III. Do Any Statutory and Executive Order Reviews Apply to this Notification?

No. This document is not a rule, it is merely a notification of submission to the Secretary of Agriculture. As such, none of the regulatory assessment requirements apply to this document.

List of Subjects in 40 CFR Part 170

Environmental protection, Administrative practice and procedure, Labeling, Occupational safety and health, Pesticides and pests.

Dated: June 14, 2004.

Anne E. Lindsay,

Director, Office of Pesticide Programs.

[FR Doc. 04–14830 Filed 6–29–04; 8:45 am]

BILLING CODE 6560–50–S

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the New England Cottontail as Threatened or Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 90-day petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the New England cottontail rabbit (*Sylvilagus transitionalis*) under the Endangered Species Act of 1973, as amended (Act). We find that the petition presents substantial information indicating that the listing of the New England cottontail may be warranted. Therefore, we are initiating a status review to determine if listing the species is warranted. To ensure that the review is comprehensive, we are soliciting information and data regarding this species.

DATES: The administrative finding announced in this document was made on June 2, 2004. To be considered in the 12-month finding for this petition, comments and information should be submitted to us by August 30, 2004.

ADDRESSES: Data, information, comments, or questions concerning this petition and our finding should be submitted to the Field Supervisor (Attention: Endangered Species), New England Field Office, 70 Commercial Street, Suite 300, Concord, New Hampshire 03301. The petition, administrative finding, supporting data, and comments will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Michael J. Amaral, Endangered Species Specialist, at the New England Field Office (see **ADDRESSES** above), or at 603–223–2541.

SUPPLEMENTARY INFORMATION:

Background

Section 4 (b)(3)(A) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*), requires that we make a finding on whether a petition to list, delist, or reclassify a species, or to revise a critical habitat designation, presents substantial scientific or commercial information to demonstrate that the petitioned action may be warranted. We are to base this finding on all information available to us at the time the finding is made. To the maximum extent practicable, we are to make this finding within 90 days of the receipt of the petition, and to publish a notice of the finding promptly in the **Federal Register**. Our regulations at 50 CFR 424.14(b) state that for the purposes of petition findings, ''substantial information'' is that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted * * *.'' If we find that substantial information was presented, we are required to promptly commence a review of the status of the involved species, if one has not already been initiated under our internal candidate assessment process. After completing the status review, we will issue an additional finding (the 12-month finding) determining whether listing is, in fact, warranted.

Based on our regulations at 50 CFR 424.14(b)(2), in making a 90-day finding as to whether a petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted, we are to consider whether such petition—

(1) Clearly indicates the administrative measure recommended and gives the scientific and any common names of the species involved;

(2) Contains detailed narrative justification for the recommended measure, describing, based on available information, past and present numbers and distribution of the species involved and any threats faced by the species;

(3) Provides information regarding the status of the species over all or a significant portion of its range; and

(4) Is accompanied by appropriate supporting documentation in the form of bibliographic references, reprints of pertinent publications, copies of reports or letters from authorities, and maps.

On August 30, 2000, we received a petition dated August 29, 2000, requesting that we list the New England cottontail (*Sylvilagus transitionalis*) as a threatened or endangered species, and that critical habitat be designated ''within a reasonable period of time following the listing.'' The petition, submitted by the Biodiversity Legal Foundation, Conservation Action Project, Endangered Small Animals Conservation Fund, and Defenders of Wildlife, was clearly identified as a petition for a rule, and contained the names, signatures, and addresses of the requesting parties. Included in the petition was supporting information regarding the species' taxonomy and ecology, historic and current distribution, present status, and potential causes of decline. We acknowledged receipt of the petition in a letter to Mr. D. C. Jasper Carlton, dated September 14, 2000. In this letter, we also advised the petitioners that due to funding constraints in fiscal year (FY) 2000, we would not be able to begin processing the petition in a timely manner. Those constraints persisted into FY 2001.

On December 19, 2000, Defenders of Wildlife sent a Notice of Intent to sue the Service for violating the Act by failing to make a timely 90-day finding on the petition to list the New England cottontail. On May 14, 2002, we advised the Defenders of Wildlife that we would begin action on the petition in FY 2002. This notice announces and summarizes our 90-day finding for the petition to list the New England cottontail.

Biology and Distribution

Sometimes called the gray rabbit, brush rabbit, wood hare, or coony, the New England cottontail is a medium-sized cottontail rabbit that may reach 1,000 grams (g) (2.2 pounds (lbs)) in weight. Dorsal portions of its body are buff to ocher in color, and the back is overlain with distinct black hair (Chapman and Ceballos 1990). The ears are short and rounded, and have a distinct black edge. There is a distinct black spot between the ears.

A New England cottontail in the hand usually can be distinguished from two sympatric lagomorphs (lagomorphs are a suborder of mammals that includes rabbits, hares, and pikas), the eastern cottontail (*Sylvilagus floridanus*) and the snowshoe hare (*Lepus americanus*), by several features, including fur color, ear length, body mass, presence of the black spot between the ears, absence of a white spot on the forehead, and the

black line on the anterior edge of the ears (Litvaitis *et al.* 1991). Pelage characteristics, however, are not 100 percent reliable in distinguishing between the visually similar New England and eastern cottontails (Chapman and Ceballos 1990), and the two species are difficult to tell apart in the field. Cranial differences, however, are a highly reliable means of distinguishing the two cottontail species (Chapman and Morgan 1973).

The New England cottontail was formally described in 1894 (Bangs 1894 in Litvaitis and Johnson 2002). Until the early 1990s, the species was considered to occur in a mosaic pattern from southeastern New England, south along the Appalachian Mountains to Alabama (Hall 1981). However, Ruedas *et al.* (1989) and others questioned the taxonomic status of S. transitionalis because they found evidence of two distinct chromosomal races within its geographic range. Chapman *et al.* (1992) conducted a review of the systematics and biogeography of the species and reported finding clear evidence for two morphometrically distinct taxa within what had conventionally been regarded as a single species. Accordingly, Chapman *et al.* (1992) defined a new species, the Appalachian cottontail (*S. obscurus*), with a range from west of the Hudson River, New York south along the Appalachian Mountains through Pennsylvania, Maryland, West Virginia, Virginia, Tennessee, North Carolina, South Carolina, Georgia, and Alabama. Chapman *et al.* (1992) defined the New England cottontail (*S. transitionalis*) as that species east of the Hudson River, New York, north through Vermont, Connecticut, Rhode Island, Massachusetts, New Hampshire, and southern Maine.

In addition to the morphometric and genetic differences reported by researchers, the two species also occupy somewhat different habitats. The Appalachian cottontail is generally an inhabitant of ericaceous vegetation zones (areas dominated by plants in the heath family) associated with higher elevations and mountain balds, while the New England cottontail occurs at lower elevations nearer the coastline, in forested or disturbed habitats with a dense understory.

Not all biologists concur with the taxonomic separation proposed by Chapman *et al.* (1992); see, for example, Litvaitis *et al.* (1997). However, the change in taxonomy and nomenclature proposed by Chapman is included in the Smithsonian Institution's book on North American mammals (Chapman in Wilson and Ruff, eds., 1999). Jones *et al.* (1997), in the revised checklist of North American mammals, also recognizes both species as valid. The Service currently accepts the taxonomic separation of *S. transitionalis* and *S. obscurus.*

Pursuant to the definitions in section 3 of the Act, ''the term species includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' In order for a species to be considered as a listable entity under the Act, it must meet the above definition. The Service agrees with the petitioners that the New England cottontail qualifies as a listable entity under the Act based on the definition of species. We base this conclusion on two arguments. First, we believe there is general acceptance of the *S. transitionalis* / *S. obscurus taxonomy* put forth by Chapman *et al.* (1992) as noted above. Second, we believe that the New England cottontail within its range in the Northeast (east of the Hudson River, New York) would warrant listing consideration as a distinct vertebrate population segment in the event that the taxonomy of these species is further revised. Accordingly, and consistent with the species as described in the petition, in this finding we are considering only the New England cottontail (*S. transitionalis*), as defined and with the range as described by Chapman *et al.* (1992). Consistent with Chapman *et al.* (1992) and other references (Chapman and Ceballos 1990, Hall 1981), no subspecies of the New England cottontail are recognized.

The New England cottontail is the only endemic cottontail in New England (Probert and Litvaitis 1996). Because the New England cottontail was not formally described until 1894 (Bangs 1894), there are few comprehensive reports on the historic range of the species (Litvaitis and Johnson 2002). However, it is believed that during early European settlement, New England cottontails occurred in a more or less continuous distribution from eastern New York (including Long Island) through Connecticut, statewide in Massachusetts (Cardoza in litt. 1999), Rhode Island, southern Vermont at least to Rutland, New Hampshire south of the White Mountains (Jackson 1922 in Jackson 1973), and four counties in southern Maine (Couse and Allen 1877 in Litvaitis and Johnson 2002).

Presently, the range of the New England cottontail appears to be limited to relatively small patches of suitable habitat from eastern New York, to several counties in Connecticut, western and possibly northern Rhode Island, only a few locations in eastern Massachusetts and in the Berkshire Mountains, several southern counties in New Hampshire, and two southern coastal counties in Maine (Litvaitis and Johnson 2002). The species has not been reported from Vermont since 1990 and may be extirpated there (Litvaitis 1993a; Litvaitis *et al.* 2002). Litvaitis and Johnson (2002) report that, since 1960, the region occupied by the New England cottontail has declined by approximately 75 percent.

The eastern cottontail has been introduced into much of the range of the New England cottontail. The historical range of the eastern cottontail extended northeast only as far as the lower Hudson Valley, and possibly extreme western Connecticut (Goodwin 1935 in Chapman and Stauffer 1981). Large-scale introductions of eastern cottontails to Connecticut (Dalke 1942, in Chapman and Stauffer 1981), Rhode Island (Johnston 1972), Massachusetts (Nelson 1909, in Johnston 1972) and possibly Vermont (C. M. Kilpatrick, in litt. 2002) have firmly established the eastern cottontail in all of New England, except Maine. Introductions usually have been conducted by States and private hunting clubs. The eastern cottontail is both larger (1,300 g (2.9 lb)) and more fecund than the New England cottontail.

Fay and Chandler (1955) documented the extension of the range of introduced eastern cottontails in Massachusetts, and recorded that *S. floridanus* had replaced the native New England cottontail in many places. Linkkila (1971) reported the disappearance of *S. transitionalis* throughout much of the northeastern United States. Johnston (1972) described the replacement over a 40 to 50 year period of *S. transitionalis* by *S. floridanus* as the predominant cottontail in much of southern New England.

Despite the widespread introductions of eastern cottontails into the range of the New England cottontail, the two species are not hybridizing. Wilson (1981) conducted a genetic study of the two species in five of the New England States and found that the New England cottontail has maintained its genetic identity in the face of eastern cottontail range expansion.

The New England cottontail is considered an early successional forest species, where disturbance occurring as a result of timber harvest, hurricanes and other wind storms, or beaver activity maintains areas of suitable habitat. Historically, fires set by Native Americans, a practice continued by early European colonists, also set back forest succession and maintained areas of suitable habitat (Bromley 1935; Cronon 1983). Suitable habitat for the

species can be found in both forest and shrub lands, provided there is dense understory growth where both food and cover are found in close proximity. New England cottontail habitats include native shrublands, beaver flowages, old fields, and early successional forests (Barbour and Litvaitis 1993). In southern New England, however, this cottontail may also occur in more stable forests where laurel (Kalmia sp.) provides a dense understory. Like other cottontails, the New England cottontail is an herbivore and feeds on a wide variety of woody and herbaceous plants.

There is considerable overlap between habitats used by eastern and New England cottontails. In general, however, eastern cottontails are associated with plants indicative of open land such as old fields and meadows, whereas New England cottontails are associated with forest plant species (Eabry 1968).

Status Concerns

The status of the New England cottontail has been of concern to biologists and natural resource agencies for nearly five decades. Reductions in the range of the New England cottontail were first reported by Fay and Chandler (1955) and subsequently by Linkkila (1971) and Johnston (1972). In 1979, Chapman and Stauffer suggested to the International Union for the Conservation of Nature (IUCN) Lagomorph Specialist Group that the species be listed in the category ''Special Concern'' (Chapman and Stauffer 1981). In 1989, we placed the New England cottontail in category 2 of the Animal Notice of Review (54 FR 553). We no longer maintain a list of category 2 candidate species, but at the time, category 2 was defined as including species for which we had some information indicating that the taxa may be under threat, but not enough information was available to determine if they warranted Federal listing and the preparation of a proposed rule.

On the basis of the research and other information noted above, concern for the status of the New England cottontail was well documented even prior to the revision of the taxon by Chapman *et al.* (1992). The separation of the taxon into two species with reduced and allopatric (separate) ranges resulted in increased concern for the New England cottontail, which was recognized as being restricted to east of the Hudson River, New York, and New England. In 1999, a committee composed of 13 State endangered species and wildlife diversity program coordinators included the New England cottontail among 26 declining species most in need of conservation attention in the northeast region (Therres 1999). This committee described the New England cottontail as warranting ''federal endangered or threatened species listing consideration, including prelisting status reviews.''

Conservation Status

Under section 4(a) of the Act, we may list a species on the basis of any of five factors, as follows: ''(A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; (E) other natural or manmade factors affecting its continued existence.'' The petitioners contend that four of the five factors (A, B, D, and E) are applicable to the New England cottontail (see below). A brief discussion of how each of the five listing factors applies to the New England cottontail follows.

In regard to factor A, the petitioners cite loss of habitat to urban and suburban development as a major threat to the New England cottontail. Further, the petitioners note that this species requires thicket habitat frequently associated with early seral stages of forest regeneration after a disturbance such as timber harvest, fire, or beaver activity. They note that an increasingly urbanized landscape, with many small, partially-forested residential parcels is not conducive to timber harvesting, fire, or other disturbance regimes that would maintain and/or regenerate habitat for the species.

Information currently available indicates that loss of habitat to these and other causes appears to be a significant threat to the status of this species. Litvaitis (1993b) considered habitat succession to be the most important cause of habitat loss for this species. As agricultural land in the Northeast was abandoned after the Civil War, forest succession led to a period where habitat conditions were highly favorable for early successional or thicket-dependent species such as the New England cottontail. However, as forests matured and forest canopy closed, the habitats entered a mid-successional stage and were no longer suitable for these early successional species (Brooks and Birch 1988). Further, Litvaitis *et al.* (1999) reported that remaining shrub-dominated and early successional habitats in the Northeast continue to decline in both coverage and suitability. U.S. Forest Service inventories reveal that in New Hampshire and New York, the extent of forest in the seedling/sapling stage (thickets favorable to the New England cottontail) has declined by about 50 percent in the past three decades (Askins 1998; Litvaitis *et al.* 1999). In Maine, young forest stands in the two southern counties that still support populations of the New England cottontail declined even more sharply, from about 38 percent in 1971 to 11 percent in 1995 (Litvaitis *et al.* 2002).

In addition to habitat succession, development has also contributed to direct and more permanent loss and fragmentation of habitat for the species. The three southern New England states, Connecticut (>700 inhabitants per square mile), Rhode Island (>1,000 inhabitants per square mile), and Massachusetts (>800 inhabitants per square mile), which comprise the center of the New England cottontail's range, are among the most densely populated areas in the United States (U.S. Census Bureau 2000). Early successional habitats that once supported New England cottontails have been converted to a variety of uses which make them unsuitable for the species. Among shrub-dominated plant communities, which sometimes support New England cottontail populations, scrub oak and pitch pine barrens have been heavily degraded by development (Patterson 2002). These areas are rapidly being lost to uses such as airport development, roadways, sand and gravel mining, industrial parks, residential development, and retail development. Litvaitis *et al.* (1999) conclude that shrub-dominated and early successional habitats may be the most altered and among the most rapidly declining communities in the Northeast.

The fragmentation of remaining suitable habitats into smaller patches separated by roads, residential, and other development can have profound effects on the occupancy and persistence of New England cottontail populations in relatively small patches. Barbour and Litvaitis (1993) found that New England cottontails occupying small patches of habitat (less than or equal to 2.5 hectares (ha) or about 6 acres) were predominantly males, had lower body mass, consumed lower quality forage, and had to feed farther from protective cover than rabbits in larger patches (greater than or equal to 5 ha or slightly more than 12 acres). This study also demonstrated that New England cottontails in the smaller patches had only half the survival rate of those in the larger patches due to increased mortality from predation. Barbour and Litvaitis (1993) concluded that local populations of New England cottontails may be vulnerable to

extinction if large patches of habitat are not maintained.

Although there are no reliable estimates for historic or current population numbers of New England cottontails, the reduction in the amount of suitable habitat and the range of the species, as well as the effects of competition and predation, are believed to have resulted in a concomitant reduction in numbers.

In regard to factor B, the petitioners contend that while anecdotal evidence implies that hunting pressure on the New England cottontail (and rabbits in general) is not severe, ''any hunting, in a population reduced to remnants as the NE cottontail is, is too much.''

Our review of information for this 90-day finding indicates there is presently little hunting pressure on New England cottontails. All of the State wildlife agencies within the range of the New England cottontail regard it as a small game animal and allow hunting with specific season and bag restrictions. Most States report fewer rabbit and other small game hunters today than in earlier decades (U.S. DOI and U.S. DOC 1985, 1991, 1996, 2001), and the New England cottontail is not the rabbit species preferred by most small game hunters because of its smaller size and behavior. New England cottontails forage within or close to dense cover (Smith and Litvaitis 2000), and typically hold in safe areas when disturbed. They are therefore not as easily run by hounds and taken by hunters as eastern cottontails or snowshoe hares. Research shows that New England cottontails are more vulnerable to mortality from predation in smaller patches of habitat than in larger ones (Barbour and Litvaitis 1993). This may hold true for hunting mortality as well, because rabbits on small patches must venture farther from shelter to feed and have less escape cover in which to hide, but this has not been demonstrated.

The petitioners also assert that rabbits may still be regarded as pests and killed indiscriminately by farmers, but provided no objective information to support that assertion. In our review of available information, we did not find evidence either to support or refute this claim. However, because of differences in habitat preference of the two cottontail species, most farmers and homeowners are more likely to encounter eastern cottontails, which occur in the more open habitats of farms and residential lawns, than New England cottontails. Whether either species is killed indiscriminately by farmers, however, is an assertion that lacks supporting information in the petition. Thus, on the basis of available information, current human hunting pressure does not appear to be a significant mortality factor for the New England cottontail.

The petitioners speculate that hunting pressure on the New England cottontail earlier in the century (*e.g.*, 1930s) led to declining numbers of rabbits, and in response to reduced hunting opportunity, States and hunting clubs then introduced large numbers of eastern cottontails, with ''disastrous'' results. The Service agrees that the introduction and establishment of eastern cottontail populations in the Northeast for the purpose of providing small game hunting opportunities has been deleterious to the New England cottontail. However, available evidence suggests that habitat loss, through forest maturation and other causes (Jackson 1973; Brooks and Birch 1988; Litvaitis *et al.* 1999), rather than hunting pressure, was the primary reason for the decline of New England cottontail populations in the mid-20th century.

With regard to disease (factor C), the petitioners cited one reference that suggested disease could be a factor in the decline of the New England cottontail, but stated that no specifics were provided. In our review of available information, we found little evidence to suggest that disease is a limiting factor for this species. Cottontail rabbits are known to contract a number of different diseases, such as tularemia, and are afflicted with both ecto-parasites such as ticks, mites and fleas, and endo-parasites such as tapeworms, and nematodes (Eabry 1968). Chapman and Ceballos (1990) do not identify disease as an important factor in the dynamics of cottontail populations. Rather, they state that habitat is key to cottontail abundance and that populations are regulated through other causes of mortality and dispersal. Further, they note that escape cover is an essential habitat requirement, suggesting that mortality from predation is an important population regulation mechanism.

With regard to predation, the petitioners discussed its importance as a mortality factor in the section, ''life history and ecology of the New England cottontail,'' but did not refer to predation as a threat to the species in their review of the five listing factors (Carlton *et al.* 2000). Available information indicates that predation is likely a significant cause of mortality for New England cottontails and that both mammalian and avian predators are important. Because female New England cottontails are capable of producing 24 young annually (Chapman and Ceballos 1990), the species has the potential to be abundant were it not for mortality and other factors affecting population growth. Litvaitis *et al.* (1984) noted that New England cottontails were a major prey of bobcats (*Felis rufus*) in New Hampshire during the 1950s. Presently, coyotes (*Canis latrans*) and red foxes (*Vulpes vulpes*) are believed to be the major predators of the New England cottontail in New Hampshire (Barbour and Litvaitis 1993; Brown and Litvaitis 1995). Among avian predators known or suspected to take cottontails are several species of owls (Smith 1997, in Smith and Litvaitis 1999) and red-tailed hawks (*Buteo jamaicensus*) (Bent 1961). Lastly, anecdotal evidence and at least one study (Walter *et al.* 2001) indicate that cottontails are also killed by domestic dogs and cats.

Available evidence suggests that habitat fragmentation has exacerbated predation rates and reduced New England cottontail survival in several ways. Populations of generalist carnivores have increased with forest fragmentation (Oehler and Litvaitis 1996), and supplemental food resources associated with human dwellings (*e.g.*, trash, bird feeders, fruiting shrubs) may lead to ''spillover'' predation on cottontails (Oksanen *et al.* 1992, in Brown and Litvaitis 1995).

Studies have shown that, as landscapes become fragmented, New England cottontails become increasingly vulnerable to predation, because habitat quantity and quality are reduced (less forage and escape cover) (Smith and Litvaitis 2000). A study by Villafuerte *et al.* (1997) demonstrated that the abundance of food and the risk of predation are very influential in determining the persistence of small- and medium-sized vertebrates such as the New England cottontail. As food in the most secure areas is depleted, rabbits are forced to utilize lower quality forage or feed farther from cover where the risk of predation is greater. This study found that rabbits on small patches were ''on the lowest nutritional plane'' and as a result, were killed at twice the rate (and were killed sooner) than rabbits on larger habitat patches. Villafuerte *et al.* (1997) concluded that forage limitations imposed by habitat fragmentation affect the viability of local populations of New England cottontails by influencing their vulnerability to predation. Rabbits on larger patches were less vulnerable; therefore, they concluded that large patches of habitat are essential for sustaining populations of this species in a human-altered landscape. Smith and Litvaitis (2000) report that because eastern cottontails appear to have the ability to forage farther from cover and detect predators

sooner than New England cottontails, eastern cottontails will likely persist while populations of New England cottontails will continue to decline.

In regard to factor D, the petitioners cite the inability of State wildlife agencies to adequately monitor the status of the New England cottontail within their respective jurisdictions as a threat to the species. We note that the lack of monitoring is not a threat to a species *per se* but agree that adequate monitoring is important in order to promptly detect and respond to a decline in a species' status.

Conducting research on the status of this species is relatively difficult and expensive because New England cottontails are labor intensive to capture, and identifying them in the field is seldom possible due to their general similarity to the eastern cottontail. Also, because the habitat conditions that support New England cottontail populations change over time with plant succession (*e.g.*, forest maturation), status surveys (even presence/absence surveys) need to be repeated periodically. Many States, such as Massachusetts, Rhode Island, and Connecticut, have attempted to monitor the status of the New England cottontail through voluntary hunter and public submittal of specimens. While these data fall short of providing a comprehensive review of the status of the species in a particular state, they are nonetheless useful in demonstrating abundance relative to eastern cottontails, locations of occupied habitats, and trends in frequency of occurrence over time.

All seven State wildlife agencies within the northeastern area have the authority to control the hunting of New England cottontails through the setting of hunting and trapping seasons and bag limits. However, most northeastern States cannot presently restrict hunting of New England cottontails without also reducing hunting opportunities for eastern cottontails and, to a lesser extent, snowshoe hares. This is because these species are visually similar in the field and they co-occur on the landscape, sometimes within the same or adjacent habitat patches. In Maine, where the only cottontail is the New England cottontail, the state has limited hunters to one cottontail per day and two in possession (Maine Hunting and Trapping Laws and Rules 2003).

While States have legal authority to address the mortality of New England cottontails from hunting and trapping, there are only limited regulatory mechanisms available to address the loss of habitat. New England cottontails occur on sites with dense understory vegetation, including native shrublands, beaver flowages, old fields, and early successional forests (Barbour and Litvaitis 1993). In Connecticut, Walter *et al.* (2001) reported that most current New England cottontail collection records are associated with sites that contain or are adjacent to riparian vegetation, such as borders of lakes, swamps, and rivers. However, the New England cottontail is primarily an upland, terrestrial species that occurs along the margins of these wetland types. This suggests that Federal and State laws that provide protection to shorelands and wetlands may offer some protection to a small portion of New England cottontail habitat (see also the discussion of factor A regarding habitat loss).

Several areas that have persistent populations of New England cottontails are on lands protected by Federal or State ownership and some are being managed for early successional species. However, in our review of information available for this 90-day finding, we were unable to determine the number and location of large patches of occupied New England cottontail habitat which occur on State and Federal conservation lands. Quantifying this information will be an important component of the status review.

In regard to factor E, the petitioners address the adverse effects of eastern cottontail introductions. On the basis of available information, we would agree that the introduction and spread of eastern cottontails has been a factor in reducing the occurrence of the New England cottontail within its historic range. Tens of thousands of individuals of four or five different subspecies of *S. floridanus* were introduced to the Northeast, beginning on Nantucket Island, Massachusetts, in 1899 (Johnston 1972), and continuing elsewhere in Massachusetts, Connecticut, New Hampshire, and Rhode Island until the 1960s. In States where researchers and State wildlife agencies reported the New England cottontail had been the predominant or the only cottontail encountered during the early- to mid-1900s, by the latter half of the century the eastern cottontail had become by far the most common rabbit (Johnston 1972; Tracy 1995; Cardoza, in litt. 1999). Maine, where the eastern cottontail is not known to occur, is the only exception to this pattern. In summary, Johnston (1972) reported that this occupation of new areas by *S. floridanus* seemed to be at the expense of *S. transitionalis.*

Although the precise mechanism explaining how eastern cottontails displace New England cottontails is not known, it is well established that as the range of the eastern cottontail expanded, that of the indigenous New England cottontail declined. Probert and Litvaitis (1996) found that eastern cottontails, though larger, were not physically dominant over New England cottontails. Rather, they believe that eastern cottontails are able to exploit a broader set of ecological conditions and, through more efficient or rapid use of available resources, they have been able to replace New England cottontails in many habitats. Eastern cottontails appear capable of occupying a wider range of available habitat types and can occupy disturbance patches earlier than New England cottontails. Once established, the highly fecund eastern cottontails are not readily displaced by the New England cottontails.

Our review of available information indicates there are other natural and man-made factors that may be affecting the status of the New England cottontail. Winter severity, measured by persistence of snow cover, is believed to affect New England cottontail survival. Villafuerte *et al.* (1997) found that snow cover reduces the availability of high-quality foods, and likely results in rabbits becoming weakened nutritionally. In a weakened state, rabbits are more vulnerable to predation. Brown and Litvaitis (1995) found that during winters with prolonged snow cover, a greater proportion of the cottontails in their study were killed by predators. Litvaitis and Johnston (2002) speculate that snow cover may explain the largely coastal distribution of this species in the Northeast (generally less snow falls and persists in coastal versus interior areas) and may be an important factor defining the northern limit of its range. The preceding studies suggest that during winters with heavy snowfall, New England cottontail numbers will be reduced, and the combined effects of snowfall and habitat fragmentation will affect the persistence of populations in smaller patches.

State wildlife agencies report that road kills are an important source for obtaining specimens of rabbits, including the New England cottontail. Road-killed rabbits were second only to hunting mortality as a source for obtaining cottontail specimens in an ongoing distributional study of eastern and New England cottontails in Connecticut (Walter *et al.* 2001). The degree to which New England cottontail populations are affected by vehicular mortality is unknown, but roads may be an important limitation for dispersing individuals.

Litvaitis and Johnson (2002) note that cottontails are often found in habitats that have invasive plant species, such as honeysuckle (*Lonicera* spp.). Whether exotic plant species have a positive or negative effect on the New England cottontail is presently unknown.

Finding

We have reviewed the petition, the literature cited in the petition, and other literature and information available in our files. On the basis of our review, we find that the petition presents substantial information indicating that listing the New England cottontail may be warranted. The main threat to the species appears to be loss of habitat through forest succession, fragmentation, and conversion to other uses. This loss of habitat has contributed to a reduction in the range of the species and a reduction in numbers. Ongoing competition with eastern cottontails that have been introduced into areas that are outside their native range also appears to be having a negative impact on the New England cottontail.

We have reviewed the available information to determine if the existing and foreseeable threats pose an emergency. We have determined that an emergency listing is not warranted at this time, because many scattered occurrences of the New England cottontail are still known to occur across its range, and some are on protected lands. However, if at any time we determine that emergency listing of the New England cottontail is warranted, we will seek to initiate an emergency listing.

The petitioners also requested that critical habitat be designated for this subspecies. We always consider the need for critical habitat designation when listing species. If we determine in our 12-month finding that listing the New England cottontail is warranted, we will address the designation of critical habitat in the subsequent proposed rule or as funding allows.

Public Information Solicited

When we make a finding that substantial information exists to indicate that listing a species may be warranted, we are required to promptly commence a review of the status of the species. To ensure that the status review is complete and based on the best available scientific and commercial information, we are soliciting information on the New England cottontail. We request any additional information, comments, and suggestions from the public, other concerned governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning the status of the New England cottontail. We are seeking information regarding historic and current status and distribution, the species' biology and ecology, ongoing conservation measures for the species and its habitat, and threats to the species and its habitat.

If you wish to comment or provide information, you may submit your comments and materials concerning this finding to the Field Supervisor (see **ADDRESSES** section). Our practice is to make comments and materials provided, including names and home addresses of respondents, available for public review during regular business hours. Respondents may request that we withhold a respondent's identity, to the extent allowable by law. If you wish us to withhold your name or address, you must state this request prominently at the beginning of your submission. However, we will not consider anonymous comments. To the extent consistent with applicable law, we will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

References Cited

A complete list of all references cited herein is available upon request from the Field Supervisor (see **ADDRESSES** section).

Author

The primary author of this document is Michael J. Amaral, New England 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: June 2, 2004.

Marshall Jones,

Acting Director, U.S. Fish and Wildlife Service.

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