



The Confederated Tribes of the Colville Reservation
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November 22, 2010

William W. Stelle, Jr.
Regional Administrator
Northwest Regional Office
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070

Re: Rulemaking Petition to Designate a Non-Essential Experimental Population of
Upper Columbia River Spring Chinook Pursuant to Section 10(j) of the ESA.

Dear Mr. Stelle,

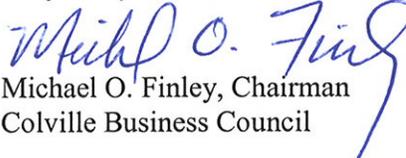
I am enclosing a petition from the Confederated Tribes of the Colville Reservation ("Colville Tribe") to the National Marine Fisheries Service seeking promulgation of a rule designating a non-essential experimental population of Upper Columbia River (UCR) spring Chinook salmon in the Okanogan River Basin and establishing special regulations allowing management of the experimental population in furtherance of conservation pursuant to Section 10(j) of the Endangered Species Act.

The Colville Tribe proposes that the non-essential experimental population be defined to include all UCR spring Chinook salmon released into the Okanogan River Basin, and any offspring arising solely therefrom, when these individuals are found in the Okanogan River Basin or in the Columbia River from waters adjacent to its confluence with the Okanogan River upstream to the Chief Joseph Dam.

The petition explains in detail why designation of the experimental population and the special management regulations sought therein would be consistent with the requirements of the ESA and would further the conservation of the UCR spring Chinook ESU. As an appendix to the petition, we have included text of a proposed rule for your review.

If you have any questions regarding the content of the petition or proposed rule, please contact Joe Peone at (509) 634-2113. The Colville Tribe looks forward to working with you and your staff to preserve this important cultural and biological resource.

Very Truly Yours,


Michael O. Finley, Chairman
Colville Business Council

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Petition for Listing of an Experimental, Non-Essential Population of Upper Columbia River Spring-Run Chinook in the Okanogan River Basin Pursuant to Section 10(j) of the Endangered Species Act

Submitted on November 22, 2010

This is a petition for rulemaking by the Confederated Tribes of the Colville Reservation (Colville Tribe) to the National Oceanic and Atmospheric Administration (NOAA) under Section 553(e) of the Administrative Procedure Act, 5 U.S.C. § 553(e). This petition seeks promulgation of a rule pursuant to Section 10(j) of the Endangered Species Act (ESA), 16 U.S.C. § 1539(j), designating a non-essential experimental population of Upper Columbia River (UCR) spring Chinook salmon in the Okanogan River Basin and adoption of special regulations to allow management of the experimental population in furtherance of conservation. The Colville Tribe proposes that the experimental population be defined to include all UCR spring Chinook salmon released into the Okanogan River Basin, and any offspring arising solely therefrom, when these individuals are found in the Okanogan River Basin or in the Columbia River from waters adjacent to its confluence with the Okanogan River upstream to the Chief Joseph Dam.

I. Introduction

The Colville Tribe is working cooperatively with a number of partners, including the United States Fish and Wildlife Service (FWS), the Bonneville Power Administration (BPA), the Army Corps of Engineers (Corps), the Bureau of Reclamation (BOR), the Washington Department of Fish and Wildlife (WDFW), and the Okanogan Nations Alliance (ONA) on an effort to reintroduce spring Chinook salmon to the Okanogan River Basin. Spring Chinook salmon were extirpated from the Okanogan Basin in the early 20th century due to downstream overfishing and local habitat degradation. Fisheries in the lower Columbia River are now highly regulated by federal, state and tribal fisheries managers. For many years, the Colville Tribe has been working with its partners to restore habitat both in the United States and Canadian portions of the Okanogan River Basin. These habitat restoration efforts have progressed to the point where it is feasible to begin reintroducing juvenile spring Chinook salmon into the Okanogan Basin on an experimental basis.

The UCR spring Chinook salmon evolutionarily significant unit (ESU) is currently listed as endangered under the ESA and faces a high risk of extinction. There are three existing populations of UCR spring Chinook, which originate in the Methow, Entiat and Wenatchee River systems. The goal of the reintroduction effort will be to establish a fourth population in the Okanogan River Basin. If successful, establishment of a fourth population would reduce the extinction risk for this ESU.

To increase public acceptance of the reintroduction effort, and to provide the Tribe with greater management flexibility, the Tribe is proposing that NOAA designate the UCR spring

Chinook salmon introduced into the Okanogan Basin as a non-essential, experimental population under Section 10(j) of the ESA. Such a designation will allow the Tribe and its partners to reintroduce spring Chinook salmon into the Okanogan River Basin to promote conservation and recovery without creating legal risks for the Tribe and other local residents of the Okanogan Basin.

II. Legal Requirements.

Section 10(j)(1) of the ESA defines the term “experimental population” to mean “any population (including any offspring arising solely therefrom) authorized by [NOAA] for release [under Section 10(j)(2)], but only when, and at such times as, the population is wholly separate geographically from nonexperimental populations of the same species.” *Id.* § 1539(j)(1). **Section 10(j)(2) of the ESA gives NOAA the authority to “authorize the release (and the related transportation) of any population (including eggs, propagules, or individuals) of an endangered species or a threatened species outside the current range of such species if [NOAA] determines that such release will further the conservation of such species.” 16 U.S.C. § 1539(j)(2)(A). Prior to authorizing the release, the Secretary must adopt regulations that “identify the population and determine, on the basis of the best available information, whether or not such population is essential to the continued existence of an endangered species or a threatened species.” *Id.* § 1539(j)(2)(B).**

Once an experimental population is designated, each member of the experimental population is treated as a threatened species for most purposes, but is treated as a species proposed for listing under the consultation provisions of Section 7 of the ESA. 16 U.S.C. § 1539(j)(2)(C)(i). Furthermore, critical habitat may not be designated for an experimental population that is determined to be non-essential to the continued existence of a species. *Id.* § 1539(j)(2)(C)(ii).

FWS has adopted programmatic regulations governing the listing of experimental populations. 50 C.F.R. § 17.81. The programmatic regulations authorize the designation of an experimental population where a population of a **listed species** “has been or will be released into suitable natural habitat outside the species’ current natural range but within its probable historic range.” *Id.* § 17.81(a). The programmatic regulations also lay out the following factors that should be considered in evaluating whether designation of an experimental population under Section 10(j) would “further the conservation” of the listed species:

- Any possible adverse effects on extant populations of a species as a result of removal of individuals, eggs, or propagules for introduction elsewhere;
- The likelihood that any such experimental population will become established and survive in the foreseeable future;
- The relative effects that establishment of an experimental population will have on the recovery of the species; and

- The extent to which the introduced population may be affected by existing or anticipated Federal or State actions or private activities within or adjacent to the experimental population area.

50 C.F.R. § 17.81(b).

Finally, the programmatic regulations specify that regulations designating experimental populations must provide:

- Appropriate means to identify the experimental population, including, but not limited to, its actual or proposed location, actual or anticipated migration, number of specimens released or to be released, and other criteria appropriate to identify the experimental population(s);
- A finding, based solely on the best scientific and commercial data available, and the supporting factual basis, on whether the experimental population is, or is not, essential to the continued existence of the species in the wild;
- Management restrictions, protective measures, or other special management concerns of that population, which may include but are not limited to, measures to isolate and/or contain the experimental population designated in the regulation from natural populations; and
- A process for periodic review and evaluation of the success or failure of the release and the effect of the release on the conservation and recovery of the species.

50 C.F.R. § 17.81(c).

The Tribe's petition follows the framework laid out in the FWS programmatic regulations. It demonstrates, based on the best available scientific and commercial information, that the designation of a non-essential, experimental population of UCR spring Chinook salmon in the Okanogan River Basin would satisfy the legal requirements of Section 10(j) of the ESA and further the conservation of the ESU. The petition also sets out proposed special management measures that would apply to the experimental population as well as a robust monitoring and evaluation program.

III. Identification of Proposed Experimental Population.

The Colville Tribe asks NMFS to designate an experimental population that is defined to include all UCR spring Chinook salmon released into the Okanogan River Basin, and any offspring arising solely therefrom when these individuals are found in the Okanogan River Basin or in the waters of the Columbia River from an area adjacent to its confluence with the Okanogan River upstream to the Chief Joseph Dam. As discussed in detail below, designation of a non-essential experimental population defined as such is consistent with the requirements of the ESA.

IV. The Experimental Population would be “Wholly Separated Geographically” from Other Populations of UCR Spring Chinook.

As mentioned above, the term “experimental population” is defined in the ESA to include a population authorized for release under Section 10(j)(2), “but only when, and at such times as, the population is wholly separate geographically from nonexperimental populations of the same species.” 16 U.S.C. § 1539(j)(1). As Congress made clear, a population may be designated pursuant to this provision even if there are times when the experimental population is not “wholly separate geographically” from other populations of the same species:

If an introduced population overlaps with natural populations of the same species during a portion of the year, but is wholly separate at other times (e.g. during the breeding season or in winter), the introduced population is to be treated as an experimental population *at such times as it is wholly separate*. Such a population shall be treated as experimental only when the times of geographic separation are reasonably predictable and not when total separation occurs as a result of random and unpredictable events.

S. Rep. No. 97-418, at 7-8 (1982) (emphasis added). Thus, under the FWS regulations, the term “experimental population” is defined to mean “an introduced and/or designated population (including any off-spring arising solely therefrom) that has been so designated in accordance with the procedures of this subpart but only when, and at such times as the population is wholly separate geographically from nonexperimental populations of the same species.” 50 C.F.R. § 17.80. The definition goes on to specify that where part of an experimental population overlaps with natural populations of the same species on a particular occasion, but is wholly separate at other times, specimens of the experimental population will not be recognized as such while in the area of overlap.” *Id.* Accordingly, FWS will treat a population as experimental “only when the times of geographic separation are reasonably predictable; e.g., fixed migration patterns, natural or man-made barriers.” 50 C.F.R. § 17.80. Conversely, a “population is not treated as experimental if total separation will occur solely as a result of random and unpredictable events.” *Id.*

FWS has further determined that the “wholly separate geographically” requirement does not require that a reintroduced population be completely genetically isolated from individuals that may stray from other populations in the ESU, but rather requires the reintroduced *population* to be wholly separate from other *populations* of the same species. This interpretation was expressly upheld by the Ninth Circuit in *United States v. McKittrick*, 142 F.3d 1170, 1175 (9th Cir. 1998), in which the Court upheld FWS’s interpretation of the “wholly separate” requirement in Section 10(j) as not applying to “individual specimens” that might stray and intermingle with a reintroduced population but only “to populations” as a whole. The Tenth Circuit has come to the same conclusion:

[W]e hold the Department may, consistent with the plain language of section 10(j) and the context of the Endangered Species Act as a whole, treat all wolves found within the boundaries of the designated experimental population areas, *including*

any lone dispersing wolves that may enter those areas, as nonessential experimental animals.

Wyoming Farm Bureau Fed. v. Babbitt, 199 F.3d 1224, 1236 n.5 (10th Cir. 2000) (emphasis added); *see also Forest Guardians v. FWS*, 611 F.3d 692, 706-07 (10th Cir. 2010) (affirming FWS determination that sightings of “lone dispersers” of falcons in area designated for experimental population did not defeat Section 10(j) designation); *cf.* 65 Fed. Reg. 69624, 69627 (Nov. 17, 2000) (grizzly bear experimental population designation) (“Geographically separate means separated by more than 10 miles. The term refers to ‘wholly separate geographically’ in section 10(j)(2) of the Act.”). For the reasons below, the proposed Okanogan River Basin population of UCR spring Chinook salmon meets the “wholly separate geologically” requirement for designation under Section 10(j) as a nonessential experimental population.

A. The Times of Geographic Separation Are Reasonably Predictable Based on Salmon Life History.

There are currently no spring Chinook salmon residing in the Okanogan River with which an experimental population could interact or, most importantly, interbreed. Spring Chinook in the Okanogan River and in the upstream portions of the Columbia River would be functionally separated from other populations of UCR spring Chinook based on the planned conduct of reintroduction efforts by the Colville Tribe and the natural behavior of salmon. This separation is predictable based on the homing fidelity of salmon to their natal streams (a defining characteristic of anadromous salmon) and the planned acclimation procedures for artificially propagated Chinook that will allow them to imprint on Okanogan River waters.

The listed UCR spring Chinook ESU currently includes all naturally spawned populations of spring Chinook in accessible reaches of Columbia River tributaries between Rock Island and Chief Joseph dams, excluding the Okanogan River. The NOAA-designated critical habitat of UCR spring Chinook similarly included all accessible reaches of Columbia River tributaries between Rock Island and Chief Joseph dams but excluded the Okanogan River. The Okanogan River Basin was not included in the critical habitat designation because spring Chinook salmon have been extirpated and the remaining Chinook salmon are ocean-type salmon and therefore included in the UCR summer/fall Chinook ESU (Meyers, J., et al 1998). Therefore, there are currently no listed spring Chinook residing in the Okanogan River with which an experimental population could interact or interbreed.

Homing of wild salmon to their natal streams is a fairly precise behavior that has led to reproductive isolation and specialized spawning populations that are well adapted to their natal habitats (Dittman and Quinn 1996). Straying does occur, but in wild populations these rates are low. For sockeye salmon, homing to natal spawning areas was found to be as high as 99.9% in Iliamna Lake, Alaska (Quinn, et al 1999). Generally, stray rates of salmon are believed to be in the range of 2 to 5% (Quinn, 1997). Higher, unnatural rates of straying are well documented for artificially propagated salmon when hatcheries are operated under certain conditions, when hatchery fish are improperly relocated to release sites as juveniles, or when salmon are transported long distances as occurs with barging of salmon and steelhead from the Snake River (Quinn, undated).

UCR spring Chinook from an experimental population in the Okanogan River would intermix with other salmon species and spring Chinook populations when migrating down the Columbia River to the ocean, while rearing in the ocean, and during the upriver, adult migration. Okanogan juvenile spring Chinook would be expected to begin intermixing with other listed UCR spring Chinook juveniles in the Columbia River near its confluence with the Methow River, located 11 miles downstream from the confluence with the Okanogan River. On the return migration, adult Okanogan and Methow spring Chinook would be intermixed in the Columbia River until reaching the Methow confluence, at which point the Okanogan spring Chinook would continue homing upstream and the Methow fish would hold and enter the Methow River. While an insignificant number of Methow spring Chinook salmon may wander further upriver, few, if any, would be expected to stray into the Okanogan River itself and interbreed naturally with the experimental population or be included in the Okanogan broodstock for artificial propagation. Salmon may not home directly to their natal stream and may exhibit some exploratory movement into non-natal streams before entering their natal stream to spawn. However, salmon are more likely to stray or wander into streams that are similar to their natal waters than into waters that are less similar (Quinn, 1997). The warmer Okanogan River is distinctly different from the glacial and snow melt conditions of the watersheds supporting extant UCR spring Chinook populations. Therefore, interbreeding would not be expected to any effective degree.

Creel census data show that few UCR spring Chinook from the Wenatchee or Methow populations even wander into the Columbia River upstream of the Okanogan River. In 1997, the Colville Tribes' Chinook fishery on the Columbia River below Chief Joseph Dam harvested four coded-wire-tagged spring Chinook salmon. These fish were from the Clearwater River drainage (1 from the Crooked River; 3 from the Dworshak National Fish Hatchery), which are not listed. Prior to 2001, no UCR hatchery-origin spring Chinook salmon had ever been observed in the fishery. In 2002, out of 706 Chinook sampled during July and August at the Chief Joseph Dam tailrace, 3 fish were hatchery-origin spring Chinook (1 listed Winthrop NFH 1998 brood spring Chinook; 1 unlisted Winthrop NFH 1998 brood spring Chinook; 1 listed Methow 1997 brood spring Chinook). Out of an estimated total harvest of 2,189 summer Chinook during July to August, 2002, 9 were estimated to be hatchery-origin UCR spring Chinook. Out of these 9 fish, only an estimated 6 fish were listed and all were observed in the month of July, when, due to the unusually large run in 2002 (7,585 past Wells Dam), a few fish (0.1%) were still present in the action area (Chris Fisher, pers. comm.; Smith et al. 2006). No spring Chinook salmon were harvested in the Chief Joseph Dam snag fisheries from 2007 through 2009 (Chris Fisher, pers. comm.). In the past twenty years, no stray UCR spring Chinook has ever been recovered in fisheries, at weirs, or during research and monitoring activities in the Okanogan River, including extensive spawning ground surveys (Chris Fisher, pers. comm.).

These data confirm the expectations from literature that Methow and Wenatchee spring Chinook would not in any significant way co-mingle, interbreed, or be mistakenly harvested or collected in the Okanogan River or the upstream portions of the Columbia River. If some minimal level of straying does occur, it does not prevent designation of the nonessential

experimental population as proposed in this petition. *See McKittrick*, 142 F.3d at 1175; *Wyoming Farm Bureau Fed.*, 199 F.3d at 1236 n.5.

Similarly, one would not expect experimental spring Chinook to stray into and interbreed with lower basin populations of UCR spring Chinook to any significant degree. Chinook from an Okanogan experimental population would be expected to home back to the Okanogan River as this would be their strong, natural inclination. This natural homing instinct of Okanogan Chinook would not be jeopardized or interrupted by other activities. No UCR spring Chinook are transported in trucks or barges during the juvenile emigration as occurs on the Snake River. So loss of homing fidelity to this cause would not occur. All artificially propagated Chinook in the experimental population would be transported to rearing ponds as parr and allowed to acclimate to surface waters of the Okanogan River or its tributaries for months prior to release. The sensitive time for imprinting occurs during this parr-smolt transformation (Dittman, 1996) when all proposed experimental fish would be rearing on waters of the Okanogan watershed. This procedure would allow the experimental fish to fully imprint on the local waters to ensure their homing fidelity to the Okanogan River Basin.

Evaluation of spring Chinook straying by the FWS demonstrates that straying is insignificant and when it does occur, it generally occurs to an upstream location, not to a downstream location (Pastor, 2004). At Carson National Fish Hatchery (NFH), from brood year 1982 through 1998, over 5.1 million tagged, yearling spring Chinook were released. Of returning tagged adults, 92.5% were recovered on route to, or at, the NFH; 7.2% of the tagged adults strayed and were recovered about 7 miles upstream in the Little White Salmon River. For the Little White Salmon NFH, over 1 million tagged yearlings were released from brood year 1982 through 1997 with 98.9% of tagged adults recovered on route to, or at, the NFH; with 0.62% recovered in the Wind River, 7.5 miles down the Columbia River and 0.35% recovered upstream in the Big White Salmon River. For Leavenworth NFH, over 3.1 million tagged yearlings were released from brood year 1985 through 1996 with 99% of tagged adults recovered in route to, or at, the NFH; with 0.23% recovered higher up the Wenatchee River sub-basin and 0.175% recovered up the Columbia River at Wells Dam. For the Entiat NFH, over 1 million tagged yearlings were released from brood year 1988 through 1997, with 94% of tagged adults recovered in route to, or at, the NFH; with 5.4% recovered in the Columbia Basin upstream of the Entiat River and 0.41% recovered in the Wenatchee River, 15 miles downstream. Finally, for Winthrop NFH, over 2 million tagged yearlings were released from brood year 1989 through 1996, with 98.5% of tagged adults recovered in route to, or at, the NFH; with 1.02% of tagged adults recovered elsewhere in the Methow Basin. These data indicate that while an insignificant number of Methow Chinook may wander or stray upstream to the vicinity of the Okanogan River, one would not expect the upriver-destined Okanogan Chinook to stray into lower tributaries that support extant populations of UCR spring Chinook.

This separation of an Okanogan experimental population from other populations of the listed ESU is supported by NOAA's Biological Opinion (BiOp) on the Chief Joseph Hatchery Program (NOAA 2008a). Repeatedly in this BiOp, reference is made to the separation of an Okanogan population to those of the rest of the UCR spring Chinook salmon ESU:

- “Broodstock collection activities at the hatchery would not affect UCR spring Chinook salmon because they do not use the listed stock and the listed stock is generally not present in the area where broodstock collection would occur.”
- “Monitoring and evaluation activities in the Okanogan River basin would not encounter and therefore not impact, UCR spring Chinook salmon.”
- “Because listed UCR spring Chinook salmon do not use the Okanogan River basin no effect would occur through nutrient cycling. Nutrient enhancement from hatchery fish straying into listed ESU population natural areas would not likely occur at meaningful level, and the other risks associated with straying would likely be greater than any potential nutrient cycling benefit.”
- “The analysis in Section 4.2, reviewed above, looked at the impacts of the proposed artificial propagation programs on UCR spring Chinook salmon in terms of the direct and indirect impacts of various aspects of the programs on individual salmon and salmon populations. From this analysis it is clear that the impacts of hatchery facility construction and modification, hatchery operations, broodstock collection, disease, predation, residualism, masking, and nutrient cycling would result in minimal effects on UCR spring Chinook salmon ESU.”

In considering the importance of separation with respect to an experimental population of anadromous fish, the key issue is separation during spawning, hatchery broodstock collection and any harvest of the experimental population. The scientific literature and data indicate that the creation of an experimental population in the Okanogan River and upstream reaches of the Columbia River would not lead to interbreeding with other UCR spring Chinook populations or expose these other populations to any removal activities in the Okanogan River or upstream portions of the Columbia River, whether this removal be for broodstock or tribal harvest.

The homing fidelity and separation at spawn timing is what creates the reproductive isolation and the important adaptation to specialized, natal habitats. This process creates the population diversity and productivity that is important to species survival and allows them to flourish.

B. Separation of the Experimental Population Will Not Occur Solely as a Result of Random and Unpredictable Events.

As discussed above, homing to natal streams or to where hatchery-origin Chinook are acclimated and released is a defining characteristic of anadromous salmon. This innate behavior combined with the planned fish cultural practices of the Colville Tribe will ensure that an experimental population will be separate from other populations of UCR spring Chinook salmon during the critical spawning period. Separation of populations will also have occurred in time and place prior to any collection of spring Chinook for hatchery broodstock or harvest of surplus hatchery spring Chinook for ceremonial and subsistence purposes in the proposed experimental population area. This separation will occur each and every year.

V. The Proposed Experimental Population Will Be Released into Suitable Habitat Outside the Species' Current Natural Range but Within Its Probable Historic Range.

A. The Okanogan River Basin Is Within the Probable Historic Range of UCR Spring Chinook Salmon but Outside Its Current Range.

The Okanogan River Basin was not included in the critical habitat designation as spring Chinook were extirpated and remaining Chinook were designated as ocean-type and therefore included in the UCR summer/fall Chinook ESU (Meyers, J., et al 1998). However, spring Chinook salmon historically existed in the Okanogan River Basin. The presence of spring Chinook salmon in the Okanogan River basin is discussed in the Okanogan Sub-Basin Plan (NPCC 2004) and is summarized in a Hatchery and Genetic Management Plan on Okanogan spring Chinook (CCT 2008). The following discussion is taken from those sources.

Spring Chinook are considered extirpated from the Okanogan River drainage, although historical records indicate that they occurred in at least three systems: (1) Salmon Creek, prior to construction of the irrigation diversion dam (Craig and Suomela 1941), (2) tributaries upstream of Lake Osoyoos (Chapman et al. 1995), and (3) possibly Omak Creek (Fulton 1968).

Historically, spring Chinook salmon were numerous in the Okanogan sub-basin as they were harvested by the Colville Tribe in the Okanogan River during May through October salmon fisheries (Post 1938 as quoted in NPPC 1986). Fulton reported that while spring and summer Chinook were limited to the Okanogan and lower 2 kilometers of the Similkameen by the late 1960s, they formerly spawned in Salmon and Omak Creeks and most of the Similkameen River below the falls. These former runs were lost to irrigation development. Parkhurst reported that the large, early-day runs of Chinook were depleted because of over-exploitation by the commercial fisheries in the lower Columbia River (Parkhurst 1950 as cited in NPPC 1986).

By 1874 over one-half of the normal salmon run reaching the Colville Reservation was destroyed by lower river commercial fisheries. In 1884, the Tribe had lost about three-fourths of their fishery and, by 1890, the salmon runs to the Colville Reservation were almost completely destroyed (Ray 1972). The large Chinook run into Salmon Creek was lost when the Bureau of Reclamation built Conconully Dam in 1916. When surveyed in 1936, no Chinook were present in Salmon Creek (Parkhurst 1950 as cited in NPPC 1986).

Historical Indian fisheries for Okanogan salmon in May, June, and early July were likely spring Chinook. Alexander Ross in 1811 wrote that the Southern Okanogans assembled in large bands in June for the purpose of fishing during the summer season (Ray 1972). French and Wahle (1965) designated all Chinook arriving at Rock Island Dam by June 18 to July 9 as spring Chinook. Chapman reported that 50% of the spring Chinook run passed Rock Island Dam in mid-May with passage at Wells Dam occurring slightly later. As with sockeye, spring Chinook migrated above Lake Osoyoos into Canada and spawned in the upper Okanogan River and other tributaries. Chapman reports that, "[i]n 1936, spring Chinook were observed in the Okanogan River upstream from Lake Osoyoos by Canadian biologists (Gartrell 1936). That observation for May estimated 100-300 adults present on the spawning grounds." In the late 1950s and early

1960s, spring Chinook were observed in the Okanogan River as far as Okanogan Falls. Chinook were observed spawning from the falls downstream to Oliver, with concentrated spawning occurring mainly about 1½ miles above Oliver near Vaseux Creek (Roy Wahle, pers. comm.).

In recent years, Chinook have been reported in small numbers spawning in the Okanogan River above Lake Osoyoos (Langness 1991, Bartlett 2001 per. com). These remnant runs could now be summer/fall Chinook. In addition to spring Chinook spawning in Salmon and Omak creeks, they may have inhabited several other smaller, Okanogan tributaries (e.g. Bonaparte and Loup Loup creeks) prior to irrigation development in the late 19th century. As may have occurred in other Columbia subbasins with similar characteristics as the Okanogan, many of the juvenile spring Chinook may have migrated out of the warming waters of the Okanogan subbasin as 0-age pre-smolts or smolts. It is also probable that spring Chinook spawning above Osoyoos Lake reared in the lake prior to smoltification, a life history strategy that is very successful for sockeye and coho salmon.

Large juvenile or residual Chinook have recently been captured in gill nets set in upper Osoyoos Lake (H. Wright 2003, pers. comm.). Spring Chinook salmon historically spawned above Redfish Lake in Idaho with the juveniles rearing in the lake with the sockeye salmon prior to their ocean migration. It is also highly likely the juvenile spring Chinook from the White and Little Wenatchee rivers rear in Lake Wenatchee (Bugert, 1998). Reservoir rearing of juvenile spring Chinook was a successful strategy in Fall Creek and Green Peter reservoirs in the Willamette sub-basin that produced large smolts and sizeable adult runs.

B. Suitable Habitat for Spring Chinook Salmon Currently Exists in the Okanogan Basin and Additional Habitat Is Likely To Be Created in the Future.

The greatest potential for natural spring Chinook production in the Okanogan River Basin is from historical Canadian habitats. Lake waters in Canada offer significant potential habitat for adult holding (a critical life history period for spring Chinook) and juvenile rearing. The Canadian Okanogan River and particularly its tributaries offer spawning habitat and rearing habitat. As discussed further in Section VI.D.2.b below, these tributaries also require and are undergoing habitat restoration through various programs.

Historical habitats in the United States portion of the Okanogan Basin are still marginal for supporting natural populations of spring Chinook. Significant progress has been made in flow restoration in Salmon Creek to allow reintroduction of steelhead. However, more flow restoration is required to support access of spring Chinook adults into the watershed's functioning habitat below Conconully Dam. This will likely require irrigation water exchanges between the Okanogan River and Salmon Creek. Omak Creek is also undergoing long-term habitat restoration through a funded mitigation program. Although biologists have recently documented spring Chinook production in the Omak Creek resulting from outplants of unlisted Leavenworth hatchery stock, more meaningful natural production will likely require additional passage improvements, habitat restoration work, and a more sustained introduction effort. The Tribe's on-going work to improve habitat in both Omak and Salmon Creeks is described in Section VI.D.2.a below.

Although sufficient suitable habitat exists in the Okanogan River basin to support natural production of spring Chinook at some level, the suitability of the current Okanogan watershed to support natural production can best be assessed through experimental reintroduction of the best available donor stock, that from the Methow River Basin. Close monitoring of this reintroduction will provide good information on the habitats that are currently capable of sustaining spring Chinook and which habitats require further rehabilitation.

VI. Release of UCR Spring Chinook Salmon into the Okanogan River Basin Will Further the Conservation of the ESU.

Under Section 10(j), an experimental population may only be reintroduced if “such release will further the conservation of such species.” 16 U.S.C. § 1539(j)(2)(A); *see also* 16 U.S.C. § 1532(3). For the reasons below, reintroduction of the experimental population as proposed herein will further the conservation of the UCR spring Chinook ESU and is therefore authorized under Section 10(j) of the ESA.

A. There Are No Probable Adverse Effects on Extant Populations of UCR Spring Chinook Salmon as a Result of Removal of Individuals or Eggs from the Methow River Basin for Introduction into the Okanogan River Basin.

UCR spring Chinook parr or eyed eggs that would be transferred to the Okanogan are from Winthrop National Fish Hatchery (NFH) returns that are surplus to conservation needs of Methow population. Indeed, the Hatchery and Genetic Management Plan (HGMP) for the Winthrop NFH recognized that a “large number of hatchery origin [UCR spring Chinook] adults returning to the Methow River basin . . . are excess to recovery and conservation needs” (FWS 2009). This recognition was based on recommendations by the Hatchery Scientific Review Group (HSRG) and the FWS’s Hatchery Review Team that salmon hatcheries generally, and Winthrop NFH specifically, should attempt to limit the potential genetic and ecological impacts of hatchery-origin fish on natural-origin populations (HSRG 2009, BRT 2007). To accomplish this goal, the HGMP identifies 200,000 surplus spring Chinook parr or eyed eggs to be annually transferred to the Colville Tribe that otherwise would have been released into the Methow River basin. Accordingly, rather than having an adverse effect, removal of individuals or eggs from the Methow River Basin will assist in the recovery of Methow population of UCR spring Chinook salmon by diminishing the impact that the surplus hatchery returns have on the natural-origin fish.

It is likely that the surplus source of parr or eyed eggs from Winthrop NFH will continue to be available until sufficient local brood is available to support the Tribe’s spring Chinook program. The HGMP for the Winthrop NFH provides for the transfer of 200,000 spring Chinook parr or eyed eggs to the Colville Tribe until sufficient local brood is available to support the Tribe’s spring Chinook program. The HGMP explicitly recognizes that “sufficient return [of UCR spring Chinook to the Okanogan] to allow local brood collection may not be feasible for 12 or more years” (FWS 2009). If circumstances beyond the Tribe’s control prevent the Winthrop NFH from supplying surplus parr or eyed eggs for the Tribe’s spring Chinook program before

sufficient local Okanogan brood is available, the Tribe could seek other appropriate surplus locally-adapted brood elsewhere.

B. There Is a Reasonable Likelihood that an Experimental Population Of UCR Spring Chinook Salmon Will Become Established and Survive in the Foreseeable Future.

There is currently limited tributary habitat for spring Chinook spawning and rearing in the U.S. and Canadian portions of the Okanogan Basin. However, ongoing programs are targeting significant improvement of this habitat, with some quality improvements likely prior to any return of reintroduced adults. Further habitat improvements are likely in the foreseeable future. While it cannot be predicted with certainty that an experimental population of UCR spring Chinook will become established and survive in the foreseeable future, sufficient likelihood of a positive outcome exists as to warrant a reintroduction effort and the designation of an experimental population. Experimenting with actual reintroduction is the best option to determine what the Okanogan River Basin can offer to the abundance, productivity, distribution and diversity of UCR spring Chinook salmon, an ESU that currently faces a significant risk of extinction.

The key habitats and habitat issues are summarized below.

1. Omak Creek.

The Colville Tribe has already demonstrated natural reproduction of spring Chinook in Omak Creek when it recovered emigrating juvenile Chinook at their Omak weir following adult spring Chinook escapement in the previous year. These fish were the result of outplants of non-listed Leavenworth hatchery stock in Omak Creek, but they do demonstrate the likelihood that reintroduction of UCR spring Chinook into Omak Creek will lead to some level of natural production. Under current habitat conditions, any natural production of spring Chinook in Omak Creek would most likely need to be supported by further supplementation with hatchery origin fish. With passage improved at Mission Falls and continued recovery of habitat function, Omak Creek could support additional natural production in about 5.1 miles of habitat. Habitat restoration programs in Omak Creek are described in Section VI.D.2.a below.

2. Salmon Creek.

Salmon Creek offers the greatest potential for supporting spring Chinook in U.S. habitats within the Okanogan watershed. When flows are sufficiently restored in the lower 4 miles of the creek, about 12 miles of potentially productive habitat would be available for natural production. Making Salmon Creek again available for spring Chinook would likely require a water exchange program between the Okanogan River and Salmon Creek. Habitat restoration programs in Salmon Creek are described in Section VI.D.2.a below.

3. Canadian Waters.

The greatest and most immediate potential for re-introduction of spring Chinook exists in Canadian habitat. Spring Chinook produced in the Canadian Okanogan would be additive to the status of the ESU. Tributaries that currently can support spring Chinook spawning and early rearing are accessible in Canada, including Inkaneep Creek (5 miles of habitat), Vaseux Creek (5 miles of habitat), and with the recent installation of fish passage at McIntyre Dam, Shuttlesworth Creek (6 miles of habitat). These tributaries can seed fry and fingerlings to the lake environment. If passage is provided into Skaha Lake and Lake Okanogan, numerous other tributaries would be available for spring Chinook spawning. In addition to passage, habitat restoration programs are also ongoing in Canada that will provide additional suitable habitat, including water exchanges and screening of water diversions. The ongoing habitat restoration programs are described in Section VI.D.2.b below.

The Colville Tribe recognizes that management of the portion of the reintroduced population that ultimately crosses the international border into Canada would largely be beyond the authority of NMFS. However, as described in more detail below, efforts in Canada to restore salmonid habitat in the Okanogan Basin and improve fish passage will help provide assurance that the experimental population would promote the conservation of the ESU even when it is outside of U.S. jurisdiction. In addition, to ensure adequate protections for the reintroduced fish that cross into Canada, the Colville Tribe will formalize a memorandum of understanding (“MOU”) with the Canadian members of ONA that sets parameters for appropriate conservation management of the reintroduced population as well as goals for habitat protection and restoration. The MOU will incorporate the conservation management plan for spring Chinook reintroduction in the Okanogan that the Colville Tribe and ONA are currently working on that establish the elements for a) monitoring and evaluation, b) natural escapement objectives, c) artificial propagation, d) habitat restoration projects, and e) limited ceremonial and subsistence harvest when consistent with other plan elements.

The desire and intent of the ONA to conserve Chinook salmon in the Canadian Okanogan River has been demonstrated by their ongoing efforts to have these Chinook managed pursuant to Canada’s Species At Risk Act, legislation similar to the U.S. Endangered Species Act.

4. Lake Rearing.

Spring Chinook are known to use lentic waters for juvenile rearing. This situation occurs naturally, i.e., historically in Redfish Lake, Idaho and Lake Wenatchee. Spring Chinook reservoir rearing programs were once popular in Willamette Basin reservoirs, producing significant runs of salmon. The historical spring Chinook runs of the Okanogan River were also likely supported by juveniles that availed themselves to rearing in, and migrating through, the natural lakes within the Okanogan watershed. Chinook successfully demonstrate this capability in the Thompson and Shuswap river/lake systems just north of the Okanogan watershed in Canada. The Okanogan lakes could again offer substantial, unique, and a relatively stable habitat type for growth of juvenile Chinook. This production potential could be substantial as the Canadian lakes are again made accessible. The production potential of Lake Osoyoos alone is significant as demonstrated by its capability to annually rear numerous (1- 8 million) and large sockeye salmon smolts. Access again to Skaha Lake and Lake Okanogan has been estimated to increase lake rearing habitat for sockeye, and possibly Chinook, by 20 times. If reintroduced

spring Chinook can again successfully rear in, and migrate through, the Okanogan lakes, these lakes could provide vast rearing habitats that over the long-term could be stable in the face of climate change, particularly relative to the vulnerable snowmelt streams that support the extant populations of UCR spring Chinook salmon in the U.S. An experimental reintroduction could demonstrate the capability to establish a self-sustaining, core population of UCR spring Chinook in the Okanogan basin largely supported by these lentic waters.

C. The Establishment of an Okanogan River Basin Experimental Population Will Promote the Recovery of the UCR Spring Chinook Salmon ESU.

The UCR spring Chinook salmon ESU is listed as “endangered” due to low abundance, poor productivity, inadequate spatial structure, and insufficient diversity (NOAA 2008b). Reintroducing UCR spring Chinook into the Okanogan basin could be an important step to address these vulnerabilities and help to ensure that the ESU recovers. The reintroduction will increase the number of individual UCR spring Chinook in the Columbia River system in an area where they are currently extirpated, thus contributing to the abundance and improving the spatial structure of the ESU. By extending the range of the ESU, the proposed reintroduction can also create additional genetic reserves for the ESU that could help minimize the risk from loss of genetic diversity within the ESU.

NOAA has recognized that reintroduction of hatchery origin salmonids into regions where they are extirpated can be an important tool for promoting the recovery of listed populations. For example, in the 2009 Adaptive Management Implementation Plan (AMIP) for the Federal Columbia River Power System (FCRPS), NOAA found that “[t]he Administration’s recent review confirmed that the reintroduction of salmon and steelhead to locations where extirpation has occurred is a useful tool to decrease the risk of extinction” (NOAA 2009:17). Salmonid reintroduction strategies are also discussed as potential recovery tools in various recovery planning documents for salmonids, including the Draft Hood Canal/Eastern Strait of Juan de Fuca Summer Chum Salmon Recovery Plan (NOAA 2005:299) and the Lower Columbia Salmon Recovery and Subbasin Plan (NOAA 2004:6-46).

NOAA has specifically recognized that the reintroduction of a UCR spring-run Chinook population into the Okanogan will promote recovery of the ESU. For example, in the Reasonable and Prudent Alternative (RPA) Table to the 2008 FCRPS BiOp, NOAA found that the funding of “reintroduction of spring Chinook salmon into the Okanogan Basin is consistent with the Upper Columbia Salmon Recovery Plan” and identified the reintroduction as one of the “Specific Projects to Implement Hatchery RPA Actions” that would “Build Genetic Resources & Assist in Promoting Recovery” (NOAA 2008b). The Hatchery Effects Appendix to the FCRPS BiOp likewise lists implementation of the “Okanogan reintroduction HGMP & Master Plan using Methow donor fish (Colville Tribe)” as a hatchery action that could promote recovery of the UCR spring Chinook population. The AMIP indicates that the Columbia River FCRPS “Action Agencies . . . are initiating reintroduction efforts for Upper Columbia River spring Chinook salmon in the Okanogan River” (NOAA 2009:17). An essential first-step for fulfilling this promise and initiating the reintroduction program is a rule designating spring-run Chinook in the Okanogan as a nonessential experimental population.

D. The Extent to which the Introduced Population May Be Affected by Existing or Anticipated Federal or State Actions or Private Actions Within or Adjacent to the Experimental Population Area.

While in areas outside of the experimental population area, the introduced Okanogan Basin population of UCR spring Chinook salmon is likely to be affected by most of the same Federal, State, Tribal and private actions affecting existing populations from this ESU, including actions relating hydropower, harvest, habitat, and hatcheries. An overview of these actions is provided in NOAA's original listing decision (NOAA 1999), the 2007 Recovery Plan (UCSRT 2007), and the 2008 BiOp for the FCRPS (NOAA 2008b). Because the effects of these off-site actions are expected to be similar to those experienced by other populations, they are not discussed further in this petition. This petition will focus on actions occurring within the proposed experimental population area.

1. Existing and Proposed Hydropower Actions.

Habitat conditions in the Columbia River between Chief Joseph Dam and the Okanogan River are affected by spills of water from the Grand Coulee and Chief Joseph Dams. These spills and other water releases are regulated to stay within Tribal and State standards for dissolved gases and are not expected to have an adverse effect on the introduced population.

The lower 17 miles of the Okanogan River experiences lentic influence due to Wells Dam. Consequently, the majority of the reach is essentially an elongated pool. Water level fluctuates frequently because of operational changes (power generation, storage) at Wells Dam. This reach of the Okanogan River provides some rearing habitat for steelhead and may provide limited rearing habitat for the introduced population of UCR spring Chinook salmon during certain times of the year (NPCC 2004). The introduced population can be expected to migrate through this reach in the same manner, and experience the same range of impacts, as in other reservoirs along the Columbia River.

There are no hydroelectric facilities in the United States portion of the mainstem of the Okanogan River. Two hydroelectric projects have been proposed for the Similkameen River, the largest tributary of the Okanogan. The Okanogan County Public Utility District No. 1 (OPUD) has submitted a license application to the Federal Energy Regulatory Commission (FERC) for the Enloe Dam project. This project would involve retrofitting an existing dam located at Coyote Falls with a hydroelectric generating facility. Coyote Falls presented a natural barrier to UCR spring Chinook prior to construction of Enloe Dam in the early part of the 20th century. The Colville Tribe, the ONA and the Canadian government all oppose artificial anadromous fish passage into the upper Similkameen River.

Summer Chinook salmon and steelhead presently spawn in the lower Similkameen River below Enloe Dam. The majority of summer Chinook and steelhead spawning occurs in the lower five miles of the river. The Similkameen River serves as a refuge from higher water temperatures in the Okanogan River. Steelhead, summer Chinook and sockeye salmon presently enter the Similkameen River during the summer to hold until temperatures in the Okanogan River decrease to a suitable level and they can migrate to spawning areas. Holding areas can

occur anywhere in the lower river below the Coyote Falls, but larger and deeper pools appear to be the preferred habitat, including the deep pool just below Coyote Falls (OPUD 2008).

The proposed hydroelectric generating facility will involve a diversion that creates a bypass reach of approximately 370 feet below Enloe Dam. According to OPUD, this area presently provides extremely poor habitat for salmonids and is characterized by scoured bedrock. OPUD proposes to mitigate for this loss of habitat by creating approximately 300 linear feet of side channel habitat that will provide rearing habitat and thermal refuge for salmonids. OPUD also proposes to conduct gravel supplementation below Coyote Falls in an effort to increase spawning habitat (OPUD 2008).

OPUD has also applied to FERC to construct the Shankers Bend project, a hydroelectric facility up-stream from Enloe Dam. Shankers Bend is beyond the limits of anadromous fish habitat, but has the potential to affect downstream habitat by regulating flows and affecting water quality in the lower Similkameen and Okanogan Rivers. The Shankers Bend project is still in preliminary stages and any effect that the project may have on an introduced population of UCR spring Chinook is unknown at this time.

There are no significant hydroelectric facilities in the Canadian portion of the Okanogan Basin. However, McIntyre Dam, at the outlet of Vaseux Lake blocked anadromous fish passage into Vaseux, Skaha and Okanogan Lakes for many decades (NPCC 2004). Although the passage barrier at McIntyre Dam was removed in October 2009, additional dams and other fish passage barriers exist upstream of McIntyre Dam (NPCC 2004).

2. Existing and Proposed Habitat Actions.

As elsewhere the Columbia Basin, much of the potential habitat for UCR spring Chinook salmon in the Okanogan River Basin has been degraded by human activities, including agriculture, timber harvesting, and commercial and residential development. Over the past century, ecosystem processes have been severely impacted, creating a fragmented mixture of altered or barren fish and wildlife habitats. Disruptions to the hydrologic system have resulted in widespread loss of migratory corridors and access to productive habitat (CCT 2007).

In the Canadian portion of the Okanogan Basin, substantial reaches of the mainstem Okanogan River are channelized and, until October 2009, the McIntyre Dam blocked anadromous fish passage. Tributary habitat is degraded by irrigation diversions and other human activities. There is less development in the United States portion, but tributary habitat is still greatly affected by human activities. For example, an irrigation diversion on Salmon Creek currently blocks Chinook salmon from reaching spawning and rearing habitat in the upper watershed.

Significant efforts to restore habitat for Chinook salmon are underway in both the United States and Canadian portions of the watershed. Much of the efforts to restore habitat are described in the Tribe's Okanogan Anadromous Fish Recovery Initiative (CCT 2007). Efforts to restore habitat in the United States are being funded by the Bonneville Power Administration under the 2008 Columbia River Fish Accords (BPA-CCT 2008).

a. Habitat Restoration Efforts in the United States.

Habitat restoration efforts in the United States that would potentially benefit UCR spring Chinook salmon are largely focused on two tributaries: Omak Creek and Salmon Creek and are being spearheaded by the Colville Tribe with funding provided by BPA under the Fish Accords.

Salmon Creek restoration. The most significant effort to restore potential habitat for UCR spring Chinook salmon in the United States portion of the Okanogan River Basin is the Tribe's Salmon Creek project. Salmon Creek is a tributary to the Okanogan River which enters the river from the west at approximately river mile 25.5. Historically, spring Chinook inhabited Salmon Creek and returned at substantial levels. During the early 20th century, Salmon Creek was dammed and diverted for irrigation (located at RM 4.3) and has been disconnected from the Okanogan River ever since. The Salmon Creek project is intended to provide adequate flows downstream of an irrigation diversion to provide access to 11 miles of quality spawning and rearing habitat that has been inaccessible for many years. A low flow channel has been constructed downstream of the diversion to maximize migration using a minimum of water (Chris Fisher, pers. comm.). With a low flow channel, preliminary estimates for steelhead are 12 cfs and spring Chinook salmon are 17 cfs compared to an estimated 25 cfs for steelhead and 30 cfs for spring Chinook without it. The project will also address limited habitat restoration needs above the diversion to protect channel integrity, restore riparian areas, and improve habitat diversity (CCT 2007).

To achieve in-stream flow targets for Salmon Creek, the following options are being pursued: (1) Land acquisition with water rights purchase; (2) Long-term water lease through Okanogan Irrigation District (OID); and (3) construction of a new or improved pumping facility (CCT 2007).

The Tribe estimates that successful restoration of migration flows in lower Salmon Creek could result in production of 300,044 spring Chinook salmon fry. This estimate is based upon a 10% egg to fry survival with an average female fecundity of 4,432 eggs (CCT 2007).

Omak Creek restoration. Omak Creek is a tributary to the Okanogan River which enters the Okanogan from the east at approximately river mile 32. Omak Creek is wholly contained within the Colville Reservation. Spring Chinook salmon inhabited Omak Creek. Omak Creek is a unique tributary in the Okanogan River since it is unaltered by irrigation withdrawals or adjacent wells. Thus, environmental conditions are relatively consistent in Omak Creek, resulting in stable steelhead production (CCT 2007).

A number of resource problems limiting the production of anadromous fish were identified in an environmental assessment prepared by the Tribe in 1995 (CCT 1995). Several of these resource problems have been addressed in the past decade; however, a disproportionate amount of fine sediment still exists in the streambed. The primary sediment source has been attributed to a large amount of roads. Road density in this watershed exceeds four miles per square mile. Since 1999, more than 50 miles of road have been decommissioned in the Omak

Creek watershed. Road decommissioning will continue using funding provided through the Fish Accords (CCT 2007).

In addition, several culverts in the watershed are undersized and prone to washout during normal spring runoff. Four high priority culverts located along the main-stem of Omak Creek will be replaced by the end of 2010 (Chris Fisher, pers. comm.). Also, isolated but concentrated areas of livestock use have reduced bank stability and canopy closure. The Tribe will continue efforts to construct range infrastructure as identified during resource surveys. The lower three miles of Omak Creek currently exhibit high daytime water temperatures. To reduce these peak temperatures, additional native riparian plant species will be planted to accelerate canopy closure, a project that will be beneficial to an effort to successfully re-establish spring Chinook salmon (CCT 2007).

b. Canadian Habitat Restoration Projects.

In addition to the above projects in the United States, several habitat restoration projects are planned or underway in Canada. These projects are also described in CCT (2007) but were not funded under the Fish Accords. Additional funding for these projects is being pursued by the Tribe and ONA.

Mainstem habitat restoration project. The Canadian portion of the mainstem Okanagan River supports sockeye salmon, steelhead, summer/fall Chinook, rainbow trout, kokanee and many other fish species, but production of these species has been severely impacted by habitat alterations resulting from flood protection works constructed in the mid-1950s. Due to the installation of flood control dikes and urban and agricultural developments, approximately 84% of the river has been channelized and over 90% of the riparian habitat has been removed (CCT 2007).

The benefits of restoring some of the channelized portions of river have been recognized by Canadian fisheries authorities and within the Okanagan Subbasin Management Plan (NPCC 2004). In 2002 the Canadian Okanagan Basin Technical Working Group partnered with several other interested parties to launch the Okanagan River Restoration Initiative (ORRI). The ORRI is being conducted in phases. The Okanagan River waterfront properties purchased for the restoration project are located approximately 10 miles upstream of Osoyoos Lake, on the northern boundaries of the town of Oliver B.C. This location was selected based on channel gradient characteristics that will maximize habitat restoration potential and because it lies immediately downstream of the river's existing primary salmonid spawning grounds (CCT 2007).

The objective of the project is to re-naturalize 1,087 meters (approximately 0.7 miles) of Okanagan River channel by moving back dikes, restoring river meanders, creating pool/riffle sequences, reconnecting the river to its former floodplain and replanting riparian vegetation. The restoration work is expected to double sockeye egg to fry survival; reduce redd scour; and provide about 24,000 square meters of complex spawning and rearing habitat for steelhead and spring Chinook (CCT 2007).

Project construction was completed in 2009. Monitoring, evaluation and adaptive management will continue through 2012. A second phase of the ORRI project which will involve rehabilitation of another kilometer of the Okanogan River is currently in the planning stage (Chris Fisher, pers. comm.).

Inkaneep Creek restoration. Inkaneep Creek is a tributary that enters the Okanogan River system at the northeast end of Osoyoos Lake. Inkaneep Creek historically supported spring Chinook salmon. A restoration project is planned that would allow successful reproduction and rearing of spring Chinook salmon in Inkaneep Creek. This project would involve increasing flows to improve the quality of spawning and rearing habitat; constructing habitat complexes for habitat improvements to increase pool-riffle complexes in the lower 3.7 kilometers of the creek; protecting channel integrity, restoring riparian areas, and improving habitat diversity; and constructing a permanent fence in the lower portion of the creek to sample and capture anadromous fish for research and propagation purposes (CCT 2007). In addition, there are two unscreened, unlined diversions in Inkaneep Creek that should be replaced with alternative water delivery systems (Chris Fisher, pers. comm.).

Vaseux Creek restoration. Vaseux Creek is a tributary that enters the Okanogan River approximately 1 mile downstream of McIntyre Dam. Vaseux Creek presently contains stream type large adfluvial rainbow trout and summer Steelhead. Historically spring Chinook salmon also inhabited Vaseux Creek (CCT 2007).

ONA completed an assessment on Vaseux Creek in 2006 to determine habitat restoration potential. It was determined that providing additional flows to Vaseux Creek would provide the greatest opportunity to increase anadromous salmon production. There are two water intake diversions located approximately 1.5 miles upstream of the Vaseux Creek confluence with the Okanogan River (Long and Newbury 2006). While water flow is an issue during the summer period, there are water licenses that could potentially be available to conserve water flow for fisheries values. The ONA propose to work with water licensee holders to assess the potential for alternative water intake sites, improving the efficiency of water intake infrastructure or purchasing water licenses. Completion of the project would allow successful reproduction and rearing of both Summer Steelhead and spring Chinook salmon (CCT 2007).

Since 2007, an engineering firm has been retained to develop a proposal to replace surface water diversions with wells. This plan is presently under consideration by local irrigators (Chris Fisher, pers. comm.).

Restoring fish passage at McIntyre Dam. McIntyre Dam is an irrigation dam located on mainstem of the Okanogan River approximately 1 mile downstream from Vaseux Lake. It is a concrete low head dam with 5 vertical, manually-operated, underflow gates. The dam was constructed to provide the head needed to keep the irrigation canal flowing and to pass the flow of the river. The dam blocked all anadromous fish passage into productive waters in the upper Okanogan Basin (CCT 2007).

In October 2009, a project to achieve fish passage at the dam was completed. The project involved construction of the necessary fish passage facilities at the dam and screening of the

associated irrigation intake canal. Refitting the dam with more fish friendly, overshot gates has now provided unimpeded adult upstream migrations and improved the conditions experienced by fish moving downstream through the dam (Chris Fisher, pers. comm.; CCT 2007).

Fish passage at McIntyre Dam has allowed salmonids to access an additional 4.4 miles of the Okanagan River mainstem habitat, rearing habitat in Vaseux Lake and 6.2 miles of tributary spawning and rearing habitat (Shuttleworth Creek) and returned these fish to a portion of their historic range. The screening of the irrigation canal has prevented entrainment of fish (CCT 2007).

This project is linked to an ongoing project to reintroduce anadromous fish into Skaha Lake. A flood control structure at Skaha Lake already has a fish passage facility that is currently inactive. Fish passage into Skaha Lake is currently under evaluation by the B.C. Ministry of the Environment. Fish passage into Skaha Lake would open up the 156 square mile Shingle Creek watershed to anadromous fish (Chris Fisher, pers. comm.). As part of the reintroduction project, sockeye salmon fry have been out-planted in Skaha Lake annually since 2004 (CCT 2007).

Shuttleworth Creek restoration. Shuttleworth Creek is one of the largest tributaries to the Okanagan River and enters the river upstream of McIntyre Dam and downstream of the Skaha Lake outlet dam. Shuttleworth Creek contains stream type rainbow trout. Anadromous fish passage into Shuttleworth Creek has been restricted since the 1920s. With fish passage now provided at McIntyre Dam, Shuttleworth Creek is now accessible to anadromous salmon (CCT 2007).

ONA proposes to rehabilitate Shuttleworth Creek to allow successful reproduction and rearing of Summer Steelhead and spring Chinook salmon. To increase habitat diversity and pool/riffle complexes, ONA proposes to develop and implement restoration prescriptions in the lower reaches of Shuttleworth Creek which are the most impacted and have the highest potential for supporting spawning and rearing salmon species. In addition, ONA proposes to work with water license holders to assess the potential to establish alternative water intake sights or purchasing water licenses. Lastly, the ONA proposes to work with local landowners to improve the riparian vegetation and run install and operate a seasonal fish fence now that anadromous salmon passage provisions at McIntyre Dam are installed (CCT 2007).

3. Existing and proposed harvest actions.

The introduced population will likely be subject to the same harvest pressures in the lower Columbia River and Pacific as other populations of UCR spring Chinook salmon. These impacts are addressed in the Biological Opinion for the *United States v. Oregon* Fisheries Management Plan (NOAA 2008c). Addressed here are potential harvest impacts within the introduction area itself.

The Colville Tribe is committed to managing the Okanogan population of spring Chinook for conservation of the ESU. In furtherance of this commitment, and as part of the development of the proposed Chief Joseph Hatchery, the Colville Tribe has developed harvest management plans involving the use of selective harvest methods, such as weirs and seine fisheries, that allow

harvest of hatchery fish while permitting non-target species to be released unharmed (less than 1% mortality). All UCR spring Chinook introduced into the Okanogan Basin will be marked to allow release in selective fisheries. Through the exclusive use of selective fisheries methods, it is anticipated that the incidental impact from terminal harvest on the introduced population of UCR spring Chinook will be considerably less than for other populations from this ESU.

Furthermore, the Tribe will only allow tribal harvest of introduced UCR spring Chinook that are hatchery raised and surplus to escapement objectives and broodstock needs. Such limited ceremonial and subsistence harvest will further conservation because the escapement targets are designed to allow optimum use of the available spawning habitat. Selective tribal harvest will also be used to manage the proportion of hatchery origin fish in the natural spawning population to promote its productivity consistent with conservation recommendations of the HSRG.

4. Existing and proposed hatchery actions.

The Methow, Entiat and Wenatchee River populations of UCR spring Chinook have been adversely affected by Chinook salmon hatcheries in those basins that historically have not been managed to conserve wild fish. The introduced population of UCR spring Chinook will not be directly affected by Chinook salmon hatcheries in the Entiat and Wenatchee Rivers. The introduced population is affected by hatchery practices at the Winthrop NFH in the Methow, as this hatchery will initially provide fry for the reintroduction effort. The introduced population will also be affected by the proposed Chief Joseph Hatchery after it becomes operational in approximately 2011 to 2012. Concurrent with NOAA's adoption of an experimental population rule for Okanogan spring Chinook, the Colville Tribe will revise its spring Chinook HGMP for Chief Joseph Hatchery and reinitiate consultation with NOAA on propagation to support the experimental population.

a. Winthrop NFH.

The initial source of UCR spring Chinook for reintroduction into the Okanogan River Basin will be Methow Composite stock raised at the Winthrop NFH. These fry will be transferred to acclimation sites in the Okanogan River Basin starting in the fall of 2010 and released into Omak Creek and the Okanogan River starting in the spring of 2011. The Winthrop NFH is likely to remain the source for the reintroduction effort for several years until fish can be produced at the Chief Joseph Hatchery from broodstock returning to Okanogan River. Accordingly, practices at the Winthrop NFH will have an effect on the success of the reintroduction effort.

The Methow Composite stock raised at the Winthrop NFH was chosen as the source population for the reintroduction effort because it is the most locally adapted stock available and because the hatchery is capable of producing fish that are surplus to recovery needs in the Methow. The Biological Opinion for the Chief Joseph Hatchery recommended use of this stock for the reintroduction program if possible (NOAA 2008a). Detailed information concerning the history of the Methow Composite stock and hatchery practices at the Winthrop NFH can be

found in the HGMP prepared for that hatchery (FWS 2009). The HGMP provides for an annual transfer of up to 200,000 pre-smolts for release into the Okanogan River Basin.

The Methow Composite stock is presently a mix of indigenous and non-local origin stocks, but is sufficiently similar to the natural origin population in the Methow to be included with the UCR spring Chinook salmon ESU. The HGMP for the Winthrop hatchery anticipates greater efforts to integrate natural origin fish in its broodstock collection program over time (FWS 2009). If this occurs, future transfers of fry for release into the Okanogan may become more locally adapted than the fry presently available for transfer further enhancing the chances of success of the reintroduction effort.

b. Chief Joseph Hatchery.

The introduced population will be directly affected by operation of the Chief Joseph Hatchery (CJH), proposed for construction on the north bank of the Columbia River immediately below the Chief Joseph Dam. Construction of the CJH is expected to begin in the fall of 2010 and be completed by the end of 2011. The Tribe hopes that the hatchery will be fully operational in 2012.

The hatchery will produce 900,000 spring and 2,000,000 summer/fall Chinook yearlings and sub-yearlings for release into the Columbia and Okanogan Rivers. Initially, spring Chinook will be produced from non-listed hatchery stock transferred from the Leavenworth NFH and released directly into the Columbia River at the hatchery site. These fish will be marked in a way that allows them to be distinguished from the experimental population of UCR spring Chinook. The existing HGMP for the hatchery describes releases of the non-listed spring Chinook stock into the Okanogan. With establishment of the experimental population, this HGMP will be revised, and NOAA consulted, to reflect sole use of Methow Composite stock in the Okanogan River.

The revised HGMP will describe plans to acclimate UCR spring Chinook in the Okanogan to encourage their homing back to suitable spawning habitats in U.S. tributaries of the Okanogan and to Canadian habitats. Acclimation sites will likely change through time consistent with reintroduction success into historical spawning areas.

The Tribe intends to establish a weir on the Okanogan River that will prevent non-listed spring Chinook salmon raised at the hatchery from straying into the Okanogan and interbreeding with the introduced population. The Okanogan weir is proposed for construction in 2013. By isolating the non-listed hatchery population from the introduced population of UCR spring Chinook, interbreeding between the introduced population and non-listed hatchery fish will be avoided. The Tribe will also use selective fishing gears to accomplish this task of keeping listed and non-listed populations separate.

Ultimately, the Tribe plans to collect spring Chinook at the Okanogan weir and elsewhere in the basin for use as broodstock in the hatchery. Spring Chinook fry produced from these locally collected broodstock will be raised at the hatchery and transferred to acclimation sites in the Okanogan Basin prior to release. It is expected that spring Chinook salmon fry raised from

broodstock obtained from the Okanogan River Basin will eventually predominate and supplant the use of broodstock from the Winthrop NFH in the reintroduction program. The Okanogan weir will also allow for effective counting and other monitoring of returning adults from the introduced population.

In sum, because the Chief Joseph Hatchery will be managed to isolate non-listed hatchery fish from the experimental population, any adverse effects resulting from the CJH are likely to be minimal and considerably less than the effects of existing hatchery programs on other populations of spring Chinook salmon within this ESU. Furthermore, because the CJH will serve as a conservation hatchery for the introduced population, it is expected that overall the CJH will increase the likelihood of success of the reintroduction program.

VII. Proposed Means to Identify Experimental Population.

Under 50 C.F.R. § 17.81, a regulation designating an experimental population must include “appropriate means to identify the experimental population, including but not limited to, its proposed location, actual or anticipated migration, number of specimens released or to be released, and other criteria appropriate to identify the experimental population.”

In this case, the proposed Okanogan River basin experimental population will be identified and distinguished from other populations of spring Chinook salmon by its location in the Okanogan River Basin and upstream reaches of the Columbia River during adult holding, spawning, and juvenile rearing. The introduced population will be identified and distinguished from unlisted summer/fall Chinook salmon in the Okanogan by its migration time and stream life history characteristics. Finally, to minimize misidentification, the Tribe will institute a marking system for all artificially produced spring Chinook salmon introduced into the Okanogan.

A. Proposed Location.

Spring Chinook transferred from the Winthrop NFH to the Okanogan River Basin will be reared/acclimated/released in tributaries to the Okanogan River and in the Okanogan River mainstem. Initially, releases will occur in Omak Creek (St. Maries Acclimation Pond), a tributary to the Okanogan River (20,000 juveniles) and in the mainstem Okanogan River from the Tonasket Acclimation Pond (180,000 juveniles). Future releases may include other Okanogan River tributaries such as Salmon Creek at such time as flow regimes are acceptable for spring Chinook re-colonization. A revised Chief Joseph Hatchery HGMP for this reintroduction program will also describe additional acclimation sites closer to and possibly in Canadian waters to further promote Chinook migration and spawning in historical Canadian habitats. One such acclimation site will likely be net pens in Osoyoos Lake. As discussed in Section IV.A above, the Tribe expects that adults returning from these releases will exhibit homing fidelity to the release sites (tributary releases) and the upper Okanogan River Basin, including habitats in Canada (mainstem Okanogan River releases). This will allow the introduced population to be reliably identified when it is present in the Okanogan River Basin and upstream reaches of the Columbia River during adult holding, spawning and juvenile rearing phases of its life history.

B. Anticipated Migration Timing.

Artificially produced juveniles are anticipated to be released as yearling smolts during mid-April. Juvenile emigration timing is expected to be in mid to late April in the Okanogan River and late April through June in the mainstem Columbia River migration corridor, representing similar juvenile emigration timing to extant upper Columbia River spring Chinook released in the Methow River Basin from the Methow State Fish Hatchery and Winthrop NFH.

Initial adults returning from the releases of the spring Chinook produced at the Winthrop NFH will occur in 2012 (age-2); 2013 (age-3); 2014 (age-4) and 2015 (age-5). It is expected that the predominant age-at-return will be age-4 and age-5 spring Chinook, consistent with spring Chinook artificial propagation programs in the Methow River Basin. Adult migration timing of the Okanogan River experimental spring Chinook population in the Columbia River mainstem is expected to be similar to extant Methow River upper Columbia River spring Chinook population, with peak passage at Wells Dam occurring during mid-May. Based on Chinook migration timing data collected at Zosel Dam during 2008, adult spring Chinook migration timing into the Okanogan River is expected to be between May and June, and late-June through mid-July in Omak Creek and upper Okanogan River (R. Dasher, Pers. Comm.) and (Johnson et al. 2009).

Naturally produced spring Chinook resulting from the reintroduction efforts in the Okanogan River Basin are anticipated to have similar juvenile emigration and adult migration characteristics as the artificially propagated cohorts.

C. Marking/Tagging

All artificially propagated spring Chinook juveniles released in the Okanogan River Basin will be externally marked and tagged (100% coded-wire tagged). The marking and tagging will allow the adults returning from the release of the experimental population to be monitored (enumeration, spawner distribution, straying and harvest contribution) through stock assessment activities at Wells Dam, broodstock collection activities at Wells Dam and in the Methow River Basin, adult enumeration activities at Omak Creek, video enumeration at Zosel Dam, and through carcass surveys in the Methow and Okanogan River basins and harvest monitoring throughout the Columbia River Basin.

Naturally produced spring Chinook resulting from the reintroduction efforts in the Okanogan River Basin will be unmarked and will be indistinguishable from extant natural origin upper Columbia River spring Chinook in the mainstem Columbia River migration corridor. Juveniles in the Okanogan River and adults returning to the Okanogan River Basin will be distinguishable from the artificially propagated spring Chinook, as all artificially propagated spring Chinook released in the Okanogan River Basin will be externally marked and coded-wire tagged.

VIII. The Proposed Okanogan River Basin Experimental Population Is Not Essential to the Continued Existence of the ESU in the Wild.

The UCR spring Chinook salmon ESU consists of three extant populations in the Wenatchee, Entiat, and Methow Rivers and one extirpated population that once spawned and reared in tributaries of the Okanogan River. The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan identifies the Wenatchee, Entiat, and Methow UCR spring Chinook populations as necessary to the recovery of the ESU, but excludes the extirpated Okanogan population. In fact, the Plan specifically states that “[r]ecovery of spring Chinook in the Okanogan Subbasin is not a requirement for delisting” but recognizes that reestablishment of an Okanogan population of spring Chinook using an Upper Columbia stock, in contrast to out-of-basin Carson stock, would reduce extinction risk for the entire ESU (NOAA 2007).

The FCRPS BiOp likewise identifies reintroduction as a measure to assist in promoting recovery in the RPA, but does not identify reintroduction as an essential measure necessary to achieve recovery. The FCRPS BiOp identifies reintroduction of “within ESU broodstock” UCR spring Chinook from the Methow Basin into the Okanogan Basin, together with habitat restoration and improvement actions, in the Reasonable and Prudent Alternative as a measure to assist in promoting recovery (NOAA 2008b). Significantly, however, the BiOp does not address the extirpated Okanogan spring Chinook population in its environmental baseline, prospective actions, or cumulative effects analysis for UCR spring Chinook. Even so, NOAA concludes that the three extant populations will “be improved compared to their current status” with the implementation of beneficial prospective actions and that these three populations will trend toward recovery in the future. This clearly demonstrates that although reintroduction of UCR spring Chinook into the Okanogan Basin is beneficial, it is not essential to the ESU’s ultimate recovery.

IX. Proposed Management Restrictions, Protective Measures or Other Special Management Concerns for Proposed Experimental Population.

In addition to designating a nonessential experimental population of spring Chinook salmon for the Okanogan River Basin and upstream waters of the Columbia River, this petition calls on NOAA to extend a limited take prohibition and adopt special management rules to ensure that the reintroduced population is effectively managed for conservation purposes. Section 10(j) of the ESA was adopted with this flexible management approach in mind:

Congress added section 10(j) to the Endangered Species Act in 1982 to address the Fish and Wildlife Service’s and other affected agencies’ frustration over political opposition to reintroduction efforts perceived to conflict with human activity. Although the Secretary already had authority to conserve a species by introducing it in areas outside its current range, Congress hoped the provisions of section 10(j) would mitigate industry’s fears experimental populations would halt development projects, and, with the clarification of the legal responsibilities incumbent with experimental populations, actually encourage private parties to host such populations on their lands.

Wyoming Farm Bureau, 199 F.3d at 1231-32 (citing H.R. Rep. No. 97-567, at 8 (1982), reprinted in 1982 U.S.C.C.A.N. 2807, 2808, 2817). Under Section 10(j), “[b]y regulation, [NMFS] can identify experimental populations, determine whether such populations are essential

or nonessential, and, consistent with that determination, provide control mechanisms (*i.e.*, controlled takings) where the Act would not otherwise permit the exercise of such control measures against listed species.” *Id.* at 1233.

The limited take prohibition sought in the petition is unlikely to impose significant new burdens in the designated area for the experimental population because activities in the area are already limited and regulated by the protections extended to the threatened UCR steelhead that are present in the area. *See* 50 C.F.R. § 223.203. Also, the habitat range of the experimental population would not extend to other areas in the U.S. beyond that already occupied by the listed steelhead. The timing of spring Chinook in the Okanogan River would coincide with the presence of juvenile or adult listed steelhead. Any burden resulting from the limited take prohibition for the experimental population would also be minimized by the specific special management rules sought by the Tribe, which are included in paragraphs (c)(1) through (c)(6) of the Proposed Rule attached to this Petition. The rationales for these management rules are provided below.

A. Authorization of Take for Scientific, Educational, Conservation, and Health and Safety Purposes.

First, in order for the reintroduction to be successful, the fishery managers will need to capture returning adults for use as broodstock in artificial propagation programs. Artificial propagation is likely to be necessary for some time until a natural self-sustaining population can be established. Use of the introduced population as broodstock will help ensure that supplementation efforts will use the most locally adapted stocks available.

Second, FWS regulations and best management practices require that the reintroduction program be closely monitored and evaluated, which sometimes may involve capture and sampling of introduced fish. Such research, monitoring and evaluation activities will allow the reintroduction program to be managed for changes in stream conditions, anticipated habitat improvements, changes in riparian activities, and the overall conservation needs of both the reintroduced population and existing natural populations (NOAA 2007:171). While such activities would normally be conducted pursuant to a permit issued by NOAA under Section 10(a)(1)(A) of the ESA, 16 U.S.C. § 1539(a)(1)(A), at times effective management may require immediate non-permitted responses. Accordingly, paragraphs (c)(1) through (c)(3) of the Proposed Rule allow fishery managers to monitor, study, and protect the experimental population through activities that might otherwise be unlawful under a broader take prohibition, including actions associated with scientific research, education and artificial propagation.

These proposed special management provisions are well within NOAA’s authority. Indeed, FWS commonly adopts similar special management rules for 10(j) experimental populations under its jurisdiction. *See, e.g.*, 50 C.F.R. § 17.84(a)(2)(i) (Delmarva Peninsula fox squirrel); *id.* § 17.84(b)(2)(i) (Colorado squawfish and woundfin); *id.* §§ 17.84(c)(3), (c)(5) (red wolf); *id.* § 17.84(g)(4) (black-footed ferret); *see also* 50 C.F.R. § 223.203(b) (management rules for threatened salmonids). NOAA should likewise provide the fishery managers with sufficient flexibility to ensure that the reintroduced spring Chinook population can be appropriately managed to further the conservation of the ESU.

B. Authorization of Incidental Take.

In order for the reintroduction to succeed, NOAA and the Tribe must secure support from landowners, farmers and other local residents. The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan lists as a recovery action the introduction of spring Chinook into the Okanogan subbasin “in a manner that does not increase ESA liabilities for landowners” (NOAA 2007:177). Such support is unlikely if there is fear that business and recreational interests in the Okanogan could face new ESA liabilities.

To reduce the risk of liability to the local community, and to foster community support for the reintroduction effort, the Tribe asks NOAA to allow take of the experimental population if incidental to an otherwise lawful activity, as is provided for in paragraph (c)(6) of the Proposed Rule. Such an exemption is consistent with 10(j) management rules adopted by FWS, which allow incidental take in many circumstances. *E.g.*, 50 C.F.R. § 17.84(b)(2)(ii) (Colorado squawfish); *id.* § 17.84(c)(4)(ii) (red wolf); *id.* § 17.84(d)(5)(iv)(B) (southern sea otter). An exception for incidental take is also consistent with NMFS’s management rules for threatened salmonids, which allow for incidental take in certain specified circumstances. 50 C.F.R. § 223.203(b)(9)-(13).

In addition, this provision should cover any incidental take associated with the harvest of non-listed fish that will occur in the experimental population area pursuant to State and Tribal regulations. As with the direct harvest discussed in the following section, any incidental take associated with State and Tribal fisheries would be authorized pursuant to either a Tribal Plan that complies with 50 C.F.R. § 223.204, or a Fishery Management and Evaluation Plan that complies with 50 C.F.R. § 223.203(b)(4).

C. Authorization for Direct Harvest of Surplus Fish in Furtherance of Conservation.

Finally, the Tribe asks NOAA to allow direct harvest and retention of returning adults that are surplus to the reintroduction effort, but only when such harvest is pursuant to a NMFS-approved fishery management plan and furthers conservation of the experimental population and the ESU as a whole. Such management flexibility is necessary to ensure that the habitat for the reintroduced population is not overwhelmed with surplus hatchery fish, and to help secure support for the reintroduction from local Tribal and non-Tribal fishermen. Controlling the proportion of hatchery origin fish in a naturally spawning population is a recognized conservation objective (HSRG, 2009).

NOAA has the authority under section 10(j) to authorize the direct take of nonessential experimental populations when consistent with conservation. *See, e.g., Wyoming Farm Bureau Fed.*, 199 F.3d at 1233. Indeed, FWS has issued 10(j) rules that expressly authorize direct take of experimental populations in certain circumstances. *See, e.g.*, 50 C.F.R. § 17.84(i)(3)(i)-(vii) (gray wolf); *id.* § 17.84(l)(5)(iii)-(vi) (grizzly bear). Furthermore, an experimental population is to be treated as a threatened species and managed accordingly. *See* 16 U.S.C. § 1539(j)(2)(C); 50 C.F.R. § 17.82; *Gibbs v. Babbitt*, 214 F.3d 483, 487 (4th Cir. 2000). Therefore, in

promulgating the 10(j) Rule, NOAA may extend the full take prohibition, “choose not to impose a take prohibition,” or “craft a limited take prohibition” *Washington Env'tl. Council v. NMFS*, No. C00-1547R, 2002 WL 511479 (W.D. Wash. Feb. 27, 2002).

The Tribe calls on NOAA to exercise such authority and allow direct harvest and retention of surplus fish only when consistent with sound fishery management principles and in furtherance of conservation. Accordingly, sections (c)(4) and (c)(5) of the Proposed Rule allow the direct harvest and retention of surplus fish in very narrow circumstances—either pursuant to a Tribal Plan that complies with 50 C.F.R. § 223.204, or a Fishery Management and Evaluation Plan that complies with 50 C.F.R. § 223.203(b)(4). The Tribe emphasizes that it only seeks permission to directly harvest reintroduced fish that are *surplus to the conservation needs* of the ESU as a means for managing the fishery, satisfying Tribal fishing rights and building public support for the reintroduction effort.

X. Proposed Process for Periodic Review and Evaluation of the Success of the Release and the Effect of the Release On The Conservation and Recovery of the Species.

Under 50 C.F.R. § 17.81(c)(4), a regulation designating an experimental population must include “a process for periodic review and evaluation of the success or failure of the release and the effect of the release on the conservation and recovery of the species.” Monitoring and evaluation (M&E) activities are necessary to assess the success or failure of the reintroduction effort in the Okanogan River Basin, provide status and trend monitoring of the reestablished population and to assess effects on other UCR spring Chinook populations in the ESU.

Specific M&E efforts are currently established and are being implemented by Washington Department of Fish and Wildlife (WDFW) in the Methow River basin and at Wells Dam to assess the status and trends of the Methow spring Chinook population (Cates et al. 2005). Specifically, WDFW (1) implements stock status monitoring at Wells Dam (hatchery and natural origin abundance and sex ratio); (2) conducts spawning ground and carcass surveys to assess the spawning abundance of hatchery and natural origin spring Chinook, spawning distribution, spawn timing, age-at-spawning, size-at-age-at spawning, sex ratio, homing fidelity, and contribution of strays from other UCR spring Chinook artificial propagation programs; and (3) conducts juvenile emigration monitoring to assess the brood year (BY) abundance, migration timing and duration, and relative size (length) of spring Chinook emigrating from the Methow River Basin. These M&E activities in the Methow River Basin and at Wells Dam will provide status and trend data to assess the trend toward recovery for the Methow spring Chinook as well as provide assessment of run-size abundance of hatchery returns from the reintroduction efforts in the Okanogan Basin above Wells Dam and stray rates to the Methow River population. These assessments will be valuable in assessing the necessity of implementing adult management strategies in the Okanogan River Basin to manage overall spring Chinook escapement, pre-spawn survival of the reintroduced artificially propagated adults returning to the UCR above Wells Dam and the relative risks associated with straying to the Methow River Basin.

Within the Okanogan River Basin, the Colville Tribe will implement annual M&E activities (CCT 2009), associated with rearing/release of the artificially propagated spring Chinook utilized for the reintroduction efforts (survival to release, disease profiles, release date,

release size, tag/mark rate, and release location). Status and trend monitoring of adults (hatchery and natural origin) returning to the Okanogan River Basin will be conducted annually through spawning ground and carcass surveys, video surveillance (and possible trapping) at Zosel Dam, weir counts and harvest monitoring to assess overall abundance to the Okanogan River Basin. Spawning ground and carcass surveys (including surveys in Canada) will also be used to assess spawning distribution, spawn timing, age-at-spawning, size-at-age at spawning, sex ratio, and homing fidelity. Juvenile emigration monitoring will be conducted in Omak Creek and in the mainstem Okanogan River to assess hatchery and natural origin juvenile emigration timing, natural origin abundance trend, and size (length). The Tribe has a long term funding commitment through its Accord and the Columbia River Fish and Wildlife Program for this M&E.

Review of the reintroduction program will be conducted annually through the Annual Project Review (APR) process, consistent with the Colville Tribes' Chief Joseph Hatchery Program Monitoring and Evaluation Plan for Spring Chinook Salmon (CCT 2009). A periodic "roll-up" review will be conducted after year six of the reintroduction program and annually thereafter to provide a BY-specific assessment of hatchery origin release number and location, hatchery origin smolt-to-adult survival rate (SAR), hatchery origin homing fidelity, hatchery and natural origin spawning distribution, hatchery return rates (HRR), natural recruitment rate (NRR) and harvest rates within the Okanogan River Basin and Columbia River Basin upstream from the Okanogan River confluence.

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Appendix

Proposed ESA Section 10(j) Rule Designating Nonessential Experimental Population of Upper Columbia Spring Chinook in the Okanogan River Basin and Establishing Special Management Rules

- (a) The Upper Columbia River spring Chinook salmon (*Oncorhynchus tshawytscha*) population identified in paragraph (b) of this section is hereby designated as a nonessential experimental population.
- (b) The nonessential experimental population of Upper Columbia River spring Chinook salmon shall include all spring Chinook salmon released into the Okanogan River Basin, and any offspring arising solely therefrom, when these individuals are found in the Okanogan River Basin and in the Columbia River from its confluence with the Okanogan River upstream to the Chief Joseph Dam.
- (c) It is unlawful for any person to take any Upper Columbia River spring Chinook salmon that is part of the nonessential experimental population designated in paragraph (b) of this section, except as follows:
 - (1) The prohibitions in this section do not apply to any activity taken pursuant to a valid permit issued by NMFS under 50 C.F.R. part 222 for educational purposes, scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes.
 - (2) The prohibitions in this section do not apply to any employee or designee of NMFS, the United States Fish and Wildlife Service, any Federal land management agency, the Washington Department of Fish and Wildlife (WDFW), the Confederated Tribes of the Colville Reservation, or any other governmental entity that has co-management authority for the listed salmonids, when the employee or designee, acting in the course of his or her official duties, takes a spring-run Chinook found in an area defined in paragraph (b) of this section without a permit if such action is necessary to aid a sick, injured, or stranded salmonid; dispose of a dead salmonid; or salvage a dead salmonid that may be useful for scientific study. Each employee or designee acting under this limit is to report to NMFS the numbers of fish handled and their status on an annual basis. A designee of the listed entities is any individual the Federal or state fishery agency or other co-manager that has been authorized in writing to perform the listed functions.
 - (3) The prohibitions in this section do not apply to activities associated with artificial propagation programs that comply with the requirements of 50 C.F.R. § 223.203(b)(5).
 - (4) The prohibitions in this section do not apply to any harvest-related activity undertaken by a tribe, tribal member, tribal permittee, tribal employee, or tribal agent consistent with conservation of the experimental population designated herein and pursuant to a NMFS-approved Tribal Resource Management Plan that complies with 50 C.F.R. § 223.204.

- (5) The prohibitions in this section do not apply to any harvest-related activity consistent with conservation of the experimental population designated herein and in accordance with a NMFS-approved Fishery Management and Evaluation Plan that complies with 50 C.F.R. § 223.203(b)(4).
- (6) Any person may take an Upper Columbia River spring Chinook found in an area defined in paragraph (b) of this section, provided that the take is incidental to an otherwise lawful activity. Otherwise lawful activities include, but are not limited to, agricultural, water management, construction, recreation, navigation, or forestry practices, when such activities are in full compliance with all applicable laws and regulations.
- (d) It is unlawful for any person to possess, sell, deliver, carry, transport, ship, import, or export by any means whatsoever, any Upper Columbia River spring-run Chinook found in an area defined in paragraph (b) of this section taken in violation of paragraph (c) of this section, or in violation of applicable State, Tribal, or Federal laws.
- (e) It is unlawful for any person to attempt to commit, solicit another to commit, or cause to be committed, any offense defined in paragraphs (c) and (d) of this section.