

... H. LUMSDEN

Cootes Paradise**Reviving Trumpeter Swans**

Three hundred years ago Trumpeter Swans nested from the Pacific coast of North America, where they nest today, as far east as the Bay of Fundy in Atlantic waters. We know this from the writings of Dièreville, a trader at Port Royal in Acadia, who noted that one could collect swans' eggs in the marshes there in 1699.

As many as 130,000 Trumpeters may have occupied the Prairies and the Great Lakes region in pre-settlement days. Most made their way east, many through Ontario to the Atlantic coastal states but a few remained inland wherever open water and sufficient food was available. In the *Jesuit Relations and Allied Documents* (Vol. 56, p. 319) there is mention that swans and geese were very abundant on Oneida Lake in northern New York State during the entire winter. Oneida Lake is about the same latitude as Burlington so there is no reason why Trumpeters would not have wintered at Cootes Paradise in winters when there was enough open water. They almost certainly passed through this wonderful marsh on migration and it is also probable that they lived there up to about 200 years ago.

From extraordinary summer abundance on Lake St. Clair in 1679 and 1701 as reported by Hennepin and Cadillac,

the Trumpeters, as breeders, were virtually gone from southern Ontario by the early 1800s. Only a few stragglers from the Prairies crossed southern Ontario on migration as late as the 1880s. It is possible that a few lingered as late as this in the Hudson Bay Lowlands. All must have been gone from Ontario by 1900.

Habitat suitable for nesting swans remained intact until well into the 20th century and the swans' disappearance was entirely due to hunting for food and the market in swanskins. One factor of paramount importance in the extirpation of Trumpeters was the importation and widespread use of guns, which started in the Great Lakes Region in the 1640s. It was difficult to kill a marsh dwelling swan with a bow and arrow but this changed when guns became widely available. To this day, in contrast to the behaviour of Tundra Swans, Trumpeters tend to fly low in small groups and are vulnerable to hunters lying in wait with a gun.

The loss of the Trumpeter Swan as a breeder in the fertile marshes of southern Ontario and in the muskegs of the north has left a gap in the ecological web of our wetlands. Swans, with their long necks and short legs, are aquatic feeders, grazing on submerged vegetation and digging out

rhizomes close to the surface. Puddle ducks such as Northern Shoveler and Blue-winged Teals skim the surface of the water for algae and small invertebrates; ducks such as Mallards, Black Ducks and Common Pintails tip in shallow water and consume vegetation as well as invertebrates; such diving ducks as Canvasbacks dive in deeper water to feed on wild celery and pondweeds and scaups consume mussels, other invertebrates and vegetation at greater depths.

Trumpeter Swans fill an intermediate niche grazing on aquatic plants to a depth of over one metre and probing into the mud for snails. This latter habit makes them particularly vulnerable to lead poisoning. Spent lead pellets from shot guns and fish sinkers gradually descend through the mud until they are out of reach but they are available to swans for varying lengths of time depending on the substrate. For some reason lead pellets are attractive to swans which eat them wherever they find them. When the lead is ground up in the gizzard and absorbed into the blood stream, the poisoned bird quickly sickens and dies unless given treatment. We have a record of one swan that had eaten 31 pellets before it died. As few as two or three pellets may kill a swan or cause it to sicken to the point where its functioning is impaired. Many Trumpeters killed when they flew into hydro wires were carrying significant levels of lead in their blood. We wonder if some of those killed by coyotes were less alert than they should have been due to lead toxicity.

For those swans found dead and for which we know the cause of death, lead poisoning leads all other causes, accounting for at least half of all casualties.

Cootes Paradise, which has not been hunted for many decades, makes a particularly suitable place for the release of Trumpeters. The restoration program for this species started in 1982 and is now under the sponsorship of the Ontario Federation of Anglers and Hunters. It started slowly at first as an experiment to see if we could use Mute Swans as foster parents. Eggs came from the Grande Prairie area of Alberta and were put into the nests of wild Mute Swans when they were close to hatching. When we could get no more eggs from Alberta we started to buy breeding pairs of Trumpeters from aviculturists which we placed with cooperators who had suitable ponds. We found it necessary to space breeding pairs at some distance because of their aggressive nature when taking up and defending territories. It is likely that the function of the very powerful voice of the Trumpeter is to intimidate rival pairs at a distance. Certainly the pairs become very noisy in spring.

The cooperators have done a marvelous job of raising cygnets for release. Experience has shown that if released on their own as cygnets (less than one year old) about half are dead by the time they reach breeding age. The losses are caused by lead poisoning, accidents and sometimes by

disease. We now release the swans. At two years of age they survive quite well. Some will start to breed at three but many wait until they are four or even older.

Moving swans from their holding pen to a release site needs some preparation. Their first reaction is to head for home. Even though they cannot fly because they have had their flight feathers clipped, they often escape on foot and usually meet with an accident. Except on large marshes such as Cootes Paradise, it is necessary to provide a fence. The best time to make a release is in the spring. The swans then have time to get used to their surroundings. They molt their clipped primary feathers in June or July and are able to fly in July or August. They will treat the place where they learn to fly as home and if the marsh is large enough they are likely to nest there. If there is open water all winter and enough natural food they will probably stay. However, if everything freezes up they will leave and wander in a southerly direction. Such wandering often results in higher losses due to accidents and lead poisoning than those suffered by resident birds or those which have established traditional migration patterns. The states of South Dakota, Minnesota, Wisconsin, Michigan, Iowa and Ohio as well as Ontario have programs to restore Trumpeter Swans to their historic breeding range. At present there are about 1000 Trumpeters in the Great Lakes Region. Less than 20% of these birds move south of 40°N in winter to reach their ancestral wintering grounds. Thus, they have been restored to their traditional breeding grounds but are still absent from most of their ancestral wintering area.

Bill Carrick discovered in 1973 that Canada Geese, just after they achieved the power of flight, would follow a boat, truck or motorbike. In 1988 he first trained Trumpeter Swans to follow a boat. Because young swans and geese learn their migration route and wintering grounds by following their parents it occurred to Bill Carrick that it might be possible to train Trumpeter cygnets to fly beside an ultra-lite aircraft. The machine could then be used as a surrogate parent to induce migration to a safe wintering ground. The first experiments using an ultra-lite aircraft, flown by Wayne Bezner-Kerr, were started in Ontario in 1997, but because of an early freeze-up it was not possible to test the induced migration technique. Meanwhile Dr. Sladen in Virginia trained and flew three Trumpeters to a site in Maryland.

This year two crews in Ontario are training Trumpeters with ultra-lite aircraft. One crew led by Bill Carrick will operate out of Cootes Paradise and Harry Hewick's farm near Millgrove. Wayne Bezner-Kerr is training our cygnets near Falconbridge. If all goes well the destination of these birds will be the Maskatuck National Wildlife Refuge in central Indiana, and will return to Cootes Paradise where they learned to fly in the spring of 1998.