

year. Furthermore, neck-banding was not a new method, having been used on geese in the Mississippi Flyway. For all these reasons, it seemed there was a good case for adopting neck-banding in the Atlantic Flyway study as well.

The major drawback of the neck band was their tendency to collect ice - a problem that the project leaders soon became aware of. Although there were no deaths from icing reported in the first year, in the second year 26 geese died, and in the third year 70 drowned on a single day in Maryland. Statistics are not yet available for this winter, but fatalities must have been expected. Bruce Di Labio of the Ottawa Field Naturalists, who worked to free drowning birds in the incident last November, speculated that every neck-banded goose would sooner or later be faced with icing conditions. He also noted that the dead birds were not birds of the year, but healthy two-to-four-year-olds of reproductive age.

So although the project leaders were aware of the icing risk from the second year, they continued to band geese to a total of 25,000. Curiously, the study has shown that hunting pressure was the prime cause of population decline in the Carolinas. But there is a grim irony in a study designed to protect population growth, but whose methods cause the death of some of its subjects.

As a result of the public outcry that followed the incident in the Ottawa River last fall, the Canadian Wildlife Research Centre of the Canadian Wildlife Service issued an information package on the use of collars. Banders are warned that the neck bands may cause problems for the geese and they are urged to limit their use to essential studies and to mark the minimum number of birds possible (author's emphasis). (In the Atlantic Flyway study, only a few thousand geese were banded in Canada, and these were done in the far north. These northern birds

tend to winter quite far south, where the icing risk would not be great.) The Canadian Wildlife Service has received several applications for funding future neck-banding projects, but these must go before local animal care committees before being approved. Given the public outcry against recent icing incidents, these proposals will likely be carefully scrutinized.

Harry Lumsden, of the Wildlife Research Section of the Ontario Ministry of Natural Resources, believes that markings of any kind ought to be tested on captive birds before wild birds are touched. He has noted that species differ widely in their tolerance of markings. For example, Canada geese seem to tolerate collars well after several days, whereas snow geese never accept them. Are there alternative marking systems that would be less damaging to the geese? Patagial (wing) tags have been used on mute swans and trumpeter swans in southern Ontario. This marking is highly visible and appears to involve almost no risk for the subject. Such considerations must be of prime importance in future projects, especially in projects on the scale of the Canada goose study.

In the meantime, the neck bands continue to cause injury and death. Early in February a Canada goose was brought to Pat Smith in Oakville, just west of Toronto on Lake Ontario. Pat has been helping injured birds for more than 30 years. Inside this goose's yellow collar, a second collar of ice had formed. This layer was cutting into the neck tissue, creating a strangling band around the neck and preventing the bird from swallowing or breathing properly. Blood was coming from the nares and the bird could hardly keep its head up. Pat thawed the ice and forced the goose, nursing it back to relative health. But she hesitated to remove the band because she believed that it would be like defacing government property.

Since the goose's neck could not heal properly with the band on, she finally phoned the FON to find out