



9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

PACIFIC HABITAT SERVICES, INC

(800) 871-9333 • (503) 570-0800 • Fax (503) 570-0855

Date: March 24, 2020

To: Kerry Rappold

From: John van Staveren, PWS, Gregg Lomnicky, PhD

Re: Fish Passage Assessment for the Boeckman Dip Crossing on Boeckman Road, Wilsonville
PHS Project Number: 6927

Kerry - Pacific Habitat Services, Inc. (PHS) investigated fish passage requirements related to the Boeckman Dip Crossing on Boeckman Road in Wilsonville. The road spans Boeckman Creek, which flows to the south through a 300-foot long corrugated metal culvert. The Oregon Department of Fish and Wildlife (ODFW) have documented cutthroat trout (*Oncorhynchus clarkii*) living both upstream and downstream of the culvert crossing. Downstream of the crossing, ODFW determined the creek provides habitat for rainbow trout/steelhead (*O. mykiss*) and Chinook salmon (*O. tshawytscha*).

Currently, the crossing does not provide fish passage for native fish. Although the gradient of the creek at the crossing is very shallow (0.17%) and would naturally allow fish passage, the culvert is too long to provide upstream migration of fish species in all life stages. This barrier to fish passage means there are likely two populations of cutthroat trout living independently of each other on either side of the crossing.

It is our understanding; the City of Wilsonville (City) may upgrade the crossing in the future. To do this, the City may need to provide fish passage at the crossing as required by ODFW. PHS was asked by the City to investigate 1) whether native migratory fish are currently or were historically present at the location and 2) what are the trigger events that would require the City to provide fish passage at the crossing.

Fish presence (historic and current): As stated above, Boeckman Creek provides habitat for cutthroat trout both upstream and downstream of the crossing, and habitat for rainbow trout/steelhead and Chinook salmon downstream of the crossing. ODFW prepared the 2006 "Surveys of Fish Species and Habitat in Wilsonville Streams", which describes the quality of instream and riparian habitat and sampled fish species to understand their distribution in Wilsonville streams. They identified Chinook and rainbow/steelhead as only extending as far



Photo: Boeckman Creek looking downstream from the Boeckman Dip Crossing. The culvert precludes passage upstream from this point, but fish can navigate the rocks at the base of the culvert to reach the crossing.

north as a former farm road in Memorial Park. The farm road included a culvert that was elevated above the stream bed and did not allow fish passage upstream of the historic fish barrier. At the time of the 2006 ODFW fish survey, the crossing was in place; however, in the summer of 2006 the City removed the barrier and restored fish passage at this location. Restoration also occurred upstream of the former crossing in 2007. As far as we know, fish sampling has not occurred since 2006. As such, it is not known whether rainbow/steelhead and Chinook salmon are currently present immediately downstream of the Boeckman Dip Crossing.

During a recent site visit, PHS assessed fish passage conditions directly downstream of the Boeckman Dip Crossing. Our assessment focused specifically on the reach of the creek downstream that includes several large boulders, as can be seen in the photograph above. The question is whether the boulders are a natural barrier to fish that would negate the reason for requiring fish passage at the Boeckman Dip Crossing.

Our assessment determined that fish could reach the crossing. The gradient of the creek allows fish access from downstream reaches and the boulders do not pose a migration issue. As this was likely the historic condition within the creek, with unimpeded passage from the Willamette River, ODFW is within its rights to require fish passage at the Boeckman Dip Crossing.

Fish Passage Regulations: Fish passage in Oregon has been required since before its statehood in 1859; however, statutes regarding passage have evolved over the past 150 years. The current statutes can be found in ORS 509.580 through 910 and in OAR 635, Division 412.

In 1996, the State's Attorney General determined that the existing statute did not legally give ODFW (or the Oregon Fish and Wildlife Commission) authority to waive fish passage at artificial obstructions (e.g. a road crossing). To remedy this, a Fish Passage Task Force was created to devise new fish passage statutes. The work of the Task Force culminated in House Bill 3002 ("HB 3002") during the 2001 Legislative session. On August 8th, 2001 Governor John Kitzhaber signed HB 3002 into law. The purpose of HB 3002 was to craft legislation that was reasonable for owners/operators, that benefited migratory fish, but that had flexibility to waive passage requirements under appropriate circumstances. Since that time, any owner or operator of an artificial obstruction located in waters in which native migratory fish are currently or were historically present must address fish passage requirements prior to certain trigger events.

As stated on the ODFW Fish Passage Program Website:

"Trigger events include installation, major replacement, a fundamental change in permit status (e.g., new water right, renewed hydroelectric license), or abandonment of the artificial obstruction. Further details concerning triggers can be requested from the Oregon Department of Fish and Wildlife."

For the City, ODFW makes it clear that it is the responsibility of the owner of an artificial obstruction (e.g. Boeckman Dip Crossing) to know whether they will trigger the need to address fish passage. We have confirmed that both historically and currently there are native migratory fish present at the crossing. As such, if the City invokes a "trigger event" then fish passage will

be required. That said, ODFW can grant both an exemption and a waiver to their fish passage requirements. If passage will not be provided at the artificial obstruction, then a waiver or exemption must be obtained prior to the trigger event.

Waivers: a fish passage waiver is only allowed at an artificial obstruction if an "alternative to fish passage" is provided. ODFW defines an "alternative to fish passage" as being mitigation. Mitigation must provide a net benefit to native migratory fish over providing passage at the artificial obstruction. For the City it is unclear whether sufficient mitigation exists elsewhere, but this could be explored.

Exemptions: An exemption is different than a waiver. It can be granted for three reasons: 1) a lack of fish passage has already been mitigated, 2) a legal waiver has already been granted, or 3) there is no appreciable benefit to native migratory fish by providing passage. For the Boeckman Dip Crossing, the absence of fish passage has not already been mitigated. There is also no legal waiver that has been granted. The third point would also appear to not be relevant as providing fish passage at the crossing would clearly benefit native migratory fish in Boeckman Creek. As such, it our opinion that an exemption to fish passage will not be granted.

Trigger Events: The legislation unfortunately does not provide specific criteria regarding what is a trigger event. The language leaves it open for ODFW to make their own determination as to whether a trigger event will occur requiring the Boeckman Dip Crossing to pass fish. Based on our assessment of the location of the ordinary high water of the creek and the location of wetlands on the upstream side of the crossing, construction activity could easily occur without requiring a state or federal permit. As such, there is no specific nexus where the question of fish passage at this location will be reviewed, and the question of requiring fish passage will essentially be self-reporting. ODFW does state that "If no legal waiver exists, the equities of the situation, in the context of the purpose of the project, and the difficulties and costs of retrofitting will all have to be considered in determining the required passage or alternatives." This implies to us that ODFW have flexibility to discussing whether a trigger event will occur. For example, paving the road or working on road maintenance would, we assume, clearly not constitute a trigger event, whereas prolonging the longevity of the culvert may invoke fish passage requirements. It is clear the determination can only be made after consultation with ODFW.

Conclusions

Boeckman Creek, which is a tributary of the Willamette River, provides habitat for cutthroat trout (*Oncorhynchus clarki*), rainbow trout/steelhead (*O. mykiss*) and Chinook salmon (*O. tshawytscha*). ODFW has documented the presence of cutthroat trout both upstream and downstream of the Boeckman Dip Crossing, but rainbow trout/steelhead and Chinook salmon only downstream of the crossing. Based on the existing condition of the crossing, which has a 300-foot long corrugated metal culvert, it is clear the crossing is a migration barrier to fish swimming upstream. Cutthroat trout are smaller than the other two salmonids and they can persist in lower flow and warmer conditions. As such, an isolated population of cutthroat trout persists above the crossing, with no connection to the downstream population.

One of the primary factors determining whether fish passage should be provided is whether fish were historically present in the reach now blocked to migration. Based on our review of the creek's gradient and the lack of natural barriers downstream to the Willamette River, historically Boeckman Creek provided habitat for all three species.

As fish were historically present at the crossing, ODFW can require fish passage if an activity associated with the maintenance of the crossing invokes a "trigger event." Unfortunately, the State's fish passage regulations do not clearly define exactly what constitutes a trigger event. A trigger event can include the installation, major replacement, a fundamental change in permit status, or abandonment of an artificial obstruction.

ODFW can issue waivers and exemptions to fish passage, but neither of these are currently options at the Boeckman Dip Crossing. The regulations make it clear that ODFW has flexibility when it comes to the question of fish passage and what constitutes a trigger event. It is our recommendation, therefore, that the City meet with ODFW's District Fish Biologist to discuss whether future construction activity at the crossing will invoke a need for fish passage.

Please let us know if you have any questions.

C: Nancy Kraushaar, PE