

Facility data	Emissions data
	Start Date End Date

More information on these NEI data fields can be found in the NEI documentation at <http://www.epa.gov/ttn/chief/net/2002inventory.html#documentation>.

#### VII. How do I submit suggested data corrections?

The source category-specific ANPRM data sets are available for download on the RTR Web page at <http://www.epa.gov/ttn/atw/rrisk/rtrpg.html>. To suggest revisions to this information, we request that you complete the following steps:

1. Download the Microsoft® Access file containing the ANPRM data set for a source category.

2. Within this downloaded file, enter suggested revisions in the data fields appropriate for that information. The data fields that may be revised include the following:

Facility data	Emissions data
REVISED Tribal Code REVISED County Name REVISED Facility Name REVISED Location Address REVISED City Name REVISED State Name REVISED Zip Code REVISED Facility Registry REVISED State Facility REVISED Facility Category	REVISED Emissions (TPY) REVISED MACT Code REVISED SCC Code REVISED Emission Release Point REVISED Stack Height REVISED Exit Gas Temperature REVISED Stack Diameter REVISED Exit Gas Velocity REVISED Exit Gas Flow Rate REVISED Longitude REVISED Latitude REVISED HAP Emissions

3. Fill in the following commenter information fields for each suggested revision:

- Commenter Name.
- Commenter E-Mail Address.
- Commenter Phone Number.
- Revision Comments.

4. Gather documentation for any suggested emissions revisions (e.g., performance test reports, material balance calculations, etc.).

5. Send the entire downloaded file with suggested revisions in Microsoft® Access format and all accompanying documentation to the docket for this ANPRM (through one of the methods described in the **ADDRESSES** section of this ANPRM). To help speed review of the revisions, it would also be helpful to submit the suggestions to EPA directly at [RTR@epa.gov](mailto:RTR@epa.gov).

6. If you are providing comments on a facility with multiple source categories, you need only submit one file for that facility, which should contain all suggested changes for all source categories at that facility.

We strongly urge that all data revision comments be submitted in the form of updated Microsoft® Access files, which are provided on the <http://www.epa.gov/ttn/atw/rrisk/rtrpg.html> Web page. Data in the form of written descriptions or other electronic file formats will be difficult for EPA to translate into the necessary format in a timely manner. Additionally, placing the burden on

EPA to interpret data submitted in other formats increases the possibility of misinterpretation or errors.

#### VIII. What additional steps are expected after EPA reviews the comments received?

Once EPA receives comments on the Group 2 emissions and emissions release data, we plan to revise the ANPRM data sets based upon public comment and supporting documentation, model with the new data, and proceed with proposing and promulgating residual risk and technology review standards as appropriate. More detail of this process is provided in sections C, D, and E of section II of this ANPRM.

#### List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances.

Dated: March 23, 2007.

**Stephen L. Johnson,**

*Administrator.*

[FR Doc. E7-5805 Filed 3-28-07; 8:45 am]

**BILLING CODE 6560-50-P**

## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

#### Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List the Siskiyou Mountains Salamander and Scott Bar Salamander as Threatened or Endangered

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

**ACTION:** Notice of 90-day petition finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the Siskiyou Mountains salamander (*Plethodon stormi*) and Scott Bar salamander (*Plethodon asupak*) as threatened or endangered, under the Endangered Species Act of 1973, as amended (Act). We find that the petition presents substantial scientific or commercial information indicating that listing these species may be warranted. Therefore, with the publication of this notice, we are initiating status reviews of these species, and we will issue a 12-month finding to determine if the petitioned action is warranted. To ensure that the status review of the Siskiyou Mountains and Scott Bar salamanders is comprehensive, we are soliciting scientific and commercial data

regarding these species. A determination on critical habitat will be made if and when a listing action is initiated for these species.

**DATES:** The finding announced in this document was made on March 29, 2007. To be considered in the 12-month finding for this petition, comments and information should be submitted to us by May 29, 2007.

**ADDRESSES:** The complete file for this finding is available for public inspection, by appointment, during normal business hours at the Yreka Fish and Wildlife Office, U.S. Fish and Wildlife Service, 1829 S. Oregon Street, Yreka, CA 96097. Submit new information, materials, comments, or questions concerning these species to us at the address above or via electronic mail at [Siskiyou\\_salamander@fws.gov](mailto:Siskiyou_salamander@fws.gov).

**FOR FURTHER INFORMATION CONTACT:** Phil Detrich, Field Supervisor, Yreka Fish and Wildlife Office (see **ADDRESSES**), or at (530) 842-5763. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800-877-8339.

#### **SUPPLEMENTARY INFORMATION:**

##### **Public Information Solicited**

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

Please note that comments merely stating support or opposition to the actions under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is a threatened or endangered species shall be made "solely on the basis of the best scientific and commercial data available." At the

conclusion of the status review, we will issue the 12-month finding on the petition, as provided in section 4(b)(3)(B) of the Act (16 U.S.C. 1531 et seq.).

If we determine that listing either the Siskiyou Mountains salamander or Scott Bar salamander is warranted, it is our intent to propose critical habitat to the maximum extent prudent and determinable at the time we would propose to list the species. Therefore, with regard to areas within the geographical area currently occupied by the species we also request data and information on what may constitute physical or biological features essential to the conservation of either species, where these features are currently found, and whether any of these features may require special management considerations or protection. In addition, we request data and information regarding whether there are areas outside of the geographical area occupied by the species, which are essential to the conservation of either species. Please provide specific comments as to what, if any, critical habitat should be proposed for designation, if either species is proposed for listing, and why that proposed habitat meets the requirements of the Act.

If you wish to comment or provide information, you may submit your comments and materials concerning this finding to the Field Supervisor (see **ADDRESSES**) by the date listing in the **DATES** section.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the address listed in the **ADDRESSES** section.

##### **Background**

Section 4(b)(3)(A) of the Act requires that the Service make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. The finding is based on information contained in the petition and information otherwise available in our files at the time we make the finding. To the maximum extent

practicable, we are to make the finding within 90 days of our receipt of the petition, and publish our notice of the finding promptly in the **Federal Register**.

In making this finding, we relied on information provided by the petitioners and otherwise available in our files at the time of the petition review. We had access to a Geographic Information System database of all known Siskiyou Mountains salamander and Scott Bar salamander sites, based on data obtained from researchers, the State of California, the United States Forest Service, and private land managers. We evaluated the information provided by the petitioners in accordance with 50 CFR 424.14(b). The process of making a 90-day finding under section 4(b)(3)(A) of the Act and § 424.14(b) of our regulations is based on a determination of whether the information in the petition meets the "substantial scientific or commercial information" threshold. A substantial finding should be made when the Service deems that adequate and reliable information has been presented that would lead a reasonable person to believe that the petitioned action may be warranted.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly commence a status review of the species.

On June 18, 2004, we received a petition dated June 16, 2004, from the Center for Biological Diversity, Klamath-Siskiyou Wildlands Center, and Noah Greenwald, to list the Siskiyou Mountains salamander (*Plethodon stormi*) as a threatened or endangered species on behalf of themselves and five other organizations. The petition clearly identified itself as such and included the requisite identification information for the petitioners, as required in 50 CFR 424.14(a). In their petition, the petitioners assert that there are three separate distinct population segments (DPSs) of the Siskiyou Mountains salamander, one of which consists of the Scott Bar salamander. Alternatively, the petitioners assert that the Scott Bar salamander is a separate species and request that it be considered independently for listing. Since the time of the petition, the Scott Bar salamander (*Plethodon asupak*) has been recognized as a species separate from the Siskiyou Mountains salamander (Mead *et al.*

2005) and we have reviewed it separately in making this finding. The petitioners also requested the Service to consider whether the Siskiyou Mountains salamander warrants listing throughout a significant portion of its range, and requested designation of critical habitat for both species concurrent with their listing. In a July 19, 2004, letter to the petitioners, we responded that we reviewed the petition for both species and determined that an emergency listing was not warranted, and that because of inadequate funds for listing and critical habitat designation, we would not be able to otherwise address the petition to list the Siskiyou Mountains salamander and Scott Bar salamander at that time.

On June 23, 2005, we received a 60-day notice of intent to sue, and on August 23, 2005, the Center for Biological Diversity and four other groups filed a Complaint for Declaratory and Injunctive Relief in Federal District Court for the District of Oregon (*Center for Biological Diversity, et al. v. Norton et al.*, No. 3:05-CV-1311-BR), challenging our failure to issue a 90-day finding on the petition to list the Siskiyou Mountains salamander and Scott Bar salamander. On December 28, 2005, we reached an agreement with the plaintiffs to complete the 90-day finding by April 15, 2006, and if we determined that the petition presented substantial information that listing may be warranted, to complete the 12-month finding by January 15, 2007.

On April 17, 2006, the Service made its 90-day finding (71 FR 23886; April 25, 2006). That finding concluded that the petition did not present substantial scientific or commercial information to warrant the listing of Siskiyou Mountains and Scott Bar salamanders.

On July 6, 2006, the Center for Biological Diversity and others filed suit in the United States District Court for the Northern District of California (*Center for Biological Diversity et al. vs. Dirk Kempthorne et al.*, No. C-06-4186-WHA) challenging the merits of our April 17, 2006, 90-day finding.

On January 19, 2007, the U.S. District Court determined the 90-day finding was arbitrary and capricious, and the Court vacated and remanded the finding, and ordered the Service to make a new 90-day finding by March 23, 2007. This new finding complies with the Court's order.

### Species Information

For the purpose of this finding, the Service is evaluating the Siskiyou Mountains salamander and Scott Bar salamander separately. However, we recognize that all research on the

ecology of these species was conducted prior to recognition of the Scott Bar salamander as a separate species. To date, information specific to the Scott Bar salamander is limited to its distribution and range. Both species are members of the Family Plethodontidae, the lungless salamanders, and as such their survival is dependent upon similar ecological requirements. The geographic ranges of the Siskiyou Mountains salamander and Scott Bar salamander are contiguous, but not overlapping, occur over a relatively small area (approximately 405,000 acres (ac) (164,000 hectares (ha))), and have similar environmental conditions. Additionally, information in our files suggests that habitat associations of these species are generally the same, although a rigorous study comparing their habitat requirements has not been conducted. The most significant difference between these species is their range; the range of the Siskiyou Mountains salamander is approximately five times larger than that of the Scott Bar salamander. Therefore, for the purpose of this finding, the Service applied the current literature describing the biological characteristics and ecology of the Siskiyou Mountains salamander to both species.

### Description and Taxonomy

Like others in the family Plethodontidae, the Siskiyou Mountains salamander and Scott Bar salamander are completely terrestrial, medium-sized, slender-bodied salamanders with short limbs and a dorsal stripe. Both species are found in or near talus (loose surface rock) and fissured rock outcrops where moisture and humidity are high enough to allow respiration through their skin (Nussbaum *et al.* 1983). Both species are endemic to the Klamath-Siskiyou Mountains of southern Oregon and northern California.

The Siskiyou Mountains salamander was described in 1965 (Highton and Brame 1965), and is characterized by a modal number of 17 costal grooves (vertical creases along the side of the body) and 4 to 5.5 intercostal folds (folds of skin between the costal grooves) between the toes of adpressed limbs (limbs firmly pressed against the sides of the body) (Nussbaum *et al.* 1983; Leonard *et al.* 1993). Adults have a light-to purplish-brown dorsum, and the body is sprinkled with a moderate to dense array of white to yellow flecks that are concentrated on the sides and limbs and away from the light-brown dorsal stripe. Juveniles are black and have an olive-tan dorsal stripe that extends onto the tail.

Recent genetic analyses recognize the Siskiyou Mountains salamander as a distinct species from the Del Norte salamander (*Plethodon elongatus*) and the Scott Bar salamander (Mead *et al.* 2002, 2005; Mahoney 2004; Bury and Welsh 2005). Previously, observations of clinal variation in color and morphometric traits from coastal populations of Del Norte salamanders along the Klamath River to Siskiyou Mountains salamander populations in the Seiad Valley led Bury (1973) to propose possible intergradation between these two species, and Stebbins (1985, 2003) to demote the Siskiyou Mountains salamander to a subspecies of Del Norte salamander.

A number of studies (Pfrender and Titus 2002; DeGross 2004; Mead *et al.* 2005) have delineated three distinct genetic lineages within the Siskiyou Mountains salamander: Group I (*P. stormi* populations within the Applegate River drainage north of the Siskiyou crest), Group II (*P. stormi* populations south of the Siskiyou crest), and Group III (*P. asupak* populations). However, Group III is now considered a separate species, Scott Bar salamander.

Mead *et al.* (2005) described *Plethodon asupak*, the Scott Bar salamander, as a new species based on analysis of molecular (mitochondrial DNA) and morphological data from *Plethodon* populations near the confluence of the Klamath and Scott Rivers in Siskiyou County, California (Mahoney 2004; Mead *et al.* 2002, 2005). Molecular analysis shows the Scott Bar salamander to be the ancestral lineage from which the Del Norte salamander and Siskiyou Mountains salamander were derived (Mahoney 2004; Mead *et al.* 2002, 2005). For the purpose of this finding, the Service is evaluating the Scott Bar salamander as a species separate from the Siskiyou Mountains salamander. We recognize, however, that genetic research on these salamanders is ongoing, and the species' designations may be reconsidered in the future.

The Scott Bar salamander is more robust and has a wider head and longer limbs than either of its two most closely related sister species, the Del Norte salamander and Siskiyou Mountains salamander. It has fewer intercostal folds (2.5 to 3.5) between adpressed (flatly pressed back) limbs than either the Del Norte salamander (5 to 6) or the Siskiyou Mountains salamander (4 to 5), and the modal number of costal grooves (17) is one fewer than in the Del Norte salamander (18). The Scott Bar salamander has a longer body relative to its tail length and longer forelimbs and hindlimbs than the Siskiyou Mountains

salamander or Del Norte salamander. The coloration of the Scott Bar salamander is similar to that of the Siskiyou Mountains salamander and is described in Mead *et al.* (2005). Despite the morphological differences described in Mead *et al.* (2005), the two species are very difficult to distinguish in the field.

#### Habitat

Siskiyou Mountains salamanders and Scott Bar salamanders are found on forested slopes where rocky soils and talus outcrops occur. Occupied habitat for the Siskiyou Mountains salamander can range from small isolated rock outcrops to entire hillsides (Clayton *et al.* 2004). Occasionally these salamanders can be found under other types of cover such as bark, limbs, or logs, but only during wet weather when moisture is high and only if there are talus outcrops nearby (Nussbaum 1974; Nussbaum *et al.* 1983). Nussbaum (1974) characterized optimal habitat for the Siskiyou Mountains salamander as stabilized talus in old-growth forest stands on north-facing slopes. However, more recently, populations of both species have been found in rock outcrops in all forest age classes and on all slope aspects (Clayton *et al.* 2004; U.S. Department of Interior (USDI) 2005), as well as in managed stands (CDFG 2005). Siskiyou Mountains salamanders have been collected in the spring during the daytime at soil temperatures ranging from 38 to 52.3 degrees Fahrenheit (3.5 to 11.3 degrees Celsius) and at depths ranging from 0 to 18.0 inches (0 to 45.7 centimeters) (Nussbaum *et al.* 1983; Nussbaum 1974).

#### Range and Distribution

The Siskiyou Mountains salamander's range encompasses approximately 337,037 ac (136,500 ha) in three counties (Jackson, Josephine, and Siskiyou Counties) of southwestern Oregon and in northern California (Clayton and Nauman 2005a). More specifically, this species has been detected in the Applegate River drainage of southern Oregon south to the Klamath River watershed of northern California. In California, recent genetic analyses indicate the species' range is bounded to the west by the Indian Creek drainage and to the east by the Horse Creek drainage (see DeGross 2004; Mahoney 2004; Mead *et al.* 2005; Mead 2006). It is known from sites ranging from 1,600 feet (488 meters) (Nussbaum *et al.* 1983) to approximately 1,800 meters (6,000 feet) in elevation (Clayton *et al.* 1999). Approximately 90 percent of the Siskiyou Mountains

salamander's range occurs on Federal lands managed under the Northwest Forest Plan (NWFP) (USDA, USDI 1994). Within the NWFP area, 36 percent of the salamander's range occurs in reserves (Late-Successional Reserves, Administratively Withdrawn Areas, and Congressionally Reserved Areas), where timber harvest and other ground-disturbing activities are severely restricted; 10 percent occurs within Matrix lands generally available for timber harvest; and 44 percent occurs in Adaptive Management Areas (AMA), where habitat management guidelines are flexible and some timber harvest is expected to occur. The remaining 10 percent of the species' range occurs on private lands.

To date, approximately 200 Siskiyou Mountains salamander sites have been located (Clayton and Nauman 2005a). This number represents an unknown proportion of the total population, because surveys have not been conducted over the species' entire range. These sites occur primarily on Federal lands and are distributed across several NWFP land use allocations (Clayton *et al.* 2004). The USDA, USDI Species Review Panel (2002) reported that approximately 23 percent of known sites occur on reserve lands (Late-Successional Reserves and Congressionally Withdrawn Areas) (USDA, USDI 1994). The remaining sites occur on Adaptive Management Areas, Matrix lands, and private lands.

The Scott Bar salamander is found only in Siskiyou County, California, from just east of Seiad Valley to Scott Bar Mountain (Clayton and Nauman 2005b). The species' range extends north and south of the Klamath River and east and west of the Scott River and encompasses approximately 68,438 ac (27,717 ha). Approximately 82 percent of the Scott Bar salamander's range occurs on Federal lands: 58 percent on reserves (Late-Successional Reserves) and 24 percent on Matrix lands (USDA, USDI 1994). The remaining 18 percent of the species' range occurs on private lands.

Clayton and Nauman (2005b) reported that fewer than 10 sites are currently known for the Scott Bar salamander, although other sites are suspected. Based on our internal review of recent genetic analyses (Mahoney 2004; Mahoney 2005; Mead *et al.* 2005; Mead 2006), 17 Scott Bar salamander sites have now been verified. Within the presumed range of the Scott Bar salamander, numerous historical salamander detections have been assigned to the Siskiyou Mountains salamander. Because populations of the two species tend not to overlap (Mead

2006), it is reasonable to conclude that all salamander detections within what is now known to be the range of the Scott Bar salamander are Scott Bar salamanders. Thus, information in our files suggests that, within the range of the Scott Bar salamander, there are roughly 20 known salamander sites that are likely occupied by Scott Bar salamanders and are in addition to the 17 noted above (USDI 2006). To date, systematic surveys have not been conducted throughout this species' range; however, additional sites may be discovered in the future.

The 17 verified localities of the Scott Bar salamander are distributed across several watersheds that encompass the majority of the species' known range. Of these localities, 82 percent occur on Federal lands: 35 percent on reserves (Late-Successional Reserves) and 47 percent on Matrix lands (USDA, USDI 1994). The remaining 18 percent of the verified localities occur on private lands. Although the sample of known sites was not collected systematically, this distribution suggests that the species may be well distributed within its range.

Although the historic range of the Siskiyou Mountains salamander is unknown, the Service assumes that it was bounded to the west and south by the range of the Del Norte salamander (*Plethodon elongatus*), and to the east and northeast by drier climatic conditions and the associated vegetation communities. The range of the Scott Bar salamander consists of a polygon surrounded by the range of the Siskiyou Mountains salamander. The existing distribution of occupied sites for these species closely matches this description, and neither the petition nor information in our files provides information to suggest that a decline in extent of range has occurred for either species. Similarly, neither the petition nor information in our files provides information to suggest that significant areas within the species' ranges no longer support salamander populations. The petition states that significant portions of the species' ranges have been logged, suggesting the loss of salamander populations. However, as discussed in more detail below under Threats Analysis, Factor A, information from our files suggests that sites often remain occupied following logging (Farber *et al.* 2001; Clayton *et al.* 2004; CDFG 2005) or are recolonized after a few years (Welsh and Ollivier 1995). In addition, the Services' evaluation of the distribution of known salamander locations indicates that the salamanders are well-distributed throughout their ranges, including many areas with

evidence of past logging, with large gaps corresponding to roadless areas that have received little to no survey effort.

Evaluation of the range and potential population size for the Siskiyou Mountains salamander and Scott Bar salamander is strongly influenced by the species' low detectability and the amount and distribution of potentially suitable habitat. Because of their secretive habits, detection rates for these salamanders are very low, even though the species may be quite abundant locally (Nussbaum 1974; Clayton *et al.* 1999). Surveys within habitat known to be occupied are frequently negative (Clayton *et al.* 2004; CDFG 2005). Populations at individual sites likely range in size from a few individuals to thousands of individuals (Nussbaum 1974; Welsh and Lind 1992). Based on intensive field surveys, Nussbaum (1974) provided a species-wide "conservative estimate" of over 3 million Siskiyou Mountains salamanders. While the author acknowledged that a number of methodological problems may affect this estimate, it nonetheless suggests that the perceived rarity of this species may be more related to low detectability than to actual population size.

The USDA, USDI Species Review Panel (2001) evaluated results of project surveys conducted in the northern portion of the Siskiyou Mountains salamander's range, and estimated that 3 to 14 percent of the extent surveyed provides potentially suitable habitat. In a similar evaluation, Timber Products Company estimated that approximately 18 percent of their surveyed lands within the range of the Scott Bar salamander was composed of suitable talus habitat (S. Farber pers. comm. 2006). The information from both surveys suggests that suitable habitat for these species is patchy, and comprises a minor portion of these species' ranges.

### Threats Analysis

Section 4 of the Act and its implementing regulations (50 CFR 424) 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 an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (A) Present or threatened destruction, modification, or curtailment of habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued

existence. In making this finding, we evaluated whether threats to the Siskiyou Mountains salamander and Scott Bar salamander as presented in the petition pose a concern with respect to the species' survival such that listing under the Act may be warranted. Our evaluation of these threats, based on information provided in the petition and available in our files, is presented below.

#### *A. Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range*

The petition claims that logging and wildfire pose the primary threats to Siskiyou Mountains salamander's and Scott Bar salamander's habitat and populations by altering habitat structures that influence the microclimatic conditions required by both species. The petition states that logging and wildfire increase surface temperatures and decrease relative humidity and soil moisture by removing forest cover. It also states that logging has the additional effect of compacting and realigning talus substrates. The petition states that it is likely a substantial, yet unquantified, amount of habitat has already been lost due to logging activities.

According to the petition, the effects of logging and wildfire on Siskiyou Mountains and Scott Bar salamanders are based on a sequence of relationships: the unique physiology and behavior of these species, their dependence on moist surface conditions in order to forage and reproduce, reduction of the occurrence of favorable surface conditions following loss of forest cover, and loss of viability of salamander populations inhabiting the resulting unfavorable conditions. Based on these assertions, the petition concludes that the rate and extent of timber harvest and fires will likely cause the two species to be threatened or endangered due to habitat loss in the foreseeable future.

The petition describes the physiological and behavioral traits of Siskiyou Mountains salamanders and Scott Bar salamanders that link them to habitats that provide moist conditions. Both species are lungless salamanders that require moisture in order to respire through their skin and to avoid dessication (Nussbaum *et al.* 1983). These traits act to limit the time during which the species can be active at the surface where foraging takes place (Nussbaum *et al.* 1983; Feder 1983). In the warm, dry environment characteristic of the eastern Klamath—Siskiyou Mountains, surface conditions favorable for activity by these

salamanders is limited to relatively brief rainy periods in the spring and fall when soil moisture and relative humidity are high and temperatures moderate (Nussbaum *et al.* 1983; Clayton *et al.* 1999). This limitation is reflected in survey protocols for Siskiyou Mountains salamander, which require that surveys be restricted to periods of relative humidity above 65 percent, air temperature between 39.2 and 68 Fahrenheit (4 to 20 degrees Celsius), soil temperature between 38.3 and 64.4 degrees Fahrenheit (3.5 to 18 degrees Celsius), and moist soil conditions; outside of these parameters detection rates are low (Clayton *et al.* 1999). During the remainder of the year, these salamanders retreat underground into fissured rock substrates (Nussbaum *et al.* 1983).

Based on the relationships described above, the petition claims that habitat conditions that further limit above ground activity will result in reduced abundance and viability of Siskiyou Mountains salamander and Scott Bar salamander populations. The petition cites Ollivier *et al.* (2001), who state that shortened periods of surface conditions appropriate for feeding and breeding activities can limit both survivorship and recruitment of these salamanders due to reduced ability to achieve body mass and fat needed for reproduction. Based on physiological and ecological studies of plethodontid salamanders (Feder 1983), and the association of Siskiyou Mountains and Scott Bar salamanders (and the closely related Del Norte salamander in the Klamath province) with mature forested habitats (Nussbaum *et al.* 1983; Welsh and Lind 1988, 1991, 1995; Ollivier *et al.* 2001), it is reasonable to conclude that individuals living in drier, more open conditions may experience reduced fitness.

The petition cites Chen *et al.* (1993) to support the claim that removing or reducing canopy during logging or other activities can alter stand microclimates, which in turn would result in conditions unsuitable for surface activity by salamanders. Information in our files suggests that microclimatic variables such as soil moisture, fuel moisture, relative humidity, and air temperature are sensitive to changes in canopy, with open-canopied and unforested sites exhibiting drier conditions, reduced humidity, and warmer air and soil temperatures (Chen *et al.* 1995; Chen *et al.* 1999).

The petition states that rigorous pre- and post-logging studies have not been conducted on Siskiyou Mountains salamanders or Scott Bar salamanders. Information in our files also indicates

that this type of study has not been conducted on the similar Del Norte salamander in the drier portions of its range. However, the petition cites several studies from across North America (Dupuis *et al.* 1995; Ash 1997; deMaynadier and Hunter 1998; Herbeck and Larsen 1999) and specific to the Pacific Northwest (Bury and Corn 1988; Raphael 1988; Welsh 1990; Corn and Bury 1991; Welsh and Lind 1988, 1991, 1995) that describe impacts of logging to other plethodontid salamanders. It is important to note that studies conducted in eastern and mid-western North America and much of the Pacific Northwest (Bury and Corn 1988; Raphael 1988; Welsh 1990; Corn and Bury 1991; Welsh and Lind 1988, 1991, 1995; and Grialou *et al.* 2000) were conducted in mesic (relatively wet) forest types where environmental constraints (moisture, temperature) on salamander dispersal and survival are presumably less than in the dry eastern Klamath Mountains. In addition, most plethodontid salamander species studied in other areas of North America occupy soil, surface litter, and woody debris in mesic environments, whereas Siskiyou Mountains salamanders and Scott Bar salamanders occupy talus substrates that provide refuge from temperature extremes and dry conditions in xeric (relatively dry) environments. Therefore, inferences drawn from studies of other plethodontid species in mesic environments may be limited in their applicability to Siskiyou Mountains salamander or Scott Bar salamander populations in the dry eastern Klamath Mountains.

Studies from the midwestern and eastern United States (Ash 1997; deMaynadier and Hunter 1998; Herbeck and Larsen 1999) and western Canada (Dupuis *et al.* 1995) indicate that clear-cutting can have significant short-term impacts to plethodontid salamander abundance, and that second-growth stands that regenerate following clear-cutting typically do not support the same level of abundance as do older forests. Dupuis *et al.* (1995), Ash (1997), and Herbeck and Larsen (1999) reported that plethodontid salamanders were frequently absent from 2-to-5-year-old clear-cut forests.

All of the studies that examined relative abundance of plethodontid salamanders in different forest age classes (Dupuis *et al.* 1995; deMaynadier and Hunter 1998; Herbeck and Larsen 1999) found that second-growth stands supported salamanders, albeit at significantly lesser abundance than older forests. However, the impact of clear-cutting on salamanders may be

temporary, as one study (Ash 1997) showed that salamanders returned to clear-cut sample plots 4 to 6 years after cutting, and their numbers increased rapidly. Linear regressions estimated that salamander numbers on clear-cut plots would equal or exceed numbers on forested plots by 20 to 24 years after cutting (Ash 1997).

Studies of more closely related plethodontid salamanders in the Pacific Northwest (Raphael 1988; Welsh 1990; Corn and Bury 1991; Welsh and Lind 1988, 1991, 1995) found the abundance of plethodontid salamanders to be greater in older versus younger forests, and most of these studies found that difference to be significant. However, salamanders were still present in harvested areas. Raphael (1988) reported that while Del Norte salamanders were 2 to 3 times more abundant in adjacent old-growth forest, clear-cut areas still contained the species. Additional information in our files (Grialou *et al.* 2000) also suggests that western red-backed salamanders (*Plethodon vehiculum*) occupy recent clear-cut areas (2 to 4 years), although at a significantly lesser abundance than in adjacent older forests. H. Welsh and D. Ashton (2004) obtained similar results for Del Norte salamanders on the Six Rivers National Forest, where salamander abundance showed a marked decline following clear-cutting, but remained relatively stable in a lightly harvested stand. However, studies are not consistent with respect to abundance on recently clear-cut sites. Bury and Corn (1988) reported plethodontid salamanders to be absent in their two clear-cut sites, but their results were equivocal because detection rates of plethodontid salamanders were very low in all of the habitats studied. In contrast to the above studies, Corn and Bury (1991) found abundance of western red-backed salamanders was not significantly different between clear-cut areas less than 10 years old and old-growth forest.

Few peer-reviewed studies exist in our files comparing the demographics of plethodontid salamander populations in clear-cut areas and adjacent forest. Grialou *et al.* (2000) studied the abundance and demographics of salamanders, including two plethodontid species, in mesic forests in southwestern Washington. In the year following clear-cut harvesting, body sizes of western subadult and juvenile red-backed salamanders were smaller, but attained normal size distribution by the second-year post harvest. Gravid females were captured on clear-cut plots before and after harvest. Knapp *et al.* (2003) used a randomized, replicated

design to quantify plethodontid salamander populations on harvested timberlands of the Appalachian Mountains in Virginia and West Virginia. While salamander abundance was less on clear-cut areas versus control areas, there were no differences between cut and uncut treatments in the proportion of gravid females or in the average number of eggs in gravid females. Moreover, there were no differences between cut and uncut treatments in the proportion of the sample that was juvenile, except in one plethodontid species, which had a higher proportion of juveniles in uncut treatments.

Because most of the aforementioned studies have been conducted on other plethodontid species in mesic environments, the Service believes that our evaluation should focus primarily on information collected from Siskiyou Mountains salamander and Scott Bar salamander populations. The petition claims that a study of habitat associations of Siskiyou Mountains salamander by Ollivier *et al.* (2001) demonstrates that the species is threatened by logging. Ollivier *et al.* (2001) conducted presence/absence surveys for salamanders at 239 random locations within the range of Siskiyou Mountains salamander (some samples were within the range of the Scott Bar salamander), and concluded that the species was strongly associated with characteristics of mature forests such as closed canopies, large tree diameters, and a mossy ground cover layer. Based on this conclusion, the petition infers that removal of forest cover would result in habitat conditions unsuitable for the salamanders. While the study design employed by Ollivier *et al.* (2001) did not compare salamander abundance pre- and post-harvest, their sample contained 42 precanopy plots (0-to-30-year-old clearcuts). Subsequent to the study by Ollivier *et al.* (2001), State and private biologists conducted numerous surveys and detected Siskiyou Mountains salamanders and Scott Bar salamanders in previously logged sites (Farber *et al.* 2001; CDFG 2005). These surveys followed no sampling design and cannot be used to infer a lack of impacts caused by logging; however, they do suggest that salamander populations persist at sites that have been logged.

After reviewing data collected by Ollivier *et al.* (2001) and sampling results obtained by the California Department of Fish and Game (CDFG), H. Welsh and D. Ashton (2004) concluded that the viability of Siskiyou Mountains salamander populations is compromised following clear-cutting.

They based this conclusion on the high proportion (64 percent) of juvenile and subadult animals in the sample obtained by CDFG in non-forested habitats, and speculated that this was an indication of a 'sink' population of dispersing individuals and low levels of reproduction. Without further research, the effects of forest canopy removal on the abundance and demographics of Siskiyou Mountains salamander and Scott Bar salamander populations following logging will remain poorly understood. Two studies examining this question are currently in progress: one involving the Service, the Redwood Sciences Laboratory, and Humboldt State University, and one being conducted by Timber Products Company.

The petition also states that gaps created in the species' range by logging could compromise the species' viability. The petition claims that the biology of the species, narrow habitat niche, naturally fragmented habitat, and patchy distribution limit the species' ability to recover from disturbances. The petition cites Blaustein *et al.* (1995) to support the claim that when local populations of Siskiyou Mountains salamander are extirpated, there is little chance that the habitat will be recolonized. However, evidence in the petition and in Service files suggests that dispersing juveniles readily colonize logged sites (Welsh 2005) and road cutbanks (Nussbaum 1974), suggesting that dispersal may not be as limited as previously thought. The biology of the Siskiyou Mountains salamander and the Scott Bar salamander may limit their ability to recolonize vacant sites; however, neither the petition nor information in our files demonstrates that logging creates gaps in plethodontid salamander distribution by extirpating species from a site.

The petition also states that other actions, including tractor logging, road construction, mining, and recreational development, have resulted in, and will continue to result in, degradation, loss, or fragmentation of Siskiyou Mountains salamander habitat. The petition cites Welsh and Ollivier (1995) as suggesting that tractor yarding may impact Siskiyou Mountains salamander habitat by compacting, breaking, or realigning talus. Although it is reasonable to conclude that tractor yarding may disturb talus substrates, field studies have not demonstrated how this impacts salamander populations. The petition also cites deMaynadier and Hunter (2000) as indicating that plethodontid salamanders are sensitive to population fragmentation by logging roads. Results

of that study suggest that logging roads may significantly inhibit movement and local abundance of plethodontid salamanders. Additional information in our files (Marsh *et al.* 2005) suggests that forest roads act as partial barriers to salamander movement. Road densities within much of the ranges of the Siskiyou Mountains salamander and Scott Bar salamander are documented to be high (USDA 1999) and may act to reduce dispersal and increase the degree of isolation among salamander populations. This in turn may lead to reduced gene flow and reduced long-term persistence of small, isolated populations (Marsh *et al.* 2005). Conversely, Nussbaum (1974) found that road cuts provided essential habitat in the form of newly exposed fissured rock and were colonized by Siskiyou Mountains salamanders soon after road construction. The available information regarding the effects of roads on populations of Siskiyou Mountains salamanders and Scott Bar salamanders is equivocal.

Although the amount of habitat impacted by logging could not be quantified, the petition contends that substantial habitat loss has likely occurred. To support this claim, the petition cites the USDA, USDI Species Review Panel (2001), which stated that "cumulative effects from past timber harvest have impacted populations on Federal lands" and "from 1980 to 1990, 10 percent of habitat on the Applegate Ranger District was clearcut." However, the rate and extent of timber harvest has declined dramatically on Federal lands within the Northwest Forest Plan area during the past 30 years (USDA, USDI 2005), particularly on the Klamath National Forest, which comprises roughly 50 percent of the Siskiyou Mountain salamander's range and 80 percent of the Scott Bar salamander's range (USDA 2006). During the 6-year period from 2000 to 2005, the Klamath National Forest sold and removed an average of 15.9 million board feet of timber annually, compared with 187.8 million board feet/per year during 1985 to 1990 (inclusive), and 238.2 million board feet/per year from 1979 to 1984 (USDA 2006). The declining trend in timber harvest reduces the likelihood that a high proportion of the salamanders' populations will be impacted by logging.

While the Service agrees that timber harvesting has the potential to reduce habitat quality for the Siskiyou Mountains salamander and Scott Bar salamander, Forest Service reports (USDA, USDI 2005; USDA 2006) demonstrate a dramatic decline in the amount of timber harvest on Federal

lands within the ranges of the salamanders. These data suggest that the rate and magnitude of harvest on the majority of the species' ranges is likely not sufficient to cause them to be threatened or endangered in the foreseeable future.

The petition further claims that fire suppression has led to an increase in fuel loading, resulting in a change from low- to high-intensity fire regimes in many forest stands within the ranges of the Siskiyou Mountains salamander and Scott Bar salamander, and that the risk of stand-replacing fire has increased due to forest management practices that remove the largest, most fire resistant trees and create young, highly combustible plantations. The petition claims that although the response of these salamanders to fire has not been well studied, fire has the potential to impact populations by removing or reducing forest canopy cover. Published studies (Agee 1993; Taylor and Skinner 1998) and Forest Service reports (USDA 1999) clearly document that increased fuel loading and forest stand density have increased the potential for high-intensity wildfire events within the range of the Siskiyou Mountains salamander and Scott Bar salamander. These high-intensity fires were much less frequent in the historical fire regime with which these salamanders evolved. High-intensity wildfire events, by definition, remove or significantly reduce forest cover; consume moss, duff, and forest litter; and may sterilize surface soil layers. The impacts of such events on salamander habitat and populations are likely more severe than those of clear-cutting, but have not been directly evaluated. Recent large fires within the Klamath Province, combined with fire behavior modeling conducted by the Forest Service, suggest a high probability of moderate-to high-intensity wildfires within the range of the Siskiyou Mountains salamander and Scott Bar salamander. However, fire modeling also suggests that the level of tree mortality would be highly variable within the range of these species (USDA 1999), resulting in a mosaic pattern of habitat effects. The extent to which high-intensity fire effects would occur within habitats occupied by these salamanders is currently unknown.

To summarize Factor A, logging, wildfire, and other habitat disturbances may impact local abundance and viability of Siskiyou Mountains salamanders and Scott Bar salamanders by altering the microclimate within stands that support these species, by fragmenting habitat, or by otherwise reducing habitat quality. Although extensive logging has occurred in



Siskiyou Mountains salamander and Scott Bar salamander habitat for over 100 years, the extent of habitat change has not been quantified, and salamander populations remain well-distributed. Increased potential for stand-replacing wildfire also places more of the species' habitat at risk. Information in our files (e.g., Farber *et al.* 2001; CDFG 2005) indicates that both Siskiyou Mountains salamanders and Scott Bar salamanders occur to some extent in clear-cuts, second-growth stands, burned areas, and naturally open habitats, and the demography of populations subjected to timber harvest or fire is poorly known. This evidence suggests that while timber harvest and wildfire may, at least temporally, reduce habitat quality for, and abundance of, Siskiyou Mountains salamanders and Scott Bar salamanders, they do not result in the extirpation of populations. The rate and extent of timber harvest has declined dramatically on Federal lands within the Northwest Forest Plan area, particularly the salamanders' ranges on the Klamath National Forest, during the past 30 years (USDA, USDI 2005; USDA 2006). Based on current Forest Service policies, we anticipate that the rate of timber harvest will remain at roughly the present levels. Although it is reasonable to assume that high-intensity wildfire may have a negative impact on salamander habitat and populations, we are not aware of any scientific studies that evaluate this potential risk, and there is evidence that salamander populations persist following reduction of forest canopy.

In general, the Service finds that reliable scientific information presented in the petition and available in our files regarding the dependence of the Siskiyou Mountains and Scott Bar salamanders on old growth forest habitat and habitat-based threats to the species posed by logging and high-intensity fires is equivocal and conflicting. However, based on the standard applicable to 90-day findings under the Act, we find that the petition does present substantial information regarding Factor A, indicating that listing of these two species across all or a significant portion of their ranges may be warranted due to the present or threatened destruction, modification, or curtailment of the species' habitat or range.

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

The petition does not provide any information pertaining to Factor B. Therefore, we find that the petition does not present substantial information

indicating that listing of these two species across all or a significant portion of their ranges may be warranted due to overutilization for commercial, recreational, scientific, or educational purposes.

#### *C. Disease or Predation*

The petition does not present any information pertaining to Factor C. Therefore, we find that the petition does not present substantial information indicating that listing of these two species across all or a significant portion of their ranges may be warranted due to disease or predation.

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

The petition asserts that existing regulatory mechanisms are inadequate to protect Siskiyou Mountains and Scott Bar salamanders because Federal regulatory mechanisms that formerly protected the salamanders have been eliminated and State regulatory mechanisms that protect the species are likely to be eliminated. The petition does not contend that, if left in place, the Federal and State mechanisms would be inadequate to protect the species.

#### *Federal Lands*

The petition cites the USDA, USDI Species Review Panel (2001) to demonstrate that approximately 80 percent of the range of the Siskiyou Mountains salamander occurs on Federal lands managed by the Rogue-Siskiyou and Klamath National Forests and the Medford District of the Bureau of Land Management. Thirty-nine percent of the species' range occurs within protected land designations under the Northwest Forest Plan (NWFP) (USDA, USDI Species Review Panel 2001). Additionally, the petition cites Clayton *et al.* (2002 as cited in USDA, USDI 2004) to demonstrate that less than 10 percent of suspected high-quality habitat occurs in reserves. The petition thus concludes that the majority of the species' ranges and high-quality habitat occurs on Federal lands available for timber harvest and other activities. The petition cites the USDA, USDI Species Review Panel (2001) to suggest that specific protections on non-reserve land allocations will likely be required to ensure persistence of the species.

The petition claims that the Siskiyou Mountains salamander formerly received substantial protection on Federal lands from the Survey and Manage Program (USDA, USDI 1994). The petition claims that this program was abolished with the Record of

Decision (ROD) entitled, "To Remove or Modify the Survey and Manage Mitigation Measures Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl" in March 2004 (March 2004 ROD). The Final Supplemental Environmental Impact Statement for the March 2004 ROD addressed potential mitigation, including sensitive species programs, for species affected by the removal of the Survey and Manage Program. However, the petition claims that the sensitive species programs provide substantially less protection by failing to require surveys and making mitigation optional. The petition cites a USDA, USDI (2004) statement that the elimination of the Survey and Manage Program may result in gaps in the Siskiyou Mountains salamander's range.

According to the petition, in the absence of the Survey and Manage Program, management of the Siskiyou Mountains salamander would be governed by the standards and guidelines of the NWFP. According to the petition, 78 percent of the known occupied sites north of the Siskiyou Crest occur in the Applegate Adaptive Management Area (AMA). Under the NWFP, AMAs were created to "encourage the development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives," with each AMA having a management plan (USDA, USDI 1994). Because an agency plan for the Applegate AMA has not been produced, and standards and guidelines for activities in AMAs are more flexible than in other land-use allocations, the petition claims that existing guidelines for the Siskiyou Mountains salamander in the Applegate AMA would result in limited protection for the species. However, the petitioners provided no documentation to suggest that Federal actions in the AMA are having an effect on the salamanders.

The status of the Survey and Manage Program is in flux. In January 2006, the United States District Court, Western District of Washington in *Northwest Ecosystem Alliance, et al., v. Mark E. Rey, et al.*, Case 2:04-CV-00844-MJP, ordered the March 2004 ROD set aside for failure to comply with the National Environmental Policy Act (42 U.S.C. 4321 et seq.). With this, the court reinstated the 2001 Survey and Manage ROD as it stood in March 2004. The Survey and Manage Program is therefore the current regulatory mechanism in place for the United States Forest Service and Bureau of Land Management lands that the Siskiyou



Mountains salamander occupies. Under these provisions, all currently known and future sites south of the Siskiyou Crest will be managed to maintain species persistence, and surveys will be conducted prior to habitat-disturbing activities. North of the Siskiyou Crest, high-priority sites will be identified and managed to provide a reasonable assurance of species persistence.

The Scott Bar salamander is not specifically addressed by name in the Survey and Manage ROD protections. However, the Klamath National Forest has formally stated that Survey and Manage protections for Siskiyou Mountains salamander also extend to the Scott Bar salamander, as they cannot be easily distinguished in the field (M. Boland 2006). Thus, protections for the Scott Bar salamander on Federal lands are in place.

The Forest Service and Bureau of Land Management have stated that they intend to issue on June 8, 2007, a final supplement to the 2004 Final Supplemental Environmental Impact Statement that addresses the deficiencies of the March 2004 ROD that were identified by the court. Implementation of the final supplement is anticipated during August 2007. The Service cannot predict what protections will be provided to the Siskiyou Mountains salamander in future decisions. If existing Federal regulations are modified in the future, the adequacy of these regulations to protect the Siskiyou Mountains salamander and Scott Bar salamander in light of any threats to the species threats should be evaluated at that time.

#### State Regulations

The State of Oregon provides no regulatory protections for the Siskiyou Mountains salamander on private lands (approximately 10 percent of the species' range). In California, the Siskiyou Mountains salamander is listed as a threatened species and receives substantial protection under the California Endangered Species Act (CESA). These protections include pre-project surveys and prohibitions on timber harvest in established buffers around suitable habitat. In 2005, CDFG submitted a petition to the California Fish and Game Commission to delist the Siskiyou Mountains salamander. Because of CDFG's delisting proposal, the petitioners claim that the protections provided by CESA should not be considered to provide firm regulatory protection for the species. The final determination on whether to delist the Siskiyou Mountains salamander was scheduled to be made at the Fish and Game Commission's

January 31, 2007, meeting; however, that determination has been postponed until Fall of 2007. If existing State regulations are modified in the future, the adequacy of the future regulations to protect the Siskiyou Mountains salamander in light of any threats to the species should be evaluated at that time. Unless and until the Siskiyou Mountains salamander is delisted as a threatened species, it remains protected under the CESA.

In July 2005, the Scott Bar salamander appeared on the CDFG's Special Animals List (CDFG 2006). The CDFG describes the Scott Bar salamander as a "newly discovered species from what was part of the range of *Plethodon stormi*." Based on this change of taxonomic status, the CDFG removed the Siskiyou Mountains salamander populations now recognized as Scott Bar salamanders from listed status under CESA. That action was successfully challenged by three environmental organizations in State court (*Environmental Protection Information Center et al. vs. California Department of Fish and Game*, Case No. CPF-06-506585). The court found that the removal of Scott Bar salamander from the State's endangered species list was not in accordance with law, and ordered that the new species be protected under CESA until formal delisting procedures are completed. On May 1, 2006, the California Fish and Game Commission received a petition to list the Scott Bar salamander under CESA.

No specific regulatory mechanisms to protect the Siskiyou Mountains salamander exist on the approximately 10 percent of the species' range that occurs in Oregon. However, research suggests that populations of these salamanders persist following timber harvest (Farber *et al.* 2001; Clayton *et al.* 2004; CDFG 2005). Therefore, the Service believes that the lack of regulatory protections on a limited proportion of the species' ranges does not likely pose a threat to the species as a whole in the foreseeable future.

To summarize Factor D, existing Federal regulations currently provide substantial protection on Federal lands for the Siskiyou Mountains salamander and Scott Bar salamander through the Survey and Manage Program.

Current California regulations provide substantial protection for the Siskiyou Mountains salamander and Scott Bar salamander on private lands. Oregon provides no regulatory protections for Siskiyou Mountains salamanders on private lands. However, private lands in Oregon comprise only 10 percent of the Siskiyou Mountains salamander's range.

The Scott Bar salamander's range does not extend into Oregon. Thus, substantial regulatory protections are provided to both species across a large majority of the Siskiyou Mountains salamander's range and all of the Scott Bar salamander's range. Although the Forest Service and Bureau of Land Management have developed a supplement to their March 2004 Supplemental Environmental Impact Statement (SEIS) that again proposes to eliminate Survey and Manage guidelines for the Siskiyou Mountains salamander, no decision has been made by the agencies. Similarly, the State of California is currently evaluating a petition to delist the Siskiyou Mountains salamander, but no decision regarding this action has been reached. Continuing litigation over the Federal and State proposals and re-evaluation of the proposals by Federal and State agencies indicates that a future relaxation of regulatory mechanisms to protect the Siskiyou Mountains and Scott Bar salamanders is at best uncertain. Under section 4(a)(1)(D) of the Act, the Service must evaluate the adequacy of existing regulatory mechanisms rather than speculate about future changes to those mechanisms. If these regulations are modified or eliminated in the future, the Service will consider that information when evaluating the adequacy of then existing regulatory mechanisms to protect the Siskiyou Mountains salamander and the Scott Bar salamander, in light of any threats faced by the species. In particular, we will monitor any changes to Federal and State regulatory mechanisms during our status review of the species.

Because Federal and State of California regulations are currently in effect and offer protection for the Siskiyou Mountains salamander and Scott Bar salamander over all or the vast majority of the species' ranges, we find that the petition does not present substantial information that listing of these two species across all or a significant portion of their ranges may be warranted due to the inadequacy of existing regulatory mechanisms.

#### *E. Other Natural or Manmade Factors Affecting the Species' Continued Existence*

The petition states that "an increasing consensus has developed that we are and will continue to experience global warming." The petition cites Feder (1983) and Ollivier *et al.* (2001) to propose that the salamanders' unique physiology and their need for moist conditions for foraging and breeding activity make the Siskiyou Mountains

salamander and Scott Bar salamander particularly sensitive to variations in climate. Thus, the petition suggests that the expected change in climate over time is likely to influence the species' distribution and ability to find suitable habitat. The petition also claims that warmer temperatures may shorten the window in which the species is able to forage and reproduce. According to the petition, warmer temperatures may also negatively affect habitat by increasing the severity and intensity of forest fires, resulting in loss of forest canopy. However, the petition did not present an analysis of the likelihood or magnitude of microhabitat changes that may be brought about by regional climate change.

The petition also cites USDA, USDI (2004) to demonstrate that, due to limited habitat and the known existence of only three localities, the Scott Bar salamander is at risk of extinction due to genetic or demographic stochasticity, regardless of management direction. However, information in our files suggests that the number of known localities and existing habitat within the range of the Scott Bar salamander is considerably larger than that considered in USDA, USDI (2004), and there is no evidence to suggest the historical range of the Scott Bar salamander has significantly contracted despite 100 years of extensive logging, which has substantially decreased in recent years. The apparent resiliency of this species and the existence of 37 currently known sites decreases the potential threat posed by stochastic events, although the species' range is naturally small and restricted. The Siskiyou Mountains salamander also continues to be distributed across its historic range despite widespread logging during the 20th century. Stochastic events pose even less of a potential threat to the Siskiyou Mountains salamander due to its apparent resiliency and the greater number of known localities and relatively larger range.

To summarize Factor E, because foraging and breeding activities are dependent upon cool, moist conditions, these salamanders may be susceptible to alterations in microclimate resulting from projected climate change. However, the petition does not present reliable evidence of, or analyze the type, magnitude, or temporal effects of, microhabitat changes within the ranges of the Siskiyou Mountains and Scott Bar salamanders that could potentially be brought about by future regional climate change. Finally, the petitioners assert that the Siskiyou Mountains and Scott Bar salamanders are at risk because their restricted ranges make the species

vulnerable to extinction as a result of stochastic events. Although the ranges of the species are naturally restricted, they have continued to persist despite decades of logging, and the number of currently known populations is considerably greater than stated in the petition. Additionally, a considerable amount of suitable habitat capable of supporting Siskiyou Mountains salamanders and Scott Bar salamanders has yet to be surveyed. Thus, the Service believes that both the Siskiyou Mountains and Scott Bar salamanders are more resilient to stochastic events than the petition claims. We find that the petition does not present substantial information that listing of the two species across all or a significant portion of their ranges may be warranted due to natural or manmade factors affecting their continued existence.

#### **Distinct Population Segments and Significant Portion of Range**

The petition asserts that the Siskiyou Mountains salamander occurs in three separate distinct population segments (DPSs) and also requests the Service to consider listing the Siskiyou Mountains salamander throughout a significant portion of its range.

Because we conclude that the petition provides substantial information that listing the Siskiyou Mountains and Scott Bar salamanders rangewide may be warranted (thus triggering the requirement under the Act that we conduct a status review), we have not analyzed in detail whether the petition also provides substantial information with respect to a particular significant portion of the range of the Siskiyou Mountains salamander. For the same reason, we have not analyzed in detail whether the petition provides substantial information with regard to potential distinct population segments of the Siskiyou Mountains salamander other than the petitioner's proposed Scott Bar salamander DPS, which we have treated as a separate species for purposes of this finding. However, we welcome information on the issue of whether either salamander is, in fact, in danger of extinction throughout all or a significant portion of its range, or likely to become so in the foreseeable future, and information on the issue of whether a particular DPS of the Siskiyou Mountains salamander warrants listing. We will consider these issues further during the status review, particularly if we conclude that the species are not in danger of extinction rangewide, nor likely to become so in the foreseeable future.

#### **Finding**

The Service finds that the information provided in the petition and readily available in our files regarding habitat associations of Siskiyou Mountains and Scott Bar salamanders and the potential for population losses due to logging and fire is equivocal and conflicting. Therefore, based on the standard applicable to 90-day findings under the Act, we must find that the petition does present substantial information that listing of the two species across all or a portion of their ranges *may* be warranted based on the threatened destruction, modification, or curtailment of their habitat and ranges. This finding initiates a status review of these species so that we can gather more scientific data on these and other relevant issues concerning these species.

The petition also requested that critical habitat be designated for the Siskiyou Mountains salamander and Scott Bar salamander. If we determine in our 12-month finding that listing these species is warranted, we will address the designation of critical habitat in the proposed listing rule or as funding allows.

#### **References Cited**

A complete list of all references cited herein is available, upon request, from the Yreka Fish and Wildlife Office (see **ADDRESSES**).

#### **Author**

The primary authors of this notice are staff of the Yreka Fish and Wildlife Office (see **ADDRESSES**).

#### **Authority**

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

Dated: March 22, 2007.

#### **Kenneth Stansell,**

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

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