M E M O R A N D U M

Oregon Department of Fish & Wildlife
Mid-Columbia Fish District

Date: 2/06/2018

To: Greg Apke – Statewide Fish Passage Program Leader

From: Jason Seals – Assistant District Fish Biologist

Subject: Farmers Irrigation District - Kingsley Reservoir Net Benefit Analysis

Background

Farmers Irrigation District (FID) has applied for a fish passage exemption for the proposed expansion of Kingsley Reservoir, located in Hood River County. The proposed irrigation reservoir expansion application to the Oregon Water Resources Department triggers ODFW's fish passage authority as per ORS 509.585. This net benefit analysis, required by OAR 635-412-0025(8) was conducted to determine if passage at the Kingsley Reservoir project site would provide a net benefit to the native migratory fish.

Kingsley Reservoir, also known as Upper Green Point, is located about 7 miles southwest of the city of Hood River (Figures 1-3). The 670 acre-ft. reservoir was constructed about 1937 at the head waters of Ditch Creek, a tributary to the Hood River. The primary purpose of the reservoir is to store and convey irrigation water to parts of the Hood River Valley. The reservoir also plays a key role in providing water to a small hydro-electric facility operated by FID, which was built in the 1980's. The reservoir is heavily used for recreation by campers and anglers. ODFW stocks approximately 10,000 trout per year in the reservoir.

The reservoir is filled by piped irrigation water from diversions on adjacent watersheds and transferred downstream through the reservoir system and Ditch Creek. A smaller storage reservoir (Lower Green Point) is located about 0.5 miles downstream of the upper reservoir (Kingsley). Water released from Kingsley reservoir is conveyed through the natural stream channel downstream to Lower Green Point. Water released from Lower Green Point is conveyed downstream by the natural Ditch Creek channel to a diversion lower in the basin.

Coastal cutthroat trout *Oncorynchus clarki clarki* are the only known native migratory fish to occur currently and historically in the Ditch Creek basin. They are commonly found throughout the basin. Recent sampling found cutthroat present between the reservoirs in the natural channel and below the reservoirs in Ditch Creek.

There are currently no upstream fish passage options at both dams, with the exception of marginal fish passage possible during limited spill periods at Kingsley dam (Figure 4). The habitat in the natural channel between the reservoirs is low quality, due to sedimentation, fluctuations of water levels in channel and in Lower Green Point reservoir (Figure 5). There is no stream habitat around Kingsley reservoir. The only flowing surface water comes from the FID irrigation pipe.

Summary and Recommendations

The proposed project to expand Kingsley Reservoir requires FID to address fish passage at the dam. As such, FID has requested a fish passage exemption, which is a permissible fish passage alternative as per the state's fish passage administrative rules. The standard for approving fish passage exemption requests, as defined in OAR 635-412-0025, is having no appreciable benefit for native migratory fish if passage were provided. We feel confident that this standard of "no benefit" is met by this project. Providing fish passage does not benefit coastal cutthroat trout at this project site, due to the fact that no stream habitat is available at any place adjacent to or upstream of the e existing dam or proposed expansion site. If a cutthroat trout were able to pass upstream through the dam and into the upper reservoir, it would have nowhere to go except within the standing water of the reservoir. Therefore, we recommend approval of the FID fish passage exemption request for the expansion of Kingsley dam and reservoir. If conditions were to change in the future, from which this "no net benefit" decision is based, we would recommend the exemption be review and revoked if appropriate and as allowed in OAR 635-412-0025(6).

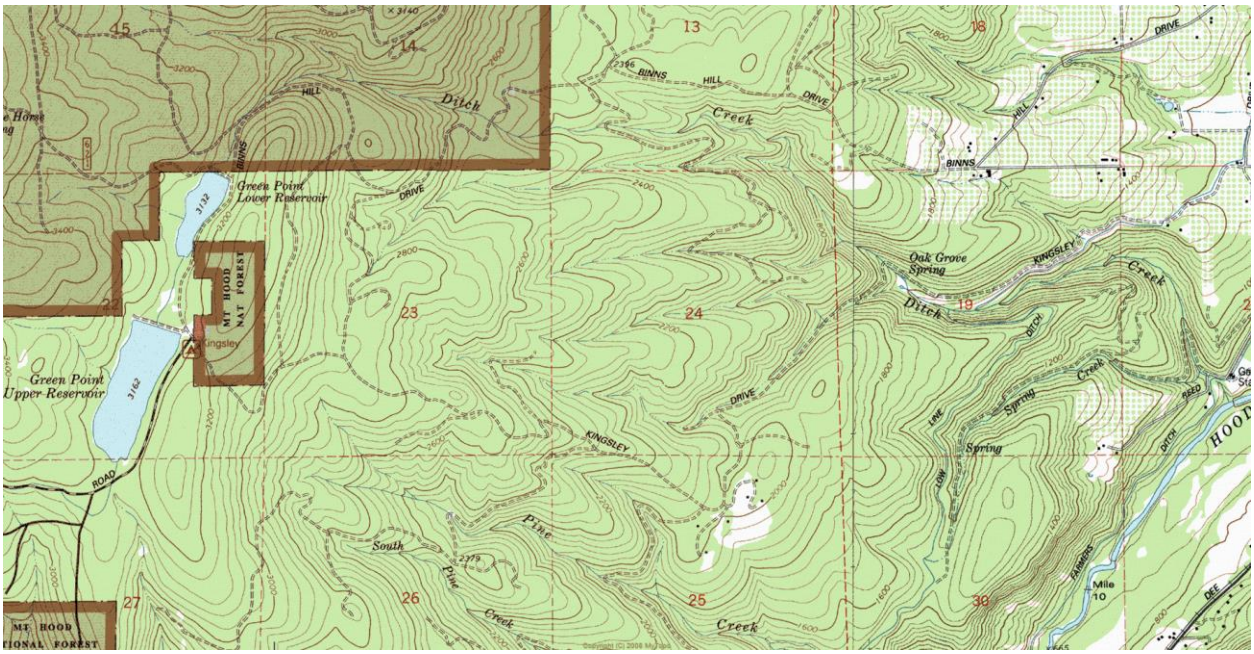

Figure 1. Map of Kingsley Reservoir (Upper Green Point), Lower Green Point Reservoir, and the Ditch Creek basin.


Figure 2. Kingsley Reservoir, looking south from the dam.

Figure 3. Earthen dam of Kingsley Reservoir.

Figure 4. Kingsley Reservoir release pipe and spillway channel.

Figure 5. The natural stream channel between the upper reservoir (Kingsley) and the lower Reservoir.

Additional Photos

Additional Photo #1. The lower spillway channel of Kingsley Reservoir.

Additional Photo #2. Kingsley Reservoir drawn down for pipe repairs.

Additional Photo #3. Discharge channel below Kingsley Dam.

Additional Photo # 4. Backside of earthen dam, Kingsley Reservoir.