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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R1-ES-2017-0051; FXES1113090000-178-FF09E42000]

RIN 1018-BC09

Endangered and Threatened Wildlife and Plants; Removing the Foscett Speckled Dace from the List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service or USFWS), are removing the Foscett speckled dace (*Rhinichthys osculus* ssp.), a fish native to Oregon, from the Federal List of Endangered and Threatened Wildlife on the basis of recovery. This determination is based on a review of the best available scientific and commercial information, which indicates that the threats to the Foscett speckled dace have been eliminated or reduced to the point where it no longer meets the definition of an endangered or threatened species under the Endangered Species Act of 1973 (Act), as amended.

DATES: This rule is effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: This final rule, the post-delisting monitoring plan, and supporting documents including the Cooperative Management Plan are available on the Internet at <http://www.regulations.gov> in Docket No. FWS-R1-ES-2017-0051, or at

<https://ecos.fws.gov>. In addition, the supporting file for this final rule will be available for public inspection by appointment, during normal business hours, at: U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266; telephone: 503–231–6179.

FOR FURTHER INFORMATION CONTACT: Paul Henson, State Supervisor, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266; telephone: 503–231–6179. If you use a telecommunications device for the deaf (TDD), call the Federal Relay Service at 1–800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, a species warrants protection through listing if it is endangered or threatened. Conversely, a species may be removed from the Federal List of Endangered and Threatened Wildlife (List) if the Act's protections are determined to be no longer required based on recovery, original data error, or extinction. Removing a species from the List can be completed only by issuing a rule. This rule finalizes the removal of the Foscett speckled dace (*Rhinichthys osculus* ssp.) from the List due to recovery, as proposed on January 4, 2018 (83 FR 475).

The basis for our action. We have determined that the Foscett speckled dace is no longer at risk of extinction and has exceeded or met the following criteria for delisting described in the species' recovery plan (USFWS 1998): (1) Long-term protection of habitat, including spring source aquifers, spring pools and outflow channels, and surrounding lands, is assured; (2) Long-term habitat management guidelines are developed and implemented to ensure the continued persistence of important habitat

features, and include monitoring of current habitat and investigation for and evaluation of new spring habitats; and (3) Research into life history, genetics, population trends, habitat use and preference, and other important parameters is conducted to assist in further developing and/or refining criteria (1) and (2), above. We consider the Foskett speckled dace to be a conservation-reliant species, which we define in this case as a species that has generally met recovery criteria but requires continued active management to sustain the species and associated habitat in a recovered condition (see Scott *et al.* 2010, entire), given that the Foskett speckled dace requires active management to maintain suitable habitat. To address this management need, the Bureau of Land Management (BLM), the Oregon Department of Fish and Wildlife (ODFW), and the Service developed, and are implementing, the Foskett speckled dace Cooperative Management Plan (CMP; USFWS *et al.* 2015), and are committed to the continuing long-term management of this species.

Peer review and public comment. We evaluated the species' needs, current conditions, and future conditions to support our proposed rule. We sought comments from independent specialists to ensure that our determination is based on scientifically sound data, assumptions, and analyses. We invited these peer reviewers to comment on the draft post-delisting monitoring plan. We considered all comments and information we received during the public comment period on the proposed rule to delist the Foskett speckled dace and the post-delisting monitoring plan when developing this final rule.

Previous Federal Actions

In carrying out our responsibility to administer the Act, we maintain the Lists of Endangered and Threatened Wildlife and Plants in title 50 of the Code of Federal Regulations (CFR). We published a final rule listing the Foskett speckled dace as

threatened in the *Federal Register* on March 28, 1985 (50 FR 12302). This rule also found that the designation of critical habitat was not prudent because it would increase the likelihood of vandalism to the small, isolated springs that support this species. On April 27, 1998, a recovery plan was completed for the Foscett speckled dace as well as two other fish of the Warner Basin and Alkali Subbasin (USFWS 1998).

Our most recent 5-year review, completed on October 26, 2015 (USFWS 2015, entire), concluded that the status of the Foscett speckled dace had substantially improved since the time of listing according to the definitions of “endangered species” and “threatened species” under the Act and recommended that the Foscett speckled dace be considered for delisting.

On January 4, 2018, we published a proposed rule in the *Federal Register* (83 FR 475) to delist the Foscett speckled dace on the basis of recovery. In that document, we requested information and comments from the public regarding the proposed rule and the draft post-delisting monitoring plan for the Foscett speckled dace.

Species Description

The Foscett speckled dace is in the family Cyprinidae (Girard 1857) and is represented by one population in Lake County, Oregon: a natural population that inhabits Foscett Spring on the west side of Coleman Lake, and an introduced subpopulation at nearby Dace Springs (USFWS 1998, p. 14). The Foscett speckled dace is a small, elongate, rounded minnow (4 inches (in) (10 centimeters (cm))) with a flat belly. The snout is moderately pointed, the eyes and mouth are small, and ventral barbels (*i.e.*, whisker-like sensory organs near the mouth) are present. Foscett speckled dace have eight dorsal fin rays and seven anal fin rays, and the caudal fin is moderately forked

(USFWS 1998, p. 8). The color of its back is dusky to dark olive; the sides are grayish green, with a dark lateral stripe, often obscured by dark speckles or blotches; and the fins are plain. Breeding males are reddish on the lips and fin bases.

Life History

Typically, speckled dace breed at age 1 year, and spawning begins in March to April and extends into July; individual fish can live for at least 4 years (Scheerer *et al.* 2015, p. 2). Multiple age classes of Foscett speckled dace are present at Foscett Spring and successful reproduction occurs annually (Scheerer and Jacobs 2009, p. 5). To describe the different habitat types occupied by Foscett speckled dace, Scheerer split the habitat types into categories. The four habitat types are defined as the (1) Spring Pool; (2) Spring Brook; (3) Tule Marsh; and (4) Cattail Marsh. Aside from 1997, Cattail Marsh supports few Foscett speckled dace; the small population size in the Cattail Marsh habitat is due to habitat encroachment (Scheerer *et al.* 2011, pp. 6-7; Scheerer *et al.* 2016, p. 9). Most of the Cattail Marsh habitat is outside the fence protecting Foscett Spring habitat, and the habitat is known to dry periodically (U.S. Fish and Wildlife Service 1998, p. 14). Young-of-the-year fish are more common in the shallow marsh habitats (Scheerer *et al.* 2016, p. 3). Presumably, similar to other dace, Foscett speckled dace require rock or gravel substrate for egg deposition (Sigler and Sigler 1987, p. 208). The taxonomy of the Foscett speckled dace is summarized in the species' 5-year review (USFWS 2015).

Distribution

The Foscett speckled dace is endemic to Foscett Spring in the Warner Basin, in southeastern Oregon (see Figure 1). The historical known natural range of the Foscett speckled dace is limited to Foscett Spring. At the time of listing in 1985, Foscett

speckled dace also occurred at Dace Spring, a smaller spring located approximately 0.5 miles (mi; 0.8 kilometers (km)) south of Foscett Spring, where translocation was initiated in 1979 (Williams *et al.* 1990, p. 243).

Foscett speckled dace were probably distributed throughout prehistoric Coleman Lake (see Figure 1) during times that it held substantial amounts of water. The timing of the isolation between the Warner Lakes and the Coleman Lake Subbasin is uncertain, although it might have been as recent as 10,000 years ago (Bills 1977, entire). As Coleman Lake dried, the salt content of the water increased and suitable habitat would have been reduced from a large lake to spring systems that provided adequate freshwater.

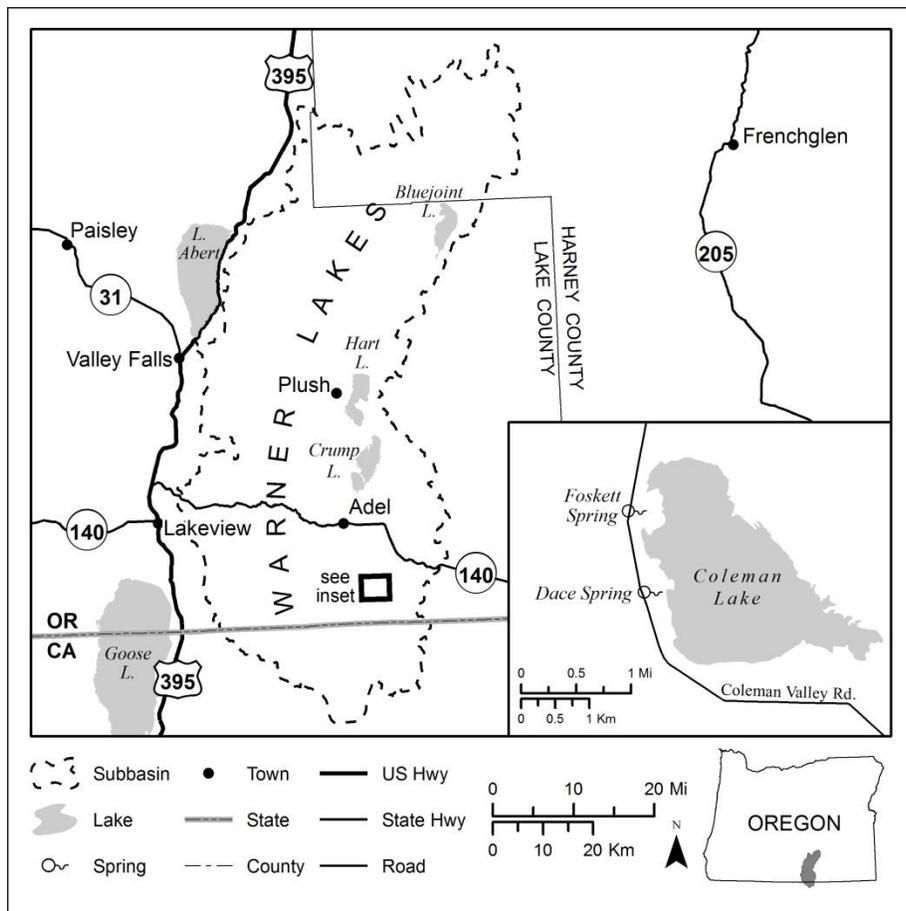


Figure 1. Location of Foscett Spring and Dace Spring.

Given that both Foskett and Dace springs were historically below the surface elevation of Coleman Lake, it is reasonable to assume that Foskett speckled dace occupied Dace Spring at some point in the past, although none was documented in the 1970s. Beginning in 1979, Foskett speckled dace were translocated into the then-fishless Dace Spring to attempt to create a subpopulation (see *Abundance*, below).

Habitat

Foskett Spring is a small, natural thermal artesian spring that rises from a springhead pool that flows through a narrow, shallow spring brook into a series of shallow marshes, and then disappears into the soil of the normally dry Coleman Lake (Scheerer *et al.* 2016, p. 1; Sammel and Craig 1981, p. 113). Foskett Spring is a cool-water thermal spring with temperatures recorded at a constant 64.8 degrees Fahrenheit (°F) (18.2 degrees Celsius (°C)) (Scheerer and Jacobs 2009, p. 5). The spring water is clear, and the water flow rate is consistently less than 0.5 cubic feet (ft³) per second (0.01 cubic meters (m³) per second). The springhead pool has a loose sandy bottom and is heavily vegetated with aquatic plants. The ODFW estimated approximately 864 square yards (yds²) (722 square meters (m²)) of wetland habitat are associated with the Foskett Spring area, including the spring pool, spring brook, tule marsh, cattail marsh, and sedge marsh (Scheerer and Jacobs 2005, p. 6; hereafter “marsh” unless otherwise noted). Foskett speckled dace occur in all the wetlands habitats associated with the spring. The fish use overhanging bank edges, grass, exposed grass roots, and filamentous algae as cover.

In 1987, the BLM acquired the property containing both Foskett and Dace springs and the surrounding 161 acres (ac) (65 hectares (ha)), of which approximately 69 ac (28

ha) were fenced to exclude cattle from the two springs. After fencing and cattle exclusion, encroachment by aquatic vegetation reduced the open-water habitat (Sheerer and Jacobs 2007, p. 9). This is a common pattern in desert spring ecosystems and has resulted in reductions of fish populations at other sites (see Kodric-Brown and Brown 2007).

In 2005, 2007, and 2009, the ODFW considered Foskett speckled dace habitat to be in good condition, but limited in extent. They noted that encroachment by aquatic plants may be limiting the population and that a decline in abundance of Foskett speckled dace since 1997 was probably due to the reduction in open-water habitat (Scheerer and Jacobs 2005, p. 7; 2007, p. 9; 2009, p. 5). Deeper water with moderate vegetative cover would presumably be better habitat, judging from the habitats used by other speckled dace, although Dambacher *et al.* (1997, no pagination) noted that past habitat management to increase open water has been unsuccessful in the long run due to sediment infilling and regrowth of aquatic plants. To increase open-water habitat, the BLM and the Service worked together in 2009 constructing two ponds connected to the outlet channel of Dace Spring. To address the encroachment by aquatic vegetation at Foskett Spring, in 2013, the BLM reduced vegetation biomass by implementing a controlled burn in the surrounding marshes. In 2013 and 2014, the BLM hand-excavated 11 pools and increased the open-water habitat around Foskett Spring by 196 yds² (164 m²) (Scheerer *et al.* 2014, p. 9). The response of Foskett speckled dace to this habitat enhancement was substantial but relatively short-lived (see *Abundance*, below).

The BLM initiated baseline water quality and vegetation monitoring at Foskett and Dace springs in 1987. Data collected on September 28, 1988, documented that the

two springs had similar water chemistry, temperature, and turbidity (Williams *et al.* 1990, p. 244). In 2013, the BLM reconfigured the inlet and outlet to the two ponds at Dace Spring, allowing greater water flow and improving water quality (Scheerer *et al.* 2013, p. 8).

Abundance

The population of Foskett speckled dace has been monitored regularly by the ODFW since 2005, and, while variable, appears to be resilient (*i.e.*, capable of withstanding natural variation in habitat conditions and weather as well as random events). General observations made during these surveys included the presence of multiple age-classes and the presence of young-of-the-year, which indicates that breeding is occurring and young are surviving for multiple years. Bond (1974) visually estimated the population in Foskett Spring to be between 1,500 and 2,000 individuals in 1974. In 1997, the ODFW obtained mark-recapture population estimates at both Foskett and Dace springs (Dambacher *et al.* 1997, no pagination). The Foskett Spring estimate was 27,787 fish, and the majority of the fish (97 percent) occurred in an open-water pool located in the marsh outside of the existing Foskett Spring cattle exclosure. Since 1997, population estimates have varied from 751 to 24,888 individuals (see Table 1, below).

Abundance declined substantially from 1997 through 2012, a period when aquatic plants substantially expanded into open-water habitats (Scheerer *et al.* 2016, p. 9). ODFW attributed the higher population estimates from 2013 through 2015 to habitat management that increased open water (see below); during these years most fish were found in these maintained habitats (Scheerer *et al.* 2016, p. 9). The population decline documented in 2016 in Foskett Spring was likely a result of vegetation regrowth into the

excavated areas (Scheerer *et al.* 2016, pp. 6–9). As a result of the vegetation regrowth and population decline in 2016, and consistent with the CMP, the BLM conducted an extensive habitat enhancement project in 2017. The project entailed excavating approximately 300 cubic yards (yds²) (251 m²) of vegetation and accumulated sediment in the Foskett Spring pool, stream, and portions of the wetland, resulting in a significant increase in open-water habitat. Prior to initiating this enhancement project in 2017, the ODFW conducted a population survey that estimated 4,279 dace in Foskett Spring (95 percent confidence interval (CI): 3,878–4,782), a moderate increase in the estimate from the prior year (1,830) (P. Scheerer 2017, pers. comm.). As noted previously, and as illustrated in Table 1 below, the variability in abundance is not uncommon for dace species and appears, based on observations by ODFW biologists, to be driven in part by the availability of open-water habitat. Given information gained from prior habitat enhancement actions at Foskett and Dace springs, we anticipate the extensive habitat enhancement work conducted by the BLM in 2017 will support abundance commensurate with available habitat in coming years.

Table 1. Foskett Spring: Population estimates with 95 percent confidence intervals of Foskett speckled dace by habitat type.

Model	Yr ¹	Habitat Type or Location					Management
		Spring Pool	Spring Brook	Tule Marsh	Cattail Marsh	Entire Site ²	
Lincoln - Petersen	1997	204 (90–317)	702 (1,157–2,281)	no sample	26,881 (13,158– 40,605)	27,787 (14,057–41,516)	none
	2005	1,627 (1,157–2,284)	755 (514–1,102)	425 (283–636)	353 (156–695)	3,147 (2,535–3,905)	none
	2007	1,418 (1,003–1,997)	719 (486–1,057)	273 (146–488)	422 (275–641)	2,984 (2,403–3,702)	none
	2009	247 (122–463)	1,111 (774–1,587)	1,062 (649–1,707)	158 (57–310)	2,830 (2,202–3,633)	none
	2011	322 (260–399)	262 (148–449)	301 (142–579)	0	751 (616–915)	none
	2012	404 (354–472)	409 (357–481)	220 (159–357)	0	988 (898–1,098)	Controlled burn
Huggins	2011	NA ³	NA ³	NA ³	NA ³	1,728 (1,269–2,475)	none
	2012	633 (509–912)	589 (498–1024)	625 (442–933)	0	1,848 (1,489–2,503)	Controlled burn
	2013	2,579 (1,985–3,340)	638 (566–747)	6,891 (5,845–8,302)	3,033 (2,500–3,777)	13,142 (10,665– 16,616)	Pool excavation and hand excavation of spring brook and marshes
	2014	2,843 (2,010–3,243)	7,571 (2,422–13,892)	11,595 (7,891–12,682)	2,936 (1,757–7,002)	24,888 (19,250–35,510)	Pool excavation and hand excavation of spring brook and marshes

Model	Yr ¹	Habitat Type or Location					Management
		Spring Pool	Spring Brook	Tule Marsh	Cattail Marsh	Entire Site ²	
State-space	2015	698 (520–2,284)	11,941 (5,465–15,632)	3,662 (2,158–6,565)	38 (8–111)	16,340 (10,980–21,577)	none
	2016	138 (122–226)	656 (609–1240)	1,021 (926–1245)	14 (12–19)	1,830 (1,694–2,144)	none
	2017	925	1,032	2,322	no survey ⁴	4,279 (3,878–4,782)	Mechanical excavation to deepen the open water pools and channels

¹ Note that there are two population estimates (*i.e.* Lincoln-Petersen and Huggins) for 2011 and 2012.

² Site estimate totals were calculated from the total number of marked and recaptured fish and are not the sum of the estimates for the habitat types.

³ No estimates were calculated; see Scheerer *et al.* 2015, pp. 4–7.

⁴ The cattail marsh habitat was too shallow to survey in 2017.

No Foskett speckled dace were documented in Dace Spring in the 1970s. In 1979 and 1980, individuals were translocated from Foskett Spring to Dace Spring (Williams *et al.* 1990, p. 243; see Table 2, below). Although an estimated 300 fish were documented in 1986 (Williams *et al.* 1990, p. 243), this initial effort failed to establish a subpopulation at Dace Spring due to a lack of successful recruitment (Dambacher *et al.* 1997, no pagination). Only 19 fish were observed in 1997, and subsequent surveys failed to locate individuals in Dace Springs (Scheerer and Jacobs 2005, p. 2). In 2009, two pools were created at Dace Spring to increase open-water habitat and additional individuals were moved to the spring. Although recruitment was documented, major algal blooms and periods of low dissolved oxygen resulted in low survival (Scheerer *et al.* 2012, p. 8). Habitat manipulation by the BLM in 2013 improved water quality, and recruitment was documented in 2014 and 2015 (Scheerer *et al.* 2014, p. 6; Scheerer *et al.* 2015, p. 5). The two constructed pools at Dace Spring are currently providing additional habitat and may continue to serve as a refuge for Foskett speckled dace. Table 2 summarizes population estimates, translocations, and habitat management at Dace Spring (Williams *et al.* 1990, p. 243; Dambacher *et al.* 1997, no pagination; Scheerer and Jacobs 2005, p. 2; Scheerer *et al.* 2012, p. 1; Scheerer *et al.* 2013, pp. 2, 8; Scheerer *et al.* 2014, pp. 6, 9; Scheerer *et al.* 2015, p. 5; Scheerer *et al.* 2016, p. 6; Scheerer *et al.* 2017, p. 6; Monzyk *et al.* 2018, p. 10).

Table 2. Dace Spring: Summary of Foskett speckled dace population estimates.

Year	Population estimate	Number translocated	Habitat management
Pre-1979	0	none	none
1979	no estimate	50	none
1980	no estimate	50	none
1986	300 ¹	none	none
1997	<20 ¹	none	none
2005	0	none	none
2009	no estimate	none	construction of two pools
2010	no estimate	49	none
2011	34 (11–36)	75	none
2012	13 ²	none	none
2013	34 (17–62)	200	construction of flow-through channels
2014	552 (527–694)	324	none
2015	876 (692–1,637)	none	none
2016	1,964 (1,333–4,256)	none	none
2017	15,729 ³ (3,470–58,479)	none	none
2018	1,924 (1,890–1,968)	none	none

¹ No confidence interval calculated.

² In 2012, there were a known total of 13 individuals.

³ The very large 2017 estimate lacked precision (reflected in the large 95-percent confidence interval) due to a likely biased estimator of capture probabilities used for small fish that year (F. Monzyk 2018, pers. comm.).

Recovery Planning and Recovery Criteria

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of section 4 of the Act, that the species be removed from the List. However, revisions to the List (*i.e.*, adding, removing, or reclassifying a species) must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is endangered or threatened (or not) because of one or more of five threat factors. Section 4(b) of the Act requires that the determination be made “solely on the basis of the best scientific and commercial data available.” Therefore, recovery criteria should help indicate when we would anticipate an analysis of the five threat factors under section 4(a)(1) would result in a determination that the species is no longer an endangered species or threatened species (see **Summary of Factors Affecting the Species**, below).

While recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are not regulatory documents and cannot substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. A decision to revise the status of a species or remove it from the List is ultimately based on analysis of the best scientific and commercial data

available to determine whether a species is no longer considered endangered or threatened, regardless of whether that information differs from the recovery plan.

Recovery plans may be revised to address continuing or new threats to the species as new substantive information becomes available. The recovery plan identifies site-specific management actions that will help recover the species, measurable criteria that set a trigger for eventual review of the species' listing status (*e.g.*, under a 5-year review conducted by the Service), and methods for monitoring recovery progress. Recovery plans are intended to establish goals for long-term conservation of listed species and define criteria that are designed to indicate when the threats facing a species have been removed or reduced to such an extent that the species may no longer need the protections of the Act.

There are many paths to accomplishing recovery of a species, and recovery may be achieved without all criteria being fully met. For example, one or more criteria may be exceeded while other criteria may not yet be met. In that instance, we may determine that the threats are minimized sufficiently to delist. In other cases, recovery opportunities may be discovered that were not known when the recovery plan was finalized. These opportunities may be used instead of methods identified in the recovery plan. Likewise, information on the species may be learned that was not known at the time the recovery plan was finalized. The new information may change the extent that criteria need to be met for recognizing recovery of the species. Recovery of a species is a dynamic process requiring adaptive management that may, or may not, fully follow the guidance provided in a recovery plan.

The Oregon Desert Fishes Working Group has been proactive in improving the conservation status of the Foskett speckled dace. This group of Federal and State agency biologists, academicians, and others has met annually since 2007 to: (1) Share species' status information; (2) share results of new research; and (3) assess ongoing threats to the species.

The primary conservation objective in the Foskett speckled dace recovery plan is to enhance its long-term persistence through the conservation and enhancement of its limited range and habitat (USFWS 1998, entire). The recovery plan states that the spring habitat of the Foskett speckled dace is currently stable, but extremely restricted, and any alterations to the spring or surrounding activities that indirectly modify the spring could lead to the extinction of this species. While the recovery plan does not explicitly tie the recovery criteria to the five listing factors in section 4(a)(1) of the Act, our analysis of whether the species has achieved recovery is based on these five factors, which are discussed below under **Summary of Factors Affecting the Species**. The recovery plan outlines three recovery criteria (summarized below) to assist in determining when the Foskett speckled dace has recovered to the point that the protections afforded by the Act are no longer needed. A detailed review of the recovery criteria for the Foskett speckled dace is presented in the species' 5-year review (USFWS 2015), which is available online at https://ecos.fws.gov/docs/five_year_review/doc4758.pdf, at <http://www.regulations.gov> under Docket No. FWS-R1-ES-2017-0051, or by requesting a copy from our Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**). The 2015 5-year review concluded that the risk of extinction has been substantially reduced, as threats have been managed, and recommended that the species be proposed for

delisting (USFWS 2015, p. 29). The Foskett speckled dace has exceeded or met the following criteria for delisting described in the recovery plan:

Recovery Criterion 1: *Long-term protection to habitat, including spring source aquifers, spring pools and outflow channels, and surrounding lands, is assured.*

Criterion 1 has been met. In 1987, the BLM acquired and now manages the 160-ac (65-ha) parcel of land containing both Foskett and Dace springs (see below) and fenced 70 ac (28 ha) to exclude cattle from both springs, although the fence does not include the entire occupied habitat for Foskett speckled dace. This parcel of land was acquired by the BLM specifically to provide conservation benefit to the Foskett speckled dace. We anticipate continued ownership of this habitat by the BLM in the future in part due to direction in the BLM's Lakeview District Resource Management Plan (RMP), which includes a management goal of retaining public land with high public resource values and managing that land for the purpose for which it was acquired (BLM 2003, p. 92). Additional support for continued ownership and management of the site by the BLM rests in the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*), as amended, which directs the BLM to manage public land to provide habitat for fish and aquatic wildlife and to protect the quality of water resources. Lastly, continued ownership and management by the BLM, as well as the protections afforded to Foskett and Dace springs from public ownership, are supported by the BLM's involvement as a cooperating agency in the development and implementation of the CMP that was agreed to, finalized, and signed by the BLM in August 2015 (USFWS *et al.* 2015). The BLM's official commitment to carry out the CMP demonstrates that Criterion 1 has been met.

While little information is available regarding spring flows or the status of the aquifer, the aquifer has limited capability to produce water for domestic or stock use (Gonthier 1985, p. 7). Given this, the few wells that exist in the Warner Valley are unlikely to impact Foskett or Dace springs. Recovery Criterion 1 addresses listing factor A (present or threatened destruction, modification, or curtailment of habitat or range). Recovery Criterion 2: *Long-term habitat management guidelines are developed and implemented to ensure the continued persistence of important habitat features and include monitoring of current habitat and investigation for and evaluation of new spring habitats.*

Criterion 2 has been met. With the understanding that the Foskett speckled dace is a conservation-reliant species, the BLM, ODFW, and Service developed a CMP (USFWS *et al.* 2015) that outlines long-term management actions necessary to provide for the continued persistence of habitats important to Foskett speckled dace. The CMP was agreed to, finalized, and signed by the BLM, ODFW, and Service in August 2015. The cooperating parties committed to the following actions: (1) Protect and manage Foskett speckled dace habitat; (2) enhance the habitat when needed; (3) monitor Foskett speckled dace populations and habitat; and (4) implement an emergency contingency plan as needed to address potential threats from the introduction of nonnative species, pollutants, or other unforeseen threats (USFWS *et al.* 2015, p. 3). The CMP has no termination date.

Although the CMP is a voluntary agreement among the three cooperating agencies, we anticipate the plan will be implemented into the foreseeable future for the following reasons. First, each of the cooperating agencies have established a long record

of engagement in conservation actions for Foskett speckled dace, including the BLM's prior contributions through land acquisition and three decades of habitat management at Foskett and Dace springs; scientific research and monitoring by the ODFW dating back to 1997; and funding support, coordination of recovery actions, and legal obligations by the Service to monitor the species into the future under the Foskett speckled dace post-delisting monitoring plan. In addition, all three cooperating agencies are active participants in the Oregon Desert Fishes Working Group, an interagency group facilitated by the Service that meets annually to discuss recent monitoring and survey information for multiple fish species, including Foskett speckled dace, as well as to coordinate future monitoring and management activities.

Second, implementation of the CMP is already underway. Under the auspices of the CMP, the BLM has conducted quarterly site visits to determine the general health of the local spring environment using photo point monitoring techniques. In 2017, the BLM conducted an extensive habitat enhancement project by excavating approximately 300 yards (yds²) (251 m²) of vegetation and accumulated sediment in the Foskett Spring pool, stream, and portions of the wetland, resulting in a significant increase in open-water habitat. The BLM also provided funding to ODFW to conduct estimates of Foskett speckled dace. The ODFW provided personnel and technical assistance to the BLM for the above-mentioned excavation work in 2017, and they conducted an abundance estimate in 2017 to keep track of the long-term trend of the population. The Service provided personnel and technical assistance to the BLM for the 2017 excavation work and provided funding to the ODFW in 2005, 2007, and 2009 at Foskett Spring, and in 2015, 2016, and 2017 to conduct population estimates in both Foskett and Dace springs.

Third, the conservation mission and authorities of these agencies authorize this work even if the species is delisted. For example, the Lakeview District BLM's Resource Management Plan (RMP) and BLM Manual 6840.06E both provide general management direction for Special Status Species, including the Foskett speckled dace. "Special Status" species for the BLM includes sensitive, proposed for listing, threatened, and endangered species. When delisted, the Foskett speckled dace would still be considered a "Special Status" species, as it meets the criteria to be "sensitive" for the BLM. According to the BLM's *Criteria for determining FS R6 and OR/WA BLM Sensitive and Strategic Species* (July 13, 2015), all federally delisted species that are suspected or documented on BLM or U.S. Forest Service lands are considered "sensitive" for the duration of their delisting monitoring plan unless the species meets some of the other criteria for being "sensitive." In this case, being a State/Oregon Biodiversity Information Center (ORBIC) rank 1 species, with a Heritage program/NatureServe rank of S1 puts the Foskett speckled dace firmly in the "sensitive" category (R. Huff 2018, pers. comm.; ORBIC 2016, p. 5). Special Status species lists and criteria are updated and transmitted to the BLM Districts approximately every 3 years through the State Director, who then directs the Districts to use the new list (R. Huff 2018, pers. comm.). The Federal Land Policy and Management Act of 1976 directs the BLM to manage public land to provide habitat for fish and aquatic wildlife and to protect the quality of water resources. The ODFW's State of Oregon Wildlife Diversity Plan (Oregon Administrative Rule (OAR) 635-100-0080), Oregon Native Fish Conservation Policy (OAR 636-007-0502), and the Oregon Conservation Strategy (ODFW 2016) each provide protective measures for the conservation of native fish including Foskett speckled dace, which will remain on the ODFW's sensitive species

list even if the species is removed from the Federal List. The Service is authorized to assist in the protection of fish and wildlife and their habitats under authorities provided by the Act (16 U.S.C. 1531 *et seq.*), the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*), and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a–742j, not including 742 d-1).

Fourth, there is a practical reason to anticipate implementation of the CMP into the foreseeable future: the CMP actions are technically not complicated to implement, and costs are relatively low. We also have confidence that the actions called for in the CMP will be effective in the future because they have already proven effective as evidenced by the information collected from recent habitat actions and associated monitoring (including abundance data, the effects of exclosure fences and vegetation encroachment, and vegetation management through controlled burns and pool expansion) (Scheerer *et al.* 2016, entire).

Lastly, if the CMP is not adhered to by the cooperating agencies or an evaluation by the Service suggests the habitat and population are at risk, the Service would evaluate the need to again add the species to the List (i.e., “relist” the species) under the Act. Taken together, it is therefore reasonable to conclude that the CMP will be implemented as anticipated and that the long-term recovery of the Foskett speckled dace will be maintained and monitored adequately.

Criterion 2 is further met by the establishment of a refuge subpopulation of Foskett speckled dace at nearby Dace Spring. As described earlier in this rule, dating back to 1979, multiple unsuccessful attempts were made to create a refuge for Foskett speckled dace at Dace Spring. More recent actions have been more successful. Habitat

modification at Dace Spring by the BLM, first in 2009 and again in 2013, and translocation of dace from Foskett Spring to Dace Spring by the ODFW in 2010, 2011, 2013, and 2014, has provided for adequate abundance of the species over time with reflected natural variability (see Table 2, above). Natural recruitment was documented in 2014, 2015, and 2016 (Scheerer *et al.* 2016, p. 6).

Our decision to delist the Foskett speckled dace is not dependent on the existence of a subpopulation at Dace Spring. However, the existence of a subpopulation of Foskett speckled dace, should it be resilient over the long term, provides increased redundancy to the species' overall status and may reduce vulnerability to catastrophic events and any future threats that may appear on the landscape.

Recovery Criterion 3: *Research into life history, genetics, population trends, habitat use and preference, and other important parameters is conducted to assist in further developing and/or refining criteria 1 and 2 above.*

This criterion has been met through population surveys by the ODFW and the Service, and investigations into the genetic relatedness of the Foskett speckled dace to other nearby dace populations. In 1997, the Service contracted the ODFW to conduct an abundance survey and develop a population estimate for the Foskett speckled dace. In 2005, 2007, 2009, and 2011 through 2017, the Service again contracted the ODFW to obtain mark-recapture abundance estimates for both Foskett and Dace springs, and also in 2018 only at Dace Spring. At Foskett Spring, habitat-specific population estimates were developed. Captured fish were measured to develop length-frequency histograms to document reproduction. In addition to collecting abundance data, ODFW staff mapped wetland habitats, monitored vegetation, and measured temperature and water quality at

both springs during each survey. Together, the population estimates and habitat mapping at Foscett Spring suggested a relationship between open-water habitat and fish abundance (Sheerer *et al.* 2016, p. 8). Water quality monitoring highlighted the need for habitat enhancement at Dace Springs. Thus, these data assisted in further developing and/or refining recovery criteria 1 and 2.

Summary of Changes from the Proposed Rule

We considered all comments and information we received during the comment period for the proposed rule to delist Foscett speckled dace (83 FR 475; January 4, 2018). This resulted in the following changes from the proposed rule in this final rule:

- We made some minor editorial changes to the document.
- Based on a request for clarification regarding our discussion of open-water habitat and population size, we replaced the word “variability” with the word “abundance” in one sentence (at the end of the *Abundance* discussion, above).
- Based on a comment on the uncertainty regarding the contribution of the Dace Spring population to the overall status of the species, we revised our discussion of the Dace Spring population (at the end of the “Small Population Size” discussion under Factor E in **Summary of Factors Affecting the Species**, below).
- Based on comments that the ODFW study only shows an observed response of Foscett speckled dace abundance to increased open water and not a direct correlation between the two variables, we have removed the reference to a direct response from this final rule. Although we present population information and discuss the relationship between population size and open-water habitat as suggested by ODFW (Sheerer *et al.*

2016, pp. 1, 9), our rationale for delisting Foskett speckled dace is based on the removal or reduction of threats to the species, not on population size.

- Based on comments regarding the potential response of the Foskett speckled dace to the effects of climate change, we added information to the climate change discussion under Factor E in **Summary of Factors Affecting the Species**, below.

Summary of Factors Affecting the Species

Section 4 of the Act and its implementing regulations (50 CFR part 424) set forth the procedures for listing species, reclassifying species, or removing species from listed status. “Species” is defined by the Act as including any species or subspecies of fish or wildlife or plants, and any distinct vertebrate population segment of fish or wildlife that interbreeds when mature (16 U.S.C. 1532(16)). A species may be determined to be an endangered or threatened species because of any one or a combination of the five factors described in section 4(a)(1) of the Act: (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 must consider these same five factors in delisting a species. We may delist a species according to 50 CFR 424.11(d) if the best available scientific and commercial data indicate that the species is neither endangered nor threatened for one or more of the following reasons: (1) The species is extinct; (2) the species has recovered and is no longer endangered or threatened; or (3) the original scientific data used at the time the species was classified were in error.

A recovered species is one that no longer meets the Act's definition of endangered or threatened. Determining whether a species is recovered requires consideration of the same five categories of threats specified in section 4(a)(1) of the Act. For species that are already listed as endangered or threatened, this analysis of threats is an evaluation of both the threats currently facing the species and the threats that are reasonably likely to affect the species in the foreseeable future following delisting or downlisting (*i.e.*, reclassification from endangered to threatened) and the removal or reduction of the Act's protections.

A species is "endangered" for purposes of the Act if it is in danger of extinction throughout all or a "significant portion of its range" and is "threatened" if it is likely to become endangered within the foreseeable future throughout all or a "significant portion of its range." The word "range" refers to the general geographical area in which the species occurs at the time a status determination is made.

The Act does not define the term "foreseeable future;" we think it is reasonable to define the foreseeable future for the Foskett speckled dace as 30 years based upon the following analysis:

Based on monitoring that began in 1997 by the ODFW, the Foskett speckled dace population is highly variable in size, and may be linked to the amount of open-water habitat (Scheerer *et al.* 2016, p. 8). The relationship between open-water habitat and population size has not been thoroughly studied for Foskett speckled dace, but the relationship has been shown in other types of narrow endemic fishes in spring type environments (Kodric-Brown and Brown 2007, entire). We have no information to suggest this apparent relationship would change in the future. There also is no reason to

expect local changes to ground water levels (see Factor A discussion, below), and climate changes modeled over the next 30 plus years (*i.e.*, through 2049) are not predicted to impact the Foskett speckled dace (see Factor E discussion, below).

The BLM has owned and managed the habitat at Foskett and Dace Springs since 1987, and ODFW has conducted monitoring of the Foskett speckled dace for 20 years. The BLM, ODFW, and Service are committed to long-term continued monitoring and implementation of conservation measures for the species through the CMP. Modeling of climate change impacts suggest little change in environmental conditions over the next 30 years (through 2049) in the Warner Lakes Basin. Although we also looked at climate models that projected an additional 25 years into 2074, we determined that the 30-year timeframe reflects climate change models that are relevant to the Foskett speckled dace and its habitat, as well as our ability to project land management decisions; therefore we think it is reasonable to define the foreseeable future for the Foskett speckled dace as 30 years.

In considering what factors might constitute threats, we must look beyond the exposure of the species to a particular factor to evaluate whether the species may respond to the factor in a way that causes actual impacts to the species. If there is exposure to a factor and the species responds negatively, the factor may be a threat, and during the status review, we attempt to determine how significant a threat it is. The threat is significant if it drives or contributes to the risk of extinction of the species, such that the species warrants listing as endangered or threatened as those terms are defined by the Act. However, the identification of factors that could impact a species negatively may not be sufficient to compel a finding that the species warrants listing. The information

must include evidence sufficient to suggest that the potential threat is likely to materialize and that it has the capacity (*i.e.*, it should be of sufficient magnitude and extent) to affect the species' status such that it meets the definition of endangered or threatened under the Act.

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

The Service listed the Foskett speckled dace as threatened in 1985 (50 FR 12302; March 28, 1985), due to the species' very restricted range, its low abundance, and its extremely restricted and vulnerable habitat, which was being modified at that time. Potential habitat-related threats that were identified in the final listing rule included groundwater pumping for irrigation, use of the area by livestock, channeling of the springs for agricultural purposes, and other mechanical modifications of the aquatic ecosystem. The vulnerability of the habitat was accentuated by its very small size and a water flow rate of less than 0.5 cubic feet (ft³) per second (0.01 cubic meters (m³) per second) (50 FR 12304; March 28, 1985).

Livestock Use and Mechanical Modification

In listing the species, the Service noted that Foskett Spring was a livestock watering area and grazing occurred in the area, although the exact impact had not been determined. The Service indicated that uncontrolled trampling of the springs by livestock could probably have a negative effect on the aquatic ecosystem and livestock use above those existing at the time of listing would have a negative impact (50 FR 12304 and 12305; March 28, 1985). Grazing cattle affects the form and function of stream and pool habitat by hoof shearing, compaction of soils, and mechanical alteration of the habitat.

Since the 1985 listing, the BLM acquired the property containing Foskett and Dace springs by land exchange in 1987, and fenced 70 ac (28 ha) of the 160-ac (65-ha) parcel to exclude cattle from both Foskett and Dace springs as well as the two recently constructed ponds, and protect any Foskett speckled dace in the springs. While the exclusion of cattle likely improved water quality and habitat stability, it may also have played a role in increasing the extent of encroaching aquatic vegetation. Although most of the habitat was excluded from grazing, a portion of the occupied habitat was not included in the fenced area. Examining the population trends within this unfenced habitat illustrates the variability of the population and the ability of the population to respond to management. The Foskett Spring was revisited in 1997, and 97 percent of the estimated population of Foskett speckled dace was located in a shallow open-water pool in a previously dry marsh outside of the enclosure fence (Dambacher *et al.* 1997, entire). The changed conditions noted at this site over time illustrate the natural variability in habitat conditions of this ephemeral wetland system.

In 2007, 14 percent of the estimated population of 2,984 Foskett speckled dace was located in the marsh outside of the exclusion fence (Scheerer and Jacobs 2007, p. 7), and trampling of the wetland habitat by cattle was evident (USFWS 2015, p. 19). In 2011 and 2012, no Foskett speckled dace were detected in the marsh outside of the exclusion fence (Scheerer *et al.* 2014, p. 6). In response, the BLM conducted a controlled burn in 2013; and in 2013 and 2014, they excavated open-water habitat in the marsh. In 2013, over 13,000 Foskett speckled dace were detected, with nearly 10,000 being in the restored marsh (Scheerer *et al.* 2013, p. 9). In 2014, nearly 25,000 Foskett speckled dace were detected, with nearly 19,000 being in the restored marsh (Scheerer *et al.* 2014, p. 9).

Unfortunately, the marsh and excavated pools outside the fence quickly grew dense with vegetation, and the excavated pool filled in with sediment; it is unclear if the pasture was rested during this period. The relationship between dace abundance and open water (Scheerer *et al.* 2016, p. 8) illustrates the need for periodic vegetation removal to maintain appropriate habitat for the Foskett speckled dace (Scheerer *et al.* 2014, p. 9). While the area outside the exclusion fence may provide habitat for Foskett speckled dace in the future, we do not view it as critical to the long-term persistence of the species. The primary habitat for the fish, and the area that has received recent habitat management to create open water, is within the enclosure.

Sometime in fall and/or winter of 2014 to 2015, unauthorized cattle grazing occurred in both the Foskett and Dace Spring enclosures (Leal 2015, pers. comm.). Cattle accessed the site after a nearby gate was removed illegally. Based on photos provided by the BLM, it appears the vegetation utilization was sporadic although heavy in some areas, but damage to Foskett and Dace springs' streambanks appeared inconsequential. The BLM has replaced the gate and will continue to maintain the fence per their commitments outlined in the CMP (USFWS *et al.* 2015). Although cattle did access the Foskett and Dace spring sites, over time these enclosures have sufficiently protected Foskett and Dace springs from damage from livestock grazing, and use of the area by livestock remains below the level at the time of listing in 1985. The quarterly site visits committed to by the BLM in the CMP will increase the ability to detect and remedy any future issues with open gates or downed fences. However, due to the remoteness of the site, it is possible unauthorized grazing within the enclosures may infrequently occur in the foreseeable future. Given the minimal impact of the singular observation of

unauthorized grazing within the enclosures and the commitment of quarterly monitoring of the site by BLM, we do not view grazing in the enclosure as a threat in the foreseeable future.

Surveys conducted from 2005 through 2015 at Foskett Spring did not reveal any sign of artificial channeling of water or mechanized impacts beyond the remnants of historical activities (*i.e.*, two small rock cribs and side-casting of material around the spring). The habitat at Foskett Spring is extremely limited, and past encroachment by aquatic vegetation has reduced the area of open water. The decline in abundance of Foskett speckled dace from 1997 to 2011 (see Table 1, above) was likely due to the reduction in open-water habitat (Scheerer and Jacobs 2005, pp. 5, 7; Scheerer *et al.* 2012, p. 8). Management to increase open-water habitat, while very effective in the short term, needs to be periodically repeated as sediment infilling and subsequent growth of aquatic vegetation is continuous. As such, periodic management will be needed in perpetuity to maintain high-quality habitat for the Foskett speckled dace.

The ODFW recommended that restoration efforts to increase open-water habitat are needed to increase carrying capacity for Foskett speckled dace (Scheerer and Jacobs 2007, p. 9; Scheerer and Jacobs 2009, pp. 5–6). Restoration efforts were conducted at Foskett Spring in 2013 and 2014, and resulted in a 164-percent increase in open-water habitat and a peak population estimate in 2014 of 24,888 individuals (Scheerer *et al.* 2016, pp. 8–9). Periodic habitat maintenance at Foskett and Dace springs will be necessary to maintain open-water habitat for the Foskett speckled dace. The BLM, ODFW, and Service have committed to periodic habitat maintenance in the CMP signed in August 2015. As noted earlier in this rule, the CMP identifies actions such as

protection of the aquatic habitat and surrounding land; management of the habitat to ensure continued persistence of important habitat features; monitoring of the fish populations and habitat; and implementation of an emergency contingency plan in case of nonnative introduction, pollutants, or other unforeseen threats. Implementation of these actions will significantly reduce or eliminate threats related to destruction, modification, or curtailment of the Foskett speckled dace's habitat or range. It is reasonable to conclude the CMP will be implemented into the foreseeable future for the reasons summarized under **Recovery Planning and Recovery Criteria**, above.

Mechanical modification and livestock watering uses are no longer considered a threat since the BLM acquired the property containing both Foskett and Dace springs and constructed a fence to exclude cattle from a majority of the habitat. We anticipate continued monitoring and maintenance of the exclusion fence into the foreseeable future by the BLM based on their commitments in the CMP and their long record of conservation management of habitat at Foskett and Dace springs.

Pumping of Groundwater and Lowering of the Water Table

Streams and lakes in and around the Warner Basin have produced a variety of unconsolidated Pliocene to Holocene sediments that have accumulated and contribute to the structure of the aquifer (Gonthier 1985, p. 17). Wells in other portions of the Warner Basin using these Pleistocene lake bed aquifers tend to have low to moderate yields. Pleistocene lake bed deposits of clay, sand, and diatomaceous earth (*i.e.*, soft, crumbly soil formed from the fossil remains of algae) have a thickness of up to 200 ft (60 m) (Gonthier 1985, pp. 38–39; Woody 2007, p. 64). Hydraulic conductivity (*i.e.*, ease with which a fluid can move) in these sediments ranges from 25 to 150 ft (7.6 to 46 m) per

day; while transmissivity (horizontal groundwater flow) in valleys in this sediment-filled basin and range region of Oregon, such as the Warner Valley aquifer system, ranges from 1,000 to 15,000 square feet (ft²) (92.90 to 1,393.55 square meters (m²)) per day (Gonthier 1985, p. 7). This is considered a poor quality aquifer with limited capability to produce water for domestic or stock use (Gonthier 1985, p. 7). Therefore, few wells exist in the Warner Valley and are not likely to impact Foskett or Dace spring.

We have no evidence of groundwater pumping in the area. A query of the Oregon Water Resources Department database for water rights did not reveal any wells within 5 mi (8 km) of Foskett Spring. The closest well listed in the database is 5.9 mi (9.5 km) away along Twentymile Creek. No other wells were located closer to Foskett Spring.

There are no Oregon Water Resources Department records of water rights within approximately 5 miles of either spring. Any development of water resources and filing of water rights on BLM lands would require a permit (BLM 2003), and we anticipate the likelihood of the BLM receiving a permit request related to a new water right in the future would be low. Although groundwater pumping was identified as a potential threat at the time of listing, we have determined this is not currently a threat and is not anticipated to be a threat in the foreseeable future.

Habitat Enhancement and Creation of a Refuge Population

To assess the effects of management on reducing the encroachment of aquatic vegetation at Foskett Spring and the response of fish to increased open water, the BLM conducted a controlled burn in 2013 in the tule and cattail marsh to reduce plant biomass (Scheerer *et al.* 2014, p. 9). In 2013 and 2014, the BLM excavated pools to increase open-water habitat. The response of dace to these restoration efforts was remarkable,

with the 2014 population estimated at 24,888 (19,250–31,500; 95-percent confidence interval) fish, and most of these fish occupied the restored marsh areas. The population data indicate that fluctuations in abundance and population trends are tied to the availability of open water (Scheerer *et al.* 2016, p. 8) and illustrate the need for periodic management to maintain open-water habitat.

Habitat restoration at Dace Spring followed by translocations of dace has resulted in a second subpopulation of Foskett speckled dace. Two ponds were created in 2009, and connected to the outlet channel of Dace Spring. Foskett speckled dace were translocated to the ponds. The 2016 population estimate was 1,964 fish, which is a substantial increase from the 2013 estimate of 34 fish. The estimate includes the 200 dace that were transplanted from Foskett Spring in 2013 (Scheerer *et al.* 2014, p. 6). The 2017 population estimate in Dace Spring was 15,729 (confidence interval: 3,470–58,479) (Scheerer *et al.* 2017, p. 6), although the broad confidence limits infer low precision. The 2018 estimate at Dace spring was 1,924 (confidence interval: 1,890–1,968) (Monzyk *et al.* 2018, p. 10). Reproduction at Dace Spring was documented by the ODFW in 2014 (Scheerer *et al.* 2014, p. 6) and in 2015 (Scheerer *et al.* 2015, p. 5). The ODFW is evaluating the long-term status of the Dace Spring subpopulation. Although results appear positive, it is premature to conclude if establishment of this refuge will be successful over the long term. While our decision to delist Foskett speckled dace is not dependent on establishment of a refuge, the resilience of a subpopulation at Dace Spring may provide increased redundancy to the species' overall status in the future by reducing vulnerability to catastrophic events.

Summary of Factor A

Securing long-term habitat protections (Recovery Criterion 1) and developing and implementing long-term management techniques (Recovery Criterion 2) are important recovery criteria for this species, and many of the factors discussed above fulfill these criteria, which also were identified in the most recent 5-year review (USFWS 2015, entire). Acquisition of the property by the BLM has facilitated the recovery of the Foskett speckled dace. The recent habitat enhancement work and the commitments made in the CMP provide assurance that minor oversight and continued habitat enhancement by the BLM and ODFW will allow the species to persist at abundance levels commensurate with available habitat. Although the CMP is voluntary, it is reasonable to conclude, for reasons summarized under **Recovery Planning and Recovery Criteria**, above, that the plan will be implemented by all three cooperating agencies for the foreseeable future.

Based on the best available information and confidence that current management will continue into the future as outlined in the CMP, we conclude that the present or threatened destruction, modification, or curtailment of habitat or range does not constitute a substantial threat to the Foskett speckled dace now or in the foreseeable future.

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

Overutilization for commercial, recreational, scientific, or educational purposes was not a factor in listing, nor do we have information to suggest that it has become a threat since that time. Therefore, based on the best available information, we conclude that it does not constitute a substantial threat to the Foskett speckled dace now or in the foreseeable future.

Factor C. Disease or Predation

The 1985 listing rule states, “There are no known threats to . . . Foskett speckled dace from disease or predation” (50 FR 12304; March 28, 1985). During the 2005 and 2011 population surveys, the ODFW biologist noted that: “[t]he fish appear to be in good condition with no obvious external parasites” (Scheerer and Jacobs 2005, p. 7; Scheerer 2011, p. 6). During the 2007 and 2009 population surveys, the ODFW noted that the Foskett speckled dace appeared healthy and near carrying capacity for the available habitat at that time (Scheerer and Jacobs 2007, p. 8; 2009, p. 5). We have no additional information that would change this conclusion.

The CMP includes quarterly field visits to Foskett and Dace springs to determine general health of the local spring environment and to identify threats that necessitate implementation of the emergency contingency plan, which could include the detection of disease and introduced predators. The emergency contingency plan describes steps to be taken to secure Foskett speckled dace in the event their persistence is under immediate threat (*e.g.*, from introduction of nonnative fish that may threaten them due to predation or act as a disease vector).

Summary of Factor C

Based on the best available information, we conclude that disease and predation do not constitute substantial threats to the Foskett speckled dace now or in the foreseeable future.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

Under this factor, we examine whether existing regulatory mechanisms are inadequate to address the threats to the Foskett speckled dace discussed under other

factors. Section 4(b)(1)(A) of the Act requires the Service to take into account “those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species.” In relation to Factor D under the Act, we interpret this language to require us to consider relevant Federal, State, and Tribal laws, regulations, and other such mechanisms that may minimize any of the threats we describe in the threats analyses under the other four factors, or otherwise enhance conservation of the species. We give strongest weight to statutes and their implementing regulations and to management direction that stems from those laws and regulations; an example would be State governmental actions enforced under a State statute or constitution, or Federal action under statute.

For currently listed species that are being considered for delisting, we consider the adequacy of existing regulatory mechanisms to address threats to the species absent the protections of the Act. We examine whether other regulatory mechanisms would remain in place if the species were delisted, and the extent to which those mechanisms will continue to help ensure that future threats will be reduced or minimized.

The 1985 listing rule states, “The State of Oregon lists . . . Foskett speckled dace as [a] “fully protected subspecies” under the Oregon Department of Fish and Wildlife regulations. These regulations prohibit taking of the fishes without an Oregon scientific collecting permit. However, no protection of the habitat is included in such a designation and no management or recovery plan exists [for the Foskett speckled dace]” (50 FR 12304; March 28, 1985).

The Foskett speckled dace was listed as threatened by the State of Oregon in 1987, as part of the original enactment of the Oregon Endangered Species Act (Oregon

ESA). That listing designated Foskett speckled dace as a “protected species” and prohibited take or possession unless authorized by a permit. The Oregon ESA prohibits the “take” (kill or obtain possession or control) of State-listed species without an incidental take permit. The Oregon ESA applies to actions of State agencies on State-owned or -leased land, and does not impose any additional restrictions on the use of Federal land. In recognition of the successful conservation actions and future management commitments for the Foskett speckled dace and its habitat, the Oregon Fish and Wildlife Commission (OFWC) ruled to remove the Foskett speckled dace from the State List of Threatened and Endangered Species on April 21, 2017.

The ODFW’s Native Fish Conservation Policy calls for the conservation and recovery of all native fish in Oregon (ODFW 2002), including Foskett speckled dace, now listed as sensitive on the ODFW’s sensitive species list. The Native Fish Conservation Policy requires that the ODFW prevent the serious depletion of any native fish species by protecting natural ecological communities, conserving genetic resources, managing consumptive and nonconsumptive fisheries, and using hatcheries responsibly so that naturally produced native fish are sustainable (OAR 635-007-0503). The policy is implemented through the development of collaborative conservation plans for individual species management units that are adopted by the OFWC. To date, the ODFW has implemented this policy by following the federally adopted recovery plan and will continue to conserve Foskett speckled dace according to the State rules for conserving native fish and more specifically the commitments made by the ODFW in the CMP. The State of Oregon Wildlife Diversity Plan (OAR 635-100-0080), Oregon Native Fish Conservation Policy (OAR 636-007-0502), and the Oregon Conservation Strategy

(ODFW 2016) provide additional authorities and protective measures for the conservation of native fish, including the Foscett speckled dace.

Finally, the BLM manages the 160-ac (65-ha) parcel of land containing the Foscett and Dace spring sites consistent with the Lakeview District's RMP (BLM 2003), which provides general management guidelines for Special Status Species, and specifically states that the BLM will manage the Foscett speckled dace and its habitat consistent with the species' 1998 recovery plan.

Additionally, though not a regulatory mechanism, the CMP, which was prepared jointly and signed by the BLM, ODFW, and Service, is a conservation measure that will guide future management and protection of the Foscett speckled dace, regardless of its State or Federal listing status. The CMP, as explained in more detail under **Recovery Planning and Recovery Criteria**, above, identifies actions to be implemented by the BLM, ODFW, and Service to provide for the long-term conservation of the Foscett speckled dace (Recovery Criterion 2). The approach of developing an interagency CMP for the Foscett speckled dace to promote continued management post-delisting is consistent with a "conservation-reliant species," described by Scott *et al.* (2005, pp. 384–385) as those that have generally met recovery criteria but require continued active management to sustain the species and associated habitat in a recovered condition. A key component of the CMP is continued management of aquatic vegetation, as necessary, to promote open-water habitat important to the species' long-term viability.

Summary of Factor D

In our discussion under Factors A, B, C, and E, we evaluate the significance of threats as mitigated by any conservation efforts and existing regulatory mechanisms.

Regulatory mechanisms may reduce or eliminate the impacts from one or more identified threats. Where threats exist, we analyze the extent to which conservation measures and existing regulatory mechanisms address those threats to the species. The existence of regulatory mechanisms like the Lakeview District BLM's RMP, State conservation measures such as the Oregon Native Fish Conservation Strategy, along with the other authorities supporting each cooperating agency's entrance into the CMP agreement, reduce risk to the Foskett speckled dace and its habitat. For the reasons discussed above, we anticipate that the conservation measures initiated under the CMP will continue through at least the foreseeable future, which we have defined as 30 years.

Consequently, we find that conservation measures, along with existing State and Federal regulatory mechanisms, are adequate to address threats to the species absent protections under the Act.

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

The 1985 listing rule states, "Additional threats include the possible introduction of exotic fishes into the springs, which could have disastrous effects on the endemic Foskett speckled dace, either through competitive exclusion, predation, or introduced disease. Because these fishes occur in such limited and remote areas, vandalism also poses a potential threat" (50 FR 12304; March 28, 1985).

No exotic fish introduction or acts of vandalism of the springs have occurred since the time of listing more than 30 years ago. As mentioned in the discussion of livestock grazing, sometime in 2014 or 2015, a gate was illegally removed near the springs, but damage to Foskett and Dace springs' streambanks appeared inconsequential. The BLM replaced the gate and will continue to maintain the fence per their

commitments outlined in the CMP (USFWS *et al.* 2015). The Foskett speckled dace is vulnerable to invasive or nonnative species (aquatic plants, invertebrates, or fish species). However, this vulnerability is reduced in part due to the remoteness of the site and the lack of recreational or other reasons for the public to visit the area. It is also reduced by the establishment of a refuge population in Dace Spring. While the risk of exotic fish introductions is low, the potential impact is high due to the highly restricted distribution of the Foskett speckled dace. The CMP includes quarterly monitoring and an emergency contingency plan to address potential threats from introduction of nonnative species or pollutants (for information on how to access the CMP for further reference see **ADDRESSES**, above).

Other Risk Factors

A species' habitat requirements, population size, and dispersal abilities, among other factors, help to determine its vulnerability to extinction. Key risk factors include small population size, dependence on a rare habitat type, inability to move away from sources of stress or habitat degradation, restrictions to a small geographic area, and vulnerability to catastrophic loss resulting from random or localized disturbance (Williams *et al.* 2005, p. 27). The Service listed the Foskett speckled dace in part due to these factors. This species had a very restricted natural range; the species occurred in low numbers in a small spring that was extremely vulnerable to destruction or modification due to its small size and a water flow rate of less than 0.5 ft³ per second (0.01 m³ per second). Additionally, the habitat upon which the Foskett speckled dace depends is fragile and has been affected by past livestock grazing and mechanical modification.

Small Population Size

Surveys by the ODFW from 2005 through 2017 have documented that the number of Foskett speckled dace vary considerably through time and by habitat type (see Table 1, above), and available open-water habitat, which fluctuates annually, appears to be the key factor in determining the population size of this species (Scheerer *et al.* 2016, p. 8). The lowest population estimate was 751 fish (using the Lincoln-Petersen model) in 2011, and no individuals were documented in the cattail marsh that year (see Table 1, above). Management to create more open water in the marsh habitat at Foskett Spring was initiated in 2012 and completed in 2014, increasing the amount of open-water habitat by 150 percent, to approximately 358 yds² (300 m²) (Scheerer *et al.* 2016, pp. 7–9). The increase in fish abundance in 2013 through 2015 was notable, especially in the two habitats where management occurred (see Table 1, above).

Based on the relationship between the amount of open water and the number of Foskett speckled dace, the CMP includes removing encroaching vegetation to enhance open-water habitat, and excavating open-water pools. These activities will be conducted every 5 to 10 years or as determined necessary to maintain open-water habitat to support healthy populations of Foskett speckled dace.

Additionally, the ongoing effort by the BLM and the Service to restore Dace Spring provides the potential for a refuge population of Foskett speckled dace. Two ponds have been created and connected to the outlet channel of Dace Spring; Foskett speckled dace have been translocated to the ponds (see Table 2, above). Reproduction and an associated population increase was documented by the ODFW in 2014, 2015, 2016, 2017, and 2018. The ODFW is currently evaluating the status of the Foskett

speckled dace in the new ponds, and, although results are positive, it is premature to predict long-term viability of the Dace Spring population.

Dependence Upon a Specific Rare Habitat Type and Inability to Disperse

This species is known to occupy only Foskett Spring and Dace Spring. Due to the small size of Foskett Spring and the lack of connectivity to other aquatic habitat, there is no opportunity for the Foskett speckled dace to disperse away from stress, habitat degradation, or disturbance factors. There are no streams or drainages or other aquatic connections that provide alternate habitat or allow for emigration. As noted previously in this rule, the BLM created two new ponds connected to the outlet channel of Dace Spring, and the ODFW has introduced Foskett speckled dace into these ponds in an attempt to establish a refuge population.

Restriction to a Small Geographic Area and Vulnerability to Stochastic Events

The Foskett speckled dace is restricted to one small spring and has been translocated to two small, constructed ponds at an adjacent spring. The available open-water habitat at Foskett Spring is naturally limited, and encroaching aquatic vegetation periodically limits suitable habitat. However, removing sediments and vegetation to increase open-water habitat is a proven conservation measure that results in a significant increase in fish abundance. Because of its restricted natural distribution and dependence on a single water source, the Foskett speckled dace is more vulnerable to threats that may occur than species that are more widely distributed. Foskett speckled dace has persisted in this habitat, likely since the more recent pluvial period of the Pleistocene epoch 10,000 to 60,000 years ago.

Additionally, the CMP provides for management of Foskett Spring and Dace Spring areas for the long-term conservation of the Foskett speckled dace. Although it is difficult to plan for and address potentially catastrophic events (such as vandalism, contaminants, or introduction of nonnative fish), quarterly site visits and habitat and population surveys conducted regularly will facilitate the timely detection of changes to the habitat and as well as other unforeseen future threats.

Effects of Climate Change

We also analyzed the effects of changing climate to the Foskett speckled dace and its habitat. The Intergovernmental Panel on Climate Change (IPCC) concluded that the evidence for warming of the global climate system is unequivocal (IPCC 2013, p. 3). Numerous long-term climate changes have been observed including changes in arctic temperatures and ice, widespread changes in precipitation amounts, ocean salinity, wind patterns, and aspects of extreme weather including droughts, heavy precipitation, and heat waves (IPCC 2013, p. 4). The general climate trend for North America includes increases in mean annual temperatures and precipitation and the increased likelihood of extreme weather events by the mid-21st century (IPCC 2014, pp. 1452–1456). Changes in climate can have direct or indirect effects on species; may be positive, neutral, or negative; and may change over time, depending on the species and other relevant considerations such as the effects of interactions of climate with other variables (*e.g.*, habitat fragmentation) (IPCC 2007, pp. 8–14, 18–19). In our analyses, we used our expert judgment to weigh relevant information, including uncertainty, in considering the effects of climate change on the Foskett speckled dace.

Global climate projections are informative and, in some cases, the only or the best scientific information available for us to use. However, projected changes in climate and related impacts can vary substantially across and within different regions of the world (IPCC 2007, pp. 8–12). Therefore, we use “downscaled” projections when they are available and have been developed through appropriate scientific procedures because such projections provide higher-resolution information that is more relevant to spatial scales used for analyses of a given species (see Glick *et al.* 2011, pp. 58–61, for a discussion of downscaling).

Downscaled projections as of 2016 were available for our analysis of the Foskett speckled dace from the U.S. Geological Survey (USGS) (https://www2.usgs.gov/climate_landuse/clu_rd/nccv/viewer.asp). The National Climate Change Viewer is based on the mean of 30 models, which can be used to predict changes in air temperature and precipitation for the Warner Lakes basin in Lake County, Oregon, for two of the emission scenarios, RCP4.5 and RCP8.5. Scenario RCP4.5 is a moderate emissions scenario (where atmospheric concentrations of greenhouse gases are expected to equal approximately 650 parts per million (ppm) after the year 2100), and RCP8.5 is the most aggressive emissions scenario (in which greenhouse gases continue to rise unchecked through the end of the century) (Alder and Hostetler 2016, entire). At this time, there are no available climate projections on the persistence of springs into the future. For the 25-year period from 2025 to 2049, the model set shows an increase in the mean maximum air temperature of between 2.7 °F (1.6 °C) (RCP4.5) and 3.2 °F (1.8 °C) (RCP8.5), and an increase in the mean annual minimum air temperature of between 2.5 °F (1.5 °C) (RCP4.5) and 3.1 °F (1.8 °C) (RCP8.5). For both scenarios, mean

precipitation is not predicted to change, but annual snow accumulation is predicted to decrease by 0.4 in (10.16 millimeters (mm)). The model set also shows evaporative deficit over this 25 year period with changes projected in evaporation in the summer that may affect soil moisture for the vegetative community around the springs. However, the projected increase remains similar to current conditions and within the confidence intervals for the predicted change (Alder and Hostetler 2016, entire). Over the subsequent 25-year period from 2050 to 2074, the model set shows an increase in mean annual maximum air temperature of between 4.1 °F (2.3 °C) (RCP4.5) to 5.9 °F (3.3 °C) (RCP8.5), and an increase in mean annual minimum air temperature of between 4.1 °F (2.3 °C) (RCP4.5) to 6.1 °F (3.4 °C) (RCP8.5). For the 2050 to 2074 period, the model set shows no change in the mean annual precipitation for both scenarios, and shows a decrease in annual snow accumulation of between 0.2 in (5.4 mm) (RCP4.5) to 0.3 in (7.1 mm) (RCP8.5) for the Warner Lakes basin (Alder and Hostetler 2016, entire).

An increase in the ambient air temperature may cause slight warming of Foskett Spring surface water. This may reduce the overall amount of habitat available for Foskett speckled dace due to an increase in water temperatures, especially at the lower end of the outlet stream and marsh habitat. However, Foskett speckled dace have persisted overtime in these springs located in a naturally variable ephemeral wetland system, and abundance data indicate Foskett speckled dace may have a preference for the spring and pool habitats through the stream portion of the outlet channel as shown in Table 1, as opposed to shallower marsh habitat that might be more impacted by evaporation.

Furthermore, the occupied habitat for Foskett speckled dace is fed from a thermal artesian spring that has a fairly consistent temperature of approximately 65 °F (18 °C)

and consistent flow. Springs have been identified as potential hydrologic refugia that may protect species from the effects of climate change (McLaughlin *et al.* 2017, p. 2946). Springs have geologic features that are independent of climate, and their recharge is decoupled from their discharge; these features make them less sensitive to, or buffered from, changes in the local climate, including regional drought intensification (McLaughlin *et al.* 2017, p. 2946; Cartwright *et al.* 2017, p. 16).

Summary of Factor E

The 1985 listing rule identified introduction of exotic fishes and vandalism as potential threats. However, in over 30 years of monitoring, no exotic fishes have been detected, there is no evidence of attempts to introduce exotic fish species, and no vandalism has occurred beyond one singular incident of gate removal. Other potential threats such as small population size, dependence on a specific or rare habitat type, the inability to disperse, restriction to a small geographic area, vulnerability to stochastic events, and climate change also have been assessed and determined to be minimal. Based on the best available information, we conclude that other natural or manmade factors do not constitute a substantial threat to the Foskett speckled dace now or in the foreseeable future.

Cumulative Impacts

Together, the factors discussed above could result in cumulative impacts to the Foskett speckled dace. For example, effects of cattle grazing directly on the habitat in combination with mechanical disturbances could result in a greater overall impact to Foskett speckled dace habitat. Although the types, magnitude, or extent of cumulative impacts are difficult to predict, we are not aware of any combination of factors that have

not already been, or would not be, addressed through ongoing conservation measures that are expected to continue post-delisting and into the future, as described above. The best scientific and commercial data available indicate that the species experiences natural variability in abundance; the species has maintained abundance commensurate with available habitat; and the factors discussed above are not currently leading, nor are they anticipated to cumulatively lead, to reductions in Foskett speckled dace numbers and/or reductions of the species' habitat.

Summary of Comments and Recommendations

In our proposed rule published on January 4, 2018 (83 FR 475), we requested that all interested parties submit written comments on the proposal by March 5, 2018. We also requested public comments on the draft post-delisting monitoring plan. We contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. We did not receive any requests for a public hearing. Newspaper notices inviting general public comment were published in the Lake County Examiner.

During the comment period, we received 20 letters or statements directly addressing the proposed action. These included 4 comments from peer reviewers, 1 from the State, and 15 from the public. All comments are posted at <http://www.regulations.gov> under Docket No. FWS-R1-ES-2017-0051. Nine of the public comments (including comments from the State) supported the proposed action to delist the Foskett speckled dace. Nine commenters did not state whether they support the decision or not. Five provided no relevant information related to Foskett speckled dace and our proposed action. The remaining two public commenters objected to the action to delist the Foskett

speckled dace; however, neither provided substantive scientific information regarding the proposed delisting rule.

We reviewed all comments we received from the peer reviewers and the public for substantive issues and new information regarding the Foscett speckled dace. Substantive comments received during the comment period are addressed below and, where appropriate, incorporated directly into this final rule and the post-delisting monitoring plan.

Peer Review and Public Comments

Section 4(b)(5)(A)(ii) of the Act states that the Secretary must give actual notice of a proposed regulation under section 4(a) to the State agency in each State in which the species is believed to occur, and invite the comments of such agency. Section 4(i) of the Act directs that the Secretary will submit to the State agency a written justification for his or her failure to adopt regulations consistent with the agency's comments or petition. We solicited and received comments from the Oregon Department of Fish and Wildlife (ODFW). The ODFW supports our delisting of the Foscett speckled dace and has delisted Foscett speckled dace from their State endangered species list.

Comment (1): One commenter stated that the Service should delay delisting in order to conduct additional monitoring.

Our Response: Extensive habitat and population abundance surveys at Foscett and Dace springs have been regularly conducted since 2005 and as a result, we do not agree additional monitoring is necessary prior to delisting. These data contributed to our analysis of the five threat factors to the species and our decision to delist the species. We have determined the threats to Foscett speckled dace have been eliminated or reduced to

the point that protection under the Act is no longer needed. Monitoring will continue after delisting as described in our post-delisting monitoring (PDM) plan to confirm the maintenance of the species' recovered status and amelioration of threats.

Comment (2): Two peer reviewers suggested we consider genetic analysis published in scientific journals (Ardren *et al.* 2009; Ardren *et al.* 2010; Hoekzema 2013; Hoekzema and Sidlauskas 2014) to discuss the current taxonomic status of the Foscett speckled dace.

Our Response: We reviewed the information provided by the peer reviewers, and conclude that the genetic analysis supports the taxonomic status of the Foscett speckled dace currently and at the time of listing, specifically that the Service knowingly listed the Foscett speckled dace as an “undescribed subspecies.” We are not seeking a change in that status, but are delisting the entity as it is currently classified. Future genetic and taxonomic study may be conducted that may revise the fish's taxonomic classification. We are not pursuing a study to describe the Foscett speckled dace, but are making a decision to remove it from the Federal List of Endangered and Threatened Wildlife.

Comment (3): Two peer reviewers and several commenters stated that actions to eliminate threats from physical habitat modification or water extraction have been implemented. Commenters also stated that the immediate threats have been adequately addressed, that the Foscett speckled dace is no longer at risk of extinction, and that criteria for delisting have been met or exceeded. Commenters noted that the CMP does not necessarily eliminate threats but provides guidance and actions to eliminate threats.

Our Response: The Service agrees that the Foscett speckled dace has recovered due to conservation efforts of the BLM, ODFW, and Service and qualifies for removal

from the Federal List of Endangered and Threatened Wildlife. Conservation efforts by the BLM, specifically the acquisition and fencing of the property, have largely removed the threats from mechanical disturbance to the habitat by precluding livestock grazing. Any disturbance from machinery or drilling of wells has also either never materialized or would be subject to the BLM's evaluation and/or permitting now that this is land managed by the BLM. Additional conservation actions include the excavation of excess sediment and vegetation from the spring and outflow and the implementation of a cooperative management plan with the BLM, ODFW, and Service. In addition to providing guidance and actions to eliminate threats, the CMP articulates the agencies' commitment to implementing those actions.

Comment (4): Two peer reviewers suggest we conduct a survey for internal and external parasites to assess risk from disease because the only evidence presented is lack of obvious external parasites. The reviewers suggest a basic necropsy should be undertaken by ODFW staff to be certain there are no underlying disease or parasite problems.

Our Response: Our decision to delist the Foskett speckled dace is based on the removal or reduction of threats to the species identified at the time of listing, since the time of listing and in the foreseeable future. At no time has the Service had any information to indicate that disease may pose a threat to the Foskett speckled dace. Other studies of disease in fishes occupying nearby waters (in the Warner basin) have indicated common fish parasites and disease are present in low levels. These diseases are common in freshwater fishes. Therefore, as we do not have any information that disease or predation are a threat, we are not conducting a new study to detect disease. Based on

observations and the best available information, we have determined it is unlikely parasites or disease represent a threat to the Foskett speckled dace now or in the foreseeable future.

Comment (5): One peer reviewer commented that the proposed rule defines foreseeable future as 30 years. As such, the 9-year duration of the CMP does not match the identified need for monitoring, and after it concludes, it is possible that Factor D would again threaten the Foskett speckled dace.

Our Response: We think the commenter is confusing the CMP (cooperative management plan) with the PDM (post-delisting monitoring plan). In our draft PDM that was available for public comment, we stated that the PDM would be in place for 9 years after delisting; however, the CMP does not have a termination date and will proceed well into the foreseeable future. Between the proposed and final PDM, we reassessed the duration of the plan and determined that reducing the duration of the PDM from 9 years to 5 years and eliminating consecutive year monitoring will help to minimize unnecessary handling of the fish and reduce risk to individuals. In addition, 5 years is an adequate monitoring period to ensure the species remains secure once delisted because the CMP will continue indefinitely following the PDM period. Monitoring may be increased during the PDM, depending on information needs and availability of funding. In the long term, it will be the responsibility of the BLM and ODFW to monitor and manage the species, and the strategy for this is detailed in the CMP, which does not have a termination date. As discussed under **Summary of Factors Affecting the Species**, above, we anticipate that the conservation measures initiated under the CMP will continue through at least the foreseeable future, which we have defined as 30 years.

Consequently, we find that conservation measures, along with existing State and Federal regulatory mechanisms, are adequate to address these specific threats, including Factor D, absent protections under the Act.

Comment (6): One peer reviewer suggested the Service's conclusion that threats are minimal appears to be unwarranted. The commenter stated that the Foskett speckled dace currently meets at least two of the three criteria for rarity (narrow geographic range and narrow habitat requirements) and that threats from vandalism and introduced species that were included in the 1985 listing rule for the species have not changed substantially. The commenter further stated that most of the factors mentioned in the 2018 proposed delisting (remoteness of the site, minimal visitation, and lack of connectivity to other water bodies) were equally true at the time of listing in 1985. The commenter refers to populations of other endangered species such as the Devil's Hole pupfish (*Cyprinodon diabolis*) that have been subjected to vandalism in recent memory (Rocha 2016), despite similar legal protection and monitoring.

Our Response: While rarity may increase risk to a species from an operative threat, rarity, in and of itself, does not represent a threat under the Act. The Foskett speckled dace is an endemic species that is naturally restricted in its distribution to a localized spring system. Introduced species and vandalism of the springs could represent a potential threat, but neither has been identified at Foskett Spring nor have these potential threats occurred during the more than 30 years since listing. Because of this, we believe it is reasonable to conclude the likelihood of these threats being realized is very low. There was a single instance of gate removal near the springs, but the BLM replaced the gate and committed in the 2015 CMP to monitor the gate to ensure its integrity. The

management and protections provided by the BLM and ODFW will monitor these potential threats to the species now and into the foreseeable future and provide for actions to be taken should these threats be detected. Therefore, we have determined protection under the Act is no longer warranted for the Foskett speckled dace.

Comment (7): One peer reviewer commented that the current existence of the refuge population at Dace Spring provides resilience and robustness, but the long-term stability of the Dace Spring population is unclear. The reviewer also stated that the introduction to Dace Spring has failed at least once before, but that if the current population proves to be viable, its existence would reduce risk to the Foskett Spring population from its inherent rarity.

Our Response: We agree with the peer reviewer and have incorporated this information into this final rule (see “Small Population Size” under Factor E discussion, above). Although we acknowledge the refuge population at Dace Spring adds to the security of the population, it is not required, nor do we depend on it for our determination to remove the Foskett speckled dace from the Federal List of Endangered and Threatened Wildlife.

Comment (8): One peer reviewer stated that the CMP conflates the concept of effective population size (N_e) with census population size (N_c), which would indicate a low population size for Foskett speckled dace. The reviewer stated an effective population size of 500 or higher for the Foskett speckled dace would require a sustained census population size of at least 2,500 to 3,500 individuals. The reviewer also stated that this threshold of 500 should be corrected in the CMP, and genetic studies should calculate N_e as part of the proposed monitoring.

Our Response: We think the commenter is confusing the CMP (cooperative management plan) with the PDM (post-delisting monitoring plan). Regarding the threshold of 500 fish, we are making the assumption, given what we know about the life history of the fish and size of the mesh in the minnow traps (the primary method to develop population estimates) that all fish captured are of reproductive age (age one or older, or N_e). We will add this specificity to the final PDM.

Comment (9): We received several peer review comments regarding the suggested relationship between open-water habitat and abundance of the species. One commenter questioned whether the proposed rule's suggestion of a clear link between open-water habitat and population size of Foskett speckled dace was an overstatement of evidence and said there appears to be substantial natural variation in recruitment success and population size independent of the amount of open-water habitat. Some commenters pointed out that there is limited evidence to demonstrate all the drivers of the variable abundance exhibited by the species, and that population size may be a result of other habitat parameters such as annual weather changes. One commenter suggested that several decades' worth of data would be needed to establish statistical confidence in any relationship between open-water habitat and variability in abundance. Another commenter suggested that a correlation between open-water habitat and variability in abundance appeared to be stronger in the marsh habitats at Foskett Spring than in the pool.

Our Response: Although we have observed a link between open-water habitat and population size based on surveys by ODFW, we acknowledge that a strict correlation between open-water habitat and population size has not been clearly established.

However, we note that our decision to delist the Foscett speckled dace is not based on the management for open-water habitat or on population estimates; we based our decision on the removal or reduction of threats to the species identified at the time of listing (groundwater pumping for irrigation, use of the area by livestock, channeling of the springs for agricultural purposes, other mechanical modifications of the aquatic ecosystem, introduction of exotic fishes, and vandalism). We included discussion of population estimates as part of the healthy status of the population at the time we proposed delisting of the Foscett speckled dace. While not the basis for delisting, the observed increases in population documented by ODFW give the Service confidence that the habitat enhancement project conducted by the BLM will likely result in improved habitat conditions. The value of maintaining and/or increasing open-water habitat will continue to be assessed in the future by the BLM and ODFW to determine if additional habitat enhancement activities benefit the species post-delisting. The BLM and ODFW will use their discretion and authorities outlined in the CMP to continue conservation of the Foscett speckled dace into the future. In response to the commenters, we have removed the reference to a direct response of the species to open-water habitat from this rule and also clarified the difference between abundance estimate and variability in abundance (see *Abundance*, above).

Comment (10): One commenter stated that it seems unwise to remove protection under the Act for this species. This commenter expressed concern that something could “exterminate” the fish before the Government or conservationists could react. They suggest that since the Foscett speckled dace lives in such a small area, with human activity, the Government should try to acquire and safeguard all of the fish’s habitat and

continue trying to establish new populations where the fish may have been found in the past. The commenter also stated that because the fish's habitat is so small, there should not be a lot of economic tradeoffs, and economic losses are acceptable to preserve the species.

Our Response: The Service analyzed all the reasonably foreseeable threats to the species and did not find any threats that would “exterminate” the Foskett speckled dace. The BLM acquired the land in 1987, and has agreed, via the CMP, to continue management of the parcel of land on which Foskett Spring is located for the protection and conservation of the species. The Foskett speckled dace is known to occur only in its native Foskett Spring and the nearby Dace Spring, into which it was transferred for conservation purposes. Therefore, it is already present in all of its historic habitat.

Section 4(b)(1)(A) of the Act requires us to make status (*i.e.*, listing, delisting, and reclassification) determinations based “solely on the basis of the best scientific and commercial data available.” The word “solely” was added in the 1982 amendments to the Act (Pub. L. 97-304, 96 Stat. 1411) to clarify that the determination of endangered or threatened status was intended to be made “solely upon biological criteria and to prevent non-biological considerations from affecting such decisions.” In making the clarification, Congress expressed concerns with the requirements of the Regulatory Flexibility Act, Paperwork Reduction Act, and Executive Order 12291 potentially introducing economic and other factors into the basis for determinations under the Act (H.R. Rep. No. 97-567 at 19-20, May 17, 1982). Therefore, we make status determinations based solely on biological considerations.

The Service has the authority under the Act to emergency-list the species if threats re-emerge.

Comment (11): One peer reviewer commented that the extent of available habitat is small and requires careful management and close monitoring to ensure that the Foscett speckled dace persists for the long term. The commenter cautioned against assuming major mechanical restoration of open pool habitat was always preferred, especially given things like unintended disturbance of other aspects of the habitat and related species, and that smaller scale, shovel-based habitat improvement should be considered.

Our Response: The Foscett speckled dace is a narrow endemic with limited habitat. With the understanding that the species will require some habitat management and monitoring into the future, the Service entered into an agreement with the BLM and ODFW to ensure management actions take place for the benefit of the Foscett speckled dace. In order to allow maximum flexibility and responsiveness to conditions in future management of the species, the CMP is not restrictive with respect to the type of management actions required. Since the 1985 listing of the Foscett speckled dace, the Service, BLM, and ODFW have been actively managing Foscett speckled dace habitat for the conservation of the species. Information learned from decades of management will inform the partners for optimizing future management decisions.

Comment (12): One peer reviewer and several other commenters stated that climate change will have effects that could impact the shallow water habitat of the Foscett speckled dace. Concerns were noted regarding the potential increase of drought and drought intensity through increased evaporation rates and more erratic precipitation.

Our Response: We assessed the potential effects from climate change using the most current science available, although at this time there are no available climate projections on the persistence of springs into the future. Downscaled climate models project an increase in the mean maximum air temperature of between 2.7 °F (1.6 °C) (RCP4.5) and 3.2 °F (1.8 °C) (RCP8.5), and an increase in the mean annual minimum air temperature of between 2.5 °F (1.5 °C) (RCP4.5) and 3.1 °F (1.8 °C) (RCP8.5) in the 25-year period from 2025 to 2049. Mean precipitation is not predicted to change, but annual snow accumulation is predicted to decrease by 0.4 in (10.16 mm) during this period. Although the higher temperatures may contribute to changes in summer evaporation affecting soil moisture for the vegetative community around the springs, the evaporative deficit is projected to remain similar to current conditions and within the confidence intervals for the predicted change (Alder and Hostetler 2013, entire).

The thermal artesian springs that make up Foskett speckled dace habitat have a near constant temperature and flow. Springs have features that are independent of climate that make springs potential refugia for species from the effects of climate change (McLaughlin *et al.* 2017, p. 2946; Cartwright *et al.* 2017, p. 16). The springs are located in a wetland that is ephemeral by nature; the dace have persisted in the area despite conditions that are somewhat variable from year to year. Although dace have been found in shallower, marshy areas, the largest number of individuals have been observed in the deeper pool habitat. Through implementation of the CMP, the partners will continue to evaluate habitat conditions at Foskett and Dace springs and note where the dace are occurring. Future enhancements to optimize Foskett speckled dace habitat, in the pool areas and marsh areas, will be based on the best information available at the time.

Comment (13): One commenter stated that this species only occurs at two springs in an arid area, and humans established the Dace Springs population. Both populations fluctuate. The commenter also states that neither population is secure and likely to become even less secure with increased climate change. The commenter opposes removing the Foskett speckled dace from the Federal List of Endangered and Threatened Wildlife.

Our Response: The species is known as a “narrow endemic,” which means it exists in a very small range. While this small range may increase risk to a species from an operative threat, in and of itself, its limited range does not represent a threat under the Act. We have carefully analyzed the potential threats to the species including an analysis of the potential effects from climate change using the best information available. The Service has considered this condition in assessing the potential threat factors listed in section 4(a)(1) of the Act (see **Summary of Factors Affecting the Species**, above). Based on the best available scientific and commercial information, the Service has determined the threats identified in the 1985 listing rule are either not as significant as originally anticipated or have been eliminated or reduced since listing, and we no longer believe the species meets the definition of an endangered or a threatened species. See also response to *Comment (12)*, above.

Comment (14): One peer reviewer commented that it is reasonable to assume that population size is a function of available habitat and it is also a function of prior abundance and of carrying capacity, which can change within the same available habitat. There is not a sufficiently long time-series and appropriate analysis for understanding the Foskett speckled dace’s responses to management intervention. Change in a population

from one year to the next might be positive or negative. If there is an intervention with an anticipated positive effect, one can expect the variability to still be present but that the mean response will be positive. Ideally, such an evaluation is achieved through a time-series with a sufficient pre- and post-response period to evaluate the response over a variety of annual patterns.

Our Response: We do not have information to show that population size is strictly a function of habitat at Foskett Spring. However, observations of other similar fish in similar habitats indicate that these fish are likely to increase in abundance with an increase in open-water habitat (Kodric-Brown and Brown 2007, entire). Our decision to delist the Foskett speckled dace is based on the removal or reduction of threats to the species. Despite this, we have made some assumptions in managing the habitat for greater abundance of fish in the population. The Service is not conducting additional studies prior to removal of the Foskett speckled dace from the Federal List of Endangered and Threatened Wildlife. The future management and monitoring included in the CMP allows for flexibility in habitat management and adaptive management to benefit the long-term stability of the species.

Comment (15): Several peer reviewers commented on the draft post-delisting monitoring plan. These peer reviewers suggested monitoring of: (1) Groundwater in and around the vicinity of Foskett and Dace springs; (2) surface water quality; (3) water levels; (4) the extent of water; and (5) climatic conditions. In addition, one peer reviewer suggested a plan to evaluate stability of habitat conditions, sensitivity to climate or drought, and ultimately vulnerability.

Our Response: Post-delisting monitoring is designed to monitor those threats identified at the time of listing and any additional threats we have identified during the species' 5-year status reviews. Since the time of listing in 1985, water level and quality have not been found to be adversely impacting the Foscett speckled dace, nor are they anticipated concerns relating to the future management of the species. The springs have been found to have near constant flow and temperature; water levels and temperature have been adequate for the species, and we anticipate they will continue to be into the future. Therefore, we did not revise the PDM plan in response to these comments.

Determination

Standard for Review

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of “endangered species” or “threatened species.” The Act defines an “endangered species” as a species that is “in danger of extinction throughout all or a significant portion of its range,” and a “threatened species” as a species that is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” The Act requires that we determine whether a species meets the definition of “endangered species” or “threatened species” because of any of the following 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.

Determination of Status Throughout All of the Foscett Speckled Dace's Range

As required by section 4(a)(1) of the Act, we conducted a review of the status of the Foscett speckled dace and assessed the five factors to evaluate whether the Foscett speckled dace is endangered or threatened throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. We found that, with periodic management, Foscett speckled dace populations are persistent but cyclical within a range of 751 to 24,888 individuals over the last decade (see Table 1, above).

As a result of our analysis, we found that impacts believed to be threats to the habitat of the Foscett speckled dace at the time of listing (groundwater pumping for irrigation, use of the area by livestock, channeling of the springs for agricultural purposes, and other mechanical modifications of the aquatic ecosystem) are either not as significant as originally anticipated or have been eliminated or reduced since listing, and we do not expect any of these conditions to substantially change post-delisting and into the foreseeable future (Factor A). The finalization of the CMP acknowledges the “conservation-reliant” nature of the Foscett speckled dace and the need for continued management of the habitat at Foscett Spring, and affirms that the BLM, ODFW, and Service will continue to carry out long-term management actions. Long-term management actions and elimination and reduction of threats apply to all populations of the species, such that both the Foscett Spring population and the Dace Spring subpopulation are secure.

We found that overutilization for commercial, recreational, scientific, or educational purposes (Factor B) and disease or predation (Factor C) still pose no threat to the Foscett speckled dace.

The existence of Federal regulatory mechanisms like the Lakeview District BLM's management of the area under its RMP and the Federal Land Policy and Management Act of 1976, State conservation measures such as the Oregon Native Fish Conservation Strategy, and other authorities supporting each cooperating agency's entrance into the CMP agreement reduce risk to the Foscett speckled dace and its habitat (Factor D).

Finally, in over 30 years of monitoring, no exotic fishes have been detected in, and there is no evidence of attempts to introduce exotic fish species into, Foscett speckled dace habitat, no vandalism has occurred beyond a single incident of gate removal, and other potential threats (such as small population size, dependence on a specific or rare habitat type, the inability to disperse, restriction to a small geographic area, vulnerability to stochastic events, and climate change) also have been assessed and determined to be minimal. Based on the best available information, we found that other natural or manmade factors (Factor E) do not constitute a substantial threat to the Foscett speckled dace now or in the foreseeable future.

After assessing the best available information, we conclude that the previously recognized impacts to the Foscett speckled dace no longer are a threat to the species, such that the Foscett speckled dace is not currently in danger of extinction, and is not likely to become so within the foreseeable future throughout all of its range.

Because we determined that the Foscett speckled dace is not in danger of extinction or likely to become so in the foreseeable future throughout all of its range, we will consider whether there are any significant portions of its range in which the species is in danger of extinction or likely to become so.

Determination of Status Throughout a Significant Portion of the Foskett Speckled Dace's Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range (SPR). Having determined that the Foskett speckled dace is not in danger of extinction now or likely to become so in the foreseeable future throughout all of its range, we now consider whether it may be in danger of extinction or likely to become so in the foreseeable future in an SPR. The range of a species can theoretically be divided into portions in an infinite number of ways, so we first screen the potential portions of the species' range to determine if there are any portions that warrant further consideration. To do this, we look for portions of the species' range for which there is substantial information indicating that: (1) the portion may be significant, and (2) the species may be in danger of extinction or likely to become so in the foreseeable future in that portion. A portion only warrants further consideration if there is substantial information that both of these statements are true for that portion. Therefore, for a particular portion, if we determine that there is not substantial information that one of these statements is true, then the species does not warrant listing because of its status in that portion of its range.

We evaluated the range of the Foskett speckled dace to determine if any area may be a significant portion of the range. The Foskett speckled dace is endemic to Foskett Spring in the Warner Basin. The known historical, natural range of the Foskett speckled dace is limited to Foskett Spring. At the time of listing in 1985, Foskett speckled dace also occurred at nearby Dace Spring, located approximately one-half mile south of

Foskett Spring, where translocation of specimens from Foskett Spring was initiated in 1979. Because of its narrow range limited to two springs within a half-mile of each other, and because speckled dace currently occupying Dace Spring originated from translocations from Foskett Spring, we find that the species is comprised of a single, population and that there are no separate areas of the range that are likely to be of greater biological or conservation importance than any other areas due to natural biological reasons alone. Therefore, there is not substantial information that logical, biological divisions exist that would support delineating one or more portions within the species' range.

Based on our determination that no natural biological divisions delineate separate portions of the Foskett speckled dace population, we conclude that there are no portions of the species' range for which both (1) the portions are likely to be significant, and (2) the species is likely to be in danger of extinction or likely to become so in the foreseeable future in those portions. This makes it unnecessary for us to undertake any further consideration or analysis of whether this species is endangered or threatened throughout an SPR. We conclude therefore that there is no significant portion of the species' range where it is an endangered species or a threatened species. Our approach to analyzing SPR in this determination is consistent with the court's holding in *Desert Survivors v. Department of the Interior*, No. 16-cv-01165-JCS, 2018 WL 4053447 (N.D. Cal. August 24, 2018).

Conclusion

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the Foskett speckled dace. The

threats that led to the species being listed under the Act (primarily the species' extremely restricted and vulnerable habitat, which was being modified; Factor A) have been removed or ameliorated by the actions of multiple conservation partners over the past 30 years; these actions include securing the property, and developing and implementing long-term management strategies to ensure that appropriate habitat is maintained. Given various authorities that enabled the three cooperating agencies to enter into the Foskett Speckled Dace CMP, and the long record of engagement and proactive conservation actions implemented by the three cooperating agencies over a 30-year period, we expect conservation efforts will continue to support a healthy, viable population of the Foskett speckled dace post-delisting and into the foreseeable future. Because the species is not in danger of extinction now or in the foreseeable future throughout all or a significant portion of its range, the species does not meet the Act's definition of an endangered species or a threatened species. We conclude that the Foskett speckled dace no longer requires the protection of the Act, and, therefore, we are removing it from the Federal List of Endangered and Threatened Wildlife.

Effects of This Rule

This rule revises 50 CFR 17.11(h) to remove the Foskett speckled dace from the Federal List of Endangered and Threatened Wildlife and revises 50 CFR 17.44(j) to remove the Foskett speckled dace from the applicable rule promulgated under section 4(d) of the Act. On the effective date of this rule (see **DATES**, above), the prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, no longer apply to this species, and Federal agencies are no longer required to consult with the Service under section 7 of the Act in the event that activities they authorize, fund, or

carry out may affect the Foscett speckled dace. There is no critical habitat designated for this species; therefore, this rule does not affect 50 CFR 17.95. Current State laws related to the Foscett speckled dace will remain in place and be enforced, and will continue to provide protection for this species.

Post-delisting Monitoring

Section 4(g)(1) of the Act requires us, in cooperation with the States, to implement a system to monitor effectively, for not less than 5 years, all species that have been recovered and delisted. The purpose of this post-delisting monitoring is to verify that a species remains secure from risk of extinction after it has been removed from the protections of the Act. The monitoring is designed to detect the failure of any delisted species to sustain itself without the protective measures provided by the Act. If, at any time during the monitoring period, data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing under section 4(b)(7) of the Act. Section 4(g) of the Act explicitly requires us to cooperate with the States in development and implementation of post-delisting monitoring programs, but we remain responsible for compliance with section 4(g) of the Act and, therefore, must remain actively engaged in all phases of post-delisting monitoring. We also seek active participation of other entities that are expected to assume responsibilities for the species' conservation post-delisting.

Post-Delisting Monitoring Plan Overview

We prepared a PDM plan for the Foscett speckled dace, building on and continuing the research that has taken place in the time since the species was listed. The PDM plan discusses the current status of the taxon and describes the methods to be used

for monitoring after the taxon is removed from the Federal List of Endangered and Threatened Wildlife. The PDM plan: (1) Summarizes the current status of the Foscett speckled dace; (2) provides an outline of the roles of PDM cooperators; (3) describes monitoring methods; (4) provides an outline of the frequency and duration of monitoring; (5) provides an outline of data compilation and reporting procedures; and (6) defines thresholds or triggers for potential monitoring outcomes and conclusions of the PDM.

It is our intent to work with our partners towards maintaining the recovered status of the Foscett speckled dace.

Required Determinations

National Environmental Policy Act

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), need not be prepared in connection with regulations pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244).

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments (59 FR 22951), Executive Order 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our

responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

We do not believe that any Tribes will be affected by this rule. However, we contacted the Burns Paiute Tribe to coordinate with them regarding the proposed rule to delist the Foscett speckled dace. We provided the Tribe with a copy of the proposed rule and draft PDM, but we did not receive any comments from them.

References Cited

A complete list of all references cited in this final rule is available on the Internet at <http://www.regulations.gov> under Docket No. FWS–R1–ES–2017–0051 or upon request from the person listed under **FOR FURTHER INFORMATION CONTACT**.

Authors

The primary authors of this final rule are staff members of the Service’s Oregon Fish and Wildlife Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

1. The authority citation for part 17 continues to read as follows:

AUTHORITY: 16 U.S.C. 1361-1407; 1531-1544; and 4201-4245, unless otherwise noted.

§ 17.11 [Amended]

2. Amend § 17.11 in the table in paragraph (h) under FISHES by removing the entry for “Dace, Foscett speckled” from the List of Endangered and Threatened Wildlife.

§ 17.44 [Amended]

3. Amend § 17.44 by:

a. Removing the words “and Foscett speckled dace (*Rhinichthys osculus* subspecies)” from paragraph (j) introductory text; and

b. In paragraphs (j)(1) and (2), removing the word “these” and adding in its place the word “this”.

Dated: August 9, 2019.

Margaret E. Everson,
Principal Deputy Director,
U.S. Fish and Wildlife Service,
Exercising the Authority of the Director,
U.S. Fish and Wildlife Service.

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