

ANNUAL REPORT  
CALENDAR YEAR 2014  
OF ACTIVITIES UNDER THE  
ANADROMOUS FISH AGREEMENT  
AND HABITAT CONSERVATION PLAN  
WELLS HYDROELECTRIC PROJECT  
FERC LICENSE NO. 2149

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**Prepared for**

Federal Energy Regulatory Commission  
888 First Street N.E.  
Washington, D.C. 20426

**Prepared by**

Anchor QEA, LLC  
720 Olive Way, Suite 1900  
Seattle, Washington 98101  
and  
Public Utility District No. 1  
of Douglas County, Washington  
1151 Valley Mall Parkway  
East Wenatchee, Washington 98802-4497

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## 1 INTRODUCTION

On June 21, 2004, the Federal Energy Regulatory Commission (FERC) approved an Anadromous Fish Agreement and Habitat Conservation Plan (HCP) for the Wells Hydroelectric Project (Wells Project; Wells Dam – FERC License No. 2149) on the Columbia River in Washington State. The Wells Project is owned and operated by Public Utility District No. 1 of Douglas County (Douglas PUD). The HCP provides a comprehensive and long-term adaptive management plan for species covered under the HCP (Plan Species) and their habitats. This document is intended to fulfill Section 6.9 of the HCP, which requires an annual report of progress toward achieving the No Net Impact (NNI) goal, as described in Section 3 of the HCP, and a summary of common understandings based on completed studies.

Designated representatives of the signatories of the Mid-Columbia HCPs (HCPs for the Wells, Rocky Reach, and Rock Island hydroelectric projects) comprise the Coordinating Committees, Hatchery Committees, and Tributary Committees for each HCP, which meet collectively to expedite the process for overseeing and guiding the implementation of their respective HCPs. Minutes from the 2014 meetings are compiled in Appendix A (Coordinating Committees), Appendix B (Hatchery Committees), and Appendix C (Tributary Committees). In addition, the Policy Committees provide a forum for resolution of disputes that are either elevated to or arise in the Coordinating Committees and remain unresolved. The Policy Committees did not meet in 2014 for the purpose of dispute resolution. However, the Policy Committees convened in 2014 to discuss the selection of new HCP Committees Chairpersons, as the current Chairman (serving since 2004) announced plans to retire in spring 2015, as further discussed in Section 3.4. Appendix E lists members of the Wells HCP Committees. The Wells Coordinating Committee oversaw the preparation of this 11th Annual Report for calendar year 2014, which covers the period from January 1 to December 31, 2014 (the first through 10th Annual Reports covered January 1 to December 31, 2004 through 2013).

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## 2 PROGRESS TOWARD MEETING OR MAINTAINING NO NET IMPACT

The Wells Project HCP requires preparation of an Annual Report that describes progress toward achieving the performance standard of NNI for each Plan Species. The NNI standard consists of two components: 1) 91 percent combined adult and juvenile project survival achieved by project improvement measures implemented within the geographic area of the project; and 2) 9 percent compensation for unavoidable project mortality, with 7 percent compensation provided through hatchery programs and 2 percent through tributary programs (Section 3.1 of the HCP). In 2014, Douglas PUD continued achievement of NNI for the Wells Project by successfully meeting or exceeding all requirements for NNI under the Wells HCP.

The remainder of this section of the report summarizes decisions and agreements reached by the Wells Coordinating, Hatchery, and Tributary committees in 2014 in support of achieving NNI. This section is followed by sections summarizing achievements, actions, and activities specific to the areas of Wells Project survival and dam operations, hatchery compensation, and Tributary Committees funding of habitat protection and restoration.

Throughout 2014, the HCP Coordinating, Hatchery, and Tributary committees reached agreement on numerous issues during meetings, all of which were documented in the meeting minutes, with many of those decisions described in stand-alone Statements of Agreement (SOAs). All of the agreements approved during calendar year 2014 are summarized in Table 1 and discussed in the remainder of this section.

**Table 1**  
**Summary of 2014 Decisions by the Wells HCP Committees**

Date	Agreement	HCP Committee	Reference
January 9, 2014	Approved the Wells 2014 HCP Action Plan	Tributary	Appendix C
January 15, 2014	Approved the Wells 2014 HCP Action Plan ( <i>Note: the CCT approved the Action Plan via email on January 13, 2014</i> )	Hatchery	Appendix B
January 15, 2014	Approved Douglas PUD's request to sacrifice 300 Methow Hatchery spring Chinook juveniles in spring 2014 for an early maturation study	Hatchery	Appendix B

Date	Agreement	HCP Committee	Reference
January 15, 2014	Approved the CCT's Wells Steelhead Broodstock Replacement proposal	Hatchery	Appendix B
January 28, 2014	Approved the Wells 2014 HCP Action Plan, as revised	Coordinating	Appendix A
January 28, 2014	Approved the Wells 2014 Juvenile Fish Bypass Operating Plan, as revised	Coordinating	Appendix A
January 28, 2014	Supported Douglas PUD's request to NMFS to modify their existing Permit 1395 to allow trapping of hatchery-origin steelhead at Wells Dam from February through April 2014 to fulfill steelhead broodstock obligations required for several programs, with the stipulations that the Coordinating Committees are consulted during the trapping period, updated on progress toward the collection goal, and informed of any indications of passage delays; and that the ladder trapping will be terminated first before other collection actions are terminated	Coordinating	Appendix A
January 28, 2014	Supported the YN's proposal to extend coho salmon trapping activities at Wells Dam from the traditional 3 days per week, 16 hours per day, to a modified 5 days per week, 9 hours per day, beginning September 27, 2014, and ending October 10, 2014, contingent upon: 1) ongoing monitoring of detection times of steelhead and fall Chinook at Rocky Reach Dam and Wells Dam; 2) an annual re-evaluation by the Coordinating Committees of the modified trapping operations during the initial years of implementation; and 3) the YN providing a report to the Coordinating Committees summarizing trapping efforts with the modified operations	Coordinating	Appendix A
March 13, 2014	Approved CCFEG's budget amendment request for the Methow/Chewuch Shallow Groundwater Monitoring Project	Tributary	Appendix C
March 17, 2014	Approved the Wells 2013 HCP Annual Report	Coordinating	Appendix A
March 21, 2014	Approved the Wells Hatchery Modernization 30% Design Drawings and Wells Hatchery Preliminary Design Report	Hatchery	Appendix B



Date	Agreement	HCP Committee	Reference
March 25, 2014	Conditionally approved the CRITFC's annual request to tag sockeye salmon at Wells Dam in 2014, with the requirements that: 1) fish subjected to MS-222 prior to release must be Floy-tagged; 2) sockeye salmon trapping will only occur on the west ladder and to the extent practical, concurrent with and in coordination with WDFW's summer Chinook trapping for the Carlton program (Jeff Korth [WDFW] will coordinate internally to discuss the feasibility of collecting broodstock and tagging in tandem); 3) in no case would trapping exceed 3 days per week, 16 hours per day; and 4) tagged sockeye salmon must be released upstream from Wells Dam rather than returned to the ladder	Coordinating	Appendix A
March 25, 2014	Agreed to the following review and approval process for the summaries of the weekly Wanapum briefings: 1) Anchor QEA will distribute to the Coordinating Committees a draft summary for review on the Wednesday following the Monday briefing; 2) Coordinating Committees representatives will provide comments on the draft summary no later than the Friday following the Monday briefing; and 3) Anchor QEA will distribute the final summary at the close of the review period	Coordinating	Appendix A
April 4, 2014	Approved the Wells Modernization February 19, 2014 Workshop Minutes via email vote	Hatchery	Appendix B
April 10, 2014	Agreed to extend the contract period for CCFEG's Methow/Chewuch Shallow Groundwater Monitoring Project	Tributary	Appendix C
April 10, 2014	Approved the ONA's Small Projects Program application; remove Collapsed Bridge from Shingle Creek	Tributary	Appendix C
April 10, 2014	Approved the 2014 Broodstock Collection Protocols	Hatchery	Appendix B
April 22, 2014	Agreed to allow WDFW to conduct stock assessment and brood collection for steelhead at the east and west ladders at Wells Dam from August 1 to October 31, 2014, provided that trapping at the east ladder is limited to 1 day per week, and also that WDFW provides a summary table that documents the hatchery and natural origin composition of steelhead trapped per ladder to help inform trapping decisions in future years	Coordinating	Appendix A

Date	Agreement	HCP Committee	Reference
May 27, 2014	Agreed to provide Charlie Snow (of the WDFW) with read-only access to the final document library on the HCP Hatchery Committees Extranet site	Coordinating	Appendix A
May 27, 2014	Agreed to continue holding their monthly meetings at the Radisson Gateway Hotel, in SeaTac, Washington, along with the occasional conference call and meeting in eastern Washington	Coordinating	Appendix A
June 12, 2014	Approved ONA's funding request for the Okanagan River Restoration Initiative Phase II Effectiveness Monitoring Project	Tributary	Appendix C
June 16, 2014	Approved the NTOC Modeling Report	Hatchery	Appendix B
June 18, 2014	Approved Douglas PUD's request to allow Grant PUD to use excess production capacity at Douglas PUD facilities for 1 year (2014-2015) to produce 100,000 steelhead and 134,126 spring Chinook salmon ( <i>Note: WDFW approved the request via email prior to the meeting on June 18, 2014</i> )	Hatchery	Appendix B
June 20, 2014	Approved the Douglas PUD 2013 Pikeminnow Program Annual Report	Coordinating	Appendix A
June 24, 2014	Agreed to provide Aaron Beavers (NMFS engineer) read-only access to the final document library on the HCP Coordinating Committees Extranet site	Coordinating	Appendix A
July 10, 2014	Approved the Methow Salmon Recovery Foundation's funding request for the Methow Watershed Beaver Reintroduction Project	Tributary	Appendix C
July 16, 2014	Approved the SOA approving Grant PUD use of excess production capacity at Douglas PUD facilities through 2023 to produce steelhead and spring Chinook salmon	Hatchery	Appendix B and Appendix F
July 22, 2014	Approved via email the request of the Wells Aquatic Settlement Work Group for reduction of the Wells Dam collection gallery head-differentials from the normal operating level of 1.5 feet, to a reduced operating level of 1.0 foot (lamprey operations), from 17:00 to 00:59 daily during the 2014 lamprey migration, to start immediately and terminate on September 30, 2014; email approvals were received from USFWS and NMFS on July 28, 2014, and the YN, the CCT, WDFW, and Douglas PUD on July 29, 2014	Coordinating	Appendix A
July 22, 2014	Agreed to provide Jayson Wahls (WDFW, Wells Complex Manager) read-only access to the final document library on the HCP Hatchery Committees Extranet site	Coordinating	Appendix A

Date	Agreement	HCP Committee	Reference
August 18, 2014	Approved the Wells Hatchery Adult Handling Facility 60% Design documents	Coordinating	Appendix A
September 17, 2014	Approved the SOA, finalizing the NTTOC Objective (Hatchery M&E Plan Objective 12 [formerly Objective 10]), as revised	Hatchery	Appendix B and Appendix G
September 17, 2014	Approved the Broodstock Collection Protocols SOA, as revised	Hatchery	Appendix B and Appendix G
October 15, 2014	Agreed to defer to Hatchery Managers regarding any modification of fish release schedules that may be needed to avoid adverse impacts resulting from sediment load generated by the wild fires in the Methow Basin this past summer, with the recommendation that WDFW conduct periodic fish health evaluations on fish held in potentially impacted holding ponds, and once available, review the Burned Area Emergency Response report on the effects of the Carlton Complex Fire	Hatchery	Appendix B
October 28, 2014	Approved the HCP Hatchery Committees Approved Broodstock Collection Protocols SOA, as revised ( <i>Note: the CCT's approved the SOA via email on October 24, 2014</i> )	Coordinating	Appendix A and Appendix F
October 28, 2014	Agreed to provide John Penny and Denise McCarver (Eastbank Hatchery Staff) read-only access to the final document library on the HCP Hatchery Committees Extranet site	Coordinating	Appendix A
October 28, 2014	Agreed that once the Coordinating Committees approve HCP Extranet site access for a particular position (e.g., Hatchery Complex Manager or Hatchery M&E support staff), succeeding staff filling those positions will be granted HCP Extranet site access without requiring an additional review and approval process	Coordinating	Appendix A
November 3, 2014	Approved the Douglas PUD 2013 Hatchery M&E Annual Report	Hatchery	Appendix B
November 5, 2014	Approved the Bailey Douglas PUD Land Use Permit Application	Coordinating	Appendix A
November 6, 2014	Identified the following HCP signatory representatives to select the HCP Chairpersons for the Hatchery and Coordinating Committees: Steve Parker for the YN, Kirk Truscott for the CCT, Jim Craig for USFWS, Ritchie Graves for NMFS, Jeff Korth for WDFW, Keith Truscott for Chelan PUD, and Shane Bickford for Douglas PUD	Policy and Coordinating	Appendix D

Date	Agreement	HCP Committee	Reference
November 6, 2014	Approved a ranking system for narrowing the HCP Chairperson candidate lists to a short list for interviews, where each party ranks the candidates first to last for filling the Chairperson positions, and review of the sum of those rankings along with further discussion will determine the interview lists	Policy and Coordinating	Appendix D
November 13, 2014	Approved CCFEG's budget amendment request for the Methow/Chewuch Shallow Groundwater Monitoring Project	Tributary	Appendix C
November 18, 2014	Agreed that the HCP Chair selection interview list for each Committee would comprise the three top-ranked candidates, and those candidates were as follows (in alphabetical order): Hatchery Committees – Dr. John Ferguson, Ms. Elizabeth McManus, and Mr. Tom Schadt; and Coordinating Committees – Dr. John Ferguson, Dr. Tracy Hillman, and Mr. Tom Schadt	Policy and Coordinating	Appendix D
November 18, 2014	Agreed to hold the HCP Chair selection interviews on December 17, 2014, at Chelan PUD Headquarters in Wenatchee, Washington	Policy and Coordinating	Appendix D
November 18, 2014	Approved Douglas PUD's proposed modifications to the low-level fishway entrance to improve lamprey passage at Wells Dam ( <i>Note: USFWS and the CCT approved the report via email on November 12 and November 18, 2014, respectively</i> )	Coordinating	Appendix A
November 18, 2014	Agreed to provide Peter Graf (Grant PUD) read-only access to the final document library on the HCP Hatchery Committees Extranet site	Coordinating	Appendix A
November 19, 2014	Agreed to cancel the Hatchery Committees meeting scheduled for December 17, 2014, due to conflicting schedules and lack of agenda items	Hatchery	Appendix B
November 24, 2014	Approved the Douglas PUD 2015 Hatchery M&E Implementation Plan	Hatchery	Appendix B
December 11, 2014	Approved a budget-amendment request by the ONA for the Shingle Creek Dam Fish Passage Project	Tributary	Appendix C

Notes:

CCFEG = Cascade Columbia Fisheries Enhancement Group  
 CCT = Colville Confederated Tribes  
 CRITFC = Columbia River Inter-Tribal Fish Commission  
 M&E = monitoring and evaluation  
 NMFS = National Marine Fisheries Service  
 NTTOC = Non-Target Taxa of Concern  
 ONA = Okanagan Nation Alliance

SOA = statement of agreement  
USFWS = U.S. Fish and Wildlife Service  
WDFW = Washington State Department of Fish and Wildlife  
YN = Yakima Nation

## **2.1 Wells Project Survival and Dam Operations**

### **2.1.1 Status of Phase Designations for Current Plan Species**

A major feature of the Wells HCP is what is termed a “phased implementation plan” to achieve the survival standards. These phases have been described in previous HCP Annual Reports to FERC. Since February 2005, steelhead (*Oncorhynchus mykiss*), subyearling Chinook salmon (*O. tshawytscha*), yearling Chinook salmon, and sockeye salmon (*O. nerka*) have been in Phase III (either designated Standard Achieved or Additional Juvenile Studies; see Table 2).

In December 2007, coho salmon (*O. kisutch*) were designated as in Phase III (Additional Juvenile Studies). In 2008, land and monetary support with a total value of \$600,000 were transferred to the Yakima Nation (YN) pursuant to Douglas PUD’s coho salmon mitigation agreement. This transaction completed Douglas PUD’s coho salmon mitigation obligation through 2017. In August 2014, Douglas PUD and the YN began discussing a new coho salmon agreement for implementation in 2018. Development of a new agreement necessitated the establishment of a NNI hatchery compensation rate. The rate established in Wells HCP, Section 8.4.5.1, was based on the estimated survival of the yearling spring migrants that had been documented prior to the signing of the Wells HCP. In order to determine whether this surrogacy assumption among coho salmon and other spring migrants was still valid, Drs. John Skalski and Richard Townsend conducted an analysis comparing hydrosystem survival of juvenile spring Chinook and coho salmon and steelhead from the same release location. As reported in Drs. Skalski and Townsend’s memorandum, *Comparison of juvenile survivals of spring Chinook, Coho, and steelhead released from Winthrop National Fish Hatchery* (Appendix H), which was distributed to the HCP Coordinating Committees on August 26, 2014, survival rates for coho salmon were statistically comparable to spring Chinook salmon and steelhead in all but 1 of the 4 years evaluated, which validated the assumption of equivalent survival among yearling spring migrants. In October 2014, Douglas PUD distributed a draft SOA designating coho salmon as a Plan Species meeting the Phase III (Standard Achieved) for passage at Wells Dam based on

similar survival of studied yearling migrants, thus establishing a passage survival on which to base the level of NNI hatchery compensation. Additional time was requested to review the SOA; therefore, Douglas PUD plans to request approval of the SOA in early 2015.

Douglas PUD, in coordination with the Wells Coordinating Committee, also plans to re-evaluate the phase designation for subyearling Chinook salmon in 2015, following the completion of their 3-year subyearling life history study (see Sections 2.1.2 and 2.1.2.2).

**Table 2**  
**Phase Designations for Wells Dam**

Plan Species	Phase Designation	Date
Upper Columbia River Steelhead	Phase III (Standard Achieved)	February 22, 2005; verified November 16, 2010 <sup>1</sup>
Upper Columbia River Yearling Chinook	Phase III (Standard Achieved)	February 22, 2005; verified November 16, 2010 <sup>1</sup>
Upper Columbia River Subyearling Summer/Fall Chinook Salmon	Phase III (Additional Juvenile Studies)	February 22, 2005
Okanogan River Sockeye Salmon	Phase III (Additional Juvenile Studies)	February 22, 2005
Methow River Coho Salmon	Phase III (Additional Juvenile Studies)	December 12, 2007

Note:

- 1 Verified in a statement of agreement on November 16, 2010, by the Wells Coordinating Committee. Verification study included Okanogan Basin yearling Chinook salmon per Sections 4.2.1 and 8.4.5.2 of the Wells HCP.

Under Phase III conditions (Standard Achieved), Douglas PUD is required to re-evaluate survival every 10 years, following the initial completion of 3 years of valid juvenile project survival studies. Douglas PUD conducted valid juvenile survival studies in 1998, 1999, and 2000. In 2010, Douglas PUD completed the first 10-year juvenile survival validation study, verifying the continued achievement of Phase III (Standards Achieved) for yearling Chinook salmon and steelhead migrating through the Wells Project (see Section 2.1.2). No juvenile project survival studies have been conducted since the 2010 study.

### **2.1.2 Assessment of Wells Project Survival**

As previously reported, Douglas PUD has met the HCP survival standard of 91 percent combined adult and juvenile Wells Project survival, and is in Phase III of the phased implementation plan for all Plan Species. As required by Section 4.2.5.1 of the Wells HCP, in 2010, Douglas PUD re-evaluated survival, constituting the first 10-year verification survival study. The Wells Coordinating Committee selected yearling summer Chinook salmon as representative of spring migrant salmonids (juvenile spring Chinook salmon and yearling summer Chinook salmon and steelhead), and directed Douglas PUD to include Methow and Okanogan release sites for the study to fulfill Sections 4.2.1 and 8.4.5.2 of the Wells HCP. The results of the 2010 survival study (96.38 percent Wells Project survival for yearling Chinook salmon smolts) confirmed the continued achievement of Phase III (Standards Achieved) for yearling Chinook salmon and steelhead migrating through the Wells Project, even during the second lowest flow year in the past 25 years. Per Section 4.2.5.1 of the Wells HCP, the result of the 2010 study was combined with the results of the previous three studies to yield a 4-year average survival for yearling spring migrants of 96.3 percent. Douglas PUD is required to re-evaluate juvenile project survival for yearling spring migrants again in 2020.

In 2011, Douglas PUD initiated a 3-year subyearling life history study aimed at determining whether the technology and tools exist to empirically estimate survival of subyearling Chinook salmon migrating through the Wells Project. By the end of 2013, nearly 51,000 subyearling Chinook salmon were tagged and released above Wells Dam. Though the tagging study concluded in 2013, Douglas PUD conducted seining surveys once per week in May and June 2014 to determine timing of recruitment of subyearling Chinook salmon to shoreline areas in Wells Reservoir and to monitor growth rates of Chinook salmon at two seining locations. A final report is expected in spring 2015 that will include comprehensive 3-year comparisons (2011 through 2013) to examine year-to-year variability in behavior and life-history strategies, and will include data on growth and fish availability from May and June 2014.

### *2.1.2.1 Adult Passage Monitoring*

When the HCP was completed in 2002, the signatories acknowledged the lack of a scientifically accepted methodology for assessing adult Wells Project survival for Plan Species (presumed to be 98 percent). Available methods cannot differentiate between mortality caused by the project versus other sources of non-detection. Such sources might include mortality from natural causes or fisheries (delayed mortality from injuries resulting from passage at downstream projects or from injuries sustained by marine mammals or harvest activities) or fish not detected for other reasons, such as spawning in locations downstream from Wells Dam or loss of body-cavity passive integrated transponder (PIT)-tags due to gonadal maturation during migration. Regardless of tagging method, this limitation remains—technology still does not allow a determination of the fates of all tagged fish detected passing a dam but not detected at the next dam upstream. However, calculations of total losses of tagged fish between projects provide a means for evaluating compliance with the Wells HCP standards for adult passage. Sequential detections of PIT-tagged adult salmonids through PIT-tag detection systems in the fishways of each dam provide data for calculating conversion rates through the hydrosystem. Calculated per-project conversion rates furnish sufficient evidence for the achievement of adult survival standards, in that project-related mortality must be less than 2 percent when per-project conversion rates exceed 98 percent (i.e., less than 2 percent of fish missing from all sources, including Wells Project-related mortality).

Table 3 details, for all run-years available, PIT-tag detections at Rocky Reach Dam of known-origin, adult spring and summer Chinook salmon, sockeye salmon, and steelhead, the number of those adults redetected at Wells Dam, and the estimated conversion rate (Rocky Reach Dam to Wells Dam). The Rocky Reach-to-Wells conversion rate is 98.1 percent for spring Chinook salmon (that is, mortalities from all sources averaged less than 2 percent), 98.2 percent for steelhead, and 97 percent for summer Chinook salmon. Most of the summer Chinook salmon used in the conversion-rate analyses were raised at either the Wells Fish Hatchery or the Eastbank Fish Hatchery, located downstream of Wells Dam, and were released as smolts upstream from Wells Dam. Similarly, most steelhead originated from the Wells Hatchery but were released upstream from Wells Dam. Thus, these fish may exhibit homing to their hatchery of origin and may not attempt passage of Wells Dam. Additionally, summer Chinook salmon, steelhead, and sockeye salmon are subjected to popular



recreational fisheries downstream of Wells Dam. All spring Chinook salmon used in the conversion-rate calculations originated from hatcheries upstream from Wells Dam. Most are not subjected to fisheries in the mainstem Columbia River between Rocky Reach and Wells dams, although late-running fish may be inadvertently harvested in some years when their migration overlaps with the summer Chinook salmon fishery (overlap of run timing with summer Chinook salmon fishery estimated from PIT-tag detections at Rocky Reach and Wells dams: 0.7 percent of the run in 2014; 1.4 percent in 2012; 3.3 percent in 2011; 2.1 percent in 2010; 11.1 percent in 2007; and 1.2 percent in 2006). Insufficient numbers of sockeye salmon have been PIT-tagged as juveniles to develop a robust per-project conversion rate of known-origin fish from returns of tagged juveniles; however, conversion rates can be calculated (98.6 percent) for sockeye salmon using adults PIT tagged at Bonneville and Priest Rapids dams by the Columbia River Inter-Tribal Fish Commission. However, calculating the Rocky Reach-to-Wells conversion rate (98.6 percent) for sockeye salmon from adults of unknown origin tagged below Rock Island Dam requires the subtraction from the Rocky Reach detections those fish that were subsequently detected in the Wenatchee River (indicating a voluntary fallback event at Rocky Reach Dam).

**Table 3**  
**Rocky Reach-to-Wells Adult Conversion Rates for Available Release Groups**

<b>Stock Species</b>	<b>Number Detected at Rocky Reach Dam</b>	<b>Number Detected at Wells Dam</b>	<b>Rocky Reach-to-Wells Conversion Rate</b>
Summer Steelhead <sup>1,2</sup> Return Years 2006 through 2014	4,667	4,583 <sup>3</sup>	98.2%
Spring Chinook Salmon <sup>1,4</sup> Return Years 2006 through 2014	960	942 <sup>5</sup>	98.1%
Summer Chinook Salmon <sup>1,6</sup> Return Years 2011 through 2014	1,203	1,167 <sup>7</sup>	97.0%
Sockeye Salmon <sup>8</sup> Return Years 2010 through 2014	3,676 <sup>9</sup>	3,623 <sup>10</sup>	98.6%

Notes:

- 1 Source of conversion-rate calculations for steelhead and Chinook salmon: Columbia River DART website ([http://www.cbr.washington.edu/dart/query/pitadult\\_conrate](http://www.cbr.washington.edu/dart/query/pitadult_conrate)). Calculation parameters: Basin = Columbia River and Tributaries; Conversion Reach = Rocky Reach to Wells; Species = respective species; Run = respective run; Rear Type = All. Minijacks and fish tagged as adults were excluded, and recaptures, mortalities, upstream detections, upstream recaptures, and upstream mortalities were included.

- 2 Summer steelhead released into the Okanogan and Methow River Systems – PIT-tag release site designations: BEAV2C, CHEWUR, GOLD2C, LIBBYC, METH, METHR, METTRP, OKANR, OMAKC, SALMOC, SGOLDC, SIMILR, STAPAC, TWIS2P, TWISPP, TWISPR, TWISPW, WINT, and WOLFC. Please note that some fish detected at Rocky Reach Dam in 2014 will not pass Wells Dam until the spring of 2015.
  - 3 Number corrected (added 34 fish) for fish trapped at Wells Dam for broodstock and stock assessment in 2006 and 2007 when the PIT-tag detection system on the west ladder trap and Wells Dam was malfunctioning. Wells counts are not corrected for fish harvested between Rocky Reach and Wells dams.
  - 4 Spring Chinook salmon released into the Methow River System – PIT-tag release site designations: BEAV2C, BIDDLP, CHEWUP, CHEWUR, MDVAP, METH, METHR, METTRP, TWISPP, TWISPR, WINT, WINTBC, and WOLFC.
  - 5 Number corrected (added eight fish) for fish removed at Wells Dam for broodstock for Methow Hatchery in 2006 and 2007 when the PIT-tag detection system on the west ladder trap and Wells Dam was malfunctioning; also added 22 fish collected at the Rocky Reach trap for Chewuch broodstock in 2014. Wells spring Chinook salmon counts are not corrected for fish harvested between Rocky Reach and Wells dams (late-running spring Chinook salmon are subjected to harvest in July in some years by fishers targeting summer Chinook salmon).
  - 6 Summer Chinook salmon released upstream of Wells Dam – PIT-tag release site designations: CARP (Eastbank Hatchery), COLR8, METHR (Wells Hatchery), OKANR (Wells Hatchery), and SIMILR (Eastbank Hatchery). Most of these release groups originated from hatcheries downstream of Wells Dam; COLR8 comprises returns from wild Chinook salmon tagged in Wells Reservoir in 2011, 2012, and 2013.
  - 7 Number corrected (added nine fish) for fish trapped at Wells Dam/Hatchery. Wells counts are not corrected for fish harvested between Rocky Reach and Wells dams.
  - 8 PIT-tagged sockeye salmon primarily comprise run-at-large adults tagged by CRITFC at Bonneville and Priest Rapids dams and include fish originating from Lake Wenatchee and the Canadian Okanogan Basin. Sockeye salmon destined for Redfish Lake in Idaho were excluded from conversion-rate calculations. Rocky Reach-to-Wells conversion rates for sockeye salmon were calculated with data from PTAGIS (<http://www.ptagis.org/>) rather than via the conversion-rate function on the Columbia River DART site because the latter option does not allow the inclusion of sockeye salmon adults tagged at Bonneville Dam and does not account for complicated migrations including voluntary fall back.
  - 9 Rocky Reach sockeye salmon counts used in the conversion-rate calculations exclude fish detected at Tumwater Dam or elsewhere in the Wenatchee River Basin after being detected at Rocky Reach, as a means of excluding Wenatchee-origin fish that ascended and voluntarily fell back over Rocky Reach.
  - 10 The Wells sockeye salmon counts are not corrected for fish harvested between Rocky Reach and Wells dams.
- DART = data access in real time  
PTAGIS = PIT Tag Information System

Conversion rates of PIT-tagged fish provide a minimum survival estimate between detection sites because they encompass mortalities from all sources and non-detected fish (as described in Table 3) between the two detection sites. They do not include any indirect or delayed mortality that might occur upstream of Wells Dam (the redetection site). As noted above, conversion rates reflect a combination of mortality attributable to non-project related causes (e.g., recreational and tribal harvest, predation, and disease) and dam passage, as well as non-detections resulting from straying and spawning downstream of Wells Dam. For this reason, the actual Wells Project survival rate for adult Plan Species exceeds or likely exceeds the 98-percent assumption set forth in the HCP.

In November 2012, the Wells Project was issued a new FERC license, which requires Douglas PUD to implement, among other measures, three bull trout (*Salvelinus confluentus*)-related plans and programs. Specifically, the license requires Douglas PUD to implement the Bull Trout Management Plan contained within the Aquatic Settlement Agreement, the Bull Trout Biological Opinion, and Section 18 of the *Federal Power Act: Fishway Prescriptions for Bull Trout*. Consistent with the terms of the new FERC license for the Wells Project, Douglas PUD filed the *Bull Trout Management Plan 2013 Annual Report* with FERC prior to the May 31 deadline. This report included a summary of all bull trout activities conducted between January 1, 2013, and December 31, 2013 (Appendix I).

The license deadline for reporting annual 2014 bull trout activities to the U.S. Fish and Wildlife Service (USFWS) is April 15, 2015. May 31, 2015, is the deadline for filing the Annual Bull Trout Report to FERC.

#### **2.1.2.2 Grand Coulee Valid Study Flow Duration Curve Update**

The Wells HCP, Section 4.1.4, requires that spring and summer period Flow Duration Curves used to define valid survival studies must reflect “Representative Environmental Conditions” for each test, and for each Plan Species and life history. “Representative Environmental Conditions,” as defined by the Wells HCP, means river flows between the 10 percent and 90 percent points on the Flow Duration Curve, as calculated using the best available information on historical average river flow (1929 through 1978, 1993 through 2001 HydroSim) as measured at the Grand Coulee Dam tailrace. In 2013, data were compiled to update the Flow Duration Curves, as periodically required by the Wells HCP. The HCP Coordinating Committees agreed to develop an updated Flow Duration Curve using the historical 1929 through 1978 and 1983 through 2001 datasets, to which the new 2002 through 2012 dataset is added, and for comparison, also using only the 1983 through 2012 dataset. They also agreed to revise the definition of summer period to include June 1 through August 15, as opposed to the former July 1 through August 15 summer dataset. Updated Flow Duration Curves were expected to become finalized in early 2014; however, in February 2014, a fracture discovered in Wanapum Dam postponed a number of efforts, including updating the curves, until time allows. The final updated Flow Duration Curves will now be completed in 2015. Updating the Flow Duration Curves was driven by

requirements in the Rocky Island and Rocky Reach HCPs, whereas the Wells HCP specifies only periodic review. Nevertheless, the Wells Coordinating Committee determined that updating the Flow Durations Curves for the Wells HCP should also take place at the same time as the curve updates for the Rocky Reach and Rock Island HCPs.

### *2.1.2.3 Completed Studies 2014*

#### Northern Pikeminnow Removal Program

Since 1993, Douglas PUD has funded research on, and removal of, northern pikeminnow (*Ptychocheilus oregonensis*) at the Wells Hydroelectric Project in an effort to understand and control predators of juvenile salmonids within the Project. Annual reports are developed that summarize the northern pikeminnow research and removal efforts for each year. The *2013 Douglas PUD Pikeminnow Program Annual Report* (Appendix J) was finalized in June 2014. Douglas PUD documented the removal of 11,888 northern pikeminnow from the Wells Reservoir and tailrace during annual removal efforts occurring from April 18, 2013, to November 10, 2013. The 11,888 northern pikeminnow were captured during more than 8,940,000 hook hours, translating into an overall catch per unit effort (CPUE) of 0.0013 fish per hook hour, the lowest to date of any of the annual setline fisheries. A trend in decreased annual CPUE has been documented from 2009 to 2013. This trend suggests that removal efforts are effectively reducing the northern pikeminnow population within Wells Reservoir and the Wells tailrace area. However, as experienced in 2012, high spring flows in the Columbia River during 2013 prevented northern pikeminnow capture during the seasonal period when capture has been historically the highest. Further, an increasing trend in burbot (*Lota lota*) encounters has been documented throughout the last four years, which suggests possible burbot predation on northern pikeminnow may also contribute to the decreased CPUE levels. From 1995 to 2013, the northern pikeminnow removal programs, funded by Douglas PUD, have resulted in the removal of approximately 253,000 northern pikeminnow from the Wells Project.

In 2014, Douglas PUD continued northern pikeminnow removal efforts, and a final report is expected by spring 2015.

### Lamprey Passage Studies

In 2009 and 2010, Douglas PUD conducted studies of adult lamprey fishway entrance efficiencies at 1.0-foot and 1.5-foot head differentials in water surface elevations between the Wells fishway collection gallery and the Wells tailrace, using dual frequency identification sonar (DIDSON) cameras. A 0.5-foot head differential was tested in 2009, but was abandoned in 2010 because that differential appeared to offer no additional benefits to lamprey passage in comparison to the 1.0-foot differential. The effect of the different operating conditions on Wells fishway residency times for salmonids was evaluated by species.

In 2009, no differences were detected in fishway residency times for any of the evaluated salmonid species (coho salmon, sockeye salmon, steelhead, and Chinook salmon), although the sample sizes may have been too low to detect significant differences. In 2010, there was a large sample size of steelhead and Chinook salmon, and no differences were detected at the 1.0-foot or 1.5-foot head differential. Based on the study findings, it was concluded that lamprey appeared to have increased entrance efficiency at the 1.0-foot head differential with no apparent decrease in salmonid passage relative to the 1.5-foot differential. National Marine Fisheries Service (NMFS) staff questioned whether the statistical tests applied were appropriate for the study design and requested additional statistical analysis of the data on salmonid passage during the lamprey studies.

In 2012, Columbia Basin Research and the University of Washington's School of Aquatic and Fishery Sciences completed a report that examined the possible effects of changes in fishway entrance water velocity on the passage counts of Chinook, coho, and sockeye salmon, and steelhead.<sup>1</sup> Results of the analysis indicated that there were no statistically detectable effects on salmonids from reduced velocities at the fishway entrances (at the 1.0-foot head differential) during the study hours of operations. NMFS approved the report, and approved the implementation of a 1.0-foot fishway entrance head differential study for each night, from 1700 to 0100 hours, during the 2012 lamprey migration period at Wells Dam.

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<sup>1</sup> Skalski, J. R., and R. L. Townsend, 2012. *Assessment of Salmonid Passage Responses to Different Flow Velocities at Wells Dam Fishway Entrance*. Wells Hydroelectric Project. Prepared for Public Utility District No. 1 of Douglas County. April 2012.

In 2013, as treatments in the 2013 Adult Lamprey Passage and Enumeration Study, lamprey operations consisted of alternating 1.0-foot and 1.5-foot head differentials. The 2013 Adult Lamprey Passage and Enumeration Study used radio-telemetry to study lamprey dam-passage behavior at the request of Douglas PUD's Aquatic Settlement Work Group (SWG). The study employed active tagging of translocated adult lamprey to assess lamprey passage and enumeration during reduced entrance velocities at Wells Project fishways. Study results indicated no statistically significant differences in entrance efficiency between treatments; however, statistical power was low due to sample size limitations.

In 2014, preparations for the 2015 Adult Lamprey Passage and Enumeration Study were discussed. The 2015 study will continue the 2013 evaluation of the effect of the Wells Project and its operations on adult Pacific lamprey upstream passage behavior and enumeration in the Wells Project fishways. Key components of the 2015 study include the following (see Sections 2.1.2.4 and 2.1.3.2):

- Reopening the low-level entrances on the sides of the Wells Dam collection galleries and installing a box structure that will provide a lower velocity route for lamprey passage while also excluding salmonid species from accessing that entrance
- Addressing the passage issue in the lower ladder that was identified during the 2013 study; therein, increasing sample size and statistical power

### Subyearling Studies

In 2010, Douglas PUD and Chelan PUD agreed to monitor PIT-tagged, natural-origin summer/fall Chinook salmon detected at the Rocky Reach Juvenile Fish Bypass (RRJFB) to begin study of their life history diversity. The focus of the study was to determine outmigration timing and size-at-migration. This information is necessary for estimating the survival of migratory summer/fall Chinook salmon. However, the initial year of study (2010) revealed limited numbers of PIT-tagged subyearlings in the Upper Columbia River.

In 2011, Douglas PUD conducted a pilot study to investigate spatial and temporal distribution of subyearling Chinook salmon in the Wells Reservoir and to identify opportunities to increase the numbers of PIT-tagged subyearling Chinook salmon for the life history investigation. In 2011, Douglas PUD staff successfully collected more than 18,500 natural-origin, subyearling Chinook salmon, and PIT-tagged and released 13,223 subyearling

Chinook back to the Wells Reservoir. The collections occurred at several locations in the Wells Reservoir. The 2011 study results, reported in the *Wells Project Subyearling Chinook Life-History Study 2011 Interim Report*, which was appended to the 2012 Wells HCP Annual Report and approved by the HCP Coordinating Committees in February 2013, identified study limitations and logistical obstacles, primarily regarding fish availability, migratory behavior, and fish size, that were used to inform future research.

In 2012, Douglas PUD implemented a similar study, during which more than 30,000 subyearling summer/fall Chinook salmon were collected and approximately 20,000 were tagged and released. Fish were collected at three locations in the reservoir: 1) on the right bank upstream of the Okanogan River near Washburn Island; 2) on the right bank downstream from the mouth of the Okanogan River; and 3) on the left bank approximately 1 mile upstream of Wells Dam. The data collected during the 2012 study were compared to the 2011 data, and the results were reported in the technical memorandum, *2012 Subyearling Life-history Study: Comparing 2011 and 2012 Results*.

In 2013, Douglas PUD implemented the third year of study on the life-history diversity of subyearling Chinook salmon in the Wells Reservoir, in accordance with the study plan, *Subyearling Study Plan Year 3*. The same methods were used as those used in 2011 and 2012 to allow comparison of year-to-year findings and to evaluate behavior during different environmental conditions. Approximately 20,000 subyearling summer/fall Chinook salmon were collected and nearly 18,000 were tagged and released. Fish were collected from the same locations that proved successful in 2012, with the addition of a collection site used in 2011 but not in 2012. A comprehensive 3-year report is being developed and is expected to be available in spring 2015.

In 2014, Douglas PUD conducted weekly seine sampling for subyearling Chinook salmon during the months of May and June in the Wells Reservoir using the same methods implemented as part of the 3-year subyearling sampling study. The purpose of the 2014 effort was to gain a better understanding of when fish become susceptible to capture in the Wells Reservoir and when fish reach a size where they can be PIT-tagged. A written summary of the 2014 data is not yet available, but will be incorporated into the summary report of the larger 3-year subyearling sampling study.

### Wells Dam Bypass Operations and Outmigration Effects

The Wells HCP, Section 4.3.2, requires Douglas PUD to conduct a 10-year verification of the effectiveness of the timing of bypass operations at Wells Dam in passing 95 percent of the spring and summer migration of HCP Plan Species. Historically, hydroacoustic and fyke netting studies at Wells Dam provided these data on passage timing necessary to determine the timing of annual bypass operations. Douglas PUD discussed the requirement found in Section 4.3.2 of the HCP with the Wells Coordinating Committee in early 2011 to plan for a study in 2012. The Wells Coordinating Committee representatives questioned the need for such a study because of the potential for take, and instead suggested an alternative to using the past methods of hydroacoustic monitoring and fyke netting for species verification. Douglas PUD agreed to verify run-timing by comparing Rocky Reach Dam juvenile bypass index samples to bypass operations at Wells Dam, using the run-timing of fish passing through the RRJFB as a surrogate for run-timing at Wells Dam.

Results of the analysis of run-timing at the RRJFB confirmed that in most years the Wells bypass was appropriately operated to include 95 percent of the spring and summer migration at Wells Dam. However, in 2 of the 6 years analyzed, an earlier start of the Wells bypass would have provided additional benefits to spring Chinook salmon. Also, the analysis determined that the Wells bypass system could have been shut down earlier in each of the 6 years analyzed and would still have provided greater than 95 percent protection for summer migrating Chinook salmon. The Wells Coordinating Committee agreed that these data would be used to guide the operations of the Wells Bypass System, beginning in 2012.

Since 2012, each year following the termination of sampling at the RRJFB, Douglas PUD has updated the analysis with data from the current year and distributed the *Analysis of Proportion of Outmigration Affected by Bypass Operations at Wells Dam* report from Columbia Basin Research's Skalski and Townsend.

Similarly, in 2014, following the termination of sampling at the RRJFB, Douglas PUD updated the analysis with 2014 bypass data, and in November 2014, distributed the draft report, *Analysis of Proportion of Outmigration Affected by Bypass Operations at Wells Dam in 2014* (Appendix K). The updated analysis indicated the modified bypass timing first



implemented in 2012 and continued in 2014 provided bypass passage for greater than 96 percent of spring and summer migrations of Plan Species .

Of note for the 2014 bypass season is the fact that the Rocky Reach passage index for yearling Chinook salmon was heavily skewed early due to the early release of 385,000 yearling summer Chinook salmon from the Entiat National Fish Hatchery and an early release of approximately 573,000 yearling summer Chinook salmon from the Chelan River acclimation facility. Both of these releases occurred downstream from Wells Dam, and thus do not represent the yearling Chinook salmon passing Wells Dam. Nevertheless, because analysis of Wells dam bypass timing relies on sampling at Rocky Reach, the early-arriving fish at that facility produced the appearance of a skewed early arrival of yearling Chinook salmon at Wells dam. Analysis of PIT-tag detections of yearling Chinook salmon at the Rocky Reach Juvenile Fish Bypass revealed distinct differences in passage-timing distributions for yearling Chinook salmon originating above and below Wells Dam. The dates on which the fifth percentile of the yearling Chinook salmon migration passed Rocky Reach Dam occurred on April 10, 2014, for fish originating downstream from Wells Dam and on April 21, 2014, for those originating upstream of Wells Dam, corresponding to Wells Dam passage dates of April 5 and April 16, 2014, respectively. Thus, when appropriately including only those fish originating upstream from Wells Dam in the analysis, the April 9, 2014, start date for the Wells Bypass in 2014 exceeded compliance with the 95 percent HCP mandate, providing bypass passage to 98.03 percent of the yearling Chinook salmon migration.

#### Gas Bubble Trauma Monitoring

In conformance with the *2014 Total Dissolved Gas Abatement Plan* (Appendix L), Douglas PUD implemented monitoring for gas bubble trauma (GBT) in adult Plan Species at Wells Dam and the Wells Hatchery, and in juvenile Plan Species at the RRJFB sampling facility whenever total dissolved gas levels exceed 125 percent in the tailrace of Wells Dam. In 2014, there were two exceedances of the 125 percent tailrace total dissolved gas standard—May 30 and May 31, 2014. These exceedances were associated with orders from the Peak Reliability Coordinator to reduce generation at Wells Dam following a wildfire in Malaga, Washington, which rendered inoperable four major transmission lines. Per the requirements of the Washington State Department of Ecology-approved Gas Abatement Plan, Douglas PUD biologists sampled juvenile fish for GBT at the Rocky Reach bypass

sampler on May 31 and June 1, 2014 (the next day following observed exceedances). On both days, no sampled fish showed signs of GBT. In total, 72 subyearling Chinook salmon, 11 sockeye salmon, 10 yearling Chinook salmon, 2 steelhead, and 10 coho salmon juveniles were examined for signs of GBT in the unpaired fins and eyes of each fish. Examinations were conducted under a microscope while fish were anesthetized.

#### *2.1.2.4 Planned Studies 2015*

In 2015, Douglas PUD plans to implement the 2015 Adult Lamprey Passage and Enumeration Study, a continuation of the 2013 evaluation of the effect of the Wells Project and its operations on adult Pacific lamprey upstream passage behavior and enumeration in the Wells Project fishways. A key component of the 2015 study is reopening the low-level entrances on the spillway side of the Wells Dam fish collection galleries in order to provide a lower velocity route for adult lamprey. Douglas PUD worked closely with NMFS to design a structural “box” to install in the low-level fishway entrance that prevents access to salmonids but allows lamprey to pass. The structure is designed to reduce flow through the entrance with the objective of attracting lamprey and not salmonids. Half-duplex and full-duplex PIT-tag receivers will be installed to monitor each lamprey box, and radio-telemetry antennas will be installed to increase detection capabilities within and surrounding the low-level entrances (see Section 2.1.3.2). The 2015 study will also address the low passage efficiency in the lower ladder that was identified during the 2013 study. This combined with reopening the low-level entrances will hopefully increase sample size and statistical power.

Douglas PUD will continue the annual implementation of the northern pikeminnow removal program in 2015. Also, as in previous years, Douglas PUD will continue the evaluation of the effectiveness of the timing of bypass operations at Wells Dam and its effects on outmigration, by updating the analysis of run-timing at the RRJFB with 2015 data, following the termination of sampling at the RRJFB. A report will be developed summarizing the results. Finally, in 2015, Douglas PUD will conduct weekly seine sampling for subyearling Chinook salmon during the months of May and June in the Wells Reservoir as in 2014, with the intent of determining timing of recruitment of subyearling Chinook salmon to shoreline areas in Wells Reservoir, and to monitor growth rates of Chinook salmon at two seining locations.

### **2.1.3 Wells Project Operations and Improvements**

This section summarizes project operations toward meeting and maintaining HCP requirements at Wells Dam in 2014. Actions in 2014 were guided by the *2014 Wells HCP Action Plan* (Appendix M), as approved by the Coordinating Committees on January 28, 2014 (Appendix A).

#### **2.1.3.1 Operations**

##### Juvenile Bypass System

As in past years, operation of the juvenile bypass system in 2014 was guided by the *Juvenile Bypass Operating Plan* (Appendix N) and criteria contained within Section 4.3 of the Wells HCP. Bypass operations were initiated on April 9, 2014, at 0000 hours, and operated continuously until terminated at 2400 hours on August 19, 2014, for a total of 133 days. To implement compliance measures as described in the *2014 Juvenile Bypass Operating Plan* (Appendix N) and provisions of the *2014 Total Dissolved Gas Abatement Plan* (Appendix L), bypass barriers in Spillway 4 were pulled on May 22, 2014, and reinstalled on May 29, 2014. Douglas PUD exceeded the HCP requirement to provide bypass operations during 95 percent of the juvenile salmon and steelhead migration passing Wells Dam by providing bypass passage during 99.75 percent of the steelhead migration, 100 percent of the sockeye salmon migration, 99.99 percent of the coho salmon migration, 98.03 percent of the yearling Chinook salmon migration, and 96.80 percent of the subyearling Chinook salmon migration passing Wells Dam in 2014 (see Section 2.1.2.3). A complete summary of 2014 bypass operations at Wells Dam is included in the final *2014 Post-Season Bypass Summary* (Appendix O).

##### Modified Wells Dam Fishway Entrance Velocities

In July 2014, to enhance lamprey entrance efficiency, the Wells Coordinating Committee once again approved reduction of the Wells Dam collection gallery head-differentials from the normal operating level of 1.5 foot, to a reduced operating level of 1.0 foot (lamprey operations), from 1700 to 0059 daily during the 2014 lamprey migration, to start July 29 and terminate on September 30, 2014. Douglas PUD has committed to conducting a full study of the effects of modified head differentials on salmonid passage rates prior to considering any permanent change in fishway operations to benefit lamprey.

### Trapping Activities at Wells Dam

Multiple hatchery programs obtain broodstock from the Well Dam fishway traps and Wells Hatchery volunteer channel. The Coordinating Committees oversee these activities as certain trapping activities can affect passage at the dam. In 2014, trapping operations at Wells Dam included: 1) Washington Department of Fish and Wildlife (WDFW) for Douglas PUD's spring Chinook salmon and steelhead programs; 2) the Colville Confederated Tribes (CCT) as backup for the Chief Joseph Hatchery program; 3) Dr. Jeff Fryer for the Columbia River Inter-Tribal Fish Commission's sockeye salmon study; 4) the YN for their coho salmon reintroduction program; and 5) Grant PUD for their Carlton summer Chinook salmon program.

#### *2.1.3.2 Improvements*

Facility improvements and maintenance at Wells Dam in 2014 that had the potential to affect Plan Species are discussed in the paragraphs that follow.

The fishways at Wells Dam are inspected annually during winter. During the winter inspection season, the HCP requires that at least one fishway is always in service to provide fish passage. Typically, each fishway receives, according to an alternating schedule, either an annual or a more substantial biannual inspection and maintenance. During the 2013/2014 winter fishway maintenance at Wells Dam, maintenance on the west fishway commenced December 11, 2013, and concluded on January 29, 2014. A specific project included removal of the lamprey ramp (upstream down-ramp) that was installed during the 2012/2013 winter outage, which was believed to be causing difficulties with fish counting. Maintenance on the east fishway in February 2014 was to have included removal of the same upstream down-ramp that was removed from the west fishway, but the Wells hydromechanics did not have sufficient outage time remaining to remove the ramp. This allowed the comparison of fish behavior at the count windows between the modified (ramp in place) east fishway and unmodified (no ramp) west fishway. Fish counting staff observed no differences in fish behavior at the two count windows during 2014.

During the 2014/2015 winter fishway maintenance at Wells Dam, the hydromechanics removed the lamprey ramp (discussed above) on the east fishway, and will install strips of

nylon brush in both fishways to close gaps around the count stations that lamprey have historically exploited to avoid passing the count windows.

Contractors will upgrade the ageing PIT-tag readers in the adult PIT-tag detection system in both fishways. Upgraded readers will provide detection of both half- and full-duplex PIT tags at all antennas in both fishways. Contractors will also service existing radio-telemetry antennas and install additional ones in preparation for the *2015 Adult Lamprey Passage and Enumeration Study*. Contractors will also install the lamprey box structures (described above in Sections 2.1.2.3 and 2.1.2.4) in the low-level entrances of both fishways. Finally, technicians at Wells Dam will replace the fish-count video-recording system at Wells Dam with a full-digital, server-based system that will improve counting and data backup.

## **2.2 Hatchery Compensation**

As required by the HCP, Douglas PUD supported hatchery production in 2014 to compensate for unavoidable project mortality and loss of habitat resulting from original inundation by the project. Section 8 of the Wells HCP outlines a Hatchery Compensation Plan with two hatchery objectives for Douglas PUD: 1) to provide hatchery compensation for spring Chinook, summer/fall Chinook, sockeye, and coho salmon, and for summer steelhead; and 2) to implement specific elements of the hatchery program consistent with the overall objectives of rebuilding natural populations and achieving NNI.

In March 2014, the draft 2014 Broodstock Collection Protocols (for Chinook and coho salmon, and steelhead) were distributed to the HCP Hatchery Committees for review. The protocols were finalized in December 2014 and implemented at program hatcheries (Appendix P); in-season revisions were made as needed in coordination with the Wells Hatchery Committee. The 2014 Broodstock Collection Protocols were used to guide the collection of salmon and steelhead broodstock in the Methow, Okanogan, Wenatchee, and Columbia river basins. The protocols are consistent with previously defined program objectives such as program operational intent (i.e., conservation and/or harvest augmentation) and mitigation production levels (HCPs, and the Priest Rapids Dam 2008 Biological Opinion), and they comply with Endangered Species Act (ESA) permit provisions. In 2014, the Hatchery Committees also discussed and agreed on a streamlined approval

process for the annual broodstock protocols, including a revised document layout (see Section 2.2.2.5).

Hatchery compensation for NNI and inundation compensation in 2014 included the release of 733,920 yearling and 443,636 subyearling salmonids from hatcheries associated with the Wells Project (Tables 4 and 5). These totals do not include the increased production of natural-origin sockeye salmon smolts attributed to Douglas PUD's sockeye salmon NNI compensation (the continued implementation of the Fish and Water Management Tool project administered by the Okanagan Nation Alliance and funded by Douglas PUD). The total also does not include NNI compensation paid by Douglas PUD to the YN for the Coho Salmon Enhancement Program in the Methow Basin. Lastly, these totals also do not include the Methow Basin spring Chinook salmon raised by Douglas PUD for Chelan and Grant PUDs or the yearling steelhead produced at the Wells Hatchery by Douglas PUD for Grant PUD.

### **2.2.1 Hatchery Production Summary**

Tables 4 and 5 summarize and compare HCP hatchery production objectives and actual 2014 production levels (release numbers) for the fixed hatchery compensation for the original Inundation and Harvest Enhancement Programs, and the HCP passage loss (NNI) compensation programs.

#### **2.2.1.1 Inundation Compensation Program**

The FERC license to operate the Wells Hydroelectric Project requires Douglas PUD to rear and release fish to compensate for original impacts associated with the development of the Wells Dam and Wells Reservoir. All of the fish for this program are raised at the Wells Hatchery. The number of fish to be released each year for the Inundation and Harvest Enhancement Program can be found in Section 8.4.6 of the Wells HCP Agreement.

**Table 4**  
**Production Objectives and Release Numbers for the**  
**Inundation and Harvest Enhancement Programs in 2014**

<b>Inundation and Harvest Compensation Program</b>	<b>Numeric Target</b>	<b>Number Released</b>
Yearling Summer/Fall Chinook Salmon (2012 BY)	320,000	318,902
Subyearling Summer/Fall Chinook Salmon (2013 BY)	484,000	443,636
Yearling Summer Steelhead (2013 BY)	300,000	329,388

Note:

BY = brood year

### 2.2.1.2 *No Net Impact Compensation Program*

Section 8.4.3 of the Wells HCP contains the initial numbers of juvenile HCP Plan Species Douglas PUD must produce to meet NNI production levels for unavoidable juvenile losses at the Wells Project. These initial production targets were reduced in 2011, following the demonstration of higher than expected survival through the Wells Project for spring-migrating yearling Chinook salmon and steelhead (per the 2010 Survival Verification Study). The hatchery compensation production targets were also adjusted (per Wells HCP Agreement, Section 8.4.5), with NNI steelhead releases adjusted starting in 2013 and NNI spring and summer Chinook salmon targets adjusted starting with the 2014 releases. The NNI production goals for the 2014 releases are contained in Table 5 (Numeric Target). Juvenile passage losses are offset through the production of juvenile Plan Species at two facilities (Wells and Methow hatcheries) and through the implementation of mitigation options identified in the Sockeye Enhancement Decision Tree.

**Table 5**  
**Production Objectives for the**  
**HCP Passage Loss (NNI) Compensation Program in 2014**

<b>NNI Compensation Program</b>	<b>Numeric Target</b>	<b>Number Released</b>
Yearling Summer Steelhead (2013 BY)	8,000	8,000 <sup>1</sup>
Yearling Summer/Fall Chinook Salmon (2012 BY)	48,100	44,836 <sup>2</sup>
Yearling Spring Chinook Salmon (2012 BY)	NNI achieved by annually funding Chief Joseph Hatchery operations, maintenance, and evaluation <sup>2</sup>	
Yearling Spring Chinook Salmon (2012 BY)	29,123	32,794

NNI Compensation Program	Numeric Target	Number Released
Yearling Osoyoos Lake Sockeye Salmon <sup>4</sup>	NNI achieved by annually funding the Fish and Water Management Tool	
Methow Coho Salmon <sup>5</sup>	NNI achieved by payment to the Yakima Nation for the Coho Salmon Enhancement Program in the Methow Basin	

Notes:

- 1 The total wild-by-wild production released into the Twisp River was 50,787, including 8,000 NNI fish and 42,757 inundation fish (Table 4 [C. Snow, WDFW 2015, personal communication]).
- 2 In 2011, Douglas PUD agreed to provide funding at 3.7 percent of annual operations, maintenance, and evaluations costs for spring Chinook salmon and summer/fall Chinook salmon at CJH to achieve NNI for these species produced at CJH. Due to delays in construction at CJH, release of spring Chinook salmon and summer/fall Chinook salmon will begin in 2015. However, to achieve previously established NNI for summer/fall Chinook salmon in 2014, Douglas PUD produced 44,836 summer/fall Chinook juvenile salmon and transferred them to CJH in October 2013 for release from CJH facilities in 2014.
- 3 There were 245,635 spring Chinook salmon smolts produced at the Methow Hatchery in for release in 2014 (C. Snow, WDFW 2015, personal communication). The total Methow Hatchery production target of 223,765 fish was a combination of Wells NNI (29,123) and the sharing agreements with Chelan PUD (60,516) and Grant PUD (134,126).
- 4 Okanogan sockeye salmon obligation for NNI is covered by Douglas PUD funding of the Fish Water Management Tool program (Wells HCP: Sections 8.4.4 and 14, and Figure 3) managed through the Okanogan Nation Alliance.
- 5 NNI for Methow coho salmon is achieved through the funding provided to the YN for the Coho Salmon Enhancement Program as approved by the HCP Hatchery Committees at the December 12, 2007, meeting.

BY = brood year

CJH = Chief Joseph Hatchery

NNI = no net impact

## 2.2.2 Hatchery Planning

### 2.2.2.1 Monitoring and Evaluation Plan Implementation and 5-year Update

Since 2006, Douglas PUD hatchery programs have been operated in accordance with three documents: 1) the Hatchery Monitoring and Evaluation (M&E) Plan, titled *Conceptual Approach to M&E for Hatchery Programs Funded by Douglas County Public Utility District*, originally developed in 2005 and updated in 2007, addresses the Wells HCP, Section 8.5, and is the guiding document for the M&E program; 2) the Hatchery M&E Analytical Framework, titled *Analytical Framework for M&E PUD Hatchery Programs*, prepared in 2006 and updated in 2007, provides the analysis tools for the Hatchery M&E Plan; and 3) the Douglas PUD Hatchery M&E Implementation Plan titled, *Implementation of Comprehensive M&E of Hatchery Programs funded by Douglas County PUD*, prepared and approved by the Wells HCP Hatchery Committee annually to describe the M&E activities for the next calendar year. The Douglas PUD 2014 Hatchery M&E Implementation Plan was approved by the



HCP Hatchery Committees in December 2013 and was appended to the 2013 Wells HCP Annual Report.

The Wells HCP, Section 8.5.1, requires updates to the Hatchery M&E Plan every 5 years. In April 2012, the HCP Hatchery Committees began the process of updating the Hatchery M&E Plan, capitalizing on the lessons learned during the first 5 years of Hatchery M&E Plan implementation. In June 2012, a Hatchery M&E Workgroup was formed to review and recommend revisions to the Hatchery M&E Plan.

In April 2013, after several meetings of the Hatchery M&E Workgroup and months of revisions and review, the Wells HCP Hatchery Committee approved the 5-year update of the Hatchery M&E Plan, titled *Monitoring and Evaluation for PUD Hatchery Programs: 2013 Update*, with the caveat that any future appendices for the plan will require HCP Hatchery Committee approval.

The Douglas PUD 2013 Hatchery M&E Plan Report, titled *Monitoring and Evaluation of Wells and Methow Hatchery Programs: 2013 Annual Report*, which documented M&E activities in 2013 (Appendix Q), was approved in November 2014. A similar report will be completed in 2015 for 2014 M&E activities of natural production and hatchery operations. In November 2014, the Douglas PUD 2015 Hatchery M&E Implementation Plan (Appendix R) was finalized after a 60-day HCP Hatchery Committee review period.

### 2.2.2.2 *Hatchery and Genetic Management Plans*

In October 2008, NMFS requested that the Wells Hatchery Committee prepare updated Hatchery and Genetic Management Plans (HGMPs) for Douglas PUD hatchery programs, including the Methow Hatchery Spring Chinook and Wells Hatchery Steelhead programs. NMFS is using the HGMPs to conduct ESA consultations, prepare Biological Opinions, and issue new 10-year Incidental Take Permits for those programs. In February 2013, NMFS also requested an updated HGMP for Douglas PUD's Wells Hatchery Summer Chinook program.

### Methow Hatchery Spring Chinook Salmon

The Methow Hatchery Spring Chinook HGMP was developed and refined throughout 2009 and approved by the Wells Hatchery Committee on February 17, 2010, and was then submitted to NMFS for ESA consultation on March 12, 2010. NMFS subsequently requested additional analyses to inform the potential to achieve management objectives of interest to NMFS. Douglas PUD performed these analyses for the Methow Hatchery Spring Chinook Program and submitted them to NMFS in November 2012, in the form of a supplemental information package. In March 2013, Douglas PUD received a letter of scientific sufficiency for their Methow Hatchery Spring Chinook HGMP, initiating consultation for the Methow Hatchery Spring Chinook program. In August 2013, NMFS alerted the Hatchery Committees that the new permits would not be complete by the expiration of the current permits. Subsequently, on September 20, 2013, Douglas PUD received a letter from NMFS indicating that the existing ESA permits would be extended until consultation was complete and a new permit was issued. In late 2013, NMFS requested an updated program description, which Douglas PUD provided on January 21, 2014. In August 2014, NMFS distributed the draft Methow Hatchery spring Chinook salmon permit (combined with the Okanogan Section 10[j] permit) for review. In September 2014, NMFS indicated their decision to separate the Methow and Okanogan Section 10(j) spring Chinook salmon programs into two Biological Opinions, with the latter taking precedence in order of target completion dates. In October 2014, NMFS indicated that the Chelan PUD spring Chinook salmon conservation program will be combined with the Methow Hatchery and Winthrop National Fish Hatchery (NFH) consultation with a target completion date of March 31, 2015. Based on information received from NMFS in January 2015, it is unlikely NMFS will meet the March 2015 deadline, and a new deadline has not been established.

### Wells Hatchery Steelhead

The Wells Hatchery Steelhead HGMP was developed in 2009 and 2010. The extended time required to reach consensus on this HGMP was largely the result of efforts to coordinate federal, state, and tribal interests in the Methow Basin. On March 7, 2011, the Wells Hatchery Committee approved the Wells Hatchery Steelhead HGMP, which was then submitted to NMFS on April 13, 2011, for ESA consultation. In November 2011, NMFS began reviewing the Wells Hatchery Steelhead HGMP and subsequently requested additional analyses to inform the potential to achieve management objectives of interest to

NMFS. Douglas PUD performed these analyses for the Wells steelhead program and submitted them to NMFS in October 2012, in the form of a supplemental information package. In March 2013, Douglas PUD received a letter of scientific sufficiency for their Wells Hatchery Steelhead HGMP, initiating consultation for the Wells Hatchery Steelhead program. In August 2013, NMFS alerted the Hatchery Committees that the new permits would not be complete by the October 2, 2013, expiration of the current permits. Subsequently, on September 20, 2013, Douglas PUD received a letter from NMFS indicating that the existing ESA permits would be extended until consultation was complete and a new permit was issued. In late 2013, NMFS requested an updated program description, which Douglas PUD provided on March 28, 2014. In June 2014, NMFS indicated that the Wells Hatchery Steelhead Program and the Twisp Conservation Program will be incorporated into the same supplemental Environmental Assessment, with a target completion date of fall 2014. This target date was not met. At the time of this report, a new deadline for the Wells Hatchery steelhead has not been established.

#### Wells Hatchery Summer Chinook Salmon

The Wells Hatchery Summer Chinook HGMP was developed in March 2013 and was approved by the Wells Hatchery Committee on May 22, 2013. In August 2013, NMFS alerted the Hatchery Committees that the new permits would not be complete by the October 23, 2013, expiration of the current permits. Subsequently, on September 20, 2013, Douglas PUD received a letter from NMFS indicating that the existing ESA permits would be extended until consultation is complete and a new permit is issued. In late 2013, NMFS requested an updated program description, which Douglas PUD provided on April 4, 2014. In 2014, NMFS indicated that due to the urgency of completing permitting for other programs, summer and fall Chinook salmon programs were the lowest priorities, with target completion dates in spring 2015. Based on information received from NMFS in January 2015, it is unlikely NMFS will meet the spring 2015 deadline, and a new deadline has not been established.

#### *2.2.2.3 2013 to 2023 No Net Impact Recalculation*

The Wells HCP, Section 8.4.5, requires that hatchery production, except for original inundation mitigation, be adjusted in 2013 and every 10 years thereafter to achieve and

maintain NNI. In September 2010, the process to recalculate hatchery production was initiated by the HCP Hatchery Committees. After first approving a method for recalculating hatchery production on July 20, 2011, the database with the numeric inputs for use in the recalculation efforts was approved as final by the HCP Hatchery Committees on August 17, 2011. The HCP Hatchery Committees then approved the recalculated hatchery production levels for Douglas PUD’s NNI supplementation programs for 2013 through 2023 (Table 6) on December 14, 2011. Since 2013, the recalculated hatchery production levels have been implemented, as required.

**Table 6  
Douglas Public Utility District’s Recalculated (2013 to 2023) No Net Impact  
Hatchery Obligations by Species**

Species	Facility	Release Location	Recalculated 2013-2023 Obligation	Purpose
Spring Chinook Salmon	Chief Joseph Hatchery <sup>1</sup>	Okanogan Basin	33,300	NNI
	Methow Hatchery	Methow Basin	29,123	NNI
Summer/Fall Chinook Salmon <sup>2</sup>	Chief Joseph Hatchery (yearling)	Upper Columbia Mainstem/Okanogan	48,100	NNI
	Chief Joseph Hatchery (subyearling)	Upper Columbia Mainstem/Okanogan	49,000	NNI
Steelhead	Wells Hatchery	Twisp River	8,000	NNI
Sockeye Salmon	NNI met through funding of Fish and Water Management Tool			
Coho Salmon	NNI met through a funding Agreement for the YN Coho Reintroduction Program			

Notes:

- 1 Douglas PUD has agreed to provide funding for spring Chinook salmon at Chief Joseph Hatchery.
- 2 Douglas PUD has agreed to provide funding for summer/fall Chinook salmon at Chief Joseph Hatchery (54,575 yearlings, or 48,100 yearlings plus 49,000 subyearlings). Prior to recalculation, funding was provided for 105,714 yearling Chinook salmon at the Carlton Acclimation Pond.

NNI = no net impact

### 2.2.2.4 Hatchery Production Management Plan

In 2011, WDFW, in coordination with the HCP Hatchery Committees, drafted a *Hatchery Production Management Plan* to document criteria, measures, and actions that contribute to better meeting hatchery production targets and minimize overproduction. Although not finalized in 2011, WDFW began implementing those actions identified in the draft *2011 Hatchery Production Management Plan*, for which there was support among the fishery co-

managers. In 2012, the Hatchery Production Management Plan was finalized, approved, and included as an appendix to the final 2012 Broodstock Collection Protocols. Similarly, in 2014, the *Hatchery Production Management Plan* was appended to the final 2014 Broodstock Collection Protocols (Appendix P) that were submitted to NMFS in January 2015.

#### *2.2.2.5 Annual Broodstock Collection Protocols Approval*

Historically, ESA permits for hatchery programs have stipulated that the annual Broodstock Collection Protocols will be developed by WDFW in coordination with the HCP Hatchery Committees and will be submitted to NMFS by April 15 of each year. In March 2014, discussion began regarding requiring Hatchery Committees approval of the annual protocols and also streamlining the approval process in order to submit the annual protocols to NMFS by the April 15 deadline. In June 2014, NMFS indicated their support in requiring Hatchery Committees' approval of the annual protocols, and new requirement language was inserted into the new and draft Section 10 permits. NMFS also agreed to delegate approval of the annual Broodstock Collection Protocols to their HCP Hatchery Committees and Coordinating Committees representatives in the interest of streamlining the approval process. Also, in the interest of streamlining the approval process, a revised draft Broodstock Collection Protocols template was developed. The revised template removed unnecessary information and is expected to undergo further revisions during the next few years.

In August 2014, a draft Broodstock Collection Protocols SOA was developed to memorialize the updated approval process for the annual protocols. Following several discussions and revisions, the revised draft SOA indicated that: 1) the HCP Hatchery Committees agree to develop and submit to NMFS annual Broodstock Collection Protocols each year by April 15; 2) Permit Holders will prepare the draft protocols for HCP Hatchery Committees and Coordinating Committees' review no later than 10 days prior to their respective February meetings; 3) participation in the development, submission, and approval of the annual protocols within the Committees by the NMFS HCP Hatchery Committees and Coordinating Committees representatives will constitute NMFS acceptance and approval of the protocols; and 4) Coordinating Committees approval meets the Wells HCP requirement for approval of broodstock collection and M&E activities involving the Wells Project facilities. The final

Broodstock Collection Protocols SOA was approved by the HCP Hatchery and Coordinating Committees on September 17 and October 28, 2014, respectively (Appendix S).

#### **2.2.2.6 Objective 10 of the Hatchery Monitoring and Evaluation Plan – Non-Target Taxa of Concern**

The HCP Hatchery Committees began addressing the interaction of Plan Species with non-target taxa of concern (NTTOC; Objective 10 of the original Hatchery M&E Plan) in early 2008. At the close of 2008, the HCP Hatchery Committees agreed to conduct a review of risks to NTTOC using an expert panel and a risk-based model (Predation, Competition, and Disease [PCD Risk 1]) that WDFW had previously developed and applied in the Yakima River basin.<sup>2</sup> The HCP Hatchery Committees agreed on the species to be analyzed and containment objective categories for these species, as well as potential panel members for the exercise, in November 2008. The final documentation for this decision was summarized in *Summary and Strategy for Monitoring and Evaluation Plan Objective 10 (NTTOC)*.

In August 2009, the HCP Hatchery Committees directed the Hatchery Evaluation Technical Team (HETT) to conduct the NTTOC assessment. For review, input, and approval by the HCP Hatchery Committees, the HETT developed a list of regional and local ecological experts to invite to serve on a panel to estimate the risk of HCP Plan Species hatchery programs to NTTOC, and developed a strategy and logistics for conducting the assessment panel workshops (by phone, in person, or a combination of the two).

In 2010, the HETT worked on completing the NTTOC risk-assessment template (a dataset structured for modeling and expert panel review) and a draft manuscript describing the risk-assessment approach, with the intentions of providing the template and manuscript to potential panel members, along with a cover letter requesting their participation in a Delphi process.

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<sup>2</sup> Ham, K.D., and T.N. Pearsons, 2001. A Practical Approach for Containing Ecological Risks Associated with Fish Stocking Programs. *Fisheries* 26: 15-23.

In May 2011, the risk-assessment manuscript was completed, and in October 2011, the HETT completed the risk-assessment template and developed a database to house the risk-assessment input data and to use as an analytical tool. In November 2011, the HCP Hatchery Committees approved the HETT recommendation to use the recalculated hatchery production numbers in the risk assessment.

In 2012, the HETT began conducting preliminary runs of the risk-assessment model using the recalculated production numbers. In August 2012, the HETT began compiling the results of model runs completed to date into the database for analysis, which would then also be used to assess Delphi panel results in comparison with the model results. The HETT also recommended that the Delphi panel should initially consist of a smaller group of local scientists and that the HETT would produce a report on the NTTOC modeling and the Delphi results for the HCP Hatchery Committees.

By November 2013, all anticipated model runs were complete and those data were entered in the NTTOC database. While running the models, a coding issue was discovered in the model that caused certain runs to fail, and fixing the program could not be done easily. In the interest of finalizing the NTTOC study, the HCP Hatchery Committees agreed to move forward and develop a report that summarizes the modeling results and acknowledges the limitations of the existing model.

In April 2014, the HETT provided the draft NTTOC Report for review to the HCP Hatchery Committees, and following a 60-day review period, the report was finalized in June 2014 (Appendix T). A total of 50 hatchery programs and 25 NTTOC populations were identified for the risk analysis, resulting in 526 interactions. There were insufficient data for cutthroat to use the PCD risk model; therefore, they were omitted from the modeling. PCD risk was not designed to model lamprey. There were insufficient data and information available regarding salmonid and lamprey ecological interactions, particularly pertaining to hatchery salmonids, to pursue a risk assessment by other means. The Chief Joseph Hatchery programs were also not included in the modeling, and 134 interactions that were attempted failed to run due to the PCD risk model either crashing or taking too long to run, yielding a total of 202 successful model runs. Of the 202 successful model runs, only three populations exceeded their respective containment levels (5 percent), which were all small summer

steelhead sub-populations, including Twisp River summer steelhead interacting with Chelan Falls Hatchery summer Chinook salmon, Chiwawa River summer steelhead interacting with Wells Hatchery summer steelhead, and Omak Creek summer steelhead interacting with Wells Hatchery summer steelhead. However, these exceedances were determined to be insignificant because they barely exceeded the 5 percent containment level (5.08 percent, 5.15 percent, and 5.14 percent, respectively), and had large variability compared to the other interactions, which had substantially more dampened variability. Additionally, there is a lack of understanding about ecological interactions occurring in large rivers such as the mainstem Columbia River, in comparison to the smaller tributaries. Overall, mortality rates as a result of interactions with hatchery programs were estimated to be very low. There were no in-basin (i.e., within tributary) containment level exceedances. The three exceedances noted above were all small-tributary populations interacting in the Columbia River with mainstem Columbia River hatchery programs. In general, the risk of hatchery fish interacting negatively with NTTOC populations was estimated to be low. Because the modeling results suggested very low risk to NTTOC with very few interactions exceeding the containment levels, the HCP Hatchery Committees decided to forego the proposed Delphi process risk analysis with outside experts. In September 2014, the HCP Hatchery Committees approved the SOA, finalizing the NTTOC Objective (*Hatchery M&E Plan Objective 12* [Formerly Objective 10]; Appendix U), which also stipulated should new information become available, the HCP Hatchery Committees agree to assess the suitability of the data as it relates to conducting future NTTOC evaluations (e.g., lamprey).

#### **2.2.2.7      *Monitoring and Evaluation Program Reference/Control Groups***

Between 2007 and 2011, the HETT identified reference populations for the Chiwawa, Methow, Twisp, and Chewuch spring Chinook programs. They also found a suitable reference population for the Wenatchee, Methow, and Okanogan summer Chinook salmon programs. The Methow, Twisp, and Chewuch reference populations were used in analyses for the 5-year M&E report (see Section 2.2.2.2). They did not, however, identify suitable reference populations for sockeye salmon or steelhead. Therefore, in 2012, the HETT recommended that prior to the development of the next 5-year M&E Report (due in 2017), the HCP Hatchery Committees consider how best to evaluate the effects of supplementation



when no reference populations are available (as in the case of steelhead and sockeye salmon). These discussions will continue in 2015 and 2016.

#### 2.2.2.8 *Twisp Steelhead Reproductive Success Study*

The Wells HCP, Section 8.5.3, requires Douglas PUD to fund and implement a steelhead relative reproductive success study. On February 1, 2010, the Wells HCP Hatchery Committee approved the *Twisp Steelhead Reproductive Success Study Plan*. The study covers a 12-year period beginning in 2010 (and also includes tissue samples collected in 2009). It focuses on an adult-to-adult assessment of the relative reproductive success of hatchery and wild fish, and includes the measurement of covariates of fitness. The study is designed to provide data to distinguish genetic and environmental influences on reproductive success. Study results will be used in management of summer steelhead in the Methow subbasin.

To date, genetic analyses have been completed by the WDFW Molecular Genetics Laboratory on the first 5 brood years in the study of adult steelhead returns to the Twisp River, with the sixth year (2014) underway. As in 2013, fish were genotyped using 192 single nucleotide polymorphism (SNP) loci. The number of adult steelhead genotyped in past years has varied, including 361 for brood year 2009, 346 for brood year 2010, 264 for brood year 2011, and 262 for brood year 2012.

In August 2014, WDFW issued the final report for the 2013 samples, titled *Relative reproductive success of Twisp River hatchery and wild steelhead (Oncorhynchus mykiss): Summary report for Single Nucleotide Polymorphism (SNP) genotyping of adult collections – Return Year 2013* (Appendix V).

Currently, genotyping of approximately 182 samples from 2014 is in process. For all years completed, the SNP loci are assessed for appropriateness for the Twisp River steelhead population and study goals, and several population-genetic analyses are conducted. These data will be used to conduct parentage analysis in future years. Field work for this study is conducted under the M&E program. A report summarizing findings from the 2014 samples will be available by fall 2015.

### *2.2.2.9 Multi-Species/Expanded Acclimation*

In the interest of developing a long-term, multi-species/acclimation plan for Upper Columbia River salmon mitigation programs, the Joint Fisheries Parties agreed to develop a draft plan outlining multi-species acclimation options for Upper Columbia River salmon and steelhead mitigation programs. In January 2013, the YN distributed an Expanded Acclimation Plan for review and discussion. In October 2013, the YN further discussed potentially expanding acclimation areas in the Upper Methow, and agreed to develop a document summarizing the details of these plans.

In August 2014, the YN began discussing with the HCP Hatchery Committees the possibility of acclimating brood year 2014 Methow spring Chinook salmon at one of two acclimation sites in the Upper Methow. In October 2014, after review by the HCP Hatchery Committees of their initial proposal to acclimate 50,000 spring Chinook salmon, the YN proposed acclimating 25,000 Methow spring Chinook salmon at the Goat Wall acclimation site, located significantly upstream of the site used in the past (i.e., Mid-Valley Pond site). The HCP Hatchery Committees requested that the YN prepare a proposal for 2016 expanded acclimation in the Methow, including an explanation of pond operations, tagging, M&E, project objectives, and adult management, to be further discussed in 2015.

### *2.2.2.10 Fish Water Management Tool*

In 2014, Douglas PUD continued to fund the Fish Water Management Tool (FWMT) in lieu of providing hatchery-reared sockeye salmon smolts as compensation, as previously agreed upon by the HCP Hatchery Committees in October 2004. In September 2014, Dr. Kim Hyatt (Fisheries and Oceans Canada) and the Okanagan Nation Alliance provided their annual update to the HCP Hatchery Committees on progress of Okanagan sockeye re-introduction and the FWMT. The FWMT, developed through a collaborative effort led by Dr. Hyatt, is a water-management decision platform, including the collection, analysis, and modeling of real-time biological and environmental data used to guide water-management actions in the Canadian Okanagan River basin for the benefit of Okanagan sockeye salmon and Okanagan Lake kokanee. The FWMT is used by water and fisheries managers to minimize flooding, limit desiccation and scouring of salmon redds, and increase the available

lake-rearing habitat for juvenile sockeye salmon by increasing the oxygen levels in the northern basin of Osoyoos Lake.

#### *2.2.2.11 Confidence in Estimation of Broodstock Numbers*

In February 2013, Douglas PUD completed exploratory work on broodstock calculations for managing risk and expectations in broodstock collection, and a white paper was developed summarizing the findings. The analysis provides an approach to estimate the number of broodstock required to meet programmatic goals with a specified level of confidence. This approach would allow managers to balance the potential risks and benefits of collecting a certain number of broodstock for a program. The Hatchery Committee was undecided as to how this would be implemented in developing the annual Broodstock Collection Protocols. However, in October 2014, a revised draft Broodstock Collection Protocols template was developed among WDFW, NMFS, and USFWS in the interest of streamlining the annual protocols approval process. This revision of the protocols template may present an opportunity to incorporate aspects of this broodstock calculation exploratory work that will allow managers to make more informed decisions on broodstock collection. This topic will be addressed again in 2015.

#### *2.2.2.12 Grant Public Utility District Fish Production Request*

Each year, Grant PUD submits a request to Douglas PUD to produce fish for Grant PUD programs (Appendix W). The Hatchery Committees have routinely approved these requests after determining that a request would not impact Douglas PUD's HCP production. In June 2014, the Hatchery Committees approved Grant PUD's request to use excess production capacity at Douglas PUD facilities for 1 year (2014 to 2015) to produce 100,000 steelhead and 134,126 spring Chinook salmon.

Because the request remains the same from year to year and would not affect Douglas PUD's own HCP production obligation (as long as both the Grant PUD and Douglas PUD programs remain constant), Douglas PUD proposed foregoing this annual request-process in favor of obtaining approval for this action for the next 10 years; and in July 2014, the Wells Hatchery Committee approved the SOA allowing Grant PUD use of excess production capacity at

Douglas PUD facilities, through 2023, to produce steelhead and spring Chinook salmon (Appendix X).

#### *2.2.2.13 Wells Hatchery Steelhead Broodstock*

In November 2013, treated water used to disinfect tagging equipment was discharged to a Wells Hatchery parking lot where it ran into a drain that, unknown to hatchery staff, led into the steelhead holding pond, resulting in a loss of 178 of 200 hatchery-origin steelhead broodstock. The broodstock were for the Columbia Safety-Net and the Okanogan program, and also served as backup collections for the Methow Safety-Net, Twisp, and Omak programs, with unneeded backup fish available for the Ringold program. In December 2013, efforts to replace the broodstock commenced, including angling in the Methow River and collection efforts at the Wells Hatchery volunteer channel. Recreational angling was also closed in the mainstem Columbia River between Rocky Reach and Wells dams. In early 2014, efforts continued, and in February 2014, NMFS and the Wells HCP Coordinating Committee approved Douglas PUD's request to operate the ladder traps at Wells Dam as early as March 1, 2014, to attempt to collect more broodstock. By spring 2014, collection efforts were also underway at the Twisp Weir, Winthrop NFH, Methow Fish Hatchery, and in the Okanogan (conducted by the CCT). By April 2014, all steelhead broodstock were collected to replace those lost at Wells Hatchery in November 2013.

#### *2.2.2.14 Twisp River Population Assessment*

The Douglas PUD Hatchery M&E Plan requires a population estimate of the juveniles of spring Chinook salmon and steelhead to inform the evaluation of the effects of the hatchery program on the productivity of the wild populations. Those requirements specifically include reporting the proportion of hatchery-origin spawners and proportionate natural influence. Juvenile abundance data for this assessment, collected via two rotary screw traps, have been unreliable due to low catch efficiencies, difficulty in running adequate efficiency trials, and extended periods when the traps are inoperable due to high water flows. Therefore, in September and October 2014, in an effort to improve population abundance estimates, Douglas PUD, in coordination with WDFW, conducted a population abundance pilot study in the Twisp River that provided abundance estimates of juvenile spring Chinook salmon and steelhead and will allow comparison of PIT-tag-based population

estimates from this pilot study with rotary screw trap population estimates. The pilot effort involved electroshocking of a random sampling of 88 sites in the Twisp River, including six three-pass removal estimates to estimate catch efficiency, with the remainder single-pass samples. Sites included 50-meter (small tributaries) and 100-meter (Twisp River) runs. Drs. Rebecca Buchanan and John Skalski are conducting the statistical analysis on these data, and results are expected to be available in 2015.

#### *2.2.2.15 Methow Hatchery Spring Chinook Early Maturation Sampling*

In January 2014, the Wells Hatchery Committee approved Douglas PUD's request to sacrifice 300 Methow Hatchery spring Chinook salmon juveniles for a study of early maturation. PIT-tag data and snorkel surveys conducted by WDFW in the Methow River suggest that there is not a high rate of early maturation in Methow Hatchery spring Chinook salmon. However, these methods may not identify early maturing fish that do not re-ascend through the hydro system and are not present on the spawning grounds. Sampling was completed by April 2014, and preliminary observations included a relatively high proportion of early-maturing males, which was unexpected because returning adults show a skewed sex ratio of 60:40 (males to females) when the opposite may have been expected (i.e., females representing the higher proportion because of the loss of male returns due to early maturation). A complete report will be prepared, but will require consultation with several experts on early maturation before it can proceed.

#### *2.2.2.16 Hatchery M&E Plan Objective 8.3, Fecundity at Size*

In January 2014, WDFW began discussing the protocol for measuring gonadal mass and the different opinions regarding what stage to take the measurement, including: 1) taking the measurement at the eyed egg stage; or 2) taking the measurement before the eggs are fertilized, at the green egg stage. Appropriate sample sizes were also discussed for ESA-listed and unlisted programs. The HCP Hatchery Committees came to conclusions regarding how to calculate and measure fecundity at size; however, additional discussion was still needed regarding sample sizes. In February 2014, WDFW distributed a memorandum clarifying standardized methods for Hatchery M&E Plan Objective 8.3, Fecundity at Size; and in December 2014, WDFW provided a revised memorandum for further discussion in 2015.

### **2.2.2.17     *Incidental Take***

In early 2014, the question was raised regarding how incidental take is assigned—to the owner of a facility or to third-party operators at a facility who are not contractors or agents of the owner. Following much discussion, in August 2014, USFWS clarified that if the entity conducting the action has the appropriate permits in place to perform that action, and the action is not linked to the facility owner’s program, then incidental take would be assigned to the party taking the action and not assigned to the facility owner. USFWS also indicated that facility owners can contact USFWS to confirm third-party operators have the proper coverage in place for the proposed action.

### **2.2.2.18     *Rearing Coho Salmon at Wells Hatchery for the Yakima Nation’s Coho Reintroduction Program***

In July 2014, Douglas PUD indicated that the YN provided an initial proposal to Douglas PUD for rearing coho salmon at Wells Hatchery, and that Douglas PUD and the YN are also discussing options for meeting Douglas PUD’s hatchery compensation obligation for Methow River coho salmon. Douglas PUD’s current coho salmon mitigation agreement expires in 2017. The development of a new NNI production program for coho salmon is tied to recent survival analyses conducted by the University of Washington indicating that yearling coho salmon survival is not statistically different from the survival of yearling Chinook salmon and steelhead. The survival and phase designation discussions are currently taking place in the Coordinating Committee and are also linked to the Hatchery Committee’s discussion of ways for Douglas PUD to meet NNI for coho salmon (pending).

In addition, a collaborative rearing agreement for coho salmon on behalf of the YN at Wells Hatchery is being considered. Details are still being discussed, but the YN and Douglas PUD wanted the HCP Hatchery Committees to be aware that these discussions were ongoing.

### **2.2.2.19     *Methow River Conditions and Implications for Populations and Hatchery Program Management***

Following the wildfires that occurred throughout the summer of 2014, large mudslides have occurred near Carlton on the Methow River that had a major effect on the river. Some speculated that, for a number of years, runoff containing excessive levels of mud and ash

could have large impacts if major runoff events coincide with smolt migration. Douglas PUD suggested that it would be prudent to consider management strategies and actions for hatchery program releases that might be implemented to minimize impacts. After further research, the HCP Hatchery Committees agreed to defer to Hatchery Manager discretion regarding appropriate actions for releasing fish, with the recommendation to conduct periodic fish health evaluations on fish held in potentially impacted holding ponds, and once available, review available literature on the effects of the Carlton Complex Fire.

### **2.2.3 Maintenance and Improvements**

Several maintenance and improvement activities were completed in 2014 in support of hatchery production under the Wells HCP. These activities included installation of new PIT-tag detectors at the outfalls of the Twisp Acclimation Pond and the Methow Hatchery, extensive repair of domestic plumbing at Methow Hatchery, drilling a new production well at Wells Hatchery, and numerous well-field improvements, including cleaning wells and repairing or replacing pumps at Wells Hatchery to update and improve the groundwater system. The plans for the modernization of the Wells Hatchery to meet the new requirements of the steelhead and summer Chinook salmon HGMPs, as well as to produce white sturgeon (*Acipenser transmontanus*) and resident trout for the Off-license Settlement Agreement, were finalized in 2014, as further described below.

In September 2012, Phase I of the modernization of Wells Hatchery was completed, which included the initial assessment of all infrastructure in order to identify needed upgrades. Phase I efforts also included useful-life facility assessment, surface water and groundwater well-field assessments, and bio-programming. Phase II was completed in January 2013, which finalized the bio-programming, addressed handling and management of adult returns, refined programmatic needs, including potential changes to the programs in the future, and addressed configuration options for the facility in terms of water needs, rearing vessels, biological logistics, and workflow for Wells Hatchery operations. Phase III focused on creating the Wells Hatchery Modernization Master Plan, which includes all information generated in Phases I and II, and synthesizes that information into a facilities and operation overview. The Master Plan also guides development of bid drawings in Phase IV. The draft Wells Hatchery Modernization Master Plan was completed in May 2013, provided to the

Hatchery Committee for review, and finalized in July 2013. In August 2013, Douglas PUD held a Wells Modernization Workshop with the HCP Hatchery Committees to review design aspects of the modernization; HDR Engineering, Inc., the engineering firm developing the plan, also participated. In January 2014, the 30 percent designs were completed, and on February 19, 2014, a second workshop was held with the Hatchery Committees to review the 30 percent designs. HDR Engineering, Inc. reviewed the overall site plan, piping plans, and individual building plans, including the hatchery building, circular tank facility, and adult handling facility. In June 2014, a third Wells Modernization Workshop was held, this time with the HCP Coordinating Committees, to review the draft *Wells Hatchery Adult Handling Facility 60 percent Design Report* and associated site plans. This workshop focused on the specific details and infrastructure contained within the adult handling facility. The HCP Coordinating Committees approved the *Wells Hatchery Adult Handling Facility 60 Percent Design Report* and associated site plans in August 2014. The design drawings and technical specifications, as well as numerous technical addenda related to dam safety, demolition, biological rearing criteria, and existing conditions of the hatchery, were completed in December 2014, and the project was being prepared to be put out for bid for construction in early 2015. Construction is expected to commence in 2015.

### **2.3 Tributary Committees and Plan Species Accounts**

As outlined in the Wells HCP, the signatory parties designated one member each to serve on the Tributary Committee. The Rock Island, Rocky Reach, and Wells Tributary Committees meet on a regularly scheduled basis as a collective group to enhance coordination and minimize meeting dates and schedules. Subject items requiring decisions are voted on in accordance with the terms outlined in the specific HCPs. During 2014, the Tributary Committees met on 10 different occasions.



An initial task of the Tributary Committees in 2014 was to review and update their operating procedures that provide a mechanism for decision making. These were initially developed in 2005 and included in that year's annual report<sup>3</sup>. The Tributary Committees also developed Policies and Procedures for soliciting, reviewing, and approving project proposals. This document was last reviewed and updated in February and March 2014. The Policies and Procedures provide formal guidance to project sponsors on submission of proposals for projects to protect and restore habitat of Plan Species within the geographic scope of the HCP. The Committees established two complementary funding programs, the General Salmon Habitat Program (GSHP) and the Small Projects Program.

In 2014, the Tributary Committees modified language in Sections 3.4 (The General Salmon Habitat Program), 5.1 (Draft Proposal Review), and 5.3 (Final Review) of the Policies and Procedures document to allow submission of GSHP at any time during the year. Before this modification, the schedule for the GSHP was coordinated with the Salmon Recovery Funding Board (SRFB) process. That is, GSHP draft proposals were received in early May and final proposals were received in late June. The proposed change allows project sponsors to submit GSHP proposals at any time during the year. In addition, the Tributary Committees approved changes in the language of Section 3.4 of the Policies and Procedures document indicating that the Tributary Committees will accept SRFB applications for projects where Plan Species Account Funds are included as cost-shares in SRFB proposals. The Tributary Committees approved the following language to Section 3.4 of the Policies and Procedures document:

*Project Sponsors will use the General Salmon Habitat Program application. However, the Committees will accept the Salmon Recovery Funding Board application for projects where Plan Species Account Funds are included as cost shares in Salmon Recovery Funding Board proposals.*

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<sup>3</sup> Anchor Environmental, L.L.C., 2005. *Annual Report, Calendar Year 2005, of Activities Under the Anadromous Fish Agreement and Habitat Conservation Plan: Wells Hydroelectric Project, FERC license no. Anchor Environmental, L.L.C., 2005. Annual Report, Calendar Year 2005, of Activities Under the Anadromous Fish Agreement and Habitat Conservation Plan: Wells Hydroelectric Project, FERC license no. 2149. Prepared for FERC by Anchor Environmental, L.L.C., and Public Utility District No. 1 of Douglas County.*

Dr. Tracy Hillman continued as the Chairperson for the Wells Tributary Committee. Dr. Hillman is an Ecological Society of America board-certified senior ecologist and Chief Executive Officer of BioAnalysts, Inc. He has 28 years of experience as an ecologist and has chaired the Wells Tributary Committee since 2007.

### **2.3.1 Regional Coordination**

Similar to the structure of the Hatchery Committees and to improve coordination, a representative from Grant PUD and the facilitator of the Priest Rapids Coordinating Committees (PRCC) Habitat Subcommittee were invited to the Tributary Committees' monthly meetings. In addition, they received meeting announcements, draft agendas, and meeting minutes. This benefits the Tributary Committees through increased coordination and sharing of expertise. The Grant PUD representative and PRCC Habitat Subcommittee facilitator have no voting authority. The Tributary Committees, through the HCP Coordinating Committees, also invited American Rivers and the Confederated Tribes of the Umatilla Indian Reservation to participate in Committees' meetings. Both parties contributed to the development of the HCP, yet elected not to sign the document. Neither of these parties participated in the deliberations of the Tributary Committees in 2014.

The Tributary Committees also coordinate with the Upper Columbia Salmon Recovery Board (UCSRB). Coordination is typically between the Chairperson of the Tributary Committees and the Executive Director or Associate Director of the UCSRB. The Tributary Committees also invite representatives from the UCSRB to at least one meeting per year to update the Committees on activities proposed by the Board. In addition, some members of the Committees typically attend the UCSRB meetings to foster coordination in developing and selecting projects for funding. Most members of the Committees are also members of the UCSRB's Regional Technical Team (RTT), which increases coordination in selecting projects for funding. Many of the policies and procedures of the SRFB and Tributary Committees are complementary, and annual funding rounds by these funding entities have been coordinated throughout the last several years.

In April 2014, the UCSRB invited the Wells Tributary Committee to an Upper Columbia Life History Workshop held on Wednesday, April 16, 2014, at the Confluence Technology

Center in Wenatchee, Washington. The purpose of the workshop was to provide participants with current information about general life history patterns that have been observed across the region, as well as specific information on habitat use in each of the four major subbasins (Wenatchee, Entiat, Methow, and Okanogan river basins). The workshop was primarily for project sponsors, monitoring program representatives and researchers, the RTT, and Citizen's Advisory Committee members.

The Wells Tributary Committee coordinated funding of GSHP proposals with the Bonneville Power Administration (BPA) in July 2014. The purpose for inviting BPA to the July meeting, according to Section 2 of the Tributary Fund Policies and Procedures for Funding Projects, was to collaborate with regional, local, state, tribal, and national organizations that fund salmon habitat projects. The efforts resulted in identification of cost-shares for suitable habitat restoration projects.

### **2.3.2 Fiscal Management of Plan Species Accounts**

The Tributary Committees set up methods for the long-term management of the Plan Species accounts for each HCP. The Wells Tributary Committee agreed to have Douglas PUD manage the accounting services internally and structure the relationship so they can invoice these administrative costs to the Wells Plan Species account. The beginning balance of the Wells Plan Species account on January 1, 2014, was \$1,096,267.79. Details are as follows: Douglas PUD's annual contribution was \$253,775.11; interest accrued during 2014 was \$2,385.10; funds disbursed for projects in 2014 totaled \$25,346.57; and disbursements for administrative costs included \$3,075.06 to Chelan PUD for administrative support provided to the Wells Plan Species Account and \$2,416.00 to Douglas PUD for account administration during 2014. The result was a balance of \$1,321,590.37 on December 31, 2014. The 2014 Annual Financial Report for this Plan Species account is provided in Appendix Y.

In January 2009, the Wells Tributary Committee recommended to the Joint Fisheries Parties (via the Wells Coordinating Committee) that Douglas PUD make annual payments to the Wells Plan Species Account beginning in 2010, per Section 7.4.1 of the Wells HCP. The annual contribution would be \$176,178 (in 1998 dollars). In February 2009, the Wells Coordinating Committee accepted the recommendation that Douglas PUD make annual

payments to the Wells Plan Species Account beginning in January 2010. Accordingly, at the end of each January, Douglas PUD will make an annual payment into the Wells Plan Species Account. In 2014, Douglas PUD deposited \$253,775.11 into the Wells Plan Species Account.

In 2014, Washington State auditors indicated that they have changed their position regarding off-book accounts, such as the HCP Plan Species Accounts, because of abuse of such accounts by some entities. These accounts, although not officially under the control of the PUDs, use the PUDs tax identification numbers. To that end, the State auditors asked Douglas PUD to bring the Wells Plan Species Account into full control of the PUD, so it can be audited annually. This account will be set up so funding decisions will not need to go through the PUD Board of Commissioners for approval (as in the past, board approval of the annual contributions to the account will constitute approval of the Tributary Committee's discretion in the use of the account). In addition, the account will be audited annually, which means the Wells Tributary Committee will not need to conduct independent audits every five years. The Wells Tributary Committee will see no changes in the way it does business.

The Wells Tributary Committee delegated signatory authority to the Tributary Committees' Chairperson for processing of payments for invoices approved by the Committee, with the Coordinating Committees' Chairperson serving as the alternate. The Tributary Committees' Chairperson works for a limited liability corporation, and the Tributary Committees provide funds for liability insurance.

### **2.3.3 General Salmon Habitat Program**

The Tributary Committees established the General Salmon Habitat Program as the principle mechanism for funding projects. The goal of the program is to fund projects for the protection and restoration of Plan Species habitat. An important aspect of this program is to assist project sponsors in developing practical and effective applications for relatively large projects. Many habitat projects are increasingly complex in nature and require extensive design, permitting, and public participation efforts. Often, a reach-level project involves many authorities and addresses multiple habitat factors. Because of this trend, the GSHP was devised to fund relatively long-term projects. There is no maximum financial request in the

GSHP; the minimum request is \$100,000, although the Tributary Committees may provide lesser amounts during a phased project.

In an effort to coordinate with ongoing funding and implementation programs within the region, the Tributary Committees used the previously established technical framework and review process for this geographic area, and worked with the other funding programs to identify cost-sharing procedures (see Section 2.3.1).

### *2.3.3.1 2014 General Salmon Habitat Projects*

In March 2014, the Tributary Committees announced they would accept GSHP applications at any time during the year. They also announced they would continue to accept SRFB applications for projects where Plan Species Account Funds are included as cost-shares in SRFB Proposals. The SRFB announced their 2014 funding cycle in March, with pre-proposal applications due on May 2, 2014, and full proposals due on June 24, 2014. The Tributary Committees received and reviewed nine pre-proposal applications. The Tributary Committees identified four projects that they believed warranted full proposals and dismissed five projects because they did not have strong technical merit.

In June, the Tributary Committees received four full SRFB proposals to the GSHP. All were cost-shares with the SRFB or other funding entities. The Tributary Committees approved funding for two projects (BPA funded the Tributary Committees' matching component of another). In addition, the Tributary Committees received three full proposals to the GSHP that were not SRFB proposals. The Tributary Committees approved funding for two of these projects. Table 6 identifies the projects, sponsors, total cost of each project, amount requested from Tributary Funds, and, if funded, which Plan Species Account supported the project.

**Table 7**  
**General Salmon Habitat Program Projects Reviewed by the Tributary Committees in 2014**

Project Name	Sponsor <sup>1</sup>	Total Cost	Request from TC	Plan Species Account <sup>2</sup>
<b>Salmon Recovery Funding Board Applications</b>				
Upper Peshastin Migration Barrier Design	CCNRD	\$74,500	\$12,000	Not funded
Silver Side Channel Revival	CCFEG	\$1,050,573	\$525,287	Not funded <sup>3</sup>
Methow Watershed Beaver Reintroduction	MSRF	\$216,000	\$33,500	W: \$33,500
Barkley Irrigation Company – Under Pressure	TU-WWP	\$3,293,180	\$300,000	RI: \$300,000
<b>General Salmon Habitat Program Applications</b>				
Icicle Irrigation District Flow Control Structure	CNRD	\$140,633	\$70,000	RI: \$70,000
Methow Valley Irrigation District Instream Flow Improvement	TU-WWP	\$9,747,000	\$600,000	RI&RR: \$600,000 <sup>4</sup>
Nason Upper White Pine Floodplain Reconnect	CCNRD	\$3,037,136	\$400,000	Not funded

## Notes:

- 1 CCFEG = Cascade Columbia Fisheries Enhancement Group; CCNRD = Chelan County Natural Resources Department; MSRF = Methow Salmon Recovery Foundation; and TU-WWP = Trout Unlimited – Washington Water Project
- 2 RI = Rock Island Plan Species Account; RR = Rocky Reach Plan Species Account; and W = Wells Plan Species Account
- 3 The Bonneville Power Administration funded the Tributary Committees' portion of the Silver Side Channel Revival Project (\$525,287).
- 4 In 2013, the Wells Tributary Committee approved \$400,000 for the Methow Valley Irrigation District Instream Flow Improvement Project. The sponsor was unable to secure all the funding needed for the project; therefore, in 2014 they asked the Tributary Committees for an additional \$600,000. The Rocky Reach and Rock Island Tributary committees each agreed to contribute \$300,000 to the project.

TC = Tributaries Committees

In 2014, the Wells Tributary Committee agreed to fund the following General Salmon Habitat Program project:

- Methow Watershed Beaver Reintroduction Project for the amount of \$33,500 (with cost-share; the total cost of the restoration project was \$216,000). The project will restore 50 beaver colony sites in strategic locations within the Methow River Basin. This action should improve water quality, late-season stream flows, stream habitat complexity, and riparian conditions, and reduce sedimentation, while helping to ameliorate the effects of climate change.

### **2.3.3.2 Modifications to General Salmon Habitat Program Contracts**

In 2014, the Wells Tributary Committee received the following requests from sponsors asking for modifications to General Salmon Habitat Program projects funded by the Committee:

- In January 2014, the Methow Salmon Recovery Foundation asked the Wells Tributary Committee for a budget amendment on the Twisp River-Poorman Creek Wetland Habitat Acquisition Project. The Wells Tributary Committee reviewed the budget amendment request and concluded that they could not approve a budget amendment for a project that had changed significantly from its original scope. The Committee originally agreed to help fund an acquisition project. The original project has since merged with another project and morphed into a conservation easement. The budget modification indicated that \$54,350 would be used to purchase irrigation efficiencies. This money was to be used to help purchase the property. Not only was this a large departure from the original use of the money, but there was no information provided that allowed the Committees to evaluate costs and benefits of the irrigation efficiencies. Finally, the Committee's appraiser was not used to determine the value of the conservation easement. Because the project changed significantly and was no longer an acquisition project, which the Committee agreed to help fund, the Wells Committee elected to terminate the Twisp River-Poorman Creek Wetland Habitat Acquisition Project.
- In December 2014, the Okanagan Nation Alliance asked the Wells Tributary Committee for a budget amendment on the Fish Passage at Shingle Creek Dam Project. The sponsor asked to move \$5,688 from Contract Labor to Salaries/Benefits, Professional Services, and Overhead/Administration. Thus, the final amount allocated for Salaries/Benefits was \$6,186, Contract Labor was \$36,812, Professional Services was \$8,502, and Overhead/Administration was \$7,725. The Wells Tributary Committee approved the budget amendment. The total budget amount will not change as a result of this amendment.

### **2.3.4 Small Projects Program**

The Small Projects Program has an application and review process that increases the likelihood of participation by private stakeholders that typically do not have the resources or

expertise to go through an extensive application process. The Tributary Committees encourage small-scale projects by community groups, in cooperation with landowners, to support Plan Species recovery on private property. Project sponsors may apply for funding at any time, and in most cases, will receive a funding decision within three months. The maximum contract allowed under the Small Projects Program is \$100,000.

### 2.3.4.1 2014 Small Projects

In 2014, the Tributary Committees received six requests for funding under the Small Projects Program. The Tributary Committees approved funding for four projects. Table 7 identifies the projects, sponsors, total cost of the projects, amount requested from Tributary Funds, and which Plan Species Accounts supported the projects.

**Table 8**  
**Projects Reviewed by the Tributary Committees under the Small Projects Program in 2014**

Project Name	Sponsor <sup>1</sup>	Total Cost	Request from T.C.	Plan Species Account <sup>2</sup>
Remove Collapsed Bridge from Shingle Creek	ONA	\$10,579	\$6,693	W: \$6,693
Silver Reach Mining Impacts Evaluation/Feasibility	TU-WWP	\$99,430	\$96,355	Not funded <sup>3</sup>
Post-Fire Landowner Assistance/Habitat Protection	MSRF	\$100,000	\$57,328	RI: \$57,328
Clear Creek Fish Passage & Instream Flow Enhancement	TU-WWP	\$96,116	\$69,500	RR: \$69,500
Lehman Riparian Restoration	MC	\$40,267	\$9,053	RI: \$9,053
Lower Wenatchee River Riparian Restoration	CCD	\$44,000	\$40,000	Not funded

Notes:

- 1 CCD = Cascadia Conservation District; MC = Methow Conservancy; MSRF = Methow Salmon Recovery Foundation; ONA = Okanagan Nation Alliance; and TU-WWP = Trout Unlimited – Washington Water Project
- 2 RI = Rock Island Plan Species Account; RR = Rocky Reach Plan Species Account; and W = Wells Plan Species Account
- 3 The Tributary Committees requested additional information. As of the end of 2014, the sponsor had not yet submitted a revised proposal.

In 2014, the Wells Tributary Committee agreed to fund the following Small Project:

- Remove Collapsed Bridge from Shingle Creek Project for the amount of \$6,693 (with cost-share; the total cost of the project was \$10,579). This project will stabilize and



reduce channel and bank erosion by removing a collapsed logging bridge that fell into Shingle Creek about 15 kilometers upstream from its mouth.

#### **2.3.4.2 Modifications to Small Project Contracts**

In 2014, the Wells Tributary Committee received the following requests from sponsors asking for modifications to Small Projects funded by the Committee.

- In March, Cascade Columbia Fisheries Enhancement Group asked the Wells Tributary Committee for a budget amendment on the Methow/Chewuch Shallow Groundwater Monitoring Project. The sponsor asked if they could use the remaining funds in their contract labor task (\$3,483) to hire a hydrogeologist to do additional data analyses. Data to be analyzed by the hydrogeologist would include piezometer data, survey and staff gauge readings at Lewisia floodplain and Burns-Garrity sites, and pit-test data. The Wells Tributary Committee approved the budget amendment. The total budget amount did not change as a result of this amendment.
- In April, Cascade Columbia Fisheries Enhancement Group asked the Wells Tributary Committee for a time extension on the Methow/Chewuch Shallow Groundwater Monitoring Project. The sponsor asked if the Committee would extend the contract until the end of 2014, so they could continue to monitor water levels at the Burns-Garrity and Silver Side Channel sites. The Wells Tributary Committee approved the extension of the contract through December 31, 2014.
- In September, Cascade Columbia Fisheries Enhancement Group asked the Wells Tributary Committee for a budget amendment on the Methow/Chewuch Shallow Groundwater Monitoring Project. The sponsor asked if they could move \$3,483.10 from Contract Labor to Professional Services. Thus, the final amount allocated for Professional Services would be \$4,483.10, and the final amount allocated for Contract Labor would be \$9,562.90. The Wells Tributary Committee approved the budget amendment. The total budget amount will not change as a result of this amendment.

#### **2.3.5 Tributary Assessment Program**

In 2008, the Okanagan Nation Alliance (ONA) responded to the Tributary Committees request for a proposal to monitor the Okanagan River Restoration Initiative (ORRI) Project.

The Wells Tributary Committee agreed to fund three monitoring tasks of ORRI during a 5-year period: 1) Fish Holding and Rearing; 2) Channel Morphometry and Hydraulics; and 3) Substrate Composition. The Wells Tributary Committee directed Douglas PUD to fund the project via the Tributary Assessment Program (Wells HCP Section 7.5) rather than through the Wells Plan Species Account. In September 2013, ONA submitted a final report to the Wells Tributary Committee titled, *Aquatic Monitoring of the Okanagan River Restoration Initiative—Post Construction 2012*.

In 2014, at the request of the Tributary Committees, ONA submitted proposals for the following monitoring projects:

1. **Penticton Channel Monitoring Spawning Platforms** – The objective of this study is to monitor the effects of the proposed spawning platforms as adaptive management for designing and construction of more platforms. This work will focus on quantifying spawners (redd surveys), egg retention (carcass surveys), egg-to-fry success, and habitat conditions (e.g., gravel stability, thalweg slope, fine sediment deposition, and gravel composition) within treated and untreated areas. Monitoring will occur throughout a 5-year period (2014 to 2018). The amount requested from the Tributary Committees throughout the 5-year period was \$53,738 (with cost-share; the total cost of the monitoring project throughout the 5-year period was \$168,863). The request from the Tributary Committees for monitoring efforts in 2014 was \$7,528.
2. **ORRI Phase II Effectiveness Monitoring** – The objective of this study is to monitor the effects (channel, hydraulic, and biological responses) of ORRI-Phase II restoration work and continue to monitor the long-term effects of Phase I and Vertical Drop Structure 13 restoration. Monitoring will include all activities associated with channel and hydraulic responses, and aquatic biological responses (save macrophytes and macroinvertebrates). Monitoring will occur throughout a 5-year period (2014 to 2018). The amount requested from the Tributary Committees throughout the 5-year period was \$69,578 (with cost-share; the total cost of the monitoring project throughout the 5-year period was \$175,600). The request from the Tributary Committees for monitoring efforts in 2014 was \$11,978.40.

The Rocky Reach Tributary Committee approved funding for the Penticton Channel Monitoring Spawning Platforms, and the Wells Tributary Committee approved funding for

the ORRI Phase II Effectiveness Monitoring Project. As required in the HCPs, Chelan and Douglas PUDs will provide funding for the monitoring projects through the Rocky Reach and Wells Tributary Assessment Programs rather than through the Rocky Reach and Wells Plan Species Accounts.

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### **3 HABITAT CONSERVATION PLAN ADMINISTRATION**

This chapter lists events of note that occurred in 2014 related to the administration of the HCPs and provides a list of reports published in 2014 that relate to the HCPs.

#### **3.1 Mid-Columbia HCP Forums**

In 2005 and 2006, Mid-Columbia Forums (Forums) were held as a means of communicating and coordinating with the non-signatories and other interested parties regarding the implementation of the HCPs. Non-signatory parties at the time of the 2006 meeting included the Confederated Tribes of the Umatilla Reservation, and American Rivers. As in 2006 through 2013, these parties were invited by letter in 2014 to attend the Forum, in conformity with the 2005 FERC Order on Rehearing 109 FERC 61208 and in accordance with the offer to non-signatory parties of non-voting membership in HCP Tributary and Hatchery Committees processes. The non-signatory parties again indicated no interest in attending a Forum in 2014; however, Michael Garrity of American Rivers indicated his organization was interested in a briefing on progress in implementing the HCP sometime during 2015.

#### **3.2 Mid-Columbia HCP Extranet Sites**

In 2013, the HCP Coordinating Committees discussed transitioning HCP file sharing from the historically used file transfer protocol (FTP) site to a more user-friendly platform. One of the primary purposes for transitioning to a new filing system was to facilitate a more efficient process for retrieving historical documents. In May 2013, Douglas PUD presented to the Coordinating Committees an overview of their new SharePoint system (i.e., HCP Extranet site), as a potential option for the new HCP document repository. The Coordinating Committees raised no concerns with the proposed SharePoint repository, and Douglas PUD proceeded with the development of the repository. Douglas PUD unveiled the respective HCP Hatchery Committees Extranet site and HCP Coordinating Committees site with presentations to the Hatchery Committees on January 15, 2014, and to the Coordinating Committees on January 28, 2014. During 2014, the process of transferring all historical HCP files from the former FTP site to the new HCP Extranet sites was underway and is expected to be complete by early 2015. The HCP Tributary Committees Extranet site will also be available by early 2015.

### **3.3 Mid-Columbia HCP Coordinating Committees Meeting Location**

In May 2014, a review was held of the HCP Coordinating Committees' meeting location. After researching other venue options and discussing financial and logistical considerations, the Coordinating Committees agreed to continue holding their monthly meetings at the Radisson Gateway Hotel, in SeaTac, Washington, along with the occasional conference call and meeting in eastern Washington.

### **3.4 Mid-Columbia HCP Committees' Chairperson**

In September 2014, the HCP Chairman of the Coordinating and Hatchery Committees announced to the respective Committees his plans to retire at the end of April 2015. The HCP Chairperson of the Coordinating Committees also serves as the Chairperson of the Policy Committees; therefore, discussions began regarding selecting new Chairpersons for the HCP Policy, Coordinating, and Hatchery Committees—a process last visited 10 years ago when the HCPs were signed in 2004. A timeline was established to allow the new Chairperson(s) time to shadow the current Chairman prior to April 2015, which translated into interviews in December 2014, final decisions in January 2015, and contracting by February 2015. HCP Coordinating and Hatchery Committees representatives were asked to nominate qualified candidates to fill the respective Committees Chairperson positions, and the HCP Policy and Coordinating Committees agreed to convene to discuss details of the selection process. HCP signatory representatives were identified to select the HCP Chairpersons for the Hatchery and Coordinating Committees, which included the HCP Policy Committees representative for the YN, NMFS, Chelan PUD, and Douglas PUD, and the HCP Coordinating Committee representative for the CCT, USFWS, and WDFW. A ranking system was also approved for narrowing the HCP Chairperson candidate lists to a short list for interviews, where each Party ranks the candidates first to last for filling the Chairperson positions. Reviews of the sum of those rankings, along with further discussion, was used to determine the interview lists. The HCP Policy and Coordinating Committees compiled interview questions developed by each HCP signatory, and in December 2014, all candidates were interviewed for the HCP Coordinating and Hatchery Committees Chairperson positions. Final decisions will be announced in January 2015. (Note: On January 14, 2015, the HCP Policy and Coordinating Committees unanimously approved

Dr. John Ferguson as the HCP Policy and Coordinating Committees Chairperson and Dr. Tracy Hillman as the HCP Hatchery Committees Chairperson.)

### 3.5 HCP Related Reports and Miscellaneous Documents Published in Calendar Year 2014

The following is a list of reports released in 2014 that are related to the implementation of the Wells HCP:

- Anchor QEA, LLC, and Public Utility District No. 1 of Douglas County, 2014. *Annual Report Calendar Year 2013 of Activities Under the Anadromous Fish Agreement and Habitat Conservation Plan*. Wells Hydroelectric Project. FERC License No. 2149. March 2014.
- Columbia Research LLC, 2014. *2013 Public Utility District No. 1 of Douglas County Northern Pikeminnow Removal and Research Program*. Wells Hydroelectric Project. Prepared for Public Utility District No. 1 of Douglas County. FERC No. 2149. January 2014.
- HDR Fisheries Design Center, 2014. *Draft Preliminary Design Report*. Wells Fish Hatchery Modernization. Prepared for Douglas County Public Utility District No. 1. January 2014.
- HDR Fisheries Design Center, 2014. *Preliminary Design Report Volume 7 Adult Holding, Spawning and Surplus Facilities Design Criteria*. Wells Hatchery Modernization. Prepared for Public Utility District No. 1 of Douglas County. June 2014.
- Mackey, G., T. Pearsons, C. Snow, and A. Murdoch, 2014. *Implementation of Comprehensive Monitoring and Evaluation of Wells Hatchery Complex Programs in 2015*. Methow Research Team, Hatchery/Wild Interactions Unit, Science Division, Washington Department of Fish and Wildlife. November 2014.
- Mackey, G., T.N. Pearsons, M.R. Cooper, K.G. Murdoch, A.R. Murdoch, and T.W. Hillman, 2014. *Ecological Risk Assessment of Upper-Columbia Hatchery Programs on Non-Target Taxa of Concern*. Hatchery Evaluation Technical Team. Prepared for the HCP Wells Hatchery Committee, HCP Rocky Reach Hatchery Committee, HCP Rock Island Hatchery Committee, and the Priest Rapids Hatchery Sub-Committee, Wenatchee, Washington. June 2014.

- Public Utility District No. 1 of Douglas County, 2014. *Final 2014 Wells HCP Action Plan*. January 2014.
- Public Utility District No. 1 of Douglas County, 2014. *2014 Juvenile Fish Bypass Operating Plan*. Wells Hydroelectric Project. January 2014.
- Snow, C., C. Frady, A. Repp, B. Goodman, and A. Murdoch, 2014. *Monitoring and Evaluation of the Wells Hatchery and Methow Hatchery Programs: 2013 Annual Report*. The Washington State Dept. of Fish and Wildlife. Prepared for Douglas PUD, Grant PUD, and the Wells HCP Hatchery Committee, East Wenatchee, Washington. November 2014.
- Tonseth, M., 2014. *Final 2014 Upper Columbia River Salmon and Steelhead Broodstock Objectives and Site-Based Broodstock Collection Protocols*. Washington Department of Fish and Wildlife Wenatchee Research Office. December 2014.
- Washington Department of Fish and Wildlife, 2014. *Relative reproductive success of Twisp River hatchery and wild steelhead (*Oncorhynchus mykiss*): Summary report for SNP genotyping of adult collections – Return Year 2013*. Washington Department of Fish and Wildlife Molecular Genetics Laboratory. August 2014.

APPENDIX A  
HABITAT CONSERVATION PLAN  
COORDINATING COMMITTEES  
2014 MEETING MINUTES AND  
CONFERENCE CALL MINUTES

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APPENDIX B  
HABITAT CONSERVATION PLAN  
HATCHERY COMMITTEES  
2014 MEETING MINUTES AND  
CONFERENCE CALL MINUTES

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APPENDIX C  
HABITAT CONSERVATION PLAN  
TRIBUTARY COMMITTEES  
2014 MEETING MINUTES

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APPENDIX D  
HABITAT CONSERVATION PLAN  
POLICY COMMITTEES  
2014 MEETING MINUTES

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APPENDIX E  
LIST OF WELLS HCP COMMITTEES  
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