

**ACTION:** Proposed rule; notice of extension of comment period.

**SUMMARY:** The Fish and Wildlife Service (Service) provides notice that the comment period on the proposal to list the contiguous United States distinct population segment of the Canada Lynx is being extended. All interested parties are invited to submit comments on this proposal.

**DATES:** Comments will be accepted until November 16, 1998.

**ADDRESSES:** Written comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office, 100 N. Park Avenue, Suite 320, Helena, Montana 59601.

**FOR FURTHER INFORMATION CONTACT:** Kemper McMaster, Field Supervisor, Montana Field Office, (see **ADDRESSES** section) (telephone 406/449-5225; facsimile 406/449-5339).

**SUPPLEMENTARY INFORMATION:**

**Background**

On July 8, 1998 (63 FR 36994), the U.S. Fish and Wildlife Service (Service) published a proposed rule to list the contiguous United States distinct population of the Canada lynx (*Lynx canadensis*) as threatened under the Endangered Species Act of 1973, as amended. This population segment includes the States of Washington, Oregon, Idaho, Montana, Utah, Wyoming, Colorado, Minnesota, Wisconsin, Michigan, Maine, New Hampshire, Vermont, New York, Pennsylvania, and Massachusetts. The contiguous United States population segment of the Canada lynx is threatened by human alteration of forests, low numbers as a result of past overexploitation, expansion of the range of competitors (bobcats (*Felis rufus*) and coyotes (*Canis latrans*)), and elevated levels of human access into lynx habitat. This rule also lists the captive population of Canada lynx within the coterminous United States (lower 48 States) as threatened due to similarity of appearance and permits the continued export of captive-bred Canada lynx.

**Public Comments Solicited**

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments, or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are solicited.

The original comment period on this proposal was scheduled to close on

September 30, 1998. To accommodate the Great Lakes Indian Fish and Wildlife Commission council meeting schedule, the Service extended the comment period to October 14, 1998. The Service is once again extending the comment period to accommodate a request from a variety of members of the Senate and the House of Representatives. Written comments may now be submitted until November 16, 1998, to the Service's Montana Field Office (see **ADDRESSES** section above). All comments must be received before the close of the comment period to be considered.

**Author**

The author of this notice is Lori Nordstrom, U.S. Fish and Wildlife Service, Montana Field Office (see **ADDRESSES** section).

**Authority**

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: October 14, 1998.

**Terry T. Terrell,**

*Regional Director, Denver, Colorado.*

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**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 20**

**RIN 1018-AE38**

**Migratory Bird Hunting; Temporary and Conditional Approval of Tungsten-Matrix 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) proposes to amend its regulations and grant temporary and conditional approval of tungsten-matrix shot as nontoxic for the 1998-99 migratory bird hunting season, except in the Yukon-Kuskokwim (Y-K) Delta, Alaska, while reproductive/chronic toxicity testing is being completed. Tungsten-matrix shot has been submitted for consideration as nontoxic by Kent Cartridge Manufacturing Company, Ltd. (Kent), of Kearneysville, West Virginia.

**DATES:** Comments on the proposed rule must be received no later than November 18, 1998.

**ADDRESSES:** Copies of the draft EA are available by writing to the Chief, Office

of Migratory Bird Management (MBMO), U.S. Fish and Wildlife Service, 1849 C Street, NW., ms 634-ARLSQ, Washington, D.C. 20240. Comments may also be forwarded to this same address. 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:** Robert J. Blohm, Acting Chief, or James R. Kelley, Jr., Wildlife Biologist, Office of Migratory Bird Management (MBMO), (703) 358-1714.

**SUPPLEMENTARY INFORMATION:** Since the mid-1970s, the Service has sought to identify shot that does not pose a significant toxic hazard to migratory birds or other wildlife. Currently, only steel and bismuth-tin shot are approved by the Service as nontoxic. On October 7, 1998 tungsten-iron (63 FR 54015) and tungsten-polymer (63 FR 54021) shot were given temporary conditional approval for the 1998-99 hunting season. 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. The Service is eager to consider these other materials for approval as nontoxic shot.

The revised procedures for approving nontoxic shot (50 CFR 20.134) consist of a three-tier process whereby existing information can minimize the need for full testing of a candidate shot. However, applicants still carry the burden of proving that the candidate shot is nontoxic. By developing the new approval procedure, it was the Service's intent to discontinue the practice of granting temporary conditional approval to candidate shot material. However, the application by Kent was initiated prior to implementation of the new protocol. To date, scientific information presented in the application suggests that tungsten-matrix is nontoxic under conditions for the proposed shot configuration. Therefore, the Service has agreed to grant temporary conditional approval for the 1998-99 hunting season. Permanent approval will not be granted until further testing is successfully completed; which is consistent with the previous nontoxic shot approval process.

Kent's original candidate shot was fabricated from what is described in their application as " \* \* a mixture of powdered metals in a plastic matrix whose density is comparable to that of lead. All component metals are present as elements, not compounds. Tungsten-

matrix pellets have specific gravity of 9.8 g/cm<sup>3</sup> and is composed of 88 percent tungsten, 4 percent nickel, 2 percent iron, 1 percent copper, and 5 percent polymers by mass" (63 FR 30044; June 2, 1998). After consultation with the Service, Kent subsequently changed the composition of their shot and removed nickel and copper. The new shot material being considered has a density of 10.7 g/cm<sup>3</sup> and is composed of approximately 95.9 percent tungsten and 4.1 percent polymers.

Kent Cartridge's updated application includes a description of the reformulated tungsten-matrix (TM) shot, a toxicological report (Thomas 1997), and results of a 30-day dosing study of the toxicity of the original formulation in game-farm mallards (Wildlife International, Ltd. 1998). The toxicological report incorporates toxicity information (a synopsis of acute and chronic toxicity data for mammals and birds, potential for environmental concern, and toxicity to aquatic and terrestrial invertebrates, amphibians and reptiles) and information on environmental fate and transport. The toxicity study is a 30-day dosing test to determine if the original candidate shot poses any deleterious effects to game-farm mallards. This will meet the requirements for Tier 2, as described in 50 CFR 20.134(b)(3). Because the reformulated shot contains no new components, and in fact has had components removed (nickel and copper), the Service believes that re-testing of the reformulated shot in the form of a new 30-day dosing study is not required.

#### Toxicity Information

There is considerable difference in the toxicity of soluble and insoluble compounds of tungsten. Elemental tungsten, which is the material used in this shot, is virtually insoluble and is therefore expected to be relatively nontoxic. Even though most toxicity tests reviewed were based on soluble tungsten compounds rather than elemental tungsten (while the toxicity of the polymers is negligible due to its insolubility), there appears to be no basis for concern of toxicity to wildlife for the TM shot (metallic tungsten and polymers) via ingestion by fish, birds, or mammals (Wildlife International Ltd., 1998; Bursian et al., 1996; Gigiema, 1983; Patty, 1981; Industrial Medicine 1946; Karantassis 1924).

#### Environmental Fate and Transport

Tungsten is insoluble in water and, therefore, not mobile in hypergenic environments. Tungsten is very stable in acids and does not easily complex.

Preferential uptake by plants in acid soil suggests that uptake of tungsten in the anionic form is associated with tungsten minerals rather than elemental tungsten (Kabata-Pendias and Pendias 1984).

#### Environmental Concentrations

Calculation of the estimated environmental concentration (EEC) of tungsten in a terrestrial ecosystem is based on 69,000 shot per hectare (Pain 1990), assuming complete erosion of material in 5 cm of soil. The EECs for tungsten and the 2 polymers in soil are 25.7 mg/kg, 4.2 mg/kg, and 0.14 mg/kg, respectively. Calculation of the EEC in an aquatic ecosystem assumes complete erosion of the shot in one cubic foot of water. The EECs in water for tungsten and the 2 polymers are 4.2 mg/L, 0.2 mg/L, and 0.02 mg/L, respectively. The TM shot is considered insoluble and is stable in basic, neutral, and mildly acidic environments. Therefore, erosion of shot is expected to be minimal, and adverse effects on biota are not expected to occur.

#### Effects on Birds

An extensive literature review provided information on the toxicity of elemental tungsten to waterfowl and other birds. Ringelman et al. (1993), orally dosed 20 8-week-old game-farm mallards with 12–17 (1.03g) tungsten-bismuth-tin (TBT) pellets and monitored them for 32 days for evidence of intoxication. No birds died during the trial, gross lesions were not observed during the postmortem examination, histopathological examinations did not reveal any evidence of toxicity or tissue damage, and tungsten was not detectable in kidney or liver samples. The authors concluded that TBT shot presented virtually no potential for acute intoxication in mallards.

Kraabel et al. (1996) assessed the effects of embedded TBT shot on mallards and concluded that TBT was not acutely toxic when implanted in muscle tissue. Inflammatory reactions to TBT shot were localized and had no detectable systemic effects on mallard health.

Nell et al. (1981) fed laying hens (*Gallus domesticus*) 0.4 or 1 g/kg tungsten in a commercial mash for five months to assess reproductive performance. Weekly egg production was normal and hatchability of fertile eggs was not affected. Exposure of chickens to large doses of tungsten either through injection or by feeding, resulted in an increased tissue concentration of tungsten and a decreased concentration of molybdenum (Nell et al. 1981). The loss of tungsten from the liver occurred in an

exponential manner with a half-life of 27 hours. The alterations in molybdenum metabolism seemed to be associated with tungsten intake rather than molybdenum deficiency. Death due to tungsten occurred when tissue concentrations increased to 25 mg/g liver. At that concentration, xanthine dehydrogenase activity was zero.

The two plastic polymers used in TM shot act as a physical matrix in which the tungsten is distributed as ionically-bound fine particles. Most completely polymerized nylon materials are physiologically inert, regardless of the toxicity of the monomer from which they are made (Peterson, 1977). A literature review did not reveal studies in which either of the two polymers were evaluated for toxicity in birds. Montgomery (1982) reported that feeding Nylon 6 to rats at a level of 25 percent of the diet for 2 weeks caused a slower rate of weight gain, presumably due to a decrease in food consumption and feed efficiency. However, the rats suffered no anatomic injuries due to the consumption of nylon.

Kent's 30-day dosing study on the original formulation (Wildlife International Ltd., 1998) included 4 treatment and 1 control group of game-farm mallards. Treatment groups were exposed to 1 of 3 different types of shot: 8 #4 steel, 8 #4 lead, or 8 #4 TM; whereas the control group received no shot. The 2 TM treatment groups (1 group deficient diet, 1 group balanced diet) each consisted of 16 birds (8 males and 8 females); whereas remaining treatment and control groups consisted of 6 birds each (3 males and 3 females). All TM-dosed birds survived the test and showed no overt signs of toxicity or treatment-related effects on body weight. There were no differences in hematocrit or hemoglobin concentration between the TM treatment group and either the steel shot or control groups. No histopathological lesions were found during gross necropsy. In general, no adverse effects were seen in mallards given 8 #4 size TM shot and monitored over a 30-day period. Tungsten was found to be below the limit of detection in all samples of femur, gonad, liver, and kidney from treatment groups.

Based on the results of the toxicological report and the toxicity test of the original shot formulation (Tier 1 and 2), the Service concludes that TM shot, (approximately 95.9 percent tungsten and 4.1 percent polymer, by weight with <1 percent residual lead), does not appear to pose a significant danger to migratory birds or other wildlife and their habitats. However, the Service has some concern that absorption of tungsten into the femur,

kidney, and liver, as noted in a separate study on mallards, could potentially affect the spectacled eider (*Somateria fischeri*); a species already subject to adverse weather, predation, and lead poisoning on the Yukon-Kuskokwim (Y-K) Delta, Alaska. Until a reproductive/chronic toxicity test has been completed and the Service has reviewed the results, TM shot cannot be approved for the Y-K Delta.

The first condition of approval is toxicity testing. Candidate materials not approved under Tier 1 and/or 2 testing are subjected to standards of Tier 3 testing. The scope of Tier 3 includes chronic exposure under adverse environmental conditions and effects on reproduction in game-farm mallards, as outlined in 50 CFR 20.134(b)(4)(i)(A and B) (Tier 3), and in consultation with the Service's Office of Migratory Bird Management and the U.S. Geological Survey's Division of Biological Resources. This study includes assessment of long-term toxicity under depressed temperature conditions using a nutritionally-deficient diet, as well as a moderately long-term study that includes reproductive assessment. The tests require the applicant to demonstrate that TM shot is nontoxic to waterfowl and their offspring.

The second condition of final unconditional approval is testing for residual lead levels. Any TM shot with lead levels equal to or exceeding 1 percent will be considered toxic and, therefore, illegal. In the **Federal Register** of August 18, 1995 (60 FR 43314), the Service indicated that it would establish a maximum level for residual lead. The Service has determined that the maximum environmentally acceptable level of lead in any nontoxic shot is trace amounts of <1 percent and has incorporated this requirement (50 CFR 20.134(b)(5)) in the December 1, 1997, final rule (62 FR 63608). Kent documented that the TM shot had no residual lead levels equal to or exceeding 1 percent.

The third condition of final unconditional approval involves enforcement. In the August 18, 1995 **Federal Register** (60 FR 43314), the Service indicated that final unconditional approval of any nontoxic shot would be contingent upon the development and availability of a noninvasive field testing device. Several noninvasive field testing devices are under development to separate TM shot from lead shot. Furthermore, TM shot can be drawn to a magnet as a simple field detection method. This requirement was incorporated into regulations at 50 CFR 20.134(b)(6) in the

December 1, 1997, final rule (62 FR 63608).

This proposed rule would amend 50 CFR 20.21(j) by conditionally approving tungsten-matrix shot as nontoxic for the 1998–99 migratory bird hunting season throughout the United States, except for the Y-K Delta in Alaska. It is based on the request made to the Service by Kent Cartridge on September 18, 1997 (subsequently modified), the toxicological reports, and the acute toxicity studies. Results of the toxicological report and 30-day toxicity test undertaken for Kent Cartridge indicate the apparent absence of any deleterious effects of tungsten-matrix shot when ingested by captive-reared mallards or to the ecosystem. The comment period for the proposed rule has been shortened to 30 days. This time frame will make it possible for tungsten-matrix shot, if temporarily approved, to be available for use by hunters during the 1998–1999 hunting season. This will increase the number of nontoxic shot options available to hunters.

## References

- Bursian, S. J., M. E. Kelly, R. J. Aulerich, D. C. Powell, and S. Fitzgerald. 1996. Thirty-day dosing test to assess the toxicity of tungsten-polymer shot in game-farm mallards. Report to Federal Cartridge Co. 77 pp.
- Gigiema I Sanitariya. 1983. Mezhdunarodnaya Kniga. Moscow, USSR. 48(7):77.
- Industrial Medicine. 1946. Volume 15, p. 482.
- Interagency Ecosystem Management Task Force. 1995. The ecosystem approach: healthy ecosystems and sustainable economics. Volume II—Implementation Issues.
- Kabata-Pendias, A. and H. Pendias. 1984. Trace elements in soil and plants. CRC Press, Inc. Boca Raton, FL.
- Karantassis, T. 1924. On the toxicity of compounds of tungsten and molybdenum. Ann. Med. 28:1541091543.
- Kraabel, F. W., M. W. Miller, D. M. Getzy, and J. K. Ringelman. 1996. Effects of embedded tungsten-bismuth-tin shot and steel shot on mallards. J. Wildl. Dis. 38(1):1098.
- Montgomery, R. R. 1982. Polymers. In Patty's Industrial Hygiene and Toxicology, Vol. IIIA (G.D. Clayton and F. E. Clayton, Eds.) pp. 4209–4526. John Wiley and Sons, NY.
- Nell, J. A.; Bryden, W.L.; Heard, G. S.; Balnave, D. 1981. Reproductive performance of laying hens fed tungsten. Poultry Science 60(1):257–258.
- Pain, D.J. 1990. Lead shot ingestion by waterbirds in the Carmarque, France: an investigation of levels and interspecific difference. Environ. Pollut. 66:273–285.
- Patty's Industrial Hygiene and Toxicology. 1981. Wiley Interscience. Wiley & Sons, Inc. NY, NY. Third Ed.
- Peterson, J. E. 1977. Industrial Health. Prentice-Hall, Englewood Cliffs, NJ.
- Ringelman, J. K., M. W. Miller and W. F. Andelt. 1993. Effects of ingested tungsten-bismuth-tin shot on mallards. CO Div. Wildl., Fort Collins, 24 pp.
- Thomas, V.G. 1997. Application for approval of tungsten-matrix shot as non-toxic for the hunting of migratory birds. 39 pp.
- Wildlife International, Ltd. 1998. Tungsten-matrix shot: An oral toxicity study with the mallard. Project No. 475–101. 162 pp.

## NEPA Consideration

In compliance with the requirements of section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4332(C)), and the Council on Environmental Quality's regulation for implementing NEPA (40 CFR parts 1500–1508), the Service prepared a draft Environmental Assessment (EA) in October 1998. This EA is available to the public for comment at the location indicated under the ADDRESSES caption.

## 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, "The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act" (and) 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 initiated a Section 7 consultation under the ESA for this proposed rule. The result of the Service's consultation under Section 7 of the ESA will be 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 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.

#### 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 Department has determined that these proposed regulations meet the applicable standards provided in

Sections 3(a) and 3(b)(2) of Executive Order 12988.

#### Authorship

The primary author of this proposed rule is James R. Kelley, Jr., Office of Migratory Bird Management.

#### List of Subjects in 50 CFR Part 20

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife. Accordingly, Part 20, subchapter B, chapter I of Title 50 of the Code of Federal Regulations is proposed to be amended 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)(4) 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 parts tungsten: 4.5 parts Nylon 6 or 11 with <1 percent residual lead) shot, or tungsten-matrix (95.9 parts tungsten: 4.1 parts polymer with <1 percent residual lead), or such shot approved as nontoxic by the Director pursuant to procedures set forth in 20.134, provided that:

(1) \* \* \*

(4) Tungsten-matrix shot (95.9 parts tungsten: 4.1 parts polymer with <1 percent residual lead) is legal as nontoxic shot for waterfowl and coot hunting for the 1998–1999 hunting season only, except for the Yukon-Kuskokwim Delta habitat in Alaska.

Dated: October 13, 1998.

**Donald J. Barry,**

*Assistant Secretary for Fish and Wildlife and Parks.*

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