

Rithet's Bog: a Brief History of the Restoration Project and Update on Recent Events

By Sharon Hartwell, Rithet's Bog Conservation Society

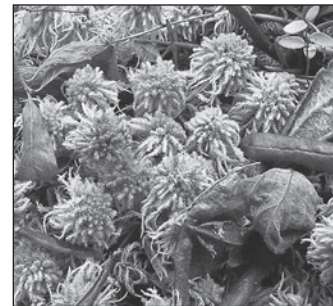
Rithet's Bog is a 42-hectare Conservation Area located in the Broadmead area of Saanich. Well-known to birders and those seeking a quiet, bike-free area to walk, it is the last of seven large bogs once found on the Saanich Peninsula.

The property was donated to Saanich in 1994, but had already suffered severe ecological damage, due to drainage and agricultural use dating back to the 1880's, followed by intense urban development of the surrounding area. Despite these negative impacts, it remained an environmentally sensitive wetland within the Colquitz watershed. It was home to a rare plant community (the central shore pine/*Sphagnum* forest, with its associated bog species), three at-risk plant species listed by the BC Conservation Data Centre (the red-listed purple sanicle and foothill sedge, and the blue-listed Vancouver Island beggarticks) and a red-listed butterfly, the Vancouver Island ringlet. The open fields

surrounding the bog also provided significant waterfowl habitat when flooded.

By the time the bog became a Saanich park, it had degraded to the point that restoration efforts were essential if the bog were to survive. The water table had dropped dramatically and fluctuated widely. Shore pines in the central forest, which had increased in density due to the drier conditions, aggravated the problem by drawing the water table down further. The remnant *Sphagnum* moss community was rapidly disappearing due to the altered water regime and the encroachment of hardhack, which thrives under fluctuating water conditions. The peripheral wetlands were also disappearing as the once cultivated fields lay fallow (agriculture is not permitted in Conservation Areas) and were reclaimed by native willows.

University of Victoria graduate student Karen Golinski undertook extensive studies of the bog, including comparisons



Sphagnum "moss" and "bog cranberry".
Photo: Bruce Stewart



Top left: Rithet's bog area ca. 1950, viewed from the hillside above what is now Emily Carr Drive. Photo courtesy of Jack Burdge. Bottom: Rithet's from Foxborough contemporary: Rithet's bog from Emily Carr Drive, 2003. Photo: Bruce Stewart



Top: The north end of the Chatterton field, May, 2002, prior to restoration work; viewed from Chatterton Hill.
Bottom: North end of Chatterton field, May, 2005, two and a half years after restoration work; viewed from Chatterton Hill. *Photos: Russ Cozens*

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with undisturbed bogs, and made recommendations for a conservation and restoration strategy. In 2001, a partnership was formed to undertake watershed-based restoration work; the partners included Saanich Parks, the Municipality of Saanich, Ducks Unlimited, the Department of Fisheries and Oceans and the Rithet's Bog Conservation Society. A plan was formulated based on Karen's work and additional surveys undertaken by Ducks Unlimited and Department of Fisheries and Oceans.

The primary goals of the restoration project included:

- Create conditions that would maintain the ecological function of the bog, and incorporate it as a functioning wetland of the Colquitz watershed
- Reduce water level fluctuation in the wetland
- Filter storm water entering and leaving the wetland to improve water quality (by reducing sediment and contaminants, lowering temperature and slowing water flow) and provide enhanced downstream fish habitat in the salmon-bearing Colquitz
- Provide open water habitat for wintering, migrating and breeding waterfowl by substantially reducing the growth of willow in the wetlands surrounding the bog
- Maintain recreational use of the trail surrounding the bog, and educate the community about the requirements for long-term sustainability of the bog

The restoration work was initiated in 2002. The above goals were achieved by installing a weir at the bog outlet to regulate water levels; clearing four hectares of willows from the Chatterton field to re-create areas of open water; using the vegetated perimeter ditches as biofiltration swales to slow and filter storm water, and plugging an inlet ditch to direct incoming storm water away from the central bog forest and into the peripheral shrub wetland where filtration would occur.

Ongoing monitoring at the bog has indicated that the restoration goals are still being achieved: water levels are up, the *Sphagnum* community in the central forest is increasing in size and vigour, seasonal wetlands have been created on the former Chatterton fields, and water quality conditions fall within acceptable limits for fish habitat. The rare species found at the bog have maintained or in some cases increased their numbers.



Top: Purple Sanicle. This trailside population of Purple Sanicle has survived and increased in size. Bottom: The Vancouver Island Ringlet population consistently has the highest numbers for Victoria during the monthly Butterfly Count. *Photos: Bruce Stewart.*

There have also been some surprise problems. Willows and reed canarygrass were expected to invade the cleared wetlands, and require yearly cutting. Instead, it is primarily cattails that have increased dramatically in both size and distribution. Stands 3 to 4 metres tall have established on the perimeter and formed large clumps further out from shore. While the cattails provide nesting habitat, their size is frustrating birders and limiting views of the wetland. Ducks Unlimited has established experimental plots in these stands, and is testing clipping of the plants as a control measure for select areas.

Reed canarygrass has become invasive, but not in the central wetlands. It is instead advancing on the perimeter



Above: The weir installed at the outlet to Rithet's Bog maintains water levels during dry summer months. Right: Tree Swallows at a nest box installed near the outlet weir. *Photo: Bruce Stewart.*



of the wetland, in the perimeter ditches and onto the dry uplands areas surrounding the bog. Saanich and Ducks Unlimited are investigating repeated mowing as a control measure. Clearing the grass from plugged ditch culverts will also be undertaken, to prevent flooding of the trail during winter rains. After the ditch clearing work, willow stakes will be planted to stabilize the ditch walls and shade the ditches, hopefully limiting future growth of reed-canary grass.

This year the Rithet's Bog Conservation Society undertook an "enhanced biological mosquito control" project: installation of swallow nest boxes. Expert Darren Copley used the materials we provided to build the boxes precisely to required specifications (thank you, Darren!). Volunteers then assisted in mounting the boxes on signposts near the perimeter trail (thanks to Mac and Chris Rodin, Dave Atterby, Frank Brawn and Linda Towne). Of the seven boxes erected, five were occupied – one by Tree Swallows, and the other four by Violet-green Swallows. All appear to have been successful in rearing young. We plan to expand the program by mounting more boxes next spring.

We are delighted that Habitat Acquisition Trust has chosen Rithet's Bog as the next site for its "Good Neighbour" outreach program. Todd Carnahan has planned many exciting educational events and projects that are sure to attract attention to the bog and lead to ongoing involvement by good neighbours near and far.

Meanwhile, if you are interested in helping out at the bog, RBCS members hold regular work bees on Wednesday evenings from June to October and on Sunday afternoons from October to May. Noxious weed control is the main focus: Scotch broom, poison hemlock, hairy willowherb and blackberries are all being cleared. For more information please see our website at www.rithetsbog.org.