2918 Nelson Culvert



Fig 1: Inlet view, outlet view, and side view of outlet, respectively, of the 2918 Nelson Culvert (WDFW ID 600827). This culvert demarcates the upstream boundary of the one of the most productive reaches of summer coho spawning habitat. The 1.2 m span culvert is severely undersized for the flows it experiences, evidenced by the 1.7-meter water surface drop that has developed at the outlet due to "fire-hose" flows. It is 0% passable. A portion of flows now move around the culvert (visible at inlet) directly through road fill, creating structural instability and risk to the road infrastructure. A blow-out of this culvert would blanket the summer coho spawning habitat with road, causing immediate and lasting damage to their population. Photo credit: Victoria Worm.

Beaver Pond Culvert



Fig 2: Two side inlet and one outlet view, respectively, of the Beaver Pond culvert (WDFW ID 600756). The left image shows the culvert's debris rack with a beaver dam constructed around it. The middle image shows the same culvert shortly after being cleared by an Olympic National Park roads crew. Ongoing beaver activity, while desirable for ecosystem health, creates persistent conflicts with ONP's road maintenance needs, in part because the undersized culvert creates an appealing "pinch point" for beaver dam-building. Replacing this culvert with a structure designed for fish passage and beaver coexistence will allow salmonids to rear and seek refuge in the Beaver Pond wetland complex and support ongoing beaver activity and the ecosystem services it provides.

Lower Beaver Pond Culvert



Fig 3: Inlet and outlet views, respectively, of Lower Beaver Pond culvert (WDFW ID 600829). The culvert is too small to pass debris effectively and requires a debris rack to avoid clogging and flooding the road. The Lower Beaver Pond culvert sits about 100 feet below the Beaver Pond culvert; both culverts must be replaced to restore unimpeded access to the upstream Beaver Pond wetland habitat. Photo credit: Victoria Worm.

Habitat upstream of Beaver Pond culverts



Fig 4: Representative views of the wetland habitat above the Beaver Pond culvert. The spring-fed wetland provides about 8 acres of habitat. Closer to the culvert is an open pond (left), while further upstream the habitat transitions to forested wetland (right). Photo credit: Victoria Worm (left); J Kahn (right)

Upper Nelson South



Fig 5: Inlet and outlet views, respectively, of Upper Nelson South Culvert (WDFW ID 612161). This 1.3 m span corrugated steel culvert has a 1.9 m water surface drop due to high-velocity flows through the undersized pipe creating scour. The channel incision persists noticeably for several hundred feet downstream. Replacing this culvert with an adequately sized one will improve the downstream spawning habitat for summer coho. Photo credit: J Kahn

Upper Nelson North



Fig 6: Inlet and outlet views, respectively, of Upper Nelson North Culvert (WDFW ID 612161). This 0.61 m span corrugated steel culvert has a 1.9 m water surface drop due to high-velocity flows through the undersized pipe creating scour. Replacing this culvert with an adequately sized one will improve the downstream spawning habitat for summer coho. Photo credit: J Kahn

Plunge Pool at Upper Nelson South



Fig 7: Close up view of severe erosion at the outfall of Upper Nelson South. This scour, which results from high velocity flows through the undersized culvert, is negatively impacting what will be prime summer coho spawning habitat when the 2918 Nelson culvert is replaced. Although Upper Nelson North and South both provide limited upstream habitat, replacing them is important to protect and improve the quality of the habitat below each culvert. Photo credit: J Kahn

Habitat upstream of Nelson Creek culverts



Fig 8: Representative view of habitat upstream of (left) and downstream of (right) Upper Nelson North and South culverts. Small pools and cascades created by wood accumulation are frequent throughout the upstream habitat (left), but are largely lacking in the downstream habitat, which is overall more simplified (right). The Upper Nelson culverts have openings too small to allow wood and other debris to pass through to the downstream habitat. Replacing these culverts with appropriately sized structures will encourage more complex habitat below the culvert as well as opening up access to the upstream habitat. Photo credit: J Kahn.