DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R4-ES-2010-0007]

[MO 92210-0-0008 B2]

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List the Striped Newt as Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 12-month petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list the striped newt (*Notophthalmus perstriatus*) as threatened under the Endangered Species Act of 1973, as amended (Act). After review of all available scientific and commercial information, we find that listing the striped newt as endangered or threatened is warranted. Currently, however, listing the striped newt is precluded by higher priority actions to amend the Lists of Endangered and Threatened

Wildlife and Plants. Upon publication of this 12-month petition finding, we will add the striped newt to our candidate species list. We will develop a proposed rule to list the striped newt as our priorities allow. We will make any determination on critical habitat during development of the proposed listing rule. During any interim period, we will address the status of the candidate taxon through our annual Candidate Notice of Review (CNOR).

DATES: The finding announced in this document was made on [INSERT DATE OF FEDERAL REGISTER PUBLICATION].

ADDRESSES: This finding is available on the Internet at *http://www.regulations.gov* at Docket Number FWS-R4-ES-2010-0007. Supporting documentation we used in preparing this finding is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, North Florida Field Office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256. Please submit any new information, materials, comments, or questions concerning this finding to the above street address.

FOR FURTHER INFORMATION CONTACT: Dave Hankla, Field Supervisor, North Florida Field Office (see **ADDRESSES**); by telephone at (904) 731-3336; or by facsimile at (904) 731-3045. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Act (16 U.S.C. 1531 *et seq*.) requires that, for any petition to revise the Federal Lists of Threatened and Endangered Wildlife and Plants that contains substantial scientific or commercial information that listing a species may be warranted, we make a finding within 12 months of the date of receipt of the petition. In this finding, we determine whether the petitioned action is: (a) Not warranted, (b) warranted, or (c) warranted, but immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are threatened or endangered, and expeditious progress is being made to add or remove qualified species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Section 4(b)(3)(C) of the Act requires that we treat a petition for which the requested action is found to be warranted but precluded as though resubmitted on the date of such finding, that is, requiring a subsequent finding to be made within 12 months. We must publish these 12-month findings in the **Federal Register**.

Previous Federal Actions

On July 14, 2008, we received a petition dated July 10, 2008, from Dr. D. Bruce Means, Ryan C. Means, and Rebecca P.M. Means of the Coastal Plains Institute and Land Conservancy (CPI), requesting that the striped newt (*Notophthalmus perstriatus*) be

listed as threatened under the Act. Included in the petition was supporting information regarding the species' taxonomy, biology, historical and current distribution, and present status, as well as a summary of actual and potential threats. We acknowledged the receipt of the petition in a letter to petitioners dated August 15, 2008. In that letter we also stated that we could not address their petition at that time because responding to existing court orders and settlement agreements for other listing actions required nearly all of our listing funding.

Funding became available to begin processing the petition in early 2010. On March 23, 2010, we published a 90-day finding (75 FR 13720) that the petition presented substantial information indicating that listing the striped newt may be warranted and that we were initiating a status review, for which we would accept public comments until May 24, 2010. This notice constitutes the 12-month finding on the July 14, 2008, petition to list the striped newt as threatened.

Species Information

Our 90-day finding summarized much of the current literature regarding the striped newt's distribution, habitat requirements, and life history, and may be reviewed for detailed information (75 FR 13720, March 23, 2010). Below, we briefly summarize previously presented information, and provide new information that we believe is relevant to understanding our analysis of the factors affecting the striped newt.

Taxonomy and Species Description

There are three species of *Notophthalmus* found in North America. These include the eastern red spotted newt (*N. viridescens*), the black-spotted newt (*N. meridionalis*), and the striped newt (*N. perstriatus*). The three species are found in different areas throughout the United States and Mexico (Reilly 1990, p. 51). Reilly (1990, p. 53), in his study of *Notophthalmus spp.*, found that *N. perstriatus* and *N. meridionalis* are distinct species that are more similar and phylogenetically more closely related than either is to *N. viridescens*. In 2008, Zhang *et al*. (2008, pp. 586 and 592) looked at the phylogenetic relationship (i.e., evolutionary history of an organism) of the family Salamandridae and found that the clade (i.e., group of species that includes all descendents of a common ancestor) containing newts was separate from the clade containing "true" salamanders. The branching order of the clades for newts are: primitive newts (*Echinotriton*, *Pleurodeles,* and *Tylototriton*), New World newts (*Notophthalmus* and *Taricha*), Corisca-Sardinia newts (*Euproctus*), modern European newts (*Calotriton, Lissotriton, Mesotriton, Neurergus, Ommatotriton,* and *Triturus*), and modern Asian newts (*Cynops, Pachytriton,* and *Paramesotriton*). New World newts, which include *Notophthalmus*, originally evolved from salamandrids migrating from Europe to North America via the North Atlantic land bridge during the Mid-Late Eocene (Zhang *et al*. 2008, p. 595).

Another genetic study, conducted in 2010, looked at whether populations of *Notophthalmus perstriatus* that occur in two regions separated by 125 kilometers (km) (78 miles (mi)) exhibit genetic and ecological differentiation showing that these two

regions are separate conservation units (Dodd *et al.* 2005, p. 887; Dodd and LaClaire 1995, p. 42; Franz and Smith 1999, p. 12; Johnson 2001, pp. 115-116; May *et al*. undated, unpublished report). One region consists of populations located in peninsular Florida and southeastern Georgia, and the other region consists of populations located in northwestern Florida and southwestern Georgia (Dodd and LaClaire 1995, p. 42; Franz and Smith 1999, p. 13). May *et al.* (2010, undated, unpublished report) found that there is gene flow between localities within each region, but none were shared between regions. Johnson (2001, pp. 107,113–115) found genetic exchange between populations is minimal or nonexistent due to upland habitat fragmentation that has limited long-distance dispersals and restricted gene flow. In 2001, Johnson (2001, p. 115) found there was enough genetic divergence to show that the western region is different than the eastern regions. However, May *et al.* (2010, unpublished report) did not find that there was sufficient genetic divergence to support splitting eastern and western regions into separate species.

May *et al.* (2010, unpublished report) ran niche-based distribution models that showed that there were significant climatic and environmental differences between the two regions when considering temperature and precipitation. The western region is characterized by lower mean temperatures and more extreme winter cold, coupled with higher variation in temperature and precipitation. These differences in temperatures and precipitation between the regions should be considered if translocation between regions is to be used for conservation of this species. Understanding genetic structure and species ecology will ensure that genetically similar individuals are moved between areas with

similar environmental conditions.

Life History and Biology

Life-history stages of the striped newt are complex, and include the use of both aquatic and terrestrial habitats throughout their life cycle. Striped newts are opportunistic feeders that prey on frog eggs, worms, snails, fairy shrimp, spiders, and insects (adult and larvae) that are of appropriate size (Dodd *et al.* 2005, p. 889; Christman and Franz 1973, pp. 134–135; Christman and Means 1992, pp. 62–63). Christman and Franz (1973, p. 135) found that newts were attracted to frog eggs by smell. Feeding behavior of newts has only been documented with aquatic adults; little is known of the feeding habits in the terrestrial stage (Dodd *et al.* 2005, p. 889).

Aquatic and breeding adults occur in isolated, temporary ponds associated with well-drained sands. Sexually mature adults migrate to these breeding ponds, which lack predatory fish, and courtship, copulation, and egg-laying take place there. Females lay eggs one at a time and attach them to aquatic vegetation or other objects in the water. It may take one female several months to lay all of her eggs (Johnson 2005, p. 94). Eggs hatch and develop into externally-gilled larvae in the temporary pond environment.

Once larvae reach a size suitable for metamorphosis, they may either undergo metamorphosis and exit the pond as immature, terrestrial efts, or remain in the pond and eventually mature into gilled, aquatic adults (paedomorphs) (Petranka 1998, pp. 449–450;

Johnson 2005, p. 94). The immature, terrestrial efts migrate into the uplands where they mature into terrestrial adults. Efts will remain in the uplands until conditions are appropriate (adequate rainfall) to return to the ponds to reproduce. Johnson (2005, p. 94) found that 25 percent of larvae became paedomorphs at his study pond. Paedomorphs will postpone metamorphosis until after they have matured and reproduced. At about a year old, they will reproduce, metamorphose, and migrate into the uplands adjacent to the pond (Johnson 2005, pp. 94–95). Once there are proper conditions (e.g., adequate rainfall) at the ponds, the terrestrial adults will move back to the ponds to court and reproduce. Once they return to the ponds, they are referred to as aquatic adults.

Striped newts as well as other *Notophthalmus* spp. have long lifespans (approximately 12 to 15 years) in order to cope with unfavorable stochastic environmental events (e.g., drought) that can adversely affect reproduction (Dodd 1993b, p. 612; Dodd *et al.* 2005, p. 889; Wallace *et al.* 2009, p. 139).

Movement of striped newts by both emigration and immigration occurs between ponds and surrounding uplands. Adult newts immigrate into ponds from uplands during the fall and winter months, but some newts also immigrate during the spring and summer months as well, when environmental conditions (e.g., adequate rainfall) are conducive to breeding (Johnson 2005, p. 95). Extended breeding periods allow striped newts to adapt to temporary breeding habitats whose conditions fluctuate within seasons (Johnson 2002, p. 395). Even with suitable water levels in ponds, adults emigrate back into uplands after breeding. There is a staggered pattern of adult immigration into ponds and eft emigration

into uplands due to the required 6 months for larvae to undergo metamorphosis into efts (Johnson 2002, p. 397).

Suitability of upland habitat around breeding ponds influences the pattern of immigration and emigration of newts and directional movements (Dodd 1996, p. 46; Dodd and Cade 1998, p. 337; Johnson 2003, p. 16). Dodd and Cade (1998, p. 337) found that striped newts migrated in a direction that favored high pine sandhill habitats. Newts migrate into terrestrial habitats at significant distances from their breeding ponds. Dodd (1996, p. 46) found that 82.9 percent of 12 wetland breeding amphibians (including striped newts) were captured 600 meters (m) (1,969 feet (ft)) from the nearest wetland, and only 28 percent of amphibians were captured less than 400 m (1,300 ft) from the wetland. Johnson (2003, p. 18) found that 16 percent of striped newts in his study migrated more than 500 m (1, 600 ft) from ponds. Dodd and Cade (1998, p. 337) showed that striped newts travelled up to 709 m (2,330 ft) from ponds. These long-distance movements of striped newts from breeding ponds to terrestrial habitats suggest that buffer zones around ponds should be established to protect upland habitats, as well as breeding ponds (Dodd 1996, p. 49; Dodd and Cade 1998, p. 337, Johnson 2003, p. 19; Kirkman *et al.* 1999, p. 557; Semlitsch and Bodie 2003, p. 1219). Trenham and Shaffer (2005, p. 1166) found that protecting at least 600 m (2,000 ft) of upland habitat would maintain a population with only a 10 percent reduction in mean population size in the California tiger salamander (*Ambystoma californiense*). Dodd and Cade (1998, p. 337) suggested that terrestrial buffer zones need to consider both distance and direction (migratory patterns) when created. Johnson (2003, p. 19) recommended a protected area extending

1,000 m (3,300 ft) from a breeding site as upland “core habitat” surrounding breeding ponds.

Optimal pond hydrology is important for maintaining the complex life-history pathways of striped newts. If there is not enough water in ephemeral ponds, then larvae will not have enough time to reach the minimum size needed for metamorphosis and will die as ponds dry up (Johnson 2002, p. 398). However, permanent ponds could support predatory fish that feed on aquatic-breeding amphibians (Johnson 2005, p. 94; Moler and Franz 1987, p. 235). Variable hydroperiods in breeding ponds over a long time period could result in varying reproductive success. Dodd (1993, p. 610) found a decline in striped newts due to persistent drought conditions. Johnson (2002, p. 399) found that heavy rainfall in the winter of 1997 to spring of 1998 filled ponds to their maximum depth and contributed to the reproductive success at these ponds. At one breeding pond, a minimum hydro-period of 139 days (Dodd 1993, pp. 609–610) was needed for larvae to reach complete metamorphosis. Larvae undergo metamorphosis into efts after a period of 6 months, and in order for larvae to mature into paedomorphs, a breeding pond must hold water for at least a year (Johnson 2005, p. 94). For a paedormorph to successfully reproduce, ponds must hold water for an additional 6 months to allow sufficient time for its larvae to undergo metamorphosis.

Striped newts form metapopulations that persist in isolated fragments of longleaf pine-wiregrass ecosystems (Johnson 2001, p. 114; Johnson 2005, p. 95). Within metapopulations, ponds function as focal points for local breeding populations that

experience periods of extirpation and recolonization through time (e.g., “ponds as patches”) (Johnson 2005, p. 95; Marsh and Trenham 2001, p. 41). Striped newts typically have limited dispersal, which can lead to pond isolation when stochastic events (e.g., drought) affect rates of colonization and extinction (Marsh and Trenham 2001, p. 41). In order for striped newts to recolonize local breeding ponds within the metapopulation, newts must disperse through contiguous upland habitat (Dodd and Johnson 2007, p. 150). Protecting the connectivity between uplands and breeding ponds of diverse hydroperiods is crucial for maintaining metapopulations (Dodd and Johnson 2007, pp. 150–151; Gibbs 1993, p. 25; Johnson 2005, p. 95). Only a few “stronghold” locations exist, where there are multiple breeding ponds with appropriate upland habitat that allow dispersal to occur among the ponds (Johnson 2005, p. 95). These “stronghold” locations represent different metapopulations across the range of the striped newt (Johnson 2005, p. 95). These sites need to be protected and managed to provide long-term protection for newts. In Florida, these include Apalachicola National Forest, Ocala National Forest, Jennings State Forest, Katherine Ordway-Swisher Biological Station, and Camp Blanding Training Site. In Georgia, they are found at Joseph Jones Ecological Research Center and Fort Stewart Military Installation (Johnson 2005, p. 95; Stevenson 2000, p. 4).

Habitat

Ephemeral ponds are important components of upland habitat in the southeastern United States (LaClaire and Franz 1990, p. 9). Ephemeral ponds tend to be described as

small (typically less than 5 hectares (ha) (12.4 acres (ac)), isolated wetlands with a cyclic nature of drying and refilling known as hydroperiods. Ephemeral ponds can hold water at various times throughout a year to allow for reproduction. Precipitation is the most important water source for ephemeral ponds (LaClaire and Franz 1990, p. 12). The cyclical nature of ephemeral ponds prevents predatory fish from inhabiting breeding ponds (Dodd and Charest 1988, pp. 87, 94; LaClaire and Franz 1990, p. 12; Moler and Franz 1987, p. 237). Ephemeral ponds are biologically unique, because they support diverse species that are different than species found in larger, more permanent wetlands or ponds (Moler and Franz 1987, pp. 234, 236; Kirkman *et al.* 1999, p. 553).

The frequency and duration of water in ephemeral ponds creates different zones of vegetation within ponds. One species, maidencane (*Panicum hemitomon*), has been found at ephemeral ponds where striped newts have been found, and seems be a good indicator of the extent of previous flooding in ponds (LaClaire 1995, p. 88; LaClaire and Franz 1990, p. 10). Persistence of maidencane helps to reduce the rate of oxidation of organic matter, reduce soil moisture loss, and inhibit growth and establishment of upland plant species (LaClaire 1995, p. 94). The center of flooded ponds may contain floating-leaved plants, and is surrounded by vegetation with submerged roots growing along the wet edges. Surrounding the wet areas are tall and short emergents, such as sedges, grasses, and rushes such as sandweed (*Hypericum fasciculatum*), followed by other grasses such as bluestem grass (*Andropogon virginicus*) found in the drier margins of ponds. Water-tolerant shrubs or trees are found in some transitional zones between pond and uplands (LaClaire 1995, p. 74; LaClaire and Franz 1990, p. 10).

Ephemeral ponds are surrounded by upland habitats of high pine, scrubby flatwoods, and scrub (Christman and Means, 1992, p. 62). Longleaf pine-turkey oak stands with intact ground cover containing wiregrass (*Aristida beyrichiana*) are the preferred upland habitat for striped newts, followed by scrub, then flatwoods (K. Enge, Florida Fish and Wildlife Conservation Commission, personal communication, May 24, 2010).

Striped newt habitat is fire-dependent, and naturally ignited fires and prescribed burning maintain an open canopy and reduce forest floor litter. An open canopy provides sunlight necessary for ground cover growth needed by newts for foraging and sheltering. Fire is also an important factor for wetland vegetation (LaClaire and Franz 1990, p. 10; Means 2008, p. 4). Historically, fire would be naturally ignited in the uplands during the late spring and early summer, and would sweep through the dry pond basins, reducing organic matter and killing encroaching upland plant species (Means 2008, p. 4; Myer 1990, p. 189). Lack of fire in uplands that buffer breeding ponds allows fire-intolerant hardwoods to shade out herbaceous understory needed by striped newts for foraging and sheltering. As a result, fire shadows may form along the upslope wetland and upland boundary. The vegetation in this area contains fire-intolerant evergreen shrubs (*Ilex* spp., *Vaccinium* spp., *Myrica* spp., and *Ceratiola* spp.) and sometimes xeric oak hammock zones (LaClaire and Franz 1990, p. 11). Ponds that are completely burned from the upland margin to the opposite margin lack this vegetation; however, if the ponds are filled with water, fire will burn out at the pond, and allow the invasion of fire-intolerant

hardwoods (LaClaire and Franz 1990, p. 11). The impacts of fire on these temporary ponds promote species richness of grasses and sedges, especially during droughts (Means 2006, p. 196). To eliminate hardwood encroachment, a prescribed fire regime should be used every 1 to 3 years during May to June, in order to protect striped newt habitat (Means 2006, p. 196).

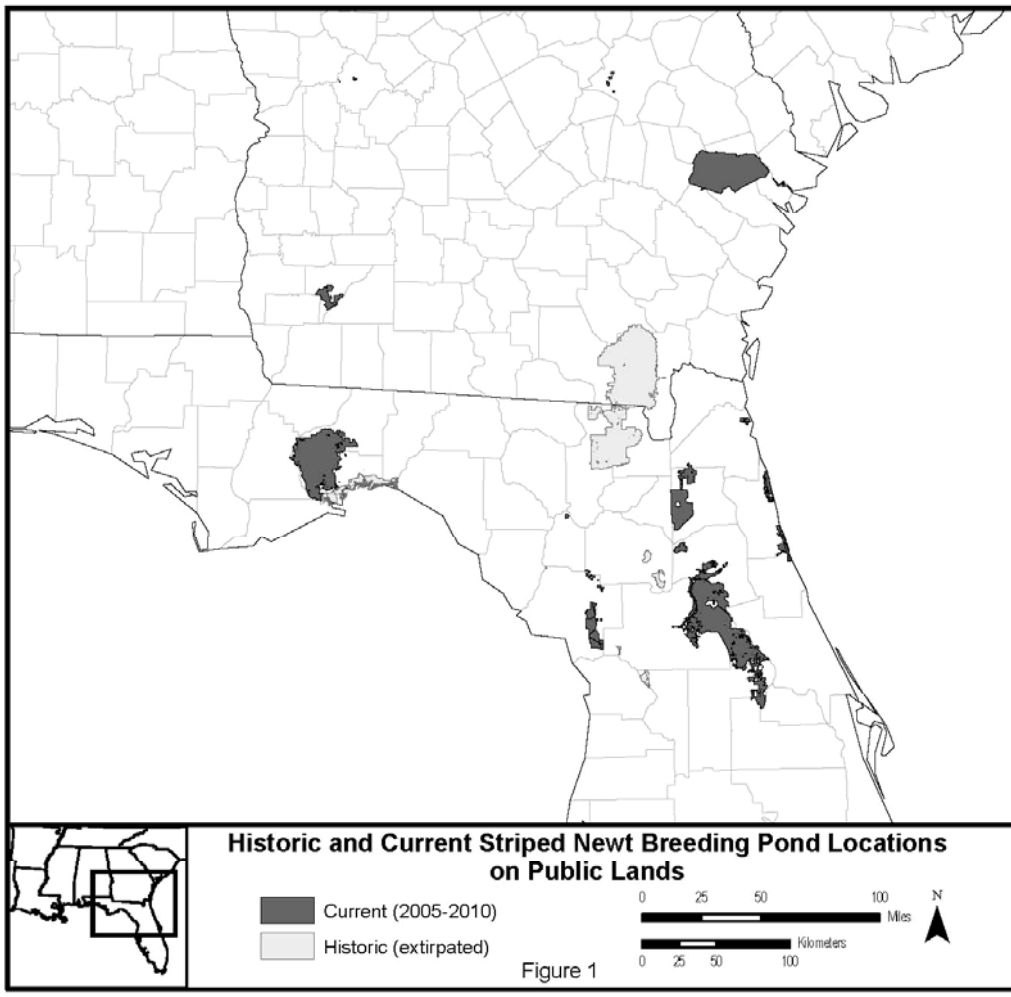
Striped newts use upland habitats that surround breeding ponds to complete their life cycle. Efts move from ponds to uplands where they mature into terrestrial adults. The uplands also provide habitat for the striped newt to forage and burrow during the non-breeding season (Dodd and Charest 1988, p. 95). Striped newts also use uplands to access alternative ponds that are needed if the original breeding pond is destroyed or the hydroperiod is altered (Means 2006, p. 197). This shows the interdependence between upland and aquatic habitats in the persistence of populations (Semlitsch and Bodie 2003, p. 1219). Semi-aquatic species (such as the striped newt) depend on both aquatic and upland habitats for various parts of their life cycle in order to maintain viable populations (Dodd and Cade 1998, pp. 336–337; Johnson 2001, p. 47; Semlitsch 1998, p. 1116; Semlitsch and Bodie 2003, p. 1219).

Distribution

The range of the striped newt extends from the Atlantic Coastal Plain of southeastern Georgia to the north-central peninsula of Florida and through the Florida panhandle into portions of southwest Georgia (Dodd *et al.* 2005, p. 887). There is a 125-

km (78-mi) separation between the western and eastern portions of the striped newt's range (Dodd *et al.* 2005, p. 887; Dodd and LaClaire 1995, p. 42; Franz and Smith 1999, p. 12; Johnson 2001, pp. 115–116). The historical range of the striped newt was likely similar to the current range (Dodd *et al*. 2005, p. 887). However, loss of native longleaf habitat, fire suppression, and the natural patchy distribution of upland habitats used by striped newts have resulted in fragmentation of existing populations (Johnson and Owen 2005, p. 2).

In Figure 1, we provide a map illustrating the current and historical ranges of the striped newt on public lands. The dark-shaded areas represent the currently occupied sites documented from 2005 to 2010 surveys of public lands (Enge, FWC, personal communication, 2010; Jensen, Georgia Department of Natural Resources (GDNR), personal communication, 2010). The light-shaded areas represent the historical range where striped newts are now extirpated. There are from 1 to 30 breeding ponds documented within dark shaded areas. However, due to the scale of the map, the specific ponds are not identified. This map represents the best available information used to establish the species' range.


Historic and Current Striped Newt Breeding Pond Locations on Public Lands
Current (2005-2010)
Historic (extirpated)
0 25 50 100
Miles
0 25 50 100
Kilometers
N
Figure 1

To determine where there may be additional unsurveyed suitable habitat for striped newts in Florida, Endries *et al.* (2009, pp. 45–46) developed a striped newt habitat model. The model was developed using Florida Fish and Wildlife Conservation Commission (FWC) 2003 landcover classes. Three classes were identified: (1) Breeding (bay, cypress swamp, freshwater marsh, wet prairie), (2) primary upland (sandhill, xeric oak scrub, sand pine scrub), and (3) secondary upland (hardwood hammocks and forests, pinelands, and shrub and brushlands). Then potential habitat was evaluated for each class. Breeding habitat was limited to patches that were less than 9 ha (22 ac) in size and which were contiguous with upland habitats. The primary upland habitats included in the model were those areas contiguous and within 1,000 m (3,300 ft) of breeding habitat. Secondary upland habitat was included for areas that were contiguous and within 500 m (1,600 ft) of primary uplands and 1,000 m (3,300 ft) of breeding habitat.

The GIS analysis found a total of 244,576 ha (604,360 ac) of potential habitat (Endries *et al.* 2009, p. 45). Of the potential habitat, 122,724 ha (303,257 ac) occurred on 124 sites within public lands, but only 64 of these sites had greater than 40 ha (100 ac) of potential habitat. The remaining habitat was found on privately owned lands in patches that were greater than 79 ha (195 ac) (Endries *et al*. 2008, pp. 45–46). Of the potential habitat found on public lands, 55 percent occurred on Ocala National Forest (ONF), 8 percent on Camp Blanding Military Installation, 6 percent on Withlacoochee State Forest, 5.3 percent on Apalachicola National Forest (ANF), and 2.9 percent on Jennings State Forest (Enge, FWC, personal communication, 2010). However, no records of striped newt occurrences have been found at Withlacoochee State Forest, even though this

appears to be suitable habitat. Ocala National Forest has 67,514 ha (166,831 ac) of potential habitat and 39 occupied ponds, making it the largest "stronghold" for metapopulations for striped newts in Florida (Enge, FWC, personal communication, 2010). Striped newts are also found in ponds throughout Peninsular Florida at Ordway-Swisher Biological Station, Camp Blanding Joint Training Center, Jennings State Forest, Goethe State Forest, Rock Springs State Park, Ft. White Mitigation Park, Faver-Dykes State Park, and Pumpkin Hill Creek Preserve State Park.

Within the panhandle of Florida, striped newts have been found within the Munson Sandhills. This site represents a small physiographic region within the Gulf Coastal Plains in Florida (Means and Means 1998a, p. 3). Striped newts have only been located in the western portion of the Munson Sandhills within the ANF. No newts have been found in the eastern portion of the sandhills since the 1980s, when the area was converted to a dense sand pine (*Pinus clausa)* plantation (Means and Means 1998a, p. 6). Striped newt distribution continues north of this site to the Tallahassee Red Hills and Tifton Uplands, and finally to the Dougherty Plain in southwestern Georgia. However, the Tallahassee Red Hills no longer support the newt. Striped newts were documented once in a breeding pond found in the Red Hills, but this site was dredged, deepened, and stocked with game fish in the 1980s, and no longer supports newts (Means and Means 1998b, pp. 6, 15).

The striped newt is currently known to occur in five separate locations in Georgia, including Fort Stewart, Lentile Property, Joseph W. Jones Ecological Research Center

(JJERC), Fall Line Sandhills Natural Area, and Ohoopee Dunes Natural Area (J. Jensen, GDNR, personal communication, September 14, 2010; L. Smith, JJERC, personal communication, September 11, 2010; Stevenson 2000, p. 4; Stevenson and Cash 2008, p. 252; Stevenson *et al.* 2009a, pp. 2–3). Most of these locations are within the Dougherty Plain (Baker Co.), Tifton Uplands (Irwin, Lanier, and Lowndes Counties), and the Barrier Island Sequence (Bryan, Camden, Charlton, Evans, and Long Counties) (Dodd and LaClaire 1995, pp. 40–42). From 1993 to 1994, Dodd and LaClaire (1995, p. 40) found striped newts in one pond each at five sites in Irwin, Baker, and Charlton Counties, and a series of ponds at Ft. Stewart in Bryan and Evans Counties. A pond in Baker County at JJERC was found to be a new location, and extends the known range west of the Flint River approximately 115 km (71 mi) farther from the nearest recorded site (LaClaire *et al*. 1995, pp. 103–104; Franz and Smith 1999, p. 13). Striped newts were first found on Trail Ridge in 1924 near Okefenokee National Wildlife Refuge (ONWR), but this area has been highly modified since the 1940s (Dodd 1995, p. 44; Dodd and LaClaire 1995, pp. 39–40), and newts are no longer found in this area, except for possibly in the ONWR. In 2008, a new striped newt site was found in Georgia in Camden County, which is the first record for this county since 1953 (Stevenson *et al.* 2009b, p. 248).

Population Status and Trends

Surveys have been conducted for striped newts at many sites within Florida and Georgia. These surveys have found that the number of known occupied sites has declined and occupied sites are limited to just a few counties. However, historical

information on the location of striped newts is difficult to confirm, as most of these sites underwent substantial land use changes since newts were first collected (Dodd *et al.* 2005, p. 887).

Franz and Smith (1999, p. 8) reviewed 100 records from 20 counties in Florida between 1922 and 1995, and conducted surveys between 1989 and 1995. They found that 4 historical ponds had newts, but also found 34 new ponds containing newts were that were not part of the historical records. All 38 breeding ponds were found on 7 public lands that included ANF, Camp Blanding Military Reservation, Favor-Dykes State Park, Jennings State Forest, Katharine Ordway Preserve-Swisher Memorial Sanctuary, ONF, and Rock Springs State Preserve (Franz and Smith, 1999, pp. 8–9).

Johnson and Owen (2005, p. 7) visited 51 sites in 11 counties in Florida from 2000 to 2003 that overlapped with the sites visited by Franz and Smith. They found that of 51 sites visited (totaling 64 ponds), only 26 ponds and adjacent upland habitat had excellent habitat quality (e.g., multiple ephemeral ponds surrounded by fire-maintained native uplands) capable of supporting striped newts. Only 4 of these 26 sites had multiple breeding ponds needed to comprise metapopulations. They were found in Clay, Marion, and Putnam Counties in Camp Blanding Military Reservation (Clay), Jennings State Forest (Clay), Ocala National Forest (Marion), and Katherine Ordway Preserve-Swisher Memorial Sanctuary (Putnam) (Johnson and Owen 2005, p. 7).

From 2005 to 2010, Enge (FWC, personal communication, 2010) surveyed ponds

in suitable habitat on 32 conservation lands in Florida. He found breeding ponds with newts in 58 ponds on 11 of the 32 conservation lands. He also found that although newts had a wider range in Florida than Georgia, they remained abundant only on public lands in Clay, Marion, and Putnam Counties. This is consistent with the surveys conducted by Franz and Smith (1999, pp. 8–9) and Johnson and Owen (2005, p. 7). He found that there were a total of 49 extant populations known from the peninsula of Florida and 7 populations from the panhandle. An isolated breeding pond farther than 1,000 m (3,300 ft) from the closest other breeding pond represents a separate population (Enge, FWC, personal communication, 2010). The striped newt metapopulations (i.e., multiple breeding ponds with enough upland to allow for dispersal) are now only found on public lands in Clay, Putnam, and Marion Counties. Populations still exist in 10 other counties in Florida, but these counties have fewer than 3 breeding ponds and these populations are considered vulnerable to extirpation (Enge, FWC, personal communication, 2010).

The status of the striped newt is unknown on private lands due to the difficulty in accessing these lands; however, Enge (FWC, personal communication, 2010) was able to survey 8 ponds on 2 private lands, and found newts on at least one site.

Striped newt breeding ponds at ANF and other areas within the Munson Sandhills region in Leon County, Florida, have seen a decline. ANF was once considered a metapopulation for striped newt (Johnson 2005, p. 95; Johnson and Owen 2005, p. 7; Enge, FWC, personal communication, 2010). However, the western Munson Sandhills in ANF was surveyed from 1995–2007, and researchers were only able to locate 18

breeding ponds (containing larvae or breeding adults) in 265 ephemeral ponds surveyed (Means and Means 1998a, p. 5). Means *et al.* (2008, p. 6) found only 5 adult striped newts and no larvae in the past 10 years. Since 2000, severe drought conditions were experienced at these ponds, and newts were shown to be declining. Recent surveys conducted in the Munson Sandhills in 2010 were not able to locate any striped newts at any of the breeding ponds (Means, CPI, personal communication, 2010). The precipitous apparent declines now being seen at ANF could occur elsewhere on protected lands within the striped newt's range, despite the protection of habitat. This indicates that perhaps other threats (e.g., disease and drought) may continue to act on the species at these sites.

As mentioned above, striped newts have only been found at five locations in Georgia, and these sites are highly fragmented and isolated (Stevenson 2000, p. 4). An amphibian survey on 196 ephemeral ponds in 17 counties on timber company lands in the Coastal Plain of southeastern Georgia did not locate any striped newts in Georgia; however, striped newts were found in four ponds in Florida (Wigley 1999, pp. 5–10). Stevenson (2000, p. 3) looked at 25 historic striped newt localities in Georgia and was only able to find 2 sites (8 percent) that had multiple breeding ponds and upland habitat that would support striped newt populations. As of 2010, only 2 properties in the State are known to support viable populations: JJERC and Fort Stewart Army Base (Jensen, GDNR, personal communication, 2010; Stevenson *et al.* 2009a, p. 2). The Fort Stewart population lies within the range of the eastern genetic group on the Atlantic Coastal Plain and was represented by approximately 10 known wetlands. Since 2002, striped newts

have been found at only one wetland at Fort Stewart (Stevenson *et al.* 2009, p. 2). The JJERC population lies within the range of the western genetic group on the Gulf Coastal Plain, and is represented by 5 known wetlands. In annual surveys from 2002 to 2010, researchers confirmed striped newts from only 3 of these 5 known wetlands (Smith, JJERC, personal communication, 2010). Evidence suggests that both the eastern and western striped newt populations in Georgia are rare and declining. Most suitable striped newt habitat in Georgia has been lost to development or converted to pine plantations and silviculture (Dodd and LaClaire 1995, p. 43).

Summary of Information Pertaining to the Five Factors

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR 424) set forth procedures for adding species to 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 striped newt in relation to the five factors provided in section 4(a)(1) of the Act is discussed below.

In considering whether a species may warrant listing under any of the five factors, we look beyond the species' exposure to a potential threat or aggregation of threats under any of the factors, and evaluate whether the species responds to those potential threats in a way that causes actual impact to the species. The identification of threats that might impact a species negatively may not be sufficient to compel a finding that the species warrants listing. The information must include evidence indicating that the threats are operative and, either singly or in aggregation, affect the status of the species. Threats are significant if they drive, or contribute to, the risk of extinction of the species, such that the species warrants listing as endangered or threatened, as those terms are defined in the Act.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range.

Striped newts have been found to use both aquatic and upland habitats throughout their life cycle. Most of these habitats have been destroyed or modified in the past due to: (1) Conversion of habitat to intensely managed, planted pine plantations or naturally regenerated stands (Dodd 1995b, p. 129; Wear and Greis 2002, p. 46); (2) loss of habitat resulting from urban development (Zwick and Carr 2006, pp. 4–6); (3) degradation of habitat due to fire suppression (Means 2008, pp. 27–28); and (4) degradation of the

habitat by the use of off-road vehicles and road construction (Means 1996, p. 2; Means 2001; p. 31, Means 2003 p. 6; Means *et al.* 1994a., pp. 5–6).

Natural Pine Forest Conversion

Natural pine forests (i.e., longleaf pine forest) that once were found from southeastern Virginia through eastern Texas have declined to about 13 million ha (33 million ac), and planted pine plantations increased to more than 12 million ha (30 million ac) by 1999 (Dodd 1995b., p. 129; Wear and Greis 2002, p. 46). There are presently about 11 million ha (27 million ac) of managed pine plantations where natural longleaf pines were once found (Frost 2006, p. 36). Within the longleaf pine ecosystem in the South's coastal plains, only 2.2 percent of the original range exists (Frost 2006, p. 13; Wear and Greis 2002, p. 66). Between 1936 and 1989, longleaf pine forests within the range of the striped newt in Florida decreased from more than 3 million ha (7.6 million ac) to only 384,500 ha (950,000 ac), an 88 percent decrease (Dodd 1995b., p. 129). Longleaf pine forest in Georgia declined 36 percent between 1981 and 1988 (Dodd 1995b., p. 129).

Habitat loss from the conversion of natural pine forests to intensely managed, planted pine plantations has greatly disrupted the dispersal of striped newts between breeding ponds and upland habitat. Means and Means (1998a, p. 6) found that striped newt habitat at the Munson Sandhills varied due to differences in silvicultural practice between the eastern and western portions of the Sandhills. In the western portion of the

Sandhills found within ANF, native groundcover remains in the second-growth longleaf pine forests, where striped newts spend most of their adult life. However, the eastern portion of the Munson Sandhills has been clear-cut and roller-chopped, and planted in sand pine (*Pinus clausa*), which is now a closed canopy with little native groundcover. Surveys of ponds located in the eastern Munson Sandhills found no striped newts after the site was converted to sand pine plantations (Means and Means 1998a, p. 4; Means and Means 2005, pp. 58–59; Means 2008, p. 30).

Silvicultural practices, including mechanical site preparation, pond ditching, soil disturbance, and the use of fertilizer and herbicides, can interfere with migration and successful reproduction (Dodd 1995b, p. 130; Dodd and LaClaire 1995, pp. 43–44; Means and Means 2005, pp. 59–60; Means 2008, p. 29). Pond ditching, which is used to drain ponds to create ideal conditions for silvicultural operations, is detrimental to striped newts, because it alters pond hydrology and facilitates predatory fish movement into otherwise fishless ponds (Means 2008, p. 30). Ditching creates a shortened hydroperiod, reducing the amount of time striped newts have to undergo metamorphosis, which can eventually decrease the number of reproducing adults (Means 2008, p. 31).

Urban Development

Alteration of upland habitat to urban development can create habitat fragmentation and loss of metapopulations of striped newts. In 10 coastal Georgia counties, the human population is expected to increase 51 percent by 2030 (Center for

Quality Growth and Regional Development 2006, p. 4), but no estimate of impact on native habitats was provided. Striped newts have been found within 5 of these counties in Georgia, including Bryan, Camden, Long, Liberty, and Screven Counties (Franz and Smith 1999, p. 13, Stevenson 2000, pp. 6–7). Zwick and Carr (2006, pp. 4–6) modeled human population growth in Florida, and concluded that 2.8 million ha (7 million ac) of land will be converted to urban use by 2060. Of the 2.8 million ha (7 million ac), they estimated that about 1.1 million ha (2.7 million ac) of native habitat would be destroyed to accommodate urban development (Zwick and Carr 2006, p. 2). It is predicted that more than 800,000 ha (2 million ac) of native habitat in Florida will be developed by 2060 within a mile of public conservation lands (Zwick and Carr 2006, p. 19; FWC 2008, p. 8). Urban sprawl where newts occur will fragment striped newt ponds from upland habitats. This will limit movement of newts between breeding ponds and make them more vulnerable to extinction, as the genetic viability of the newts declines (FWC 2008, p. 8). Powerlines and natural gas rights-of-ways impact groundcover associated with longleaf pine adjacent to breeding ponds, creating barriers to dispersal and eventually decreasing populations (Means 2001, pp. 31–32). Striped newt habitat in the Tallahassee Red Hills has been impacted by urban sprawl and land conversion from 1824 to the present, and has resulted in the extirpation of striped newts from this area (Means and Means 1998b, p. 8).

Small, isolated wetlands support breeding populations of striped newts. However, small, ephemeral wetlands (less than 0.2 ha (0.5 ac)) receive no protection from development (Johnson 2003, p. 19; Dodd and Cade 1998, p. 337; see discussion under

Factor D below). The loss of these small, ephemeral wetlands can potentially increase extinction rates of newts by limiting migration between ponds and corridors, thus decreasing recolonization of local populations (Gibbs 1993, pp. 25–26; LaClaire and Franz 1990, p. 13; Semlitsch and Bodie 1998, pp. 1131–1132). Green (2003, p. 341) concluded that pond-breeding amphibians, like striped newts, that have highly fluctuating populations and high frequencies of local extinctions are likely to be affected rapidly by habitat fragmentation. The loss of breeding ponds due to habitat destruction will reduce corridors and limit migration between the ponds and the uplands.

Prescribed Fire

Prescribed fire plays an important role in maintaining productive breeding ponds for striped newts (Kirkman *et al.* 1999, p. 556). Burning in dry ponds is also necessary to maintain the quality of vegetation needed for striped newts (Johnson 2005, p. 97). Fire suppression at many sites with newt breeding ponds has been concurrent with the conversion of uplands to pine plantations (Johnson 2005, p. 97). Lack of fire can result in the succession of natural pine forests converting to fire-intolerant species, dominated by hardwoods (Means 2008, pp. 27–28). Wear and Greis (2002, pp. 46–47) found that 3.9 million ha (9.7 million ac) of natural pine forest throughout the Southeast were reclassified to hardwood and natural oak-pine forests. Of the remaining longleaf pine habitat in the southeast, only 0.2 percent is managed with fire and can support native longleaf pine species of plants and animals, including striped newts (Frost 2006, p. 38). The succession of natural pine forest to more shade-tolerant species, such as oaks and

hickories, can result in the loss of ground cover, such as wire grass, needed by striped newts for shelter and foraging (Means 2001, p. 31). Frequencies of prescribed burns in these uplands need to take place in a 1- to 3-year cycle to provide suitable habitat for striped newts (Johnson and Gjerstad 2006, pp. 287–292). This would also reduce the naturally woody components around the ephemeral ponds, and stimulate flowering of grasses used by the newts along the pond margins (Means 2006, p. 196).

In Florida, some public land managers do not currently have the resources to implement effective habitat management programs (Howell *et al*. 2003, p.10). In a questionnaire to State, Federal, and local land managers throughout Florida, the Service asked what impediments they had in effectively using prescribed fire to manage scrub, a fire-maintained ecosystem. Many respondents indicated that funding, staff, and smoke management issues substantially reduced their ability to burn (Service 2006, Excel spreadsheet; Thomson 2010, p. 12). Less than 25 percent of public land managers had been ranked as having an excellent prescribed burn program (Florida Department of Environmental Protection 2007, p. 1). On most public lands in Florida, striped newt habitat is likely to continue to degrade unless land management funding and staffing increase in the future.

Off-road Vehicles and Road Impacts

Means *et al.* (1994, pp. 6–7; 2008, pp. 11 and 16) found that their study ponds at the Munson Sandhills in ANF off-road vehicle (ORV) use had degraded the littoral zone

of the breeding ponds into barren sandy beaches unsuitable for striped newts. The littoral zone provides shallow, warm water where small aquatic invertebrates are concentrated, providing food for newts. ORV use also destroys the grasses and grass-like vegetation around the ponds needed by newts for protection from predators such as wading birds (Means *et al.* 2008, p. 11). In 1994, 27 of 100 ponds at ANF were found to be damaged by ORV use, including 3 of 18 striped newt ponds (Means *et al.* 1994, pp. 6–7). By 2006, ORV impacts were documented at nearly every pond at ANF (Means *et al.* 2008, p. 16). However, by 2010, the ANF closed the Munson Sandhills to ORV use to protect the striped newt ponds (Petrick, USFS, personal communication, 2010; see discussion under Factor D below).

Striped newts dispersing from breeding ponds to upland habitat are also impacted by roads and highways. These impacts usually result in direct road mortality; desiccation of small, moist-bodied animals (like newts) on dry asphalt; and increased exposure of these small animals to aerial predation (Means 1996, p. 2). At one study pond in ANF, Means (2003, p. 6) found that most striped newts were emigrating and immigrating to and from the breeding pond across a major highway, U.S. 319.

Summary of Factor A

We have identified a number of threats to striped newt habitat that have resulted in the destruction and modification of habitat in the past, are continuing to threaten habitat now, and are expected to continue to threaten striped newt habitat in the future.

Indications are that the loss of habitat due to conversion of natural pine forests to more intense silvicultural management regimes will continue in interior portions of the range of the striped newt. Striped newt habitat within the species' range in Florida and Georgia is currently threatened with habitat loss and modification resulting from urban development. Habitat loss and fragmentation due to urban development and road construction is expected to continue in the future. Lack of, or inappropriate use of, prescribed fire is ongoing and likely to continue in the future, and has adverse effects on striped newt habitat and extant populations. On the basis of this analysis, we find that the destruction, modification, or curtailment of the striped newt's habitat is currently a threat and is expected to persist and possibly escalate in the future. Because this threat is ongoing and we expect it will continue over the coming decades; we consider the threat to be imminent. However, based on the large amount of potential habitat that is currently in public ownership, and fact that most of the known striped newt ponds are on conservation lands, we believe the magnitude of this threat is moderate. Based upon our review of the best commercial and scientific data available, we conclude that the present or threatened destruction, modification, or curtailment of its habitat or range is an imminent threat of moderate magnitude to the striped newt, both now and in the foreseeable future.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

The petition provided information that striped newts were collected and sold

during the 1970s and 1980s. However, in our 90-day finding (75 FR 13720, March 23, 2010), we determined that there was no evidence to support the existence of any threat under this factor. We obtained no additional information during the status review to indicate that this factor is currently a threat to the species or will become a threat in the foreseeable future. Therefore, based on our review of the best available scientific and commercial information, we conclude that the striped newt is not threatened by overutilization for commercial, recreational, scientific, or educational purposes now or in the foreseeable future.

Factor C. Disease or Predation.

In our 90-day finding (75 FR 13720, March 23, 2010), we found no evidence that predation was a threat to the striped newt, and we obtained no additional information during the status review that would change that finding. As to disease, below we summarize what was previously stated in the 90-day finding (75 FR 13720, March 23, 2010), as well as additional information obtained during the status review.

Disease can be difficult to detect in pond-breeding amphibians. In addition, the rarity of striped newts increases the difficulty of documenting mortality in the species. However, there are reasons to believe that disease may be a possible factor in the decline of striped newts. Chytridiomycosis (a disease caused by *Batrachochytrium dendrobatidis*) is implicated or documented as a causative agent in many New World

amphibian declines (Blaustein and Johnson 2003, p. 91). Ouellet *et al.* (2005, p. 1434) documented the chytrid fungal infections in the eastern newts (*N. viridescens*) in North America. A subspecies of the eastern newt, the central or common newt (*N. v. louisanensis*), has been found in the same ponds as the striped newt at ANF and other ponds in North Florida (Means 2007, p. 19; Means 2001, pp. 19–21; Means *et al*. 1994, pp. 9–10 and 30–32). The effect of the disease on striped newts is unknown; however, California newts (*Taricha torosa*) have tested positive for the pathogen in ponds where a die-off of the species was previously reported (Padgett-Flohr and Longcore 2007, p. 177).

Some researchers believe that disease pathogens represent one of the potential causes of decline of the striped newt (Blaustein and Johnson 2003, pp. 87–92). The presence of chytrid fungal infections could particularly threaten populations of striped newts, as they may not have the resiliency to recover after a population crash caused by this disease (Ouellet *et al.* 2005, p. 1437). Further, the effect of this disease could be exacerbated by other stressors, such as habitat degradation and climate change (Blaustein and Johnson 2003, p. 91; Ouellet *et al.* 2005, p. 1432; Rothermel *et al*. 2008, pp. 3, 13). Daszak *et al.* (2005, p. 3236) found that the impact of *Batrachochytrium dendrobatidis* on amphibians can vary among species, and several factors, such as climate (i.e., drought) and life-history traits, can affect the species' response to the disease. The presence of this disease in the range of the striped newt is not confirmed, but is a potential cause for concern, given the deleterious effect of the disease on other amphibian species.

A group of viruses belonging to the genus *Ranavirus* has been shown to affect some local populations and cause localized die-offs of amphibians (Gray *et al*. 2009a, p. 244). The *Ranavirus* could be affecting populations of the striped newt, but it is difficult to detect in less abundant species (Gray *et al*. 2009a, p. 244), and we do not have confirmation that it is present in striped newt populations. However, Green *et al*. (2002, p. 334) found that *Ranavirus* was the most frequent cause of amphibian mortality in at least 10 species, including the spotted salamander (*Ambystoma maculatum*) and eastern newt, so this virus may be impacting striped newt populations in breeding ponds where other subspecies of eastern newts, such as the central newt (*Notophthalmus viridescens louisianensis*), are found. There are two reasons for the emergence of *Ranavirus* in amphibian populations: (1) Reduced amphibian immunity associated with increased occurrence of anthropogenic stressors (e.g. drought), and (2) introduction of *Ranavirus* strains into amphibian populations by humans (Gray *et al*. 2009b, p. 2).

Another recently described disease, caused by a fungus-like protist (*Amphibiocystidium viridescens*), has been reported in eastern newt populations (Raffel *et al.* 2008, p. 204). Specifically, evidence of mortality and morbidity due to infection with this disease, and the potential importance of secondary infections as a source of mortality, were reported (Raffel *et al.* 2008, p. 204). Also, Cook (2008) found a striped newt in captivity to be infected with a protistan parasite that has caused disease in other species of amphibians. This parasite, currently identified as *Demomycoides* spp. (Cook 2007, p. 2), caused disease resulting in a complete loss of recruitment of the Mississippi gopher frog population in Harrison County, Mississippi, in 2003.

Summary of Factor C

We have found that several of the diseases mentioned above have resulted in mortality of species similar to the striped newt, such as the eastern newt (which is in the same genus as the striped newt). Drought conditions are predicted to be more severe and longer in the coming years. As drought (see discussion under Factor E below) and loss of habitat (see discussion under Factor A above) continue to act as stressors, striped newt populations may become more susceptible to disease outbreaks, which could potentially result in some localized population extinctions, as has occurred with similar species. Because, from the best available information, we do not know if disease is currently affecting the striped newt populations, but we believe it is likely that it will in the coming decades, we consider this threat to be nonimminent. Since disease has resulted in loss to similar amphibian species, and additional stressors (e.g., habitat loss, drought, and climate change) might make some populations of striped newts more vulnerable to disease, the magnitude of this threat is moderate. Based upon our review of the best commercial and scientific data available, we conclude that disease is a nonimminent threat of moderate magnitude to the striped newt within the foreseeable future.

Factor D. The Inadequacy of Existing Regulatory Mechanisms.

There is currently little Federal and State protection of isolated wetland habitat

and surrounding upland habitats. While many States in the southeastern United States regulate those activities affecting wetlands that are exempt from section 404 of the Federal Clean Water Act (CWA) (33 U.S.C.1251 *et seq*.), Florida is the only State known to regulate isolated wetlands. In Georgia, there are no State laws that protect isolated wetlands. Lack of protection for upland habitat under wetland statutes can result in loss of recruitment of efts and paedomorphs into the breeding adult population, which would reduce the potential for the population to persist (Semlitsch 1998, p. 1116).

Federal Statutes and Regulations

The CWA regulates the dredge and fill activities that adversely affect wetlands. Section 404 of CWA regulates the discharge of dredge or fill materials into wetlands. Discharges are commonly associated with projects to create dry land for development sites, water-control projects, and land clearing. The U.S. Army Corps of Engineers (COE) and the U.S. Environmental Protection Agency (EPA) share the responsibility for implementing the permitting program under section 404 of the CWA. EPA and COE provided a guidance memorandum for implementing recent court cases addressing jurisdiction over waters of the United States under the CWA, specifically addressing the term "navigable waters" (EPA and COE 2001, pp. 1–7; EPA and COE 2008, pp. 1–13). It is clear from this guidance that isolated wetlands are not considered waters of the United States under the "navigable waters" definition and thus are not provided protection under the CWA. Further wetland regulations are reviewed by the COE for the development of wetlands less than 1.2 ha (3 ac) under a permit called Nationwide Permit 26 (Kirkman *et al.* 1999, p. 553; Snodgrass *et al.* 2000, p. 415).

The Department of the Interior, through the Service, administers the National Wildlife Refuge System. The National Wildlife Refuge System Administration Act of 1966 (NWRAA; 16 U.S.C. 668dd-668ee) provides legislation for the administration of a national network of lands and water for the conservation, management, and restoration of fish, wildlife, and plant resources and their habitats for the benefit of the American people. Amendment of the NWRAA in 1997 requires the refuge system to ensure that the biological integrity, diversity, and environmental health of refuges be maintained and requires development and implementation of a comprehensive conservation plan (CCP) for each refuge. The CCP must identify and describe the wildlife and related habitats in the refuge and actions needed to correct significant problems that may adversely affect wildlife populations and habitat (16 U.S.C. 668dd(e)). Striped newt habitat within national wildlife refuges is protected from loss due to urban development. Striped newts have historically been observed at St. Marks National Wildlife Refuge (SMNWR) in Florida and Okefenokee National Wildlife Refuge (ONWR) in Georgia. Striped newts were historically found at ONWR in the 1920s, but the only known breeding pond was last occupied by newts in 1994. Aicher (ONWR, personal communication, September 14, 2010) has not found striped newts at ONWR, even though this breeding pond is still in good condition with well-maintained uplands surrounding it. At SMNWR, surveys conducted in 2002–2005 and again in 2009 were not able to locate any newts at 34 ponds (Enge, FWC, personal communication, 2010; Dodd *et al.* 2007, p. 29). The last known observation was in 1978, but now the habitat appears to be too degraded to be suitable for striped newts due to the lack of fire. Striped newts may indirectly benefit from fire

management programs intended to maintain and restore habitat for species such as the red cockaded woodpecker (*Picoides borealis*) and gopher tortoise (*Gopherus polyphemus*), but no systematic monitoring programs are in place to evaluate striped newt responses to land management activities within the refuge system.

On military installations, the Department of Defense (DOD) must conserve and maintain native ecosystems, viable wildlife populations, Federal and State listed species, and habitats as vital elements of its natural resource management programs, to the extent these requirements are consistent with the military mission (DOD Instruction 4715.3). Amendments to the Sikes Act (16 U.S.C. 670 *et seq.*) require each military department to prepare and implement an integrated natural resources management plan (INRMP) for each installation under its jurisdiction. The INRMP must be prepared in cooperation with the Service and State fish and wildlife agencies, and must reflect the mutual agreement of these parties concerning conservation, protection, and management of wildlife resources (16 U.S.C. 670a). Each INRMP must provide for wildlife, land and forest management, wildlife-oriented recreation, wildlife habitat enhancement, wetland protection, sustainable public use of natural resources that are not inconsistent with the needs of wildlife resources, and enforcement of natural resource laws (16 U.S.C 670a). DOD regulations mandate that resources and expertise needed to establish and implement an integrated natural resources management program are maintained (DOD Instruction 4715.3). These regulations further define the INRMP requirements, and mandate that plans be revised every 5 years and that they ensure the military lands suitable for management of wildlife are actually managed to conserve wildlife resources (DOD Instruction 4715.3).

The effectiveness of individual INRMPs to protect striped newts vary between and within military departments. Because the striped newt is not a protected species in Florida, the INRMP for Camp Blanding Military Installation does not specifically address management programs for this species. However, management activities that benefit the red-cockaded woodpecker and gopher tortoise, such as prescribed burning, should also benefit the striped newt. The striped newt is listed as threatened by the State of Georgia, so the INRMP for Fort Stewart Range and Garrison does address the specific conservation and management of this species.

The Navy does incorporate protective ecosystem management into INRMPs for Naval Air Station Jacksonville (and associated Rodman Bombing Range, Pinecastle Range, and Outlying Landing Field Whitehouse), Naval Station Mayport, and Naval Submarine Base Kings Bay. However, the INRMPs do not include specific management measures for the striped newt.

The Forest and Rangeland Renewable Resources Planning Act (16 U.S.C. 36),of 1974, as amended by the National Forest Management Act of 1976 (16 U.S.C. 1600 et seq.), requires that each national forest be managed under a forest plan which must be revised every 10 years. Regulations governing preparation of forest plans are found in 36 CFR 219. The purpose of a forest plan is to provide an integrated framework for analyzing and approving future, site-specific projects and programs, including conservation of listed species. Identification and implementation of land management

and conservation measures to benefit striped newts vary between forests. For example, on the National Forests in Florida, striped newts are not designated as a species for which special management prescriptions are implemented. There are no specific land management objectives for striped newts on the National Forests in Florida. The Land and Resource Management Plan for the National Forests in Florida (U.S. Forest Service 1999, entire) provides for the restoration of longleaf pine forest through various management areas located at Apalachicola National Forest (ANF) and Ocala National Forest (ONF). Metapopulations of striped newts are found at both of these forests. However, a decline of striped newt populations at ANF has occurred over the past 10 years (Means *et al.* 2008, p. 6).

State Statutes and Regulations

Generally, State statutes and regulations protect striped newts from take, but the effectiveness and implementation of regulations vary between States. The striped newt is not currently a State-listed species in Florida. However, the ephemeral ponds in Florida have some protection under Florida State regulations. The five Water Management Districts (WMDs) and the Florida Department of Environmental Protection (FDEP) regulate wetland protection. The WMDs include isolated wetlands in the Environmental Resource Permit process, which requires a permit for any activities that would impact a wetland (SJRWMD 2010, p. 1). Under the WMDs permitting process, mitigation for impacts to wetlands below a minimum permitting threshold size of 0.2 ha (0.5 ac) is not addressed unless the wetland supports an endangered or threatened species, is connected

by standing or flowing surface water at seasonal high water level to one or more wetlands that total more than 0.2 ha (0.5 ac), or is of more than minimal value to fish and wildlife (SJRWMD 2010, p. 1). This minimum permitting threshold size was adopted by the WMD, "based on consensus of scientific and regulatory opinions rather than on biological and hydrological evidence" (Hart and Newman 1995, p. 4). However, under Florida Statue Title XXVIII Chapter 371.406, agriculture (which includes silviculture) has exemptions to alter topography unless it is for the sole purpose of impounding or obstructing surface waters.

The size of the wetland is primarily how the State of Florida and the COE address wetland regulations. Snodgrass *et al.* (2000, p. 415) found that wetland values were based on four assumptions: (1) That small wetlands are ephemeral; (2) because wetlands are ephemeral, they support few species; (3) species supported by small wetlands are also found in large wetlands; and (4) populations found in individual wetlands are independent from other wetlands. Snodgrass *et al.* (2000 p. 219) concluded that these assumptions are not accurate and that there is no relationship between wetland size and species richness. Instead, wetland regulations should include a diversity of hydroperiods and connectedness of wetlands (Snodgrass *et al.* 2000, p. 219). Protecting these small wetlands will help maintain biodiversity with respect to the number of plant, invertebrate, and vertebrate species, including striped newts (Moler and Franz 1987, pp. 236–237). The loss of these small, ephemeral wetlands changes the metapopulation dynamics of striped newts by reducing the number of individuals that can disperse and reproduce successfully, and by increasing the dispersal distance among wetlands (Semlitsch and

Bodie 1998, p. 1131). The reduction in wetland densities decreases the probability that populations can be recovered by adjacent source populations, due to greater distances between wetlands, which eventually leads to population extinctions (Gibbs 1993, pp. 25–26; Semlitsch and Bodie 1998, pp.1131–1132). This makes it important to not only consider local and regional wetland distribution in wetland regulations, but also the protection of the surrounding non-breeding uplands, in which the newts complete their metamorphosis from efts to adults, and from which the adults emigrate back to the breeding ponds.

In Georgia, a State statute requires that any rule and regulation promulgated for protected species (including the striped newt) shall not affect rights on private property or in public or private streams, nor shall such rules and regulations impede construction of any type (Ga. Code Ann. section 27-3-132(b)). Georgia's Endangered Wildlife Act of 1973 establishes statutory protection for protected species (Ga. Code Ann. section 27-3-130–133). Georgia Board of Natural Resources Rule (Chapter 391-4-10) mirrors the statue, but includes permitting for research under a scientific collecting permit (Ga. Code Ann. section 27-2-12). Any implementing regulations are constrained by these statutory requirements, and therefore can only prohibit collection, killing, or selling of individual newts. There are no regulatory or permitting mechanisms in place in Georgia to address habitat destruction or striped newt mortality resulting from development projects on private lands. Consequently, striped newts and their habitat in private ownership in Georgia are vulnerable to ongoing and future habitat loss and mortality.

Local Laws and Ordinances

Florida's State Comprehensive Plan and Growth Management Act of 1985 (F.A.C. 163 Part II) requires each county to develop local comprehensive planning documents. Comprehensive plans contain policy statements and natural resource protection objectives, including protection of State and federally listed species, but they are only effective if counties develop, implement, and enforce ordinances. Some Florida county governments have developed protective ordinances for State and federally listed species, but all such ordinances are based on compliance with the State or Federal law, rather than enacting more stringent local laws. Consequently, Florida's local governments provide no additional protection to striped newts. We are aware of no county or local regulations or ordinances that protect the striped newt beyond existing State law in Georgia.

Conservation Efforts to Increase Adequacy of Existing Regulations

As we indicated above, the inadequacies of existing regulations are inextricably linked to threats associated with the present or threatened destruction, modification, or curtailment of the striped newt's habitat or range, explained under Factor A above. However, the U.S. Forest Service (USFS) has now restricted or closed ORV use in sensitive biological communities, such as wetlands (USFS 2010, p. 1), at both ANF and ONF. ORVs have historically been a recurring issue in or around ponds at ANF and ONF. However, recent changes at ANF and ONF have made ORVs off-limits in the

Munson Sandhills and the ephemeral ponds in the ONF where striped newt ponds were being affected by ORV use (Petrick, USFS, personal communication, 2006).

Summary of Factor D

Current Federal, State, and local regulations do not protect the vast majority of striped newts or their habitat on private lands. In Georgia, striped newt populations on private lands are not protected under State regulations, even though the striped newt is listed as threatened in that State. The status of striped newts on private lands is unknown, but is likely threatened by ongoing land uses, such as development and silviculture. Regulatory mechanisms at the local, State, and Federal levels provide varying degrees of protection to wetlands, but do not protect the small, ephemeral wetlands that striped newts use for breeding sites. Many regulations do not address management needs of the striped newt. We find that existing regulatory mechanisms are insufficient to reduce or remove threats to striped newts on public and private lands, including wetlands that may support striped newt populations, and we therefore find that the inadequacy of existing regulatory mechanisms is an imminent threat to this species throughout all of its range, as it is occurring now and not expected to change in the near future. This threat is pervasive throughout the species' entire range, so the magnitude of this threat is moderate. Therefore, based on our review of the best available scientific and commercial information, we conclude that the inadequacy of existing regulatory mechanisms is an imminent threat of moderate magnitude to the striped newt, both now and in the foreseeable future.

Factor E. Other Natural or Manmade Factors Affecting The Species' Continued Existence.

The effects of a long-term drought have contributed to the decline of striped newts from breeding ponds at not only the Munson Sandhills of the ANF in Florida, but at breeding sites throughout Florida and Georgia. Droughts normally occur in cycles and amphibian populations fluctuate with drought conditions (Dodd 1992, pp. 138–139). However, droughts lasting several years (more than 4) were found to have affected reproductive success, resulting in population decline (Dodd 1992, p. 139; Dodd and Johnson 2007, p. 150; Petranka 1998, p. 450). Surveys conducted at the Camp Blanding Training Site in 2000 to 2001, during a drought, did not find any striped newts, due to dry breeding ponds. In previous years, surveys found 7 to 10 sites with newts (Gregory *et al.* 2006, p. 487). Striped newts will respond to drought conditions in several ways: (1) Temporary extirpation; (2) migration to adjacent areas with better habitat conditions; and (3) survival in upland habitat, with recolonization once water has returned (Dodd 1993, p. 612).

Even with the return of water at the Munson Sandhills in ANF, striped newt populations have not recovered (Means, CPI, personal communication, 2010). Although droughts are a naturally occurring event in the ecology of the striped newt, prolonged droughts can worsen threats to already small populations, and exacerbate the degradation and fragmentation of striped newt habitat that is already taking place (discussed under

Factor A above), leading to extinction of striped newts in many areas.

We expect climate change will result in the loss and degradation of striped newt habitat in the future, particularly in Florida. According to the Intergovernmental Panel on Climate Change Synthesis Report (IPCC 2007, p. 2), warming of the earth's climate is "unequivocal," as is now evident from observations of increases in average global air and ocean temperatures, widespread melting of snow and ice, and rising sea level. Temperatures are predicted to rise from 2.0 degrees Celsius (^{o}C) to 5.0 ^{o}C (3.6 degrees Fahrenheit (°F) to 9.0 °F) for North America by the end of this century (IPCC 2007, p. 9). The IPCC (2007, pp. 2, 6) report outlines several scenarios that are virtually certain or very likely to occur in the next 50 years, including: (1) Over most land, there will be fewer cold days and nights, and warmer and more frequent hot days and nights; (2) Areas affected by drought will increase; and (3) The frequency of heavy precipitation events over most land areas will likely increase. The Southeastern United States is predicted to experience more severe and longer droughts. Other processes to be affected by this projected warming include rainfall (amount, seasonal timing, and distribution), storms (frequency and intensity), and sea level rise.

Indirect impacts are expected due to the relocation of people from flood-prone urban areas to inland areas (Ruppert *et al*. 2008, p. 127), including the relocation of millions of people to currently undeveloped interior natural areas (Stanton and Ackerman 2007, p. 15). Others have proposed implementation of a large-scale systematic translocation of at-risk human populations to interior locations (Gilkey 2008, pp. 9–12).

Florida's interior natural ecological communities will likely be impacted by the increasing need of urban infrastructure to support retreating coastal inhabitants. While available data are not adequately specific to evaluate the potential direct effects of predicted climate changes on the striped newt or provide information on just how much habitat may be lost, any habitat loss related to climate change would be in addition to the 20 percent loss projected to occur by 2060 due solely to people moving into Florida (FWC 2008, p. 2).

Summary of Factor E

We have identified that long-term droughts have resulted in the loss of striped newt breeding ponds, exacerbating existing population fluctuations and causing local extinctions. This threat is ongoing and is expected to continue in the future, especially because threats to habitat continue to affect existing striped newt populations and may make them more susceptible to potential population extinction. On the basis of this analysis, we find that the natural factor of long-term droughts is currently a threat and is expected to persist, and possibly escalate in the future, as a result of climate change, although climate change itself is not an imminent threat. Because we expect this threat will occur over the coming decades, we consider the threat to be imminent. Throughout the entire range of the striped newt, droughts are predicted to be more severe and longer in duration in the coming years, so we believe the magnitude of this threat is high. Based upon our review of the best commercial and scientific data available, we conclude that other natural or manmade factors affecting the species' continued existence is an

imminent threat of high magnitude to the striped newt, both now and in the foreseeable future.

Finding

As required by the Act, we conducted a review of the status of the species and considered the five factors in assessing whether the striped newt is endangered or threatened throughout all or a significant portion of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by the striped newt. We reviewed the petition, information available in our files, and other available published and unpublished information, and we consulted with striped newt experts and other Federal and State agencies.

In considering whether a species may warrant listing under any of the five factors, we look beyond the species' exposure to a potential threat or aggregation of threats under any of the factors, and evaluate whether the species responds to those potential threats in a way that causes actual impact to the species. The identification of threats that might impact a species negatively may not be sufficient to compel a finding that the species warrants listing. The information must include evidence indicating that the threats are operative and, either singly or in aggregation, affect the status of the species. Threats are significant if they drive, or contribute to, the risk of extinction of the species, such that the species warrants listing as endangered or threatened, as those terms are defined in the Act.

This status review identified threats to the striped newt attributable to Factors A, C, D, and E. The primary threats to the striped newt are habitat loss, disease, inadequate regulatory mechanisms, and drought. Habitat destruction and modification (Factor A) in the form of conversion of native longleaf pine forests to intensively managed pine forests and urban development are occurring on private lands throughout the range. Disease (Factor C) is expected to become more problematic for striped newts as additional habitat is lost and fragmentation increases. Stressors such as habitat loss (Factor A) and droughts (Factor E) are expected to elevate risks of diseases in newts because this has been the case with similar species. Regulatory mechanisms are inadequate to prevent further loss of breeding ponds (Factor D) throughout the striped newt's range. Existing regulations also do not protect striped newts on private lands in Florida and Georgia. Long-term regional droughts in Florida and Georgia (Factor E) have a negative impact on the long-term persistence of striped newts.

Since 2000, the striped newt has been monitored at 20 of the best breeding ponds on ANF (Means, CPILC, personal communication, 2010; Means and Means 1998a., pp. 9–25; Means *et al.* 1994, pp. 14–24; Means *et al.* 2008, p. 6). Since 2000, severe drought conditions were experienced at these ponds, and newts were shown to be declining. However, despite improving conditions at these ponds, no striped newts were located in 2010. The precipitous apparent declines now being seen at ANF could occur elsewhere on protected lands within the striped newt's range, despite the protection of habitat. This suggests that perhaps other threats (e.g., disease and drought) may continue to act on the

species at these sites. Drought conditions are predicted to be more severe and longer in the coming years. As described under Factor C, drought and other factors continue to act as stressors on existing striped newt populations and may make them more susceptible to disease outbreaks and may result in the population extinction of some metapopulations. There has not been any evidence of disease at other large metapopulations, such as ONF.

On the basis of the best scientific and commercial information available, we find that the petitioned action to list the striped newt as endangered or threatened is warranted. We will make a determination on the status of the striped newt as endangered or threatened when we complete a proposed listing determination. However, as explained in more detail below, an immediate proposal of a regulation implementing this action is precluded by higher priority listing actions, and progress is being made to add or remove qualified species from the Lists of Endangered and Threatened Wildlife and Plants.

We have reviewed the available information to determine if the existing and foreseeable threats render the species at risk of extinction now such that issuing an emergency regulation temporarily listing the species in accordance with section 4(b)(7) of the Act is warranted. We have determined that issuing an emergency regulation temporarily listing the striped newt is not warranted for this species at this time because there are no impending actions that might result in extinction of the species that would be addressed and alleviated by emergency listing, and the severity and timing of the threats are such that the risk of extinction will not occur over a short duration, or be caused by any one action. However, if at any time we determine that issuing an emergency

regulation temporarily listing the striped newt is warranted, we will initiate this action at that time.

Listing Priority Number

The Service adopted guidelines on September 21, 1983 (48 FR 43098), to establish a rational system for utilizing available resources for the highest priority species when adding species to the Lists of Endangered or Threatened Wildlife and Plants or reclassifying species listed as threatened to endangered status. These guidelines, titled "Endangered and Threatened Species Listing and Recovery Priority Guidelines," address the immediacy and magnitude of threats, and the level of taxonomic distinctiveness by assigning priority in descending order to monotypic genera (genus with one species), full species, and subspecies (or equivalently, distinct population segments (DPSes) of vertebrates). We assign the striped newt a Listing Priority Number (LPN) of 8, based on our determination that the primary threats are moderate and imminent. These threats include habitat destruction, disease, inadequate regulatory mechanisms, and droughts. rationale for assigning the striped newt an LPN of 8 is outlined below.

Under the Service's LPN Guidance, the magnitude of threat is the first criterion we look at when establishing a listing priority. The guidance indicates that species with the highest magnitude of threat are those species facing the greatest threats to their continued existence. These species receive the highest listing priority. The primary threats to striped newt (e.g., habitat loss, disease, inadequate regulatory mechanisms, and

drought) are occurring in populations throughout the species' range. For Factor E, we consider the magnitude high because nearly all populations are affected, and this factor may lead to possible extirpation. Also, throughout the entire range of the striped newt, droughts are predicted to be more severe and longer in the coming years, which could have a detrimental effect on the species' long-term survival. With drought as a possible cause for the decline in the population at ANF, we predict that, with continued drought conditions, declines are likely to occur at other protected lands as well, with possible extirpation in those areas. We consider the magnitude for Factors A and C moderate, as most of the known striped newt metapopulations are on conservation lands, and, although disease has been found in similar species, no known metapopulations of striped newts have shown any evidence of disease. Existing regulatory mechanisms at the local, State, and Federal levels provide varying degrees of protection to wetlands, but do not protect the small, ephemeral wetlands striped newts use for breeding sites. The lack of regulatory protection has not prevented further loss of breeding ponds and adjacent upland habitat throughout the species' range. We consider this a threat that is moderate in magnitude. In sum, because we find that threats under three factors (A, C, and D) are moderate, we find the overall threats that the striped newt is facing to be moderate in magnitude.

Under our LPN Guidance, the second criterion we consider in assigning a listing priority is the immediacy of threats. This criterion is intended to ensure that the species that face actual, identifiable threats are given priority over those for which threats are only potential or that are intrinsically vulnerable but are not known to be presently facing

such threats. Factors A, D, and E are considered imminent because they are occurring now and are expected to continue to occur in the future. These actual, identifiable threats are covered in detail under the discussion of Factors A, D, and E of this finding. Because we find that threats under three factors (A, D, and E) are imminent, and the threat under one factor (C) to be nonimminent, we find the overall threats that the striped newt is facing to be imminent.

The third criterion in our LPN guidance is intended to devote resources to those species representing highly distinctive or isolated gene pools as reflected by taxonomy. The striped newt is a valid taxon at the species level, and therefore receives a higher priority than subspecies or DPSes, but a lower priority than species in a monotypic genus. The striped newt faces mostly moderate magnitude, largely imminent threats, and is a valid taxon at the species level. Thus, in accordance with our LPN guidance, we have assigned the striped newt an LPN of 8.

We will continue to monitor the threats to the striped newt, and the species' status on an annual basis, and should the magnitude or the imminence of the threats change, we will revisit our assessment of the LPN.

Work on a proposed listing determination for the striped newt is precluded by work on higher priority listing actions with absolute statutory, court-ordered, or court-approved deadlines and final listing determinations for those species that were proposed for listing with funds from Fiscal Year 2011. This work includes all the actions listed in

the tables below under expeditious progress.

Preclusion and Expeditious Progress

Preclusion is a function of the listing priority of a species in relation to the resources that are available and the cost and relative priority of competing demands for those resources. Thus, in any given fiscal year (FY), multiple factors dictate whether it will be possible to undertake work on a listing proposal or whether promulgation of such a proposal is precluded by higher priority listing actions.

The resources available for listing actions are determined through the annual Congressional appropriations process. The appropriation for the Listing Program is available to support work involving the following listing actions: Proposed and final listing rules; 90-day and 12-month findings on petitions to add species to the Lists of Endangered and Threatened Wildlife and Plants (Lists) or to change the status of a species from threatened to endangered; annual "resubmitted" petition findings on prior warranted-but-precluded petition findings as required under section 4(b)(3)(C)(i) of the Act; critical habitat petition findings; proposed and final rules designating critical habitat; and litigation-related, administrative, and program-management functions (including preparing and allocating budgets, responding to Congressional and public inquiries, and conducting public outreach regarding listing and critical habitat). The work involved in preparing various listing documents can be extensive and may include, but is not limited to: Gathering and assessing the best scientific and commercial data available and

conducting analyses used as the basis for our decisions; writing and publishing documents; and obtaining, reviewing, and evaluating public comments and peer review comments on proposed rules and incorporating relevant information into final rules. The number of listing actions that we can undertake in a given year also is influenced by the complexity of those listing actions; that is, more complex actions generally are more costly. The median cost for preparing and publishing a 90-day finding is $39,276; for a 12-month finding, $100,690; for a proposed rule with critical habitat, $345,000; and for a final listing rule with critical habitat, $305,000.

We cannot spend more than is appropriated for the Listing Program without violating the Anti-Deficiency Act (see 31 U.S.C. 1341(a)(1)(A)). In addition, in FY 1998 and for each fiscal year since then, Congress has placed a statutory cap on funds that may be expended for the Listing Program, equal to the amount expressly appropriated for that purpose in that fiscal year. This cap was designed to prevent funds appropriated for other functions under the Act (for example, recovery funds for removing species from the Lists), or for other Service programs, from being used for Listing Program actions (see House Report 105-163, 105th Congress, 1st Session, July 1, 1997).

Since FY 2002, the Service's budget has included a critical habitat subcap to ensure that some funds are available for other work in the Listing Program ("The critical habitat designation subcap will ensure that some funding is available to address other listing activities" (House Report No. 107 - 103, 107th Congress, 1st Session, June 19, 2001)). In FY 2002 and each year until FY 2006, the Service has had to use virtually the

entire critical habitat subcap to address court-mandated designations of critical habitat, and consequently none of the critical habitat subcap funds have been available for other listing activities. In some FYs since 2006, we have been able to use some of the critical habitat subcap funds to fund proposed listing determinations for high-priority candidate species. In other FYs, while we were unable to use any of the critical habitat subcap funds to fund proposed listing determinations, we did use some of this money to fund the critical habitat portion of some proposed listing determinations so that the proposed listing determination and proposed critical habitat designation could be combined into one rule, thereby being more efficient in our work. At this time, for FY 2011, we do not know if we will be able to use some of the critical habitat subcap funds to fund proposed listing determinations.

We make our determinations of preclusion on a nationwide basis to ensure that the species most in need of listing will be addressed first and also because we allocate our listing budget on a nationwide basis. Through the listing cap, the critical habitat subcap, and the amount of funds needed to address court-mandated critical habitat designations, Congress and the courts have in effect determined the amount of money available for other listing activities nationwide. Therefore, the funds in the listing cap, other than those needed to address court-mandated critical habitat for already listed species, set the limits on our determinations of preclusion and expeditious progress.

Congress identified the availability of resources as the only basis for deferring the initiation of a rulemaking that is warranted. The Conference Report accompanying Pub.

L. 97-304 (Endangered Species Act Amendments of 1982), which established the current statutory deadlines and the warranted-but-precluded finding, states that the amendments were "not intended to allow the Secretary to delay commencing the rulemaking process for any reason other than that the existence of pending or imminent proposals to list species subject to a greater degree of threat would make allocation of resources to such a petition [that is, for a lower-ranking species] unwise." Although that statement appeared to refer specifically to the "to the maximum extent practicable" limitation on the 90-day deadline for making a "substantial information" finding (see 16 U.S.C. 1533(b)(3)(A)), that finding is made at the point when the Service is deciding whether or not to commence a status review that will determine the degree of threats facing the species, and therefore the analysis underlying the statement is more relevant to the use of the warranted-but-precluded finding, which is made when the Service has already determined the degree of threats facing the species and is deciding whether or not to commence a rulemaking.

In FY 2011, on April 15, 2011, Congress passed the Full-Year Continuing Appropriations Act (Public Law 112-10) which provides funding through September 30, 2011. The Service has $22,103,000 for the listing program. Of that, the Service anticipates needing to dedicate $11,632,000 for determinations of critical habitat for already listed species. Also $500,000 is appropriated for foreign species listings under the Act. The Service thus has $9,971,000 available to fund work in the following categories: compliance with court orders and court-approved settlement agreements requiring that petition findings or listing determinations be completed by a specific date;

section 4 (of the Act) listing actions with absolute statutory deadlines; essential litigation-related, administrative, and listing program-management functions; and high-priority listing actions for some of our candidate species. In FY 2010, the Service received many new petitions and a single petition to list 404 species. The receipt of petitions for a large number of species is consuming the Service's listing funding that is not dedicated to meeting court-ordered commitments. Absent some ability to balance effort among listing duties under existing funding levels, it is unlikely that the Service will be able to initiate any new listing determinations for candidate species in FY 2011.

In 2009, the responsibility for listing foreign species under the Act was transferred from the Division of Scientific Authority, International Affairs Program, to the Endangered Species Program. Therefore, starting in FY 2010, we used a portion of our funding to work on the actions described above for listing actions related to foreign species. In FY 2011, we anticipate using $1,500,000 for work on listing actions for foreign species, which reduces funding available for domestic listing actions; however, currently only $500,000 has been allocated for this function. Although there are no foreign species issues included in our high-priority listing actions at this time, many actions have statutory or court-approved settlement deadlines, thus increasing their priority. The budget allocations for each specific listing action are identified in the Service's FY 2011 Allocation Table (part of our administrative record).

For the above reasons, funding a proposed listing determination for the striped newt is precluded by court-ordered and court-approved settlement agreements, listing

actions with absolute statutory deadlines, and work on proposed listing determinations for those candidate species with a higher listing priority (i.e., candidate species with LPNs of 1 to 7).

Based on our September 21, 1983, guidelines for assigning an LPN for each candidate species (48 FR 43098), we have a significant number of species with a LPN of 2. Using these guidelines, we assign each candidate an LPN of 1 to 12, depending on the magnitude of threats (high or moderate to low), immediacy of threats (imminent or nonimminent), and taxonomic status of the species (in order of priority: monotypic genus (a species that is the sole member of a genus); species; or part of a species (subspecies, distinct population segment, or significant portion of the range)). The lower the listing priority number, the higher the listing priority (that is, a species with an LPN of 1 would have the highest listing priority).

Because of the large number of high-priority species, we have further ranked the candidate species with an LPN of 2 by using the following extinction-risk type criteria: International Union for the Conservation of Nature and Natural Resources (IUCN) Red list status/rank; Heritage rank (provided by NatureServe); Heritage threat rank (provided by NatureServe); and species currently with fewer than 50 individuals, or 4 or fewer populations. Those species with the highest IUCN rank (critically endangered); the highest Heritage rank (G1); the highest Heritage threat rank (substantial, imminent threats); and currently with fewer than 50 individuals, or fewer than 4 populations, originally comprised a group of approximately 40 candidate species ("Top 40"). These

40 candidate species have had the highest priority to receive funding to work on a proposed listing determination. As we work on proposed and final listing rules for those 40 candidates, we apply the ranking criteria to the next group of candidates with an LPN of 2 and 3 to determine the next set of highest priority candidate species. Finally, proposed rules for reclassification of threatened species to endangered are lower priority, because as listed species, they are already afforded the protections of the Act and implementing regulations. However, for efficiency reasons, we may choose to work on a proposed rule to reclassify a species to endangered if we can combine this with work that is subject to a court-determined deadline.

With our workload so much bigger than the amount of funds we have to accomplish it, it is important that we be as efficient as possible in our listing process. Therefore, as we work on proposed rules for the highest priority species in the next several years, we are preparing multi-species proposals when appropriate, and these may include species with lower priority if they overlap geographically or have the same threats as a species with an LPN of 2. In addition, we take into consideration the availability of staff resources when we determine which high-priority species will receive funding to minimize the amount of time and resources required to complete each listing action.

As explained above, a determination that listing is warranted but precluded must also demonstrate that expeditious progress is being made to add and remove qualified species to and from the Lists of Endangered and Threatened Wildlife and Plants. As with

our "warranted-but-precluded" finding, the evaluation of whether progress in adding qualified species to the Lists has been expeditious is a function of the resources available for listing and the competing demands for those funds. (Although we do not discuss it in detail here, we are also making expeditious progress in removing species from the list under the Recovery program in light of the resource available for delisting, which is funded by a separate line item in the budget of the Endangered Species Program. So far during FY 2011, we have completed one delisting rule; see 76 FR 3029.) Given the limited resources available for listing, we find that we are making expeditious progress in FY 2011. This progress includes preparing and publishing the following determinations:

FY 2011 Completed Listing Actions			
Publication Date	Title	Actions	FR Pages
10/6/2010	Endangered Status for the Altamaha Spinymussel and Designation of Critical Habitat	Proposed Listing Endangered	75 FR 61664-61690
10/7/2010	12-month Finding on a Petition to list the Sacramento Splittail as Endangered or Threatened	Notice of 12-month petition finding, Not warranted	75 FR 62070-62095
10/28/2010	Endangered Status and Designation of Critical Habitat for Spikedace and Loach Minnow	Proposed Listing Endangered (uplisting)	75 FR 66481-66552
11/2/2010	90-Day Finding on a Petition to List the Bay Springs Salamander as Endangered	Notice of 90-day Petition Finding, Not substantial	75 FR 67341-67343
11/2/2010	Determination of Endangered Status for the Georgia Pigtoe Mussel, Interrupted Rocksnail, and Rough Hornsnail and Designation of Critical Habitat	Final Listing Endangered	75 FR 67511-67550
11/2/2010	Listing the Rayed Bean and Snuffbox as Endangered	Proposed Listing Endangered	75 FR 67551-67583

11/4/2010	12-Month Finding on a Petition to List Cirsium wrightii (Wright's Marsh Thistle) as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	75 FR 67925-67944
12/14/2010	Endangered Status for Dunes Sagebrush Lizard	Proposed Listing Endangered	75 FR77801-77817
12/14/2010	12-month Finding on a Petition to List the North American Wolverine as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	75 FR 78029-78061
12/14/2010	12-Month Finding on a Petition to List the Sonoran Population of the Desert Tortoise as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	75 FR 78093-78146
12/15/2010	12-Month Finding on a Petition to List *Astragalus microcymbus* and *Astragalus schmolliae* as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	75 FR 78513-78556
12/28/2010	Listing Seven Brazilian Bird Species as Endangered Throughout Their Range	Final Listing Endangered	75 FR 81793-81815
1/4/2011	90-Day Finding on a Petition to List the Red Knot subspecies *Calidris canutus roselaari* as Endangered	Notice of 90-day Petition Finding, Not substantial	76 FR 304-311
1/19/2011	Endangered Status for the Sheepnose and Spectaclecase Mussels	Proposed Listing Endangered	76 FR 3392-3420
2/10/2011	12-Month Finding on a Petition to List the Pacific Walrus as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	76 FR 7634-7679
2/17/2011	90-Day Finding on a Petition To List the Sand Verbena Moth as Endangered or Threatened	Notice of 90-day Petition Finding, Substantial	76 FR 9309-9318
2/22 /2011	Determination of Threatened Status for the New Zealand-Australia Distinct Population Segment of the Southern Rockhopper Penguin	Final Listing Threatened	76 FR *9681-9692*
2/22/2011	12-Month Finding on a Petition to List *Solanum conocarpum* (marron bacora) as Endangered	Notice of 12-month petition finding, Warranted but precluded	76 FR 9722-9733
2/23/2011	12-Month Finding on a Petition to List Thorne's Hairstreak Butterfly as Endangered	Notice of 12-month petition finding, Not warranted	76 FR 991-10003
2/23/2011	12-Month Finding on a Petition to List *Astragalus hamiltonii*, *Penstemon flowersii*, *Eriogonum soredium*, *Lepidium ostleri*, and *Trifolium friscanum* as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded & Not Warranted	76 FR 10166-10203

2/24/2011	90-Day Finding on a Petition to List the Wild Plains Bison or Each of Four Distinct Population Segments as Threatened	Notice of 90-day Petition Finding, Not substantial	76 FR 10299-10310
2/24/2011	90-Day Finding on a Petition to List the Unsilvered Fritillary Butterfly as Threatened or Endangered	Notice of 90-day Petition Finding, Not substantial	76 FR 10310-10319
3/8/2011	12-Month Finding on a Petition to List the Mt. Charleston Blue Butterfly as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	76 FR 12667-12683
3/8/2011	90-Day Finding on a Petition to List the Texas Kangaroo Rat as Endangered or Threatened	Notice of 90-day Petition Finding, Substantial	76 FR 12683-12690
3/10/2011	Initiation of Status Review for Longfin Smelt	Notice of Status Review	76 FR 13121-31322
3/15/2011	Withdrawal of Proposed Rule to List the Flat-tailed Horned Lizard as Threatened	Proposed rule withdrawal	76 FR *14210-14268*
3/22/2011	12-Month Finding on a Petition to List the Berry Cave Salamander as Endangered	Notice of 12-month petition finding, Warranted but precluded	76 FR 15919-15932
4/1/2011	90-Day Finding on a Petition to List the Spring Pygmy Sunfish as Endangered	Notice of 90-day Petition Finding, Substantial	76 FR 18138-18143
4/5/2011	12-Month Finding on a Petition to List the Bearmouth Mountainsnail, Byrne Resort Mountainsnail, and Meltwater Lednian Stonefly as Endangered or Threatened	Notice of 12-month petition finding, Not Warranted and Warranted but precluded	76 FR *18684-18701*
4/5/2011	90-Day Finding on a Petition To List the Peary Caribou and Dolphin and Union population of the Barren-ground Caribou as Endangered or Threatened	Notice of 90-day Petition Finding, Substantial	76 FR *18701-18706*
4/12/2011	Proposed Endangered Status for the Three Forks Springsnail and San Bernardino Springsnail, and Proposed Designation of Critical Habitat	Proposed Listing Endangered	76 FR 20464-20488
4/13/2011	90-Day Finding on a Petition To List Spring Mountains Acastus Checkerspot Butterfly as Endangered	Notice of 90-day Petition Finding, Substantial	76 FR *20613-20622*
4/14/2011	90-Day Finding on a Petition to List the Prairie Chub as Threatened or Endangered	Notice of 90-day Petition Finding, Substantial	76 FR *20911-20918*
4/14/2011	12-Month Finding on a Petition to List Hermes Copper Butterfly as Endangered or Threatened	Notice of 12-month petition finding, Warranted but precluded	76 FR *20918-20939*

4/26/2011	90-Day Finding on a Petition to List the Arapahoe Snowfly as Endangered or Threatened	Notice of 90-day Petition Finding, Substantial	76 FR *23256-23265*
4/26/2011	90-Day Finding on a Petition to List the Smooth-Billed Ani as Threatened or Endangered	Notice of 90-day Petition Finding, Not substantial	76 FR 23265-23271

Our expeditious progress also includes work on listing actions that we funded in FY 2010 and FY 2011 but have not yet been completed to date. These actions are listed below. Actions in the top section of the table are being conducted under a deadline set by a court. Actions in the middle section of the table are being conducted to meet statutory timelines, that is, timelines required under the Act. Actions in the bottom section of the table are high-priority listing actions. These actions include work primarily on species with an LPN of 2, and, as discussed above, selection of these species is partially based on available staff resources, and when appropriate, include species with a lower priority if they overlap geographically or have the same threats as the species with the high priority. Including these species together in the same proposed rule results in considerable savings in time and funding, when compared to preparing separate proposed rules for each of them in the future.

Actions funded in FY 2010 and FY 2011 but not yet completed	
Species	**Action**
Actions Subject to Court Order/Settlement Agreement	
4 parrot species (military macaw, yellow-billed parrot, red-crowned parrot, scarlet macaw)[5]	12-month petition finding
4 parrot species (blue-headed macaw, great green macaw, grey-cheeked parakeet, hyacinth macaw)[5]	12-month petition finding
4 parrots species (crimson shining parrot,	12-month petition finding

white cockatoo, Philippine cockatoo, yellow-crested cockatoo)[5]	
Utah prairie dog (uplisting)	90-day petition finding
Actions with Statutory Deadlines	
Casey's june beetle	Final listing determination
6 Birds from Eurasia	Final listing determination
5 Bird species from Colombia and Ecuador	Final listing determination
Queen Charlotte goshawk	Final listing determination
5 species southeast fish (Cumberland darter, rush darter, yellowcheek darter, chucky madtom, and laurel dace)[4]	Final listing determination
Ozark hellbender[4]	Final listing determination
Altamaha spinymussel[3]	Final listing determination
3 Colorado plants (*Ipomopsis polyantha* (Pagosa Skyrocket), *Penstemon debilis* (Parachute Beardtongue), and *Phacelia submutica* (DeBeque Phacelia))[4]	Final listing determination
Salmon crested cockatoo	Final listing determination
6 Birds from Peru &Bolivia	Final listing determination
Loggerhead sea turtle (assist National Marine Fisheries Service)[5]	Final listing determination
2 mussels (rayed bean (LPN = 2), snuffbox No LPN)[5]	Final listing determination
CA golden trout[4]	12-month petition finding
Black-footed albatross	12-month petition finding
Mojave fringe-toed lizard[1]	12-month petition finding
Kokanee – Lake Sammamish population[1]	12-month petition finding
Cactus ferruginous pygmy-owl[1]	12-month petition finding
Northern leopard frog	12-month petition finding
Tehachapi slender salamander	12-month petition finding
Coqui Llanero	12-month petition finding/Proposed listing
Dusky tree vole	12-month petition finding
5 WY plants (*Abronia ammophila*, *Agrostis rossiae*, *Astragalus proimanthus*, *Boechere* (*Arabis*) *pusilla*, *Penstemon gibbensii*) from 206 species petition	12-month petition finding
Leatherside chub (from 206 species petition)	12-month petition finding
Frigid ambersnail (from 206 species petition)[3]	12-month petition finding
Platte River caddisfly (from 206 species petition)[5]	12-month petition finding
Gopher tortoise – eastern population	12-month petition finding
Grand Canyon scorpion (from 475 species petition)	12-month petition finding
Anacroneuria wipukupa (a stonefly from 475 species petition)[4]	12-month petition finding
3 Texas moths (*Ursia furtiva*,	12-month petition finding

Sphingicampa blanchardi, *Agapema galbina*) (from 475 species petition)	
2 Texas shiners (*Cyprinella* sp., *Cyprinella lepida*) (from 475 species petition)	12-month petition finding
3 South Arizona plants (*Erigeron piscaticus*, *Astragalus hypoxylus*, *Amoreuxia gonzalezii*) (from 475 species petition)	12-month petition finding
5 Central Texas mussel species (3 from 475 species petition)	12-month petition finding
14 parrots (foreign species)	12-month petition finding
Striped Newt[1]	12-month petition finding
Fisher – Northern Rocky Mountain Range[1]	12-month petition finding
Mohave Ground Squirrel[1]	12-month petition finding
Puerto Rico Harlequin Butterfly[3]	12-month petition finding
Western gull-billed tern	12-month petition finding
Ozark chinquapin (*Castanea pumila* var. *ozarkensis*)[4]	12-month petition finding
HI yellow-faced bees	12-month petition finding
Giant Palouse earthworm	12-month petition finding
Whitebark pine	12-month petition finding
OK grass pink (*Calopogon oklahomensis*)[1]	12-month petition finding
Ashy storm-petrel[5]	12-month petition finding
Honduran emerald	12-month petition finding
Southeastern pop snowy plover & wintering pop. of piping plover[1]	90-day petition finding
Eagle Lake trout[1]	90-day petition finding
32 Pacific Northwest mollusks species (snails and slugs)[1]	90-day petition finding
42 snail species (Nevada & Utah)	90-day petition finding
Spring Mountains checkerspot butterfly	90-day petition finding
Bay skipper	90-day petition finding
Spot-tailed earless lizard	90-day petition finding
Eastern small-footed bat	90-day petition finding
Northern long-eared bat	90-day petition finding
10 species of Great Basin butterfly	90-day petition finding
6 sand dune (scarab) beetles	90-day petition finding
Golden-winged warbler[4]	90-day petition finding
404 Southeast species	90-day petition finding
Franklin's bumble bee[4]	90-day petition finding
2 Idaho snowflies (straight snowfly & Idaho snowfly)[4]	90-day petition finding
American eel[4]	90-day petition finding
Gila monster (Utah population)[4]	90-day petition finding
Leona's little blue[4]	90-day petition finding
Aztec gilia[5]	90-day petition finding
White-tailed ptarmigan[5]	90-day petition finding

San Bernardino flying squirrel[5]	90-day petition finding
Bicknell's thrush[5]	90-day petition finding
Chimpanzee	90-day petition finding
Sonoran talussnail[5]	90-day petition finding
2 AZ Sky Island plants (*Graptopetalum bartrami* & *Pectis imberbis*)[5]	90-day petition finding
I'iwi[5]	90-day petition finding
Carolina hemlock	90-day petition finding
Western glacier stonefly (*Zapada glacier*)	90-day petition finding
Thermophilic ostracod (*Potamocypris hunteri*)	90-day petition finding
High-Priority Listing Actions	
19 Oahu candidate species[2] (16 plants, 3 damselflies) (15 with LPN = 2, 3 with LPN = 3, 1 with LPN =9)	Proposed listing
19 Maui-Nui candidate species[2] (16 plants, 3 tree snails) (14 with LPN = 2, 2 with LPN = 3, 3 with LPN = 8)	Proposed listing
Chupadera springsnail[2] (*Pyrgulopsis chupaderae* (LPN = 2)	Proposed listing
8 Gulf Coast mussels (southern kidneyshell (LPN = 2), round ebonyshell (LPN = 2), Alabama pearlshell (LPN = 2), southern sandshell (LPN = 5), fuzzy pigtoe (LPN = 5), Choctaw bean (LPN = 5), narrow pigtoe (LPN = 5), and tapered pigtoe (LPN = 11))[4]	Proposed listing
Umtanum buckwheat (LPN = 2) and white bluffs bladderpod (LPN = 9)[4]	Proposed listing
Grotto sculpin (LPN = 2)[4]	Proposed listing
2 Arkansas mussels (Neosho mucket (LPN =2) & Rabbitsfoot (LPN = 9))[4]	Proposed listing
Diamond darter (LPN = 2)[4]	Proposed listing
Gunnison sage-grouse (LPN =2)[4]	Proposed listing
Coral Pink Sand Dunes Tiger Beetle (LPN = 2)[5]	Proposed listing
Miami blue (LPN = 3)[3]	Proposed listing
Lesser prairie chicken (LPN = 2)	Proposed listing
4 Texas salamanders (Austin blind salamander (LPN = 2), Salado salamander (LPN = 2), Georgetown salamander (LPN = 8), Jollyville Plateau (LPN = 8))[3]	Proposed listing
5 SW aquatics (Gonzales Spring Snail (LPN = 2), Diamond Y springsnail (LPN =2), Phantom springsnail (LPN = 2), Phantom Cave snail (LPN = 2), Diminutive amphipod (LPN = 2))[3]	Proposed listing
2 Texas plants (Texas golden gladecress (*Leavenworthia texana*) (LPN = 2), Neches River rose-mallow (*Hibiscus*	Proposed listing

dasycalyx) (LPN = 2))[3]	
4 AZ plants (Acuna cactus (*Echinomastus erectocentrus* var. *acunensis*) (LPN = 3), Fickeisen plains cactus (*Pediocactus peeblesianus fickeiseniae*) (LPN = 3), Lemmon fleabane (*Erigeron lemmonii*) (LPN = 8), Gierisch mallow (*Sphaeralcea gierischii*) (LPN =2))[5]	Proposed listing
FL bonneted bat (LPN =2)[3]	Proposed listing
3 Southern FL plants (Florida semaphore cactus (*Consolea corallicola*) (LPN = 2), shellmound applecactus (*Harrisia* (=*Cereus*) *aboriginum* (=*gracilis*)) (LPN = 2), Cape Sable thoroughwort (*Chromolaena frustrata*) (LPN = 2))[5]	Proposed listing
21 Big Island (HI) species[5] (includes 8 candidate species – 6 plants & 2 animals; 4 with LPN = 2, 1 with LPN = 3, 1 with LPN = 4, 2 with LPN = 8)	Proposed listing
12 Puget Sound prairie species (9 subspecies of pocket gopher (*Thomomys mazama* ssp.) (LPN =3), streaked horned lark (LPN = 3), Taylor's checkerspot (LPN = 3), Mardon skipper (LPN = 8))[3]	Proposed listing
2 TN River mussels (fluted kidneyshell (LPN = 2), slabside pearlymussel (LPN = 2)[5]	Proposed listing
Jemez Mountain salamander (LPN = 2)[5]	Proposed listing

[1] Funds for listing actions for these species were provided in previous FYs.

[2] Although funds for these high-priority listing actions were provided in FY 2008 or 2009, due to the complexity of these actions and competing priorities, these actions are still being developed.

[3]Partially funded with FY 2010 funds and FY 2011 funds.

[4] Funded with FY 2010 funds.

[5]Funded with FY 2011 funds.

We have endeavored to make our listing actions as efficient and timely as possible, given the requirements of the relevant law and regulations, and constraints relating to workload and personnel. We are continually considering ways to streamline processes or achieve economies of scale, such as by batching related actions together. Given our limited budget for implementing section 4 of the Act, these actions described above collectively constitute expeditious progress.

The striped newt will be added to the list of candidate species upon publication of this 12-month finding. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures.

We intend that any proposed classification of the striped newt will be as accurate as possible. Therefore, we will continue to accept additional information and comments from all concerned governmental agencies, the scientific community, industry, or any other interested party concerning this finding.

References Cited

A complete list of references cited is available on the Internet at *http://www.regulations.gov* and upon request from the U.S. Fish and Wildlife Service, North Florida Field Office (see **ADDRESSES** section).

Authors

The primary authors of this notice are the staff members of the North Florida Field Office.

Authority

The authority for this section is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.).

Dated: May 3, 2011

Rowan W. Gould

Acting Director, Fish and Wildlife Service

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