

An Update on Rithet's Bog

By Sharon Hartwell

The 2002 restoration project at Rithet's Bog Conservation Area was only the first step in the ongoing management that will be necessary to maintain this island of natural habitat in a sea of urban development. This article describes some of the current management issues at the bog, a few of the surveys and studies underway, and restoration activities taking place on the upland areas.

Cutbacks at Ducks Unlimited mean no cutbacks to the cattails

The rehabilitation of the Chatterton wetlands was the most visible result of the 2002 restoration project; it created extensive open-water habitat for waterfowl, and provided great opportunities for wildlife viewing. But the new marsh was also perfect habitat for cattails, which have expanded dramatically in area over the past 5 years, decreasing the area of open water and limiting sightlines for bird-watching. There are several reasons for this increase in cattails, one of the most important being the appearance of lesser cattail (*Typha angustifolia*). This eastern species has spread to

western Canada, most likely via waterfowl. It has narrower leaves and cattail spikes than the native common cattail (*Typha latifolia*), but it is a more aggressive and taller plant. It also hybridizes with common cattail to produce *Typha x glauca*, which is even more robust and invasive. Huge islands of lesser and hybrid cattails up to 4 metres tall have grown on the edge of the wetland.

Maintaining open water and wildlife viewing opportunities were major goals of the restoration project. Ducks Unlimited was scheduled to begin a mechanical cattail-clearing project this summer: unfortunately the project has been cancelled due to lack of funds. Furthermore, Ducks Unlimited's summer crew, normally four students, was reduced to a single person this year. The crew spends a half-day each summer clearing willow re-growth from the Chatterton wetland, so less willow was removed than usual, further contributing to the encroachment on the marsh.

Why the cutbacks? Ducks Unlimited, like other donor-funded conservation organizations, has experienced a significant drop in donations due to the economic recession, and their conservation efforts are suffering as a result.



Expansion of cattail islands is decreasing open water habitat on the Chatterton wetlands. Above: August 2004. Opposite: August 2008. Photos: Russ Cozens

Their situation is not unique – this problem is being experienced by most non-profits. It is crucial that those of us who can afford it continue to support conservation organizations. They are responsible for a tremendous amount of work, which is unlikely to be picked up by any level of government in the face of ongoing government cutbacks.

Rithet's Bog Conservation Society is hopeful that the cattail-clearing project will be possible next year, perhaps with funding or a partnership from an outside source. In the meantime volunteers are attempting to take up the slack by clearing willows next to the perimeter trail with hand tools. Our numbers are low and it is a slow process. If you are interested in assisting, your help would be much appreciated. Please visit our website for details (<www.rithetsbog.org>) or call Sharon Hartwell 250-479-0491.

Cats are a serious problem

Cat predation on wildlife is a major problem in all urban areas, but it is especially noticeable in isolated “islands” of natural habitat. Colonies of feral (wild) cats and free-roaming domestic cats create a level of predation that can seriously deplete wildlife, songbirds in particular. Well-meaning people who feed feral cats in an effort to prevent them from catching birds exacerbate the problem – the cats increase in numbers and are not deterred from killing wildlife. We have such a situation at Rithet's Bog, where a colony of feral cats

is prospering to the point that their trails to and from feeding stations are clearly visible in several places.

These cats are seriously depleting the Song Sparrow population. Dr. Liana Zanette, who has been conducting Song Sparrow studies at Rithet's Bog for eight years, has documented an alarming decrease in fledgling survival due to predation by feral and domestic cats: they have been responsible for 22% of the nest predation events recorded to date. Dr. Zanette and partner Dr. Michael Clichy have captured videotape of cats feeding on Song Sparrow nests, two of which can be viewed on the Rithet's Bog Conservation Society website at <www.rithetsbog.org/catvideos/cat.htm>.

The Rithet's Bog Conservation Society will likely be approaching the VNHS board for a letter in support of “trap and remove” cat control measures at the bog. This is sure to be a contentious issue, but it is imperative that some sort of control measures be taken. If you are concerned about the general problem of feral cat predation, please consider writing letters to your local municipal council and Parks program, expressing your concern and urging that action be taken.

Death of shore pine in the central bog forest: are beetles the cause?

The shore pines that dominate the central bog forest have been dying at an accelerated pace in recent years. This is not surprising in a 120-year-old forest that emerged after ditches were dug to drain the bog for farming purposes in the 1880s. The slightly higher water table, resulting from the restoration project and recent heavy winter storms, has been a further stressor for the aging trees. But scientists from the Pacific Forestry Centre were curious whether bark beetles



Eastern and hybrid cat-tails grow up to 4 metres in height, obscuring views of waterfowl and shorebirds. *Photo: Diane Mothersill*



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were responsible for the red-needled trees visible on the edge of the forest.

On June 5, Ph.D. student Greg Smith, insect ecologist Dr. Allan Carroll, and community ecologist Dr. Kathy Bleiker conducted a survey of fallen and standing dead pines to assess cause of death. *Pseudips mexicanus*, a bark beetle feeding on lodgepole and shore pine trees in British Columbia, was found in abundance. This was a surprise, since the closest known site for the beetle was the Shirley area. Greg will be returning to set pheromone traps for both *Pseudips mexicanus* and the western pine beetle, which is already known from the Victoria area.

In spite of the abundance of the beetles, they were not felt to be responsible for killing the pines; the beetles are instead secondary agents feeding on dying pines. The primary cause of death seems to be pine blister rust. Galls produced by this fungus were visible throughout the forest, ranging from small knobs resulting from recent infection, to large welts from years if not decades ago that encircled the main tree trunk. These older infections can girdle the tree, creating a weak spot where trees break during winter storms or heavy snow/sleet loads, effectively topping the trees. They also stress the standing trees, setting the stage for opportunistic invasion by bark beetles. Final verdict: the beetles may be producing the red needles, but rust infection, age and the higher water table are the precipitating stressors.

Swallow nest box project

Since 2007, members of the Rithet's Bog Conservation Society has been mounting swallow nest boxes at the bog and providing free boxes to nearby residents as part of an "enhanced biological mosquito control" program and public outreach project. This spring, four new swallow boxes were erected, one on the Garry Oak restoration site at Chatterton Hill, and three on Foxborough townhouses south of the bog, bringing the total number of boxes to fourteen.

It was a successful year, with all boxes occupied by native species. The cool spring and late arrival of swallows allowed Chestnut-backed Chickadees to occupy four nest boxes and successfully rear young. The other boxes were claimed by eight pairs of Violet-green Swallows and a pair of Tree Swallows. A final box apparently remained unoccupied – Violet-green Swallows approached it on several occasions, but were repelled by "dog in a manger" House Sparrows, that were not able to gain entry to the nest box due to the entry hole customized for use by swallows. All the occupying birds appear to have been successful in rearing young, and juvenile swallows are a common sight over the wetlands. Barn Swallows from nests on buildings in the Chatterton business complex are also common.

The presence of the Chestnut-backed Chickadees in the nest boxes is not in itself undesirable – they are a welcome native species. But because the swallow boxes are part of a "natural mosquito control" program, the public expects them to be occupied entirely by swallows. We are considering placing rubber bungs in the openings of the boxes this winter, and not removing them until the swallows arrive next spring. We would welcome comments on this plan, if anyone sees any problem or has any objections. We will be offering free nest boxes to residents adjacent to the bog again next spring; many thanks to volunteer woodworker Garry Potter for building these boxes.

Butterfly surveys

Rithet's Bog is surveyed every month from April to September as part of the VNHS Butterfly Survey. Surveys have been undertaken since 1992, and so far we have 24 species on our checklist, which can be viewed on our website (<<http://www.rithetsbog.org/naturalhistory/butterflies.htm>>).

Of particular interest is the provincially red-listed Vancouver Island ringlet (*Coenonympha tullia insulana*); Rithet's Bog has one of the highest populations of ringlets in



James Miskelly is producing a restoration plan for purple sanicle, thanks to funding from the Garry Oak Ecosystems Recovery Team (left). Milbert's tortoiseshell (*Nymphalis milberti*) is one of 24 species of butterfly recorded at Rithet's bog (right). Photos: Sharon Hartwell

Greater Victoria. The best time to view them is during one of their two peak flight seasons, which vary with the weather but are usually mid to late May and August. Preferred habitats are the grassy knolls on the outer side of the perimeter trail in remnant Garry Oak woodland on the south side of the park, and a moist meadow on the inner side of the trail on the south side of the park. An exciting discovery was made this spring when Darren Copley and James Miskelly staked out a spot on the meadow and were able to see female ringlets laying eggs on dead grass stalks. The eggs and larva of this species had been unknown up until now. Two of the eggs were collected with their grass stalks, and Jeremy Tatum was able to rear one, photographing the various development stages.

Another mystery was solved in July when Darren captured what I thought was a colourful orange and brown “butterfly” flying very quickly at height and rarely settling, so that I had been unable to identify it. Just as Claudia predicted, it was a sheep moth (*Hemileuca eglanterina*). This gorgeous moth is apparently often mistaken for an orange and brown butterfly such as a satyr comma or California tortoiseshell.

Dragonfly survey

We are also attempting to document other agents of natural mosquito control: thanks to Darren and Claudia Copley, a monthly dragonfly survey is now underway at the bog. The first two sessions, in June and July, documented nine species of dragonflies and damselflies. Here they are, in the order they appear on the *Checklist to the Dragonflies and Damselflies of the Victoria Region*:

California Darner (*Rhionaeschna californica*)
Blue-eyed Darner (*Rhionaeschna multicolor*)
Eight-spotted Skimmer (*Libellula forensis*)
Four-spotted Skimmer (*Libellula quadrimaculata*)
Cardinal Meadowhawk (*Sympetrum illotum*)
Striped Meadowhawk (*Sympetrum pallipes*)
Western Red Damsel (*Amphiagrion abbreviatum*)
Pacific Forktail (*Ischnura cervula*)
Western Forktail (*Ischnura perparva*)



Blue-eyed Darner (*Rhionaeschna multicolor*), one of the many dragonfly species that use Rithet's Bog. Photo: Darren Copley

We hope to add more species in the months to come, and continue the survey next year. Many thanks to Claudia and Darren for training volunteers in the art of dragonfly capture, handling, and identification. It has been fascinating to learn about the dramatic variation in colour that sexual dimorphism can produce in a species, and the further variation that can be observed in newly emerged adults (tenerals). We will soon be adding a dragonfly checklist to the Rithet's Bog website (<www.rithetsbog.org>), with links to the excellent photos on the University of Puget Sound website (<www.pugetsound.edu/dragonflies.xml>).

Species at risk restoration project

Rithet's Bog supports a population of purple sanicle (*Sanicula bipinnatifida*), a provincially red-listed plant designated as Threatened by COSEWIC and listed under SARA, the federal *Species At Risk Act*. The sanicle is growing in a remnant Garry oak woodland area below the Foxborough Townhouse complex, where it is threatened by the growth of broom, blackberry, and invasive grasses. The Rithet's Bog Conservation Society has been monitoring the population and removing as much broom and blackberry as our small group can manage, but our efforts were not quite enough.

Last winter the Garry Oak Ecosystems Recovery Team obtained funds for James Miskelly to undertake more directed invasive species control and produce a restoration plan for the purple sanicle population. James has been working with Rithet's Bog Conservation Society volunteers and Saanich Park staff to remove invasive shrubs and also clear non-native grass thatch. The results have been impressive to date – there was a 50% increase in the number of purple sanicle seedlings this spring. Future plans include removing non-native bunch grasses and replacing them with native grass plugs grown from seed collected at the site this summer. Volunteers will be needed for the seed growing as well as the ongoing physical work of clearing invasives. If you are interested in helping to protect this rare plant population, please contact Sharon Hartwell at 250-479-0491

Ongoing volunteer work: invasive plant removal

The list of invasive plants at Rithet's Bog is a long one. While willows, cattails, reed canary grass, and hairy willowherb are a problem in the wetlands, the major culprits in the upland areas are Scotch broom, blackberry, English hawthorn, poison hemlock, and oyster plant. Rithet's Bog Conservation Society holds work parties throughout the year to remove these plants. We can always use more volunteers – muscular ones to dig and chop and pull broom out by the roots, and equally valuable people who may wish to collect the resultant debris and place it in bags or stretchers to be carried out to a collection point. Everyone is welcome. Once again, please check our website (<www.rithetbog.org> for details, or phone Sharon Hartwell at 250-479-0491.