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Friends of Maltby Lake Watershed Society
DEDICATED TO THE PRESERVATION OF THE MALTBY LAKE WATERSHED & ECOSYSTEM.

Culvert Replacement Improves Fish and Wildlife Habitat While Addressing Flooding Issues at Prospect Lake Road – Trevlac Brook

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Overview:

Trevlac Brook is part of the Maltby Lake watershed, and together they sit at the headwaters of the Tod Creek watershed. Though modest in size, this small tributary of Bleathman Creek—flowing toward Prospect Lake—plays an important role in sustaining the health of a diverse range of fish and wildlife.

Upgrades to the stream crossing at Prospect Lake Road are improving habitat connectivity and helping to alleviate the chronic flooding that has impacted the area for years.

PROJECT DETAIL:

Before the improvements, the Brook was forced through sharp bends and undersized culverts. Trevlac Brook first made a nearly 90-degree turn through a small driveway culvert before turning again into two narrow concrete culverts beneath the road. These tight turns and limited pipe sizes blocked fish passage and made it difficult for small wildlife to pass safely. The undersized culverts also contributed to frequent flooding during heavy rains.

According to the provincial Fish Inventory Data Queries system, the watershed supports species such as Cutthroat Trout, Coho Salmon, Rainbow Trout, Threespine Stickleback, and Prickly

Sculpin. Observations by residents at Maltby Lake and Trevlac Pond have also recorded the presence of the Western Painted Turtle, a species protected under Canada's Species at Risk Act. Reports of reptile and amphibian road mortality at the crossing further highlighted the need for safer wildlife passage.

Local community involvement was key in bringing these issues forward. Residents and the Friends of Maltby Lake Watershed Society (FMLWS), in collaboration with the Habitat Acquisition Trust, raised early concerns about flooding and contributed wildlife road-mortality data. Their efforts helped identify the area as an active wildlife corridor and underscored the ecological risks associated with the site.

To improve fish and wildlife passage while reducing flooding, the old culverts were replaced with a 1.8-metre concrete box culvert aligned more naturally with the stream. It was embedded with 60 cm of rounded gravel, cobble, and sand to create a streambed suitable for Cutthroat Trout and other fish. These features also provide safe passage for amphibians and reptiles, including the Western Painted Turtle.

Environmental protection was a key priority during construction. Native streamside vegetation was carefully salvaged and replanted, and additional willows and red-osier dogwood were live-staked along the banks to stabilize the stream and restore riparian habitat.

With the upgraded crossing now in place, Trevlac Brook is better connected for fish passage and wildlife movement. The new design also provides a safer route beneath the road for turtles and small mammals, while significantly reducing flooding in the area.

Although relatively small in scale, the project highlights how well-designed infrastructure can support both ecological integrity and community resilience.

The replacement Trevlac Culvert was designed and installed by On Point Project Engineers, with input from Swell Environmental and oversight from the District of Saanich.

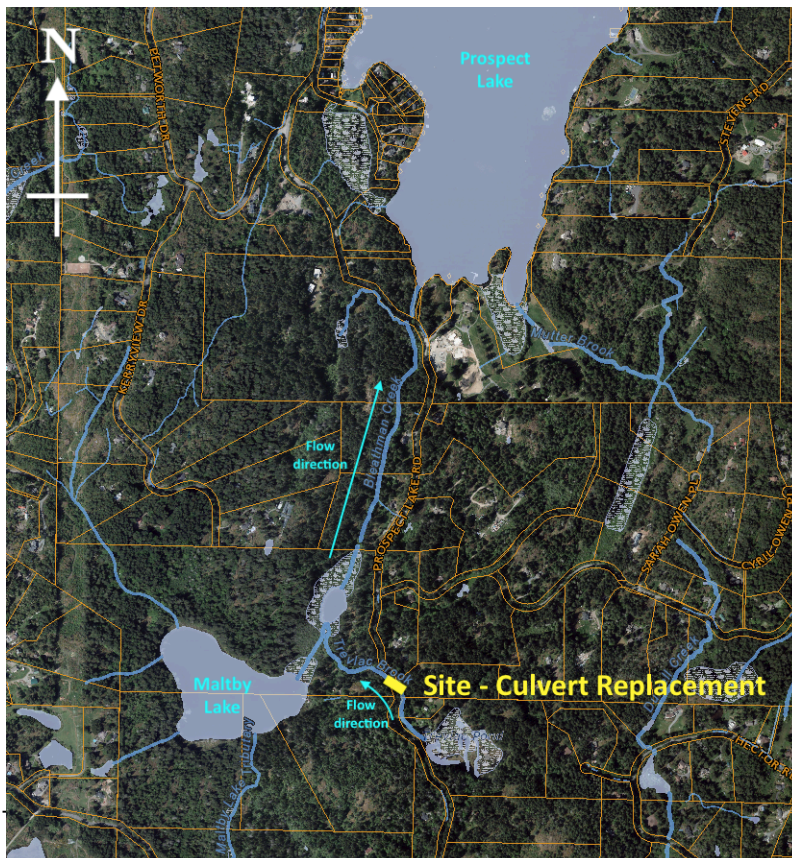


Figure 1. Project location: Culverts on Prospect Lake Road at Trevlac Brook (yellow area). Trevlac Brook flows from the lower right (southeast) to the upper left

*(northwest) toward
Bleathman Creek.*



*BEFORE:
The brook
was forced
to flow
through
sharp
turns and
undersized
pipes.*



AFTER: Sand/Gravel/Cobble substrate with shallow ledge for small wildlife passage.



*BEFORE:
Previous
flow path
of Trevlac
Brook
through
undersized
pipes
(300-350
mm).
Road
floods
yearly.*



AFTER: Flow path through 1800-mm box culvert eliminates unnatural near 90-degree bends and allows stream flow to be un-impeded by culvert width, allowing for small wildlife and fish passage, and ideally eliminating/reducing yearly flooding.