



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[4500030113]

Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions To List the Eagle Lake Rainbow Trout and the Ichetucknee Siltsnail as Endangered or Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 12-month petition findings.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce 12-month findings on petitions to list the Eagle Lake rainbow trout and the Ichetucknee siltsnail as endangered species or threatened species under the Endangered Species Act of 1973, as amended (Act). After a review of the best available scientific and commercial information, we find that listing the Eagle Lake rainbow trout and the Ichetucknee siltsnail is not warranted at this time. However, we ask the public to submit to us at any time any new information that becomes available concerning the stressors to the Eagle Lake rainbow trout and the Ichetucknee siltsnail or their habitats.

DATES: The findings announced in this document were made on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: These findings are available on the Internet at

http://www.regulations.gov at the following docket numbers:

Species	Docket Number
Eagle Lake rainbow trout	FWS-R8-ES-2012-0072

Ichetucknee siltsnail	FWS-R4-ES-2011-0049
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Supporting information used in preparing these findings is available for public inspection, by appointment, during normal business hours, by contacting the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**. Please submit any new information, materials, comments, or questions concerning these findings to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**.

FOR FURTHER INFORMATION CONTACT:

Species	Contact Information
Eagle Lake rainbow trout	Jen Norris, Field Supervisor, Sacramento Fish and Wildlife Office, (916) 414-6600
Ichetucknee siltsnail	Jay B. Herrington, Field Supervisor, North Florida Ecological Services Office, (904) 731-3191

If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Act (16 U.S.C. 1531 et seq.) requires that, for any petition to revise the Federal Lists of Endangered and Threatened Wildlife and Plants that contains substantial scientific or commercial information indicating that listing an animal or plant species may be warranted, we make a finding within 12 months of the date of receipt of the petition (“12-month finding”). In this finding, we determine whether listing the Eagle Lake rainbow trout and the Ichetucknee siltsnail is: (1) Not warranted; (2) warranted; or (3) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are endangered or threatened species, and expeditious progress is being made to add or remove qualified species from the Federal Lists of Endangered and Threatened

Wildlife and Plants (warranted but precluded). Section 4(b)(3)(C) of the Act requires that we treat a petition for which the requested action is found to be warranted but precluded as though resubmitted on the date of such finding, that is, requiring a subsequent finding to be made within 12 months. We must publish these 12-month findings in the **Federal Register**.

Summary of Information Pertaining to the Five Factors

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in part 424 of title 50 of the Code of Federal Regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. The Act defines “endangered species” as any species that is in danger of extinction throughout all or a significant portion of its range, section 3(6), and “threatened species” as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, section 3(20). Under section 4(a)(1) of the Act, a species may be determined to be an endangered species or a threatened species based on any of the following five factors:

- (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) Overutilization for commercial, recreational, scientific, or educational purposes;
- (C) Disease or predation;
- (D) The inadequacy of existing regulatory mechanisms; or
- (E) Other natural or manmade factors affecting its continued existence.

We summarize below the information on which we based our evaluation of the five factors provided in section 4(a)(1) of the Act in determining whether the Eagle Lake rainbow trout and the Ichetucknee siltsnail meet the definition of an endangered species or threatened species. More detailed information about these species is presented in the species-specific assessment forms found on <http://www.regulations.gov> under the appropriate docket number (see **ADDRESSES**). In considering what stressors under the five factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat. In that case, we determine if that stressor rises to the level of a threat, meaning that it may drive or contribute to the risk of extinction of the species such that the species warrants listing as an endangered or threatened species as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely affected could suffice. The mere identification of stressors that could affect a species negatively is not sufficient to compel a finding that listing is appropriate; we require evidence that these stressors are operative threats that act on the species to the point that the species meets the definition of an endangered species or a threatened species under the Act.

In making our 12-month findings, we considered and evaluated the best available scientific and commercial information.

Eagle Lake Rainbow Trout (*Oncorhynchus mykiss aquilarum*)

Previous Federal Actions

The Service has been petitioned three times to add the Eagle Lake rainbow trout (*Oncorhynchus mykiss aquilarum*) (ELRT) to the List of Endangered and Threatened Wildlife under the authority of the Act. On April 28, 1994, we received a petition from John F. Bosta, of Susanville, California, requesting that we list the ELRT as an endangered or threatened species, designate critical habitat, and develop a recovery plan for the species. On August 7, 1995, we published our 90-day finding in the **Federal Register** (60 FR 40149) stating that the petition did not present substantial information to indicate that listing the ELRT as an endangered or threatened species under the Act may be warranted.

On August 15, 2003, we received a second petition from Mr. John Bosta, requesting that we list the ELRT as an endangered or threatened species under the Act. On October 6, 2003, we received a similar petition from Mr. Chuck Sanford, of Loomis, California, dated September 28, 2003. Mr. Sanford's petition repeated the same information provided earlier in the Bosta 2003 petition and was therefore treated as a comment on the first petition received. In our February 24, 2004, response letter to Mr. Bosta, we explained that we had reviewed the petition and determined that an emergency listing was not warranted, and that because of other court-ordered listing and critical habitat actions and settlements, we would not be able to otherwise address the petition to list the ELRT at that time, but would complete the action when workload and funding allowed.

In a settlement agreement with WildEarth Guardians dated May 10, 2011 [*WildEarth Guardians v. Salazar*, No. 10-377 (EGS) MDL Docket No. 2165], we agreed

to complete our 90-day finding on the 2003 petition to list the ELRT on or before September 30, 2012. On September 5, 2012, we published our 90-day finding in the **Federal Register** (77 FR 54548), in which we determined that the petition presented substantial information indicating that the ELRT may be warranted for listing as an endangered or threatened species, and initiated a status review and solicited information on the stressors potentially affecting the ELRT. Specifically, we found that the petition and information in our files indicated that the habitat in Pine Creek, a tributary to Eagle Lake and the major stream spawning habitat for ELRT, was degraded and that access to the stream was blocked by a weir used for collecting fish for hatchery purposes. We also found that the ELRT population in Pine Creek was subject to predation pressure from introduced nonnative brook trout (*Salvelinus fontinalis*).

On May 13, 2014, Western Watersheds Project (WWP) submitted a notice of intent to sue the Service for failure to complete a 12-month finding on the 2003 petition and determine the listing status of the ELRT under the Act. On September 23, 2014, WWP filed a complaint (*Western Watersheds Project v. Jewell et al.*; Case 2:14-CV-02205-MCE-KJN) to compel the Service to issue the 12-month finding.

On March 17, 2015, the Service entered into a stipulated settlement agreement with WWP agreeing that no later than June 30, 2016, the Service would submit to the **Federal Register** a 12-month finding as to whether listing the ELRT under the Act is warranted, not warranted, or warranted but precluded.

Background

The ELRT is a subspecies of rainbow trout endemic to the highly alkaline Eagle Lake and its main tributary, Pine Creek. Its range is restricted to Eagle Lake, Pine and

Bogard Spring Creeks within the Pine Creek watershed, and, on occasion, other small tributaries to Eagle Lake, such as Merrill and Papoose Creeks. Past cumulative impacts from improper land management, introduction of nonnative fishes, overharvesting, and lowering lake levels during the late 1800s and the early 1900s resulted in the degradation of habitat within the Pine Creek watershed and a sharply declining ELRT population. To ensure the persistence of the subspecies and to sustain a trophy fishery in Eagle Lake, a hatchery program for the ELRT was created by the California Department of Fish and Wildlife (CDFW) in 1950. In 1959, the Pine Creek Fish Trap and barrier weir (Trap) was constructed at the mouth of Pine Creek to assist in the collection of adult spawners for the hatchery program. The barrier weir blocked all fish passage except during high flow events; then, in 1995, the weir was modified further to block all fish passage, even in high flow events. In addition to the barrier weir, past land use practices had degraded stream conditions in the Pine Creek watershed. While the hatchery program substantially increased the ELRT population from historic lows observed in the 1930s–1940s, the blockage of natural stream spawning opportunities, in combination with the degraded watershed conditions, prevented natural lake-to-stream spawning and resulted in an increased dependence on hatchery propagation.

Stream-resident ELRT have been observed spawning in the intermittent and perennial sections of Pine Creek, which may be contributing to the natural reproductive population. There was an observation of spawning within the intermittent portions of Pine Creek and the subsequent downstream migration of fry in 2011. There were also observations of spawning within the perennial portions of Pine Creek in 2009, and fry were observed the following spring in Pine Creek. Some spawning activity has also been

observed along the gravelly shores of Eagle Lake, but it is unknown if spawning was successful or if it contributed to recruitment of the population. There has been recent successful spawning of ELRT in an aquarium at the Turtle Bay Museum in Redding, California, which suggests that spawning outside of the stream habitat is possible.

Summary of Status Review

At the time of our 90-day finding in 2012, we found that the petition presented substantial information that the ELRT may warrant listing due to the present or threatened destruction, modification, or curtailment of its habitat or range based on the presence of a hatchery weir on Pine Creek impeding fish passage, predation from introduced nonnative brook trout on the remnant ELRT population in the headwaters of Pine Creek, and because of the ongoing hatchery program and hatchery practices potentially causing genotypic and phenotypic genetic shift in ELRT populations. Since our 90-day finding was issued on September 5, 2012, numerous conservation efforts have been implemented or are ongoing, and these conservation efforts have reduced the level of impact on the ELRT from identified stressors.

Stressors Impacting ELRT: In completing our status review for the ELRT, we reviewed the best scientific and commercial data available and compiled this information in the 2016 Species Report for the Eagle Lake Rainbow Trout (*Oncorhynchus mykiss aquilarum*) (Service, 2016). For our finding, we evaluated potential stressors related to the ELRT and its habitat. The different levels of impact of each stressor or combination of stressors are defined as follows: (1) Low-level impacts are those that result in a minor loss of individuals and/or habitat currently or expected in the future; (2) moderate-level impacts are those that result in more than a minor loss, but not a widespread loss, of

individuals and/or habitat currently or expected in the future; and (3) high-level impacts are those that result in a widespread loss of individuals and/or habitat currently or expected in the future.

The stressors we analyzed were grazing, roads and railroads, water impoundments, fish passage barriers, recreational fishing, predation from and competition with brook trout, disease, effects from artificial propagation, and effects from climate change. The full analysis for all of these stressors can be found in the ELRT 12-Month Petition Finding's Supporting Document at <http://www.regulations.gov> (see **ADDRESSES**, above). As discussed in greater detail in that document, we have concluded, based on the best information available at this time, that the effects from grazing, roads and railroads, water impoundments, fish passage barriers, recreational fishing, disease, and effects from artificial propagation (all of the stressors analyzed, other than predation from and competition with brook trout and climate change, which, as discussed further below, have moderate-level impacts) are currently low-level impacts to ELRT and will continue at a low level into the future. With respect to fish passage barriers, the fact that this stressor—which historically had severe, high-level impacts—currently has only low-level impacts on the ELRT reflects a significant change in conditions that has reduced the stressors on the ELRT and improved its status.

As noted above, beginning in 1959 the Pine Creek Fish Trap and barrier weir prevented any migrations between Eagle Lake and suitable spawning habitat in the upper Pine Creek watershed. However, a fishway was installed in the Trap in 2012, which now fully allows upstream spawning migration runs. A few other fish passage barriers still currently exist, higher up in the watershed upstream of the Trap, but these are only

barriers under extreme low flow conditions and only have the potential to be minor impediments to habitat access by stream-resident fish in some locations. Currently, the only significant barrier to spawning migration is the lack of consistent annual flow within the lower, intermittent portions of the Pine Creek watershed. Past land use management practices, which have now been discontinued, likely exacerbated the effects of inconsistent flows by degrading habitat conditions, which in turn would have reduced the amount of suitable migration opportunities. However, this inconsistent flow barrier appears to be a natural condition of the system in which the ELRT has evolved. With the removal of the Trap as a barrier and discontinuation of harmful land use management practices that occurred in the past, the ELRT are now returned to the natural condition, including the inconsistency of adequate annual flows. As a result of this natural condition of inconsistent annual flows, there remains a potential that ELRT individuals during the spring attempting to migrate into the Pine Creek watershed to spawn may be either completely precluded from making spawning runs in any given year, or get stranded before reaching spawning habitat. There is no information to indicate these conditions will change (e.g., more frequent adequate annual flows) in the future, and therefore we believe this condition will continue to result in a minor loss of both individuals and habitat. However, while remaining barriers may result in reduced habitat opportunities in some locations, and inconsistent annual flows may result in reduced spawning opportunities or stranded individuals, conservation efforts (including installation of the fishway in the Pine Creek fish trap) have significantly improved the overall condition relative to passage barriers and have greatly improved the outlook for the ELRT, since it went from no ability at all for natural spawning from Eagle Lake to significantly

increased opportunities throughout the watershed.

Two of the stressors—predation from and competition with brook trout, and the potential effects from climate change—may result in moderate-level effects. The populations of nonnative brook trout that occur within the Pine Creek watershed have impeded the ability of the ELRT to establish a large stream population within the perennial portions of Pine and Bogard Spring Creeks. The large brook trout population not only competes with the ELRT for resources, but also preys on ELRT eggs and juveniles. The presence of brook trout likely precludes a robust population of stream-dwelling ELRT, both those resident now and those expected to migrate there now that passage barriers have been removed. However, there have been observations of individual ELRT and ELRT-spawning in the perennial sections of the watershed with brook trout present, demonstrating an ability to withstand some level of co-occurrence. During a 3-year electrofishing study in Bogard Spring Creek from 2007–2009, ELRT made up 3 percent of the fish caught, and brook trout made up 92 percent (Carmona-Catot et al. 2011, p. 331). Competition with and predation from nonnative brook trout will continue to be a source of loss of individuals within the Pine Creek watershed into the future, for as long as brook trout are present. However, this stressor does not rise to the level of a threat for the subspecies for several reasons: (1) Brook trout only affect a small portion of the overall ELRT population, since brook trout only occur in the perennial portions of the Pine Creek Watershed and not in the lake, where the main population of ELRT are found; (2) there is some evidence that ELRT may successfully spawn apart from the upper watershed streams; (3) ELRT are able to co-occur at low levels in streams where brook trout are present; and (4) the sustainable hatchery

operations are continuing to provide robust, healthy populations of ELRT throughout the entire watershed.

The effects of climate change will result in low- to moderate-level impacts into the foreseeable future, depending on various projected climate conditions. Future climate trends and projected climate models show a range of conditions that may occur in the future. Therefore, the degree to which climate change acts on the subspecies may vary (within the low to moderate range) under each projected modeled scenario.

Climate change may change the flow regime of the Pine Creek watershed, which may in turn influence the ELRT's ability to reach spawning habitat during the typical spawning migration timeframe. Climate change models predict that winter temperatures would increase, and that winter precipitation would shift from snow to rain. Under the lower emission scenario, April snowpack would be reduced 65 to 87 percent in the 5,740-foot (1,750-meter) elevation range of Pine Creek, and under the higher emission scenario, the reduction would be from 95 to 97 percent. In either scenario, Pine Creek would be likely to flow more during the winter, due to winter rain events, but flows from snowmelt during the spring season would be lower. This has the potential to "shift" the flow regime that is suitable for migration backwards in the year toward the winter months. Such a change would be likely to affect ELRT's spawning timing into upper Pine Creek. However, historically (before climate change was a factor) runoff timing and stream flow duration have always been a limiting environmental factor in successful spawning migrations of ELRT, and observations have shown that ELRT has a large variability in spawning timing. ELRT have been observed entering streams during spawning migrations from early February through late May. The earliest spawning migration is

recorded as February 9 through 12, 2015, when adult ELRT were seen entering Papoose Creek. The latest recorded spawning migration is within Pine Creek, where adults were observed spawning on May 23, 1975, and on May 22, 1995. Because of ELRT's ability historically to withstand stressful, varying conditions, and their plasticity in spawning timing, the potential change in Pine Creek's flow regime is not likely to impede their spawning migrations significantly. However, one possible consequence of an earlier spawning migration may be a reduction in the duration of the spawning season. Since spawning migrations are triggered by increasing water temperatures, earlier runoff will narrow the amount of time when there is adequate runoff at the appropriate temperature for the spawning migration. This may result in fewer individuals migrating and, ultimately, fewer individuals contributing to the reproductive population. It is important to note that this discussion about potential effects to spawning timing is in the context of a newly re-established migratory connection between Eagle Lake and Pine Creek. For many years prior, ELRT has been unable to migrate from Eagle Lake to Pine Creek at all. This effectively means that, even if there is some slight impact from a shift in the flow regime resulting from climate change, there will be a net increase in natural stream spawning, now and into the future. For a more in-depth discussion of the potential effects from climate change relative to ELRT spawning, please see the ELRT 12-Month Petition Finding's Supporting Document (see **ADDRESSES**). In addition, while we have determined that the potential effects from various climate change scenarios are not likely to rise to the level of impact on the ELRT such that it is in danger of extinction or likely to become so in the foreseeable future, based solely on projected conditions and conservation efforts that have already been implemented and/or are already ongoing and

likely to continue into the future. Planned conservation (see below), including restoration of stream habitat, channel function, and hydrology, will further improve the watershed's hydrologic function and help make the watershed more resilient to the effects of drought, potentially improving flow duration and volume. Increasing the robustness of the stream population will ensure natural production will take place at times when successful spawning migration is not possible, as the stream resident population will be capable of spawning and rearing within Pine Creek, and then migrate to Eagle Lake in subsequent years when conditions allow. Finally, any improvements to the artificial spawning program as a result of genetic studies will potentially improve the genetic variability of the subspecies, making it more likely the ELRT will be able to withstand environmental changes into the future.

In addition to evaluating the effect of individual stressors, we also looked to see whether multiple stressors may act concurrently on the species, and whether any synergistic effects were likely. Multiple stressors may act on the same individuals of a species or their habitat at the same time, which can result in impacts that are not accounted for when stressors are analyzed separately. Stressors that appear minor when considered alone may have greater impacts on individuals or habitat when analyzed cumulatively with other stressors. Furthermore, some stressors may act synergistically to cause impacts that are greater than the cumulative sum of the individual stressors. Cumulative effects can be described as additive, with the effects from each individual stressor being added to the effect from each subsequent stressor, and all effects are combined in an overall impact on the species. Synergistic effects go beyond a straightforward additive approach; instead a synergistic approach describes when

multiple stressors, interacting on a species or its habitat at the same time, actually increase the intensity of one or more of those stressors.

Past cumulative effects to habitat within the Pine Creek watershed reduced the quality and quantity of spawning and rearing habitat within the Pine Creek watershed, and in conjunction with overharvesting, introduction of nonnative fish, and lowering of the lake level, the population of ELRT declined. The population decline prompted the construction of the Trap and barrier weir to prevent the loss of adult individuals trying to migrate upstream and to collect adult spawners for hatchery purposes. As a result of that construction, the past cumulative impacts have been greatly reduced.

Under the current conditions, we found that it would be reasonable to anticipate cumulative effects on the ELRT from climate change altering the flow regime and the presence of brook trout. These stressors combined may result in additional individuals being lost; however, this loss would still be considered a moderate-level impact: more than a minor, but not widespread loss of individuals, particularly when the installation of the fishway is likely to significantly improve the ability of ELRT to spawn. We found no information indicating a potential for synergistic effects between any of the stressors. Moreover, any such moderate-level impacts—even when combined with low-level impacts from other stressors—would not cause the ELRT to be in danger of extinction or likely to become so in the foreseeable future.

Conservation Efforts: In addition to evaluating the stressors, we also considered and evaluated conservation efforts that have been implemented and shown to be effective in ameliorating the effects of stressors on the ELRT. We describe below the sources of these completed conservation efforts (including some future conservation efforts yet to be

implemented, although we did not rely on those future conservation efforts for the determination in this finding). To view the complete suite of all conservation efforts, please see Tables 2 and 3 of the ELRT Species Report (Service, 2016, pp. 50-54, 57-60).

CRMP Group: In 1987, the Coordinated Resource Management Planning (CRMP) group was formed to identify goals and implement a course of action for habitat and ecosystem restoration for Pine Creek. The CRMP group includes membership by the U.S. Forest Service (USFS), the University of California Cooperative Extension for Lassen County, the California Department of Fish and Wildlife (CDFW), and local landowners and interested parties. The initial goals for restoring Pine Creek included: (1) Improve streambank stability; (2) improve vegetation cover in the watershed; (3) raise the streambed and water table in the drainage, and spread out peak flows of Pine Creek; (4) restore the natural ELRT fishery in Pine Creek; (5) improve wildlife habitat along Pine Creek; (6) reduce nutrient and sediment loading into Eagle Lake from Pine Creek; (7) maintain grazing and timber management; and (8) meet goals in a coordinated effort with all affected parties. The Service has been occasionally involved in the planning efforts of the CRMP group since 1995.

The CRMP group has completed numerous successful restoration actions since 1989 to improve habitat conditions and re-establish natural populations and spawning runs of ELRT within the Pine Creek watershed. Restoration actions have included, among other things, replacing culverts to increase fish passage and improving grazing practices. A summary of the restoration actions, both completed and planned, is shown in Table 2 of the Service's ELRT Species Report (Service 2016, pp. 49-54). As stated above, our determination in this finding only relied on those conservation efforts that

have been implemented and shown effective at reducing or removing stressor impacts.

2015 ELRT Conservation Agreement and Conservation Strategy: A 2015 conservation agreement for ELRT and the associated conservation strategy were developed to expedite the implementation of conservation measures for the ELRT as a collaborative and cooperative effort among the CDFW, the USFS, and the Service. The conservation strategy was created to serve as a framework for the conservation and protection of the ELRT and to contribute to the species' persistence into the future. Conservation actions described in the conservation strategy are currently being implemented by CDFW and USFS, or are being planned for future implementation. As stated above, our determination in this finding only relied on those conservation efforts that have been implemented and shown effective at reducing or removing stressor impacts. These conservation efforts included:

- Removal of natural passage barriers;
- Modified spawning practices to increase genetic diversity; and
- Marking hatchery-raised fish to monitor the “natural” population.

Role of CDFW Fish Hatcheries: Since the 1950s, CDFW has been raising ELRT for fish stocking in Eagle Lake and Pine Creek. In addition to other hatcheries that raise ELRT for fish stocking throughout the nation, there are currently two CDFW fish hatcheries (Darrah Springs and Crystal Lake State Fish Hatcheries) that raise ELRT for stocking into Eagle Lake and Pine Creek. Both of these hatcheries have completed conservation efforts recommended by the CRMP group and are currently participating in conservation efforts in support of the 2015 conservation agreement and conservation strategy. The CDFW has been an active member in planning and implementing ELRT

restoration actions since 1989 as part of the CRMP group. CDFW assisted in the development of the conservation strategy and is a signatory agency on the conservation agreement.

The two CDFW fish hatcheries are being operated in a manner to provide conservation benefits to the subspecies by: (1) Producing a large number of stocked ELRT annually, with no indication or reason to stop doing so in the future; (2) monitoring naturally produced fish; (3) managing for genetic diversity and disease outbreak control; (4) providing access to upstream creek reaches for spawning by installation of the fishway at the Trap; and (5) planning to remove predatory nonnative brook trout. In evaluating the conservation benefits from hatchery operations, we did not rely on the potential for brook trout removal. Instead, we focused on those actions already undertaken (removal of the Trap as a passage barrier) and operations that are already in place (propagation, genetic practices, disease control), have already provided conservation benefits, and will continue to do so into the future.

The CRMP group has completed numerous successful restoration actions to improve habitat conditions and reestablish natural populations and spawning runs of ELRT within the Pine Creek watershed since 1989. Restoration actions include, but are not limited to: Improving grazing practices, replacing culverts to increase fish passage, and attempting to remove nonnative brook trout from Bogard Spring Creek. A summary of the restoration actions is shown in Table 2 of the Services ELRT Species Report (Service 2016, pp. 45-54). Through the conservation strategy, CDFW has successfully implemented ELRT health monitoring for disease control at the hatcheries, and adjusted hatchery operations, propagation efforts, fish stocking practices, and fish passage

strategies to benefit natural populations and spawning runs of ELRT in Pine Creek.

Based on the successful track record of numerous parties implementing these conservation actions together, we conclude that ongoing implementation of those actions is removing or reducing identified stressors to the subspecies or its habitat.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five factors, we find that the stressors acting on the subspecies and its habitat, either singly or in combination, are not of sufficient imminence, intensity, or magnitude to indicate that ELRT (*Oncorhynchus mykiss aquilarum*) is in danger of extinction throughout all of its range (an endangered species), or likely to become endangered within the foreseeable future (a threatened species). Populations of ELRT are improving due to past conservation actions and ongoing efforts to re-establish and increase naturally occurring populations. Current and ongoing habitat management and restoration activities for ELRT have made substantial progress since their inception and are continuing into the future.

We also considered whether the ELRT is threatened or endangered throughout a significant portion of its range. We evaluated the current range of the ELRT to determine if there is any apparent geographic concentration of potential threats for the ELRT. The ranges for naturally occurring populations of ELRT are relatively small and limited to the watershed for where they are found, unless they are stocked by CDFW in Eagle Lake and other areas due to artificial propagation. We also examined potential stressors throughout the range of the ELRT. Because the distribution of the subspecies is generally limited to Eagle Lake and the Pine Creek watershed, and the stressors are similar and essentially

uniform throughout the range, we found no portion of the range that could qualify as a significant portion of the ELRT's range and no concentration of stressors that suggests that the ELRT may be in danger of extinction, or likely to become in danger of extinction, in any portion of its range. Therefore, we find that listing the ELRT as an endangered or a threatened species throughout all of or a significant portion of its range is not warranted at this time.

This document constitutes the Service's 12-month finding on the petition to list the ELRT as an endangered or threatened species and fulfills our settlement obligation. A detailed discussion of the basis for this finding can be found in the ELRT Petition Finding's Supporting Document (see **ADDRESSES**, above).

Ichetucknee Siltsnail (*Floridobia mica*)

Previous Federal Actions

On April 20, 2010, we received a petition from the Center for Biological Diversity (CBD), Alabama Rivers Alliance, Clinch Coalition, Dogwood Alliance, Gulf Restoration Network, Tennessee Forests Council, West Virginia Highlands Conservancy, Tierra Curry, and Noah Greenwald (referred to as the "CBD petition") requesting that the Service consider for listing as either endangered or threatened 404 species in the southeastern United States, including the Ichetucknee siltsnail, that were ranked as G1 or G2 by the organization NatureServe; as near threatened or worse by the International Union for Conservation of Nature; or as a species of concern, threatened, or endangered by the American Fisheries Society. The Service issued 90-day findings on September 27, 2011 (76 FR 59836), in response to the petition and concluded that the petition presented substantial information indicating that the listing of 374 species (including the

Ichetucknee siltsnail) under the Act “may be warranted.” On June 17, 2014, CBD filed a complaint against the Service to compel the Service to issue a 12-month finding as to whether the listing of the Ichetucknee siltsnail is warranted, not warranted, or warranted but precluded. The complaint was resolved on September 22, 2014, when the U.S. District Court approved a settlement agreement between the Service and CBD, including a commitment for the Service to submit a 12-month finding for the Ichetucknee siltsnail to the **Federal Register** by June 30, 2016.

Background

The Ichetucknee siltsnail (*Floridobia mica*) is a freshwater snail in the phylum Mollusca, order Littorinimorpha, and family Hydrobiidae and is a distinct species. This snail is small with a shell that is between 2.0 and 2.3 millimeters (0.08 to 0.09 inches) in length. The Ichetucknee siltsnail is known in only one locality; it is endemic to Coffee Springs, a small spring located within Ichetucknee Springs State Park along the west bank of the Ichetucknee River about 1.6 kilometers (1.0 mile) northeast of U.S. Highway 27 in Suwannee County, Florida. Coffee Springs is a third magnitude spring with a flow of 2.83 cubic feet per second (cfs) and a pool area between 364 square meters (m²; 3,918 square feet (ft²)) and 19 m² (205 ft²). The spring is open and continuous with the Ichetucknee River. The siltsnail exists throughout the entire spring in varying densities, and they are found in nearly all habitat types within the spring. Little is known about the Ichetucknee siltsnail’s biology and behavior, as there has not been a comprehensive study of the species. However, some of the life history of the genus *Floridobia* has been described. Most *Floridobia* snails have a lifespan of 1 to 2 years, and the sexes are dioecious (separate). Reproduction is sexual and occurs throughout the year, and females

may be either oviparous (egg-laying) or ovoviviparous (live birth after eggs hatch inside the body). The females are larger than the males, and the ratio of females to males tends to be greater. Floridobia are found in greater abundance closer to spring heads, where the water temperature and flow are steady and where dissolved oxygen levels are low. Abundance decreases farther from the spring head, and population size seems to be influenced by the substrates available in the springs as well as by spring velocity, presence of macrophytes and algae mats, and flood frequency. Abundance is positively associated with the amount of available shading. Floridobia are prey to some small fishes; however, the role of predators on the population size is unknown. Floridobia graze on detritus and periphyton/biofilm. While a toxicity test has not been performed on the Ichetucknee siltsnail, it is likely it would be sensitive to contaminants, as studies on other Hydrobiidae snails have shown low tolerance to contaminants.

Summary of Status Review

The CBD petition identified recreation as the primary threat to the Ichetucknee siltsnail and also identified aquifer withdrawal (groundwater depletion), saltwater intrusion within karst habitats, groundwater contamination and water pollution, small population size effects, and lack of regulatory mechanisms in place to protect this snail as potential stressors to the species. The Service examined these potential stressors indicated by CBD, as well as the potential for contaminant spills, development and land use, nonnative species, and the effects of climate change as potential stressors to this species. After examining these potential stressors under a five-factor analysis, we found that they are not actual stressors to the Ichetucknee siltsnail at this time.

CBD indicated that recreation was the biggest threat, as recreational activities on the adjacent Ichetucknee River will cause habitat degradation and destruction. However, the Ichetucknee State Park (Park) has fenced off Coffee Springs from the Ichetucknee River to prevent any such disturbance to snail habitat. The Park also is implementing a management plan that includes monitoring and protecting this species. Under this plan, Coffee Springs is periodically monitored and inspected to ensure that no damage to the habitat occurs and that there have been no changes to the habitat of the siltsnail or the surrounding areas. Protective fencing and signage in the area of Coffee Springs is also being maintained.

Groundwater depletion was identified by CBD as a threat; however, it is not expected to affect the population of siltsnails despite a flow deficit on the Ichetucknee River. In addition, minimum flows and levels (MFLs) for the Lower Santa Fe and Ichetucknee Rivers and priority springs areas, including Coffee Springs, have been established by the Suwannee River Water Management District (SRWMD) and an MFL recovery or prevention strategy has been put into place that is expected to raise the flows and levels so that they will not fall below the established minimums and, therefore, we do not anticipate future negative effects on the species that would rise to the population level. Although identified by CBD, there is no evidence of saltwater intrusion occurring in Coffee Springs or on the Ichetucknee River that would affect the Ichetucknee siltsnail. There is a concern for groundwater contamination and water pollution through increasing nitrate levels in the Ichetucknee spring system based on samples taken within the springs since the 1940s. However, these changes have been very gradual, and any future changes are also expected to occur very slowly. Currently, exposure to increased nitrate levels

does not appear to be having a negative effect on the Ichetucknee siltsnail. Additionally, Florida Department of Environmental Protection (FDEP) has been implementing a basin management action plan (BMAP) since February of 2012, for the management of total maximum daily load (TMDL) for nitrates in the water systems of the Ichetucknee River and Santa Fe River basins, which includes the Ichetucknee River and spring system, and water quality is expected to improve over time. There is a buffer of State park land ranging from 500 to 1,700 m (5,381.96 to 18,298.65 ft) wide surrounding both sides of the river at and upstream of Coffee Springs. Therefore, contaminant spills are unlikely to occur on the protected State park property and are therefore not considered a likely stressor to the Ichetucknee siltsnail or its habitat. Development and land use are also not stressors, because Coffee Springs is located entirely within a protected zone in the State park land where development and other uses are excluded.

While nonnative species can sometimes result in the loss and decline of a native species, and two nonnative species were identified in the Ichetucknee River, neither of the nonnative species was identified within Coffee Springs, nor were they shown to be colonizing the adjacent Ichetucknee River in high numbers. The best available information indicates that nonnative species are not affecting the Ichetucknee siltsnail at the species level now, nor do we have indication that they will in the future. While climate change has the potential to affect habitat used by this species, much uncertainty remains regarding which habitat attributes may be affected, and the timing, magnitude, and rate of change. Based on this variability and uncertainty of the effects of climate change on the Ichetucknee siltsnail within its range, we cannot reasonably determine that the effects of climate change are likely to be a threat to the species now or in the

foreseeable future. Small population size effects are one of the reasons the Ichetucknee siltsnail was identified under the CBD petition as a species at risk for extinction.

However, the known distribution of the species has always been limited and small, and the population within the spring appears to be healthy and abundant, has persisted in this location, and does not appear to be negatively affected at the population level by the potential stressors identified in the CBD petition or by the potential stressors we identified. In addition, measures are in place to protect or monitor both the habitat and the population. The CBD petition did not identify overutilization, disease, or predation as threats to the species, and the best available scientific and commercial information does not indicate that these stressors are negatively affecting the Ichetucknee siltsnail, or that they are likely to do so in the foreseeable future.

The existing regulatory mechanisms we examined are reducing, and likely to continue reducing, the stressors. There are a number of laws that set standards for clean water generally such as the Clean Water Act of 1972 (CWA; 33 U.S.C. 1251 et seq.) and the Safe Drinking Water Act of 1974 (SDWA; 42 U.S.C. 300f et seq.). The CWA and SDWA are in place to protect water quality such that it will be supportive of aquatic wildlife. State regulatory mechanisms in place include protections of the Ichetucknee River and springs under designation as class III waters and as Outstanding Florida Waters. Both of these designations ensure protection of water quality in the groundwater, springs, and surface waters of the Ichetucknee River and spring system and are therefore also protective of the habitat used by the Ichetucknee siltsnail. The SRWMD has included consideration of the Ichetucknee siltsnail within its established MFLs, and the Park has included the management and protection of snail habitat within its park management

plan. FDEP has enacted a BMAP for the management of TMDLs for nitrates in the water systems of the Ichetucknee River and Santa Fe River basins. While this is not specifically designed to alleviate stressors on the Ichetucknee siltsnail, its purpose is to ensure that TMDLs within the Ichetucknee River and spring system are monitored and managed.

In making our 12-month finding on the petition, we consider and evaluate the best available scientific and commercial information. This evaluation includes information from all sources, including State, Federal, tribal, academic, and private entities and the public. After evaluating the best available scientific and commercial information on all potential stressors acting individually or in combination, we found no information to indicate that the combined effects are causing a population-level decline or currently degrading habitat of the species or that they are likely to do so in the foreseeable future.

Finding

We examined potential threats to the Ichetucknee siltsnail from development, recreation, groundwater withdrawal, nonnative species, environmental contaminants, overutilization, disease or predation, the inadequacy of existing regulatory mechanisms, small population size, and the effects of climate change. The population is now the largest it has ever been and appears to have been stable since 1968. After evaluating the best available scientific and commercial information, we found no evidence that these potential stressors are acting on, or having a negative impact on, the Ichetucknee siltsnail. In addition, the State continues to manage the site to protect both the habitat and the species.

Because the Ichetucknee siltsnail is only known from one location (Coffee Springs), there is no portion of the species' range where potential threats are significantly

concentrated or substantially greater than in other portions of its range. Therefore, we find that factors affecting the Ichetucknee siltsnail are essentially uniform throughout its range, indicating no portion of the range is likely to be in danger of extinction or likely to become so. Therefore, no portion warrants further consideration to determine whether the species may be endangered or threatened in a significant portion of its range.

Based on our review of the best available scientific and commercial information pertaining to the five factors, we find that the stressors, even when considered cumulatively, are not of sufficient imminence, intensity, or magnitude to indicate that the Ichetucknee siltsnail is in danger of extinction (endangered), or likely to become endangered within the foreseeable future (threatened), throughout all of its range or any significant portion of its range. Therefore, we find that listing the Ichetucknee siltsnail as an endangered or threatened species under the Act is not warranted at this time.

This document constitutes the Service's 12-month finding on the April 20, 2010, petition to list the Ichetucknee siltsnail as an endangered or threatened species and fulfills our settlement obligation. A detailed discussion of the basis for this finding can be found in the Ichetucknee Siltsnail Petition Finding's Supporting Document (see **ADDRESSES**, above).

New Information

We request that you submit any new information concerning the status of, or stressors to, the Eagle Lake rainbow trout or the Ichetucknee siltsnail to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**, whenever it becomes available. New information will help us monitor these species and encourage their conservation. If an emergency situation develops for either of these species, we will

act to provide immediate protection.

References Cited

Lists of the references cited in the petition findings are available on the Internet at <http://www.regulations.gov> and upon request from the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**.

Authors

The primary authors of this document are the staff members of the Unified Listing Team, Ecological Services Program.

Authority

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

Dated: June 24, 2016.

Stephen Guertin

Acting Director,

U.S. Fish and Wildlife Service.

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