

**Policy for Evaluation of Conservation Efforts Analysis
For The
New England Cottontail 12-Month Petition Finding
Docket Number FWS–R5–2015–0136**

July 27, 2015

Introduction

Pursuant to the Endangered Species Act of 1973, as amended (Act), the U.S. Fish and Wildlife (Service) published a petition finding for the New England cottontail (*Sylvilagus transitionalis*) on September 12, 2006, which concluded that listing the species as threatened or endangered was warranted, but precluded (71 FR 53756). As a result of this “warranted, but precluded finding” the New England cottontail was placed on the list of candidate species. As a candidate species, the Service has annually reviewed the status of the New England cottontail and reaffirmed the 2006 determination (72 FR 69034; December 6, 2007, 73 FR 75176; December 10, 2008, 74 FR 57804; November 9, 2009, November 10, 2010; 75 FR 69222, October 26, 2011; 76 FR 66370, November 21, 2012; 77 FR 69993, November 22, 2013; 77 FR 70103, and December 5, 2014; 79 FR 72449). As a result of a multidistrict litigation settlement agreement, the Service can no longer continue to make “warranted, but precluded” findings for the New England cottontail, and we are required to either make a proposed listing rule for the species or withdraw its designation as a candidate species by September 2015 (*In re Endangered Species Act Section 4 Deadline Litigation, No. 1–377 (EGS), MDL Docket No. 2165 (D.D.C. May 20, 2011)*).

Rangewide Conservation Efforts

Beginning in 2008, State and Service biologists began organizing a conservation effort for the New England cottontail. A governance structure was formalized in 2011 to enhance cooperation between the Maine Department of Inland Fisheries and Wildlife (MDIFW), the New Hampshire Fish and Game Department (NHFGD), the Massachusetts Division of Fisheries and Wildlife (MDFW), the Rhode Island Department of Environmental Management (RIDEM), the Connecticut Department of Energy and Environmental Protection (CT DEEP), the New York Department of Environmental Conservation (NYDEC), the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS), and the Service (hereafter referred to as the Parties). The Parties established an Executive Committee, facilitated by the Wildlife Management Institute (WMI), and adopted bylaws (Fuller and Tur 2012, p. 4) “to promote recovery, restoration, and conservation of the New England cottontail and its associated habitats so that listing is not necessary” (New England cottontail Executive Committee, *in litt.* 2011). This Executive Committee comprises high-level agency representatives, capable of making staffing and funding decisions.

The Executive Committee established a Technical Committee, comprising staff-level biologists with biologic and conservation planning expertise, and delegated eight initial charges to advance the work of New England cottontail conservation, including preparation of a multifaceted conservation strategy with quantifiable objectives to measure conservation success

(New England cottontail Executive Committee, *in litt.* 2011). The Technical Committee drafted, and the Executive Committee approved, the 2012 peer-reviewed *Conservation Strategy for the New England Cottontail* (Conservation Strategy) (Fuller and Tur 2012, available at <http://www.newenglandcottontail.org> (accessed March 18, 2015)). This Conservation Strategy describes: (1) An assessment of the conservation status of and threats facing the New England cottontail; (2) The process used to develop a conservation design that includes those landscapes, hereafter referred to as Focus Areas, where conservation actions will be taken to achieve a series of explicit conservation goals by addressing threats to the species; (3) The objectives related to achieving those goals; (4) Important conservation actions needed to protect and manage habitat (the species' primary threat) and other pertinent issues related to the conservation of the species; (5) Communications needed to ensure implementation; (6) Research needed to improve understanding of the ecology of the New England cottontail; (7) Monitoring techniques to evaluate the effectiveness of the implemented actions and identify any changes needed to increase their effectiveness; (8) The commitment of the participating agencies to carry out the conservation effort; and (9) The process for modifying the Conservation Strategy in the future, if necessary, in light of any new and relevant information (Fuller and Tur 2012, p. 4). The Conservation Strategy implementation goal is to establish: (a) 1 landscape capable of supporting 2,500 or more New England cottontails; (b) 5 smaller landscapes each capable of supporting 1,000 or more individuals; and (c) 12 smaller landscapes each capable of supporting 500 or more individuals by the year 2030 (Fuller and Tur 2012, p. 40)

Listing Decision Framework

Section 4 of the Act (16 U.S.C. 1533) and implementing regulations (50 CFR 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, a species may be determined to be endangered or threatened based on any of the following five factors:

- (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; or
- (E) Other natural or manmade factors affecting its continued existence.

In making this finding, information pertaining to the New England cottontail in relation to the five factors provided in section 4(a)(1) of the Act was assessed. In considering what factors might constitute threats for the New England cottontail, we concluded in our 12-month listing determination that habitat loss (Factor A) is the most significant threat to the New England cottontail. This directly affects the species through insufficient resources to feed, breed, and shelter and indirectly affects the species by amplifying the effects of predation (Factor C), competition with eastern cottontails (Factor E), and small population size (Factor E).

In addition to the consideration of threats through our 4(a)(1) analysis, section 4(b)(1)(A) of the Act requires us to consider efforts by any State, foreign nation, or political subdivision of a State or foreign nation to protect the species. Such efforts would include measures by Federal

agencies, Native American Tribes, businesses, organizations, and individuals that positively affect the species' status. Also, Federal, Tribal, State, and foreign recovery actions (16 U.S.C. 1533(f)) and Federal consultation requirements (16 U.S.C. 1536) constitute conservation measures.

Read together, sections 4(a)(1) and 4(b)(1)(A), as reflected in our regulations at 50 CFR 424.119(f), require us to take into account those factors that either positively or negatively affect a species status so that we can determine whether a species meets the definition of threatened or endangered. In so doing, we analyze a species' risk of extinction by assessing its status (i.e., is it in decline or at risk of decline and at what rate) and consider the likelihood that current and future conditions and actions will promote or threaten a species' persistence by increasing, eliminating or adequately reducing one or more threats to the species. This determination requires us to make a prediction about the future persistence of a species.

In addition to identifying such efforts, as specified in section 4(b)(1)(A) of the Act and our policy implementing this provision, known as the Policy for Evaluation of Conservation Efforts (PECE) (68 FR 15100; March 28, 2003), at the time of the listing determination we must evaluate whether formalized conservation efforts provide sufficient certainty of effectiveness on the basis of whether the effort or plan establishes specific conservation objectives; identifies the necessary steps to reduce threats or factors for decline; includes quantifiable performance measures for the monitoring of compliance and effectiveness; incorporates the principles of adaptive management; and is likely to improve the species' viability by eliminating or adequately reducing one or more of the threats identified in our section 4(a)(1) analysis. We must also evaluate the conservation efforts to determine the certainty that they will be implemented on the basis of the availability of resources necessary to carry out the effort; the authority of the parties to carry out the identified actions; the regulatory and procedural requirements necessary to carry out the action; the schedule for completing and evaluating the efforts; and the extent of voluntary participation necessary to achieve the conservation goals. The criteria for PECE are not considered comprehensive evaluation criteria for evaluating certainty of the formalized conservation effort, and consideration of species, habitat, location, and effort is provided when it is appropriate. To satisfy the requirements of PECE, conservation plans should, at a minimum, report data on existing populations, describe activities taken toward conservation of the species, demonstrate either through data collection or best available science how these measures will alleviate threats, provide a mechanism to integrate new information (adaptive management), and provide information regarding certainty of implementation.

Determining whether a species meets the definition of threatened or endangered requires us to analyze a species' risk of extinction. Central to this risk analysis is an assessment of the status of the species (i.e., is it in decline or at risk of decline and at what rate is the decline or risk of decline) and consideration of the likelihood that current or future conditions or actions will promote or threaten a species' persistence. This determination requires us to make a prediction about the future persistence of a species, including consideration of both future negative and positive effects of anticipated human actions. For formalized conservation efforts not fully implemented, or where the results have not been demonstrated, we will consider PECE criteria in our evaluation of whether, and to what extent, the formalized conservation efforts affect the species' status under the Act. The results of our analysis may allow us to conclude that the

threats identified in our section 4(a)(1) analysis have been sufficiently reduced or eliminated to such an extent that the species does not meet the definition of threatened or endangered, or is threatened rather than endangered.

An agreement or plan intended to improve a species' status may contain numerous conservation objectives, not all of which are sufficiently certain to be implemented and effective. Those conservation objectives that are not sufficiently certain to be implemented and effective cannot contribute to a determination that listing is unnecessary, or a determination to list as threatened rather than endangered. Further, it is important to note that a conservation plan is not required to have absolute certainty of implementation and effectiveness to contribute to a listing determination. Rather, we need to be certain that the conservation objectives identified within the plan will be implemented and effective, such that the threats to the species are expected to be sufficiently reduced or eliminated. Regardless of the adoption of a conservation agreement or plan, however, if the best scientific and commercial data indicate that the species meets the definition of endangered or threatened on the day of the listing decision, then we must proceed with the appropriate rulemaking under section 4 of the Act.

Because the certainty of implementation and effectiveness of formalized conservation efforts may vary, PECE specifies that each effort will be evaluated individually (68 FR 15114).

The criteria evaluated to determine the certainty that the conservation effort will be implemented include:

- (1) The conservation effort, the party(ies) to the agreement or plan that will implement the effort, and the staffing, funding level, funding source, and other resources necessary to implement the effort are identified.
- (2) The legal authority of the party(ies) to the agreement or plan to implement the formalized conservation effort, and the commitment to proceed with the conservation effort are described.
- (3) The legal procedural requirements (e.g., environmental review) necessary to implement the effort are described, and information is provided indicating that fulfillment of these requirements does not preclude commitment to the effort.
- (4) Authorizations (e.g., permits, landowner permission) necessary to implement the conservation effort are identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the effort will obtain these authorizations.
- (5) The type and level of voluntary participation (e.g., number of landowners allowing entry to their land, or number of participants agreeing to change timber management practices and acreage involved) necessary to implement the conservation effort is identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain that level of voluntary participation (e.g., an explanation of how incentives to be provided will result in the necessary level of voluntary participation).
- (6) Regulatory mechanisms (e.g., laws, regulations, ordinances) necessary to implement the conservation effort are in place.

- (7) A high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain the necessary funding.
- (8) An implementation schedule (including incremental completion dates) for the conservation effort is provided.
- (9) The conservation agreement or plan that includes the conservation effort is approved by all parties to the agreement or plan.

The criteria evaluated to determine the certainty that the conservation effort will be effective include:

- (1) The nature and extent of threats being addressed by the conservation effort are described, and how the conservation effort reduces the threats is described.
- (2) Explicit incremental objectives for the conservation effort and dates for achieving them are stated.
- (3) The steps necessary to implement the conservation effort are identified in detail.
- (4) Quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured, are identified.
- (5) Provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.
- (6) Principles of adaptive management are incorporated.

PECE analysis

Because the certainty of implementation and effectiveness of formalized conservation efforts may vary, PECE specifies that each effort will be evaluated individually (68 FR 15114). In the Rangewide Conservation Efforts section above, we introduced the development of a conservation planning effort beginning in 2008, which was later formalized in 2011 and resulted in the development of the Conservation Strategy (Fuller and Tur 2012, entire). This Conservation Strategy represents the Parties' planning process and guides actions intended to improve and maintain populations of New England cottontails throughout the species' current range. There are a number of other formalized actions interrelated to the Conservation Strategy, some of which preceded its completion but were integral to its development and implementation. Since these interrelated formalized actions contribute to the overall Conservation Strategy and its goal of addressing the New England cottontail's primary threat—loss of habitat, we conclude that they can be batched as one singular conservation effort, and we are not required to analyze each agreement separately; rather we briefly describe those actions as contributing to the collective effort. Examples of these interrelated agreements to address the New England cottontail's threats under Factor A include:

State Wildlife Grant Agreements

- In 2009, in coordination with all the New England cottontail range States, the NHFGD received a competitive State Wildlife Grant that provided \$731,975 in funding support for the development of a rangewide conservation initiative for the New England cottontail (Fuller and Tur 2015, p. 94). The objectives of the initiative

- included: (1) Convene a rangewide recovery steering committee comprising partnering State wildlife agencies, NRCS, and the Service (see Executive Committee description above under the Rangewide Conservation Efforts section); (2) Evaluate target properties for habitat restoration and draft a spatially explicit habitat restoration plan; (3) Disseminate restoration plans to local stakeholders and partnering agencies; (4) Prescribe and implement habitat restoration activities in an adaptive management framework; (5) Monitor performance to determine the relative efficacy of implemented actions; and (6) Provide technical and administrative support to the States and partnering entities. This effort contributed to the development and implementation of the Conservation Strategy.
- In 2010, conservationists in Massachusetts, New Hampshire, and Connecticut and at the RWPZ in Providence, Rhode Island, received a second competitive State Wildlife Grant of \$1,000,000 (Fuller and Tur 2015, p. 94). The objectives of this grant included: (1) Integrate conservation design and conservation delivery in the six States at the regional, local, and parcel scales to ensure that New England cottontail conservation efforts will be implemented and that they will be effective; (2) Deliver 1,200 ac (486 ha) of New England cottontail rabbit habitat restoration in an adaptive management framework, creating 50 new habitat patches across the species' range, with an expected long-term population increase of 720 animals; (3) Monitor, augment, or both, New England cottontail populations to ensure the colonization in up to 50 newly restored or suitable but vacant habitat patches; and (4) Provide administrative and technical support to six States to expedite delivery of the deliverables identified in the grant. Two additional competitive State Wildlife Grants have been secured, each of which provided an additional \$500,000 in support. This brings the total competitive State Wildlife Grant award to over \$2.7 million to support ongoing and future implementation of the Conservation Strategy through the 2030 planning period.

Other Grant Agreements

- In 2008, the National Fish and Wildlife Foundation (NFWF) established a “Keystone Initiative” to support the recovery of the New England cottontail in Maine and New Hampshire. A business plan was developed with input from Federal, State, and nonprofit partners. This document outlines necessary conservation actions for the species in Maine and New Hampshire through 2018 that would be required to meet the two States' individual conservation goals. It is anticipated that NFWF will fund over \$3.5 million dollars towards this initiative and an additional \$6.3 million dollars will be leveraged through this effort. As of April 2015, the NFWF has awarded almost \$1 million for New England cottontail conservation (Fuller and Tur 2015, p. 94). Numerous other grants from a variety of sources have been secured, totaling \$10,549,137.

Working Lands for Wildlife (WLFW)

- In 2012, the NRCS, in partnership with the Service, developed the WLFW program to provide \$33 million in financial assistance through the Wildlife Habitat Incentive Program to facilitate voluntary participation by landowners in habitat-related projects

that would reverse declines in seven specific wildlife species, including the New England cottontail (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1047545.pdf (accessed May 2015)). To accomplish this work, the NRCS enters into a contractual obligation with participants to develop and implement property-specific management measures, such as forest harvest, plantings, construction of brush piles to enhance cover, and prescribed fire. The WLFW program set a 5-year goal to create or enhance approximately 2,500 ac (1,012 ha) of shrub thicket and early successional forest capable of supporting the New England cottontail. However, as of January 2015, the NRCS had far exceeded this goal, creating or maintaining approximately 3,700 ac (1,497 ha) of New England cottontail habitat (Fuller and Tur 2015, p. 59).

Integrated Natural Resources Management Plans (INRMPs)

- The INRMP for the Camp Edwards Training Site, which is owned by the MDFW and leased to the Massachusetts Army National Guard, was developed pursuant to the Sikes Act (16 U.S.C. 670 *et seq.*) (Ciaranca and Kelly 2009¹, entire) in cooperation and mutual agreement with the MDFW and the Service. The INRMP describes the installation's adaptive plan for ensuring that management of natural resources found on the 14,433 ac (5,840 ha), including the New England cottontail, and military activities are consistent with Federal stewardship requirements (Ciaranca and Kelly 2009, p. vii). The Camp Edwards Training Site makes up nearly the entire Upper Cape-MMR Focus Area (Fuller and Tur 2014, pp. 98–100; Scarpitti and Piche, *in litt.* 2014). The 2,107 ac (852 ha) scrub oak shrublands found on the site are considered a stronghold for the New England cottontail, and conservation efforts to maintain and expand habitats are ongoing primarily through the use of prescribed fire (McCumber, *in litt.* 2015).

Candidate Conservation Agreements with Assurances (CCAAs)

- In April 2011, the Service finalized a programmatic CCAA with the State of New Hampshire for New England cottontail and issued a section 10(a)(1)(A) permit (Permit). Through the CCAA, NHFGD seeks to enroll 1,214 to 2,023 ha (3,000 to 5,000 ac) of private and State-owned lands located throughout southern New Hampshire. The Permit will authorize take of the New England cottontail, should it become listed as endangered or threatened under the Act during the 50-year period of this CCAA. The permitted take will be that resulting from activities covered in cooperative agreements between the NHFGD and non-Federal landowners in southern New Hampshire who are willing to engage in voluntary conservation actions for the New England cottontail (Service and NHFGD 2011, pp. 13–17, available at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A09B>). Take authorization provided by the Permit will be extended to participating non-Federal landowners through Certificates of Inclusion issued by the NHFGD. To date,

¹ Ciaranca, M.A. and J.P. Kelly. 2009. Camp Edwards Training Site. Integrated Natural Resources Management Plan. Pp 283.

one non-Federal property has been enrolled in the CCAA by committing to manage 20 ha (50 ac) of habitat.

- Similarly, in April 2015, the Service finalized a programmatic CCAA with the State of Maine (Service and MDIFW 2015, entire, available at: http://ecos.fws.gov/conserv_plans/PlanReport?plan_id=4459®ion=5&type=CCA&rtype=1). Through the agreement, MDIFW will seek to enroll up to 4,856 ha (12,000 ac) for the purpose of managing habitat for the benefit of the New England cottontail. The Permit will authorize take of the New England cottontail, should it become listed as endangered or threatened under the Act during the 50-year period of this CCAA. The permitted take will be that resulting from activities covered in cooperative agreements between the MDIFW and non-Federal landowners in Maine who are willing to engage in voluntary conservation actions for the New England cottontail (Service 2015, pp. 17 – 23). Take authorization provided by the Permit will be extended to participating non-Federal landowners through Certificates of Inclusion issued by the MDIFW. We anticipate at least three non-Federal properties to be enrolled in the CCAA in the near future.

Using the criteria in PECE, we evaluated the level of certainty to which the Conservation Strategy would be effective at minimizing or eliminating threats to the New England cottontail. Our evaluation was facilitated by a recent report, entitled *New England Cottontail Conservation Progress, 2014 Annual Performance Report* (Fuller and Tur 2015, entire, available at www.newenglandcottontail.org), hereafter referred to as the Performance Report. In our review of performance, we assessed at the local- or focus-area-specific scale the status of the New England cottontail with each of those landscapes, the specific threats to New England cottontail populations within them, and those actions planned and implemented to address the conservation of the species. This information was provided in individual Focus Area Status Screening Templates (FASSTs) that were prepared for most of the focus areas identified in the Conservation Strategy (Fuller and Tur 2012, pp. 90–113). We used this information to determine if the conservation actions planned within the Focal Areas would maintain or increase populations to the extent that they might contribute to the goals of the Conservation Strategy. Furthermore, in October 2014, we convened a meeting of the Parties, facilitated by WMI, to assess the Parties' commitment to implementing the Conservation Strategy and its individual components.

The criteria evaluated to determine the certainty that the conservation effort will be implemented include:

- (1) The conservation effort, the party(ies) to the agreement or plan that will implement the effort, and the staffing, funding level, funding source, and other resources necessary to implement the effort are identified.

Objectives for achieving the goals of the Conservation Strategy are identified in the Species Conservation section (section 4) and include measures related to: (1) Administration; (2) Information management; (3) Monitoring; (4) Landowner recruitment; (5) Population management; (6) Habitat management; (7) Outreach and education; and (8) Land protection (Fuller and Tur 2012, pp. 44 –87). For each objective identified, the desired outcome,

performance measure, target level, reporting process, adaptive management significance, scope, priority, initiation date, expected duration, and status are provided. These objectives appear again in the Implementation Schedule and Budget Summary tables found in section 7 (Tables 7.4 to 7.12) of the Conservation Strategy along with corresponding information indicating the Lead Program that will implement the task, resource needs, and funding sources (Fuller and Tur 2012, pp. 125–136). Each objective is assigned to the appropriate level within the organized effort, whether it be the Executive Committee, the Technical Committee, the Service’s New England Field Office, one of the various Work Groups collaborating to implement specific objectives, one of the Land Management Teams (NECLMTs) that coordinate conservation actions within each State, or another conservation partner. The staffing level for each objective is provided in the Resources/units column and is reported as the estimated number of Full Time Employees (FTEs) and their estimated salary level. The funding source for each objective is also provided and further summarized for each program partner in table 7.3 (Fuller and Tur 2012, p. 125). Resource needs for contributors other than the Parties are also identified; for example, Table 7.8, Objective 402: Zoo-based husbandry indicates that resources by the RWPZ, located in Providence, Rhode Island, will be needed to complete the objective. Based on this information, we conclude that the staffing, funding level, funding sources, and other resources necessary to implement the effort have been identified.

- (2) The legal authority of the party(ies) to the agreement or plan to implement the formalized conservation effort, and the commitment to proceed with the conservation effort are described.

The authorities of the State wildlife agencies and the Service are briefly discussed in the Conservation Strategy (Fuller and Tur 2012, pp. 4–7). The authorities of the Parties to the Conservation Strategy are further described in the numerous agreements and contracts tied to the effort. For example, the aforementioned New Hampshire CCAA explicitly describes the authorities of the Service and NHFGD for entering into the agreement. In addition, the Soil and Water Resources Conservation Act of 1977 (16 U.S.C. 2001 *et seq*) provides the NRCS broad strategic assessment and planning authority for the conservation, protection, and enhancement of soil, water, and related natural resources. It is through this authority that the NRCS contributes to the Conservation Strategy’s implementation. In 2014, the Service, the States, and the NRCS affirmed their commitment to the conservation effort for the New England cottontail (Sparks *et al.*, *in litt.* 2014; Riexinger *et al.*, *in litt.* 2014; Hyatt *et al.*, *in litt.* 2014; Connolly, *in litt.* 2014; MacCallum, *in litt.* 2014; Ellingwood and Kanter, *in litt.* 2014; Weber, *pers. comm.* 2014; Weller, *pers. comm.* 2014). As a result of our evaluation of the information provided in the Conservation Strategy and the various agreements and contracts related to its implementation, along with the documented commitments to the continued implementation of the Conservation Strategy, we conclude that the authorities and commitments of the Parties are sufficiently described.

- (3) The legal procedural requirements (e.g., environmental review) necessary to implement the effort are described, and information is provided indicating that fulfillment of these requirements does not preclude commitment to the effort.

Legal procedural requirements for implementation of the Conservation Strategy include Federal agency compliance with various environmental laws, including the National Environmental Policy Act (NEPA), the Clean Water Act, the National Historic Preservation Act (NHPA), the Privacy Act, the Migratory Bird Treaty Act, the Federal Aid in Wildlife Restoration Act, the Pittman-Robertson Wildlife Restoration Act, and the Endangered Species Act (Act). The Service complies with the Act for issuing section 10 permits for CCAAs, implementing activities on Federal lands, conducting land protection efforts, performing monitoring and reporting activities, and providing Federal funding for a variety of actions related to implementation. The Service completed its legal procedural requirements under the NEPA, NHPA, and Act in issuing section 10 permits for the Maine and New Hampshire CCAAs; we do not anticipate that implementation of the CCAAs will necessitate further Federal legal procedural requirements as the covered area occurs exclusively on non-Federal lands. Based on our completion of compliance with these requirements for the Maine and New Hampshire CCAAs, we also do not anticipate that these requirements will preclude issuance of section 10 permits for additional CCAAs.

On Federal lands, pursuant to the National Wildlife Refuge System Administration Act as amended by the National Wildlife Refuge System Improvement Act, the Service has completed or is undertaking the development of comprehensive conservation plans (CCP) for various National Wildlife Refuges (NWR) located throughout the New England cottontail's range (e.g., Mashpee and Nomans Island NWRs in Massachusetts, Rachel Carson NWR in Maine, and Ninigret NWR in Rhode Island). These CCPs describe current and future management actions for each of the NWRs contributing to the conservation effort and must undergo a NEPA review before being finalized.

On the Massachusetts Military Reservation, the National Guard in cooperation with the Service and the MDFW developed the aforementioned INRMP that includes conservation measures and expresses commitments to the conservation of the New England cottontail. We are unaware of any legal procedural requirements that preclude commitment to full implementation of the Conservation Strategy in Connecticut, Massachusetts, New Hampshire, New York, and Rhode Island (Sparks *et al.*, *in litt.* 2014; Tefft *et al.*, *in litt.* 2014; Riexinger *et al.*, *in litt.* 2014; Novak *et al.*, *in litt.* 2014; Hyatt *et al.*, *in litt.* 2014; Kilpatrick *et al.*, *in litt.* 2014; MacCallum, *in litt.* 2014; Scarpitti and Piche, *in litt.* 2014; Ellingwood and Kanter, *in litt.* 2014; Holman *et al.*, *in litt.* 2014). In Maine, the State has committed to implementing the Conservation Strategy; however, there remains a procedural requirement that precludes the State from fully committing to the transplantation, introduction, or reintroduction of the New England cottontail without legislative approval, pursuant to State law (Title 12 § 12804(1)(D)) (Connolly, *in litt.* 2014; Boland *et al.*, *in litt.* 2014). However, this does not preclude other management actions or implementation of the Conservation Strategy for within Maine. As a result of our evaluation of the information provided in the Conservation Strategy and related documents, along with the documented commitments to the continued implementation of the strategy, we conclude that the legal procedural requirements necessary to implement the effort are sufficiently described and have not precluded commitment of the Parties to its continuation.

- (4) Authorizations (e.g., permits, landowner permission) necessary to implement the conservation effort are identified, and a high level of certainty is provided that the

party(ies) to the agreement or plan that will implement the effort will obtain these authorizations.

With respect to habitat management, the Parties require landowner consent to implement conservation measures on private lands. Formal landowner consent is typically obtained via a funding agreement or, for CCAAs, a Certificate of Inclusion. As Parties to the Conservation Strategy, the States and the Service have authorization to implement actions on their own lands and have agreed to allow conservation measures to be implemented on State- and Service-managed Wildlife Refuges. As an established 501(c)(3) nonprofit corporation responsible for operating under the Internal Revenue Service regulations (26 U.S.C. § 501(c)), the WMI is required to maintain and report financial information related to funds managed for the purpose of conserving the New England cottontail.

Prior to conducting certain habitat management actions, various permits may be required. For example, the presence of wetlands or streams may require the construction of access points for equipment entry to the site and, thereby, trigger the need to obtain a permit pursuant to the Clean Water Act, and prescribed burns may require municipal permits or air quality certification per the Clean Air Act. Permits may also be needed to transport New England cottontails within or across State boundaries to facilitate captive propagation efforts. This does not represent a comprehensive list of the numerous Federal, State, and local permits that may be required to implement the various objectives of the Conservation Strategy. However, based on the Parties' track record for implementing the actions described in the Conservation Strategy (Fuller and Tur 2015, entire) we find that the authorizations necessary to implement the conservation effort have been sufficiently identified and will be obtained when needed. Consequently, we conclude there is a high level of certainty that these authorizations will continue to be obtained for implementing future actions.

- (5) The type and level of voluntary participation (e.g., number of landowners allowing entry to their land, or number of participants agreeing to change timber management practices and acreage involved) necessary to implement the conservation effort is identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain that level of voluntary participation (e.g., an explanation of how incentives to be provided will result in the necessary level of voluntary participation).

To achieve the target New England cottontail population goals established in the Conservation Strategy, the Parties used an eight-step landscape-analysis process to identify those habitat areas capable of ensuring: (1) representation of population diversity across the species' historical range; (2) resiliency of populations by making sure enough individuals exist to buffer environmental and genetic uncertainty; and (3) a redundancy of populations, because multiple populations will help guard against unexpected catastrophes such as disease outbreaks. See Fuller *et al.* 2011(p. 27, available at: <http://newenglandcottontail.org>; Fuller and Tur 2012, p. 27) for the specific details of the eight step process summarized above. Utilizing this process, the Parties estimated the type and level of voluntary participation necessary to implement the conservation effort at 35,990 ac (14,564 ha) of New England cottontail habitat, with 15,595 ac (6,311 ha) on private land, 1,290 ac (522 ha) on municipal land, 18,555 ac (7,509 ha) on State

land (including 10,475 ac (10,475 ha) with prescribed fire), 525 ac (212 ha) on Federal land, and 25 ac (10 ha) on Native American Tribal land (Fuller and Tur 2012, p. 124). Based on this information, we find that the type and level of voluntary participation necessary to implement the conservation effort is identified.

In 2014, resource managers used State-specific information, such as remote sensed data, to estimate the amount of available habitat capable of supporting New England cottontails. These estimates suggest that more than 86,000 ac (34,800 ha) of habitat exists, comprising approximately: (1) 1,472 ac (596 ha) in Maine (Boland *et al.*, *in litt.*, 2014); (2) 450 ac (182 ha) in New Hampshire (Holman *et al.*, *in litt.* 2014); (3) 5,000 ac (2,023 ha) in Massachusetts (Scarpitti and Piche, *in litt.* 2014); (4) 7,500 ac (3,035 ha) in Rhode Island (Tefft *et al.*, *in litt.* 2014); (5) 50,000 ac (20,000 ha) in Connecticut (Kilpatrick *et al.*, *in litt.* 2014); and (6) 21,561 ac (8,725 ha) in New York (Novak *et al.*, *in litt.* 2014). Although this acreage greatly exceeds the amount of habitat specified in the Conservation Strategy, it is uncertain if New England cottontail populations are currently distributed in the spatial arrangement described in the *Conservation Efforts to Reduce Habitat Destruction, Modification, or Curtailment of Its Range* section of the 12-month finding (Docket Number FWS–R5–2015–0136). However, according to the Performance Report, efforts to create and maintain New England cottontail habitat have resulted in the completion of land management actions on 2,643 ac (1,069 ha), with another 5,536 ac (2,240 ha) planned for implementation (Fuller and Tur 2015, p. 14).

If voluntary participation falls short of the goals specified in the Conservation Strategy, the Parties are prepared to enact those land protection objectives identified in the Conservation Strategy (Fuller and Tur 2015, pp. 80–83). In Maine and New Hampshire, 584 ac (236 ha) of habitat were protected, thereby meeting the land protection goals for those two States (Fuller and Tur 2015, p. 81). In Connecticut, four properties have been purchased that will provide benefits to the species (Fuller and Tur 2015, p. 81). The completion of a North Atlantic Shrublands Land Protection Plan (LPP) that will continue the Service’s efforts to acquire properties for the conservation of shrubland species within New England cottontail conservation Focus Areas is anticipated (Fuller and Tur 2015, p. 81). Given the track record of the Parties in conserving properties identified as important to the conservation of the New England cottontail, along with efforts to secure more resources for land protection through the North Atlantic Shrublands LPP, we expect that land protection efforts will continue. Based on our evaluation of the type and level of voluntary participation needed to implement the Conservation Strategy (35,990 ac (14,564 ha)), and a current estimate of existing habitat (86,000 ac (34,800 ha)) that exceeds the amount required, and the amount of habitat already managed or planned to be managed (8,179 ac (3,309 ha)), along with those efforts to increase land protection measures where needed, we conclude that there is a high level of certainty that the Parties will obtain the required amount of voluntary participation needed to provide for the habitat needs of the New England cottontail.

- (6) Regulatory mechanisms (e.g., laws, regulations, ordinances) necessary to implement the conservation effort are in place.

We are aware of no instances where the lack of a regulatory mechanism is precluding the implementation of the Conservation Strategy. Therefore, we conclude that the regulatory mechanisms necessary to implement the conservation effort are in place.

- (7) A high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain the necessary funding.

The Parties indicated that approximately \$66 million would be required to fully implement the Conservation Strategy through the 2030 planning period (Fuller and Tur 2012, p. 124). To date, the Parties have utilized financial and staffing resources estimated at \$19,055,267 (Fuller and Tur 2015, pp. 85–97). Also, the Parties have secured \$10,549,137 in grant funding to implement the Conservation Strategy (Fuller and Tur 2015, p. 94). The conservation effort is projected to expend approximately \$32,809,256 through 2015, which represents approximately 49 percent of the total amount needed for implementation through 2030 (Fuller and Tur 2015, p. 3). In addition, the States, the Service, and the NRCS convened a meeting on October 21–21, 2014 in which the Parties : (1) Confirmed the current and projected status of New England cottontail populations and habitat availability and the conservation issues to be addressed in each focus area; (2) Confirmed for each focus area that the Conservation Strategy objectives needed and already implemented to ameliorate the conservation issues have been correctly identified; and (3) Characterized the level of commitment towards achieving population goals in each Focus Area, the overall commitment to implementing the Conservation Strategy, and the confidence that the New England cottontail population objectives identified would be achieved (New England Cottontail Executive Committee, *in litt.* 2014; Sparks *et al.*, *in litt.* 2014; Riexinger *et al.*, *in litt.* 2014; Hyatt *et al.*, *in litt.* 2014; Connolly, *in litt.* 2014; MacCallum, *in litt.* 2014; Ellingwood and Kanter, *in litt.* 2014; Weber, *pers. comm.* 2014; Weller, *pers. comm.* 2014). Based on the estimated funds needed to implement the Conservation Strategy, the funds dedicated to implementing the strategy to date, and the commitments to continue dedicating funds to implement the Conservation Strategy, we conclude that there is a high level of certainty that the Parties will obtain the necessary funding.

- (8) An implementation schedule (including incremental completion dates) for the conservation effort is provided.

Section 7 of the Conservation Strategy identifies, for each objective, the year in which the objective is planned to commence and its expected duration to completion within the 2030 planning period (Fuller and Tur 2012, pp. 121–136). Therefore, we conclude that an implementation schedule for the conservation effort is provided.

- (9) The conservation agreement or plan that includes the conservation effort is approved by all parties to the agreement or plan.

All Parties to the Conservation Strategy approved the Conservation Strategy, as evidenced by the appearance of the agency representatives' signatures (Fuller and Tur, p. i). Approval was reaffirmed in 2014 by the commitment to continue implementation of the Conservation Strategy (Sparks *et al.*, *in litt.* 2014; Riexinger *et al.*, *in litt.* 2014; Hyatt *et al.*, *in litt.* 2014; Connolly, *in litt.* 2014; MacCallum, *in litt.* 2014; Ellingwood and Kanter, *in litt.* 2014; Weber, *pers. comm.* 2014; Weller, *pers. comm.* 2014).

The criteria evaluated to determine the certainty that the conservation effort will be effective include:

- (1) The nature and extent of threats being addressed by the conservation effort are described, and how the conservation effort reduces the threats is described.

The threats to the New England cottontail are described in section 2.5 of the Conservation Strategy (Fuller and Tur 2012, pp. 19–25) and in the Service’s 2015 12-month not warranted finding (Docket Number FWS–R5–2015–0136). In addition, the threats being addressed within each focus area are described in the FASSTs (Boland *et al.*, *in litt.* 2014; Holman *et al.*, *in litt.* 2014; Scarpitti and Piche, *in litt.* 2014; Tefft *et al.*, *in litt.* 2014; Kilpatrick *et al.*, *in litt.* 2014; Novak *et al.*, *in litt.* 2014). These threats include the loss of habitat due to forest maturation; disruption of natural processes that maintain habitat; competitive interactions with introduced populations of the eastern cottontail; and the modification, fragmentation, and destruction of habitat (Fuller and Tur 2012, pp. 19–21, 24–25). Hunting is not currently considered to be a threat (Boland *et al.*, *in litt.* 2014; Holman *et al.*, *in litt.* 2014; Scarpitti and Piche, *in litt.* 2014; Tefft *et al.*, *in litt.* 2014; Kilpatrick *et al.*, *in litt.* 2014; Novak *et al.*, *in litt.* 2014). Disease also is not considered to be a threat (Fuller and Tur 2012, pp. 21–22). Predation is considered to be a stressor to New England cottontail populations occupying landscapes lacking sufficient habitat (Fuller and Tur 2012, pp. 22–24). The inadequacy of existing regulatory mechanisms is not identified as a threat to the New England cottontail, based on an analysis that found the regulatory mechanisms that exist are sufficient to address the potential threats they are designed to address. Few regulatory mechanisms exist that are designed to prevent the destruction or modification of New England cottontail habitat (Fuller and Tur 2012, p. 24; Docket Number FWS–R5–2015–0136). Analysis of the potential threat of habitat modification and winter survival due to climate change revealed that the effects to the New England cottontail were uncertain and not currently known to be deleterious to the species’ survival (Fuller and Tur 2012, pp. 25–26). Finally, the threat of small population size is identified as a threat to some perilously small populations of the New England cottontail (Fuller and Tur 2012, p. 26).

The Conservation Strategy identifies objectives and specific actions for addressing the rangewide threats and explains how the objectives and actions reduce the threats (Fuller and Tur 2012, pp. 44–89). Also, the threats were analyzed for most of the conservation focus areas and information describing efforts to reduce their local effect was provided (Boland *et al.*, *in litt.*, 2014; Holman *et al.*, *in litt.* 2014; Scarpitti and Piche, *in litt.* 2014; Tefft *et al.*, *in litt.* 2014; Kilpatrick *et al.*, *in litt.* 2014; Novak *et al.*, *in litt.* 2014). Therefore, we conclude that the Conservation Strategy describes the nature and extent of the threats being addressed, and how the conservation objectives and actions are intended to reduce them.

- (2) Explicit incremental objectives for the conservation effort and dates for achieving them are stated.

We evaluated the presence of incremental objectives and the presence of dates for achieving them in Certainty of Implementation Criteria 8 above. We conclude that explicit incremental objectives for the conservation effort and dates for achieving them are stated.

- (3) The steps necessary to implement the conservation effort are identified in detail.

The Conservation Strategy identifies the following steps necessary to implement the conservation effort: (1) Implement conservation actions in Focus Areas throughout the range to establish a minimum of 18 landscapes capable of supporting a total of 13,500 individual New England cottontails; (2) Develop a reserve design for each Focus Area, in consideration of biological and sociological issues, to ensure that populations within them remain viable; (3) Develop partnerships to ensure implementation; (4) Increase management on State and Federal lands; (5) Develop management agreements with municipalities and other conservation-land owners to offset development and other forms of habitat destruction and modification, recognizing that in most focus areas the acreage of these lands in combination with similarly suitable State and Federal lands substantially exceeds the minimum habitat goals identified in the Conservation Strategy; (6) Increase capacity and funding to manage public land, recognizing that in most cases, the potential of currently secured lands to support New England cottontail is limited by the resources available to manage them and not by the number of acres that are biologically suitable for management; (7) Engage private landowners to participate in voluntary management actions, recognizing that the opportunity to manage currently secure and biologically suitable public lands to benefit New England cottontail may be limited; (8) Increase the security of management on private lands by implementing a long-term land protection plan; (9) Develop a captive breeding program to bolster depressed populations and counter the destabilizing effects of fragmentation, isolation, and small population size; and, (10) Evaluate the role of eastern cottontails as a nonnative competitor and take conservation actions to address this threat, as appropriate (Fuller and Tur 2012, pp. 40–41). Therefore, we conclude that the steps necessary to implement the conservation effort are identified in sufficient detail.

(4) Quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured, are identified.

In the Rangewide Conservation Efforts section above, we presented the Conservation Strategy along with a description of its development and associated population goals. In addition to the signatory agencies of the Executive Committee, development of the Conservation Strategy involved numerous conservation partners with scientific and habitat management expertise, including representatives from several universities, to ensure adequate input and involvement to produce a conservation plan that was robust and capable of conserving the New England cottontail. In developing the Conservation Strategy and its associated conservation goals, conservation practitioners utilized the best available data, including general conservation biology principles, biological information, local habitat knowledge, and management expertise (Fuller and Tur 2012, p. 40). The Conservation Strategy was peer reviewed to seek additional input and obtain critical review of the approach described for conserving the New England cottontail (Charlton, *in litt.* 2012; Husband, *in litt.* 2012; Litvaitis, *in litt.* 2012; Underwood, *in litt.* 2012). The Conservation Strategy incorporates scientifically valid parameters (e.g., the population goals and objectives for achieving them) because the document included contributions from relevant scientific experts and was peer reviewed.

The Conservation Strategy's Species Conservation section (section 4) identifies a Performance Measure and Target Level for those objectives related to: (1) Administration; (2) Information management; (3) Monitoring; (4) Landowner recruitment; (5) Population

management; (6) Habitat management; (7) Outreach and education; and (8) Land protection (Fuller and Tur 2012, pp. 44–87), and includes each objective’s desired outcome, performance measure, target level, reporting process, adaptive management significance, scope, priority, initiation date, expected duration, and status. These objectives are also found in the Conservation Strategy’s Implementation Schedule and Budget Summary tables (section 7, tables 7.4 to 7.12), along with corresponding information indicating the Lead Program implementing the task, resource needs, and funding sources (Fuller and Tur 2012, pp. 125–136). Based on this information, we conclude that quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured, are identified.

(5) Provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.

The Conservation Strategy’s implementation and effectiveness ,monitoring and reporting progress are specified under objective 004: Review Performance, which ensures that priority conservation objectives are adequately funded; implementation of the Conservation Strategy proceeds as scheduled, and habitat and population management measures are effective (Fuller and Tur 2012, p. 45). Section 4.2 of the Conservation Strategy specifically addresses monitoring of biological parameters considered important to assessing progress in conserving the New England cottontail and includes: (1) Quantifying the extent of habitat; (2) Measuring habitat occupancy rates; (3) Conducting presence/absence distribution surveys; (4) Measuring vegetation response to management; and (5) Monitoring disease and predation, for the purpose of early detection (Fuller and Tur 2012, pp. 53–56).

The annual Performance Report (Fuller and Tur 2015, entire), as identified in the Performance Measure for objective 004 in the Conservation Strategy (Fuller and Tur 2012, p. 47) evaluates the degree to which the conservation effort might demonstrate its effectiveness, as indicated by improved New England cottontail populations. According to the Performance Report (Fuller and Tur 2015, pp. 21–22), there are 6 Focus Areas that currently contain an estimated 1,000 or more individual cottontails and 5 more Focus Areas with estimated populations of 500 or more. Assessment of conservation actions planned in each Focus Area indicates that an additional 17 Focus Areas are expected to attain target population levels exceeding 500 individuals each by the end of the 2030 planning period (Fuller and Tur 2015, pp. 21–22). To further progress towards the goals, the Conservation Strategy proposes to monitor habitat and populations, conduct outreach to encourage participation and foster additional support, implement habitat management actions, establish new populations and conduct translocations as needed, implement measures to increase survival, conduct research to improve management decisions, and acquire properties possessing high conservation value (Fuller and Tur 2012, pp. 53–87).

There are indications that implementation of the Conservation Strategy is improving the species’ status. For example, in 2008, an 11-ac (4.5-ha) timber harvest conducted at a site in New Hampshire led to the creation of habitat that became occupied in 2012, which suggests a 4-year lapse in time from initial vegetation management actions to occupancy by New England

cottontails (Tur, *in litt.* 2012). While the Service has been encouraged by the efforts to plan and implement the Conservation Strategy, we expect that continued improvements to the status of the New England cottontail will take time. To measure progress, in partnership with the U.S. Geological Survey, the Parties developed and are implementing field work in support of a pilot monitoring effort capable of detecting regional population trends and measuring the effectiveness of the Conservation Strategy (Fuller and Tur 2015, p. 38; Kilpatrick, *pers. comm.* 2015).

Based on this information, we conclude that the Conservation Strategy provides provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters).

(6) Principles of adaptive management are incorporated.

Section 6 of the Conservation Strategy is dedicated to adaptive management (Fuller and Tur 2012, pp. 114–120). In this section, key uncertainties are identified. The adaptive management process is described as a seven-phase process, consisting of: (1) Technical coordination; (2) Status monitoring and assumption testing; (3) Performance monitoring; (4) Integrative reporting and synthesis; (5) Evaluative; (6) Adaptive; and (7) Decision-making (Fuller and Tur 2012, pp. 117–118). The adaptive management task is partially the responsibility of the Information and Adaptive Management Work Group, a group of representatives from the Parties responsible for implementing the adaptive management process. We conclude that the Conservation Strategy incorporates principles of adaptive management.

PECE Analysis Summary

Using the criteria in PECE, we evaluated the certainty of implementation and effectiveness of the Conservation Strategy. We find that there is a high level of certainty that the Conservation Strategy will be implemented, based on the Parties' track-record of implementation (Fuller and Tur 2015, entire) and information supporting the Parties' commitments to continue its implementation (Sparks *et al.*, *in litt.* 2014; Riexinger *et al.*, *in litt.* 2014; Hyatt *et al.*, *in litt.* 2014; Connolly, *in litt.* 2014; MacCallum, *in litt.* 2014; Ellingwood and Kanter, *in litt.* 2014; Weber, *pers. comm.* 2014; Weller, *pers. comm.* 2014). We also find that there is a high level of certainty that the Conservation Strategy will be effective, because it is based on sound conservation principles and because it has demonstrated effectiveness. Because there is a high level of certainty that the conservation efforts identified in the Conservation Strategy for the New England cottontail will be implemented and effective, we find that these conservation efforts can be considered when making a listing decision under the Endangered Species Act.