



WINCHESTER DAM FACT SHEET

Winchester Dam on the North Umpqua River is among the state's highest priorities for improving fish passage. Dating back to 1890, this obsolete and deteriorating structure provides no flood control, hydropower, or water supply function, but significantly harms salmon and steelhead in one of

Oregon's most famed and valuable rivers. Below are key facts regarding this important issue:

- Winchester Dam is the second highest ranked privately-owned dam on the Oregon Department of Fish and Wildlife (ODFW) 2019 Statewide Fish Passage Priority List, where it is noted for impeding passage to 160 miles of high quality habitat for spring Chinook, fall Chinook, summer steelhead, winter steelhead, cutthroat trout, and Pacific Lamprey, as well as Oregon Coast Coho which are listed as threatened under the federal Endangered Species Act.
- The dam is officially categorized as "high hazard" by the Oregon Department of Water Resources (OWRD), primarily due to likely loss of life in the case of dam failure among the people who frequent the river, parks, and boat ramps just downstream.
- In October 2019, OWRD downgraded Winchester Dam's condition to "poor," requested that the owners hire an engineer to comprehensively inspect its structure, and warned the owners to address known dam safety issues soon. Winchester Dam has not received a comprehensive structural inspection since 1987. The people, property, and public infrastructure of the North Umpqua River below Winchester Dam are at unacceptable risk of harm or death because the District ignored repeated requests over years to update the dam's Emergency Action Plan as required under statute.
- In January 2020, the Oregon Department of Environmental Quality (DEQ) levied a \$58,378 fine for violations during a late 2018 repair at Winchester Dam. According to DEQ, pollution from this repair degraded aquatic habitat, killed numerous fish, and harmed the primary drinking water source for the City of Roseburg and the Umpqua Basin Water Association – serving approximately 37,700 people combined. DEQ found that dam repairs were conducted without following established best management practices, even after state and federal agencies provided information in advance on how to protect water quality and fish.
- ODFW maintains and operates the Winchester Dam's fish ladder through an easement providing access, but lacks a substantive written system or analysis for maximizing fish passage efficiency at different flows. Winchester's ladder has a number of right angle turns and the ability to control flow velocities in the ladder is limited, making it difficult to pass fish at a wide range of flows – something that prohibits truly volitional movement. In mid-2019, after the dam owners objected, ODFW declined the offer of 17 conservation and fishing groups to fully fund an aquatic engineer to independently analyze the ladder and create a comprehensive system for maximizing ladder efficiency at different flows.

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- Both the National Marine Fisheries Service and ODFW acknowledge that Winchester Dam's older ladder is not constructed to current fish passage criteria. The attraction flows to the fish ladder entrances are poor, resulting in migratory delay and injuries from false attraction, as well as increased predation below the dam and ladder. Constant water flow over the dam's crest makes finding the entrance to the ladder problematic for fish. This false attraction creates an aquatic needle in the haystack.
- In addition to impacts to adult fish, outmigrating juvenile fish are most likely subject to a higher rate of predation as they travel through the reservoir pool created by the dam and may be subject to injury and increased predation when they travel over the dam's crest.
- In summer, high ambient temperatures contribute to reservoir pool warming, likely creating a partial, and perhaps complete, thermal passage barrier for migratory fish.
- According to ODFW, the temporary drawdown of the reservoir pool behind Winchester Dam to allow structure repair, which concentrates all river flow through the dam's two roller gates, creates a total upstream passage barrier for migratory fish due to flow velocity. Repair drawdowns in recent decades have spanned from 12 to 17 days, causing delay and harm to fish, while decimating Pacific Lamprey ammocoetes concentrated in the dewatered reservoir pool. This likely violates state law, which requires dam owners to maintain native fish passage "at all times" unless granted a waiver.
- Winchester Dam's aged, cobble-filled wooden crib structure regularly produces holes across the 367-foot-wide crib face, creating false attraction flows and fish entrainment dangers. These false attraction and entrainment problems sometimes persist for years between dam repairs.
- An eroded, reinforced concrete sill runs under the entire length of the crib dam, subjecting fish to injury by exposed rebar. In addition, there are spikes of exposed rebar visible in the eroded concrete walls of the fish ladder directly under false attraction flows through the crib face. These obvious sources of fish injury have been left unrepaired for years.
- Winchester Dam's concrete south abutment lies partially on sediment and debris, not bedrock, and therefore is perpetually undermined by flowing water, at times creating cave-like holes large enough for human divers to explore. Beyond the obvious public safety issue, this situation generates fish entrainment hazards and false attraction flows that significantly exceed flow in the dam's fish ladder.
- Disregard for permits, which provide protection for people, fish, and water quality during dam repairs, appears to be the rule at Winchester Dam. On average, dam repairs have occurred once every three years since the 1960s, but agency files show no record of permitting for these repairs. Before the January 2020 DEQ fine, there are no records of fines or other consequences for dam owners who conduct regular, extensive, unpermitted in-water work in one of Oregon's finest salmon and steelhead streams.

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