governmental jurisdictions. The economic impacts of annual hunting on small business entities were analyzed in detail and a Small Entity Flexibility Analysis (Analysis), under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), was issued by the Service in 1996 (copies available upon request from the Office of Migratory Bird Management). The Analysis documented the significant beneficial economic effect on a substantial number of small entities. The primary source of information about hunter expenditures for migratory game bird hunting is the National Hunting and Fishing Survey, which is conducted at 5-year intervals. The Analysis utilized the 1991 National Hunting and Fishing Survey and the U.S. Department of Commerce's County Business Patterns from which it was estimated that migratory bird hunters would spend between $254 and $592 million at small businesses in 1996. The approval of tungsten-polymer as an alternative shot to steel and bismuth-tin will have a minor positive impact on small businesses by allowing them to sell a third nontoxic shot to the hunting public. However, the overall effect to hunting expenditures in general would be minor. Therefore, the Department of the Interior certifies that this document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act. The approved shot will merely supplement nontoxic shot already in commerce and available throughout the retail and wholesale distribution systems, therefore, this rule would have minimal effect on such entities. The Service anticipates no dislocation or other local effects with regard to hunters and others. This document is not a significant rule subject to Office of Management and Budget review under Executive Order 12866.

This rule does not contain collections of information that require approval by the Office of Management and Budget under 44 U.S. C. 3501 et seq. The Service does have OMB approval (1018–0067; expires 06/30/2000) for information collection relating to what manufacturers of shot are required to provide the Service for the nontoxic shot approval process. For further information see 50 CFR 20.134.

Unfunded Mandates Reform

The Service has determined and certifies pursuant to the Unfunded Mandates Act, 2 U.S.C. 1502 et seq., that this rulemaking will not impose a cost of $100 million or more in any given year on local or State governments or private entities.

Civil Justice Reform—Executive Order 12988

The Department has determined that these proposed regulations meet the applicable standards provided in Sections 3(a) and 3(b)(2) of Executive Order 12988.

List of Subjects in 50 CFR Part 20

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife.

Accordingly, the Service proposes to amend part 20, subchapter B, chapter 1 of Title 50 of the Code of Federal Regulations as follows:

PART 20—[AMENDED]

1. The authority citation for part 20 continues to read as follows:

Authority: 16 U.S.C. 703–712 and 16 U.S.C. 742 a–j.

2. Section 20.21 is amended by revising paragraph (j) introductory text and adding paragraph (j)(3) to read as follows:

20.21 Hunting methods.

* * * * *

(j) While possessing shot (either in shotshells or as loose shot for muzzleloading) other than steel shot, or bismuth-tin (97 parts bismuth: 3 parts tin with <1 percent residual lead) shot, or tungsten-iron ([nominally] 40 parts tungsten: 60 parts iron with <1 percent residual lead) shot, or tungsten-polymer (95.5 part tungsten: 4.5 parts Nylon 6 or 11 with <1 percent residual lead) shot, or such shot approved as nontoxic by the Director pursuant to procedures set forth in 20.134, provided that:

* * * * *

(3) Tungsten-polymer shot (95.5 parts tungsten: 4.5 parts Nylon 6 or 11 with <1 percent residual lead) is legal as nontoxic shot for the 1998–99 migratory bird hunting season, except for the Yukon-Kuskokwim Delta habitat in Alaska.

Dated: July 14, 1998.

Donald J. Barry,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 98–19890 Filed 7–24–98; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 20

RIN 1018–AE35

Migratory Bird Hunting; Extension of Temporary Approval of Tungsten-Iron Shot as Nontoxic for the 1998–99 Season

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) is proposing to amend Section 20.21(j) to grant temporary approval of tungsten-iron shot as nontoxic for the 1998–99 migratory bird hunting season, except in the Yukon-Kuskokwim (Y–K) Delta, Alaska. The Service had previously granted temporary approval of tungsten-iron shot as nontoxic for the 1997–98 season. The toxicological report, which is an extensive literature search and analysis of tungsten and tungsten-iron, suggests that these compounds are nontoxic under assumed use and in the environment. Analysis of the toxicity study reveal no adverse effects over a 30-day period when dosing mallards (Anas platyrhynchos) with 8 BB size tungsten-iron shot. However, there is some concern that the absorption of tungsten into the femur, kidney, and liver could potentially affect the spectacled eider (Somateria fischeri), a species already subject to adverse weather, predation, and lead poisoning on the Y–K Delta. Until a reproductive/chronic toxicity test has been completed and the Service has reviewed the results, tungsten, iron shot will not be approved for the Y–K Delta.

DATES: Comments on the proposed rule must be received no later than August 26, 1998.

ADDRESSES: Copies of the EA are available by writing to the Chief, Office of Migratory Bird Management (MBMO), U.S. Fish and Wildlife Service, 1849 C Street, NW., room 634-ARLSQ, Washington, DC 20240. The public may inspect comments during normal business hours in room 634, Arlington Square Building, 4401 N. Fairfax Drive, Arlington, Virginia.

FOR FURTHER INFORMATION CONTACT: Paul R. Schmidt, Chief, Office of Migratory Bird Management, (703) 358–1714.

SUPPLEMENTARY INFORMATION: Since the mid-1970s, the Service has sought to identify shot that, when spent, does not pose a significant toxic hazard to migratory birds and other wildlife. The

Service established procedures and requirements for approval of shot and shot coatings as nontoxic in 1986 and published them in 50 CFR 20.134. The Service adopted new procedures in December 1997. These are published at 50 CFR 20.134. Currently, only steel shot and bismuth-tin shot are approved by the Service as nontoxic shot. The Service granted temporary approval of bismuth-tin as nontoxic on two separate actions for the hunting seasons of 1994–95 and 1995–96. Tungsten-iron shot was given temporary approval for the 1997–98 migratory bird hunting season (62 FR 43444 published August 18, 1997). The Service believes approval for other suitable candidate shot materials as nontoxic is feasible. Compliance with the use of nontoxic shot is increasing over the last few years. The Service believes that this level of compliance will continue to increase with the availability and approval of other nontoxic shot types.

Federal Cartridge Company's (Anoka, Minnesota) candidate shot is made from sintering tungsten and iron, which together forms a two-phase alloy. Shot made from this material has a density of approximately 10.3 g/cc or 94 percent of the density of lead. The shot will contain nominally 55 percent tungsten and 45 percent iron, by weight. The pellet will have sufficient iron to attract a magnet.

Federal's application includes a description of the new tungsten-iron shot, a toxicological report, and results of a 30-day dosing study to assess the toxicity of this shot in game-farm mallards (Anas platyrhynchos). The toxicological report incorporates toxicity information (a synopsis of acute and chronic toxicity data for birds, acute effects on mammals, potential for environmental concern, toxicity to aquatic and terrestrial invertebrates, amphibians and reptiles), and information on environmental fate and transport (shot alteration, environmental half-life, and environmental concentration). The toxicity study is a 30-day dosing test to determine if the candidate shot poses any deleterious effects to game farm mallards. This meets the requirements of Tier 1 and Tier 2, 50 CFR § 20.134(b)(2) and (b)(3)(B).

Toxicity Information

There is considerable difference in the toxicity of soluble and insoluble compounds of tungsten and iron. Elemental tungsten and iron are virtually insoluble and, therefore, are expected to be nontoxic. After completion of the literature review, there appears to be no known basis for concern of toxicity to wildlife for the candidate shot material (metallic tungsten and iron) via ingestion by fish, birds, or mammals (Bursian et al., 1996; Gigiena, 1983; Patty, 1981; Industrial Medicine, 1946; Karantassis, 1924). However, there is some concern that the absorption of tungsten into the femur, kidney, and liver could potentially affect certain endangered or threatened species such as the spectacled eider (Somateria fischeri) on the Y–K Delta, Alaska. Until a reproductive/chronic toxicity test has been completed and the Service has reviewed the results, tungsten-iron shot will not be approved for the Y–K Delta.

Environmental Fate and Transport

Tungsten is insoluble in water and, therefore, not mobile in hypergenic environments. Tungsten is very stable with acids and does not easily complex. Preferential uptake by plants in acid soil suggests uptake of tungsten in the anionic form associated with tungsten minerals rather than elemental tungsten (Kabata-Peddias, 1984).

Environmental Concentration

Calculation of the environmental concentration (EEC) for a terrestrial ecosystem is on 69,000 shot per hectare (Pain 1990), assuming complete erosion of material in 5 cm of soil. The EEC for tungsten in soil is 32.9 mg/kg for a shot composition of 62.9 percent tungsten-iron alloy, 11.87 percent tungsten, and 25.31 percent iron. Adverse effects on biota are not expected to occur for shot components, given the Hazard Quotients (HQs).

Environmental Concentration

Calculation of the environmental concentration (EEC) for an aquatic ecosystem assumes complete erosion of the shot in one cubic foot of water. The EEC in water for tungsten was 10.5 mg/L for a shot composition of 62.9 percent tungsten-iron alloy, 11.87 percent tungsten, and 25.31 percent iron. Given these HQs, adverse effects on biota are not expected to occur for shot components.

An extensive literature search and review provides information on the toxicity of elemental tungsten to waterfowl and other birds. In Ringelman et al. (1993) effects of ingested tungsten-bismuth-tin shot (TBT) on captive mallards saw no acute toxicity. Orally dosing 20 8-week-old game farm mallards with 12 to 17 pellets (1.03g) TBT and monitoring for 32 days for evidence of intoxication saw no effect. No birds died during the trial. Gross lesions were not observed during the postmortem examination. Histopathological examination did not reveal any evidence of toxicity or tissue damage. Tungsten was not detectable in kidney or liver samples. The author's conclusion is that TBT shot presents virtually no potential for acute intoxication in mallards.

A study by Kraabel et al. (1996) assesses the effects of embedded tungsten-bismuth-tin shot on mallards. The authors' conclusion was that TBT is not acutely toxic when implanted in mallard muscle tissue. Inflammatory reactions to TBT shot were localized, and had no detectable systemic effects on mallard health.

Nell (1981) fed laying hens 0.4 or 1 g/kg tungsten in a commercial mash for five months to assess the reproductive performance. Weekly egg production was normal and hatchability of fertile eggs was not affected.

Large doses of tungsten given to chickens (*Gallus domesticus*) either through injection or by feeding saw an increase in tissue concentration of tungsten and a decreased tissue concentration of molybdenum (Nell, 1981). The loss rate of tungsten from the liver occurred in an exponential manner with a half-life of 27 hours. The alterations in molybdenum metabolism seem to identify with tungsten and not of molybdenum deficiency. Death due to tungsten occurred when tissue concentrations were increased to 25 mg/g liver. At this concentration, the activity of xanthine dehydrogenase was zero.

In Federal's 30-day dosing study 8 male and 8 female adult mallards given 8 No. 4 steel shot, 8 No. 4 lead shot or 8 BB's of tungsten-iron were observed over a 30-day period. An additional 8 males and 8 females were given no shot. All tungsten-iron birds survived the test with a slight increase in body weight. There were no changes in hematocrit, hemoglobin concentration, and ALAD activity, as well as 25 plasma chemistry parameters. Five of the 16 tungsten-iron birds had a mild hepatocellular biliary stasis, but the authors felt this was not remarkable. No other histopathological lesions were found. In general, no adverse effects were seen when mallards were given 8 BB size tungsten-iron shot and monitored over a 30-day period. Fifty percent of the lead-dosed birds (5 males and 3 females) died during the 30-day test while there were no mortalities in the other groups. Lead-dosed birds were the only ones to display green excreta, lethargy, and ataxia. Alteration of body weights is not significant in any of the treatments, although lead-dosed birds which died during the trial lost an average of 30 percent of their body weight.

Hematocrit, hemoglobin concentrations, and ALAD activity were significantly depressed at day 15 in the lead-dosed females, while lead-dosed males had significantly depressed hematocrit and hemoglobin concentration in comparison to the other three groups. There were no significant differences in these whole-blood parameters at day 30.

As a result of the toxicological report and toxicity test, the Service concludes at this time that the available information indicates that tungsten-iron shot, nominally 40–55 percent tungsten and 60–45 percent iron, by weight with <1 percent residual lead, does not impose significant danger to migratory birds and other wildlife and their habitats, but that reproductive/chronic toxicity data is lacking.

Lacking sufficient reproductive/chronic toxicity data on the candidate shot, the applicant was advised to conduct additional testing as described in Tier 2 and Tier 3 as outlined in 50 CFR 20.134 (b)(3) and (4), and in consultation with the Service's Office of Migratory Bird Management and the U.S. Geological Survey's Division of Biological Resources (BRD). One test includes assessment of reproduction, fertility rates, and egg hatchability (egg weight, shell thickness, and content analysis). The test requires the applicant to demonstrate that tungsten-iron shot is nontoxic to waterfowl and their offspring.

The Service's maximum environmentally acceptable level of residual lead in shot is trace amounts of <1 percent (50 CFR 20.134 (b) (5)). The Service will consider any tungsten-iron shot manufactured with lead levels equal to or exceeding 1 percent as toxic and, therefore, illegal. At this time, the tungsten-iron shot meets the acceptable specifications.

Before approval of any shot for use in migratory game bird hunting, a noninvasive field testing device must be available for enforcement officers to determine the shot material in a given shell in the field (50 CFR 20.134 (b)(6)). Several noninvasive field testing devices are under development to separate tungsten-iron shot from lead shot. Tungsten-iron shot can be drawn to a magnet as a simple field detection method.

In summary, this proposed rule would amend 50 CFR 20.21(j) by extending temporary approval of tungsten-iron shot as nontoxic for the 1998–99 migratory bird hunting season, except in the Y–K Delta, Alaska. It is based on the original request made to the Service by Federal Cartridge Company on August 20, 1996, the toxicological report, and acute toxicity study reviewed by the Service in its initial decision to grant temporary approval for the 1997–98 season (62 FR 43444). Results of the toxicological report and 30-day toxicity test undertaken for Federal Cartridge Company document the apparent absence of any deleterious effects of tungsten-iron shot when ingested by captive-reared mallards or to the ecosystem. Information since the Service's initial decision has not changed or been supplemented to date. A reproductive/chronic toxicity test will be completed and the Service will review the results, prior to any final unconditional approval of tungsten-iron shot for migratory bird hunting.

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NEPA Consideration

In compliance with the requirements of section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(C)), and the Council on Environmental Quality's regulation for implementing NEPA (40 CFR 1500–1508), the Service prepared an Environmental Assessment (EA) in May, 1998. This EA is available to the public at the location indicated under the **ADDRESSES** caption. Based on review and evaluation of the information in the EA, the Service has determined that amending 50 CFR 20.21(j) to extend temporary approval of tungsten-iron shot as nontoxic for the 1998–99 migratory bird hunting season would not be a major Federal action that would significantly affect the quality of the human environment.

Endangered Species Act Considerations

Section 7 of the Endangered Species Act (ESA) of 1972, as amended (16 U.S.C. 1531, *et seq.*), provides that Federal agencies shall ''insure that any action authorized, funded or carried out . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of (critical) habitat . . .'' The Service has completed a Section 7 consultation under the ESA for this rule and determined that granting temporary approval of tungsten-iron shot for the 1998–99 hunting season, except on the Yukon-Kuskokwin (Y–K) Delta, is not likely to affect any threatened, endangered, proposed or candidate species. The result of the Service's consultation under Section 7 of the ESA is available to the public at the location indicated under the ADDRESSES caption.

Regulatory Flexibility Act, Executive Order 12866, and the Paperwork Reduction Act

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601, *et seq.*) requires the preparation of flexibility analyses for rules that will have a significant effect on a substantial number of small entities, which includes small businesses, organizations or governmental jurisdictions. The economic impacts of annual hunting on small business entities were analyzed in detail and a Small Entity Flexibility Analysis (Analysis), under the Regulatory Flexibility Act (5 U.S.C. 601, *et seq.*), was issued by the Service in 1996 (copies available upon request from the Office of Migratory Bird Management). The Analysis documented the significant beneficial economic effect on a substantial number of small entities. The primary source of information about hunter expenditures for migratory game bird hunting is the National Hunting and Fishing Survey, which is conducted at 5-year intervals. The Analysis utilized the 1991 National Hunting and Fishing Survey and the U.S. Department of Commerce's County Business Patterns from which it was

estimated that migratory bird hunters would spend between $254 and $592 million at small businesses in 1996. The approval of tungsten-iron as an alternative shot to steel and bismuth-tin will have a minor positive impact on small businesses by allowing them to sell a third nontoxic shot to the hunting public. However, the overall effect to hunting expenditures in general would be minor. Therefore, the Service determined this rule will have no effect on small entities since the approved shot merely will supplement nontoxic shot already in commerce and available throughout the retail and wholesale distribution systems. The Service anticipates no dislocation or other local effects, with regard to hunters and others. This rule was not subject to Office of Management and Budget (OMB) review under Executive Order 12866. The Service has examined this regulation under the Paperwork Reduction Act of 1995 and found it to contain no information collection requirements. However, the Service does have OMB approval (1018–0067; expires 06/30/2000) for information collection relating to what manufacturers of shot are required to provide the Service for the nontoxic shot approval process. For further information see 50 CFR 20.134.

Unfunded Mandates Reform

The Service has determined and certifies pursuant to the Unfunded Mandates Act, 2 U.S.C. 1502, *et seq.*, that this rulemaking will not impose a cost of $100 million or more in any given year on local or State government or private entities.

Civil Justice Reform—Executive Order 12988

The Service, in promulgating this rule, determines that these regulations meet the applicable standards provided in Sections 3(a) and 3(b)(2) of Executive Order 12988.

List of Subjects in 50 CFR Part 20

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife.

Accordingly, the Service proposes to amend Part 20, Subchapter B, Chapter 1 of Title 50 of the Code of Federal Regulations as follows:

PART 20—[AMENDED]

1. The authority citation for Part 20 continues to read as follows:

Authority: 16 U.S.C. 703–712; and 16 U.S.C. 742 a–j.

2. Amend Section 20.21 by revising paragraph (j)(2) to read as follows:

§ 20.21 Hunting methods.

* * * * *

(j) * * *

(2) Tungsten-iron shot (nominally 40 parts tungsten: 60 parts iron with <1 percent residual lead) is legal as nontoxic shot for the 1998–99 migratory bird hunting season, except in the Yukon-Kuskokwim (Y–K) Delta, Alaska.

Dated: July 14, 1998.

Donald J. Barry,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 98–19891 Filed 7–24–98; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 32

RIN 1018–AE68

1998–99 Refuge-Specific Hunting and Fishing Regulations

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Fish and Wildlife Service (Service) proposes to add additional national wildlife refuges (refuges) to the list of areas open for hunting and/or sport fishing, along with pertinent refuge-specific regulations for such activities; and amend certain regulations on other refuges that pertain to migratory game bird hunting, upland game hunting, big game hunting and sport fishing for the 1998–99 seasons.

DATES: Comments may be submitted on or before August 26, 1998.

ADDRESSES: Assistant Director—Refuges and Wildlife, U.S. Fish and Wildlife Service, 1849 C Street, NW, MS 670 ARLSQ, Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: Stephen R. Vehrs, at the above address; Telephone (703) 358–2397; Fax (703) 358–1826.

SUPPLEMENTARY INFORMATION: National wildlife refuges generally are closed to hunting and sport fishing until opened by rulemaking. The Secretary of the Interior (Secretary) may open refuge areas to hunting and/or fishing upon a determination that such uses are compatible with the mission of the System or purpose(s) for which individual refuges were established. The action also must be in accordance with provisions of all laws applicable to the areas, must be consistent with the principles of sound fish and wildlife management and administration. Management is intended to ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans, and otherwise must be in the public interest.

The Service reviews refuge hunting and fishing programs annually to determine whether to add additional refuges or whether individual refuge regulations governing existing programs need modification, deletion or additions made to them. Changing environmental conditions, State and Federal regulations, and other factors affecting wildlife populations and habitat may warrant modifications ensuring continued compatibility of hunting and fishing programs and that these programs will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge.

50 CFR part 32 contains provisions governing hunting and fishing on national wildlife refuges. Hunting and fishing are regulated on refuges to:

- Ensure compatibility;
- Properly manage the fish and wildlife resource;
- Protect other refuge values; and
- Ensure refuge user safety.

On many refuges, the Service policy of adopting regulations identical to State hunting and fishing regulations is adequate in meeting these objectives. On other refuges, it is necessary to supplement State regulations with more restrictive Federal regulations to ensure that the Service meets its management responsibilities, as outlined under the section entitled ''Statutory Authority.'' The Service issues refuge-specific hunting and fishing regulations when a wildlife refuge is opened to either migratory game bird hunting, upland game hunting, big game hunting or sport fishing. These regulations list the wildlife species that may be hunted or are subject to sport fishing, seasons, bag limits, methods of hunting or fishing, descriptions of open areas, and other provisions as appropriate. 50 CFR part 32 contains previously issued refuge-specific regulations for hunting and fishing. The Service promulgates many of the amendments to these sections to standardize and clarify the existing language of these regulations.

The Service proposes to revise nontoxic shot provisions for hunting upland game on Waterfowl Production Areas and other areas of the National Wildlife Refuge System (System).

Specifically part 32 would prohibit the use or possession of toxic shotgun pellets by upland game hunters onto Waterfowl Production Areas and other areas of the System. The only shot