

intention to appear may be allowed to testify at the hearing if time permits, but this determination is at the discretion of the presiding ALJ.

*Certification of the record and final determination after the informal public hearing.* Following the close of the hearing and the posthearing comment period, the ALJ will certify the record to the Assistant Secretary of Labor for Occupational Safety and Health. This record will consist of all of the written comments, oral testimony, documentary evidence, and other material received during the hearing. Following certification of the record, OSHA will review the proposed provisions in light of all the evidence received as part of the record, and then will issue the final determinations based on the entire record.

#### Authority and Signature

This document was prepared under the authority of Edwin G. Foulke, Jr., Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, pursuant to Sections 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655), Section 3704 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 *et seq.*), Secretary of Labor's Order 5-2007 (72 FR 31160), and 29 CFR part 1911.

Signed at Washington, DC, this 15th day of September 2008.

**Edwin G. Foulke, Jr.,**

*Assistant Secretary of Labor for Occupational Safety and Health.*

[FR Doc. E8-21852 Filed 9-17-08; 8:45 am]

BILLING CODE 4510-26-P

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## DEPARTMENT OF AGRICULTURE

### Forest Service

#### 36 CFR Part 294

RIN 0596-AC74

#### Special Areas; Roadless Area Conservation; Applicability to the National Forests in Colorado, Regulatory Risk Assessment

**AGENCY:** Forest Service, USDA.

**ACTION:** Proposed rule; risk assessment and request for comments.

**SUMMARY:** On July 25, 2008, the Forest Service, U.S. Department of Agriculture, proposed to establish a State-specific rule to provide management direction for conserving Colorado roadless areas (73 FR 43544). This proposed rule is estimated to have more than

\$100,000,000 of economic impact. The proposed rule would satisfy the economic impact and subject matter criteria of 7 U.S.C. 2204e and thus requires a regulatory risk assessment. The Forest Service is seeking comment on the assessment. A copy of the Regulatory Risk Assessment is available at the national roadless Web site <http://www.roadless.fs.fed.us>.

**DATES:** Comments must be received in writing by October 23, 2008.

**ADDRESSES:** Comments on the Regulatory Risk Assessment may be incorporated into comments on the proposed rule. Comments may be sent via e-mail to [COcomments@fsroadless.org](mailto:COcomments@fsroadless.org). Comments also may be submitted via the internet at <http://www.regulations.gov>. Written comments concerning this notice should be addressed to Roadless Area Conservation—Colorado, P.O. Box 162909, Sacramento, CA 95816-2909, or via facsimile to 916-456-6724. All comments, including names and addresses, when provided, are placed in the record and are available for public inspection and copying.

**FOR FURTHER INFORMATION CONTACT:** For information on the Regulatory Risk Assessment only, contact Ken Karkula at 202-205-2869. Individuals using telecommunication devices for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8 a.m. and 8 p.m. Eastern Time, Monday through Friday.

**SUPPLEMENTARY INFORMATION:** The Forest Service is proposing to establish a State-specific rule to provide management direction for conserving Colorado roadless areas. This rule is estimated to have more than \$100,000,000 of economic impact. The rule satisfies the economic impact and subject matter criteria of 7 U.S.C. 2204e and thus requires a regulatory risk assessment.

This risk assessment describes the types of risks to the environment that the proposed rule is designed to reduce, as well as discussing the likelihood that the proposed rule will reduce those risks. Examining risk at the site-specific level is not practical in this assessment therefore this risk assessment will address risks at the broader programmatic level.

The purpose of the proposed rule is to provide lasting protection, within the context of multiple-use management, for roadless areas within the National Forests in Colorado. The regulatory risk assessment assesses the degree to which the rule reduces the risk it was designed to address. In this regulatory risk assessment, the risk that the rule

addresses is the risk of not providing lasting protection, within the context of multiple-use management, to the roadless areas within the National Forests in Colorado. The provisions of the proposed rule are intended to provide lasting protection; in the absence of the rule such protection is not guaranteed, as current regulatory direction (2001 Roadless rule) continues to be litigated.

In general, all of the alternatives are expected to reduce the risk of not providing lasting protection to roadless areas in comparison to the condition where no management plans are implemented. Differences between the alternatives are based on the different levels of road construction and reconstruction, tree-cutting, and other activities discussed. Differences in the degree to which the alternatives reduce the risk of not providing lasting protection are small. Due to uncertainty over its legal status, Alternative 1 (2001 Roadless Rule) presents an increased risk of not providing lasting protection over the other two alternatives since it is unclear whether or not the rule will be modified by litigation. Alternative 2 (Proposed Colorado Roadless Rule) reduces the risk of not providing lasting protection over Alternative 3 (Forest Plans) due to the decreased amount of roading, tree-cutting, and mineral development over the amounts estimated if individual forest plans rather than a roadless rule controlled the roadless areas.

Dated: August 28, 2008.

**Charles L. Myers,**

*Associate Deputy Chief for National Forest System.*

[FR Doc. E8-21899 Filed 9-17-08; 8:45 am]

BILLING CODE 3410-11-P

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[FWS-R4-ES-2008-0082; 92210750083-B2]

RIN 1018-AU85

#### Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Reticulated Flatwoods Salamander; Proposed Designation of Critical Habitat for Frosted Flatwoods Salamander and Reticulated Flatwoods Salamander

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

**ACTION:** Proposed rule; supplemental information.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), are providing supplemental information on the proposal to split the listing under the Endangered Species Act of 1973, as amended (Act), of the currently threatened flatwoods salamander (*Ambystoma cingulatum*) into two distinct species: frosted flatwoods salamander (*Ambystoma cingulatum*) and reticulated flatwoods salamander (*Ambystoma bishopi*) due to a change in taxonomy. The frosted flatwoods salamander will maintain the status of threatened, and contained in this document is the threats analysis under section 4(a)(1) of the Act which explains this determination. We are accepting public comments from all interested parties on the proposed rule (73 FR 47258, August 13, 2008), the associated draft economic analysis, the listing status of both species, and the supplemental information we are providing in this document. If you submitted comments previously, then you do not need to resubmit them because we have already incorporated them into the public record and we will fully consider them in preparation of our final determination.

**DATES:** We will accept comments received on or before October 14, 2008.

**ADDRESSES:** You may submit comments by one of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- U.S. mail or hand-delivery: Public Comments Processing, Attn: RIN 1018-AU85; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

**FOR FURTHER INFORMATION CONTACT:** Ray Aycok, Field Supervisor, U.S. Fish and Wildlife Service, Mississippi Field Office, 6578 Dogwood View Parkway, Jackson, MS 39213; telephone: 601-321-1122; facsimile: 601-965-4340. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

#### **SUPPLEMENTARY INFORMATION:**

##### **Public Comments**

We will accept written comments and information we receive on or before the date listed in the DATES section on our proposed critical habitat designation, proposed endangered

status for reticulated flatwoods salamander, the draft economic analysis published in the **Federal Register** on August 13, 2008 (73 FR 47258), and proposed threatened status for frosted flatwoods salamander (as presented in this document). We will consider information and recommendations from all interested parties. Regarding the supplemental information we present in this document, we are particularly interested in comments concerning:

- (1) Any available information on known or suspected threats and proposed or ongoing development projects with the potential to threaten either the frosted flatwoods salamander or the reticulated flatwoods salamander or any information on the need to change the status of either species, or
- (2) The effects of potential threat factors that are the basis for a listing determination under section 4(a) of the Act, which are:

- (a) Present or threatened destruction, modification, or curtailment of the species' 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.

You may submit your comments and materials by one of the methods listed in the **ADDRESSES** section. We will not accept comments you send by e-mail or fax or to an address not listed in the **ADDRESSES** section.

We will post your entire comment—including your personal identifying information—on <http://www.regulations.gov>. If you provide personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

Comments and materials we receive, as well as supporting documentation we used in preparing the proposed rule and draft economic analysis, will be available for public inspection on <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Mississippi Field Office (see **FOR FURTHER INFORMATION CONTACT**).

##### **Background**

It is our intent to discuss only those topics directly relevant to the analysis of the five listing factors affecting the frosted flatwoods salamander. For more information on the flatwoods salamander, refer to the final listing rule published in the **Federal Register** on

April 1, 1999 (64 FR 15691) and the proposed designation of critical habitat published in the **Federal Register** on August 13, 2008 (73 FR 47258).

##### **Listing of the Frosted Flatwoods Salamander**

##### **History of the Action**

The final rule to list the flatwoods salamander (*Ambystoma cingulatum*) as threatened was published on April 1, 1999 (64 FR 15691). On August 13, 2008, we published a proposed rule to split the species into two distinct species: frosted flatwoods salamander (*Ambystoma cingulatum*) and reticulated flatwoods salamander (*Ambystoma bishopi*) due to new taxonomic information (73 FR 47258). In that proposed rule, we provided the analysis of the threats for the reticulated flatwoods salamander and our determination of its endangered status. In this document, we are publishing our analysis and determination to retain threatened status for the frosted flatwoods salamander.

##### **Species Information**

Taxonomic revision resulting from research done by Pauly *et al.* (2007, pp. 415-429) split the flatwoods salamander into two species—the frosted flatwoods salamander and the reticulated flatwoods salamander. Based on the best available information, the life-history traits and habitat use of both the frosted flatwoods salamander and the reticulated flatwoods salamander are similar to those previously described for the flatwoods salamander (64 FR 15691, April 1, 1999; 73 FR 47258, August 13, 2008). However, most of our references predate Pauly *et al.* (2007) and, therefore, do not distinguish between the two species.

Both species of flatwoods salamanders are moderately sized salamanders that are generally black to chocolate-black with fine, irregular, light gray lines and specks that form a cross-banded pattern across their backs (back pattern more net-like in the reticulated flatwoods salamander). The frosted flatwoods salamander generally tends to be larger than the reticulated flatwoods salamander. Adults are terrestrial and live underground most of the year. They breed in relatively small, isolated ephemeral ponds where the larvae develop until metamorphosis. Post-metamorphic salamanders migrate out of the ponds and into the uplands where they live until they move back to ponds to breed as adults.

Flatwoods salamanders are endemic to the lower southeastern Coastal Plain and occur in what were historically

longleaf pine-wiregrass flatwoods and savannas. The historical range of what is now considered the frosted flatwoods salamander included parts of the States of Florida, Georgia, and South Carolina. This area encompassed the lower Coastal Plain of the southeastern United States along the Gulf Coast east of the Apalachicola-Flint Rivers, across north Florida, south into north-central Florida, and north along the Atlantic Coast through coastal Georgia and South Carolina.

We have compiled 84 historical (pre-1990) records for the frosted flatwoods salamander. Twenty historical records (with supporting locality information) for the frosted flatwoods salamander are known from eight counties in Florida. Frosted flatwoods salamander breeding has been documented at only four (20 percent) of these sites since 1990. Surveys conducted since 1990 by Federal and State agency personnel, as well as private parties, have resulted in the identification of more than 50 additional frosted flatwoods salamander breeding sites, including two sites in Jefferson County, a county that previously was not known to be occupied by the salamander. Most of these new breeding sites are located on the Apalachicola and Osceola National Forests, and on St. Marks National Wildlife Refuge. Sixteen populations of the frosted flatwoods salamander are known from Baker, Franklin, Jefferson, Liberty, and Wakulla Counties in Florida.

Thirty-four historical records for the frosted flatwoods salamander are known from 20 counties in Georgia. Frosted flatwoods salamanders have not been seen again at any of these sites in recent years; however, surveys conducted since 1990 have resulted in the discovery of 23 new breeding sites. All but one of these new sites are located on the Fort Stewart Military Installation. The one additional pond was discovered on the Townsend Bombing Range. Currently, these breeding sites support six frosted flatwoods salamander populations in Bryan, Evans, Liberty, and McIntosh Counties, Georgia, all on Department of Defense lands. The frosted flatwoods salamander is assumed extirpated from 16 other counties in Georgia where it previously occurred. However, some appropriate habitat still remains on the Okefenokee National Wildlife Refuge and the potential may exist for the species to occur there.

Thirty historical records for the frosted flatwoods salamander are known from five counties in South Carolina. Since 1990, metamorphic frosted flatwoods salamanders have been

documented at six (21 percent) of these sites, and one new breeding site has been discovered. Currently, four populations of the frosted flatwoods salamander are known from Berkeley, Charleston, and Jasper Counties in South Carolina. Two populations are on private land in Jasper County: one population occurs on the Francis Marion National Forest in Berkeley County, and one population occurs on the Santee Coastal Preserve (state-owned and -managed) in Charleston County.

The combined data from all survey work completed since 1990 in Florida, Georgia, and South Carolina indicate there are 26 populations of the frosted flatwoods salamander. Some of these populations are inferred from the capture of a single individual. Twenty-three (88 percent) of the known frosted flatwoods salamander populations occur primarily on public land. Sixteen of the populations (62 percent of total populations of the species) on public land represent metapopulations supported by more than one breeding site. A single population occurs on each of the following publicly owned sites: Tate's Hell State Forest and Osceola National Forest in Florida; Townsend Bombing Range in Georgia; and Francis Marion National Forest and Santee Coastal Reserve in South Carolina. In Florida, habitat on Apalachicola National Forest supports 10 populations and on St. Marks National Wildlife Refuge supports 2 populations. In Georgia, five populations occur on Fort Stewart Military Installation. Three (12 percent) frosted flatwoods salamander populations are solely on private land.

#### **Summary of Factors Affecting the Species (Frosted Flatwoods Salamander)**

Section 4 of the Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1) of the Act. The original listing rule for the flatwoods salamander (64 FR 15691; April 1, 1999) contained a discussion of these five factors. Only those factors relevant to the frosted flatwoods salamander (*Ambystoma cingulatum* Cope, 1867) are described below:

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

The major historical threat to the frosted flatwoods salamander was loss of both its longleaf pine-slash pine flatwoods terrestrial habitat and its isolated, seasonally ponded breeding habitat. The combined pine flatwoods (longleaf pine-wiregrass flatwoods and slash pine flatwoods) historical area was approximately 32 million acres (ac) (12.8 million hectares (ha)) (Outcalt 1997, p. 4). This area has been reduced to 5.6 million ac (2.27 million ha) or approximately 18 percent of its original extent (Outcalt 1997, p. 4). These remaining pine flatwoods (non-plantation forests) areas are typically fragmented, degraded, second-growth forests (Outcalt 1997, p. 6). Conversion of pine flatwoods to intensively managed (use of heavy mechanical site preparation, high stocking rates, low fire frequencies) slash or loblolly plantations often resulted in degradation of flatwoods salamander habitat by creating well-shaded, closed-canopied forests with an understory dominated by shrubs or pine needles (Outcalt 1997, pp. 4-6; Palis 1997, pp. 61-63). Disturbance-sensitive groundcover species, such as wiregrass (*Aristida stricta* [= *A. beyrichiana*] Kesler *et al.* 2003, p. 9), dropseed (*Sporobolus* spp.), and perennial forbs were either greatly reduced in extent or were replaced by weedy pioneering species (Moore *et al.* 1982, p. 216; Outcalt and Lewis 1988, pp. 1-12; Hardin and White 1989, pp. 243-244). Flatwoods salamanders are unlikely to persist in uplands with a disturbed, wiregrass-depauperate groundcover (Palis 1997, p. 63).

Degradation of the remaining frosted flatwoods salamander habitat is a current, ongoing threat. Forest management that includes intensive site preparation may adversely affect flatwoods salamanders directly and indirectly (Means *et al.* 1996, p. 426). Bedding (a technique in which a small ridge of surface soil is elevated as a planting bed) alters the surface soil layers, disrupts the site hydrology, and often eliminates the native herbaceous groundcover. This can have a cascading effect of reducing the invertebrate community that serves as a food source for flatwoods salamander adults. Post-larval and adult flatwoods salamanders occupy upland flatwoods sites where they live underground in crayfish burrows, root channels, or burrows of their own making (Goin 1950, p. 311; Neill 1951, p. 765; Mount 1975, pp. 98-99; Ashton and Ashton 2005, pp. 63, 65,

68-71). The occurrence of these underground habitats is dependent upon protection of the soil structure. Intensive site preparation destroys the subterranean voids and may result in entombing, injuring, or crushing individuals.

Ecologists consider fire suppression the primary reason for the degradation of remaining longleaf pine forest habitat. The disruption of the natural fire cycle has resulted in an increase in slash and loblolly pine on sites formerly dominated by longleaf pine, an increase in hardwood understory, and a decrease in herbaceous ground cover (Wolfe *et al.* 1988, p. 132). Although frosted flatwoods salamanders have been found at sites with predominately loblolly or slash pine, the long-term viability of populations at these sites is unknown. In addition, ponds surrounded by pine plantations and protected from the natural fire regime may become unsuitable as frosted flatwoods salamander breeding sites due to canopy closure and the resultant reduction in emergent herbaceous vegetation needed for egg deposition and larval development sites (Palis 1997, p. 62). Lack of fire may result in the development of a thick shrub zone, making it physically difficult or impossible for adult salamanders to enter the breeding ponds (Ripley and Printiss 2005, pp. 1-2, 11).

Alterations of the longleaf pine ecosystem, as a result of incompatible forest practices, have caused the historic loss of most of the original frosted flatwoods salamander habitat. Although conversion of native pine flatwoods to plantation forests is not considered a significant threat at this time, most of the historic extirpation of frosted flatwoods populations in Florida, Georgia, and South Carolina over the last six decades resulted from habitat degradation on lands managed for timber extraction.

Land use conversions to housing, other development projects, and agriculture eliminated large areas of pine flatwoods in the past (Schultz 1983, pp. 24-47; Stout and Marion 1993, pp. 422-429; Outcalt and Sheffield 1996, pp. 1-5; Outcalt 1997, pp. 1-6). Residential development and conversion to agriculture have resulted in the historical loss of one frosted flatwoods salamander population each from Ben Hill, Berrien, Brooks, Effingham, Emanuel, and Irwin Counties, Georgia (Seyle 1994, pp. 4-5); an additional site has been degraded in Orangeburg County, South Carolina, and is not currently occupied (LaClaire 1995). State forest inventories completed between 1989 and 1995

indicated that flatwoods losses through land use conversion were still occurring (Outcalt 1997, pp. 3-6); however further conversions are likely to impact only the three populations that remain on private lands.

In addition to the loss of upland forested habitat, the number and diversity of small wetlands where frosted flatwoods salamanders breed have been substantially reduced. Threats to breeding sites include alterations in hydrology, agricultural and urban development, road construction, incompatible silvicultural practices, shrub encroachment, dumping in or filling of ponds, conversion of wetlands to fish ponds, domestic animal grazing, soil disturbance, and fire suppression (Vickers *et al.* 1985, pp. 22-26; Palis 1997, p. 58; Ashton and Ashton 2005, p. 72). Hydrological alterations, such as those resulting from ditches created to drain flatwoods sites or fire breaks and plow lines, represent one of the most serious threats to frosted flatwoods salamander breeding sites. Lowered water levels and shortened hydroperiods at these sites may prevent successful flatwoods salamander recruitment because larval salamanders require 11 to 18 weeks to reach metamorphosis and leave the ponds (Palis 1995, p. 352).

U.S. Geological Survey has documented multiple drought periods in the southeastern United States since the 1890s (USGS Open File Report 00-380, p. 1). Among significant periods documented in the last three decades are: 1980-1982, 1984-1988, 1998-2000 (USGS Water Supply Paper 2375), and currently from 2006-2008. Although drought is a naturally occurring condition, it presents additional complications for a species like the frosted flatwoods salamander, which has been extirpated from most of its historic range. Palis *et al.* (2006, p. 5-6) conducted a study in Florida on a population of the frosted flatwoods salamander during a drought from 1999-2002. This study found 3 consecutive years of reproductive failure and a steadily declining adult immigration to breed at the site as the drought progressed. Taylor *et al.* (2005, p. 792) noted that wide variation in reproductive success is common among pond-breeding amphibians that depend on seasonal filling of these areas, but that adult persistence may buffer against fluctuations in that success, particularly for species that are long-lived.

Although Palis *et al.* (2006) suggested that the flatwoods salamander may only live about 4 years (based on captive animals), we are currently unsure of the

exact life span of wild individuals. Because of this, it is difficult to predict how long adults could persist in the landscape without a successful breeding event to replenish the population. However, Taylor *et al.* (2005, pp. 792, 796) constructed a model to look at how many years of reproductive failure would be required to result in local extinction of pond-breeding salamanders (with varying life spans) and found that even without total reproductive failure, populations required moderate to high upland post-metamorphic survival to persist. In the model, catastrophic failure created fluctuations in the population, raised the threshold of survival required to achieve persistence, and imposed the possibility of extinction even under otherwise favorable environmental conditions. Reproductive failure for this species was closely tied to hydrologic conditions; insufficient or short hydroperiod was the primary cause for complete failure. In addition, early filling of the ponds could also facilitate the establishment of invertebrate or vertebrate predators before the salamander eggs hatched (Taylor *et al.*, p. 796). Palis *et al.* (2006, p. 6-7) discussed the necessity of protecting clusters of flatwoods salamander breeding sites, especially those with different hydrologic regimes, to guard against population declines at any one breeding site resulting from stochastic events, such as droughts (Palis 2006, p. 7). Currently, 16 populations of the frosted flatwoods salamander that occur on public land are supported by multiple breeding sites.

Habitat fragmentation of the longleaf pine ecosystem resulting from habitat conversion is primarily a historical threat to the frosted flatwoods salamander. Large tracts of intact longleaf pine flatwoods habitat are fragmented by pine plantations, roads, and unsuitable habitat. Although the threat of ongoing habitat fragmentation has slowed, the effect of past habitat loss is that many frosted flatwoods salamander populations are widely separated from each other by unsuitable habitat. This has been verified through recent reviews of aerial photography and site visits to localities of historical and current records for the species. Studies have shown that the loss of fragmented populations is common, and recolonization is critical for their regional survival (Fahrig and Merriam 1994, pp. 50-56; Burkey 1995, pp. 527-540). Amphibian populations may be unable to recolonize areas after local extirpations due to their physiological constraints, relatively low mobility, and

site fidelity (Blaustein *et al.* 1994, pp. 60, 67-68). In the case of the frosted flatwoods salamander, 38 percent of populations have only one breeding pond. If the habitat at that site is destroyed, recolonization would be impossible (see further discussion of metapopulation dynamics under Factor E).

Roads have contributed to habitat fragmentation by isolating blocks of remaining contiguous habitat. Roads disrupt migration routes and dispersal of individuals to and from breeding sites. Road construction can result in destruction of breeding ponds, as described above. In addition, vehicles may also cause the death of frosted flatwoods salamanders when they are attempting to cross roads (Means 1996, p. 2). Highway construction and associated development resulted in the destruction of a historic frosted flatwoods salamander breeding pond in Chatham County, Georgia (Seyle 1994, pp. 3-4).

Off-road vehicle (ORV) use within frosted flatwoods salamander breeding ponds and their margins severely degrades the wetland habitat. In the Southeast, ORV use impacts habitat used by frosted flatwoods salamanders, has the potential to cause direct mortality of individual salamanders, and is a threat on both public and private land. On public lands, areas may be designated as off-limits to ORV use (U.S. Forest Service 2007, p. 19), but these restrictions are difficult to enforce. Even a single afternoon of individuals riding their ORVs in a pond can completely destroy the integrity of breeding sites by damaging or killing the herbaceous vegetation and rutting the substrate (Ripley and Printiss 2005, pp. 11-12). There is also the potential for direct injury or mortality of salamanders by ORVs at breeding sites (Ripley and Printiss 2005, p. 12).

In summary, the loss of habitat was a significant historical threat to the frosted flatwoods salamander. This range-wide loss of both upland and wetland habitat occurred primarily due to conversion of flatwoods sites to agriculture, residential development, and intensively managed pine plantations. This historic loss of habitat is presently compounded by current environmental conditions (drought), proposed projects on private land that do not require U.S. Army Corps of Engineers (Corps) permits, under the Clean Water Act (33 U.S.C. 1251 *et seq.*), and the nature of pond-breeding salamanders to undergo periodic reproductive failure. We consider this threat to be primarily a past and future threat of moderate magnitude because

most of the remaining occupied habitat of this species occurs on public lands that are managed to support the native longleaf pine ecosystem. However, 12 percent of frosted flatwoods salamander populations are on private land where habitat continues to be degraded by fire suppression and incompatible management. If the remaining frosted flatwoods salamander habitat on public land continues to be protected from fire suppression and other incompatible forest management practices, road construction, and additional habitat fragmentation, the threat of habitat loss is expected to be limited. Localized threats on private lands would include loss or alteration of habitat from agriculture, residential development, road construction, incompatible forest management, ORVs, fire suppression, and ditching or draining wetland breeding sites. As a result, we have determined that the present or threatened destruction, modification, or curtailment of frosted flatwoods salamander habitat and range represents a moderate but significant threat to the species.

#### *B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

Overutilization does not appear to be a threat to the frosted flatwoods salamander at this time. There is no evidence of a past or current problem with collection of this species. Consequently, we have determined that overutilization for commercial, recreational, scientific, or educational purposes is not a threat to the frosted flatwoods salamander at this time.

#### *C. Disease or Predation*

Although disease has not been specifically documented in the frosted flatwoods salamander thus far, disease outbreaks with mass mortality in other species of salamanders indicate that disease may be a threat for this species as well (Daszak *et al.* 1999, p. 736). "Red-leg" disease (*Aeromonas hydrophila*), a pathogen bacterium, caused mortality of mole salamanders (*A. talpoideum*) at the breeding pond of the closely related reticulated flatwoods salamander in Miller County, Georgia (Maerz 2006), and reticulated flatwoods salamanders have not been observed at this site since the disease was reported. Whiles *et al.* (2004, p. 211) found a parasitic nematode (*Hedruris siredonis*, family Hedruridae) in larvae of the frosted flatwoods salamander from South Carolina and Florida. This parasite has been found in other ambystomatids and can cause individuals to become undersized and

thin, thus reducing their fitness (Whiles *et al.* 2004, p. 212). The infestations were not considered heavy and were probably not having a negative impact on the larvae studied; however, environmental degradation may change the dynamics between salamander populations and normally innocuous parasites (Whiles *et al.* 2004, p. 212). Ranaviruses in the family Iridoviridae and chytrid fungus may be other potential threats, although the susceptibility of the frosted flatwoods salamander to these diseases is unknown. Ranaviruses have been responsible for die-offs of tiger salamanders throughout western North America and spotted salamanders (*A. maculatum*) in Maine (Daszak *et al.* 1999, p. 736). Chytrid fungus has been discovered and associated with mass mortality in tiger salamanders in southern Arizona and California, and the Santa Cruz long-toed salamander (*A. macrodactylum croceum*) (Vredenburg and Summers 2001, p. 151; Davidson *et al.* 2003, p. 601; Padgett-Flohr and Longcore 2005, p. 50). Chytrid has been found at Fort Stewart Military Installation in Georgia, a locality where the frosted flatwoods salamander occurs (Mitchell 2002, p. 191-202). This disease has negatively impacted populations of other ambystomatid salamanders (*A. macrodactylum croceum*) (Vredenburg and Summers 2001; Davidson *et al.* 2003; Padgett-Flohr and Longcore 2005), and it is likely to negatively impact frosted flatwoods salamander populations as well. This discussion of disease in other species of closely related salamanders indicates the potential existence of similar threats to frosted flatwoods salamander populations.

Exposure to increased predation by fish is a threat to the frosted flatwoods salamander when isolated, seasonally ponded wetland breeding sites are changed to or connected to more permanent wetlands inhabited by fish species not typically found in temporary ponds. Studies of other ambystomatid species have demonstrated a decline in larval survival in the presence of predatory fish (Semlitsch 1987, p. 481). Ponds may be modified specifically to serve as fish ponds or sites may be altered because of drainage ditches, firebreaks, or vehicle tracks that can all provide avenues for fish to enter the wetlands.

Red imported fire ants (*Solenopsis invicta*) are potential predators of flatwoods salamanders, especially in disturbed areas. They have been seen in areas disturbed by the installation of drift fences at known frosted flatwoods salamander breeding sites (Palis 2008).

Mortality of amphibians trapped at drift fences has occurred when fire ants were present and traps were not monitored with sufficient frequency (NCASI 2002, p. 6). The severity and magnitude of effects, as well as the long-term effect, of fire ants on frosted flatwoods salamander populations are currently unknown.

In summary, diseases of amphibians in the southeastern United States remain largely unstudied. However, given the incidence of disease in species that could be considered surrogates for the frosted flatwoods salamander, the probability exists for similar infections to occur in frosted flatwoods salamander populations. We consider this to be a potential threat of low magnitude. Predation by fish is a historic threat that continues to be a localized problem when ditches, firebreaks, or vehicle ruts provide connections allowing the movement of fish from permanent water bodies into frosted flatwoods salamander breeding sites. Fire ants also have the potential of being a localized threat, particularly in disturbed areas. We consider these threats to be potential threats of low magnitude because 88 percent of frosted flatwoods salamander populations occur primarily on public lands where they are relatively protected.

#### D. The Inadequacy of Existing Regulatory Mechanisms

There are no existing regulatory mechanisms for the protection of the upland habitats where frosted flatwoods salamanders spend most of their lives. Section 404 of the Clean Water Act is the primary Federal law that has the potential to provide some protection for the wetland breeding sites of the frosted flatwoods salamander. However, due to recent case law (*Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers* 531 U.S. 159 (2001); *Rapanos v. U.S.* 547 U.S. 715 (2006)), isolated wetlands are no longer considered to be under Federal jurisdiction (not regulatory wetlands). Wetlands are only considered to be under the jurisdiction of the Corps if a "significant nexus" exists to a navigable waterway or its tributaries. Currently, some Corps Districts do not coordinate with us on flatwoods salamanders and, since isolated wetlands are not considered under their jurisdiction, they are often not included on maps in permit applications (Brooks 2008). However, since most remaining frosted flatwoods salamander populations are on public land, which is unlikely to be developed, we do not consider this to be a significant threat.

Longleaf pine habitat management plans have been written for public lands occupied by the frosted flatwoods salamander. They include management plans for State-owned lands and integrated natural resource management plans (INRMPs) for Department of Defense lands. Most of the plans contain specific goals and objectives regarding habitat management, including prescribed burning, that would benefit frosted flatwoods salamanders. Multiple-use is the guiding principle on most of these public lands, however, and protection of the frosted flatwoods salamander may be just one of many management goals including timber production and military and recreational use.

At the State and local levels, regulatory mechanisms are limited. The flatwoods salamander is listed as a threatened species in the State of Georgia (Jensen 1999, pp. 92-93). This designation protects the species by preventing its sale, purchase, or possession in Georgia and by prohibiting actions that cause direct mortality of the species or the destruction of its habitat on lands owned by the State of Georgia (Ozier 2008). However, there are no known frosted flatwoods salamander populations on lands owned by the State of Georgia. In 2001, the Florida Fish and Wildlife Conservation Commission (FFWCC) listed the flatwoods salamander (which includes the frosted flatwoods salamander) as a species of special concern (FFWCC 2007, p. 2) and prohibited direct take except through permit. As part of the listing process, a Statewide management plan was developed for the salamander in Florida (FFWCC 2001, p. 1-60). This plan sets an ambitious conservation goal of maintaining at least 129 self-sustaining populations of flatwoods salamanders (which includes both frosted and reticulated flatwoods salamander species) in Florida. The plan also outlines a monitoring plan for population status assessment, an implementation strategy for the management of populations, and areas for future research. However, Florida regulations offer no protection against the most significant threat to the frosted flatwoods salamander—loss of habitat.

In summary, although existing regulatory mechanisms provide little direct protection of frosted flatwoods salamanders (beyond the protections afforded by the Act), they do provide a degree of protection for the remaining occupied habitat, primarily on public lands. The record of management on public lands since the original listing of the flatwoods salamander in 1999

indicates that public agencies are actively pursuing longleaf pine ecosystem management programs that benefit the frosted flatwoods salamander. Frosted flatwoods salamander breeding sites on the three private land sites may, in some cases, come under the jurisdiction of the Corps, but most likely they are provided little regulatory protection. We have determined that the threat of inadequate existing regulatory mechanisms is primarily an ongoing threat of moderate magnitude.

#### E. Other Natural or Manmade Factors Affecting Its Continued Existence

Metapopulations, which are neighboring local populations close enough to one another that dispersing individuals could be exchanged (gene flow) at least once per generation, are important to the long-term survival of temporary pond breeding amphibians. In these species, such as the frosted flatwoods salamander, breeding ponds may differ in the frequency of their ability to support amphibian reproduction. As a result, extirpation and colonization rates can be a function of pond spatial arrangement as well as local habitat quality (Marsh and Trenham 2001, p. 41). Of the 26 known frosted flatwoods salamanders populations, 16 (62 percent) are supported by more than one breeding pond and may be considered metapopulations. However, for 12 percent (3 out of 26) of the known frosted flatwoods salamander populations, any one of the many threats that may render a breeding pond unsuitable could cause the extirpation of the affected population.

Invasive plant species, such as cogongrass (*Imperata cylindrica*), threaten to further degrade existing flatwoods habitat. Cogongrass, a perennial grass native to Southeast Asia, is one of the leading threats to the ecological integrity of native herbaceous flora, including that in the longleaf pine ecosystem (Jose *et al.* 2002, p. 43). Cogongrass can displace most of the existing vegetation except large trees. Especially threatening to the frosted flatwoods salamander is the ability of cogongrass to outcompete wiregrass, a key vegetative component of flatwoods salamander habitat. Changing the species composition in this way can alter the soil chemistry, nutrient cycling, and hydrology of an infested site (Jose *et al.* 2002, p. 43). Frosted flatwoods salamander habitat management plans will need to address threats posed by cogongrass and other invasive plant species and include strategies to control them. An integrated

management approach to controlling cogongrass is outlined in Jose *et al.* (2002, p. 42).

Pesticides (including herbicides) may pose a threat to amphibians, such as the frosted flatwoods salamander, whose permeable eggs and skin readily absorb substances from the surrounding aquatic or terrestrial environment (Duellman and Trueb 1986, pp. 199-200). Negative effects that commonly used pesticides and herbicides may have on amphibians include delayed metamorphosis, paralysis, reduced growth rate, and mortality (Bishop 1992, pp. 67-69). Herbicides used near frosted flatwoods salamander breeding ponds may alter the density and species composition of vegetation surrounding a breeding site and reduce the number of potential sites for egg deposition, larval development, or shelter for migrating salamanders. Aerial spraying of herbicides over outdoor pond mesocosms (semi-field approximations of ponds) has been shown to reduce zooplankton diversity, a food source for larval frosted flatwoods salamanders, and cause very high (68 to 100 percent) mortality in tadpoles and juvenile frogs (Relyea 2005, pp. 618-626). The potential for negative effects from pesticide and herbicide use in areas adjacent to breeding ponds would be reduced by avoiding aerial spraying (Tatum 2004, p. 1047).

Studies of other ambystomatid species have demonstrated a decline in larval survival in the presence of predatory fish, as mentioned above under Factor C. One of the potential reasons for this decline may be the negative effect that these fish have on the invertebrate prey of salamander larvae. The invertebrates found by Whiles *et al.* (2004, p. 212) in a study of larval frosted and reticulated flatwoods salamander gut contents are typical of freshwater habitats in the Southeast that do not contain predatory fish on a regular basis. The presence of predatory fish has a marked effect on invertebrate communities and alters prey availability for larval salamanders with the potential for negative effects on larval fitness and survival (Semlitsch 1987, p. 481). Wherever connections have been created between permanent water and frosted flatwoods salamander ponds, through installation of firebreaks, ditches, and so on, this threat from predatory fish exists.

Studies of frosted flatwoods salamander populations since the original species classification of flatwoods salamander was listed (64 FR 15691; April 1, 1999) have been limited due to drought. Data on the numbers of adults within existing populations does not exist. However, given the low

number of individuals encountered even when breeding is verified, populations are likely to be very small at any given breeding site. Small populations are at increased threat of extirpation from natural processes (genetic isolation, inbreeding depression, and drought), as well as the manmade threats described above.

In summary, a variety of natural or manmade factors historically or currently threaten, or have the potential to threaten, the frosted flatwoods salamander. The loss of metapopulation structure in the distribution of frosted flatwoods salamander populations was a range-wide threat that caused historic losses of this species. It continues to be a current threat for 38 percent of the remaining frosted flatwoods salamander populations. Fire suppression and inadequate habitat management continue to cause the degradation of occupied sites, primarily on private land. Invasive plant species probably did not have much of a historic impact on salamander populations, but they are a range-wide potential threat, especially as they become more widespread and difficult to control. Rangewide, low population densities have been a historic threat and continue to be a threat for most frosted flatwoods salamander populations, particularly due to past and current drought conditions, habitat loss, population fragmentation, and periodic reproductive failures that occur naturally in pond-breeding amphibians. The impact that competing predators may have on the salamanders' prey base, and the threat of pesticide and herbicide use, are less clear as historic threats but remain potential localized threats for the species. Therefore, while we have determined that other natural and manmade factors, such as invasive species, pesticides, and competition for the species' prey base, may threaten the frosted flatwoods salamander, the severity and magnitude of these threats are not currently known. Acting in combination with threats listed above under Factors A through D, the threats under Factor E could increase the severity of the other threats.

#### Determination

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the frosted flatwoods salamander. In summary, the most significant historical threat to the frosted flatwoods salamander, as listed in Factor A (above), is loss of the majority of its habitat. A variety of localized threats (described under Factors A, C, D, and E) have the

potential to impact the remaining frosted flatwoods salamander habitat. These include alterations in the hydrology of existing wetland breeding sites, incompatible forest management, ORV use, fire suppression, drought, and disease, but the severity and magnitude of these threats are not currently known. As described in Factor E above, small populations are at increased threat of extirpation from natural processes (genetic isolation, inbreeding depression, and drought), as well as the manmade threats listed above. Finally, there are potential localized threats from fire ants, pesticides, and invasive plants for which the extent of impact is yet undeterminable, but that we believe are legitimate threats due to both their impact on surrogate species and their prevalence in the types of habitats used by this species.

Only 26 frosted flatwoods salamander populations are known. Ten (38 percent) of these populations are supported by only one breeding site. A population with only one breeding site has a tenuous future just given randomly varying environmental factors without considering the additional threats of habitat destruction and degradation that further threaten these populations.

As noted previously, we are currently experiencing drought conditions. Palis *et al.* (2006, pp. 5-6) studied a frosted flatwoods population in Florida during a drought from 1999-2002. This study documented 3 consecutive years of reproductive failure and a steady declining adult immigration to the site for breeding as the drought progressed.

Catastrophic reproductive failure occurs even in healthy populations of pond-breeding amphibians. When it does occur, the modeling efforts of Taylor *et al.* (2005, p. 796) showed that each year of reproductive failure raises the threshold of survival required to achieve persistence and imposes the possibility of extirpation even under otherwise favorable environmental conditions. Taylor *et al.* (2005, p. 799) reminds us that particularly with small populations or low population growth rates (as exists with the frosted flatwoods salamander) effects of reproductive failure are made worse by demographic stochasticity. Even in populations with multiple breeding ponds, amphibian populations may be unable to recolonize areas after local extirpations due to their physiological constraints, relatively low mobility, and site fidelity (Blaustein *et al.* 1994, pp. 60, 67-68).

For frosted flatwoods salamander, 38 percent of populations have only one breeding pond. If the habitat at that site

is destroyed, recolonization would be impossible and the population supported by that breeding pond would be extirpated.

Habitat loss on private lands is an imminent threat that is compounded by a variety of other factors. Fire suppression on private lands occupied by the frosted flatwoods salamander represents one of the biggest threats to the species' habitat and the continued existence of the species on these sites. However, 62 percent of frosted flatwoods salamander populations have an improved chance of surviving demographic and environmental stochasticity given that the distribution of breeding sites occurs within an adult salamander's dispersal distance.

We believe that, when combining the effects of historical, current, and projected habitat loss and degradation, historical and ongoing drought, and the exacerbating effects of disease, predation, small population size, and isolation, the frosted flatwoods salamander continues to be likely to become an endangered species throughout all of its range within the foreseeable future. We believe these threats, particularly the threats to populations resulting from habitat degradation and fragmentation, small population size, and drought, are current and are projected to continue into the future. We have determined that these threats are operating on the species and its habitat with a moderate degree of magnitude throughout most of its range and with a moderate degree of severity, as discussed above.

Based on the best available scientific and commercial information, we have determined that the preferred action is for the frosted flatwoods salamander to retain its status as a threatened species under the Act. Without the protection of the Act, significant management of threats would likely occur on public lands; however, there is still substantial risk of loss of ponds to drought and disease and, on private lands, a variety of potential threats (for example, introduction of fish, predation, pesticides), and development. As discussed previously, declines resulting from drought can occur within only a few years. In the case of the frosted flatwoods salamander, 38 percent of populations have only one breeding pond. If the habitat at that site is destroyed, recolonization would be impossible and the population supported by that breeding pond would be extirpated. This could occur within a few years given recurring drought conditions and existing threats. While not in immediate danger of extinction, the frosted flatwoods salamander is

likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range if the present trends that negatively affect the species, and its limited and restricted habitat, continue. Furthermore, because these threats to the species are of comparable magnitude and severity across all of the species' range, we have determined that an analysis of whether a specific portion of the range might require a different listing status is not warranted at this time.

#### Available Conservation Measures

For additional information on available conservation measures, please refer to the proposed rule published in the **Federal Register** on August 13, 2008 (73 FR 47258).

#### References Cited

A complete list of all references cited in this document is available upon request from the Field Supervisor Ray Aycock, Mississippi Field Office (see **FOR FURTHER INFORMATION CONTACT**).

#### Author(s)

The primary authors of this package are the staff of the Mississippi Field Office (see **FOR FURTHER INFORMATION CONTACT**).

#### Authority

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

Dated: September 5, 2008.

#### Lyle Laverty,

*Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. E8-21878 Filed 9-17-08; 8:45 am]

**BILLING CODE 4310-55-S**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 600

[Docket No. 0808041047-81182-01]

RIN 0648-AW62

#### Magnuson-Stevens Act Provisions; Scientific and Statistical Committees; Peer Review; National Standard Guidelines

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

**ACTION:** Advanced notice of proposed rulemaking; request for comments.

**SUMMARY:** NMFS announces that it is considering, and is seeking public

comment on proposed rulemaking to revise National Standard 2 (NS2) guidelines regarding use of best scientific information available, in light of reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). NMFS is considering modifying the language describing the content and purpose of the Stock Assessment and Fishery Evaluation (SAFE) Report or related documents, and adding language regarding peer review processes, the role of the scientific and statistical committees (SSCs) of the Regional Fishery Management Councils (Councils), and the relationship between peer reviews and SSCs.

**DATES:** Written comments must be received on or before 5 p.m., local time, December 17, 2008.

**ADDRESSES:** You may submit comments, identified by 0648-AW62, by any one of the following methods:

- Electronic Submissions: Submit all electronic public comments via the Federal eRulemaking Portal <http://www.regulations.gov>.

- Fax: Attn: William Michaels 301-713-1875.

- Mail: William Michaels, NOAA Fisheries Service, Office of Science and Technology, 1315 East-West Highway, F/ST4, Silver Spring, MD 20910.

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

NMFS will accept anonymous comments. Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

**FOR FURTHER INFORMATION CONTACT:** Bill Michaels, 301-713-2363 x136.

**SUPPLEMENTARY INFORMATION:** On January 12, 2007, the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSRA) was signed into law. The MSRA amendments to the Magnuson-Stevens Act included provisions to improve the use of science in decision-making, provide for a stronger role for Councils' SSCs and enhance peer review processes.

Currently, the NS2 guidelines address the use of best scientific information available to support fishery management actions, prescribe the content and purpose of SAFE reports or similar