Patterson, Beau. 2010. Douglas PUD Fish Production Facilities for the Wells Hydroelectric Project, FERC No. 2149.

DOUGLAS PUD FISH PRODUCTION FACILITIES

WELLS HYDROELECTRIC PROJECT

FERC NO. 2149

September 2010

Prepared by:

B. Patterson
Public Utility District No.1 of Douglas County
East Wenatchee, WA

Prepared for:

Public Utility District No. 1 of Douglas County
East Wenatchee, WA

For copies of this Report, contact:

Public Utility District No. 1 of Douglas County
Natural Resources
1151 Valley Mall Parkway
East Wenatchee, WA 98802-4497
Phone: (509)884-7191
E-Mail: relicensing@dcpud.org

Table of Contents

List of Figures

1.0 INTRODUCTION

On July 12, 1962, the Federal Power Commission, predecessor to the Federal Energy Regulatory Commission (FERC), granted Douglas PUD a 50-year license to construct and operate the Wells Project, which will expire May 31, 2012. The Wells Hydroelectric Project, FERC No. 2149, was constructed between 1963 and 1967. Douglas PUD is seeking a new FERC operating license for the Wells Project (Douglas PUD 2010). The Wells Reservoir extends 29.5 miles up the Columbia River, from RM 515.6 to the tailrace of Chief Joseph Dam at RM 545.3. Douglas PUD utilizes the Wells Project to provide electric service to more than 18,000 local customer accounts in Douglas County. Output from the Wells Project serves the greater Pacific Northwest region as it is also sold to Puget Sound Energy Inc., Portland General Electric Company, PacifiCorp, Avista Corporation, Public Utility District No. 1 of Okanogan County and the Confederated Tribes of the Colville Reservation. Douglas PUD is not proposing to add capacity or make any major structural modifications to the Wells Project or change its operations under the new license.

Wells Dam (Figure 1.0-1) consists of a west embankment, a central concrete structure and an east embankment. The central concrete structure, referred to as a "hydrocombine," includes the generating units, spillways, switchyard and fish passage facilities, uniquely integrated into a single structure. The Wells Project also includes a forebay, reservoir, tailrace, switchyard, high-voltage transmission lines, recreation facilities and lands within the Wells Project Boundary.

Figure 1.0-1 Wells Dam looking to the northwest.

Construction and operation of the Wells Project affected anadromous salmonid populations. Since the construction of Wells Dam, Douglas PUD has conducted numerous studies and implemented modifications to lessen the effects of the Wells Project on anadromous salmonid populations. These measures have included the construction and operation of fish ladders at the dam, construction and operation of fish hatcheries and ancillary facilities, and construction and operation of a juvenile bypass system (JBS) at Wells Dam. These efforts culminated in the Anadromous Fish Agreement and Habitat Conservation Plan (Wells HCP) (Douglas PUD 2002). Since 2004, the Wells HCP has directed the Project's efforts to mitigate population level effects on the five Plan species (spring Chinook salmon, summer Chinook salmon, steelhead, sockeye salmon and coho salmon).

The Wells HCP mitigation standards are met through a combined 91% passage survival standard, 7% hatchery mitigation, and 2% through habitat enhancements in the tributaries. Since 2004, the Wells Project has achieved the passage survival standards for all Plan species and is considered to have No Net Impact (NNI) on populations of spring Chinook salmon, summer Chinook salmon, steelhead, sockeye salmon and coho salmon.

The purpose of this document is to describe and show the locations of Douglas PUD's fish hatcheries and acclimation ponds (Figure 1.0-2). The hatchery programs are funded by Douglas PUD and operated by the Washington Department of Fish and Wildlife (WDFW). This information is provided in support of Douglas PUD's application for Clean Water Act Section 401 Water Quality Certification related to the issuance of a new license to operate the existing Wells Hydroelectric Project.

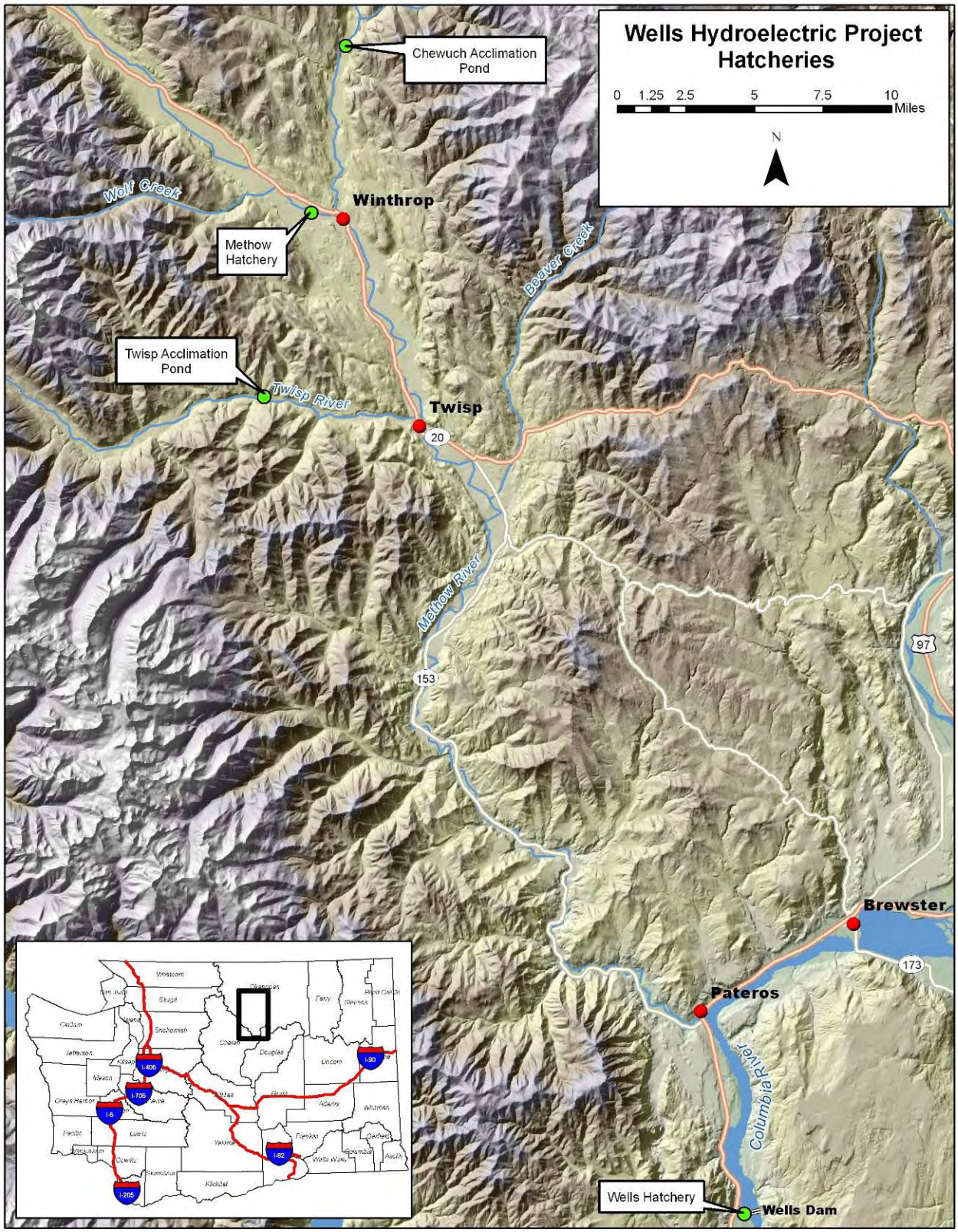

Figure 1.0-2 Location Map of the Douglas PUD Fish Production Facilities

2.0 WELLS FISH HATCHERY

The Wells Fish Hatchery is located immediately adjacent to Wells Dam on the west tailrace embankment. Original construction of the Wells Hatchery was completed in 1967. The hatchery produces summer Chinook, summer steelhead and rainbow trout (Figure 2.0-1). It was originally developed to compensate for the loss of fish production resulting from the inundation of the Columbia River above the dam. The Wells Hatchery consists of a 6,100 foot long channel with portions of the channel modified to hold adults and juveniles, numerous above ground and in ground raceways, four large earthen rearing ponds, a centralized incubation, early rearing, cold storage and administration building, vehicle storage building, steelhead spawning building and a separate set of residences for hatchery personnel.

The Wells Hatchery's four earthen rearing ponds vary in size and purpose. Pond 1 is used for rearing yearling summer Chinook and is connected to the main hatchery outfall channel via a gate and outlet structure. When acclimated and ready for release, the juvenile summer Chinook are allowed access to the main hatchery outfall channel and are volitionally released into the Columbia River below Wells Dam. Pond 2 is the largest pond and has historically been used to raise yearling summer steelhead. Ponds 3 and 4 are used each year for the rearing of yearling summer steelhead. All of the earthen steelhead rearing ponds have volitional collection and transportation facilities located downstream of their outlet structures. The summer steelhead raised at the Wells Hatchery are either transported and released by truck or acclimated in the Methow and Okanogan rivers.

The Wells Hatchery is operated to provide compensation for both inundation and passage losses as described in the Wells HCP. The inundation compensation is related to Wells Project construction and includes the production of 300,000 yearling steelhead, 320,000 yearling summer Chinook and 484,000 subyearling summer Chinook. The passage loss compensation provided by the Wells Hatchery is currently set at 48,858 yearling steelhead (3.8 percent).

Figure 2.0-1 Wells Fish Hatchery.

3.0 METHOW FISH HATCHERY

The Methow Fish Hatchery is located approximately 51 miles upstream of the mouth of the Methow River near the town of Winthrop, Washington. Construction of the Methow Hatchery was completed in 1992 and is the result of a long-term Fish Settlement Agreement dated October 1, 1990 (1990 Settlement Agreement) to mitigate for passage losses at the Wells Project (Figure 3.0-1). In 2004, the Wells HCP was approved by the FERC and superseded the 1990 Settlement Agreement. As a result, the terms of the HCP now guide activities at the Methow and Wells hatcheries. The Methow Hatchery produces yearling spring Chinook and is dedicated to enhancing spring Chinook salmon in the Methow, Twisp and Chewuch river basins. The Methow Hatchery consists of 12 covered production raceways, three covered adult raceways, a centralized incubation, early rearing, administrative and hatchery maintenance building, one on-site acclimation pond, two satellite acclimation ponds and a separate set of residences for hatchery personnel.

All 12 of the production raceways and the on-site Methow acclimation pond are equipped with an outlet channel to the Methow River for releasing juvenile spring Chinook directly from the hatchery into the mainstem Methow River. The Twisp Acclimation Pond is located at RM 11 on the Twisp River, and the Chewuch Acclimation Pond is located at RM 7 on the Chewuch River. The Methow Hatchery program currently raises up to 550,000 yearling spring Chinook each year with fish of equal numbers released at each of the three acclimation ponds. Douglas PUD's current passage loss obligation for spring Chinook is 61,071 smolts (3.8 percent). Remaining

fish are provided to Public Utility District No. 1 of Chelan County and Public Utility District No. 2 of Grant County toward compliance with their passage loss obligations.

Figure 3.0-1 Methow Fish Hatchery.

4.0 LITERATURE CITED

Douglas PUD (Public Utility District No. 1 of Douglas County). 2002. Wells Hydroelectric Project Anadromous Fish Agreement and Habitat Conservation Plan. Public Utility District No. 1 of Douglas County, East Wenatchee, Washington.

Douglas PUD (Public Utility District No. 1 of Douglas County). 2010. Wells Hydroelectric Project Final Application for Federal Energy Regulatory Commission Relicensing, FERC No. 2149-131. Public Utility District No. 1 of Douglas County, East Wenatchee, Washington.