving the Tiger: A Conservation Strategy* (Norchi and Bolze 1995), was developed. It consisted of both slides and video. The video component included: 1) a ten-minute presentation produced by WCS, "Tigers in Crisis: The Global Tiger Campaign"; 2) a seven-minute news story by DayOne of ABC News, that aired on June 8, 1995, about the illegal tiger bone trade; and, 3) a 20-second television advertisement from the WCS "Save the Tiger" public service advertising campaign that was produced by Ogilvy & Mather-worldwide on a *pro bono* basis and aired throughout Asia in mid-1995. All the presentations were made in English at the request of the schools.

RESULTS

1. MARKET STUDY

From July to December 1996, 37 shops were visited one to two times per week. Retail outlets included Asian medicine shops and grocery stores or supermarkets. Sixty-seven percent of the stores surveyed contained at least one product. The majority of the stores (64%) carrying tiger-based TCM products stocked only one or two different products. But, four stores carried more than five different tiger-based products (Figure 1).

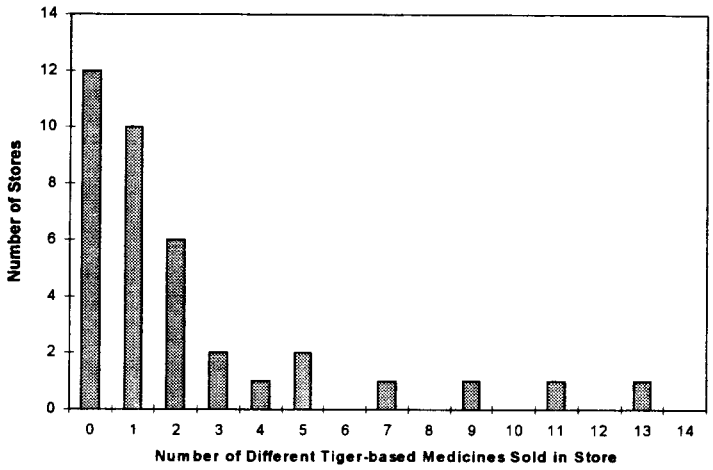

Figure 1. Number of tiger-based products in stores visited and surveyed in Chinatown, New York City, July-December 1996.

Seventeen products containing, or claiming to contain, tiger parts were readily available for sale in the shops surveyed (Table 1). In these different products, tiger was classified as an ingredient under the names "Felis tigris Linn.", "Felis tigris slyani pocock", "Os tigris", Panthera tigris", "Tiger-bone paste", "Tiger Bone", "Hu-Ku", and "Tiger's sinews and bones". Products that were available consisted primarily of pills, but plasters and capsules were also available. Tiger bone wine was not on display. In one case, the wine was produced from behind the counter after the Principal Investigator had asked if it was available. Sixteen of these products were purchased by the Principal Investigator. Prices for these products ranged from $2.00 to $8.00. Tiger bone wine was available for $50.00.

Table 1. Tiger-based TCM products readily available in shops surveyed in Manhattan, New York City, July-December 1996.

Product Name Advertised (translation)	Manufacturer[a], *Country*	Ingredient Advertised	Format	Lot date
Du chong hogu wan	Huabei, *Hong Kong*	Tiger Bone	Pills	**
Fu Quat Musk Tou Ku Wan	Kwang Chow, *China*	Tiger Bone	Pills	**
Hu Ku Wan (Tiger Bone Pills)	Fu Sung/Fusung, *China*	Tiger-Bone	Pills	1987
Hugoo Pain-Relieving Pills	Congqing Tong Jun Ge, *China*	Panthera tigris	Capsules	**
Hugushexiang	Fifth Chengdu, *China*	Tiger-bone	Plaster	1990
Jian Bu Hu Qian Wan (Tiger bone Tonic Pills)	Lanzhou Fo Ci, *China*	Felis tigris Sinew and bones	Pills	1991
Musk-Tigerbone Pills	Chong Qing, *China*	Tiger Bone	Pills	**
Natural Rheumatic[b]	Fifth Chengdu, *China*	Tiger bone	Plaster	1993
Pilule Cortex Eucommiae et Os Tigridis	Guiyang Chinese, *China*	Os tigris	Pills	1993
Qiang Li Ho-Gu Zhai Zhaowan (Super Tiger Bone Pill)[c]	Venus, *China*		Pills	**
Shen Jung Hu Ku Wan (Ginseng Antler Tiger- Bone Pills)	Fu Sung/Fusung, *China*	Tiger-bone	Pills	1987
Tian Ma Hu Ku Pien	Si Chuan/Sichuan, *China*	Hu-Ku	Pills	**
Tian-ma Hu-gu-wan	Seventh Chengdu Dong Feng, *China*	Panthera tigris	Pills	1986
Tianma Duzhong (Tiger-Bone Pills)	China National Native Produce and Animal By-Products, *China*	Tiger Bone	Pills	**
Tienchi/Tian Qi Hugu Wan	Seventh Chengdu Dong Feng, *China*	Tiger-bone Os tigris	Pills	1992
Tiger Bone Wine[d]	Beijing Tung Jen Tang, *China*	Tiger bone	Wine	**
To Chung Fu Quat	Kwong Cheong, *China*	Felis trigris Linn.	Pills	**

[a] Standardized with Gaski and Johnson 1994 where possible.
[b] Chinese translation and insert calls this product "Natural Musk Deer and Tiger Bone Plaster".
[c] English name on box reads "Fu Kwuk Zai Zao Wan".
[d] Product not purchased.
** Information missing.

All of the products observed in this survey were manufactured in the People's Republic of China, by approximately 12 different manufacturers and one product was manufactured in Hong Kong. Nine products that had lot numbers indicated that they were manufactured in the late 1980s and early 1990s (Table 1). These products were produced after the CITES prohibition on the international trade in tiger products and, therefore, were illegal to export from those countries that were signatories to the treaty prior to these dates. The majority of the products that listed tigers as an ingredient were labeled in both Chinese and English. One product was advertised as a Natural Rheumatic Plaster in English on the outside, but the Chinese name on the outside packaging and the insert described the product as Natural Musk and Tiger Bone Plaster.

Many of the shops visited had a "Chinese doctor" sign in the window, which typically means that a practitioner's office is located in the back of the store. These TCM practitioners will both prescribe a treatment that they typically make themselves or recommend a "patented" product. The practitioner's offices tend to have a variety of raw ingredients. TCM herbal practitioners also work independently of shops. The Principal Investigator made 25 telephone calls to advertised TCM practitioners to fill a prescription for arthritis that required tiger bone. In all cases, he was told that the tiger was getting rare and raw bones were not available. In one instance, the investigator was told that arthritis did not require tiger bone and substitutes could be found. The Principal Investigator did not see any raw bone claiming to be, or labeled as, tiger in any TCM practitioner's office that he visited, although he was shown what were claimed to be home-made concoctions containing tiger bone. A series of these herbal balls were being offered at $50.00 by a TCM practitioner.

Another typical situation is that the TCM herbal store owner may be a "pharmacist" who will both recommend "patented" medicinals and fill prescriptions. These shops varied in the amount of raw materials that were available or on display. The Principal Investigator did not see any raw bone claiming to be, or labeled as, tiger in any of the stores visited.

Most of the pharmacists and shop owners interviewed were aware of the illegality of the products that they were selling. Some of them avoided the questions while others seemed relatively informed about the tiger's status, openly discussed the issue, provided suggestions on how to address proper labeling of TCM products, and discussed the use of substitutes for tiger bone. These people were supportive of efforts to eliminate the use of tiger parts in TCM because of the need to conserve the species.

Some TCM herbal practitioners and store owners were wary during informal questioning about their business and the use of tiger as an ingredient in herbal TCM prescriptions and products. This cautiousness is likely due to a different issue currently facing TCM practitioners in New York. Currently, the state of New York licenses acupuncturists based on training, examinations, and education. These practitioners may also be practicing herbalism. Although herbalists do not require a license, bonafide training and education is available in China and a herbalist should have a diploma attesting to having completed a four-year degree in TCM herbalism. An undercover investigation by the *Daily News* revealed that people claiming to be "Chinese doctors" were practicing acupuncture without a license and a range of Western treatments from abortion to minor surgery without any Western medical training (Gordy 1996, Pierre-Pierre 1996, World Journal, August 9, 1996). It is highly likely that there are many herbalists claiming to be qualified when they are not. It is likely that

the licensing issue and the subsequent law enforcement which occurred during the time of this pilot study were responsible for some of their apprehension in talking to the Principal Investigator.

Customers at TCM herbal shops were Asian and Non-Asian in ethnic origin. Forty customers were questioned in three major TCM stores on Canal and Bowery Streets in Manhattan. Sixty-three percent were Asians. The majority of Asian customers (64%) were 26-50 years old. This appears to be the main consumer group (Figure 2).

Among non-Asian customers, the largest age group was less than 25 years old, though 40% were 26-50 years old (Figure 3). When observed and asked, customers from the younger age group were visiting the stores out of curiosity. In general, the products that Non-Asians tended to buy were the "patented" medicinal pills, herbal balls, and capsules. These products are similar to Western medicines and easy to take. According to experienced practitioners, Western consumers avoid other forms of TCM products that require boiling the concoction and drinking, what is usually, a bitter tasting tea. This method of administering the herbal TCM product is more familiar to Asian consumers.

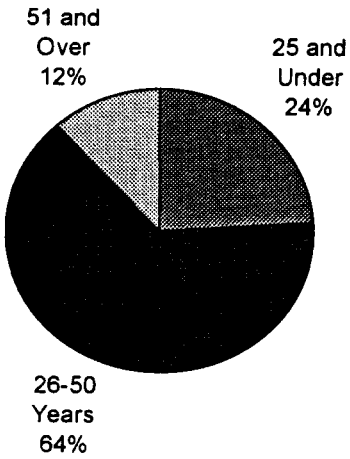

Figure 2. Age of Asian customers surveyed in three stores in Manhattan, New York City, July-December 1996. Total number of customers = 25.

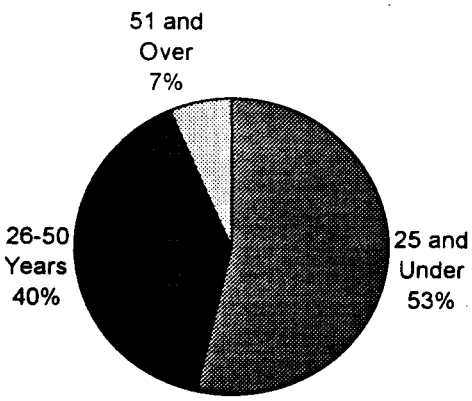

Figure 3. Age of Non-Asian customers surveyed in three stores in Manhattan, New York City, July-December 1996. Total number of customers = 15.

2. PUBLIC OUTREACH

There was a strong initial positive response from several Chinese communities, cultural centers, and public schools in the Chinese communities requesting a presentation for a class or at an assembly. The Principal Investigator delivered the presentation to eight different groups, but was unable to make presentations at all the schools that requested them because of the limited time frame for the pilot study. The response from the schools and subsequent discussions with school principals and staff at the cultural centers indicated a strong interest in the conservation issues facing the tiger and a willingness to inform the Chinese community at large about the need to avoid using tiger-based TCM products.

The questionnaire was used for three different presentations at Public School (P.S.) 314, located in a Brooklyn neighborhood with a large Chinese-American population. Sixty-five students at P.S. 314, aged eight to ten years of age, completed the questionnaire initially. The class included students of Asian (32%), non-Asian (57%), and "unknown" (11%) ethnicity. There ethnicity was based on their names. Any stated changes in the students' knowledge and attitudes were considered to be the result of the combined educational potential of the presentation and the questionnaire since the study design did not include an assessment of the influence of the questionnaire itself.

The students initially exhibited a poor grasp of basic information about the tiger, but showed marked improvement after the presentation. Before the presentation, 64% of the students believed that tigers live in Africa, but after the presentation, 84% wrote that tigers live in "India" or "India and most other Asian Countries". Sixty-one percent of these students (27 of 44) had corrected their initial error. Still 14% responded that tigers lived in Africa ***after*** the presentation.

In a multiple choice question that offered four correct statements regarding the different threats to the tiger and "All of the Above", students chose equally amongst the five answers. After the presentation, 34% of the students (n = 44) chose the "use of tigers in TCM", making it the top answer choice. This was almost double the pre-presentation percentage.

Responses to several questions indicated that while most students did not use tiger products, a few of them or their family did. Prior to the presentation, 76% of the students (n = 44) answered that they would not use a tiger-based TCM product if it was possible that the product did not contain tiger or if the product's effectiveness was questionable. This increased to 81% after the presentation. A total of four students, two of whom were Asian, stated that they or their families used tiger-based medicines or products. Two students changed their answer from "yes" to "no" and vice versa. The names of the products used were not provided although the questionnaire requested it.

Finally, a multiple choice question offered four ways in which students could actively participate in conserving the tiger and an "All of the Above" choice. Prior to the presentation, students selected all five choices in relatively equal proportions with the top choice (26%) being that of donating to a conservation organization. After the presentation, the percentage of students selecting the two actions to inform others not to use tiger parts and "All of the Above" increased from 56% to 72%. The ethnic breakdown of this subset was very similar to that of the whole and indicated that there was no obvious reluctance on the part of Asian students to actively inform others not to use tiger-based

products. One student who used tiger medicine answered that she would tell friends and family not to buy tiger products. The choice to donate to a conservation organization dropped to 12%, last place.

In general, the presentation and subsequent discussions with the students indicated that this was a useful tool for increasing public awareness and a first step in encouraging students to take specific actions that could reduce the demand for tiger-based products.

DISCUSSION

1. MARKET STUDY

This six-month study is probably the most thorough survey on the availability of "patented" tiger-based TCM products in New York City's Chinese communities. The finding that tiger-based TCM products were widely available corroborates and substantiates findings of two other more limited surveys in New York City. These other surveys, one conducted in 1993 by TRAFFIC (Gaski and Johnson 1994) and another in 1997 conducted by the Environmental Investigation Agency (EIA) (EIA 1997), were restricted to one small area and were conducted over the period of a weekend.

Our study found a number of different types of tiger-based TCM products for sale than has been recorded in previous surveys. For example, the TRAFFIC USA database of "patented" medicines found in United States markets lists seven of the sixteen products seen in our market survey (Gaski and Johnson 1994). The survey by EIA did not list product names in their report that we could compare our findings with, but they did find two stores displaying bone claiming to be tiger. This is in contrast to our study since the Principal Investigator did not observe raw bone labeled as tiger nor was he able to fill a prescription with tiger bone as an ingredient. Whether real raw tiger bone is available or not, the widespread presence of TCM products labeled as containing tiger maintains the demand for authentic tiger ingredients in TCM prescriptions and products.

This study found that some products have dates of manufacture on them from the late 1980s and early 1990s. It is unclear whether these products are old stocks that have recently moved into the country illegally or whether they escaped detection at United States ports of entry years ago. Some of these products are now at least ten years old. It would appear that manufacturer dates are a useful, albeit inconsistent method for assessing whether the presence of these products violates various international and national laws.

The international commercial trade in tiger, tiger parts and their derivative products is strictly prohibited by CITES. This prohibition includes any products that state they contain tiger, whether the claim is true or not.* In the United States, there are a number of federal laws that implement CITES and affect the trade in TCM products that contain or claim to contain tiger and other endangered species. Gaski and Johnson (1994) provide an excellent overview of these laws that are briefly summarized here. These include: 1) the Endangered Species Act (ESA), which is the implementing legislation for CITES in the United States and therefore prohibits the import, export, and interstate commerce in live animals, raw parts, or products of species that are listed as threatened or endangered; 2) the Lacey Act, which prohibits the import, export, transport, sale, or purchase of

fish and wildlife taken or possessed in violation of state, federal, Indian, tribal, or foreign laws; and, 3) the *prima facie* principles of United States criminal law that enables officials to seize a product that claims to contain a prohibited substance without physical proof that the claim is true. These federal laws are enforced by the United States Fish and Wildlife Service (USFWS).

In New York state, the Environmental Conservation Law (ECL), which is modeled after the federal ESA, prohibits the taking, importation, transportation, possession or sale of any endangered or threatened species or their parts. In addition, the sale of certain wild animals or wild animal parts, whether raw or manufactured, including tigers, is prohibited within the state of New York. The Department of Environmental Conservation (DEC) is responsible for the administration and enforcement of the ECL and has the authority to confiscate and seize products at the point of sale.

An important aspect of the ESA and New York state ECL is that neither law expressly prohibits products that claim to contain tiger as an ingredient regardless of the label's veracity. Only products that actually contain tiger are in violation of these laws and the law enforcement authorities must prove that the products are actually derived from tigers. However, forensic testing for the presence of bone in various tiger-based TCM products seized on importation into the United States, found no presence of hydroxyapatite, a mineral signature for bone (Espinoza et al. 1994, Espinoza, personal communication). One such product that claims to contain tiger when it does not is the Natural Musk and Tiger Bone Plaster (Espinoza et al. 1994). This product was widely available during our survey. Eight of the products we observed appeared in the Asian Medicinal Endangered Species Database that is administered by the USFWS National Forensics Lab in Ashland, Oregon (***http://toltecs.lab.r1.fws.gov/lab/am/cover.htm***). Although these products have likely been tested, the results were not available for this report (E. Espinoza, personal communication). A further complication is that some processing methods used to produce tiger-based TCM products destroy the traces of minerals and proteins needed for forensic analysis. Therefore, without extensive testing and investigative research, it is difficult to "prove" that a TCM product actually contains tiger.

The significant cost in terms of money and time to verify the claims on tiger-based TCM products has been a major factor in the lack of action in New York from both the DEC and USFWS with respect to the sale of TCM products that claim to contain tiger (Nowell 1993, Mills and Jackson 1994, Espinoza et al. 1994, Jackson 1995, Mills 1997). USFWS confiscates products that claim to contain tiger at CITES designated ports. With limited staff to monitor shipments, many tiger-based TCM products escape detection and wind up for sale in a variety of shops and outlets in New York Though neither the federal ESA nor the Lacey Act apply to the sale within the state, the New York State ECL specifically prohibits the sale of TCM products that contain tiger. However, DEC has been hesitant to conduct seizures at the point of sale expressly because they will have to prove the seized products actually contain tiger and are in violation of state law. Though there is adequate coordination between the state and federal agencies, the problem of the widespread availability in New York City of tiger-based TCM products in strict violation of CITES and federal and state laws seems to be a low priority. There is currently no commitment by the USFWS or the DEC to provide adequate financial and personnel resources to monitor shipments, conduct forensic analyses, or conduct investigations.

To correct the existing inadequacy in United States federal law with regard to tiger-based TCM products, legislation has been developed in both the United States House and Senate that would make products that claim to contain tiger as an ingredient expressly illegal. The Rhinoceros and Tiger Product Labeling Act (H.R. 2807), currently in the House, would amend the Rhinoceros and Tiger Conservation Act and make any product that contained or claimed to contain rhinoceros or tiger illegal to sell. This bill is similar to a bill in the Senate, the Rhino and Tiger Product Labeling Act (S. 361), that would amend the ESA to prohibit ***all*** products labeled as containing species listed under the ESA. Ironically, this specific labeling prohibition was adopted by Taiwan, China, and Hong Kong several years ago because of pressure placed on them from CITES and the United States which imposed its own trade sanctions against Taiwan between 1994 to 1995 in response to Taiwan's illegal trade activities in tiger and rhino parts and products (Federal Register. 60(83). April 30, 1997).

At the federal level, tiger-based TCM products are also potentially violating current food and drug laws and product labeling laws. The United States Food and Drug Administration (USFDA) administers two federal laws that are potentially applicable to tiger-based TCM products (Gaski and Johnson 1994). These include: 1) The Federal Food, Drug, and Cosmetic Act under the Nutrition Labeling and Education Act Amendments of 1990 that deals with products that claim to cure, diagnose, prevent, mitigate, or treat a disease or symptom and prohibits the labeling of preparations with any characterization or implication that the use is related to a disease or condition; and, 2) the Fair Packaging and Labeling Act which prohibits the use of a label on a product that purports to contain an ingredient when the product does not.

When "patented" TCM products make claims with respect to curing, diagnosing, preventing, mitigating, or treating a disease or symptom, they are potentially violating the Federal Food, Drug, and Cosmetic Act if the product has not been approved to make such claims. The law defines such a product as a drug and as such it is subject to stringent testing before the manufacturer can legally make such claims. It is possible that the indications and actions described on inserts and packages of many of the "patented" tiger-based TCM products meet the criteria for a drug with such claims of use in treating rheumatism, arthritis, and other ailments. However, potential violations of this law seem to be a low priority with the USFDA.

The potential health risks associated with these products has received little attention from the USFDA. Detection of toxic metals such as arsenic and mercury during testing for the presence of endangered species in TCM products (Espinoza et al. 1994, 1995, 1996) should be a cause for concern with the USFDA. To date these products have received limited testing or investigation from the USFDA which has also done little to coordinate with the USFWS and DEC on this issue.

The USFDA has been criticized for failing to apply the Fair Packaging and Labeling Act to TCM products that falsely claim to contain tiger. The agency has shown little interest in pursuing this legal avenue despite results from forensics testing that these products do not contain tiger even though they are labeled as such. This legal avenue does not appear to have been pursued completely although its enforcement could remove some of these tiger-based TCM products immediately.

Western attitudes and the growing interest in TCM herbalism in the West provide a growing demand

for TCM products and prescriptions derived from the tiger. Many Westerners believe that because of their "natural ingredients" alternative medicines are safer and free of side effects that are common with Western medicines (Carter 1996). A growing number of Westerners are complementing Western medical treatment with TCM products with little regard for the potentially harmful consequences. With the surge in use of herbal TCM, researchers in the UK have begun investigating the interactions, that are sometimes fatal, between herbal TCM and prescription drugs (Carter 1996). Although many of these TCM treatments and products are legitimate, the recent exposure of charlatans practicing a variety of TCM and Western medicine without licenses or training or prescribing treatments containing toxic metals indicates a broader problem within the TCM industry as a whole. While it is beyond the scope of this paper to conduct a thorough review of these issues, a healthy skepticism, desire for better testing, licensing, labeling, and public information should be promoted.

2. PUBLIC OUTREACH

The results from our questionnaire regarding what students aged eight to ten know about tigers corroborates findings from other surveys. In general, there appears to be a lack of knowledge about the tiger among the public in this country. This ignorance persists in light of all the media coverage about the threats to the tiger that has occurred over the past several years in the United States. A survey of visitors to a new exhibit on the tiger at the National Museum of Natural History in Washington, D.C. found that most people believed that tigers occurred in Africa (Seidensticker 1997). Similarly, 64% of students surveyed by Kellert (1985) in the second, fifth, eight, and eleventh grades also incorrectly thought tigers lived in Africa.

The assessment of the presentation developed for this pilot study indicated that it increased awareness among the students about the tiger and established the link between the use of tiger-based TCM and its detrimental effects on tigers in the wild. For example, after the presentation, out of 44 students who had made an error in identifying the range of tigers, 27 (61% change) changed their answer to the correct one after the presentation. After the presentation, the use of tigers in TCM was the top choice among the list of threats facing the species.

Additionally, the presentation appeared to have gone the next step of encouraging students to take action to address the problem. After the presentation, 7 more students out of 44 (16% increase) selected the choices that referred to informing others to avoid using tiger-based TCM products.

It was beyond the scope of this pilot study to fully explore the attitudes of the various groups in New York City's Chinese community regarding the use of tiger-based TCM products and the need to conserve the tiger. From the informal discussions the Principal Investigator had, we did learn that many of the people involved in the herbal TCM business, specifically practitioners and herbal TCM store owners, know that tiger-based TCM products and using tiger bone in TCM herbal prescriptions is illegal. Since these products are widely available in the Chinese community, it is clear that a public awareness effort is needed to raise support for the removal of tiger-based TCM products from the shelves and to reduce demand for authentic tiger ingredients in TCM.

A strategic public awareness campaign requires defined target audiences and the use of specific

techniques for reaching them with the goal of attitudinal and behavior change. From this pilot study, potential target groups are the TCM store owners, TCM herbalists, the TCM schools in the area, and the Chinese community at large. The last group was not well-defined by this pilot study because of its limited scope. Much of the pilot outreach effort focused on school children based on the assumption that they, or the schools as a organized entity in the community, could be an effective conduit into the family to influence the potential purchaser of tiger-based TCM products. We were unable to substantiate this assumption. However, research by Kellert (1985) on children's attitudes toward wildlife indicates that, in general, children over the age of thirteen should be targeted since by this age they can grasp ethical and ecological concepts that underlie conservation arguments.

Though the ultimate goal of a strategic public awareness effort would be to reduce demand for the use of tigers in TCM, specific attitudinal changes and actions should be intended for each target group. For example, TCM herbal shops and other retail outlets would be encouraged not to sell tiger-based TCM products. TCM practitioners would be encouraged not to recommend these products and inform patients of the need to avoid using tiger ingredients. The Chinese public at large would be targeted with the message to avoid purchasing "patented" medicines. The Principal Investigator identified several informed TCM store owners and practitioners who were concerned about conserving wildlife and did not support the use of endangered species in TCM. Collaborating with the TCM schools would also be important with this target group, though these entities may not reach those practicing TCM herbalists that have received no formal training at all. There is interest within the community about the conservation implications of herbal TCM. The Principal Investigator was also invited to write an article regarding the use of tiger in TCM for the largest bi-monthly journal on TCM in the United States (Mingjiang 1996) (Appendix II).

Public awareness efforts need to include some form of evaluation to assess how effectively the target audiences have been reached and whether attitudes and behaviors have changed. Pre- and post-attitudinal surveys of the target audiences will indicate "claimed" changes in attitudes, but actual behavior change would need to be assessed with long-term monitoring and assessing independent indicators. One possible independent indicator could be assessing whether there is a noticeable change in the availability of tiger-based TCM products in stores.

RECOMMENDATIONS

1. Remove tiger-based TCM products and other products claiming to contain endangered and threatened species from store shelves.

A variety of "patented" TCM products claiming to contain tiger as an ingredient are widely available throughout New York City's Chinese communities. Though this pilot study focused on the availability of tiger products, a variety of other products were readily available that claimed to contain leopard, seal, pangolin, musk deer, and rhinoceros. All of these species are listed under CITES Appendix I and are prohibited. Since the tiger has such a strong imagery in Asian culture, this species can be the focus of a broader effort to reduce demand for endangered and threatened wildlife in TCM and related products.

The increasing growth in Western consumer interest in Eastern medicinal philosophy, including herbal TCM, is fueling demand beyond that generated by the Asian communities in Western countries. Numerous books and articles have been published in English by Asian and non-Asian authors on the herbal practice of TCM (e.g., Reid 1993, Bensky et al. 1993), although some authors such as Haddady (1996) are including less about the use of animal ingredients and offering substitutes. Much of the Western interest in herbal TCM is based on assumptions that TCM herbal products for sale are both legal and safe even though these products are mostly unregulated by most Western nations' food and drug safety laws. With a clear lack of awareness among the Asian and Western public that the tiger is threatened by poaching for its bones for use in traditional Asian medicines, the presence of TCM products on the shelves purporting to contain tiger ingredients implies that the purchase of these products does not threaten the species.

2. Initiate law enforcement efforts, using current laws, at the federal and state level to remove products containing or claiming to contain endangered species. This would require increasing financial resources for law enforcement efforts and supporting coordinated efforts between the agencies responsible for protecting endangered species and human health.

The fact that many "patented" TCM products claiming to contain tiger are widespread throughout New York City's Chinese communities indicates a failure in United States law enforcement to prevent the sale of these illegal products. Federal enforcement efforts have focused on confiscating tiger-based TCM products at the point of entry where both personnel and resources are limited. Consequently, TCM products containing tigers continue to enter the United States undetected. Once within the state, these products are openly for sale. The DEC has the authority to confiscate at the point of sale, but has been reluctant to do this because of the time and costs in proving the seized products actually contain tiger as an ingredient. It is clear that despite coordination and cooperation between the two levels of government, they have done very little to address how to remove tiger-based TCM products from the shelves in New York City. It is unclear whether the agencies have been waiting for changes in federal legislation to address this problem that TCM products are not expressly illegal if labeled as containing tiger, whether the claim is true or not (Recommendation 3) Regardless of whether tiger-based TCM products do or do not contain any tiger, these products maintain the demand for authentic tiger ingredients in TCM prescriptions and manufactured products

There are at least two laws under the jurisdiction of the USFDA that have not been pursued adequately and warrant investigation. A task force involving federal and state agencies should be established to conduct an assessment of current legislation in an effort to remove products containing or claiming to contain tiger and other endangered species, especially if these medicines have health risks associated with them. This task force should include the USFDA and any state and local agencies with jurisdiction over human health and product labeling laws given the potential health issues evolving with the "patented" TCM industry.

3. Pass Federal legislation that prohibits the sale of products claiming to contain tiger and all other CITES Appendix I listed species, as well as those species listed as endangered under the ESA.

Enforcement efforts to confiscate products for sale that contain or purportedly contain tiger as an ingredient or other endangered species would be facilitated by correcting a legal inadequacy in the ESA. Bills currently in the United States House and Senate would make products that claim to contain tiger as an ingredient expressly illegal. This would eliminate the need to prove whether the products were authentic in order to prosecute under the ESA. The Rhinoceros and Tiger Product Labeling Act (H.R. 2807), currently in the House, would amend the Rhinoceros and Tiger Conservation Act and make any product that contained or claimed to contain rhinoceros or tiger illegal to sell. This bill is very similar to the Senate bill, The Rhino and Tiger Product Labeling Act (S. 361), that would amend the ESA to prohibit ***all*** products labeled as containing species listed under the ESA.

4. Design and implement a targeted public awareness effort in New York and other Asian communities in the United States to reduce demand for tiger and other endangered species in TCM and TCM products.

A public awareness effort is needed in New York City's Chinese communities because of the widespread availability of tiger-based TCM medicines and the general lack of knowledge that the demand for these products is threatening tigers in the wild by fueling poaching for their bones. The goal of this effort is to raise support for removing these illegal tiger-based TCM products from the shelves as quickly as possible and reduce demand for authentic tiger ingredients in TCM prescriptions and products. From this study specific target groups include Asian medicine shop owners, TCM practitioners, the TCM schools in the areas, and the consumers.

Though it was beyond the scope of this study to design specific messages and techniques for targeting different groups, genuine interest and concern regarding the use of endangered species in TCM and related products was identified among TCM practitioners, Asian herbal store owners and TCM school administrators. All the individuals that were directly involved in TCM knew that the sale of tiger-based TCM products was illegal. In addition, a pilot educational presentation targeting older elementary school children indicated that this audience was interested in taking action to inform others to avoid purchasing tiger products. A variety of Chinese community centers and many public and private schools were very interested in becoming a part of a public awareness effort as indicated by the interest generated on this subject amongst the public once it was brought to their attention

In general, designing a public outreach effort targeting sectors of the public, a primary message for consumers is to avoid purchasing "patented" TCM products that claim to contain tiger. The Chinese community media has shown a strong interest in the overall issue of the use endangered species in TCM and should be integrated into a public awareness effort (e.g., Liu 1996). Even with all the coverage in English in the western press regarding plight of the tiger, it does not appear to have reached the Chinese communities nor saturated the Chinese media.

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APPENDIX I. List of State Approved TCM schools in the Greater New York City Area.

Kevin V. Ergil, Dean, Pacific Institute of Oriental School, 915 Broadway, 3rd Floor, New York, N.Y. 10010-7108. Tel.: (212)685-3456; Fax: (212)658-3478

Chi Chow, Executive Administrator, New York Institute of Chinese Medicine, 142 Mineola Boulevard, Suite 103, Mineola, N.Y. 11501. Tel.: (516)739-1545; (516)385-7569

Steve Schenkman, President, The New Center for Holistic Health Education and Research, 6801 Jericho Turnpike, Syosset, N.Y. 11791-4413. Tel.: (212)496-7869

Kathleen O'Brien, Assistant Dean Mercy College, 555 College Broadway, Dobbs Ferry, N.Y. 10522. Tel.:1-800-637-2969, (914)693-7600

Mark D. Seem, President, Tri-State Institute of Traditional Chinese Acupuncture, P. O. Box 890, Planetarium Station , New York, N.Y. 10024-0890. Tel.: (212)496-7869

APPENDIX II. Mingjiang, Q. Tigers worldwide face extinction: environmental groups appeal for better management of traditional Chinese medicine. New York's Chinese Medical Report. August 8, 1996 (in Chinese with English translation).

Title: The Tiger Worldwide Face Extinction; Environmental Appeal for Better Management of Traditional Chinese Medicine
Author: Qiu Mingjiang, International Programs, Wildlife Conservation Society
Source: The Chinese Medical Report (Bimonthly)
Date: August 8, 1996
Language: Chinese
Distribution: Major Chinese Medicine Practitioners in North America
Circulation: 30,000

Translation

The tiger, *Panthera tigris*, has a natural history of at least one million years. Tiger canines were discovered at Zhukoudian near Beijing, where the Peking man's fossils were found early this century. According to paleontologists, the tiger around that time began to spread from mountains in southern China to various types of habitats in Asia, from Caspian Sea region to Taiwan, Korea, and Japan, and from the boreal forest in Siberia to the tropical jungle in Bali. It had become the most adaptable animal on earth other than human being.

The tiger occupies an important place in our culture. Other than the current name of hu or laohu, it appears in Chinese literature under more than ten different names, such as bodu, yutu, shanjun, li'er (The Li), lifu (Father Li), Daling (the Giant Spirit), and Dachong (the Giant Worm). Regarded as a symbol of prowess and masculinity, the tiger has inspired generations of artists who produced immortal artistic works in China's history. However, its very beauty and strength has created a myth that threatens its very existence today. Since 500 A.D., tiger parts have been utilized in traditional Chinese medicine. This tradition spread later to other Asian countries, such as Japan, Korea, and India. All tiger parts are claimed valuable. Tiger bone is said to clear cold in a patient's body, a condition associated with poor circulation. Tiger penis is believed to be an aphrodisiac. Tiger whiskers are prescribed to relieve toothache, tiger hair for driving away centipedes when burnt, tiger eyes for malaria, epilepsy and convulsions, and tiger fat for vomiting and hemorrhoids. Even tiger feces and urine are prescribed as medicines. Such blind worship of the tiger has cast a shadow on the fate of the animal.

By late 19th and early 20th centuries, the tiger had disappeared in many places in Asia due to increasing human population, rapid deforestation, and habitat loss. In the 1970s, thanks to the dedications of conservation groups, the tiger's decline was stabilized, at least locally in India. In 1991 when the former Soviet Union broke up, a large number of tigers were killed due to the lack of law enforcement during the transition. In the summer of

1992, many tigers in India's famous tiger reserve, the Ranthambhore Tiger Reserve, were killed. In August 1993, Indian law enforcement personnel confiscated 400 kg of tigers bones, an equivalent to the weight of 40 tigers' skeletons.

According to the estimate of field scientists, there are no more than 5,000 wild tigers left in the world presently. In mainland China, the tiger has become extremely rare. Less than 100 animals live in the remanent forests in south and northeast China, and in southeastern Tibet. Protecting the South China tiger, *Panthera tigris amoyensis*, a distinctive subspecies, has become one of the high priorities in tiger conservation.

According to surveys conducted by WWF-US, up until 1994, out of the 249 traditional Chinese medicine manufacturers in Mainland China, Hong Kong, Taiwan, South Korea, Japan, and Singapore, 19 produced medicines containing or purporting to contain tiger bones. Various tiger-based medicines are found in Chinese medicine shops all over the world, such as Musk Deer-Tiger Pill, Tianqi Tiger Bone Pill, Tiger bone Tonic Pill, Tianma Tiger Pill, and Duzhong Tiger Bone Pill.

Are tiger parts really medicinal? Is it scientifically valid to use animal parts to nourish analogous human organs? Answering such questions is a challenge to traditional Chinese medicine. In 1994, the United States Fish and Wildlife Service scientists employed sophisticated laboratory equipment to analyze the traditional product, Musk Deer and Tiger Bone Plaster, an externally applied medicine for curing arthritis and backache. In the plasters, the experts did not find any hydroxyapatite, the main inorganic component of tiger bone, which was claimed by the manufacturers as the one of the ingredients. This test has demonstrated that what has made the Musk Deer and Tiger Bone Plaster work for centuries has not really been the tiger bone, but other constituents of the prescription. Another medicine that claims to contain tiger bone is the Tiger Bone Tonic Pill. Apart from the claimed tiger bone (1.86%), the medicine also contains 59.26% mutton and some medicinal plants such as *Phellodendron amurense*, *Cypomorium coccineum*, and *Anemarrhena asphodloides*. What is really playing a role in the warming effect of the medicine, the tiger bone, the mutton or the tonic herbs? Anyone who has had a bowl of mutton soup in a cold winter will have no problem answering that question.

Findings above suggest that tigers are illegally traded on black market. It was estimated by field scientists that 3,000 tigers were killed between 1990 and 1995, their bones and other body parts used by business people for profit or by ill-informed individuals as medicine.

Therefore conservation efforts must be focused on investigating the illegal trade of raw tiger products. But what should we do with the medicines that claim to contain tiger bone but they actually do not? From an environmental conservation point of view, those pharmaceuticals should be prohibited for sale, as they violate the Federal Government's

Endangered Species Act. On the other hand, if they do not contain tiger parts, they violate the Federal Labeling Law. In June 1996, a testimony was conducted at the House of Representatives on the Rhino and Tiger Protection Act. Future regulations and improvement of the management of those products are expected. The best way to avoid litigation is not to import those products or put pressure on the manufacturers to label those products properly before they are shipped to different parts of the world.

世界老虎瀕臨絕種

環保組織呼吁加强中藥市場管理

虎是世界上現存最大的食肉獸，在地球上至少生存了一百萬年，在北京猿人的發掘地——北京周口店——古生物學家就發現了虎的牙齒。據專家研究，虎在大約一百萬年前由中國南方向亞洲各地擴散，其分布曾經西達加勒比海沿岸，東到臺灣、朝鮮和日本的山地，北至西伯利亚、南及印度尼西亞的巴厘，生活於熱帶到溫帶的各種不同環境，成了除人以外最具生存能力的大型獸類。

虎在亞洲文化中占據重要地位。在中國古籍中虎分別以十多個不同的名字出現，古人將其稱爲「於菟」、「山君」、「李耳」、「李父」、「大虫」、「大蟲」、「伯都」等，它的威武和雄壯使其成了陽剛美的象徵，激發了歷代藝術家的想象，使他們創造出無數以虎爲題材的藝術珍品。但正是這種雄壯美，給它帶來殺身之禍。早在公元五百餘年，虎骨在中國就被列爲藥用。此外，印度、朝鮮、日本均有將虎的材料入藥的歷史。民間還稱虎全身皆是「寶」：虎骨祛寒、虎鞭壯陽、虎須止牙疼、虎毛驅蟲、虎眼治麻風、癲疾、癇病、虎油治嘔吐和痔瘡，以至虎糞和虎尿也被當作藥用，這種狂熱的迷信給虎的生存罩上了一層陰影。

十九世紀末、二十世紀初，亞洲的人口急劇增長，森林資源銳減，加上狩獵和老虎棲息地的消滅，虎從許多地方絕迹。在本世紀七十年代，國際環保機構在亞洲開展了一系列保護運動，在局部地區，如印度次大陸產生了積極作用，有的地方虎的數量略有增長。但至九十年代初，虎的生存面臨重大挑戰。1991年麻醉獵獸之陰，大量東北虎遭到獵殺。1992年夏季，印度著名的納塔特拉老虎保護區（Ranathambore Tigen Reserve）中的許多虎遭到偷獵。1993年8月，印度執法人員在首都新德里繳獲400公斤（880磅）虎骨，相當於40只虎的骨骼的重量。

據長期從事虎的研究的專家道爾，全世界現存的虎數量不足5000只，在中國大陸虎已經絕爲稀少，總共不足100只。殘存在西藏東南、東南和東北等虎的原始森林中，其中東南虎瀕臨滅絕。拯救世界上的老虎於是再次提到環境保護的日程上來，社會各界紛紛籌資發動拯救運動。

由於中醫來將虎的材料作爲藥用，一些西方人士匆匆下結論，認爲虎的大量減少是因爲中醫對虎的需要需求最增加，於是對中醫積下成見。這種看法失於片面。筆者曾長期從事野生動物研究，足迹遍及中國西部山川，從未知有獵人專獵某種動物而見到其它動物不動心的獵人。虎、豹這一類居食物鏈頂端的大型動物在野外數量極低，常常因偶然碰見而被驚歎。其材料（皮、骨）等特別能人、獵人所獲的微薄收入用以換取油、鹽或其它生活之心需。在西藏東南部林區，一老獵人每年夏秋冬季，三十六年僅見過一次老虎。如今的中醫師顯然不可能靠開虎骨或虎的其它材料來維持自己的營養，而醫藥廠家更不可能靠採用真虎骨這種極不穩定的資源來生產。

然而，據世界野生生物基金會（WWF－US）統計，在中國大陸、香港、臺灣、南朝鮮、日本、新加坡等地生產中成藥的廠家達249家，其中至少有19家生產所謂含虎骨的中成藥，一些產品甚至標明虎骨的含量。世界各地的中藥店內，藥酒虎骨膏、田七虎骨丸、健步虎骨丸、天麻虎骨丸、杜仲虎骨丸等藥品層出不窮，給人造成國人對物種的滅絕迫願害大的生態問題麻木不仁的錯覺。

虎鞭、虎骨究竟有無藥用價值？以形補形是否具科學道理？回答這類問題實際是對傳統醫學的挑戰。1994年，美國漁業及野生動物局的法醫採用佛氏轉移紅外分光術（Fourier transform infrared spectroscopy）以及X綫螢光分光術（X－ray florescence spectroscopy）等高科技技術對大量將稱含虎成其它瀕危動物材料的中成藥進行過檢查，發現聲稱含虎骨的藥品中不存在動物骨骼的基本物質——羥磷灰石（CA10（PO)6（(CO)HCO），甚至連陳就的聲稱虎骨膏內也沒有虎骨的成份，但是許多這類藥品在市場上仍能買到，而且在使用後尚有一定治療效果，說明真正起作用的並非虎骨。這里不妨再舉一例，由大陸製藥廠生產的「健步虎骨丸」，處方包括鮮羊肉、黃柏、鳴蟬、知母、當歸、虎骨等十一種成份，其中鮮羊肉含量最多，占59.25%，虎骨最少，僅稱占1.86%，產品主治身體虛弱、筋骨痿軟、四肢疼痛等症。真正起作用的是鮮羊肉還是其它植物成份？任何在藥冬臘月吃過羊肉湯的人都會知道鮮羊肉的滋補作用。

由此看來，虎骨或虎的其它材料至多能起到藥事和心理作用，在臺灣有人不惜花三百美元喝一碗「虎鞭湯」以防陽痿，實者和買者各自爲了自己的目的付費了心機，少數商人甚至一邊兜售「虎骨酒」一邊放黃色錄像，感官的刺激勝過了物質。

上述看法並不意味虎骨在民間不存在。據專家估計，1990—95年間，全世界有3000只虎遭到獵殺，其材料流散民間，被商人用以投機，部份可能作作藥用。

對於那些稱含虎的材料的中成藥究竟該如何處理？筆者以爲，從提高中醫醫學和環境保護的角度出發，這類產品應禁止上市。如果這類產品確含有虎的材料，即違犯了聯邦「瀕危動物法」，即使沒有虎的材料而聲稱有之，又觸犯了聯邦的「標籤法」。1996年6月，美國國會參議院就「犀牛和老虎保護法案」進行了聽證。今後對虎及其它珍稀瀕危動物材料的管理將得到加强。要合法進口和銷售這類產品，最好的辦法是貨真價實事求是地聲明中藥成份，爲防止濫用虎的材料名稱命名中成藥，以免造成法律糾紛。四川成都製藥五廠生產的感冒止痛

風湿痛丸，藥的名字不帶虎字，而且有利進出口和銷售，這是個值得效法的例子。

圖左：作爲百獸之王的虎給人帶來的是高貴的巍峨和威嚴的美，少數人出用這種感受，將虎的材料當作名貴中藥材，誠以獵利，從而威脅到虎在自然界的生存。——瀕臨滅絕的動物物種

圖右上：一只虎皮被剝下的獵人戰利品，其皮和骨骼或以傳統醫療法用，被商人出賣到商人手中。——瀕臨滅絕的動物物種

圖右下：東國一中醫店主正將偽製的虎鞭擺出，以期虎陰莖的藥用，賣到商人手中。——瀕臨滅絕的動物物種

圖右：表示陰莖頭上的突起，這種突起是哺乳動物的共型特徵，虎鞭壯陽的說法毫無這個特徵，其實是無科學道理。

to save wildlife ◆ to teach ecology ◆ to inspire care for nature

The Wildlife Conservation Society, founded in 1895 as the New York Zoological Society, works to save wildlife throughout the world. With 60 staff scientists and over 100 research fellows, the Society has the largest professional field staff of any U.S.-based international conservation organization. The Society currently conducts more than 250 field projects in 52 countries throughout Africa, Asia, Latin America, and North America.

WCS's strategy is to support comprehensive field studies to understand ecosystems and wildlife needs, train conservation professionals, and work with local staff and partners to protect and manage wildlife and wild areas for the future. Familiarity with local conditions allows WCS scientists to effectively translate data from the field into conservation action and policies, and to develop locally sustainable solutions to conflicts between humans and wildlife. An acknowledged leader in its field, WCS has forged productive relationships with governments and local organizations worldwide.

Wildlife Conservation Society

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Testimony Before the

Subcommittee on Fisheries, Wildlife and Oceans
Committee on Resources
U. S. House of Representatives

February 5, 1998

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History and Current Status of Tiger Conservation

Introduction

In a remote Javanese village, a farmer went out one morning to find a tiger sound asleep beneath his rice barn. Even sleeping, this tiger was a problem the farmer knew was beyond his ability to solve. So the farmer hastened to consult with his village head. The village head accompanied the farmer back to the barn, where the tiger still lay sleeping. Agreeing this problem was beyond both of their abilities, they hurried a few miles to tell the sub-district officer about the tiger. All three returned to the barn to view the sleeping tiger, then went off to enlist the help of the district officer. Moving up the bureaucratic chain to seek a solution to the sleeping tiger went on all day until finally a by-then large group of men reached the regional commander of the army. The commander marched out to the village and laid out a plan to deal with the sleeping tiger but before it could be implemented the tiger woke up and moved away. So now they had a different, but still real problem: there was a tiger near the village but no one knew where it was. Suddenly, leaving the barn was a very risky proposition.

This story was told to anthropologist Clifford Gertz in the 1950s, in the Southern Mountain region of Java, an area where some of Java's last tigers lived. It might have been a local joke about bureaucracy, as Gertz believed the story too well formed to be literally true. But since I first heard this story in the 1980s, I have believed it to reflect the central dilemma in saving tigers. Lurking unseen or asleep under a barn, a tiger is perceived to be a problem requiring a solution—and it doesn't take too much imagination to predict what a military solution to this problem might be. To save tigers in Asia, this perception must change. We must find ways to make a live tiger worth more than a dead tiger, and landscapes with tigers worth more than without them.

A Brief History

Tigers *(Panthera tigris)* are formidable predators. They can and do kill people, but through most of history, people were poorly equipped to kill tigers. In some parts of Asia, hunting tigers was the prerogative of royalty; in others, trapping a problem tiger was the task of specialist tiger magicians. Later, during the European colonial rule that prevailed over much of the tiger's South and Southeast Asian range, and with the advent of modern weapons like high-powered rifles, tiger hunting became the stuff of legends. Great white hunters were enlisted to remove tigers that threatened people. Jim Corbett, for instance, achieved fame when he was enlisted to track down and kill India's "Champawat Tiger," which took 436 human lives, more than any maneater in history. Clearing a region of tigers also became a sign of progress and modernization. In China, tigers were killed as vermin, much as wolves and pumas were in the American West. But it seemed to those who hunted tigers and knew them best that there would always be tigers somewhere.

Just a century ago, tigers ranged from the Russian Far East, through eastern and southern China, southeast Asia, the Indian subcontinent, and into the Indus River Valley of Pakistan. Separate populations of tigers also lived in and around the Caspian Sea, and on three islands in Indonesia: Bali, Java, and Sumatra. But even over this huge range, tigers were not particularly abundant; large solitary predators never are. Requiring huge home ranges and habitats rich in water, vegetation cover, and deer and pigs to prey on, tigers numbered perhaps only 100,000 individuals 100 years ago.

Today, however, the entire wild tiger population is somewhere between 5,100 and 7,600 and tigers range over only a fraction of the area they once did. The tigers of Bali, Java, and the Caspian Sea are extinct, and south China's are nearly so. Tigers remain in 14 "range states" in the numbers indicated: India—2,500 to 3,750; Nepal—18- to 250; Bhutan—50 to 240; Bangladesh—300 to 460, Myanmar—unknown number of tigers present; Thailand—200 to 600; Laos—unknown number of tigers present; Vietnam—200 to 300; Cambodia—100 to 200; Malaysia—600-650; Indonesia (on Sumatra)—400 to 500; China—72 to 95; Russia—415 to 476; and North Korea—fewer than 10. Except for Russia, however, these are not hard numbers, but merely estimates made by each of countries named. Experts recognize that some countries, and some researchers, may inflate or underestimate numbers for political and other reasons.

A 1997 World Wildlife Fund/Wildlife Conservation Society survey revealed that the areas where tigers could live—areas of suitable tiger habitat—in 12 of these countries (excluding Russia and China) were fragmented into about 160 distinct and disjunct blocks. Including Russia and China adds about seven more. Moreover, about 100 of these blocks, dubbed Tiger Conservation Units (TCUs), are very small and if they hold any tigers at all, they are unlikely to survive very long. The TCUs are separated by habitat that tigers cannot cross. Perhaps surprisingly, much of the remaining tiger habitat is outside of protected areas such as national parks. Most disconcerting is that even some areas of good tiger habitat lack tigers because populations of deer and wild pigs, on which tigers depend for food, have been so depleted by human hunting that tigers cannot survive there.

So while 5,000 to 7,000 tigers sounds reassuring at first, this would be true only these tigers lived in one large population. In fact, the situation is desperate. Dividing those say, 6,000 tigers, by 160 yields an average of 40 tigers per TCU. For instance, along the Nepal-India border, tigers were historically distributed continuously across the lowland Himalayan forest. Today, four separate populations remain in this region, three in Nepal and one in India. The three Nepal populations are estimated to contain 48 to 49, 30 to 32, and 15 to 16 breeding tigers respectively; the Indian population is also quite small. To put these numbers in perspective, population biologists doubt that a population of 50 or fewer breeding females will survive over the long term.

The ease with which such small populations can be lost is frightening. Aside from the longer-term effects of reduced viability due to inbreeding, such populations may die out due to what scientists refer to as "stochastic events," and everyone else calls accidents or acts of god. An epidemic disease among the tigers or their prey, a drought or flood or fire, chance variation in birth and death rates that leaves only females or only males, or even a determined poacher—and tigers blink out of that area. Because inhospitable habitat bars new tigers from re-populating the area, tigers are simply gone. Biologists are looking carefully at Way Kambas National Park in Sumatra, 60 percent of which burned during 1997's El Nino-caused drought. About 36 tigers were living in Way Kambas before the fire; studies are underway now to see how many remain. Way Kambas is separated from the next TCU by 100 miles of hostile habitat, so there is little chance of tigers moving in from other areas; neither would tigers have been able to escape the fires to greener pastures.

Save the Tiger - Part 1

The cry "Save the Tiger" was first heard in 1969. Almost 30 years later, the tiger's future is still not secure, though not for want of trying. Eliminating the threats to this endangered species has proven to be like putting out a forest fire: As flames are doused in one spot, sparks begin to fly in another.

At the 1969 meeting of the International Union for the Conservation of Nature and Natural Resources (now IUCN-World Conservation Union), held in India, senior conservationists, many of whom had hunted tigers in their youths and were intimately familiar with India's forest and wildlife, voiced alarm about the disappearance of tigers. In 1972, a survey confirmed their fears: only about 2,000 tigers remained in all of India, and fewer than 500 in Nepal, Bhutan, and Bangladesh. This set in motion one of the most famous and extensive wildlife conservation initiatives ever undertaken in India, or, in fact, in all of Asia.

India's Project Tiger was launched in 1973 with the enthusiastic support of Prime Minister Indira Gandhi, a powerful patron. The tiger was made India's national symbol. International conservation organizations rushed in to help, especially the World Wildlife Fund and IUCN-World Conservation Union, launching a fund-raising drive in support of Project Tiger and similar conservation efforts in other tiger-range countries. The Smithsonian initiated its Tiger Ecology Project in Nepal to learn about the behavior and

ecology of tigers. Even before this, in 1970, tigers were placed on the U.S. Endangered Species List.

These efforts addressed what were then the primary culprits in the decline of tigers: loss of habitat, and over-hunting for sport and to satisfy a demand for tiger skins to be fashioned into fur coats and other luxury items.

Tiger conservation in India and elsewhere was implemented through top-down, command-and-control programs in which the tiger was treated as a public good. In India and elsewhere, tiger killing was banned. Habitat for tigers was set aside in specially designated tiger reserves, in which every effort was made to separate tigers from people, usually by restricting commercial harvest of forest or other products in these reserves and by relocating the inhabitants. The hope was that tiger protected in reserves would increase in number and then disperse into non-reserved forest lands. Trade in tiger parts, especially skins, largely came under control with the advent of the 1975 International Convention on International Trade in Endangered Species (CITES), and the tiger appeared, effectively, to have been taken out of commercial trade. Public relations campaigns that made wearing tiger fur (and the fur of other endangered spotted cats) unfashionable. The effort to save the tiger was off to a respectable start, in a reasonably short period of time, and many assumed that these actions would save the tiger in at least part of its range.

By the mid-1980s, we knew that the Caspian, Javan, and Bali tigers were extinct and, after years of being hunted as vermin and for medicinals, the situation of the South China tiger was critical. Sumatra's tigers, where forests were being rapidly transformed for agriculture and fragmented, were down to about 500. Details concerning the tiger's status remained unavailable from Myanmar, Cambodia, Laos, Thailand, and Malaysia. Yet there were glimmers of hope for the tiger based on the optimistic reports from India, research in Nepal, and ongoing censuses in the Russian Far East. Information coming out of the Russian Far East indicated that Amur (also known as Siberian) tigers were making a modest recovery. The continuing in-depth study of the ecology and behavior of tigers in Nepal's Royal Chitwan National Park showed tiger populations growing. Some Indian biologists were describing ever-increasing tiger numbers, doubling from 1972's 2,000 to an estimate in 1989 of more than 4,000.

Then, almost at the moment when conservationists were prepared to declare that the tiger was on the way to recovery in at least part of its range, new information—and new threats—emerged.

India's increasing tiger numbers had been a beacon of hope for conservationists, many of whom believed that India was the one place tigers would make it. But in the late 1980s, the way in which these numbers were determined was called into question. It turns out that there was no reliable information to justify India's optimistic numbers. In fact, careful studies indicated far fewer tigers existed than the official counts claimed. Further, cracks began to appear in the model for India's Project Tiger. The limitations of the heavy-handed, top-down approach to protecting tigers, especially with diminishing central

control, were becoming apparent. Because of human population growth in and around tiger reserves, people and their livestock were spilling into reserves, rather than tigers spilling out of reserves into surrounding forest areas, as was originally envisioned. At about the same time, the first scientific search for tigers in Thailand revealed that there was habitat for tigers in wildlife sanctuaries and national parks, but few or no tigers there.

Throughout the tiger's range, forest fragmentation was seen as growing problem in Asia's increasingly human-dominated landscapes. Further, what forest remains suffers from excessive extraction of fodder and other products, including the deer and wild pigs on which tigers depend and which people also hunt to fill the cooking pot. With such pressure both within and outside of reserves, room for tigers has become vanishingly small.

The late 1980s and early 1990s also saw a sudden and dramatic rise in tiger poaching, this time not for fur but for bones and other parts used in Traditional Chinese Medicine (TCM). Growing prosperity in Asia as a result of the region's stunning economic boom, which enabled more people to be able to afford tiger-based medicines, coupled with the near extinction of tigers in China and Korea, was pushing this new demand. In Nepal, in India, and in the Russian Far East, tigers began to disappear practically before the eyes of scientists who were studying them. Law enforcement officials were recovering large quantities of tiger bones and other parts from smugglers, and these were believed to represent just the tip of the tiger bone iceberg. There was also an increase in the legal trade of tiger products among some nations that were not signatories to the CITES agreement. Most of these tiger products were destined for China, Taiwan, Japan, South Korea, and other Pacific Rim countries, as well as parts of North America and Europe with large numbers of Asian immigrants, who use TCM. TCM use has also been growing among Americans and Europeans interested in more natural, holistic approaches to health and health care.

Save the Tiger - Part 2

This where things stood in 1994, when a *Time* magazine cover shouted that the tiger was "Doomed," and U.S. Secretary of the Interior Bruce Babbitt warned "There may not be another chance to save tigers." This new crisis galvanized the conservation community. It became clear that saving the tiger was not a battle to be won once and forever, but a continual process of holding old threats in check and preventing new ones from emerging as conditions change.

India addressed this crisis with the 1994 formation of the Global Tiger Forum, an attempt to engage the international community in tiger conservation. The U.S. Congress passed "The Rhinoceros and Tiger Conservation Act of 1994" to assist conservation programs in nations whose activities affect rhino and tiger populations. Under this legislation, the Department of the Interior funds small programs that enhance sustainable development projects with an impact on the conservation of tigers and rhinos. Also in the U.S., the National Fish and Wildlife Foundation, in partnership with the Exxon Corporation, pledged more than $1 million a year to a "Save the Tiger Fund" to invest in

strategic projects that would make a difference to the tiger's future. U.S. AID has also supported programs that are benefit to tiger conservation in the Russian Far East and Nepal, for example. Conservation organizations, such as the World Wildlife Fund and the Wildlife Conservation Society, launched new programs and re-energized existing efforts devoted to tigers. And new conservation organizations emerged, here and in tiger range states, to help. Perhaps most important, in the last few years all of these various players have recognized the need for cooperation among themselves. Like tigers, the biologists interested in tigers have been aggressively territorial, a strategy that works better to enhance egos than it does to save tigers.

Today's primary threats to tigers have evolved from those of the past: loss of large, continuous blocks of habitat, rather than loss of habitat per se; vanishing prey in the remaining tiger habitat; and poaching and trade in tiger parts for medicine rather than hunting for sport or fur. It's also clear that there is no universal quick fix: we must define what is needed to save tigers in each region of its wide geographic range. Understanding and negotiating to meet these needs in the rapidly changing natural and social Asian landscape is largely a political and socioeconomic task, and ultimately an issue of social valuation: How do you make a live tiger worth more than a dead tiger? How do you make habitats with viable populations of tigers worth more than habitats without them? How do you meet the needs of people **and** tigers? We have returned to the barn, so to speak.

Large blocks of habitat, blocks of habitat far larger than can be contained only in reserves or similar protected areas, will be needed to save tigers. As noted earlier, most of the habitat that remains for tigers is outside of reserves. Conservation action cannot stop at the borders of reserves, most of which are too small to support viable populations of tigers for the long-term. Protected areas are necessary, but they are not sufficient. We now know that conservation must take place beyond the boundaries of these reserved lands, and that will require addressing problems at the ecosystem level and including all the stakeholders living and working in that ecosystem.

Reports from the Field

Take the issues surrounding the Amur tiger in the Russian Far East. The estimated 450 or so remaining Amur tigers are distributed over a vast mountainous habitat about 620 miles long and 185 miles wide. This is roughly the size of Sumatra, the world's sixth largest island, and the north-south distance compares to that between Reno, Nevada, and Vancouver, British Columbia. The turmoil caused by Russia's rapidly changing political system, with new economic constraints and opportunities, is well known. These changes are also placing new demands on the habitat of the Amur tiger, the prey of the Amur tiger, and the Amur tiger itself. The old system of protection by authoritarian rule and inaccessibility is fast disappearing. Increased accessibility to tiger habitat through expanding road networks leads to poaching of tigers and their prey.

In Russia, however, poaching is a loaded word. Hunting is a well-established tradition in Russia, and literally the entire adult male population in the Russian Far East hunts. Firearms adequate to kill large mammals are common. In these tumultuous

economic times, need for food on the table has resulted in increased taking of deer and wild swine by urban as well as rural hunters. A long-standing American-style quota and permit system no longer works as it did under the old rule. This increased taking of ungulates is leading to a marked reduction in the tiger's prey populations. Of course, many hunters and their political representatives see this not as a problem of too many hunters but of too many tigers. Interest in eco-tourism, which in India has translated into economic incentives for creating wildlife viewing, is more problematic in the Russian Far East, and there is serious talk of making the Amur tiger available for limited, high-fee sport hunting, anathema to many foreign conservationists but not to all Russians.

The hope for the Amur tiger rests in the fact that the Russians *like* tigers and people living in the vicinity of tigers show considerable tolerance of them. In addition, we now know what it is going to take to maintain a viable population of Amur tigers in terms of land area and prey because long-term research by the Hornocker Wildlife Institute staff and their Russian associates. For example, if 70 adult female tigers are to be maintained and each female's exclusive territory is 500 km^2, as has been determined through extensive radio-telemetry, then about 35,000 km^2 will be required to sustain these females and their cubs. Moreover, that area must include food for the tigers to eat.

A plan is under development that includes this information. This is a case in which the real needs of this tiger population, based on good science, have been brought to the policy table and before the public. There are few people spread over this vast region, and rather than attempt to stymie their efforts to improve their economic lot using the area's natural resources, conservationists are working with their needs.

Nearly 80 percent of the tiger habitat remaining in the Russian Far East is the province of Primorye, less than 10 percent of which is protected. The province's two million people largely rely on fish, timber, and other natural resources for income. Recently, the opportunity became available for individuals to lease rights to hunting units in this province. In a collaborative effort between the Hornocker Wildlife Institute and a Russian non-governmental organization, with funding pending from the Save the Tiger Fund, a 100,000 hectare unit has been leased that will managed to support high densities of the ungulates tigers need to survive (and human hunters like, too) while collection of fur, berries, herbs, mushrooms, and other non-timber forest products will turn the unit into a sustainable economic enterprise for local people.

In other parts of Asia, the Global Environmental Facility, a fund managed by the World Bank and the United Nations Development Program, is planning to spend tens of millions of dollars on projects to improve protected area management and to support eco-development for communities living within and next to protected areas. These projects include offering micro-credit, training for alternative livelihoods, enhancing conservation awareness, providing education, and developing special joint forest management schemes—all designed to promote public support for conservation at the local level through improving living conditions in rural areas. Projects are being developed around five Project Tiger reserves in India, as well as in reserves in Indonesia, Laos, and China.

On a smaller economic scale, a project associated with the Royal Chitwan National Park in Nepal offers a model for community-based conservation that could be replicated at many sites in the Indian subcontinent and beyond. Chitwan has the highest densities of tigers ever recorded, but much of the lush grassland and riverine forest in and around the park that supported this density has been degraded. High densities of villagers living around the park were contributing to this degradation. Poaching of both tigers and rhinoceros was also a problem. Giving villagers the opportunity to manage a small area of regenerating forest on the edge of Chitwan and ensuring that some income from eco-tourism to this heavily visited park was returned to the local community have given that community an incentive for conservation. Villagers have expanded the regenerating forest and are managing it to increase wildlife. With wildlife, came tourists who pay to view animals in this area. Income from tourism has helped the villagers to build schools and clinics. Tigers and rhinos have moved into the area and poaching incidents have dropped to zero. Tigers are now worth more alive than dead to the people who live closest to them.

Controlling the Tiger Trade

There has been a focused and sophisticated response to the increase in poaching of tigers in the last few years by several organizations that are working with governments to stem the trade in tiger parts and products. Several Asian nations that are markets for tiger parts, including China, Hong Kong, Singapore, South Korea, and Taiwan, have strengthened their laws and policies to better control the trade in tiger parts. In most of these countries, medicines containing—or claiming to contain—tiger parts have been outlawed. Enforcement remains weak, however, although recent data suggest that most the remaining trade in tiger medicinal products occurs outside of Asia, including in the United States.

With a large U.S. market for TCM, enforcement efforts need to be improved here too. Legislation currently being considered would make it illegal for a product to be labeled as containing tiger (or rhino) parts, even if no such parts are present. This way, law enforcement agents would not have to prove these products are present—which is nearly impossible—to prosecute a case.

Other range states have cracked down on poachers and are putting pressure on middlemen in the trade. Many groups are working, through education programs, to reduce the demand for tiger parts and products in traditional medicines. These efforts are showing signs of success, particularly in the Russian Far East. After a decrease in tiger poaching in tiger poaching in India in 1996, there appears to have been an increase in 1997 and situation remains critical, according to the Wildlife Protection Society of India, which emphasizes the need to train border patrol and custom officers and has created a program that puts money in the hands of the owner of a cow killed by a tiger before a poacher can get there and pay the owner to poison that carcass for the poacher's benefit.

On another front, tiger conservationists have been meeting with TCM practitioners and users. These meeting have proven enlightening for both sides. Understanding the tiger's plight has led to efforts to perfect substitutes for tiger bones that could be included in the official TCM pharmacopoeia and that would also be acceptable to patients. Some suggest that replacing tiger parts with a substitute is largely a marketing problem: If users of TCM can be persuaded that a substitute is equally or more effective than tiger bone, these users will switch.

Whether the current slowdown in poaching is a lull while the predators re-organize or whether it is a real downturn is yet to be determined. This situation must be carefully monitored. Containing market hunting, tiger poaching, and the trade in tiger parts and products will require an ongoing commitment calling for heroic individual and organizational effort.

The Role of Zoos

The partnership between zoos and other conservation organizations in efforts to save the tiger and its habitat is significant and expanding. More tigers live in zoos today than live in the wild, and these animals provide a hedge against the tiger's total extinction. Should reintroduction of tigers become feasible, offspring from zoo tigers could be used in that effort. But the primary conservation goal of most zoos today is to support conservation programs on the ground and to keep endangered species, such as tigers, alive and well where they live in the wild.

Zoos also offer unparalleled opportunities for education. Zoos reach large audiences within and outside of tiger range states through their exhibition, education, and training programs. (In fact, several of the world's most prominent tiger conservationists were trained at the Smithsonian Institution's National Zoo.) Zoos are also the only places most people will ever see a living, breathing, roaring tiger. And the support—moral as well as financial—of people everywhere is needed to save tigers. If people are to be partners in efforts to secure the tiger's future, the information and education programs are among the highest priorities. And people must be partners, or these efforts will fail. As sociologist Stephen Kellert recently said, "Support for endangered species conservation will emerge when people believe this effort enhances the prospects of a more materially, emotionally, and spiritually worthwhile life for themselves, their families, and their communities."

Tigers can becomeextinct. Twice I personally have made the call, confirming that Bali's tigers were lost in the late 1940s or early 1950s and Java's by the late 1970s or early 1980s. Caspian tigers became extinct in the 1960s.

There are those who believe that the remaining tigers will be extinct in the wild within next few years. I am not among them. Conservation does work. Witness the comeback of pumas in the western U.S., of alligators and crocodiles in the South, and of peregrine falcons that are flying again right here in the Washington area. Tigers have a substantial reproductive capacity and can bounce back given space, food, and a chance.

Summary - What Needs To Be Done

To save the tiger, we must respond to both the short- and the long-term problems facing this splendid great predator. Providing support for training and other law enforcement activities that are designed to reduce tiger poaching is critical. Activities that remove tiger bone and other tiger products from traditional Chinese medicine (TCM) should be supported. As a step in this effort, the support of TCM users and practitioners must be gained and governments involved. Seeking a substitute for tiger bone in TCM that is officially sanctioned by China is a top priority in this effort.

And, CITES, the legal structure to control trade in tigers and their parts and products, must be sustained.

On our homefront, we must address the gap in legislation supporting endangered species conservation. Technically, it is nearly impossible to detect the presence of tiger bone or other tiger products in TCM. We need the truth in labeling rule: if the product label indicates the product contains rhino or tiger parts, it then will be treated legally as containing rhino or tiger parts. We must give our wildlife conservation agents this tool if we are to make headway here at home in our efforts to save the tiger. This will be an important in reducing the incentives for tiger poaching. It also sends the message that we care about securing a future for the tiger.

The key to the tiger's long-term survival will be to make live tigers worth more than dead tigers and landscapes with sustainable populations of tiger living in them worth more than without tigers. Efforts to save the tiger depend fully on the people who work and live with and near tigers every day. It is these people who pay the highest price and who must be convinced that saving tigers is worth while.

Conservationists are moving from a combative stance to a cooperative mode and are designing and supporting programs that provide incentives to people living in tiger lands. Conservationists worldwide are supporting programs that reverse the trend from skinning and exhausting the land to supporting programs that reverse the trend to supporting environments that are both economically and environmentally sustainable.

The endangered tiger is an indicator of ecosystems in crisis. The ultimate goal is sustainable ecosystems in terms of resource production and this is where we must direct our support. This is good for people living in tiger land, for their economy in the long-term, and the tiger also benefits.

Sources

Much of the above information is from the forthcoming book based on the Zoological Society of London's "Tigers: 2000" Symposium *Riding the Tiger: Tiger Conservation in Human Dominated Landscapes* from Cambridge University Press, edited by John Seidensticker, Peter Jackson, and Sarah Christie.

Additional information from *A Framework for Identifying High Priority Areas and Actions for the Conservation of Tigers in the Wild* by Eric Dinerstein and 10 co-authors, from the World Wildlife Fund-US., Washington D.C., and Wildlife Conservation Society, New York.

Safari Club International

A NON-PROFIT ORGANIZATION • DEDICATED TO CONSERVING WILDLIFE AND PRESERVING HUNTING

TESTIMONY OF

Safari Club International

IN REGARD TO

H.R. 2807
The RHINO AND TIGER PRODUCT LABELING ACT

And

H.R. 3113
To REAUTHORIZE THE RHINOCEROS AND TIGER CONSERVATION ACT OF 1994

February 5, 1998

Before the
SUBCOMMITTEE ON FISHERIES, WILDLIFE AND OCEANS,
COMMITTEE ON RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVES

Submitted by Richard M. Parsons
Director, Department of Wildlife Conservation & Governmental Affairs

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Chairman Saxton and members of the Subcommittee:

My name is Richard M. Parsons and I am the Director of the Department of Wildlife Conservation and Governmental Affairs of Safari Club International (SCI). We appreciate the invitation to appear and testify before the Subcommittee on this important issue. I have included a copy of the disclosure requirements with my written testimony.

SCI supports the passage of both H.R. 2807 and H.R. 3113, although in the case of H.R. 2807 we would like the opportunity to work with the Subcommittee to include language that would avoid possible unintended impacts on legal shipments.

In regard to H.R. 3113, the reauthorization bill, we testified in support of passage of the original Rhinoceros and Tiger Conservation Act in 1993. In fact we worked with the sponsors to develop that legislation. We definitely support the continuation of funding for this important conservation legislation. We would like to call upon the Administration to increase their requests for funds during the appropriations process so that the many needed programs for rhino and tiger conservation can be considered.

We would like to take this opportunity to discuss the important role that sport hunting plays in the conservation of the rhinoceros. Both international and United States law allow the importation of sport hunting trophies from the southern white rhino. We would like to submit for the record the following points on the benefits of this program:

- Approximately 40 animals are taken each year from a population on private lands (outside Kruger National Park) of more than 4,200 animals .
- The annual take is only one percent of that population, which is well within sustainable limits
- Two-thirds of the trophy exports are to the U.S., the balance to Europe
- Shipments are strictly controlled
- There is no indication of illicit trade related to these trophy shipments
- The South African population increased from less than 20 animals at the turn of the century to more than 7,100; outside of South Africa, less than 450 exist in the wild

- South Africa accomplished this goal through a "conservancies" program involving populations on more than 150 protected parcels of state and private lands
- Management expenditures can cost up to US$1,200 per square km per year
- Gross revenue from rhino sport hunting was US$ 2.04 million in 1995
- Total earnings from rhino hunting have been over US$ 22 million; much of these funds were reinvested in rhino conservation
- Other species have benefitted from the functions of conservancies: for example, reedbuck on 10 conservancies in KwaZulu-Natal Province went from 500 in 1984 to more than 2,500 in 1996
- Southern white rhino numbers in South African went from 4,000 to 7,000 during the same period.

Sources: South African CITES downlisting proposal; personal communication with Dr. R.G. Hughes, Natal Parks Board; materials of the IUCN African Rhino Specialist Group

In 1994, the U.S. Fish and Wildlife Service issued a permit for the importation of black rhino horn taken from a rhino in the course of a de-horning program in which a sportsman would track and dart the rhino with a tranquilizer gun, and his hunting fee would have supported the cost of the program. The objective of that program was to make the black rhino unattractive to poachers. Unfortunately, by the time the permit was issued that program collapsed, due in part to lack of funding.

This brings us to our concern with H.R. 2807. We understand this bill to be aimed at enhancing enforcement by allowing agencies to prosecute cases where powdered substances, for example, come into the country or are sold in interstate commerce and are purported to be medicinal or similar items such as rhino horn and tiger bone. Currently, the agencies would have to go through expensive and difficult analyses of the powers to show whether they were actually rhino or tiger products, as opposed to something simply called rhino or tiger, perhaps for marketing purposes

While the medicinal market issue is outside our area of expertise, we have no objection to enhancing enforcement of the laws. We would like to take note, however, that CITES has recognized that there are important and complex cultural elements involved with medicinal beliefs, and that enforcement alone is not likely to reduce the demand for rhino and tiger products. It should also be noted that there are apparently several efforts to produce desired materials from captive-bred sources.

We have a concern with the bill as currently drafted, because it is very broad and has no mechanism for exceptions. It should be noted that current law and regulation (see 50 CFR sec. 14.81) require the labeling of all wildlife imported, exported or transported in interstate commerce so as to show the species. There are several instances where things would be labeled rhino, for example, and would be legitimate products that would enhance conservation, or would have no negative effects. One example is the importation of a hunting trophy from a southern white rhino. As discussed above, this is completely legal and it enhances rhino conservation in South Africa. Another is the possibility of the importation of the horn of a de-horned black rhino, as was contemplated under the U.S. Fish and Wildlife Service permit referred to above. A third instance is the sale of legal rhino trophies as part of the estate of a deceased hunter.

SCI would like to work with the Subcommittee to help craft a bill that accomplishes the essential purpose of rhino and tiger conservation without punishing legal ownership or transfers and without providing a disincentive to conservation efforts in range states that may involve some form of sustainable use. We have discussed this informally with members of the U.S. Fish and Wildlife Service and we believe that it is possible to develop a solution that will meet everyone's needs. A similar issue was addressed several years ago in connection with the consideration of the reauthorization of the Endangered Species Act, and that can provide some guidance towards an acceptable solution. Essentially, the effort would be to describe the material generically so as to broadly catch the intended substances, without defining the target so broadly as to interfere with legitimate and beneficial transactions.

We appreciate the opportunity to appear before the Subcommittee and would be happy to answer to answer any questions you might have.

Disclosure Requirement
for
Richard M. Parsons
Safari Club International

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4. Safari Club International

5. Please see the attached c.v. for my educational and other qualifications.

6. Please see the attached c.v. for my professional qualifications.

7. Please see the attached c.v. for my occupational experiences.

8. I am the Director of SCI's Department of Wildlife Conservation and Governmental Affairs.

9. None

10. Since October 1, 1994, Safari Club International has received three Federal grants, all from the U.S. Fish and Wildlife Service under the African Elephant Conservation Act:

    1) Grant # 14-48-0009-95-1229 "Tanzania Communal Game Scout Quota Monitoring Program." February 24, 1995. Total value = $36, 050.

    2) Grant # 14-48-0009-95-1230 "Support for CAMPFIRE in Zimbabwe." February 24, 1995. Total value = $85,000.

    3) Grant # 14-48-98210-97 "Survey of Tanzania Elephant Populations." December 27, 1996. Total value = $98,155.

11. None

Curriculum Vitae: **Richard M. Parsons**
February, 1998

Education:

B.A. in English literature, U. Of Connecticut, 1964
J.D., U. of Connecticut, 1967
L.L.M. in International Law, New York U., 1968
Additional coursework in biology, oceanography and criminal law, 1971 through 1983.

Professional Positions:

1968 to 1970: Attorney Advisor, US Dep't. of Agriculture, Foreign Agriculture Program — drafted and negotiated contracts for private sector agricultural processing facilities overseas.

1970: Attorney Advisor, U.S. Dep't of Interior, Natural Resources — wrote regulations for Endangered Species Conservation Act of 1969; advised on variety of fish and wildlife matters.

1970 to 1973: Attorney Advisor, U.S. Dep't of Commerce — transferred to NOAA in Presidential Reorganization; advised on Law of the Sea, fisheries treaties, ESA, Marine Mammal and CITES matters; on interagency CITES task force, drafting team, and U.S. delegation to CITES treaty negotiation.

1973 to 1976: Special Agent in Charge, Branch of International Investigations, Permits, in Division of Law Enforcement, U.S. Fish and Wildlife Service — handled investigations, permits and civil penalty prosecutions for ESA, marine mammals, Lacey Act, other federal fish and wildlife laws; on team to design new office to implement CITES.

1976 to 1983: Chief, Wildlife Permit Office (WPO), U.S. Fish and Wildlife Service — headed office that implemented CITES for U.S., issued permits under ESA, Marine Mammal Act, CITES, Migratory Bird Act

1983 to September, 1997: Private law practice limited to wildlife and administrative law matters — clients have included Ringling Bros., Cayman Island government, Wildlife Conservation International (wild animal breeders), Fur Information Council of America (FICA), SCI, CIC, numerous private individuals and businesses; issues have included ESA, marine mammals, Lacey Act, CITES, Animal Welfare Act; have represented clients before federal agencies and municipal agencies. Was Executive Director of FICA for four years. On retainer and then on contract to SCI since 1985.

September, 1997 to present: Director of SCI's Department of Wildlife Conservation and Government

Professional Association Memberships:

American Bar Association (Sections on Natural Resource law, Administrative Law); Wildlife Management Institute; IUCN Sustainable Use Specialist Group for North America; IAFWA (International Affairs Committee).

TESTIMONY

Before

The HEARING

By The

SUBCOMMITTEE ON FISHERIES, CONSERVATION, WILDLIFE AND OCEANS
COMMITTEE ON RESOURCES
U.S. HOUSE OF REPRESENTATIVES RESOURCES COMMITTEE

On

H.R. 3113, A BILL
TO REAUTHORIZE THE RHINOCEROS & TIGER CONSERVATION ACT OF 1994

H.R. 2807, A BILL
TO FOR A RHINO AND TIGER PRODUCT LABELLING ACT

Witness:

Thomas J. Foose, Ph.D.

Program Officer
Asian Rhino Specialist Group (AsRSG)
Species Survival Commission (SSC) of IUCN - The World Conservation Union

Member
African Rhino Specialist Group (AsRSG)
Species Survival Commission (SSC) of IUCN - The World Conservation Union

Program Director
International Rhino Foundation (IRF)

Member and North American Studbook Keeper
Rhinoceros Advisory Group of American Zoo & Aquarium Association (AZA)

I am Dr. Thomas J. Foose. I serve as the Program Officer for the Asian Rhino Specialist Group (AsRSG) of the Species Survival Commission (SSC) of IUCN - The World Conservation Union and as a member of their African Rhino Specialist Group (AfRSG). I am also the Program Director of the International Rhino Foundation (IRF), which is an NGO exclusively concerned with rhino conservation worldwide, both *in situ* and *ex situ*, and especially with linking the two approaches. IRF is directly contributing $ 500,000/year and is coordinating or administering another $ 500,000/year for a total of $ 1,000,000 per year on rhino conservation projects. Finally, I am a member of the Rhinoceros Taxon Advisory Group (Rhino TAG) of and am the North American Studbook Keeper for Rhinoceros for the American Zoos and Aquarium Association (AZA). Today, I am representing the IRF, both Rhino Specialist Groups, and the Rhino TAG.

The organizations I represent greatly appreciate the opportunity to testify before this Subcommittee on rhino conservation in general and specifically in support of HR 3113 to re-authorize the Rhinoceros and Tiger Conservation Act of 1994. These organizations also support HR 2807 the Rhino and Tiger Product Labelling Act. My comments will refer mostly to rhinos and apply mostly to HR 3113, in other words the supply side of rhino conservation problems. However, my organizations also strongly support HR 2807, which relates more to the demand side of the problem.

The Rhinoceros and Tiger Conservation Act was passed in a time of crisis for these species. This crisis continues. The Act was also passed at a time of particular budgetary stringency for the U.S. Congress. The efforts of many members of Congress to provide funds for conservation of rhinos, tigers, and elephants in a time of budgetary stress is most commendable, much appreciated, and very effective.

The continuing crisis for rhinos is most cogently and poignantly conveyed by the current estimates of numbers for the 5 species and 11 subspecies of rhinoceros: (Table 1, Figures 1-3):

(1) Fewer than 13,000 rhinos of 5 species and 11 subspecies survive in the wild.
(2) However, well over half of these rhinos are of one subspecies, the southern white rhino.
(3) The numbers of 4 of the species (Black, Indian, Sumatran, and Javan) are fewer 6,000 combined.
(4) The numbers of all species of rhino combined (about 13,000) and indeed all rhinos and tigers (of which there are an estimated 6,000 worldwide) are fewer in number than the estimated population of either species of elephant, whose conservation the Congress and U.S. Government are also commendably supporting.
(5) The numbers of the 3 Asian species of rhino combined are about equal to the rarer of the 2 African species, i.e. the black rhino.

Conservation biologists believe that a population of at least 2,000-3,000 and preferably 5,000 or more of each distinct kind (i.e., subspecies or geographical variety) of rhino (and tiger) are necessary for long-term viability. Most of the species and subspecies of rhino (and tiger) are far below this viability level.

Rhinos are capable of recovery. It should be noted that the two kinds of rhino which have prospered the most in recent years, the southern white and the Indian, were almost lost around the start of this century through over-exploitation. Stringent protection in South Africa, India, and Nepal recovered these species in each case from fewer than 100 rhino, perhaps as few as 20 rhino, to their current state of relative prosperity among the rhinos.

There is some further good news amid the generally bad situation for rhinos. There has been some improvement in numbers and status of rhino populations since the Rhino and Tiger Conservation Act was enacted.

- The numbers of Black Rhino as a species, as well as most of its subspecies, have stabilized and are indeed recovering. There has been a increase continent-wide for this species in Africa of about 10% to 2,500 from the low point of 2,300 in the early 1993.

- The population of southern white rhino continues to grow vigorously, although most of them are in the Republic of South Africa, which has performed magnificently in rhino conservation over the years. But, there are always risks possible when an endangered species is located in a single political unit.

- Populations of Indian rhino in India and Nepal have continued to increase, despite substantial poaching pressure and extreme budgetary limitations in these countries.

- The establishment of a system of effective rhino protection units (RPUs) in South East Asia seems to be ameliorating the poaching problem for Sumatran rhino, which because of low numbers and intense pressure from poachers, is probably the most critically endangered of the rhino species. (A summary of the RPU system in S.E. Asia is appended to this testimony.)

- A number of range states and regions are actively attempting to develop income generation activities that will contribute to financial sustainability and self-sufficiency of rhino conservation programs. (The efforts toward this objective for the RPU system in S.E. Asia are described in an appendix to this testimony.)

However, there remain critical and precarious areas and trends for rhino conservation:

- The northern white rhino is literally on the brink of extinction. This ironically was a success story until the recent civil war in Zaire, now the Democratic Republic of Congo. Under strict protection from 1984 to 1994, numbers had doubled. However, there are now no more than 20 surviving and poaching is rampant in Garamba National Park, their last refuge.

- The northwestern subspecies of black rhino, which survives only in Cameroon, is almost gone.

- Numbers of Sumatran and Javan rhino remain precariously low and at best are only now stabilizing, with potential recovery still in the future.

- Much of the success for rhino conservation in Africa has occurred in 4 or 5 countries: in eastern Africa in Kenya and in southern Africa in the Republic of South Africa, Namibia. While all of these countries have plans to move toward more self-sufficiency, all are still greatly dependent on support from their governments to sustain the level of protection they have been providing for rhinos. However, other immense and increasing priorities in rhino range states are causing substantial reduction in government appropriations for conservation, e.g. the reduction is about US $ 1,000,000 this year in Natal province of South Africa.

- Analogously, the economic crisis in South East Asia is likely to diminish what the governments of range states in this region can allocate to rhino conservation. Adequate support from internal government sources is also problematic in India and Nepal.

Hence, there should be no complacency. The next 5-7 years are going to be critical in terms of whether the rhino species and subspecies survive.

The Rhino and Tiger Conservation Fund has been contributing significantly to the stabilization and recovery of rhinos. The support from the Rhinoceros and Tiger Conservation Fund (RTCF) has been catalytic and crucial to many rhino conservation programs as the testimony submitted by the USFWS documents. Moreover, in addition to the benefit of the funds, the RTCF has served an extremely significant function to help better coordinate and improve the quality and rigor of many rhino conservation programs.

A prime example is their role in Javan Rhino Conservation. Through support for and participation in a Javan Rhino Colloquium which assembled the many parties involved with this species and through RTCF review and critiques of project proposals, a much improved and coordinated program for this species has emerged.

The organizations I represent commend the USFWS for the manner in which it has administered the RTCF.

It should be noted how linked rhino conservation has become with global political and economic events, e.g.

- The northern white rhino in Congo with the civil wars and strife in this region.
- The Sumatran and Javan rhino with the economic crisis in S.E. Asia.

This linkage reinforces the justification for global efforts to help these species.

It should also be noted that the private sector in partnership with range state governments has played and will continue to play a vital role in rhino conservation in both Africa and Asia, e.g.

- The private sanctuaries in Asia and the conservancies and ranches in southern Africa.
- The involvement of NGOs and private partners in S.E. Asia to support rhino conservation and develop its financial sustainability.

The RTCF of USFWS has become an important partner to both range state governments, NGOs, and private parties in these endeavors.

The AsRSG and AfRSG have assisted range states to formulate continental and national action plans, to prioritize specific programs and projects, and to calculate the costs of rhino conservation and particularly the needs of range states for external support. Details are available in the Action Plans developed by the AsRSG and AfRSG. (An executive summary of the AsRSG Action Plan for Rhino Conservation is appended to this testimony.)

Basically, over the next 5-7 years, there is need for at least:

- $ 3 million/year in external support per year for rhino range states in Asia
- $ 3 million/year in external support per year for rhino range states in Africa.

The private sector can provide some of these funds but it is vital that the U.S. Government and the RTCF also continue to contribute, and if possible at an increased level. The organizations I represent would encourage an increase in appropriations for the RTCF to at least $ 1,000,000 in Fiscal 1999 and perhaps $ 1,500,000 in subsequent years to be distributed among rhinos and tigers between Asia and Africa. This amount would complement and stimulate continued matching funds from other NGOs and private partners to achieve the levels of external funding the range states need. The ratio of RTCF funds to matching funds in projects the RTCF has supported to date has been about 30% RTCF : 70% Other Donors. Funding at the $ 1 million level would also move rhinos and tigers toward parity with elephants in terms of U.S. Government support.

Of course, all appeals to the Federal Government for funding are considered important and immediate by their advocates. However, some needs are intrinsically more immediate than others. The simple fact is that substantial support for rhinos and tigers is needed now. If adequate funds cannot be provided, the need will disappear because the rhinos and tigers will have vanished.

In summary,

- Rhinos and tigers are still in crisis but stabilization and some recovery of numbers have commenced.
- Support from the RTCF has been a critical and catalytic factor in this improvement.
- There is need for support from the RTCF to continue and if possible to increase over the next 5-7 years.
- Therefore, the IUCN/SSC Asian and African Rhino Specialist Groups and the IRF encourage Congress to:
    - Reauthorize the Rhino and Tiger Act through 2004.
    - Increase the amount of the appropriations to at least $ 1 Million for 1999 and perhaps more in subsequent years toward a goal of $ 1,500,000/fiscal year.
    - Enact the Rhino and Tiger Product Labelling Act.

As final comment, may I observe another reason that support from the United States for rhino conservation in Asia and Africa is both appropriate and ironic considering the history of the rhino family. The United States was long ago the center of rhino distribution on this planet. Rhinos were the most common large mammals in North America from about 40 until about 5 million years ago, when we lost our native rhinos. Through the RTCF as well as the efforts of AZA institutions and their Species Survival Programs for rhino, the United States has the opportunity to help save these venerable species from extinction.

Thank you Mr. Chairman and Members of the Sub-Committee.

TABLE 1
WILD AND CAPTIVE POPULATIONS OF RHINO

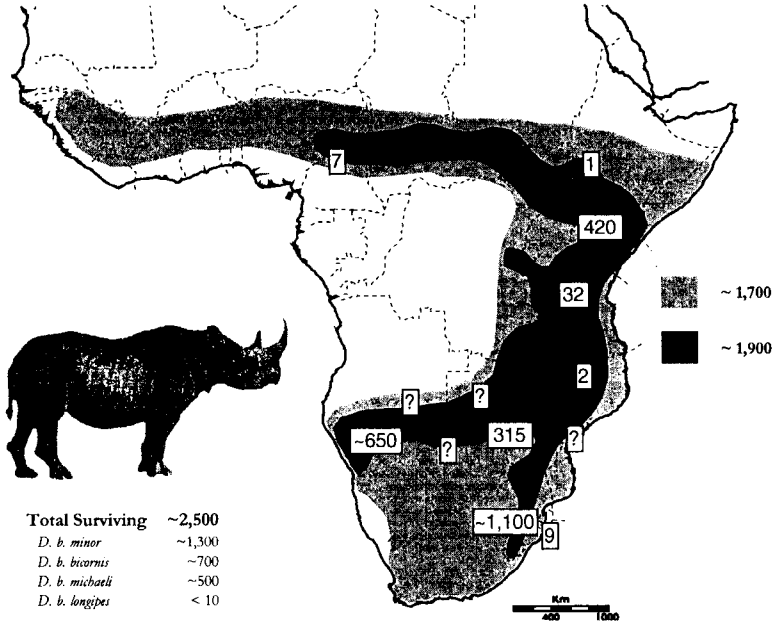
Species or Subspecies	Wild Population *1996-97 Estimate**	North American SSP Captive Population *15 December 1997*	Global Captive Population *1997 Estimate*
Southwestern Black Rhino	~ 700	0	0
Northwestern Black Rhino	< 10	0	0
Eastern Black Rhino	~ 500	72	175
Southern Black Rhino	~ 1,300	35	60
TOTAL BLACK RHINO	~2,500	107	235
Northern White Rhino	20+?	4	9
Southern White Rhino	~ 7,600	117	~650
TOTAL WHITE RHINO	~ 7,600	121	~660
AFRICAN RHINO SPECIES	*~10,100*	*228*	*~900*
INDIAN/NEPALESE RHINO	2,100	45	136
Indonesian Javan Rhino	~ 50	0	0
Vietnamese Javan Rhino	< 20	0	0
TOTAL JAVAN RHINO	< 70	0	0
Borneo Sumatran Rhino	< 100	0	3
Malaya/Sumatra Sumatran Rhino	< 300	3	14
TOTAL SUMATRAN RHINO	< 400	3	17
ASIAN RHINO SPECIES	*~ 2,500*	*48*	*~150*
ALL SPECIES	*~ 12,600*	*276*	*~ 1,050*

** Source IUCN/SSC African & Asian Rhino Specialist Groups & T. J. Foose International Rhino Foundation - February 1998*

FIGURE 1

BLACK RHINO

Historic Distribution and Current Country Totals – 1996/1997



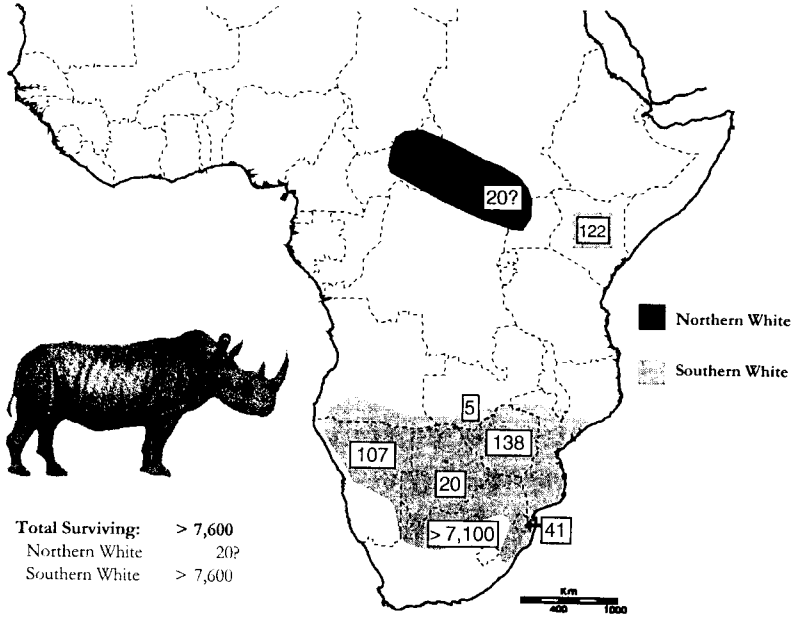
Total Surviving	~2,500
D. b. minor	~1,300
D. b. bicornis	~700
D. b. michaeli	~500
D. b. longipes	< 10

35339 IRF- 4

FIGURE 2

WHITE RHINO

Historic Distribution and Current Country Totals – 1996/1997



Total Surviving:	**> 7,600**
Northern White	20?
Southern White	> 7,600

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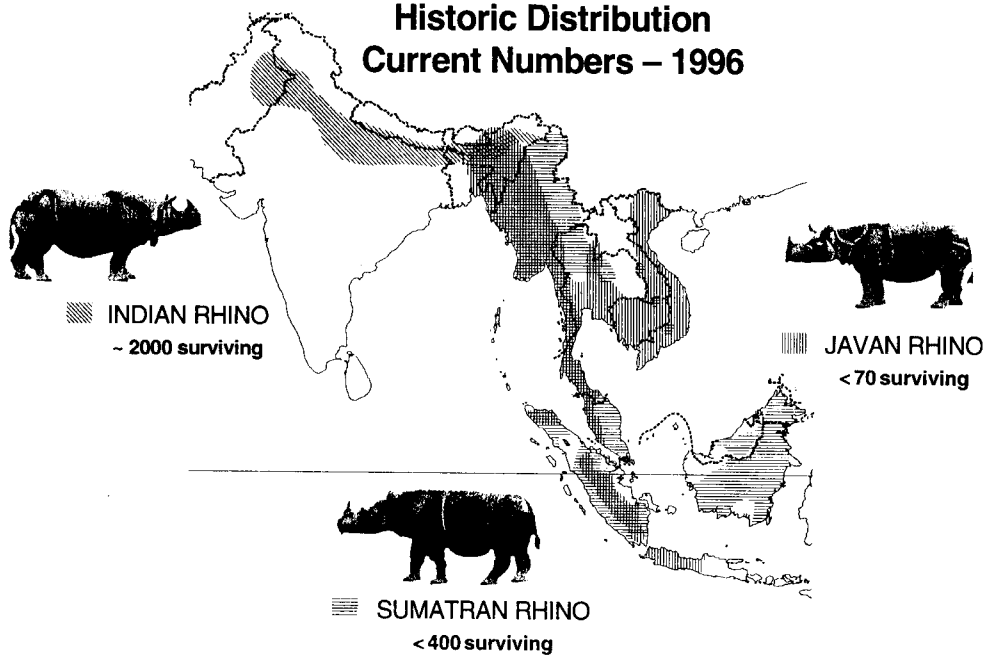
FIGURE 3

ASIAN RHINO

Historic Distribution
Current Numbers – 1996



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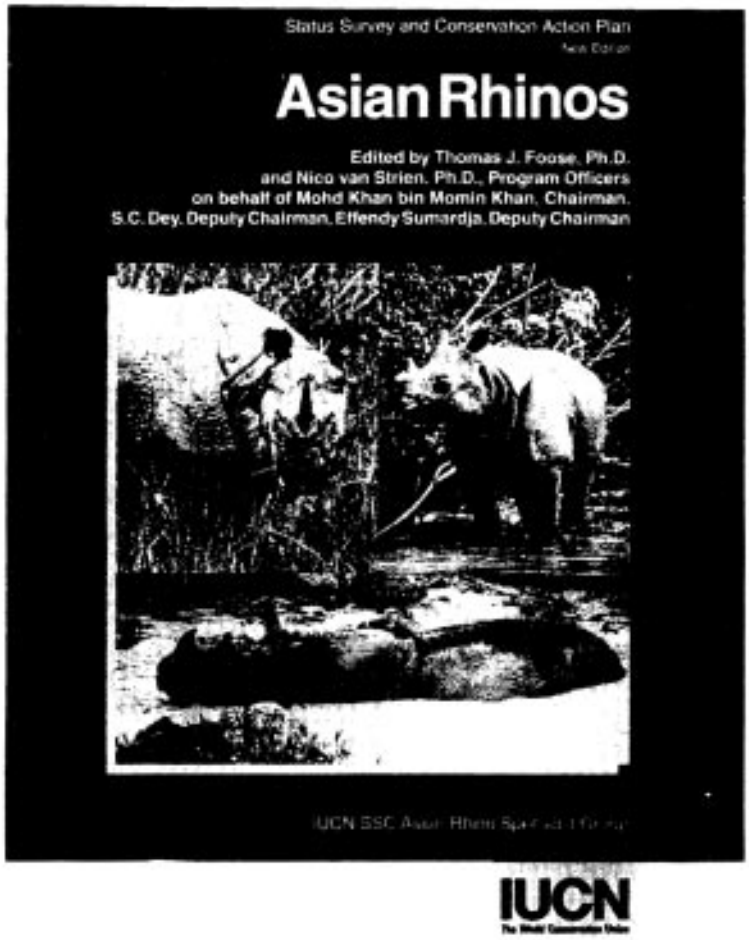
Status Survey and Conservation Action Plan
Asian Rhinos
Edited by Thomas J. Foose, Ph.D.
and Nico van Strien, Ph.D., Program Officers
on behalf of Mohd Khan bin Momin Khan, Chairman,
S.C. Dey, Deputy Chairman, Effendy Sumardja, Deputy Chairman
IUCN

Executive Summary

There are three species of Asian rhino: the Indian or greater one-horned Asian rhino (*Rhinoceros unicornis*); the Javan or lesser one-horned Asian rhino (*Rhinoceros sondaicus*); and the Sumatran or Asian two-horned rhino (*Dicerorhinus sumatrensis*). The Indian rhino is, along with the African white rhino, the second largest living species of land mammal and inhabits riverine grasslands in India and Nepal. The Javan rhino is in the same genus as the Indian rhino but is a smaller species and inhabits tropical forests but particularly along water courses. The Sumatran rhino is the smallest of all rhino species and inhabits the most dense habitat in tropical forests. Both the Indian and Javan rhinos are one-horned while the Sumatran rhino has two horns, similar to the African rhino species. The Sumatran rhino is also known as the hairy rhinoceros and is closely related to the woolly rhino that inhabited Eurasia during the Ice Ages. The Indian rhino is a grazer similar to the African white rhino. The Sumatran rhino is a browser similar to the African black rhino. The Javan rhino is a mixed feeder.

Historically, all three species were abundant and rather widely distributed in Asia through at least the middle of the 19th century. The Indian occurred all along the Indus, Ganges, and Brahmaputra River Basins; earlier it was even more broadly distributed even into southern India. The Javan occurred from eastern India throughout the rest of mainland South East Asia and on the islands of Sumatra and Java. The Sumatran rhino also extended from eastern India through mainland South East Asia and on the islands of Sumatra and Borneo.

Currently, all three species are threatened with extinction, two critically so, as assessed by the new IUCN Red List Categories.

- The Sumatran rhino is the most critically endangered of all rhino species with a population of 250–400 distributed fragmentarily in Sumatra, Peninsula Malaysia, and Sabah. Remnants may survive in Sarawak, Thailand, Myanmar, and Laos but their existence is unconfirmed and the viability of any populations unlikely.
- The Javan rhino is the rarest of all rhino species with fewer than 100 individuals estimated to survive, most in a single protected area in Indonesia; a few in an unprotected area in Vietnam.
- The Indian rhino is the success story in Asian rhino conservation with over 2000 individuals in India and Nepal. This population has recovered from very low numbers comparable to the current situation for the Sumatran and even Javan. However, threats to this species are significant and only continued and increased protection will enable survival.

The critical situation for Asian rhinos is emphasized by the fact that the number of all three Asian species combined is approximately equal to or perhaps slightly fewer than the rarer of the two African rhino species, the black rhino, which has received much more publicity over the last decade.

As in Africa, poaching for the horn is the major threat to Asian rhinos. Poaching is significant for all three species and is still rampant on the Sumatran rhino. The primary demand for the horn is its use in traditional Chinese medicine throughout the Far East. Asian rhino horn also appears to be a speculator's commodity in several consumer states.

Habitat degradation is also a significant threat, more so than for the African rhinos since two of the Asian species are denizens of tropical rainforest which continues to decrease in extent. Forest habitat is being destroyed through unsustainable exploitation of timber and conversion of land to agriculture and other human uses.

Immediately, the major requirement for Asian rhino conservation is increased protection *in situ* through core areas similar to the intensive protection zones and sanctuaries that have been successful in Africa.

Managed breeding remains a potential tool for Asian rhino conservation and is successful for the Indian rhino. However, traditional captive propagation methods have not succeeded for Sumatran rhino and have not been tried for Javan rhino. Attempts are under development to establish managed breeding centers in native habitat at least for the Sumatran and perhaps for the Javan rhino to assist in their protection and conservation.

Ultimately, major requirements for rhino conservation are:

- cessation of the illegal trade in rhino horn and products
- stabilization, extension, and improvement of rhino habitat
- recovery of rhino populations to viable levels
- support of local communities for and hence benefit to local communities from rhino conservation.

Significant funds are required both from governmental and nongovernmental sources, both inside and outside range states, if Asian rhinos are to be conserved from extinction. A rigorously defined set of projects with estimated costs has been prepared to indicate the actions and support required. The total cost of these projects is approximately US$ 33 Million for the period 1996–2000.

Ideally, rhino conservation would become financially sustainable and self-sufficient obviating dependence on the vagaries of donor support. At least one program is in progress and others are under discussion to try to generate such self-sustaining income.

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OVERVIEW OF IRF RHINO CONSERVATION PROGRAMS IN SOUTH EAST ASIA

The two kinds of rhinoceros in South East Asia are the most endangered of the 5 surviving rhino species. There are fewer than 100 Javan rhino (*Rhinoceros sondaicus*): about 50 in Ujung Kulon National Park in Indonesia and another 20 in Cat Loc in Vietnam. The Sumatran Rhino (*Dicerorhinus sumatrensis*) is considered the most critically endangered of a 5 species of rhino by the IUCN/SSC Asian Rhino Specialist Group (AsRSG). Fewer than 400 are estimated to survive worldwide, almost entirely in two countries: Indonesia and Malaysia. Although not as rare as the Javan rhino (*Rhinoceros sondaicus*), poaching pressure is more intense on the Sumatran rhino, whose populations have declined at least 50% in the last 5-7 years, almost entirely due to poachers.

The International Rhino Foundation is assisting conservation of both of these species by providing and recruiting major support for rhino protection units (RPUs), the only proven method to conserve effectively these tropical forest rhinos. IRF is also developing managed breeding centers, or sanctuaries, in native habitat to reinforce the *in situ* programs.

The Global Environment Facility (G.E.F.) through the United Nations Development Programme (UNDP) has provided $ 2,000,000 to the governments of Malaysia and Indonesia over 3 years (1995-1998) to initiate and catalyze a major program to conserve the Sumatran rhinoceros (*Dicerorhinus sumatrensis*). The International Rhino Foundation (IRF) and the IUCN Asian Rhino Specialist Group (AsRSG), for which IRF operates as the financial and administrative agent under an M.O.U. with IUCN-The World Conservation Union, are coordinating and facilitating the GEF Project.

A number of rhino protection units for Sumatran Rhino have been formed in virtually all areas where Sumatran rhinos exist, with the exception of Gunung Leuser National Park in Sumatra where the European Union has organized and is managing RPUs. Currently, there are 26 RPUs operating under the GEF/AsRSG/IRF Program:

- 12 in Sumatra, Indonesia
- 10 in Peninsula Malaysia
- 4 in Sabah

A recent Javan Rhino Colloquium organized by the AsRSG and IRF with a grant from the US Fish and Wildlife Service Rhinoceros and Tiger Conservation Fund (RTCF), has strongly proposed that 3 RPUs be organized for Javan Rhino in Ujung Kulon National Park.

Each RPU consists of 4-5 persons and is engaged in both anti-poaching activity and community outreach work. The RPUs are attempting to create an intensive protection zones (IPZs) for the rhino. These RPUs are primarily anti-poaching teams that patrol the Park to destroy traps and snares and to interdict intruders. The RPUs also engage in community outreach efforts as well as intelligence operations to identify poachers in the local area. Rhino conservation officers have been established in each area to concentrate on the campaign to conserve the rhino. The rhino protection units coordinate closely with the existing staff of the National Park but are concentrating specifically on the anti-poaching. Prior to the inception of the GEF project, rhino conservation was merely a limited part of the many activities of regular wildlife staff who had inadequate time, funds, and training to provide effective protection.

The cost to operate a team is $ 12,000/year with a need to allow for about 5% increase per annum. Hence the cost per country per year to operate the anti-poaching program for 1997-2000 is approximately:

Indonesia 15 RPUs @ $ 12,500/yr	$ 187,000
Peninsula Malaysia 10 RPUs @ $12,500/yr	$ 125,000
Sabah 4 RPUs @ $ 12,500/yr	$ 50,000
Field Coordinator	$ 50,000
TOTAL PER YEAR	**$ 412,000**

The GEF funds will conclude in 1998. Hence, a major objective currently in progress is to develop financial sustainability of the rhino conservation programs. Financial self-sufficiency for the rhino conservation programs is critical as government funds are inadequate and external donor support uncertain.

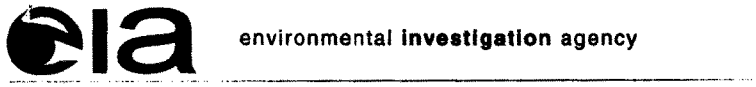
Over the long-term (Year 2000 and beyond) the major mechanism being developed for financial sustainability are the eco-tourism programs associated with the Sumatran Rhino Sanctuary (SRS), a managed breeding center in native habitat under development in Way Kambas National Park. The SRS is being developed entirely with IRF funds, of which $ 500,000 has already been committed. The SRS is located on a Conservation Concession from the Ministry of Forestry, Government of Indonesia, to the SRS Management Company and Foundation.

The SRS has two major components:

(1) Biological:
The SRS will serve as a managed breeding center for Sumatran rhinos *in situ*. Since protection *in situ* has proven so challenging, a back-up through managed breeding could be critical. Unfortunately, traditional captive methods have not worked for the Sumatran rhino. By providing much larger enclosures and more natural conditions in a managed breeding center in natural habitat, the hope is that propagation can succeed. The SRS will also serve as a base of operations for the *in situ* protection teams in Way Kambas.

(2) Eco-Touristic:
An important part of the SRS program is development of an eco-tourism component to generate funds for operation of the sanctuary as well as other rhino conservation projects. The SRS in Way Kambas is a joint venture of the Directorate General of Forest Protection and Nature Conservation (PHPA) in the Ministry of Forestry of Indonesia, The Indonesian Center for Reproduction of Endangered Wildlife at Taman Safari Indonesia (TSI), Yayasan Mitra Rhino (YMR - The Indonesian Rhino Foundation) and the International Rhino Foundation (IRF). The initial capital for development of the rhino facilities is already being provided by and through the International Rhino Foundation.

Over the shorter term, i.e. 1997-2000, the IRF is attempting both to provide and to recruit (from other conservation partners such as the American Association of Zoo Keepers and the Rhino and Tiger Conservation Fund of the US Fish & Wildlife Service) bridging funds until the eco-tourism programs are in full operation.



(12)

Testimony in Support of the Rhino and Tiger Product Labeling Act
H.R. 2807

Submitted Before the Subcommittee on Fisheries, Wildlife and Oceans of the Resources Committee of the U.S. House of Representatives

by Environmental Investigation Agency

February 5th 1998

Founded in 1984, Environmental Investigation Agency (EIA) has worked against environmental crime and abuse, specifically regarding wildlife all over the world. The organisation carries out in-depth research, detailed investigations and high-profile education programmes to identify, expose and develop long-term solutions to problems for wildlife and other environmental concerns. The campaigns are then taken to the public through the media and to decision-makers to create change.

EIA has submitted testimony to Congressional hearings previously. In 1992, EIA provided testimony to the Congressional hearing on the Exotic Wild Bird Conservation Act. In 1994 EIA advised a White House Interagency Taskforce on the criteria for President Clinton's removal of sanctions on China and Taiwan, with regard to the illegal trade in rhino and tiger parts.

EIA hereby submits written testimony to this Congressional hearing on the Rhino and Tiger Product Labeling Act, H.R. 2807, as introduced to the House of Representatives on 4th November 1997, by Representative Jim Saxton (R-NJ) and Representative George Miller (D-CA). This legislation will amend the Rhinoceros and Tiger Conservation Act of 1994 to prohibit the sale, importation and exportation of products labeled as containing substances derived from rhinoceros and tiger.

We strongly urge this Committee to fully support the aforementioned amendment to prohibit the sale, importation and exportation of products labeled as containing a substance derived from rhinoceros or tiger.

Since the turn of this century the world-wide population of wild tigers has plummeted from an estimated 80,000-100,000 to around 5,000-7,000 while three sub-species of tiger have become extinct. The world's rhinoceros population has suffered a 90 percent decline since 1970, with between 12,300 - 12, 600 of the five species remaining.

In India, the last stronghold of the tiger, about one tiger is killed every day to supply the illegal trade in tiger parts and derivatives which are used in traditional Chinese medicine by Chinese communities across the world, *including in the USA*. Many people are trying very

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hard to protect the remaining wild tigers and rhinos and field staff often risk their lives under fire from poachers. Their efforts will continue to be undermined until consumer states take immediate action.

With the exception of the Siberian sub-species, all tigers were listed on Appendix I of the Convention on International Trade in Endangered Species (CITES) in 1975 prohibiting international trade (the Siberian sub-species was listed in 1987). For the last 10 years all international trade in all tiger parts and products has been banned between the member states of CITES. All rhino species (with the exception of the South African white rhino which was downlisted to Appendix II in 1994), have been listed on Appendix I since 1977. The tiger and all rhinoceros species, except the southern subspecies of white rhinoceros, are listed as endangered species under the Endangered Species Act of 1973.

At the 9th Conference of the Parties to CITES, held in Fort Lauderdale in 1994, Res. Conf. 9.13 urged "*all Parties to treat any product claiming to contain tiger specimens as a readily recognizable tiger derivative and therefore subject to Appendix I provisions...*"

In June 1997, at the 10th Conference of the Parties to CITES, a resolution was adopted which highlighted the failure to eliminate the existing trade in tigers and their derivatives. Res. Conf. 9.13 (rev.), proposed by the tiger range states of India, Nepal and Russia urges, *inter alia*, "*All Parties and non-parties, especially tiger range and consumer States to adopt comprehensive legislation and enforcement controls as a matter of urgency, with the aim of eliminating trade in tiger parts and derivatives, in order to demonstrably reduce the illegal trade in tiger parts and derivatives by the 11th meeting of the Conference of Parties.*"

Despite being a signatory to CITES since it's inception, the US has failed to adopt adequate legislation to eliminate the trade in tigers and rhinos. Existing US Federal legislation fails to prohibit sale of products labeled as containing endangered species, which places the onus of proof on the enforcement authorities. The only method to prove a product actually contains tiger or rhino parts is to carry out forensic tests. This is prohibitively expensive and makes enforcement impossible.

The Rhino and Tiger Product Labeling Act will effectively close the loophole in the existing legislation and will provide US wildlife enforcement officers with the tools they need to stamp out trade in these animals.

Appended is a copy of a report released by EIA in November 1997, *The Availability of Tiger Bone in Japan, Europe and the USA*, which details the results of recent investigations. Of particular concern is the open availability of raw tiger bone and tiger bone derivatives in Chinese pharmacies and supermarkets in New York's Chinatown.

The particulars of the investigations have been forwarded to the relevant national authorities and to the CITES Secretariat and CITES Enforcement Officer.

eia environmental investigation agency **BRIEFING**

The Availability of Tiger Bone in Japan, Europe and USA

All international trade in tiger parts has been prohibited since 1987 under the Convention on International Trade in Endangered Species (CITES). Despite this, tigers continue to be poached for their bones (used in traditional Chinese medicine) and their skins (used as high priced rugs).

In India, the Director of the government's Project Tiger, has stated that between 250 and 300 tigers have been lost[11] in India every year out of a wild population of under 3000. The world population of tigers may be no more than 5000 animals.

Intensive efforts to stop the poaching and end consumption have been called for repeatedly over the last few years. Renewed political will in India may improve conditions for the forest guards and range officers who often risk their lives protecting tigers. But in wealthy consuming countries medicines containing, or claiming to contain, tiger parts are still readily available.

During 1997 EIA has carried out undercover investigations into a few of the consuming countries: Netherlands, Japan and the USA. In all these countries medicines claiming to contain tiger parts were available.

In Europe the availability is due to poor enforcement of strong legislation. However, in the USA and Japan availability is due to inadequate legislation.

EIA Investigations

Over the years, the Environmental Investigation Agency has conducted undercover investigations to expose the illegal trade in tiger parts in Cambodia, China, Hong Kong, Indonesia, Japan, South Korea, Netherlands, Taiwan, Vietnam, UK and the USA. Evidence compiled from these investigations is vital in focusing the efforts of the international community to stamp out tiger trade.

This briefing looks at recent investigations carried out in Japan, the USA and the Netherlands. All these countries could come up with the resources to stamp out tiger trade if the political will was present. Every day that tiger parts remain on sale, field staff in tiger habitat risk death at the hands of the poachers and about one tiger is poached.

EIA's recent investigations have revealed shocking evidence of the continuing illegal trade in tiger parts and products in these three countries.

Increase in Availability of Tiger Parts in Japan

In September 1997, EIA conducted an investigative telephone survey of Chinese pharmacies in Tokyo and Yokohama. Of the 30 pharmacies called, 20 admitted to stocking products which they claimed contained tiger bone – 66% of those surveyed.[1]

Left: Tiger Bone Plaster, openly available in Amsterdam's Chinatown, September 1997.

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Results of Japanese Survey

PHARMACY	PRODUCTS
Tokyo 1	Kokotsushu – tiger bone pills
Tokyo 2	Kokotsushu – tiger bone sake
Tokyo 3	Tiger bone pills and sake
Tokyo 4	Jokingan – tiger bone pills
Tokyo 5	Tiger bone sake
Tokyo 6	Tiger bone pills and sake
Tokyo 7	Tiger bone sake
Tokyo 8	Tiger bone pills
Tokyo 9	Tiger bone sake
Tokyo 10	Tiger bone sake
Tokyo 11	Tiger bone pills and sake
Tokyo 12	Tiger bone sake
Tokyo 13	Tiger bone sake
Tokyo 14	Tiger bone pills
Tokyo 15	Tiger bone pills
Kawasaki 1	Tiger bone pills and sake
Yokohama 1	Tiger bone plasters and pills
Yokohama 2	Tiger bone pills
Yokohama 3	Tiger bone sake and pills
Yokohama 4	Tiger bone sake

The telephone survey was conducted from 13-17 September 1997.

The main products on offer were tiger bone pills and sake. In a similar telephone survey carried out by EIA in 1995, 22 of 46 stores claimed to stock these products – 48% of those surveyed.[2] Despite store owners acknowledging the existence of CITES in 1995, the results of the 1997 survey give no indication of a move to halt the trade in tiger bone medicines.

It has been reported that as recently as 1992, (five years after the trade in all tiger parts and derivatives was banned between members of CITES), 14.4 million capsules of tiger derivatives were imported into Japan from China. Between 1990 and 1992 over 70 tonnes of tiger products, 6430 containers, 40 000 bottles and 492 cartons of tiger wine were imported from China. In 1993 an import quota of 21.6 million capsules was set.[3]

Japanese Legislation Totally Inadequate

It is still legal to consume tiger bone and tiger bone medicines in Japan[4] despite Japan joining CITES in 1980 and all international trade in tiger parts of all sub-species being prohibited in 1987.

After considerable international pressure, Japan introduced new legislation in June 1995 to ban trade in endangered species. The Law for the Conservation of Endangered Species, however, has failed to ban the trade in parts and products which are "not readily recognisable" such as bone and pills, capsules and sake.[3]

Furthermore, the only control the Japanese authorities have over existing stocks of tiger bone products is a voluntary management system within the industry. There is no evidence of any enforcement activity.[3]

Widespread Availability of Tiger Parts in New York

An undercover survey was carried out on 23-24 February 1997 in New York's Chinatown district (Canal Street area). Of 17 pharmacies and supermarkets entered, 14 offered products which claimed to contain tiger parts, principally tiger bone – over 80% of those surveyed.[5]

The findings indicate widespread availability of Chinese medicine products containing, or labelled as containing tiger parts. The principal manufacturers in China are known to have provided genuine tiger bone products in the past and the ingredients lists, usually inside the packaging and written in Chinese only, still list tiger bone.

In September 1997, a Caucasian EIA investigator revisited a couple of the stores that had been surveyed in the February 1997 investigation. They were appalled to discover that tiger bone products were still openly available.[6]

Right: This pharmacy in Amsterdam's Chinatown stocked tiger bone plasters, pills, liquid, and claimed to have all the ingredients to make up tiger bone wine, September 1997.

the packet. Another product available is "tiger bone liquid for external use". The store owner explained that the label did not claim that it contained tiger bone because it was "forbidden to use" it, but told the investigator that it was a two hundred year-old recipe from Hong Kong and that she would just have to take his word as a guarantee.[8]

All of the store owners were aware that they should not be selling these products, one pharmacist even mentioned that the tiger was "number one protected species". This was the pharmacist who had tiger bone in stock earlier. He did not show the bones on this occasion, but did say he could make up tiger bone wine for patients with rheumatism.[8]

The manufactured products came from China, but most of the pharmacists were not aware of the origins of the tigers used in the medicines. One pharmacy told the investigator that they could obtain further stock of tiger bone plasters and pills by bringing it back from China themselves.[8]

Enforcement of EU Regulation Inadequate

CITES regulations are implemented in the EC under EC Reg. 338/97 which was brought into force in June 1997. Under this law it is prohibited to import, export and offer for domestic sale any tiger parts or derivatives and products claiming to contain those parts, even if they do not.[10]

The availability of tiger parts in Amsterdam indicates inadequate enforcement.

Tigers Face Extinction

The rise in the poaching of tigers and the escalation of the illegal trade in tiger parts and derivatives is pushing the remaining five sub-species of tiger to extinction. As demand for tiger bone products, used in traditional Chinese medicine by Asian communities across the world, has increased and the populations of tigers in China have been driven towards extinction, tiger populations in other range states have suffered.

According to a recent statement by India's Director of Project Tiger, between 250 and 300 tigers are lost in India every year out of a population believed to be less than 3000.[11]

Traditional Chinese Medicine

The centuries-old practice of traditional Chinese medicine (TCM) has involved the use of many different species of plants and animals. It is not EIA's intention to undermine this cultural practice, only to ensure the survival of endangered species such as the tiger.

In a statement issued to the 37th meeting of the CITES Standing Committee, the Association of Traditional Chinese Medicine said:

> **"One of the TCM principles is to harmonise mankind with the nature and it has always evolved to reflect the changes in nature... It would be against the principle of TCM to use wild species if it were to lead to an imbalance with nature such as extinction of wild species."**

Word-Fei Cheung of the Institute of Chinese Medicine, in a statement to the same meeting, said:

> **"Whatever beneficial effect may be achieved by using endangered species, there are equally beneficial effects from using other alternatives... It is vital that the trade in these products is stopped forever, if we are to save these species. We would like to take this opportunity to urge you, the CITES Standing Committee, to call upon CITES members, especially those which consume endangered species to stamp out the illegal trade in their products."**

Results of New York Survey

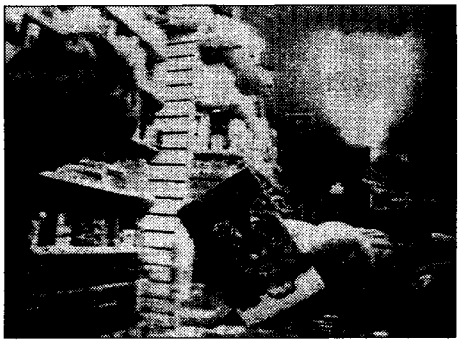
DATE	PHARMACY	PRODUCTS
23/2/97	New York 1	Tiger plaster
23/2/97	New York 2	Tiger plaster and tiger bone jelly
23/2/97	New York 3	Tiger bone and tiger bone wine
23/2/97	New York 4	Tiger bone pills
23/2/97	New York 5	Tiger bone pills
23/2/97	New York 6	Tiger bone pills and plaster
23/2/97	New York 7	Tiger bone pills
23/2/97	New York 8	Tiger bone plasters
23/2/97	New York 9	Tiger bone wine and pills
23/2/97	New York 10	Tiger bone plaster, pills and wine
23/2/97	New York 11	Tiger bone pills
23/2/97	New York 12	Tiger bone pills, plaster, wine & tiger bone
23/2/97	New York 13	Prepared to fill a prescription, including tiger bone
23/2/97	New York 14	Tiger bone pills
23/2/97	New York 7	Tiger bone pills and plaster

USA Federal Legislation Totally Inadequate

New York and US Federal legislation fails to prohibit sale of products labelled as containing endangered species, which places the onus of proof on the enforcement authorities. The only method to prove a product actually contains tiger parts is to carry out forensic tests. This is prohibitively expensive and makes enforcement impossible.

Some State legislation is more comprehensive but New York law is extremely weak.

Representative Jim Saxton has drafted a federal bill which will effectively close this loophole. The proposed amendment to the Rhinocerous and Tiger Conservation Act (1994) will prohibit the sale, import and export of products labelled as containing endangered species, and for other purposes.[6] The bill was introduced to the House of Representatives on 4 November 1997. At the time of going to press, this bill was being reviewed by the Resources Committee of the House of Representatives.



Above: Tiger bone plaster available in New York's Chinatown, February 1997.

Availability of Tiger Parts in Amsterdam

In two separate investigations in Amsterdam, EIA found tiger parts available.

DATE	PHARMACY	PRODUCTS
25/8/97	Amsterdam 4	Tiger bone
20/9/97	Amsterdam 1	Tiger bone plaster (two different brands)
20/9/97	Amsterdam 2	"Bone-strengthening plaster" – which the shop owner claimed contained tiger bone
20/9/97	Amsterdam 3	Tiger bone plaster and pills
20/9/97	Amsterdam 4	Tiger bone plaster, pills, "liquid", and claimed to be able to make up tiger bone wine
20/9/97	Amsterdam 5	Tiger bone plaster

When EIA investigators were in Amsterdam assessing the availability of other endangered species, they were appalled to discover raw tiger bone available in Amsterdam's Chinatown. EIA undercover cameras filmed the pharmacist weighing some bones, which he claimed were bones from "Indian tigers" for use in tiger bone wine.[7]

In September 1997, EIA returned to Amsterdam and visited six stores. Tiger bone products were available in five. Some of the tiger bone plasters and pills claimed to contain tiger bone. One product was called "Bone-Strengthening Plaster". The store owner offered it as a product containing tiger bone, but said that the manufacturer is not allowed to say so on

The Convention on International Trade in Endangered Species (CITES)

With the exception of the Siberian sub-species, all tigers were listed on Appendix 1 of CITES in 1975 prohibiting international trade (the Siberian sub-species was listed in 1987). For the last ten years all international trade in all tiger parts and products has been banned between the member states of CITES.

At the 10th Conference of the Parties to CITES in June 1997, a resolution was adopted which highlighted the failure to eliminate the existing trade in tigers and their derivatives. This resolution, proposed by the range states of India, Nepal and Russia urged all Parties to take the following action:

1. **"All Parties and non-Parties, especially tiger range and consumer States to adopt comprehensive legislation and enforcement controls as a matter of urgency, with the aim of eliminating trade in tiger parts and derivatives, in order to demonstrably reduce the illegal trade in tiger parts and derivatives by the 11th meeting of the Conference of the Parties."**

2. **"All Parties seeking to improve their legislation controlling the trade in tiger parts and derivatives, or to adopt such legislation, including penalties adequate to deter illegal trade and to consider introducing national measures to facilitate implementation of CITES, such as voluntarily prohibiting internal trade in tigers and tiger parts and derivatives and products labelled as containing parts and derivatives of tiger and other Appendix 1 felidae species."**

3. **"Those Parties and non-Parties in whose countries stocks of tiger parts and derivatives exist to consolidate and ensure adequate control of such stocks."** [12]

Conclusions and Recommendations

The trade in tiger parts and products claiming to contain tiger parts continues in the three countries investigated. Detection of the tiger medicines was relatively simple indicating the degree of failure of the enforcement of legislation in the Netherlands and the advantage being taken by the trade of weak legislation in Japan and the USA. The increase in availability of tiger medicine indicated in this survey in Japan is disturbing.

EIA endorses the CITES resolution adopted at its meeting in June 1997 and makes the following recommendations:

1 **Japan must amend its Law for the Conservation of Endangered Species to prohibit internal trade in tigers and tiger parts and derivatives and products labelled as containing parts and derivatives of tiger.**

2 **Japan must increase resources to enforce wildlife legislation.**

3 **The USA must pass Representative Saxton's Bill that will ban the trade in all products that are labelled as containing endangered species.**

4 **The USA must increase resources to enforce wildlife legislation.**

5 **The Netherlands and all other European Union member States must increase resources to enforce wildlife legislation.**

6 **Tiger consuming countries must offer financial support to tiger range states in direct recognition of their responsibilities by failing to stamp out tiger part trade.**

Until Japan, the USA and the Netherlands recognise their responsibility and take immediate action, they and other consuming countries must be held accountable for every tiger killed for the trade and for the deaths of those who struggle to protect them.

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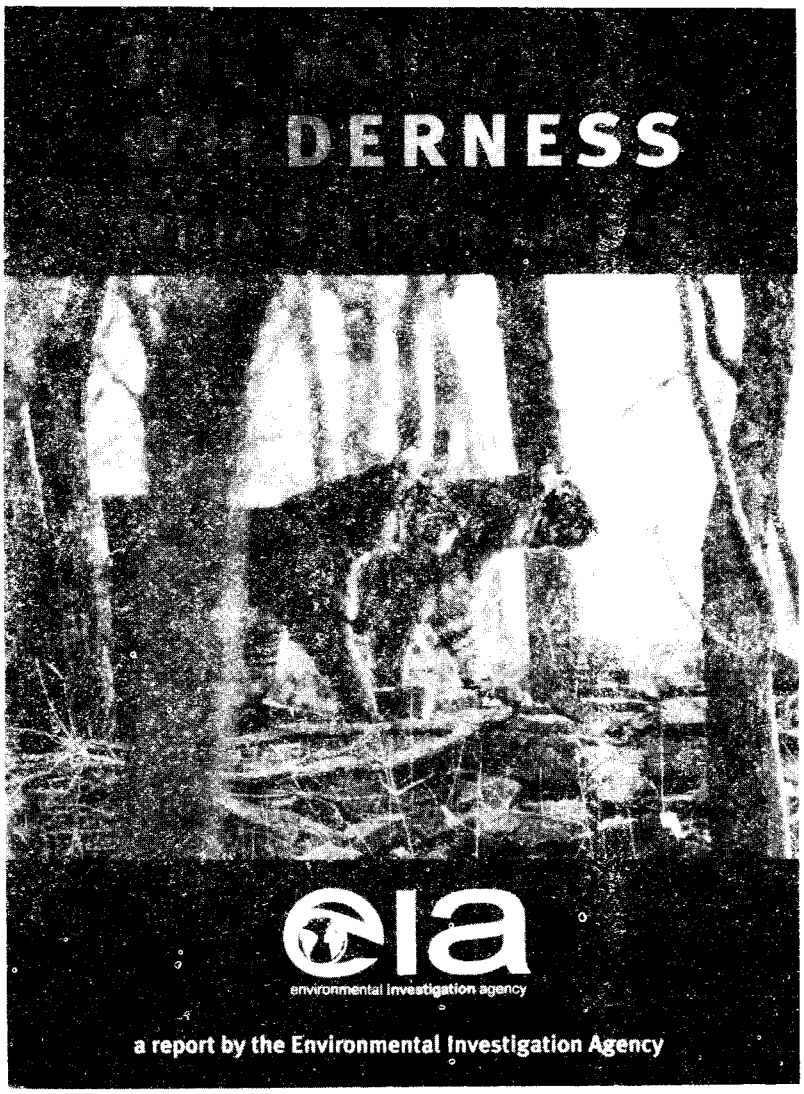
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The Political Wilderness - India's Tiger Crisis

This report pulls together information gathered throughout India and other parts of the world. It portrays a country rapidly losing its remaining wildlife and forests and destroying the unique culture of tribal people who have lived in the forests for hundreds of years.

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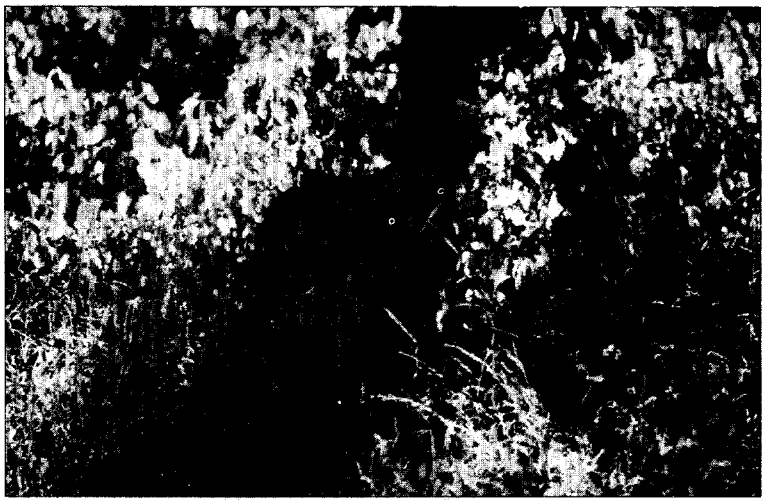

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Introduction

Three sub-species of tiger have become extinct this century without a whisper and only five remain. India is home to two thirds of the world population of tigers. The immediate threat to their survival is from poaching to supply the Asian markets for tiger bones and body parts. In India the Royal Bengal tiger edges towards extinction because of a complete lack of political will to save it. Indian experts know the problems, are aware of some of the solutions and advocate them daily. But they are routinely ignored.

This report stands as a plea to the office of the Indian Prime Minister to act to reverse the rapid loss of India's wildlife and forests.

The political wilderness

Indian Bengal tigers are being poached at the rate of one a day.[1] In the last few years some of the highly endangered one-horned rhinoceros have disappeared from areas previously considered protected. Male elephants have been so heavily poached for tusks that in one of the most famous sanctuaries the ratio of males to females is a staggering 1:200.[2] These species are some of the most visible and revered in the world, and India, to its credit, has more tigers, more one-horned rhinos and more Asian elephants remaining than any other country. But not for long.

The highest wildlife body in India, chaired by the Prime Minister - the Indian Board for Wildlife - has not even met for the past eight years.[3] Environmental protection and wildlife conservation have been relegated to the political wilderness.

India has faced a huge onslaught on its wildlife before. In the early 1970s field surveys revealed that tigers were rapidly disappearing, mainly because of the international skin trade and hunting. The Government, recognising that strong leadership and swift action were required, acted decisively: new legislation was enacted, new protected areas, including Tiger Reserves with special Government support, were created and bans on hunting and trading were imposed with new Government structures and increased resources. Although some funds came from abroad, India provided most of the financing itself because it was unacceptable to its Government and people that their tigers, and the forests in which they lived, would be gone forever.

The tiger was rescued from extinction because Indian politicians, led by the Prime Minister, recognised that future generations would forever blame them if the tiger "burning bright" was extinguished forever. India became a world leader in wildlife conservation and deservedly enjoyed a respected and distinguished voice in the international community.

The legislation and Government structures remain. There are still some Government officers who go beyond the call of duty to fight for India's wildlife despite the huge political pressures against them. In the forests some of the poorly paid forest guards and rangers still fight on against poachers, illegal loggers and illegal industrial developments. Extraordinarily, despite some of the most difficult conditions and, in some cases the non-payment of wages for months, some of these people are still willing to risk their lives to protect the forests. Some of them have been killed. Others, after years of exemplary and effective service, are moved to areas where they can no longer be effective, seemingly as a disincentive to others who may still take pride in their work.

Executive summary

Introduction

"Really strong political will is the one single factor that can really change everything."
- S. Deb Roy, former Addl. Inspector General of Forests (Wildlife), Government of India, August 1996.

The laws set up to protect India's wildlife and environment are strong but, unenforced and open to flagrant abuse, they have become useless. If poachers and major wildlife traders are caught, they are usually released on bail the next day and rarely face any punishment. Even India's most notorious wildlife trader remains free and apparently unpunishable, protected in the courts by expensive lawyers.[4] Diligent and committed wildlife enforcement officers from the State of Uttar Pradesh who have worked so hard to put him in jail for decimating the State's wildlife, are transferred from their posts - seemingly "punished" for their loyalty to wildlife and the law.[5] A Government commission reports that 90% of dams completed or under construction in its survey of 319 dams have failed to comply with mandatory conditions laid down by the Ministry of Environment and Forests.[6] Meanwhile, a Tiger Reserve field director symbolically ties a ribbon across the sluice gates of a completed dam to "prevent" it from flooding part of the Reserve, destroying habitat and displacing villagers.[7]

The failures of the Government do not remain undocumented. Some of the most prolific critics of the Ministry of Environment and Forests (MoEF) projects are expert committees and commissions set up by MoEF itself. In this respect MoEF could be congratulated for taking such criticism so openly, except that most of the reports of these commissions are filed away on the dusty shelves of the Ministry, never again to see the light of day. One day historians from future generations will dust off the files to discover why India has no forest left with no wildlife and no forest-dwelling tribal people.

Economic pressures

India's rapid change of direction to a free market economy has let loose a variety of powerful factors and created new icons and different measures of "success". Some investors step cautiously into the Indian bureaucracy while others take advantage of political and institutional corruption. The prospect of cheap labour and weak enforcement of environmental law is extremely attractive to the unscrupulous investor or foreign corporations which constantly scan the globe for ways of gaining price advantages over their

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competitors. Yesterday Bangkok, today Ho Chi Minh City, Bhopal and Calcutta. With these investors come forces which are almost impossible to overcome without strong political support. With the increase in incomes for the small proportion of the population that have benefited, come new power structures within India which break down centuries of Indian culture and sensibilities. Those people in positions of power and influence stand to gain the most if they are prepared to sell their laws, timber and land to the highest bidder. There has never been a greater test for India's political democracy because the temptations for politicians have never been greater.

Out of this dramatic change comes further pressure on the forests and last remaining habitats for India's rich but depleted wildlife. Early conservation policies,

developed before Independence and followed by the Government of India, are now profoundly questioned. The debate is about people and wildlife, so often pitted against each other in former policies. Forest people were evicted from their land as protected areas were set up across India. Promises of relocation and support were broken. Protected areas became seen as playgrounds for the wealthy as foreigners and Indian VIPs were seen visiting ancestral forests.

Enlightened conservationists understand that there has to be a balance between helping local communities and enlisting their help to conserve the forests and wildlife. Abuse of the local people is an abuse of the environment. In an effort to right some of the past wrongs, schemes have been set up which are known as "ecodevelopment". But the definition of this term is so broad that it is currently used by some politicians to justify encroachment into the protected areas. "Ecodevelopment" funds are available from a wide range of sources and sometimes huge sums of money are involved.

The World Bank is supporting an experimental US$67 million project over five years on "ecodevelopment" schemes around protected areas in India. But critics have accused them of redefining "ecodevelopment" to mean "economic development" and squandering large sums of money on consultancies and foreign travel. By flooding the fringes of protected areas with new infrastructure and job creation schemes, there are well founded fears that these areas will act as magnets to more people moving in to benefit from such extraordinary amounts of investment. These are areas where, if you are working, a daily wage may not be more than Rs 30 (US$1). With more people there will be even greater pressure on the forest for fuel wood and timber. More people will squeeze out the tigers, elephants, rhinos and destroy some of the world's richest patches of biodiversity.

Foreign wildlife consumption

The immediate problem facing the tiger is not the massive human population in India as many people would like to depict it. Of course this is an ongoing threat that causes conflict with all wildlife, especially in a country where the majority of the population is rural. But it does not cause the loss of one tiger every day. That is caused by a growing demand for tiger bones, penises, nails and teeth in Chinese communities for use in traditional Chinese medicine and for frivolous food and souvenirs.

The increase in wealth in China and the increase in value of tiger bone has led to the demise of all remaining tiger populations. Every time a ranger, forest guard, or even poacher, is killed, it is directly caused by the buyers of tiger products.

EIA fully endorses international efforts through the Convention on International Trade in Endangered Species (CITES), and outside it, to bring this trade to a complete halt. India and other tiger range states have good reason to be angered by continuing trade. Widows and families of murdered field staff have good reason to wonder why relatively wealthy countries where the trade is illegal, will not, and do not, stamp out the trade completely. The international community has good reason to sanction the Japanese Government for refusing even to ban all tiger part trade. Real and meaningful pressure on countries failing to relieve tiger range states of the insatiable consumer demand for their tigers must be applied. It can be done and much has been achieved in the last three years, but not enough.

The Indian Government cannot force China to act and stop demand for Indian tigers because of the very real fear of its increasingly powerful and populous neighbour. But the international community can take on this responsibility with leadership and real concern. However, this can only be effective if the Indian Government deals with its own responsibilities to its own environment.

The new Indian Government has a real opportunity to give genuine priority to reverse its serious neglect of India's remaining wilderness. It will need to harness support from State Governments, relevant Ministries and the Planning Commission. It will need to listen to all its Indian advisors and dust off reports and implement them. This will take political courage and true leadership and will deserve the strongest support from the world's leaders.

Without political leadership India's tigers, rhinos and elephants, together with many less visible species, will disappear within the next few years.

Try explaining that to the children of India.

Dave Currey
Director, EIA
22nd October, 1996

Without political leadership India's tigers, rhinos and elephants, together with many less visible species, will disappear within the next few years.

© Dave Currey/EIA

EIA investigator examining tiger skeleton.

In an EIA investigative telephone survey in 1995 it was found that 48% of 46 stores contacted in Tokyo and Yokohama admitted stocking products containing tiger parts.

International trade

The tiger: an international symbol of power and freedom, revered in eastern mythology, a creature of the 'jungle', star of Rudyard Kipling's "Jungle Book", Disney movies, company logos. Known by people of every culture in every part of the world.

Three sub-species gone forever this century, fewer than 6,000 live wild tigers left in the world, all on the verge of extinction, with two thirds in India. Tiger skins, bones, penises for sale in Chinese communities all over the world. Political compromises made at CITES, failure of some Governments to enforce legislation and failure of Japan, a major consumer, even to bother to ban all trade. US Sanctions on Taiwan have had some effect but "most favoured nation" China considered too powerful to threaten. South Korean traders rush to stockpile tiger bones because of their imminent extinction.

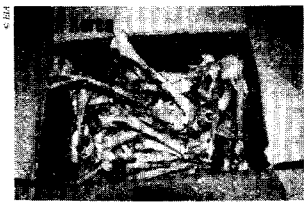
A very sorry tale of a world unwilling to save one of its best known animals.

Skin and bones

The world was touched by the concept of an India without tigers and in the early 1970s efforts were made to stop tiger poaching and end trade in tiger skins. The anti-fur campaigns in Europe and the USA contributed to relieving India of some of the pressure created by the international trade.

It was not until the late 1980s that the first signs of tiger poaching for their bones emerged in India. The infrastructure to fight the poaching was no longer in place and the pressure of the tiger bone trade was relatively unknown. Behind the trade were the traditional Chinese medicine factories mainly based in China. The skins, previously so prized, became the secondary market.

During this period the Chinese economy had changed and was on the verge of tremendous acceleration. Other Chinese communities in Hong Kong, Taiwan, South Korea and Thailand were already experiencing increased wealth. All of a sudden, the expensive medicines made from endangered species became affordable to an increasing number of people and drinking tiger penis soup became a status symbol. At the same time, because of poaching and habitat loss, the tiger populations in most of Asia, already decimated for tiger bones, were reduced even further.



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The rarity of tigers pushed up prices and the only substantial "supplier" of wild tigers remaining was India.

During the 1980s other factors affected the increase in poaching around the world. Wildlife crimes were, and in most countries still are, considered of very low priority. The wildlife syndicates in India, parts of Africa, Taiwan, China, Hong Kong, Japan, Europe and North America all flourished. Today, illegal wildlife trade is considered by Interpol to be the second largest illegal trade in the world, valued in excess of US$6 billion annually. Illegal international trade has always survived by diversifying its routes, its contacts and its commodities. The low risk of detection, coupled with extremely high profits, make it very attractive to the biggest international smugglers. Why risk heavy penalties for drug smuggling if equally huge profits can be made out of wildlife with no real risk of imprisonment? Some traders do both.

Japan continues the trade

One of the biggest consumers of Chinese tiger medicines is Japan.

Japan has no wild tigers but has been a primary destination for tiger parts and derivatives. All tigers were listed on Appendix 1 of CITES in 1975 (except the Siberian sub species listed in 1987) which banned all commercial international trade. Japan joined CITES in 1980 but, despite this, in 1990, almost two tonnes of tiger bone were imported from Taiwan according to statistics. It is reported that as recently as 1992, 14.4 million capsules of tiger derivatives were imported from China alone. Between 1990 and 1992 over 71 tonnes of tiger products, 6,430 containers, 40,000 bottles and 492 cartons of tiger wine were imported from China. In 1993 an import quota of 21.6 million capsules was set.[1] During the period between 1990 and 1992 Japan accounted for 30% of China's exports of tiger products (excluding grains, capsules and pills).[1]

In an EIA investigative telephone survey in 1995 it was found that 48% of 46 stores contacted in Tokyo and Yokohama admitted stocking products containing tiger parts. A smaller spot check of 6 stores not previously telephoned revealed that all of them had tiger products. The products were pills and tiger bone wine.[2]

After considerable international pressure Japan brought in new legislation to ban trade in endangered species in June 1995, but even then failed to ban products which were "not readily recognisable" such as pills and all tiger derivative capsules.[3] In further measures Japan has decided to "regulate" trade in tiger parts by means of a voluntary management system within the industry although there is no evidence of

***Above:** South Korean traders stockpiled tiger bones because of their imminent extinction.*

***Below:** Bengal tiger skins for sale on Burma/Thai border.*

© Damien Lyons

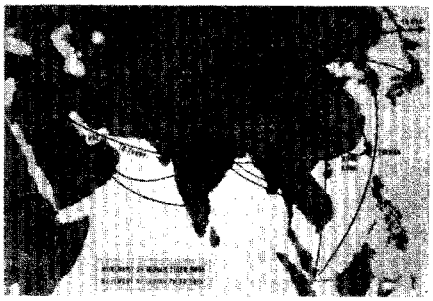
any enforcement activity. It therefore remains one of the few countries, and one of the largest consuming countries, not even to have legislation banning sale of products from this highly endangered species.

International trade routes

The Indian tiger bone trade has followed some traditional trade routes and, like many wildlife trade routes, has hidden in the dark corners of war torn areas and oppressive regimes. The two main tiger bone trade routes pass through Nepal to Tibet and directly into Tibet. The third takes advantage of the military dictatorship in Burma.[4]

Curiously, all these routes are overland and involve bartering other products - including wildlife, drugs and arms. The destination of the bone always seems to be China where the manufacture of medicines takes place. It seems likely that some tiger bone also travels directly from India to its destination by air. The import and export of unprocessed tiger bone has been illegal in China since it joined CITES in 1981,[5] but the domestic sale was not banned until 1993.[6] Nonetheless, trade continues.

The main markets for the skins are in the Middle East, parts of Europe and Southeast Asia.



China's appetite for tigers

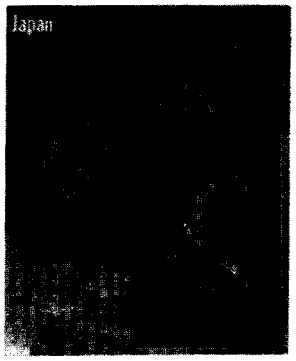
New legislation and some evidence of increased enforcement in China must be recognised. However, the markets for tiger parts still indicate that China's trade remains very active.

The primary destination for Indian tiger parts is still China. Evidence from South Korea's import data shows that tiger bone imports from Thailand and Indonesia were surpassed for the first time in 1994 by imports from China. This is despite the fact that China has only a handful of wild tigers left. These exports of bone coincide with the increase in poaching of Indian tigers and evidence of the transport of their bones to China.

Meanwhile, China is the main supplier of traditional Chinese medicines for Chinese communities throughout the world. Tiger parts have been found and seized in the USA, Canada, the UK and Belgium as well as the usual Southeast Asian countries. Between 1990 and 1992 Hong Kong was the main importer of Chinese tiger products (excluding grains, capsules and pills) taking 48% of the business.[7] Hong Kong is a trading post between China and the rest of the world for Chinese products and provides a convenient intermediary. Recent attempts by the Hong Kong Government to clean up endangered species sales from Chinese pharmacies are unlikely to have done more than scratch the surface of the transit trade.

International culpability

It is entirely fair for Indian conservationists to blame the international community for its failure to end the international trade in tiger parts. But nothing that the international community does will be effective without political leadership in India. Some international progress has been made in the last three years since powerful campaigns were launched against the main consumers, but not enough to prevent the demise of the last tiger. The increased value of tiger parts and the very low populations of all five sub species of tiger mean that even one major Chinese medicine factory could cause extinction.



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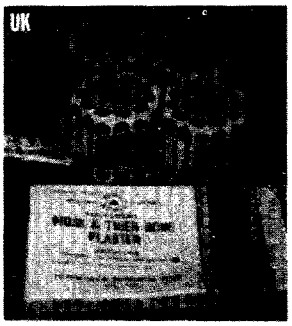


"You can safely assume between 350 and 400 tigers were lost [in India] last year."
- Peter Jackson, Chair, IUCN Cat Specialist Group, February 1996

Above: *Tiger bones seized in Uttar Pradesh in July 1996.*

Below: *Tiger & leopard skins seized.*

Indian tiger poaching

At least 1 tiger poached every day in India

The trade in and hunting of wildlife is virtually banned in India under the amendment (1991) of the 1972 Wildlife (Protection) Act. Nonetheless, the poaching of tigers has increased considerably in the last 8 years as Government complacency has set in.

There is considerable disagreement between the Government of India (GOI) and tiger experts over the number of tigers poached annually in recent years. The GOI has recently accepted that there has been serious poaching, but ludicrously claims that the situation is now under control, despite the fact that the Ministry of Environment and Forests (MoEF) has no central reporting system and much of the detection has been by non governmental organisations. At the same time the Ministry claims that seizures of tiger parts do not reflect increased poaching but better enforcement.[1]

It is accepted by enforcement agencies all over the world that seizures of illegal goods, whether of wildlife products or of other contraband, represent only the tip of the iceberg. Indian conservationists have claimed that for every seizure of parts of one tiger, eight tigers have been smuggled,[2] and this could be fairly accurate.

© Tiger Link

© Wildlife Protection Society of India

Available data shows that 64 tigers were killed by poachers in 1994 and 114 in 1995.[3] If the 8:1 ratio is used this known figure would extrapolate to a figure which suggests that at least 1-2 tigers are poached in India every day.

Renewed poaching

It was in the late 1980s that the rise in tiger poaching became apparent again but this time the target was increasingly tiger bone. The reason for this seems to be that the traditional Chinese medicine (TCM) manufacturers in China were running out of stocks of tiger bones. The tigers in China, Siberia, Indonesia and other Southeast Asian countries were in serious decline or almost extinct. Traders set their sights on the Indian tigers and close links were formed between Tibetan traders and Indian wildlife dealers to smuggle the bones into Tibet. Soon, other routes and contacts developed.

Tiger poaching out of control

Most tiger poaching is carried out in forested and rural areas by local forest dwellers or subsistence farmers. The poachers are often encouraged to kill tigers by middlemen who are paid by the big traders. Tigers are usually poisoned but they are also shot and trapped. It has recently been learned that some traders now employ people to kill tigers and leopards. Other reports show that poison is supplied to villagers free of charge.

Concern over poaching incidents in tiger reserves

Poison (often Aldrin - a common pesticide) is either laid in a buffalo or cow carcass already killed by a tiger, to await its return, or it is put in small forest water pools. Steel traps are placed throughout a forest, in some cases making it difficult for villagers to enter the forest for fear of serious injury from the traps. Guns are used when there is little fear of being caught.[4]

It is reported by the Wildlife Protection Society of India that in 1994 four tribal people were paid US$14 each to kill a tiger in the State of Madhya Pradesh. The killing method may cost US$1.30 for poison or US$8.60 for a steel trap. A middleman may receive US$340 - US$1,140 for a tiger skin and at most US$2,400 for the bones. A major trader who deals with the foreign buyer will sell a whole tiger (skin and bones) for up to US$5,700.[5]

Although not considered widespread, there has

been a report of tigers and leopards being killed for meat in the north eastern State of Nagaland. An Indian newspaper report states "Like the Chinese, the Nagas have gobbled up their wildlife. In fact they feast on anything that creeps and crawls. Visitors to Nagaland cannot help noticing the intense stillness - the absence of twittering birds and animal sounds."[8]

Poaching seems to continue unabated: by the end of August 1996 there had already been 27 tiger skins and 44 kg of bone seized and information on a further 21 tiger deaths.[7] Around Dudhwa Tiger Reserve five tiger skins, four leopard skins, 16 kg tiger bones and 15 kg of ivory were seized in three separate incidents in a four week period.[8]

The Tiger State - the last stronghold breached

The State of Madhya Pradesh was declared "The Tiger State" in 1994 by the State Government in recognition of its unique status and in an attempt to attract development funds.[9] This may be the last stronghold for the tiger in the world. The State still has 21% forest cover and may be home to over a quarter of India's wild tigers and about one sixth of the world population of all wild tigers.

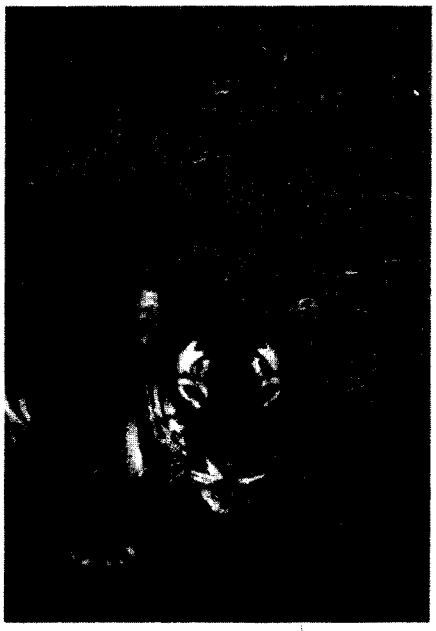
It has also been hit very hard by poachers and between May and July 1994 two Ngo investigators, with the help of informers and undercover work, reported on the trade in tigers and other wildlife in Madhya Pradesh. Cat skins were found in every town visited. The districts with the biggest problems were Jabalpur, Mandla, Balaghat, and Satna. In these districts alone, 42 tiger and leopard poachers and 32 skin traders were identified. The skins and bones of 39 freshly killed tigers were offered, with further information on 45 tiger and leopard skins.[10]

Tiger trade routes

Tigers are poached in virtually all tiger range areas of India. Recent hopes that it had not yet reached southern India were dashed by a seizure of a skin in Bandipur Tiger Reserve in July 1995.[11] The skins and bones are dealt through traders in the main cities and kept in different places to avoid detection.

The main routes out of India are through the States of Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, West Bengal, Nagaland and Manipur. The town of Leh in the Ladakh region of Jammu and Kashmir had been considered a major trading route until recent seizures appeared to have put a stop to this. However, with the more recent seizure of a skin in Leh it seems that bones and skins are still traded from there.

Other routes are through the States of Arunachal Pradesh, Sikkim and neighbouring countries Nepal, Bhutan and Burma. Major wildlife smuggling routes all lead to China. In some cases the tiger bones are sent by rail or air and at other times carried by yak by Tibetan nomads. The towns of Pithoragarh (Uttar Pradesh) and Shiliguri (West Bengal) have both been routes through to Tibet.[12] Gangtok (Sikkim) and Bomdilla (Arunachal Pradesh) are also on the tiger bone and skin smuggling route.[13] In Burma the wildlife trade is reported to be under the control of the military rulers and passes along the same routes as the timber and opium trade to Yunnan in China.[14] Major wildlife trade towns on the border with Burma are Tuensang and Noklang (Nagaland) and Imphal (Manipur).[15/16] Dimapur is also identified as a major collecting point for wildlife before being exchanged for arms or drugs with the Burmese.[15]



© Tom Lide

Too easy to find tiger parts

In November 1995 EIA travelled to different parts of India to meet with tiger experts and assess the ease with which tiger parts could be found. A short undercover operation was carried out in Calcutta which resulted in the seizure by authorities of three leopard skins.

Investigators made initial enquiries in the New Market area of central Calcutta and within two days had identified a skin trader. He offered three leopard and one tiger skin as well as other wildlife products including ivory and snake skins. The tiger skin was seen and identified as authentic by the investigators.

Other investigations also revealed the ease of obtaining illegal wildlife goods. Although EIA recognises that enforcement of wildlife law is lacking in many countries, the ease of obtaining such products in three major cities in India was shocking. Most detection of wildlife crime is done by diligent Ngos and handfuls of committed and interested enforcement officers from various Indian Government bodies, including forest officials, the police and others. Where general enforcement activity exists, it is reactive rather than proactive and even then, in many cases, there is absolutely no interest from the authorities.

EIA investigators easily uncovered a trader in Calcutta.

Indian poaching

"Every major controversy over the declining number of tigers in National Parks in northern India has, in fact, been traced to this one man."

- Telegraph, Calcutta, 23rd July 1995.

Sansar Chand

NOTORIOUS POACHER TRACE GOES TIGER-SKIN TRADE

One of the already [illegible] poaching in India is the direct taking of the animals carcass to dead bodies and along with poachers and traders. They are [illegible] chains of [illegible] officials and judges.

The case of Sansar Chand is probably the most significant and graphic example of the pattern in India's recent spate of tiger and other wildlife [illegible] and in the responsible for most of the tiger killing, [illegible] trade. The India [illegible] the case of Sansar Chand [illegible] the [illegible] of the [illegible] in [illegible] of poachers. [illegible] [illegible] and [illegible] have [illegible] in [illegible] Sansar Chand [illegible] [illegible] [illegible]

CHINA
PAKISTAN
TIBET
NEPAL
BHUTAN
BANGLADESH
WEST BENGAL
KERALA

© EIA 1996

EIA was proudly told by a pharmacist in Guangzhou, China, that the bones he sold were not tiger - they were leopard.

Other illegal wildlife trade in India

While this report focuses mainly on the plight of the tiger and its habitat, many other species are suffering the same fate. It is therefore important to see the tiger trade in the context of the illegal trade in other wildlife.

There is an almost complete failure of the system to enforce the trade bans under the Indian Wildlife (Protection) Act. Although trade is considered to have reduced since it was banned, many wildlife commodities are still illegally traded in vast numbers. For instance, in an undercover study in Madras in 1994, it was revealed that 400,000 snake skins were available annually.[1]

Rhinos

The Indian one-horned rhinoceros is under very serious threat of being wiped out. Since 1992 it is reported that 123 one-horned rhinos have been poached in their last stronghold - Kaziranga National Park in the State of Assam.[2] It has already been exterminated from Laokhawa Wildlife Sanctuary, where only thirteen years ago nearly 5% of the world population remained.[3] The poachers are exploiting the civil conflicts in the north east of India and the proximity of the rhino populations to Tibet, China, Bhutan, Nepal and Burma. There is a strong connection between the rhino horn and the drugs/arms trade. Gangs of poachers sell wildlife and especially valuable rhino horn in exchange for Chinese arms which are used to supply the Burmese military.[4]

Leopards

Leopards are poached alongside tigers and their bones are also prized in Chinese medicine. In 1994 EIA was proudly told by a pharmacist in Guangzhou, China, that the bones he sold were not tiger - they were leopard. Seizures of leopard skins indicate a massive trade in this species which certainly threatens its future.

In 1994 over 143 leopard skins were seized as well as mounted heads and a whole stuffed specimen. In 1995 at least 23 skins were seized along with various leopard parts and 8 kg of leopard bones. In the first four months of 1996 two dead leopards were found and 64 skins seized including two big hauls of 20 leopard skins each in Orissa and West Bengal. It is reported that the skins in the West Bengal seizure were from Assam and destined for Calcutta.[5]

Elephants

Although the price of ivory has gone down in recent years, the ivory trade still takes its toll of male Asian elephants (females have no tusks) and in some parts of the elephants' range the male/female ratio is now considered to have reached a critical state for the future of wild Indian elephants.[6]

In recent months there have been movements of ivory out of India, mainly heading fo. the Middle East.[7]

© EIA

Right: Trader offering ivory in Calcutta's New Market filmed on video by EIA investigators .

Below: 3 leopard skins seized in Calcutta in November 1995, following an EIA investigation.

SKIN TRADE

Many species are poached for their skins. In 1994 and the first three months of 1995 the Wildlife Preservation Department reported that the skins of 539 jackals, 145 civet cats, 942 jungle cats, 212 desert cats and 296 desert foxes were seized by police. Additionally they seized 41½ kg of skin of the common fox, three tiger skins, 7 fishing cat skins and 21 snake skins.[8]

Other common wildlife trade

The musk trade is estimated to be worth US$500,000 and in 1992 a kingpin of the business was murdered by rivals. Bear parts are being taken from poached sloth and Himalayan black bears and frogs' legs are believed to be smuggled in large quantities from India to Bangladesh. Trade in live birds and snake skins has been recorded in large seizures.

The Tibetan Antelope (Chiru) - linked to tiger trade

While India has good reason to ask for international assistance to stem demand for its wildlife abroad, the trade in the wool, known as shahtoosh, from the endangered Tibetan Antelope *(Pantholops hodgsoni)* involves consumption of a Tibetan species in India. Indians also sell the goods manufactured from this species to countries all over the world.

All commercial international trade in Tibetan Antelope is prohibited by its Appendix 1 listing on CITES. All internal trade is prohibited because of its Schedule 1 listing on the Indian Wildlife (Protection) Act (WPA). Nonetheless, the State of Jammu and Kashmir's legislation does not conform to the WPA and has not prohibited the trade in shahtoosh within that State. It is clear, however, that any sale in any other Indian State is illegal.

The trade in shahtoosh and in the wool of a domesticated goat (pashmina) is linked to the tiger bone and skin trade. The tiger parts are transported over the mountains by Tibetan nomads who are often paid in shahtoosh and pashmina. In this way, a trader who invests in tiger parts can greatly increase his profits by

Tibetan Antelope - killed for its wool

PRIVATE SHAHTOOSH DEALERS

Private dealers approached by EIA had connections in Kashmir and some just Kashmir factory addresses.

Investigators were approached on the street in Delhi and taken to "Kamal Cottage Emporium", Rani Mehta, Janpath Lane. They were shown shahtoosh shawls and told that they could be supplied in large quantities. Evidence was provided to show that shipments were sent to Toronto, Canada to prove that export was possible.

In Calcutta most EIA investigators were contacted by dealers but one private dealer offered shahtoosh "Habibullah Mullick & Sons" in on Lindsay Street and investigators were shown shahtoosh shawls and offered them to buy for between US$600 and US$750 each.

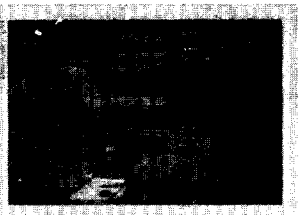
In Bombay investigators were led to "Mahad Inc. & Sons", 4 Abercrombie Road. They were offered shahtoosh shawls in natural colours and, the latest hot, brightly coloured shawls weighing 2 kg for US$600. They were also shown scraps, mixtures of shahtoosh and pashmina. The salesman explained that each extra grammes of shahtoosh increased the price by US$5. He claimed to be able to supply 2,500 shahtoosh shawls every 3 months but was not prepared to export, although he said the main customers for shahtoosh were the Germans, French, Italians, and Japanese. He said that the large demand had started 5-10 years ago and now the demand was outstripping the supply.

He also claimed to have a stock of skins made into, and very restricted with the Indian Government to Kashmir which were not for sale: 100 leopard skins, 15-20 tiger skins and some red-headed vulture.

KASHMIR GOVERNMENT OWNED SHOPS

In both Bombay and Calcutta, EIA investigators visited the Kashmir Government Arts Emporium to see if shahtoosh was illegally available. In both shops it was openly for sale and the general sale price was very similar.

In the Calcutta emporium shahtoosh was advertised



© Bombay NHS

quite openly. Investigators were quoted US$1,085 for each shahtoosh reduced this down to US$850 each for a total sale of 15 shawls. The manager said that they could supply 5 or 6 shahtoosh shawls daily and he could get hold of 50 within three weeks. He said he could easily get 10 shahtoosh shawls every three months.

Investigators were told that there was no problem with the export of the shawls. The Kashmir Government stamp on the shawl assured their security and they would be seen as "handicrafts". The manager said that they would prepare two invoices, one for the correct price for payment and another one at a much lower price for Customs and tax officials to reduce import tax duty liability.

In Bombay the Kashmir Government Arts Emporium also openly advertised shahtoosh for sale. They had some shahtoosh shawls in stock. Shahtoosh (US$1,085) [illegible] (US$1,285) and one [illegible] with stripes (US$1,285). They quoted a 15% export discount. They claimed that the pattern of sales were now picking from [illegible] the market and only three had been made. They had sold 40 in the previous week.

They showed the Kashmir Government embossed labels and stamps on the shawl and explained that the Government provides a certificate of authenticity. In Calcutta, they explained that they issued two invoices on Government paper - one real one and another undervalued for Customs. The goods are described on Customs documents as "handloom". They claimed to be able to supply 50 per month without difficulty.

Kashmir Government Emporia explained to EIA undercover investigators that they issue two invoices on Government paper, one real and another undervalued for Customs.

Above left: *Kashmir Government Emporium in Bombay claiming to be able to supply 50 shahtoosh shawls every month to EIA undercover investigators.*

Below: *Chital - killed for their skins.*

dealing in the wool and selling goods manufactured from it. It has been reported that profit margins can increase by 600% when exchanging tiger bone for shahtoosh.[9]

The Tibetan antelope is found in the high regions of Tibet and north western India bordering Tibet although it is doubtful if the Indian population exceeds 50 animals. The Tibetan population is about 35,000 animals.[10] It is a small animal which lives above the tree line and the wool is sheared from the animals after they have been killed. Scientist George Schaller reports the hunting of the Tibetan antelope in large numbers.[11]

Shahtoosh is a very fine and extremely warm wool and its name means "king of wool". The wool is woven into shawls in the Kashmir Valley and they can be passed through a finger ring and are therefore known as "ring shawls".

EIA investigators established how easy it is to find pure shahtoosh shawls in Delhi, Bombay and Calcutta in November 1995 and May 1996. A handful of private dealers were visited as well as the Kashmir Government Arts Emporia in Calcutta and Bombay. Evidence was gathered which showed that the trade was flourishing and orders were regularly taken for export sales.

© Dave Cooper/EIA

The recently retired director informed EIA that as a Government servant it was his job "to play down scandals."

Project Tiger lost its way

Launched in 1973, Project Tiger now administers 23 Tiger Reserves and ploughs additional funds into these protected areas. The initial success of the Project seems to have effectively hidden from its administrators a number of serious problems which were building up. As Indian and international conservationists patted themselves on the back a number of serious factors were emerging. It would be unfair to say that these problems were not recognised, but they were certainly not dealt with in the same diligent and energetic manner displayed at Project Tiger's launch. As tiger populations recovered and Tiger Reserves flourished, complacency set in. Meanwhile the threats grew.

In the last 5 years the directorate of Project Tiger in New Delhi has failed to co-ordinate, assist or initiate rapid field action in the interest of the tiger. Bureaucracy and rhetoric are in greater supply than action. The recently retired director informed EIA that as a Government servant it was his job "to play down scandals."[1]

The director of Project Elephant wrote on 22nd July 1996 that "the Government of India considers the conservation of tiger a sensitive issue." He asked the director of the Wildlife Institute of India to "assure the Government of India that no sensitive information will be let out". At the time of going to print, the position of director of Project Tiger had been vacant for 2 months.

Some key factors affecting Project Tiger

Since the launch of Project Tiger:

- Political will to save tigers and their ecosystems evaporated with the assassinations of Indira and then Rajiv Gandhi. Abuse of power and political corruption increased and started to demoralise even committed field staff.
- Greedy Chinese tiger bone dealers turned their attention on India when tigers were virtually wiped out everywhere else and bone stockpiles were used up. This coincided with increasing economic growth in Chinese communities.
- India turned to a market economy which created greater expectations of development and consumerism, accelerating illegal use of natural resources.
- India's human population increased by 300 million and the population of livestock in India increased by over 100 million.
- Poor rural villagers, displaced from their ancestral forests to create core areas, were not given sufficient support to create new lives outside the ecosystems they knew so well.
- Politicians, wildlife traders and developers stirred local discontent for their own ends.
- Political insurgents started to use the forests as their protection against the Indian Government and legal system, resulting in attacks on, and murders of, wildlife staff and destruction of Reserve infrastructure.

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Above right: *Sambar. Project Tiger was seen as a way of protecting a wide range of habitat with the tiger as a keystone species.*

Opposite page: *Area surrounding Bandhavgarh Tiger Reserve.*

© Tiger Trust

WHAT IS PROJECT TIGER?

Project Tiger is a Government of India project working within the Ministry of Environment and Forests (MoEF). Its director is based in New Delhi. It is funded mainly by Central Government as well as receiving external funding from other Governments, Ngos, and international agencies.

Project Tiger Reserves are claimed to be better staffed than other protected areas such as National Parks or Sanctuaries (those which are not under Project Tiger). The Project Tiger Reserves are claimed to receive four to five times more money than ordinary National Parks. Salaries are half paid by State Government and half by Central Government. Research, veterinary care, habitat improvement, capital expenditure and compensation are paid by Central Government. Management plans, staff recruitment and similar initiatives are carried out co-operatively between State Government and Project Tiger.[2]

Ecodevelopment schemes for local communities are often funded by other Government agencies or by larger schemes with outside funding.

Funds accrued from Park entrance fees are not ploughed back into Reserves as a matter of course. However, the State of Madhya Pradesh, which currently has four Project Tiger Reserves, does put money earned by Parks back into the Parks[3] and the new Assam State Government has pledged to do the same.[4]

Field directors of most Project Tiger Reserves are moved on every three years and where infrastructure is poor (poor schools, no opportunities etc) they try to move more quickly.[5]

THE EARLY YEARS

[illegible]

- Key field staff, including field directors, were moved from projects they had given their full commitment to because they stood up for their staff, their Reserves, or the spirit and letter of Project Tiger and the Indian Wildlife (Protection) Act.

Govt apathy poses threat to 'Project Tiger'

Tigers outside Reserves

More than half India's tigers are believed to live outside protected areas but there is little verified information of their numbers. The human population increase and the consequent increase in demand for fuel wood and firewood has left some of these areas no longer suitable tiger habitat.

In a recent study, an area surrounding Bandhavgarh Tiger Reserve in the State of Madhya Pradesh which was reported to be home to 36 tigers was visited. However, the report stated that the tiger "was conspicuous by its absence from most areas except in the immediate vicinity of the protected areas." It also noted that there was hardly any prey base to sustain a tiger population. Villagers and forest department field staff were interviewed and it was clear that tigers had been present until quite recently, but any signs of them now are patchy.

Many conservationists have already reconciled themselves to the idea that tigers will probably only survive in a handful of protected areas and will disappear completely from land where they compete with people.

© Dave Corey/EIA

The description of Project Tiger with its extra funds and personnel available sounds very productive. It is probably true to say that the extra resources, when and if they arrive, do make a considerable difference to protected areas. But such overall support conceals what is happening in the field.

Following is a list of vital issues affecting 16 Tiger Reserves identified at a meeting of Project Tiger field directors in 1995 and a subsequent survey through a questionnaire. This list is a damning indictment and demonstrates the serious neglect that the project has suffered.

The following is a summary of the full survey.

- Do not have their budget on time
- Do not have an appropriate and operational management plan for the Reserve
- Have vacant posts
- Are not getting any special allowance for Project Tiger staff
- Have not been given any forecast for inquiring into major death cases for tigers
- Do not have any general instruction regarding night patrolling by various levels of staff
- Do not have legal status in terms of final notification of the Park
- Have reported cases of tiger or leopard poaching
- Do not have an effective armed strike force for anti-poaching
- Do not have a large vehicle for the mobility of the strike force
- Do not have adequate funds for intelligence gathering
- Do not have sufficient legal aid to deal with offenders and counter offences
- Do not have any regeneration of areas in 10 km radius of Park
- Do not have a forest guard welfare scheme
- Do not have a yearly award scheme
- Are not able to provide any jungle kit for their staff (others are not able to provide kits for all their staff)
- Have villages in the core area
- Have not conducted any socio-economic survey of the area adjacent to the Reserve
- Are not spending any money on eco-development (in the majority of cases where money is being spent it is the only to increase an jungle offence)
- Do not have a regular programme of vaccination of cattle against diseases
- Do not have military control of the area
- Do not have good relationships with the district authorities
- Have adjacent territorial divisions where Tigers are found
- Face problems of forest fires
- Do not have a bilingual interpretation centre for local communities and tourists
- Do not monitor daily movements of tigers
- Do not have any serious research programme

The Indian Board for Wildlife - India's highest wildlife advisory body chaired by the Prime Minister - has not even met for 8 years.

Politics of poaching

The current Indian tiger poaching crisis has been recognised by the Government since the early 1990s. In 1993 the tiger census indicated a large drop in numbers, further fuelling calls for the Government to act. Although many initiatives have been undertaken, all of which look exemplary on paper, there has been an almost complete failure to implement any major activity. During this period protected area land has been diverted to other uses, poaching networks have become more organised and resentment of protected areas has continued to be stirred up in local communities.

EIA recognises the hard work and commitment of many Government staff and has heard their frustrations. But the political leadership has failed India's wildlife. This section highlights Government reaction to the problems and looks at the recommendations of Government reports.

The fiasco - "One tiger poached"

Perhaps the most disappointing Government reaction in 1995 was its absurd contention that only one tiger had been poached up to July.[1] Any close observer of the tiger poaching crisis, or reader of Indian newspapers, was aware of the ongoing problems. The statement given by the Minister of Environment and Forests (MoEF) in writing to the Indian Parliament, the Lok Sabha, was untrue, politically naive, and demonstrated an arrogance by his Ministry that had followed years of complacency. Any hope that the last Government would implement meaningful action evaporated with this fiasco.

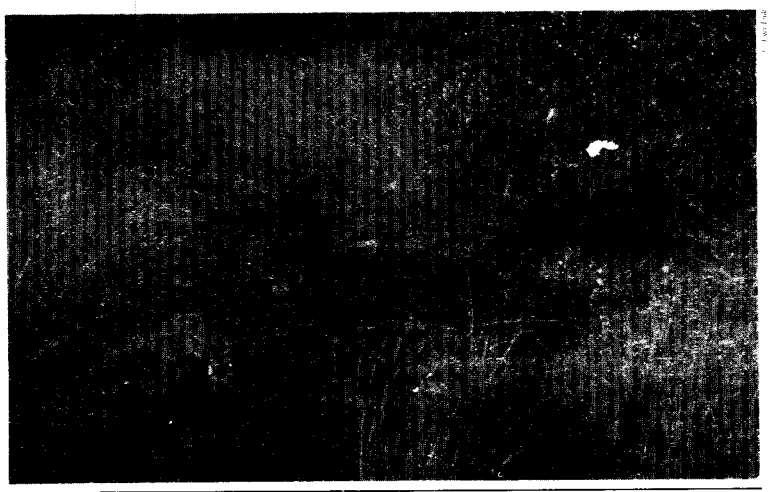
This statement was followed by Ngo criticism and evidence of the ongoing poaching of tigers.[2] The Ministry has counter-claimed that it has had some success in stemming much of the poaching with increased enforcement activity and the 1995 tiger census figures claimed an increase in numbers.[3] The tiger census techniques are heavily criticised by many conservationists as being biased upwards. This is because the loss of tigers in any one area would indicate failure by the staff who also carry out the census. The method used is also under question

Wildlife personnel are demoralised

Peter Jackson, chairman of the apex cat specialist group of the World Conservation Union, speaks to Ashwath Bhattacharyya about the conservation of tigers

'There are simple problems like lack of boots or clothing, or shortage of vehicles for anti-poaching teams. If these teams are not mobile, they cannot be effective'

Pioneer, 15th February 1996. Interview with Peter Jackson, Chair of IUCN Cat Specialist Group.



The Indian Board for Wildlife

This is the highest body for advising on the management of wildlife and is chaired by the Prime Minister.

It has not met since 1988.[5]

The Subramanian Committee

Published in August 1994 by MoEF, the "report of the committee on prevention of illegal trade in wildlife and wildlife products" was the result of growing concern within India about the increase in poaching and illegal wildlife trade. It was chaired by the former director general of the Central Reserve Police Force and the National Security Guards, Dr. S. Subramanian.[6]

Not a single recommendation in the report has been implemented and it took a year for the Ministry to call a meeting of State wildlife representatives to "review" the findings. This was seen as another delaying tactic. The MoEF claims that the budgetary implications of the recommendations involve the Finance Ministry, and so the failure to act continues. Ashok Kumar, a member of the committee, is quoted as saying "Nothing has come of it, though we have written several follow up letters to the Ministry. The report just continues to gather dust." The Ministry has been accused of failing to take a lead in implementing the recommendations of the report and of allowing itself to be browbeaten into lethargy and virtual inaction.[6]

The committee made 56 recommendations which were designed to achieve the following:

- Enlist local people in the protection of wildlife (recs. 1-8).
- Develop an enforcement strategy (recs. 9-38).
- Motivate field staff and provide ameliorative measures (recs. 39-48).
- Prevent illegal import and export of wildlife and its products (recs. 49-56).

High Court

Following a High Court writ, the Hon'ble High Court of Delhi directed a committee to be convened to make recommendations to the court. The report of this committee, chaired by M.F. Ahmed, Inspector General of Forests, was published in February 1996. It was highly critical of the current situation and made very strong recommendations *(see box overleaf)*.

Two of its key recommendations are that the Indian Board for Wildlife, which it notes has not met since 1988, is given statutory authority under the Wildlife Protection Act. It also recommends that a new Ministry for Natural Resources (Forests and Wildlife) be set up to deal only with forests and wildlife. It states that "the Ministry of Environment and Forests spends a large portion of its administrative time and finances dealing with the evaluation and facilitation of large scale projects in the industrial, hydro-electric, thermal power, mining and other miscellaneous sectors."

This committee, chaired by the highest forest and wildlife civil servant in the MoEF, makes some damning statements:

"All politicians and leaders of political parties seem to be unwilling to stand up for wildlife and take the risk of formulating a 'pro-wildlife policy'. Wildlife conservation, which has been implemented mainly through the Protected Areas system and the Wildlife (Protection) Act, is currently under attack as symptomatic of a power system which is undemocratic, authoritarian and contemptuous of the rights and the needs of the local communities affected by the imposition of the protective measures which favour wildlife!"[7]

"The political hierarchy followed by the bureaucracy have very little perception of wildlife, ecology and sustainable management, but nonetheless always decide the fate of wildlife."[8]

"... as the State governments are doing whatever they want, without any consideration to whatever may be the guidelines or whatever may the directives or even in defiance of the Wildlife (Protection) Act, 1972, with impunity. There is just no priority for wildlife planning in the States.

"For example, central assistance in development budget allocation even in Centrally Sponsored wildlife schemes do not often reach the field in full. Such funds are often (almost regularly) diverted outside State forestry budget allocation not to speak of wildlife. This causes great harm to the wildlife interests, but the State Governments do not even care to respond to Central Government's queries in this regard."[9]

"Quite often people are posted in wildlife management, more or less as a punishment posting. Usually Government is so indifferent and irresponsible to wildlife management that good work goes unnoticed as also bad lapses go unpunished. Strong curative steps have to be taken against such whimsical treatment of wildlife matters by the State Government."[10]

Dr. Subramanian and his committee [illegible] 1994

"We are of the unanimous view that illegal trade in wildlife has reached a truly [illegible] proportions [illegible] and lack of a well-structured enforcement machinery and a system of flow of information are [illegible] any meaningful effort to put an end to this menace. There is a need for a [illegible] action plan. The several criminal measures suggested in order of priority are:

(1) enlisting active participation of the local people by making [illegible] management pro-people, pro-poor and pro-nature;

(2) upgrading morale and motivation of protected area staff;

(3) strengthening of our capability to prevent crime; and

(4) not be [illegible] the barriers to apprehend criminals and [illegible] and deterrent punishment."

None of the recommendations have been implemented.

"All politicians and leaders of political parties seem to be unwilling to stand up for wildlife and take the risk of formulating a 'pro-wildlife policy'."

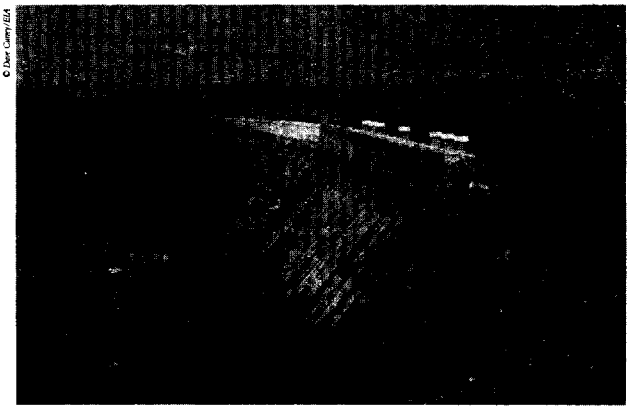
- Report of Committee appointed by High Court of Delhi, February 1996.

Politics of poaching

Expert Committee reports gather dust on Ministry shelves.

SUMMARY OF IMPORTANT RECOMMENDATIONS OF COMMITTEE APPOINTED BY THE HONORABLE HIGH COURT OF DELHI, FEBRUARY 1996

1. *Create a separate Ministry for Natural Resources.*
2. *Indian Board for Wildlife should be given statutory backing, and Executive Director adequate powers, funding and secretariat in the proposed Ministry of Natural Resources Forests & Wildlife.*
3. *All State Wildlife Advisory Boards must be constituted and must meet regularly. Honorary Wildlife Wardens must be appointed.*
4. *Create wildlife wings in Indian and State Forest Services.*
5. *Ensure all Indian Forest Services as well as State Forest Officers, Foresters and Forest Guards receive wildlife training which should be specialised for those operating for the Wildlife Wing.*
6. *Implement S.K Roy report on tourism and Subramanian Committee report along with further suggestions of this report.*
7. *Increase India's Protected Area network to 7.5% by 2000 A.D.*
8. *Divide India into five wildlife zones and have action plans for each with implementation at zonal/State level.*
9. *Create Wildlife Protection Schemes for wildlife residing outside the P.A. network.*
10. *Better implementation of Centrally Sponsored Schemes like Rhino Protection Plan etc. is needed.*
11. *Protected Areas should be given more autonomy to utilise funds.*
12. *Institute incentive and award schemes and other welfare measures for field staff.*
13. *Improve scientific research and integrate it to field management of wildlife.*
14. *Improve anti-poaching measures.*
15. *Establish intelligence gathering network for control of poaching and wildlife trade.*
16. *Improve legal support system to control wildlife crimes.*
17. *Control illegal trade in wildlife derivatives by designating special courts, establishing intelligence gathering networks, exchange of information, assisting other enforcement agencies.*
18. *Take steps to harmonise relationship of forest communities with wildlife.*
19. *Take steps to reduce human and livestock pressure on critical wildlife habitats.*
20. *Harness revenue from low impact tourism to conservation and community development.*
21. *Reduce pressure of urbanisation and economic development on wildlife habitats.*
22. *Improve education and awareness for wildlife protection.*
23. *Create new Wildlife Sanctuaries and National Parks.*
24. *A minimum of 1% of total forestry budget should be earmarked for wildlife management. Both financial and other resources have to be enhanced.*
25. *Wildlife field staff should have the same status as that of paramilitary or armed forces.*
26. *Additionally there are detailed recommendations on proposals to amend Wildlife (Protection) Act. These are contained in chapter 6 of the report.*



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The appraisal committee on river valley projects found that about 94% of the projects cleared had violated environmental norms.

Survey of river valley projects

The Ministry of Environment and Forests (MoEF) is responsible for the clearance of development and industrial projects based on Indian legislation and environmental norms. In 1994 MoEF reconstituted six environment appraisal committees to re-examine projects underway.

The most shocking results came from the committee on river valley projects. It found that about 94% of the projects cleared had violated environmental norms. In a letter to the Minister a committee member stated "It was also clear from the presentations that though the regional officers have regularly reported the status of compliance of conditions to the MoEF, the MoEF had been unable or unwilling to initiate action against the defaulting project authorities." A newspaper noted on 17th August 1995 "that the ministry has yet to reply to the letter or undertake remedial measures is an unfortunate underscoring of the 'inaction'."[11]

Indian dam builders flout environment rules

The Global Tiger Forum

It has been over three and a half years since the Global Tiger Forum (GTF) was first mentioned at the "Delhi Declaration" in February 1993, when part of the agreed action included setting it up. Then in September 1993 it was again raised at the "Forestry Forum for Developing Countries", when most Ministers approved of the idea.[12] The idea was that GTF would work toward the survival and promotion of the tiger in tiger range states.[3]

It has not progressed as had originally been hoped. In March 1994 a meeting was held and the draft statutes were drawn up and three countries ratified: India, Bhutan and Burma (Myanmar). The formal establishment of the GTF requires five countries to ratify and the secretariat is only an interim secretariat at present funded by the Indian Government. The GTF is being seen as a means to raise international funds and interest in supporting countrywide action plans and is unlikely to achieve anything quickly. It had been hoped that other countries would ratify but other political considerations are blocking this despite the watering down of initial aspirations.

Indo-Chinese Protocol

China was conspicuous by its absence from the first meeting of the tiger range countries held in New Delhi in March 1994. As a range state and the major consumer of tiger parts, China's failure to attend was a blow to the success of initiatives to co-operate to enforce CITES and national legislation.

The Indian Government sought an agreement with China at a bilateral level and a former Minister of Environment and Forests, Kamal Nath, signed a protocol with China on March 2nd 1995 which calls upon both countries to co-operate to save the tiger. It includes steps to stop illegal poaching of tigers and cross border smuggling, plans for the bilateral research and training programmes and the exchange of data for wildlife management programmes.[13]

The protocol has been widely criticised for including a reference to "sustainable development of the species" and for its article on captive breeding. Conservationists are suspicious that the language could give some credence to captive breeding schemes to provide bones to the Chinese medicine market. They also fear vital funds will be diverted to "captive breeding programmes" which have little significance in the conservation of the species in the wild. Captive cubs cannot be released into the wild because they require training from their mother.

The criticism and concern may yet be proven well founded, but the positive elements of the protocol have joined other Government of India documents gathering dust on the shelves.

Absolutely no constructive follow-up has been undertaken.

Indo-Chinese Protocol - absolutely no constructive follow up has been undertaken.

"I see no relation between liberalisation and environment.'

- Deve Gowda, Prime Minister of India, in an interview when he was Chief Minister of Karnataka, published in 'Down to Earth', 30th June 1996.

The environment vs. economic liberalisation

The most important aspect of Project Tiger is its protection of vital tiger habitat, but this concept has been overtaken by the recent liberalisation of India's economy. Although tiger and other wildlife habitats are fairly well protected by the letter of Indian law, the Government of India and State Governments are systematically abusing their own laws for increased profits. Some of the last important habitats are being raped by industrialists.

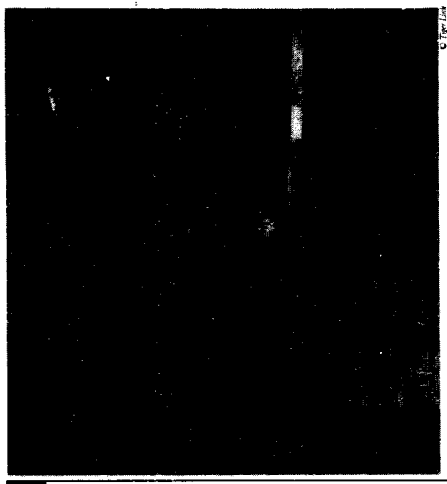
There is obviously serious concern in India that the rapidly growing human population is fed, supplied with drinking water and given hope for the future. EIA recognises the difficult political decisions to be made to address the balance between a liberalised economy and environmental protection. However, when the forests are destroyed, rivers polluted and wildlife gone, it is usually the poorest of people that suffer. The forests are a vital element in protecting the water table and the rivers are the life blood of all living beings.

India has adopted good legislation to protect its environment. The Environmental Protection Act, the Wildlife (Protection) Act and the Forest Conservation Act clearly map out the restriction on development in protected areas. The law is not at fault - it is the failure to enforce it and the flagrant abuse of it by politicians and industrialists. These are the most sophisticated poachers of them all - powerful, greedy people prepared to sell the last square kilometre of India to line their own pockets.

In early 1996 when Deve Gowda, now India's Prime Minister, was the Chief Minister in Karnataka State, he said in an interview "I see no relation between liberalisation and environment. My sole concern and objective is that Karnataka becomes number one in industries in the country."[1]

Such blatant disregard for the environment will gain him many unscrupulous corporate friends but will also make him powerful enemies in a world which has started to learn from its many environmental disasters. No major international company wishes to be associated with loss of wildlife or environmental destruction. It costs too much in bad public relations.

It is to be hoped that, as Prime Minister, Deve Gowda will recognise the long-term needs of India's people, and its environment, and not cave in to short-term industrial interests.



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A system of neglect

Across the country, essential forest habitat is being lost to mines, logging, hydro and irrigation schemes, power plants, orchards, tea plantations, and aquaculture development. Legislation designed to stop encroachment of protected areas is being systematically circumvented or ignored. Areas in and around National Parks, Tiger Reserves, Wildlife Sanctuaries and even World Heritage Sites and Biosphere Reserves have been destroyed, reducing further the habitat available for the tiger.

Mining activity has devastated thousands of hectares of prime tiger habitat and breaks up corridors, dividing genetic pools for future recovery of tiger populations. 65% of Project Tiger Reserves suffer from the negative impact of mining.

This neglect has not happened by accident. Appropriate authorities have consistently failed to notify or enforce environmental regulations and the Government of India has given a green light to those who are determined to exploit any of the numerous loopholes that riddle the environmental protection system. Industry has its sights on huge profits.

Some loopholes have been particularly useful to those seeking to exploit India's protected areas:

Failure to notify

Declaration by a State or the Government of India that an area has been designated a protected area, does not guarantee that it will officially become one. Across the country, many of the most important protected areas have not yet received full legal notification. In some cases, this has been the situation for decades. In a survey of 16 Project Tiger Reserves in 1995 over 80% of them had not received final notification of the entire Reserve.

In such scenarios, the integrity of Reserves can be called into question, as recently occurred in a case concerning tendu leaf collection from forests in Madhya Pradesh. In this case, the Court felt unable to stop the infringements since the Government had failed to notify the Reserves. The judgement added, however, that "inertia in this behalf cannot be tolerated",[3] and ordered the State Government to complete all notifications within six months of the case.[4]

Denotification

Even if a protected area does gain full legal notification, State or Central Government may later seek to denotify it. State Government can achieve this by a simple resolution in the State legislative assembly.

The Government of Maharashtra, for example, denotified about 500 km² (around one third) of the Melghat Tiger Reserve, an area of about 1,618 km² of dry, deciduous forest - mostly teak which was designated a Project Tiger Reserve in 1974. It is home to a wide variety of wildlife and plants including tiger, leopard, sloth bear, wild dog, jackal, hyena, gaur, sambar, wild boar, chital and nilgai and over 250 species of bird.[3]

The denotification originally stated that it would avoid difficult relocation of 37 villages required under the Wildlife (Protection) Act 1972. However, the 1991 amendment of that Act specifically allowed for villages to remain within the boundaries and there are no villages located within the core area of Melghat Tiger Reserve. There is currently a stay of this order after the Bombay Environmental Action Group and others contested the denotification.[4]

The stated reasons for denotification have to be questioned because since the denotification in December 1993[5], proposals for a dam project have been revived. The area to be submerged lies in the part of Melghat Tiger Reserve which has been denotified and would therefore no longer provide any legal impediment to the dam construction. In this area there are also proposals by the Maharashtra State Government Forest Department to begin tree felling and to exploit commercially valuable forest produce.[6]

Environmental Impact Assessments

The Ministry of Environment and Forests' (MoEF) guidelines for Environmental Impact Assessments are vague on a number of counts, and thus allow the "most obliging consultants"[7] to certify minimum environmental impact.

The impact assessment for the proposed Sanjay Gandhi Thermal Power Station in Madhya Pradesh, for example, states that there are "No endangered species within 25 km of the site". The site is situated, however, within the Sohagpur Reserve Forest where 8 tigers were recorded in the 1993 tiger census. In 1994, a local resident reported the presence of breeding tigers just 5 km from the site. Wolf, leopard, and jungle cat have also been reported. In the district as a whole, 38 tigers were counted outside protected areas. Furthermore, the fact that Bandhavgarh National Park is just 30 km away, is not mentioned in the Environmental Impact Assessment.[8]

Conditional clearances

Projects are rarely rejected on environmental grounds, but are usually given clearance to go ahead subject to the fulfilment of specified conditions. Common examples are to ensure 'compensatory afforestation' of at least an equivalent area to that being lost, or for construction workers to be provided with fuel so as not to put pressure on adjacent forests, or for safe disposal of construction garbage.

In theory, non-compliance of these conditions should lead to the clearance being revoked, the project declared as illegal, and construction halted. In serious cases, project officials should be prosecuted.

MoEF is empowered to take such actions under the Environmental Protection Act (1986). Despite this, and despite the fact that, for example, in one appraisal of river and hydro schemes, over 90% had violated the conditions of their project clearance, these powers have rarely been used.[9]

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Mining threatens tiger reserve

8,000 hectares of tiger land goes to mining projects

Mining projects ripping apart forest corridors

Ecology loser in battle for development

Wildlife sidelined by commercial projects

© Tamil Nadu Green Movement

"The Ghats' prime forests are being sacrificed to make a quick killing."
- India Today, 15th August 1995.

Tigers, rhinos, elephants - 450 km long, 120 metre wide canal splits vital habitat

In March 1994 former Prime Minister Narasimha Rao assured the delegates at an international meeting of Tiger Range Countries that "the protection of tiger and its habitat has the highest priority on our national agenda, and the Government and people of India will spare no effort in it".[12] In March 1996, Prime Minister Rao and the King of Bhutan are reported to have signed an agreement to construct a massive hydro and irrigation scheme, straddling the Indo-Bhutanese border called the Sankosh Hydro Project.

The scheme will involve a dam, located on the Bhutanese side of the border, and a main irrigation canal stretching from the dam, across northern West Bengal, to the Farraka barrage. The main irrigation canal, at 7 m deep, 120 m wide and 450 km long, and with a metalled inspection road and embankment along its length, will represent a complete barrier to all wildlife movement and migration along the route.[13]

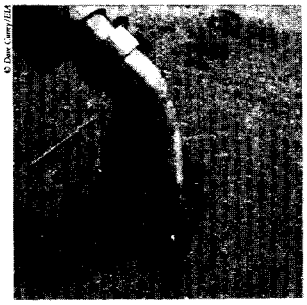
The canal will pass right through the core area of Buxa Tiger Reserve, cutting the Reserve into two halves. Populations of tiger, prey species, and wild elephants will be split into two, with no gene flow between them.[14] It will also cause irreparable damage to Jaldapara and Gorumara Wildlife Sanctuaries, the only two sanctuaries in West Bengal with rhino populations. In addition, the Mahananda Sanctuary, and parts of the Jamduaar Reserved Forest of Kachugaon Forest Division in Assam, where the Golden Langur *(Presbytis geei)* was discovered, will be devastated.[15]

The canal will cut across the traditional annual migration route of elephants in north Bengal, isolating and concentrating elephants in an area of high human population and increasing human-elephant conflict.

The total estimated cost of the project is currently said to be US$14 billion. Base camps, project offices and rest houses for project staff have already been built by India in Bhutan, and survey markings for the canal, including boards, stakes driven into the ground, and markings on trees, have been laid.[15]

Destruction of a Biosphere Reserve

Construction of the massive Pykara Ultimate Stage Hydro-Electric Project (PUSHEP) is already well advanced. Located in the Nilgiris Biosphere Reserve, home to a third of India's wild elephant population, the project will affect no fewer than three sanctuaries including the Bandipur Tiger Reserve.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The plans for this hydro-electric project were first announced in the 1980s by the Tamil Nadu Electricity Board. PUSHEP is projected to have horrific ecological consequences, including insularisation of wildlife populations, desertification of the thorn forest, and increased human-animal conflicts. According to a study published by the Bombay Natural History Society in February 1996,[15] construction has already destroyed a vital elephant corridor, separating the Nilgiris population into two and ultimately leading to their genetic decline. A similar impact on tiger populations can be expected.

There have long been doubts over the economic viability of the project. In 1986, it was rejected by the Central Electric Authority as too expensive, but was later "mysteriously" cleared by the planning commission following approval by the Ministry of Environment and Forests (MoEF) in 1985.[16]

Construction is now hopelessly behind schedule, while the projected cost is now nearly twice that estimated in 1986. Half of this has already been spent.

***Above right:** Iron ore deposits pollute the banks of the River Bhadra, 15km downstream from the Kudremukh Iron Ore Company, Karnataka.*

Iron ore prospecting inside Kudremukh National Park has already seriously eroded a mountain peak.

even though some of the major contracts have yet to be awarded.[16]

Local conservationists have now turned to the courts in a last desperate attempt to save the Nilgiris Biosphere Reserve.[17]

Iron ore prospecting in Kudremukh National Park

Kudremukh National Park is one of Karnataka's most recently formed Parks, comprising around 600 km² of the finest evergreen 'shola' forest. It is rich in both fauna and flora, and supports a host of endangered species including tigers.

Kudremukh is also home to the largest iron ore mining project in India, Kudremukh Iron Ore Mining Company Ltd. The mine lies outside the Park but its operation affects both Kudremukh National Park and Bhadra Wildlife Sanctuary. Current mine extraction rates are around 75,000 tonnes of earth every day, providing about 25,000 tonnes of iron ore.[18]

The MoEF has recently issued a prospecting license to the mine in the National Park and roads and prospect mines have already caused devastation. The General Manager defended the prospect mining and the possibility of future full-scale mining in the Park (the only objective of prospecting) by claiming there were "no animals there." He also questioned why mining should not take place in the National Park if it can be done without environmental damage or with the possibility of improving the environment.[19]

This massive mining operation exposes the soil to the elements, creating an enormous run-off which heavily pollutes the River Bhadra. This river flows past villages and through the Bhadra Wildlife Sanctuary, a very important local tiger habitat. Sand from the banks of the river 15 km downstream from the mine in the village of Balehonnur has been tested in a laboratory and found to be 57% magnetic.[20]

Proposed ACC Cement Plant, Meghalaya

Construction has just begun of a large cement plant on the boundary of Balpakaram National Park, in the Garo Hills of Meghalaya, an area that supports that highest densities of wild elephants in India and numerous other endangered species including tigers, leopards, lesser Pandas, and sun bears. In total, the Park and the surrounding region support 39 species listed on Schedule 1 of the Wildlife Protection Act 1972.[21]

The plant and mine sites, to be built by the Associated Cement Corporation (ACC), will cover an area of 14 km² and are located precisely within a narrow and intensively used elephant corridor. Obstruction of elephant movement will stop essential gene flow between populations, and increase human - elephant conflicts.[22]

As of March 1996, the Forest Department had still not been notified of the project, and clearance had not been given. Despite this, no measures have been taken to bring the unauthorised construction to a halt. The estimated cost of the project is US$40 million.[23]

There are proposals for limestone mining in the elephant corridor to supply the factory. An appeal to MoEF has been made by some of the most eminent scientists, experts and biologists in India to stop this proposal and protect the corridor.

Forest for tea in Kalakad-Mundanthurai Project Tiger Reserve

The tropical forests of the Western Ghats are considered to be one of the greatest 'hotspots' of biodiversity in the world.[22] With a third of the cover lost already, sanctuaries such as the Kalakad-Mundanthurai Tiger Reserve, represent essential refuges for a wide variety of endangered animals, including tigers, elephants, and leopards.[23]

In the heart of the Sanctuary on land owned by the State of Tamil Nadu, lies a commercial estate leased by the Bombay Burma Trading Corporation (BBTC) for tea, coffee and cardamom plantations. The three tea factories, with a resident worker population of 10,000 people, require enormous quantities of fuel wood. It is reported the company has chosen to source this wood illegally from the Reserve for over two decades.[24] Hundreds of acres of prime shola forest have been felled in utter disregard of the Forest Conservation Act (1980).

In an attempt to hide illegal activities, BBTC erected chain gates on all access roads passing through to the plantation, even though this itself was illegal. It is reported that when staff from the Tiger Reserve tried to remove one of the chain gates and stop the illegal felling they were subsequently assaulted by BBTC staff.[24]

In 1995, the Tamil Nadu Government and the Project Tiger Reserve finally brought legal proceedings against BBTC, but by then thousands of acres of forest had already been lost. After initial success, BBTC then brought a stay order.[25]

"Do you think you'll be able to persuade the Environment Ministry that you can do open caste iron ore mining without destroying the environment in a National Park?"

QUESTION FROM EIA

"Why not?"

REPLY FROM K.V.TIYAGARAJAN, GENERAL MANAGER, KUDREMUKH IRON ORE CO. LTD.

Env v Economics

On pollution of the Bhadra River: "The results (of tests) showed 57% magnetism in the (sand bank) deposits... it violates the Water Pollution Act but the Water Pollution Board doesn't seem to be taking much action about it." - Kaoosi Sethna, local environmentalist.

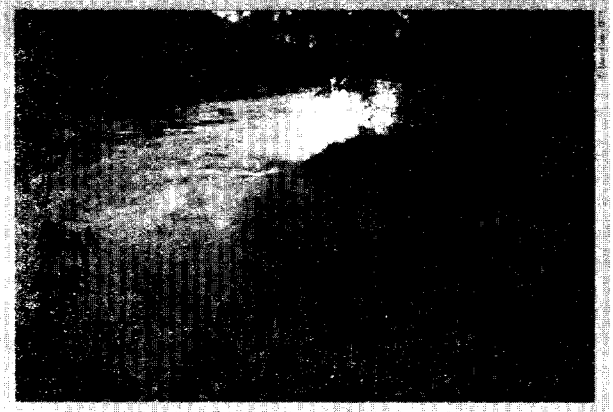
The following examples are the tip of the iceberg. Across the years, the report finds Orissa's rich array of important tiger habitats, under threat to India.

Sixth Dam project in Madhav National Park, Madhya Pradesh

The proposal for a dam, made in 1995, which would inevitably [illegible] forest and tiger habitat, and not mention that least one part of National Park area, and claimed that it was of "no significance as far as wildlife was concerned." Approval granted at conclusion of four minutes. Mining also approved without knowledge of National Park authorities.

Bhadra Wildlife Sanctuary, Karnataka

In the central part of the Western Ghats in Karnataka and one of the most important tiger habitats in India. The river cuts [illegible] on the boundary of the Sanctuary means one of which spills into the forest and a more local but equally [illegible] approved. Now work, not being contracted into the forest to facilitate timber removal. Three new dams planned to be built within Sanctuary. Bhadra River is polluted by the Kudremukh Iron Ore Mining Company Ltd. upstream.



Panch Tiger Reserve, Madhya Pradesh

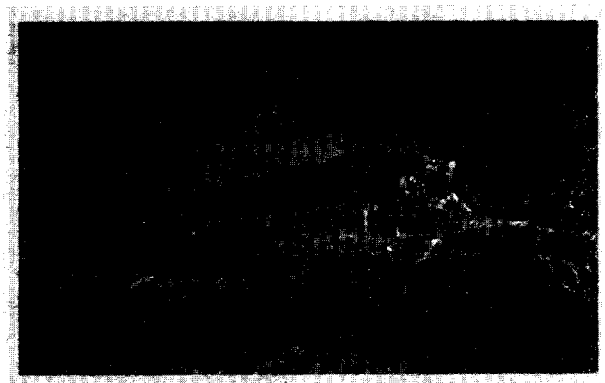
[illegible] Chief Wildlife Warden of Madhya Pradesh to [illegible] about their [illegible] of the [illegible] of the Wildlife Protection Act and to [illegible] the neighbouring National Park [illegible] in the Panch National Park which [illegible] the Tiger Reserve.

Panna Tiger Reserve, Madhya Pradesh

[illegible] for [illegible] for [illegible] and [illegible] of the park. [illegible] inside. Damage of mining [illegible] substantial. River Ken [illegible] between [illegible] adjacent [illegible] million in the region. [illegible] with [illegible] Act."

More right: *River Bhadra polluted by the Kudremukh Iron Ore Company Ltd flows through villages and the Bhadra Wildlife Sanctuary. Picture shows clean water flowing into the polluted river.*

Below right: *Limestone mining near Panna Tiger Reserve.*



Some of the last important tiger habitat is being destroyed by industry.

Lomna Ranganh Sanctuary, Rajasthan

At least 40 marble mines operating in the Sanctuary. The leases on most were granted after the Sanctuary was declared in 1982.

Sariska Tiger Reserve, Rajasthan

Bottom of Aravalli Hills, of which Sariska is a final remnant, acts as a barrier against further deterioration from west, thereby protecting Indo-Gangetic plains. Industrialisation since independence has halved the length of the mountains. Dolomite and marble mines operated in Reserve for many years, causing great degradation. Government will clamped down on mines following judgement in Supreme Court, ordering mining activity to stop.

Palamau Tiger Reserve, Bihar

Dam is the final blow of Reserve's demise. In addition, the Hindalco mining project in the same district has left in the wake 165 km of tiger and leopard habitat.

Laokhowa Sanctuary, Assam

Entire landscape given off to oil exploration. Sanctuary is now [illegible] and [illegible].

Shoolpaneshwar Sanctuary, Gujarat

Clearing down of bamboo for pulp mill.

Nal Sarovar Sanctuary, Gujarat

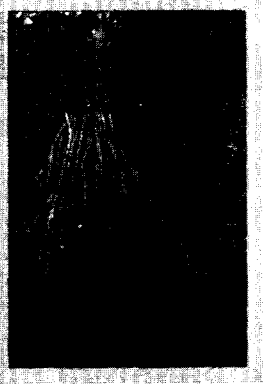
Bauxite mining in Reserve.

Narayan Sarovar Sanctuary, Gujarat

The State Legislature lowered [illegible] of the Sanctuary in July 1995 by 5 sq km to allow [illegible] mining and the manufacture of cement. Case was recently defended in High Court.

Sunderbans Tiger Reserve, West Bengal

The Sundarbans lies on the border of Bangladesh and West Bengal, India and represents the largest remaining mangrove area in the world and has the largest population of Bengal tigers in the world. By 1991 fisheries in the area in Bangladesh and India was half of what it was at the start of the century. In West Bengal, 35,000 ha of mangrove have already been converted for aquaculture and the process continues.



Bamboo cut inside Bhadra Wildlife Sanctuary, prime tiger habitat. The bamboo is used commercially in construction and by the local paper mill.

Skilled and motivated staff will often be transferred from wildlife and be replaced by personnel with no wildlife training whatsoever.

The front line - protecting wildlife in the field

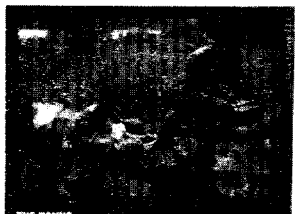
No matter how much rhetoric flies around the world concerning tiger conservation, the day to day job of protecting the remaining wild tigers, as well as rhinos, elephants and their habitat, falls to the field staff. If these people are given political backing and are well resourced, they can maintain a high morale and miracles can be achieved.

This section looks at tiger habitats with particular reference to a World Heritage Site and a Biosphere Reserve in the State of Assam where the protection of wildlife rests solely on the commitment, bravery and resilience of the field staff. In both cases, the Government of India and the former State Government of Assam should be thoroughly ashamed of themselves. Staff have been murdered, their wages have been delayed, working elephants have been starved and officers have had to pay for supplies out of their own meagre salaries. Centrally sponsored funds have been diverted from wildlife protection by the former State Government, infrastructure and equipment have been neglected and committed staff have been subjected to conditions that would demoralise even the most motivated conservationists.

Opposite page from top: *Bandhargarh Tiger Reserve; Nilgai; Rhesus macaque with young; Pench River.*

Below: *Langur.*

© Dave Curry/TCI



THE RANKS

The Indian system of wildlife protection involves military style rankings in the forest department. A State's chief wildlife warden works with directors of protected areas. The director is the head field worker with a divisional forest officer working with him and range officers heading up each of the ranges within the Protected Area. The range officers manage the other ranks including foresters, forest guards, mahouts and beaumen and casual staff. These are the foot soldiers in the war against poachers, encroachment, forest fires and the timber mafia.

India's Protected Area System

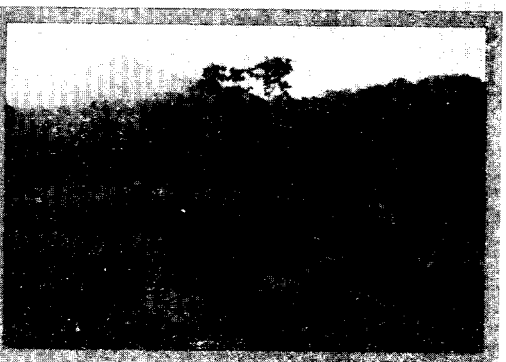
It has long been India's approach to wildlife conservation to designate certain areas as "Protected Areas" (PA). There are different levels of protection with Wildlife Sanctuaries and National Parks gaining the greatest level of protection. There are 80 National Parks and 441 Sanctuaries with a total PA of 4.5% of the land mass and 19% of the forest cover. There are six Ramsar wetland sites, five World Heritage Sites and eight Biosphere Reserves.

The management and development of PAs, including salaries, is paid for from the "Plan" budget which is provided by both the Central and State Governments. Additional "non-plan" budget pays for works in the Park such as road building, boats, and vehicles and is provided by the State Government.[1] In addition to this (or sometimes partly instead of), if the PA is a Tiger Reserve under Project Tiger, additional funds are available.[2] There have been other schemes such as the Rhino Protection Scheme and Project Elephant - both of which supply additional funds.

Forest Department staff

It is a sad fact of wildlife conservation in India today that a wildlife position is often regarded as a "punishment posting".[3] Forest guards generally lack specialised wildlife training, are offered no incentives and are often poorly equipped. Skilled and motivated staff will often be transferred from wildlife and be replaced by personnel with no wildlife training whatsoever. The same can be said of the higher ranks.[4]

This haphazard approach to PAs creates a huge variation in skill, aptitude and commitment of staff. In some areas it is staggering how staff continue to risk their lives and work all hours to protect wildlife despite repeated abuse by their political masters. In others it is equally staggering that untrained and unmotivated staff, with no commitment to protecting wildlife, are ever posted to the wildlife division in the first place.



"If these conditions prevail for too long then it (the Park) will collapse."
- Pankaj Sarma, Western Range Officer, Kaziranga National Park.

Case history: Kaziranga National Park

Criminal neglect and political apathy have brought this remarkable area close to collapse. Kaziranga acts as a reminder to everyone how important it is to have good and committed staff. In the case of Kaziranga, the staff are extraordinary in that they maintain discipline, good humour and high morale despite every attempt by the former State Government to utterly de-moralise them and the failure of the Central Government to act. Many financial aspects of protecting the Park have been carried by the goodwill of local suppliers, but the debts have grown so high that they can carry them no longer. Local suppliers are owed US$4,280 for petrol and diesel and US$4,280 for vehicle repairs.[9] The Park staff have been left with an impossible task and it seems unlikely they can go on much longer.

In EIA's brief visit only some of the most glaring examples of Kaziranga's threats came to light and are included in this report. For years there have been recommendations for extensions, changes in boundaries to take account of ecological change, and wildlife corridors, but little has been achieved. Many other problems exist and have been reported on after more extensive visits have been made.

One of the world's gems, this 430 km² National Park has been declared a Biosphere Reserve because of its remarkable and unique fauna. Open elephant grass plains interspersed with swamps and semi-evergreen forest are home to over 70% of the world's one-horned rhinoceros, over 70 tiger, 1,100 elephant, a third of the world's buffalo, and half the world's swamp deer.[10] These swamp deer may be a unique subspecies representing 90% of the world population.[11] Hundreds of thousands of birds visit the area and in the summer when the Park floods, river dolphin move in from the great Brahmaputra River which forms the Park's northern border.

© Dave Cairns/EIA

The staff, elephants and infrastructure

The protection of Kaziranga includes a neighbouring range and a number of proposed extensions increasing the area to almost 1,000 km². Many animals migrate out of the Park in the monsoon, when much of the Park is completely submerged, to the higher land in the Mikir Hills, a Reserve Forest area. The total Park workforce is 459 people with an additional 75 home guards and 42 Assam Forest Protection Force personnel. The director and divisional forest officer have four range officers managing the ranges, three of which form the National Park.[9] Staff also have to tour the neighbouring villages, giving them a working area of around 1,800 to 2,000 km².[10]

The Park has 41 working elephants including the young. Twenty five of these are used for patrolling, moving supplies to the forest camps, and of these 6-8 take tourists out in the winter tourist season.[10]

The Park has 6 very old jeeps but little fuel to keep them going, two trucks (only one working) and a tractor which helps supply rations to the staff in the winter. A new speedboat donated by the British charity "Care for the Wild" is used extensively but three other motorised boats are too expensive to use except in emergencies. Only 80-90, out of 130 forest camps, have a simple paddle boat to patrol during the summer monsoon floods.

© Dave Cairns/EIA

***Above right:** Isolated forest camp in monsoon.*

***Right:** Half the world's Swamp deer are found in Kaziranga.*

Forest guards

ON THE FRONT LINE

© Dave Cawry/EIA

70% of the world's one-horned rhinos are found in Kaziranga.

The poaching crisis

In Kaziranga the poaching menace is aimed at the one horned rhino. Tigers and other wildlife have so far been left alone because of the high value of rhino horn and the serious risks involved in entering the Park - the anti-poaching work is still effective. If the morale of staff continues to be undermined by the financial crisis, protection of the tigers, elephants and deer will also cease.

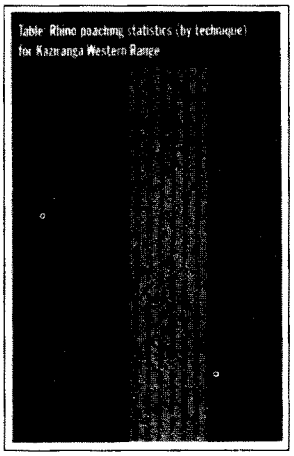
The preventative techniques that are available to the staff, such as intelligence gathering and community relations, have been severely hindered by lack of funds. There used to be a US$430 annual budget for intelligence gathering, but this no longer exists.[10]

There are two types of rhino poaching - the pit and gun methods. In the former, a gang of 2-5 poachers will enter the Park and stay for 7-10 days. They dig deep pits on tracks regularly used by rhinos, sometimes with stakes in the bottom of the pit. Rhinos usually die quickly because they break their necks when falling into the pit. It is difficult to catch these poachers because they move silently and it is almost impossible to patrol the rhino tracks on elephant back because elephants fall into the same camouflaged pits.

Poachers armed with guns are usually in gangs of 2-5. The larger gangs will include two shooters, 2 assistants and a local field person (maybe a local who knows the area or a former employee of the Park). They stay in the Park for 3-4 days, entering at night and sleeping over. There is no pattern as to the time they kill. The shots will be heard by forest staff and they have regular shoot-outs with poaching gangs, resulting in fatalities.[12] At a poaching encounter on 27th May 1996 a poacher overheard forest guards radioing base for more ammunition because they only had 5 rounds each.[10]

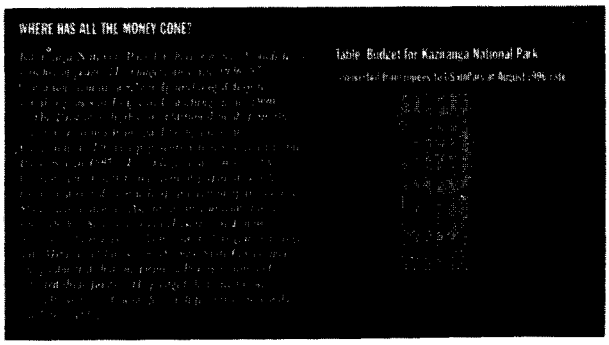
The most recent poaching encounters at the time of EIA's visit had been on June 21st and June 26th 1996. A rifle and a US carbine were seized and four poachers were killed.

Table: Rhino poaching statistics (by technique) for Kaziranga Western Range

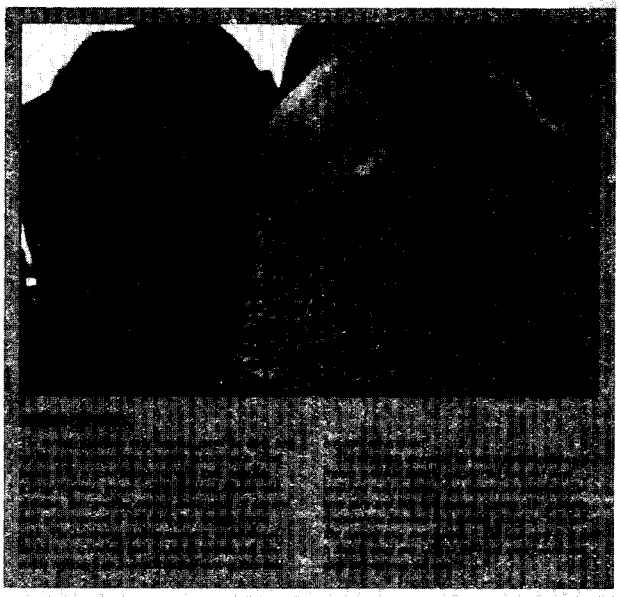


WHERE HAS ALL THE MONEY GONE?

Table: Budget for Kaziranga National Park



"The previous Government have already diverted some money." - Nagen Sarma, Assam Minister of Forests on diversion of rhino protection funds, July 1996.



"Elephants are staff - so just as the staff should get pay, the elephants get rations, so we are failing to even supply this now. This is a crime."
- Bupen Talukdar, Central Range Officer, Kaziranga National Park.

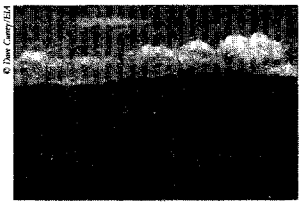
In a 1996 report on Manas it is claimed that from an estimated population of 100+ rhinos, only about a dozen exist today and the endangered swamp deer population which had built up to about 500 animals, has been virtually wiped out.

Case history: Manas Tiger Reserve

This was one of the first Tiger Reserves created under Project Tiger in 1973 and was declared a World Heritage Site in 1985.[18] It was once remarked that Manas "is what the earth looked like before the arrival of man, a jewel encrusted on land reflecting nature's varied and brilliant hues."[19] It rests intertwined with the Manas River and its branches under the foothills of the Himalayan mountain kingdom of Bhutan.

It is clear that Manas has suffered from serious problems of insurgency by Bodo militants seeking independence. Attacks on the Tiger Reserve have destroyed infrastructure, undermined staff morale, and wiped out much of its famed wildlife. What is less clear, is why there has been no attempt by the Central or State Governments to regain control of the Reserve. The solutions to this unique area are complicated and involve courage and leadership to bring law and order to the Reserve. With a complete absence of political will for so many years and diversion of funds from vital work, the Government of India and Project Tiger have failed this World Heritage Site completely. Meanwhile, staff and wildlife continue to die.

In a report on the Reserve, the former Additional Inspector General of Forests, Principal Chief Conservator of Forests (Assam) and former Field Director of Manas Tiger Reserve, S. Deb Roy, wrote "Since 1992, I have been raising my voice about the problems in Manas repeatedly seizing any opportunity that came by at any forum, but there has been no response, whatsoever from anywhere. It seems to be a good indicator about how serious are the Ministry of Environment and Forests about such squandering of a World Heritage Site".[20]



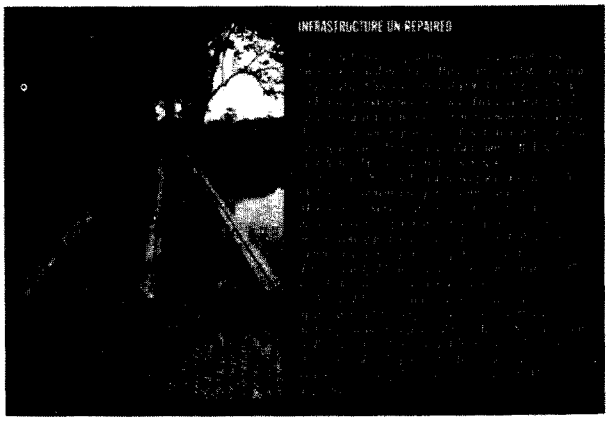
© Dave Curry/EIA

Wildlife destroyed

Most experts on the area agree that the current poaching is carried out by criminals, not insurgents. In fact the insurgent group's command have recently ordered their people to protect Manas, not destroy it. Nonetheless, the poaching is carried out by large gangs of armed local people.[21] The forest staff have very low morale and feel threatened and unable to act.

There have been few opportunities for accurate wildlife surveys to be carried out in this Reserve. Although the field director and staff know of only a few cases of tiger poisoning and snaring, conversations with mahouts indicate a sharp decline. Some of these men have been working in Manas for years and state that they no longer see signs of tigers when patrolling.[22]

In a 1996 report on Manas it is claimed that from an estimated population of 100+ rhinos, only about a dozen exist today and the endangered swamp deer population, which had built up to about 500 animals, has been virtually wiped out. Elephants are poached and at least 15-20 may have been killed. It is also stated that since the southern area of the Park (more than half the area of the National Park) has been "freely vandalised by various groups of people including the neighbouring villagers, serious damage to the status of all wild animal species could be a sure outcome."[23]



Starved of funds

Unlike Kaziranga National Park, the same failures of Central and State Government to financially support Manas have already demoralised staff.

In the 1995/96 financial year the budget for Project Tiger was set at US$272,850, half to be paid for by the Central Government and half by the State Government. This figure includes US$157,150 for salaries. The actual funds the Tiger Reserve was to receive was only US$185,700 (US$87,150 below budget) of which only US$145,714 has been received to date. This amount does not even cover the salaries.[24]

Additionally, in the 1995/96 budget, of US$114,300 "non-plan" funds earmarked for capital costs and additional salaries for protection of rhinos, US$46,600 has been diverted by the former State Government away from wildlife protection.[25] Under such circumstances, it is impossible for the field director to maintain control of the Tiger Reserve.

Lost control

There are many signs throughout the Park that poachers move around with impunity and that the Park staff have lost their authority.

In April 1996, S. Deb Roy, former field director of Manas Tiger Reserve, travelled to a few parts of the Park. At an artificial water-hole he reported finding the front leg-bone of a rhino and some old buffalo hooves. He also found a rotting sambar hide. When visiting the only interior camp possible for him to reach, he saw at least three well-trodden poachers' tracks. The staff at the camp admitted that poaching was rampant in the area and that they hardly ever responded when they heard shots - they were too afraid.[23] During EIA's visit to the Tiger Reserve, a member of staff explained that there were gangs of 20 armed poachers moving through the Park.[26]

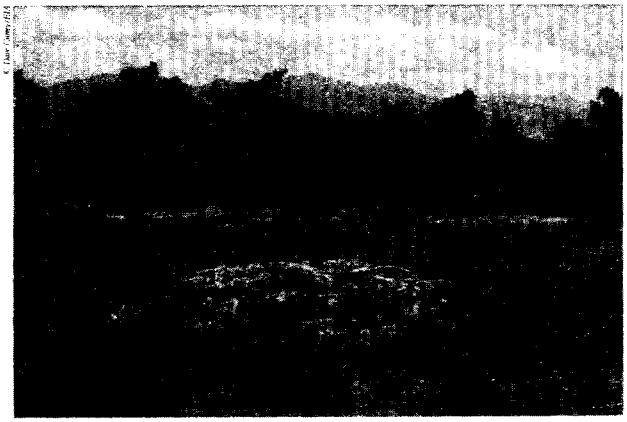
EIA investigators walked along the southern boundary to the west of the main gate. Within one kilometre of the Forest Department's mahout camp villagers were crossing into the core area of the Reserve to collect masses of fuel wood. Stacks of wood were piled high in the Reserve and dozens of villagers were floating it across the flooded river. Herds of cattle were also grazing alongside Forest Department elephants in the Reserve.

In the village and all along the banks of the river timber was stacked high. Part of the edge of the Tiger Reserve had been cleared completely.

© Dave Corry/EIA

***Left:** "Narmada", an elephant shot by poachers during a sniping incident on 30th June 1996 when Mr Barek, a Forest Department boatman was killed. He was travelling back to camp on the elephant and was unarmed.*

***Below left:** Fuelwood collection within the core area of the Tiger Reserve has become commonplace.*



© Dave Corry/EIA

The staff at the camp admitted that poaching was rampant in the area and that they hardly ever responded when they heard shots - they were too afraid.[23]

Indian conservationists have recognised the importance of gaining support for the protected areas from the local communities.

Local communities & ecodevelopment

India faces massive problems with its growing human population which is rapidly running out of land. A conflict has developed between local communities and protected areas which has often been stirred and encouraged by ruthless politicians and business people seeking their own exploitation of the rich forest resources. Local tribal people moved out of core areas of Tiger Reserves, National Parks and Sanctuaries have often been promised good alternative land and support. These promises have too often been broken.

Indian conservationists have recognised the importance of gaining support for the protected areas from the local communities. If antagonised, some local people become the poachers or labour for the timber Mafia. When no respect exists between these people and the Forest Department the protected area is threatened by collection of fuel-wood, bamboo, timber and other forest produce. A survey of protected areas in the late 1980s revealed that 69% of surveyed areas had people living inside them and, in 64% of them, community rights, leases or concessions existed.[1]

There is an urban romantic notion of forest dwelling tribal people surviving off the forest and continuing their lives in complete harmony with nature. Some would say that the forest dwelling people of India are the best guardians of the tiger. Such sentiments should be cautiously guarded because there are few areas of India today where these communities are not affected by modern influences. Many tribal people prefer to move out of their forest into developed areas to pursue the trappings of modern consumer life. Those remaining like to be consulted on their future.

Ecodevelopment is defined in many different ways by different Governments and funding organisations.

The eco-development scam

This has led to conflict between conservationists and some "ecodevelopment" schemes with accusations that the term is being used to set up economic development with no real benefits to biodiversity.

In recent years there have been attempts by the Government of India and some Ngos to build ecodevelopment schemes providing the local people with basic amenities and local work. The Eighth Five Year Plan in 1991/92 budgeted almost US$3 million for a scheme called "Ecodevelopment around National Parks and Sanctuaries."[2] Some Ngos have been involved in local schemes providing health care, alternative facilities for livestock and family planning. Building successful schemes involves understanding the needs of the local community, the protected area and its staff and creating respect and communication between them. One of the few Ngos that has attempted this is the Ranthambhore Foundation, with a series of people-related integrated activities around Ranthambhore National Park. Unfortunately, the State and the Central Government have seldom bothered to have genuine discussions with such Ngos about future strategies.[3]

There is considerable fear of a massive World Bank project which will inject large sums of money into communities around protected areas. Concern

Fuelwood collection is illegal in protected areas although it still goes on. Some ecodevelopment schemes attempt to provide alternative sources of fuel to relieve the pressure.

surrounds this large scale approach together with specific funding and proposal criticisms. There is also widespread suspicion of other World Bank forest monoculture projects.[4]

World Bank - the risks of big money in small communities

The complex issues that arise when developing strategies and projects to involve local communities and protected areas is sharply highlighted in the fight for, and against, a large project currently underway. Over the last two years the World Bank has been negotiating the "India Ecodevelopment Project" with the Government of India. It will involve the injection of US$67 million into seven protected areas including five Project Tiger Reserves and Nagarhole (a Project Elephant Reserve) and Gir National Park, home to the world's only wild Asian lions.[5]

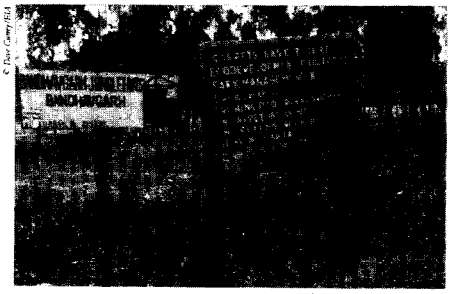
A wide spectrum of Indian conservationists oppose the project in its current form, even though many of them embrace the concept of local community involvement in protected areas. Many other Ngos support it and the World Bank defends the project and believes much of the criticism is due to Ngos not fully appreciating the process or reading the latest documents. The micro-plan for the seven project areas will develop as the project gets underway.

Some fundamental objections are:

- The Project focuses too much on human development with too little emphasis on the protection of biodiversity.
- The Project risks building up development areas on the borders of protected areas thereby attracting more people to these sensitive zones and threatening the protected area further.
- The Project diverts funds earmarked for biodiversity to development schemes.
- The Project injects too much money too quickly into areas of extreme poverty, giving no time for growth of ideas and local participation in evolving the scheme to suit local needs This increases the likelihood of political corruption.
- The Project spends too much money on foreign travel and consultancies.
- The Project diverts protected area staff away from vital protective work.

Out of the US$67 million for the 5 year project, US$20 million is in the form of a Global Environment Facility (GEF) grant. A further US$28 million is a 35 year loan from the International Development Association repayable with virtually no interest.[6] The rest of the project budget of US$19 million has to be found by the Government of India (US$6.6 million), State Governments (US$8 million) and the project beneficiaries - the poor local communities (US$4.4 million). The local people will largely pay their contribution through labour and supply of materials and much of the Governments' contribution will come from salaries already covered under Forest Department budgets.

The Project's budget reveals that pre-operative expenditure (reports, visits, etc), consultancies and supervisory travel and foreign exchange certificates swallow up US$20.5 million - more than the GEF grant. In addition to this there are further consultancies and budget travel lines hidden in other parts of the budget.[7] According to the World Bank, much of this money will go to local Ngos for monitoring and assessing progress to build the micro-plan - arguably a vital safety net.



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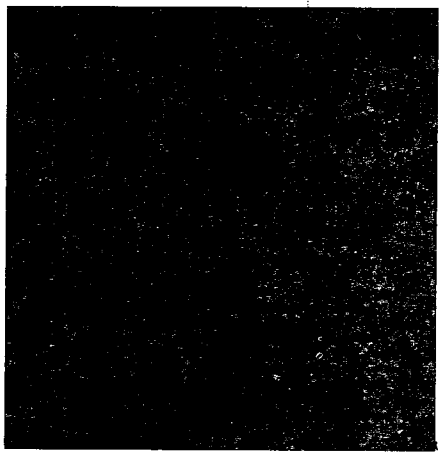
Carpet weaving ecodevelopment scheme near Bandhavgarh Tiger Reserve.

The proposal for one of the protected areas reveals that, although additional staff are provided for the ecodevelopment project, existing Forest Department personnel are expected to spend 40% of their time on the project. This will actually reduce the staffing of the protected area which is already short-staffed. The Bank argues that this diversion of time will be phased in and is balanced by the additional protected area management funds and that the improvement of relations due to the project will reduce the threats.

The diversion of allocated funds away from protected areas is clearly not in the spirit of the project. Nevertheless, since the Planning Commission has not yet set budgets for the next five years, it will be impossible to ensure that the injection of World Bank money into this project will not reduce Government expenditure in other protected areas. In the past, additional funds have been used as a reason to reduce Government budgets in other wildlife sectors.



Enforcement of wildlife law

Madhya Pradesh officials seize tiger skin and arrest 2 traders, May 1994.

When the fruits of enforcement officers' exhaustive enquiries are abandoned by the courts they become understandably de-moralised. Too often, poachers and dealers have been released on bail in cases that rarely come to court. When the culprits re-offend they are released again. It must seem to the few committed officers in the Police, the Forest Department, the Directorate of Revenue Intelligence, the Border Security Force and any other Government agency charged with enforcing law, that their activities are futile.

Although the situation is desperate in most parts of India, there are instances where local political will has backed the officers and real progress has been made.

Tiger Cells

After undercover activities by an Ngo revealed widespread poaching and dealer networks in Madhya Pradesh, a co-ordinated body called the Tiger Cell was convened. Under the leadership of a senior policeman, the joint operations of the Police and Forest Department of Madhya Pradesh succeeded in seizing large quantities of wildlife, including two dozen tiger and leopard skins from one region.

Between April 1995 and June 1996 the Tiger Cell arrested nearly 150 people and seized 73 leopard skins or parts and 15 tiger skins or parts. Other wildlife products such as deer skins and antlers were also seized.[1]

Despite this ongoing success it is reported that, when the head of the cell was promoted and two other heads came and went in six months, the cell was threatened. This followed the weakening of political support.[2]

In July 1996 in Uttar Pradesh, action by the Forest Department has resulted in seizures near Corbett Tiger Reserve. In one operation the Forest Department sought the help of an Ngo which resulted in the seizure of a tiger skin and tiger skeleton.[3] The local authorities, encouraged by this success, are following up with similar actions.

Weaknesses in the system

The question of effective enforcement is riddled with generic bottlenecks in the Indian bureaucracy. Liaison

Indian Ngos fighting apathy with action

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between relevant departments (e.g. police and forest) is not always easy. At the top, the relevant ministries of the Government of India have only just started to consider wildlife crime and there has been no concrete action so far.

At a basic level, knowledge of the law, mainly the Wildlife (Protection) Act, is lacking in the police and the forest department. There is little or no training for officers and no legal support to help bring cases to court successfully. In the report of the committee appointed by the High Court of Delhi in February 1996 it was noted that "It has been repeatedly observed that complaints filed under section 55 of the Wildlife Protection Act, which forms the bedrock on which the entire edifice of the prosecution stands is drafted by the junior-most officers of the Department. This results in poorly prepared and drafted complaints, lacking in innumerable specific mandatory requirements".[4]

Tourism

Indian tourism in protected areas has largely been low cost tourism by India's own top earning classes. It has relied upon cheap accommodation, outside companies running the lodges, and little concern for, or interest in, the local people. Gate fees are so low that virtually no revenue accrues from tourism but there are plenty of problems: the spectacle of wealthy tourists kicking up dust at local people as their 4x4 roars past to the Reserve, can only create resentment by local communities when they receive no benefits from this invasion.

In all but two States (Madhya Pradesh and Assam) revenue from gate fees - entrance to the Park - are not invested in the protected area but go straight to the State treasury. However, there is good reason to believe that tourism could supply much needed revenue to the Reserves if all States allowed revenue to go straight back into the protected areas and if gate fees were considerably increased - especially for foreign tourists. None of this would require an increase in visitors. Foreign tourists are prepared to pay high fees in many African countries such as Tanzania, Botswana and Kenya. In fact, if the benefits that foreign tourist money brings are explained to the tourists, many may well dig even deeper into their pockets.

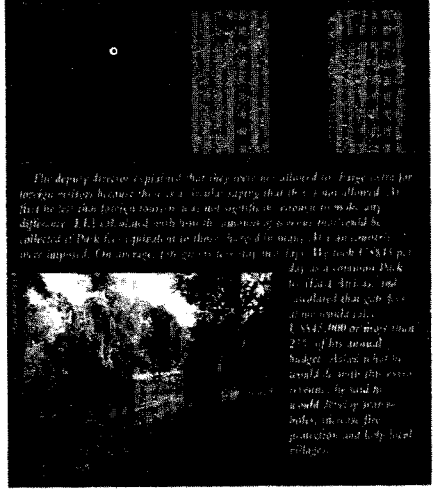
Foreign tourism is minimal, except in certain of the main Parks such as Kanha, Corbett, and Ranthambhore. Nonetheless, even low volumes of people can provide substantial income.

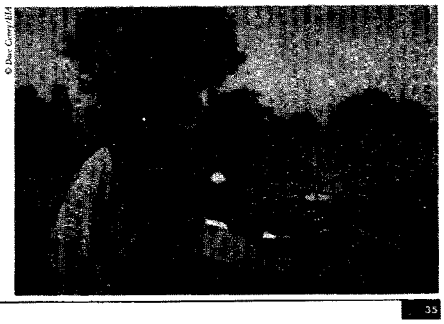
The future

Global tourism is now the world's largest single industry, employing more people than any other. Indian conservationists tremble at the thought of an invasion and the Indian approach to conservation has always been to protect an area from outside pressures - of which tourism is certainly one. However, on a Reserve by Reserve basis, plans could be drawn up to control and benefit from small scale foreign tourism - an industry which India as a whole is bound to attract more and more. If the mechanisms are put in place to involve local people in the schemes so that they gain benefit from the presence of foreign tourists, then it could be another way of helping the local communities see real benefits from the presence of tigers and all the other species of the forest. But it would have to be done slowly, cautiously and with real involvement of neighbouring communities. Responsible, planned tourism can help, but if allowed to get out of control it can destroy the tiger. It is not a panacea for funding Parks in India.

Revenue from Gate Fee increase

EXAMPLE: BANDHAVGARH TIGER RESERVE COULD RAISE US$45,000





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Conclusions

1. The Indian tiger is under serious threat of extinction in the wild within the next few years. The tiger's fate is echoed by the threat to India's forests and all the fauna and flora living in them.

2. The Government of India has failed to deal with this threat over the last few years, even when the evidence of poaching, amounting to at least one tiger poached every day, was revealed. The Prime Minister's office has failed to provide leadership and direction and the Indian Board for Wildlife, chaired by the Prime Minister, has not met for 8 years. Project Tiger has been unwilling to recognise the problems and has even been involved in sweeping them under the carpet. At the time of going to press Project Tiger is without a director.

3. State Governments have largely failed to respond to the tiger crisis. In some cases they have diverted money earmarked for conservation projects and in other cases, they have delayed supplying funds for protected areas. Tiger Reserves and other protected areas have been de-notified by State resolutions and industrial encroachment has been widely allowed to occur.

4. The tiger and its habitat is threatened by poaching for bones and skin by industrial development, hostility from local communities and the activities of the timber mafia. The Ministry of Environment and Forests is sanctioning industrial development on the edges of, and sometimes inside, protected areas.

5. Wildlife trade in India is out of control, with elepham ivory, rhino horn and leopard skins easily available. The enforcement authorities, apart from a tiny minority, are completely failing to enforce the Wildlife (Protection) Act, the Environmental Protection Act and the Forest Conservation Act.

6. The highly endangered Tibetan Antelope is being driven towards extinction because of India's illegal consumption of the species. "Shahtoosh", the wool from the Tibetan Antelope, is commonly available from Kashmir Government and private stores throughout India. This trade is linked to the illegal trade in tigers.

7. Field staff are being killed in their courageous efforts to protect tigers and other wildlife. They receive little support and are all too often ignored. Starved of funds, they often live in appalling conditions.

Recommendations

1. The Indian Prime Minister must re-convene the Indian Board for Wildlife under his chairmanship and draw up an emergency plan to tackle the imminent demise of the tiger and its habitat. He must also gain political support from State Chief Ministers for new leadership on this issue.

2. The Planning Commission must look seriously at increasing the budget allowance for wildlife and forest protection in the ninth 5 year plan, as proposed by the Ministry of Environment and Forests.

3. The recommendations of the various Indian expert committees must be prioritised and implemented. Emergency actions, with funding, must be implemented immediately.

4. The international community must encourage the Government of India to create renewed political will to save the tiger.

5. The international community must do everything in its power to close illegal markets for tiger and other wildlife parts from India in a real effort to support the field staff who are risking, and losing, their lives in their attempts to stop poaching.

6. Consuming nations must redouble their efforts to clamp down on illegal consumption of tiger parts within their own countries.

7. If the Indian Prime Minister draws up an emergency plan to save the tiger, the international community must provide financial support to ensure its success.

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