

(4) Current or planned activities in the subject area and their possible impacts on these species.

Reopening of the comment period will enable the Service to respond to the request for a public hearing on the proposed action. The comment period on this proposal now closes on November 29, 2000. Written comments should be submitted to the Service office listed in the **ADDRESSES** section.

**Author:**

The primary authors of this notice Benton Pang and Christa Russell (see **ADDRESSES** section).

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

Dated: September 22, 2000.

**Rowan W. Gould,**

*Acting Regional Director, Region 1, Fish and Wildlife Service.*

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**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 20**

**RIN: 1018-AH64**

**Migratory Bird Hunting; Approval of Tungsten-Nickel-Iron Shot as Nontoxic for Hunting Waterfowl and Coots**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** We propose to approve shot formulated of tungsten, nickel, and iron as nontoxic for hunting waterfowl and coots. We assessed possible effects of the tungsten-nickel-iron (t-n-i) shot, and have made a preliminary determination that it is not a significant threat to wildlife or their habitats and that further testing of t-n-i shot is not necessary. In addition, approval of t-n-i shot may induce more waterfowl hunters to switch away from lead shot, reducing lead risks to species and habitats.

**DATES:** Comments on the proposed rule must be received no later than November 29, 2000.

**ADDRESSES:** You may send comments about this proposal to the Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, Room 634, Arlington, Virginia 22203-1610. You may inspect comments during normal business hours at the same address.

**FOR FURTHER INFORMATION CONTACT:** Jon Andrew, Chief, or Dr. George T. Allen,

Division of Migratory Bird Management, 703-358-1714.

**SUPPLEMENTARY INFORMATION:** The Migratory Bird Treaty Act of 1918 (Act) (16 U.S.C. 703-712 and 16 U.S.C. 742 a-j) implements migratory bird treaties between the United States and Great Britain for Canada (1916 and 1996 as amended), Mexico (1936 and 1972 as amended), Japan (1972 and 1974 as amended), and Russia (then the Soviet Union, 1978). These treaties protect certain migratory birds from take, except as permitted under the Act. The Act authorizes the Secretary of the Interior to regulate take of migratory birds in the United States. Under this authority, the Fish and Wildlife Service controls the hunting of migratory game birds through regulations in 50 CFR part 20.

Since the mid-1970s, we have sought to identify shot that does not pose a significant toxicity hazard to migratory birds or other wildlife. Compliance with the use of nontoxic shot has increased over the last few years (Anderson *et al.* 2000). We believe that it will continue to increase with the approval and availability of other nontoxic shot types. Currently, steel, bismuth-tin, tungsten-iron, tungsten-polymer, and tungsten-matrix shot are approved as nontoxic. On September 25, 2000 (65 FR 57586-57588), we published a proposed rule to grant temporary approval to tin shot. The purpose of this proposed rule is to approve the use of t-n-i shot in the tested formulation (50% tungsten, 35% nickel, and 15% iron by weight) for waterfowl and coot hunting. We propose to amend 50 CFR 20.21 (j), which describes prohibited types of shot for waterfowl and coot hunting.

On April 9, 1999 (64 FR 17308-17309), we announced receipt of an application from Standard Resources Corporation (Standard) of Cherry Hill, New Jersey for nontoxic approval of HEVI-METAL shot in the 50% tungsten, 35% nickel, 15% iron formulation. The density of the shot in that formulation is 11.0 grams/cm<sup>3</sup>. The manufacturer believes that the shot does not need a coating because it is sufficiently noncorrosive under neutral pH. It is not chemically or physically altered by firing from a shotgun.

On April 19, 1999 (64 FR 19191), we announced that Standard's application did not provide sufficient information for us to conclude that the candidate shot is not a significant danger to migratory birds. We advised Standard to proceed with additional testing of the candidate shot. Subsequently, development of HEVI-METAL was transferred to ENVIRON-Metal, Inc., of

Albany, Oregon (Environ-metal), and the shot was re-named HEVI-SHOT™.

On August 10, 2000, Environ-metal submitted an application for permanent approval of the t-n-i shot as nontoxic for hunting waterfowl and coots. The application included a description of the shot, results and a toxicological report of a preliminary 30-day dosing study of the toxicity of the shot in game-farm mallards (Ecological Planning and Toxicology, Inc. [EPT] 1999), and results of a more comprehensive 30-day acute toxicity study (Brewer and Fairbrother 2000).

**Toxicity Information.** Tungsten may be substituted for molybdenum in enzymes in mammals. Ingested tungsten salts reduce growth, and can cause diarrhea, coma, and death in mammals (*e.g.* Bursian *et al.* 1996, Cohen *et al.* 1973, Karantassis 1924, Kinard and Van de Erve 1941, National Research Council 1980, Pham-Huu-Chanh 1965), but elemental tungsten is virtually insoluble and therefore essentially nontoxic. In rats, a dietary concentration of 94 parts-per-million (ppm) did not reduce weight gain in growing rats (Wei *et al.* 1987). Lifetime exposure to 5 ppm tungsten as sodium tungstate in drinking water produced no discernible adverse effects in rats (Schroeder and Mitchener 1975). At 100 ppm tungsten as sodium tungstate in drinking water, rats had decreased enzyme activity after 21 days (Cohen *et al.* 1973). These studies indicate that tungsten salts are very toxic to mammals.

Chickens given a complete diet showed no adverse effects of 250 ppm sodium tungstate administered for 10 days in the diet. However, 500 ppm in the diet had detrimental effects on day-old chicks (Teekell and Watts 1959). Adult hens had reduced egg production and egg weight on a diet containing 1,000 ppm tungsten (Nell *et al.* 1981a). EPT (1999) concluded that 250 ppm in the diet would produce no observable adverse effects. Kelly *et al.* (1998) demonstrated no adverse effects on mallards dosed with tungsten-iron or tungsten-polymer shot according to nontoxic shot test protocols.

Most toxicity tests reviewed were based on soluble tungsten compounds rather than elemental tungsten. As we found in our reviews of other tungsten shot types, we believe that there is no basis for concern about the toxicity of the tungsten in t-n-i shot to fish, mammals, or birds.

Nickel is a dietary requirement of mammals, with necessary consumption set at 50 to 80 parts per billion for the rat and chick (Nielsen and Sandstead 1974). Though it is necessary for some enzymes, nickel can compete with

calcium, magnesium, and zinc for binding sites on many enzymes. Water-soluble nickel salts are poorly absorbed if ingested by rats (Nieboer *et al.* 1988). Nickel carbonate caused no treatment effects in rats fed 1,000 ppm for 3 to 4 months (Phatak and Patwardhan 1952). Rats fed 1,000 ppm nickel sulfate for 2 years showed reduced body and liver weights, an increase in the number of stillborn pups, and decrease in weanling weights through three generations (Ambrose *et al.* 1976). Nickel chloride was even more toxic; 1,000 ppm fed to young rats caused weight loss in 13 days (Schneegg and Kirchgessner 1976).

Soluble nickel salts can be classified as very toxic to mammals, with an oral LD<sub>50</sub> of 136 mg/kg in mice, and 350 mg/kg in rats (Fairchild *et al.* 1977). Nickel catalyst (finely divided nickel in vegetable oil) fed to young rats at 250 ppm for 16 months, however, produced no detrimental effects (Phatak and Patwardhan 1952).

In chicks from hatching to 4 weeks of age, 300 ppm nickel as nickel carbonate or nickel acetate in the diet produced no observed adverse effects. However, concentrations of 500 ppm or more reduced growth (Weber and Reid 1968). A diet containing 200 ppm nickel as nickel sulfate had no observed effects on mallard ducklings from 1 to 90 days of age. Diets of 800 ppm or more caused significant changes in physical condition of the ducklings (Cain and Pafford 1981). Eastin and O'Shea (1981) observed no apparent significant changes in pairs of breeding mallards fed diets containing up to 800 ppm nickel as nickel sulfate for 90 days.

Iron is an essential nutrient, so reported iron toxicosis in mammals is primarily a phenomenon of overdosing of livestock. Maximum recommended dietary levels of iron range from 500 ppm for sheep to 3,000 ppm for pigs (National Research Council [NRC] 1980). Chickens require at least 55 ppm iron in the diet (Morck and Austic 1981). Chickens fed 1,600 ppm iron in an adequate diet displayed no ill effects (McGhee *et al.* 1965). Turkey poults fed 440 ppm in the diet suffered no adverse effects. The tests in which eight #4 tungsten-iron shot were administered to each mallard in a toxicity study indicated that the 45% iron content of the shot had no adverse effects on the test animals (Kelly *et al.* 1998).

**Environmental Fate:** Elemental tungsten and iron are virtually insoluble in water and do not weather and degrade in the environment. Tungsten is stable in acids and does not easily form compounds with other substances. Preferential uptake by plants in acidic soil suggests uptake of tungsten when it

has formed compounds with other substances rather than when it is in its elemental form (Kabata-Pendias and Pendias 1984).

Nickel is common in fresh waters, though usually at concentrations of less than 1 part per billion in locations unaffected by human activities. Pure nickel is not soluble in water. Free nickel may be part of chemical reactions, such as sorption, precipitation, and complexation. Reactions of nickel with anions are unlikely. Complexation with organic agents is poorly understood (U.S. Environmental Protection Agency [EPA] 1980). Water hardness is the dominant factor governing nickel effects on biota (Stokes 1988).

**Environmental Concentrations:** Calculation of the estimated environmental concentration (EEC) of a candidate shot in a terrestrial ecosystem is based on 69,000 shot per hectare (Bellrose 1959, 50 CFR 20.134). Assuming complete dissolution of the shot, the EEC for tungsten in soil is 19.3 mg/kg. The EECs for nickel and iron would be 7.7 and 3.3 mg/kg, respectively. The EEC for nickel (the only one of the three elements with an application limit) is substantially below the U.S. Environmental Protection Agency (EPA) biosolid application limit. The 3.3 mg/kg EEC for nickel also is far below the 16 to 35 mg/kg concentrations suggested as minimum sediment concentrations at which effects of the metal are likely to occur (EPA 1997, Ingersoll *et al.* 1996, Long and Morgan 1991; MacDonald *et al.* 2000, Smith *et al.* 1996). The EEC for tungsten from t-n-i shot is below that for the already-approved tungsten-matrix shot. The EEC for iron is less than 0.01% of the typical background concentration, and the iron is in an insoluble form.

Calculation of the EEC in an aquatic ecosystem assumes complete erosion of the 69,000 shot/hectare in water 1 foot deep. The EECs for the elements in t-n-i shot in water are 2,348 µg/L for tungsten, 1,643 µg/L for nickel, and 704 µg/L for iron. We concluded that a tungsten concentration of 10,500 µg/L posed no threat to aquatic biota (62 FR 4877-4879). The EEC for nickel, if the shot were completely dissolved, would exceed the EPA acute water quality criterion of 1,400 µg/L in fresh water, and would greatly exceed the 75 µg/L criterion for salt water. However, tests showed that corrosion of t-n-i shot is negligible in neutral pH fresh water. Actual tests in water with a pH of 2 showed that the EEC for nickel would be 83.98 µg/L, and in salt water it would be 7.92 µg/L; both are far below the EPA

criterion of 160 µg/L for chronic exposure.

**Effects on Birds.** Kraabel *et al.* (1996) surgically embedded tungsten-bismuth-tin (t-b-t) shot in the pectoralis muscles of ducks to simulate wounding by gunfire and to test for toxic effects of the shot. The authors found that t-b-t shot neither produced toxic effects nor induced adverse systemic effects in the ducks during the 8-week period of their study.

Nell *et al.* (1981a) fed laying hens (*Gallus domesticus*) 0.4 or 1.0 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.* 1981b). 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 ppm in the liver. At that concentration, xanthine dehydrogenase activity was zero.

**Toxicity Studies.** Ringelman *et al.* (1993) conducted a 32-day acute toxicity study that involved dosing game-farm mallards with a shot alloy which was 39%, 44.5%, and 16.5% by weight, respectively. No dosed birds died during the trial, and behavior was normal. Post-euthanization examination of tissues revealed no toxicity or damage related to shot exposure. Blood calcium differences between dosed and undosed birds were judged to be unrelated to shot exposure. That study indicated that tungsten presented little hazard to waterfowl.

Initial analyses of corrosion of t-n-i metal in 0.1N HCl and in seawater indicated that t-n-i shot is more corrosion resistant than copper-plated tungsten-iron shot and steel shot, and that it will release tungsten into the environment more slowly than does tungsten-iron shot. In addition, only a portion of the tungsten is soluble, and not all of that is absorbed. Therefore, EPT (1999) suggested that ingested t-n-i shot should pose minimal risks to migratory birds that might ingest it.

EPT conducted a preliminary 30-day oral toxicity study of t-n-i shot that followed the general approach outlined for a short-term acute toxicity test (50 CFR 20.134). Eight #4 t-n-i shot pellets

were administered to each of three healthy adult male and three healthy adult female mallards by placing them in a gelatin capsule and placing the capsule in the bird's gizzard. All of the birds retained seven or eight of the pellets for the 30-day test period. During that time the birds behaved normally, and none of them exhibited signs of metal intoxication. Body weights of the birds did not change significantly during the test period.

Upon postmortem examination, all body organs looked normal. Histopathology showed that one of the females had a fatty liver, and also had elevated liver enzymes. Liver abnormalities due to fatty changes (accumulation of glycogen or fat) were considered the likely cause of the problem.

Brewer and Fairbrother (2000) reported on the outcome of more extensive corrosion/erosion testing of t-n-i shot, and steel and lead shot. Eight #4 t-n-i shot pellets were administered to each of 20 male mallards and 20 female mallards by placing the shot in a gelatin capsule and placing the capsule in the bird's gizzard. The same procedure was followed for dosing 20 male mallards and 20 female mallards with 8 #4 steel shot, and for dosing 5 males and 5 females with 8 #4 lead shot. The birds had been fasting prior to placement of the gelatin capsules to facilitate movement of the capsule to the gizzard. During the 30-day test period, the researchers monitored loss of shot through the digestive system, and they determined retention of shot in the gizzard upon necropsy. They also carefully monitored food consumption of the test birds and their health.

No mortality occurred in birds treated with t-n-i shot or steel shot. Nine of the ten birds dosed with lead died during the test period. Therefore, most measures of health and measures of shot erosion were not valid for the lead-dosed group. No significant differences in body weight changes emerged between the steel shot group and the t-n-i shot group during the test period.

The evaluation focused on corrosion/erosion of the steel shot and the t-n-i shot, and associated changes in organs and blood chemistry. A total of 134 of the t-n-i shot pellets and 138 of the steel shot were recovered from the gizzards of the test birds after 30 days. T-n-i shot pellets recovered from gizzards at the end of the test retained an average of 88.6% of their initial weight; steel pellets retained an average of 49.7% of their weight.

Histopathological examination of kidney tissues from the 41 ducks alive at the end of the test period revealed no

significant lesions. Livers also appeared to have been unaffected by steel pellets or t-n-i shot. Hemoglobin, white blood cell counts, hematocrits, and blood serum chemistry results did not differ between the steel shot test group and the t-n-i shot test group, with the exception that the mean for plasma protein was significantly higher in the t-n-i shot-treated ducks.

Analytical chemistry of liver, kidney, and blood samples showed some differences between the steel shot and t-n-i shot test groups. Mean tungsten concentrations in blood, liver, and kidney tissues were 0.24 ppm in the blood, 0.64 ppm in kidney tissue, and 1.65 ppm in liver tissue. No tungsten was detected in tissues of mallards dosed with steel shot. Mean nickel concentrations in blood (0.03 ppm), liver (0.09 ppm), and kidney (0.44 ppm) tissues were significantly higher in those dosed with t-n-i shot than in those dosed with steel shot. Mean nickel concentrations in blood, liver, and kidney tissues of mallards treated with 800 ppm in the diet for 90 days were 0.139, 0.52, and 1.94 ppm, respectively (Eastin and O'Shea 1991). Those ducks suffered no apparent ill effects from their treatment. Mean iron concentrations in the blood and liver were higher for the ducks dosed with steel shot, but kidney concentrations did not differ.

EPT (1999) calculated that the mallards studied by Eastin and O'Shea (1981) consumed approximately 102 mg of nickel each day during the study. Under the Tier 2 protocol, each test mallard is dosed with 8 #4 shot at 0, 30, 60, and 90 days, which in the case of t-n-i shot would contain a total of 32 shot, and 2.3 g of nickel per bird. At pH 2, with continual grinding of ingested shot, eight #4 pellets would lose 0.176 mg of nickel per day. The maximum exposure for a mallard under such conditions would be 0.704 mg/day, substantially less than the estimated consumption by mallards in the Eastin and O'Shea study (EPT 1999). We believe, therefore, that consumption of nickel from t-n-i shot is unlikely to have detrimental effects on waterfowl.

*Ingestion by Fish, Amphibians, Reptiles, or Mammals.* Based on the available information and past reviews of tungsten-based shot, we expect no detrimental effects due to tungsten or iron on animals that might ingest t-n-i shot. However, we know of no studies of ingestion of nickel by herpetofauna. In the worst case, assuming complete erosion of a #4 t-n-i shot pellet equal to that found in a mallard gizzard, exposure to a vertebrate would be approximately 0.022 mg of nickel per

day if the shot were retained in the animal. The exposure actually would be substantially less because a shot pellet likely would not be retained in most animals that might consume one.

### Nontoxic Shot Approval

The first condition for nontoxic shot approval is toxicity testing. Based on the results of the toxicological reports and the toxicity tests, we preliminarily conclude that t-n-i shot does not pose a significant danger to migratory birds, other wildlife, or their habitats.

The second condition for approval is testing for residual lead levels. Any shot with a lead level of 1% or more will be illegal. We determined that the maximum environmentally acceptable level of lead in shot is 1%, and incorporated this requirement in the nontoxic shot approval process we published in December 1997 (62 FR 63608-63615). ENVIRON-Metal, Inc. has documented that t-n-i shot meets this requirement.

The third condition for approval involves enforcement. In 1995 (60 FR 43314), we stated that approval of any nontoxic shot would be contingent upon the development and availability of a noninvasive field testing device. This requirement was incorporated in the nontoxic shot approval process. T-n-i shotshells can be drawn to a magnet as a simple field detection method.

For these reasons, and in accordance with 50 CFR 20.134, we intend to approve t-n-i shot as nontoxic for migratory bird hunting, and propose to amend 50 CFR 20.21(j) accordingly. It is based on the toxicological reports, acute toxicity studies, and assessment of the environmental effects of the shot. Those results indicate no deleterious effects of t-n-i shot to ecosystems or when ingested by waterfowl. Because the testing of t-n-i shot and earlier testing of shot types containing tungsten and iron indicated no environmental problems, we do not believe Tier 3 testing of t-n-i shot is necessary.

### Public Comments Solicited

Our past experience with nontoxic shot approvals has been that 30 days is sufficient time for those interested in these actions to comment. Also, tungsten and iron already have been reviewed extensively for use in nontoxic shot. Therefore, we will accept comments on this proposal for a 30-day period.

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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 parts 1500–1508), we prepared a draft Environmental Assessment (EA) for approval of t-n-i shot in September 2000. The draft EA is available to the public at the location indicated in the ADDRESSES section.

## 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 \* \* \*” We are completing a Section 7 consultation under the ESA for this proposed rule. The result of our consultation under Section 7 of the ESA will be available to the public at the location indicated in the ADDRESSES section.

## Regulatory Flexibility 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. This rule proposes to approve an additional type of nontoxic shot that may be sold and used to hunt migratory birds; this proposed rule would provide one shot type in addition to the existing four that are approved. We have determined, however, that this proposed 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. We anticipate 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.

**Executive Order 12866**

This proposed rule is not a significant regulatory action subject to Office of Management and Budget (OMB) review under Executive Order 12866. OMB makes the final determination under E.O. 12866. We invite comments on how to make this rule easier to understand, including answers to questions such as the following: (1) Are the requirements in the rule clearly stated? (2) Does the rule contain technical language or jargon that interferes with its clarity? (3) Does the format of the rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Would the rule be easier to understand if it were divided into more (but shorter) sections? (5) Is the description of the rule in the SUPPLEMENTARY INFORMATION section of the preamble helpful in understanding the rule? What else could we do to make the rule easier to understand?

**Paperwork Reduction Act**

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. We have examined this regulation under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501) and found it to contain no information collection requirements. We have submitted a request for renewal of OMB approval of collection of information shot manufacturers are required to provide to us for the nontoxic shot approval process. For further information see 50 CFR 20.134.

**Unfunded Mandates Reform**

We have determined and certify pursuant to the Unfunded Mandates Reform Act, 2 U.S.C. 1502, *et seq.*, that this proposed 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**

We, in promulgating this proposed rule, have determined that these regulations meet the applicable standards provided in Sections 3(a) and 3(b)(2) of Executive Order 12988.

**Takings Implication Assessment**

In accordance with Executive Order 12630, this proposed rule, authorized by the Migratory Bird Treaty Act, does not have significant takings implications and does not affect any constitutionally protected property rights. This proposed rule will not result in the physical occupancy of property, the physical invasion of property, or the regulatory taking of any property. In fact, this proposed rule will allow hunters to exercise privileges that would be otherwise unavailable; and, therefore, reduces restrictions on the use of private and public property.

**Federalism Effects**

Due to the migratory nature of certain species of birds, the Federal Government has been given responsibility over these species by the Migratory Bird Treaty Act. This proposed rule does not have a substantial direct effect on fiscal capacity, change the roles or responsibilities of Federal or State governments, or intrude on State policy or administration. Therefore, in accordance with Executive Order 13132, this proposed regulation does not have significant federalism effects and does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

**Government-to-Government Relationship With Tribes**

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951) and 512 DM 2, we have determined that this proposed rule has no effects on Federally recognized Indian tribes.

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

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

For the reasons discussed in the preamble, we propose to amend part 20, subchapter B, chapter I 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) to read as follows:

**§ 20.21 What hunting methods are illegal?**

\* \* \* \* \*

(j) While possessing loose shot for muzzle loading or shotshells containing other than the previously approved shot types of steel, bismuth-tin (97 parts bismuth: 3 parts tin), tungsten-iron (40 parts tungsten: 60 parts iron), tungsten-polymer (95.5 parts tungsten: 4.5 parts Nylon 6 or 11), tungsten-matrix (95.9 parts tungsten: 4.1 parts polymer), and tungsten-nickel-iron (55% tungsten: 35% nickel: 15% iron), all of which must contain less than 1% residual lead (see § 20.134). This restriction applies to the taking of ducks, geese (including brant), swans, coots (*Fulica americana*), and any other species that make up aggregate bag limits with them during concurrent seasons in areas described in § 20.108 as nontoxic shot zones.

\* \* \* \* \*

Dated: October 24, 2000.

**Kenneth L. Smith,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 648**

[I.D. 102300A]

**New England Fishery Management Council; Public Meeting**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Public meeting.

**SUMMARY:** The New England Fishery Management Council (Council) will hold a 3-day public meeting on November 14, 15, and 16, 2000, to consider actions affecting New England fisheries in the exclusive economic zone (EEZ).