# 2017 QISES Drought Proofing Report

The droughtproofing program, begun in 2004, uses naturally stored winter and spring runoff in Mud Lake, Reed Lake and a large wetland to augment summer flow in Hyacinthe Creek when required. There are two sets of 5 cm diameter lines at three sites (Mud Lake outlet, the large Walcan Road culvert at Reed Lake outlet and the wetland outlet downstream of Reed Lake). Drawdown of these sources in sequence, or together, is intended to maximize water delivery to lower reaches of Hyacinthe Creek during dry periods, and thus provide higher quality rearing habitat for coho fry.

In June, volunteers repaired waterlines lines exiting Mud Lake, Reed Lake and the wetland, damaged by storms and beaver activity the previous winter. We agreed that, not only the lines, but the ends of the lines must be tied securely to the bank to avoid winter damage. Lines inside the Reed Lake culvert were securely cabled to the culvert.

In early July, we primed the waterlines, anticipating another dry summer. One of the lines out of the wetland would not hold water, despite working on it for some time, so we were down to one line out of the wetland. Also in July, sandbags were placed at the Reed Lake culvert entrance, since there was sign of beaver activity and we wished to encourage them there for the summer. Beavers make much better dams than sandbags and holding back water in Reed Lake is crucial to the success of the program.

In late July, first one, then both waterlines were opened from Mud Lake. A small beaver dam at the outlet meant that there was substantial water being held back in the lake. Also, last winter's precipitation and the wet cool spring had given water levels a boost. Spring moisture is critical to the state of Quadra streams going into summer dry periods.

Water continued to be siphoned from Mud Lake through the rest of the summer. In September, the Reed Lake water level was still sufficient to be able to open those two waterlines. This allowed enough water in the wetland to open its remaining line, thus augmenting flows downstream.

As stated, spring was cool and rainy. Summer arrived on the May long weekend with warm temperatures and little rain after that date. There was a week of lower 30C temperatures in early August, after which the heat moderated, but little rain fell. Despite a few showers in September, the creek was still low until after the first week in October. After that point, monitoring ceased. We removed the sandbags from the culvert, ensured that all of the valves were opened for the winter, and valve ends secured to trees along the banks.

In conclusion, the droughtproofing system continues to be a useful tool for supporting coho fry in Hyacinthe Creek. Being able to hold back water and use it when required allows us to better support the coho fry and resident trout. The program requires several hours of volunteer work, and a special thank you is due to all volunteers for their ongoing help in maintaining this system.

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