Birds, Broom, Bunnies, and Biplanes: Conserving a Remnant Population of Coastal Vesper Sparrows at the Nanaimo Airport, Vancouver Island

TRUDY CHATWIN

British Columbia Ministry of Water, Land and Air Protection, 2080A Labieux Road, Nanaimo, BC, V9T 6J9, Canada, email Trudy.Chatwin@gems1.gov.bc.ca

Key Words: coastal vesper sparrow, Oregon vesper sparrow[1], *Pooecetes gramineus affinis*, conservation, Nanaimo Airport, British Columbia

Extended Abstract: The coastal vesper sparrow (*Pooecetes gramineus affinis)* forms a disjunct population of the vesper sparrow (*Pooecetes gramineus*), and breeds from southwestern Vancouver Island, British Columbia (B.C.) south through western Washington and Oregon to the extreme northwest of California (Beauchesne 2003). This subspecies was probably never common in British Columbia, and it is assumed that prior to European settlement, sparsely vegetated Garry oak meadowland or burnt areas would have been the key habitats used by this subspecies. During the latter part of the 20th century, significant areas of open land, farmlands, and Garry oak meadowlands have been converted to industrial, commercial, residential, and intensively farmed land; therefore, it is probable that as suitable habitat declined, so did numbers of the coastal vesper sparrow. Consideration is being given to listing the coastal vesper sparrow as in danger of extirpation in Washington and Oregon. The subspecies is red-listed (Threatened) in British Columbia.

The Garry Oak Ecosystems Recovery Team (GOERT) established a list of priority species for future research and recovery in the Georgia Basin region of British Columbia. These species are either in decline or are currently extirpated from the region, and they rely on Garry oak meadowlands or related ecosystems for most of their lifecycle or an important part of it. The Vertebrates at Risk Recovery Implementation Group of GOERT identified the coastal vesper sparrow as the most critically imperiled bird species still breeding in the Georgia Basin because there is only one remaining breeding location.

Sightings of the coastal vesper sparrow made by a member of the Nanaimo Field Naturalists in 2001, and the emphasis put on the subspecies by the Vertebrates at Risk Recovery Implementation Group prompted the development of a project designed to determine the present range and population of the subspecies. A stewardship program was also undertaken.

In 2002 and 2003, with funding from the federal Habitat Stewardship Fund and the B.C. Ministry of Water, Land and Air Protection, we used call-playback surveys to search for nesting

[1]NatureServe Explorer (version 4.0, July 2004) lists *Pooecetes gramineus affinis* as the Oregon vesper sparrow.

coastal vesper sparrows in historically populated and other potentially high suitability grassland habitats from Comox to Victoria on southeast Vancouver Island. We documented only six territories of the coastal vesper sparrow, all of which were located at the Nanaimo Airport (Beauchesne 2002a, 2004). We found no other active breeding sites. It is likely that the sparse grass cover and the early spring/late summer mowing regime at the airport provides suitable habitat for the coastal vesper sparrow. In contrast, farms with open habitat often have lush grass cover, and haying generally occurs during the nesting season. As well, there are few remaining large natural open meadow habitats on Vancouver Island. Protection and maintenance of existing habitat at the Nanaimo Airport, therefore, is a high priority.

As airports have many safety concerns regarding birds and airport collisions (Blokpoel 1976), we worked with the manager of the Nanaimo Airport, Brian Clark, to promote a stewardship program for the coastal vesper sparrows that is compatible with the airport's management objectives. Mr. Clark allowed us access to the airport's land to conduct inventories of coastal vesper sparrow territories, and worked with us on mutual management concerns. The Nanaimo Airport is overrun with introduced rabbits, which present an aviation hazard, and the introduced and highly invasive Scotch broom (*Cytisus scoparius*) is used by the rabbits; consequently, we worked on methods to reduce both broom and rabbit populations. GOERT and the airport signed a stewardship agreement which covers such issues as timing of mowing, control of broom, timing of herbicide treatments, and control of feral cats (Beauchesne 2002b).

During the 2002 breeding season, we observed coastal vesper sparrows using broom for perching and escape cover. We were concerned, therefore, that total elimination of the broom may be detrimental to the sparrows. In early 2003, prior to the breeding season, we undertook an adaptive management program of broom control in the vicinity of three of the six coastal vesper sparrow territories found in 2002. We removed 20% of the broom in the vicinity of one territory by hand-cutting, and the airport mowed broom with a mechanical mower in the vicinity of the two other territories. During the 2003 breeding season, we measured both the vegetation and the response by coastal vesper sparrows to the modifications done in 2002. In two of the three modified breeding territories, the territory boundaries appeared to be unchanged, and breeding was likely successful. The third territory had shifted slightly away from the mown broom, and breeding was successful. Although the sample size of three territories was too small to draw definitive conclusions, it appeared that broom control at the level implemented had minimal effect on the sparrows. The Vertebrates at Risk Recovery Implementation Group suggested, therefore, that a slightly more aggressive approach to broom control that would involve removing a further 25% each year should be implemented. It appears that hand-cutting is most effective in the area of the airport where coastal vesper sparrows are nesting as the ground is too rough (possibly from rabbit burrowing) to set the mower blade low enough to effectively control broom.

With additional funding, broom could be eliminated, and clumped plantings of native deciduous shrubs such as Nootka rose (*Rosa nutkana*) or saskatoon (*Amelanchier alnifolia*) could be used to replace perch and cover requirements of the sparrows. These deciduous shrubs would

not provide much cover for the rabbits during winter. Maintenance of the remnant population of coastal vesper sparrow at the Nanaimo Airport will involve maintaining communication and ongoing cooperation with the airport, monitoring the responses of the sparrows to broom control, and ensuring that the airport is commended for its stewardship efforts.

Acknowledgments

Suzanne Beauchesne, Tom Gillespie, and Marilyn Fuchs contributed information to this paper. Trudy Chatwin is the Chair of the Garry Oak Ecosystems Recovery Team, Vertebrates at Risk Recovery Implementation Group.

References

Beauchesne, S.M. 2002a. Coastal vesper sparrow inventory on southeastern Vancouver Island, 2002. Report prepared for the Garry Oak Ecosystems Recovery Team, Vertebrates at Risk Recovery Action Group, Victoria, British Columbia. 15 pp.

Beauchesne, S.M. 2002b. Coastal vesper sparrow stewardship agreement between the Nanaimo Airport and the Garry Oak Ecosystems Recovery Team, Vertebrate at Risk Recovery Action Group. Report prepared for the Garry Oak Ecosystems Recovery Team, Vertebrates at Risk Recovery Action Group, Victoria, British Columbia. 5 pp.

Beauchesne, S.M. 2003. Coastal vesper sparrow stewardship account. Report prepared for the Garry Oak Ecosystems Recovery Team, Vertebrates at Risk Recovery Implementation Group, Victoria, British Columbia. 16 pp.

Beauchesne, S.M. 2004. Coastal vesper sparrow inventory, stewardship and management: Vancouver Island and adjacent Gulf Islands, southwestern Vancouver Island, April to July 2003. Report prepared for the Garry Oak Ecosystems Recovery Team, Vertebrates at Risk Recovery Implementation Group, Victoria, British Columbia. 22 pp.

Blokpoel, H. 1976. Bird hazards to aircraft. Clarke, Irwin and Company Limited with the Environment Canada, Canadian Wildlife Service, and the Publishing Centre, Supply and Services Canada. 236 pp.