

XXXV. AN OVERVIEW OF MANAGEMENT OF CANADA GEESE
(*BRANTA CANADENSIS* AND THEIR ADAPTATION TO
SUBURBAN CONDITIONS IN THE USA*

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The past 30 years have been punctuated by many outstanding examples of intensive and extensive management of Canada geese in North America. These have been correctly touted as wildlife management successes without parallel. Major accomplishments can be attributed to a variety of research and management activities conducted by the U. S. Fish and Wildlife Service (FWS), state agencies, universities and private organizations and individuals.

Even a cursory review of the hundreds of Canada goose reports and publications, compiled over the years, shows a sequence of research and management steps which have led to our current, incredible understanding of these birds. These steps, in order of their occurrence, can be categorized quite simply as follows:

1. *Taxonomy*: Advances in this area initially involved studies of speciation and descriptions of Canada geese migrating through the Great Plains. Important aspects were identification of intermediate-sized Canadas, small races and the giant Canada goose. Current research and taxonomic work will likely suggest naming a number of additional races or sub-populations associated with specific, known breeding areas. Taxonomists generally agree that the last word on identification of Canada geese will be said only when all breeding populations have been carefully investigated.

2. *Racial distribution*: Many notable researchers dealt with aspects of racial distribution as well as taxonomy since accurate descriptions of such distributions are dependent on accepted taxonomic designations. Important contributions in this category have come from studies of Canada geese throughout North America.

3. *Population delineation*: Closely allied with taxonomy and racial distribution, this category set the stage for management by describing known breeding ranges, staging areas, migration corridors and wintering grounds of groups of Canada geese. Important work in this area involved geese of the Mississippi and Central flyways and delineation of populations of large and small Canadas. Today, 15 races of sub-populations of Canada geese have been delineated and accepted by most waterfowl biologists. The number will undoubtedly increase as research continues.

4. *Population management*: As population delineation became clearer and generally accepted in the 1950's, management efforts began to ensure ad-

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equate migration and wintering habitat and harvest control throughout the range of known populations. This led to additional state management areas and national wildlife refuges. Important research and banding efforts on the Mississippi Valley and Eastern and Western Prairie populations provided clues to intensive management techniques.

5. *Co-operative programs*: Through this era many new management philosophies and techniques were developed; some succeeded, some failed. The significant feature that evolved was a strong co-operative relationship between state, provincial and federal agencies in the U. S. and Canada and through the flyway councils to carry out management and research activities on a priority basis. A U. S. position emerged whereby the states concerned with management of a given population of Canadas played the principal roles in local management and development of regulations and harvest quotas. Co-operative funding permitted increased research on the breeding grounds. The minutes of Flyway technical committees and councils document these actions.

6. *Restoration and introduction*: While more intensive management of the known wild migratory populations of Canada geese was progressing, increased attention was being given to establishing breeding populations in the northern tier of states and in southern Canada. Trial and error transplants and introductions over the period 1935 - 65 showed that giant Canada geese were best suited for such adventures. While much of the early work took place on national wildlife refuges and state areas, many of these introductions were also successful in cities or suburbs and subsequently led to considerable local problems with the prolific birds.

A look at total Canada goose numbers and harvest in the U. S. in the past two decades shows nearly parallel increasing trends. Total midwinter populations have risen from about 1.2 million birds in 1959 to 2.4 million in 1979. The annual harvest rose from slightly over 400 000 birds in 1959 to over 1 million birds in 1979.

Canada has also had considerable management success with Canada geese. Let's look at one example. In Manitoba, shortly after the 10 000-acre Oak Hammock Marsh Wildlife Management Area came to full water supply level in 1974, staging goose populations rose from 2500 to 240 000 Canada geese and snow geese. Mallards and pintails staged there at the 100 000-bird level where previously only a few hundred could be counted. This waterfowl irruption in the heart of the wheat and barley country of Manitoba's Interlake region was met with varying comments. "Amazing," said the provincial, federal and Ducks Unlimited biologists and engineers who had planned and built the management area. "Great," said the hunters and naturalists. "Intolerable," said adjacent farmers when those immense flocks began depredating grain fields. And, "never again," Manitoba's political leaders said when, in 1976, those masses of waterfowl flew south with more than \$165,000 worth of wheat and barley in their bellies. Today, managed hunting and lure crop programs at Oak Hammock are holding depredation losses to acceptable levels.

But management success with these birds is not always related to restoration of huge populations. We'll be eminently successful, for instance, if we can continue to bring the Aleutian Canada goose back (*Branta canadensis leucoparia*) from the brink of extinction over the next decade. Meanwhile, a nagging management challenge in the U. S. has been to discourage Canada geese from wintering north of traditional areas. In this regard, our successes at

getting Canada geese to find and use mid-continent and southern refuges during their migrations have been tempered by their reluctance to move far enough south in some instances. New management plans and actions are now designed to restore wintering Canada geese to their former southern winter ranges.

Management successes with Canada geese have come about largely because the birds themselves are biologically manageable to a high degree. Their homing instincts and strong migration, breeding, wintering and staging tradition, coupled with their aggressive and prolific breeding behavior play important roles in our ability to manage them. Beyond this, the relative sanctity of their breeding and wintering areas, our concern for overkill and resulting stringent harvest regulations and our habitat management capabilities add greatly to manageability of these birds. And, they are relatively easy to study, though those hardy biologists toting packboards of gear across the cold, roadless, polar bear-infested tundra at Cape Churchill and other northern breeding areas might disagree.

But in spite of these efforts . . . in spite of all we've done with and for Canada geese and all that has been learned and published, we still have only the mistiest knowledge about the many Canadas that grace our cities and suburbs; how many are there, where are they and what do they do? And we know little about how these birds are used by masses of urbanites. In our opinion, urban Canada geese are one of our hardest used migratory waterfowl resources and one of the least studied and managed.

So far, our management of urban Canada geese (primarily the giant Canada goose, *Branta canadensis maxima*) has been like the fighting of wildfires . . . unplanned and reactive. Urban Canadas, viewed by thousands of people and harvested, where restrictions allow, by thousands of hunters, have been dubbed nuisances and pests. Management has consisted largely of uncontrolled introductions and attempts to reduce populations by trapping, relocation, nest and egg destruction, relaxation of hunting regulations and even sterilization. Meanwhile, urban and rural groups have become polarized in many parts of the country due to airport hazards, crop depredation, fouling of lawns and golf courses and contamination of water supplies versus sheer love for the birds by the public.

The problem is usually seen as simply too much success . . . too many Canadas in the wrong places. But the real problem may be too little management attention by federal, state and city biologists and administrators. Wildfire fighting is always frustrating but we've learned that prescribed, controlled burns are gratifying and productive. We must parlay this philosophy into positive management of urban Canada geese.

While our information on urban Canadas is grossly incomplete, it is clear from field reports that this resource is immense and growing. We've got urban Canadas in many of the major metropolitan areas in northern U. S. and southern Canada.

In Minnesota, where we have studied local situations more closely, there are urban flocks at 20 or more cities, including the metropolitan areas of Minneapolis and St. Paul. The Minnesota urban Canada goose resource is estimated at 30 - 40 000 birds not counting the migrant flock of about 25 000 that also winter at Rochester, Minnesota. Some of these birds winter in Minnesota, some breed in Minnesota, some always migrate, some do when they have to, some don't at all.

While precise population estimates are not available for the total of North America's urban Canadas, undoubtedly they number in the hundreds of thousands if we consider both migrant and nonmigrant flocks. There is little doubt that these urban populations of Canada geese will continue to expand if public agencies and private organizations are willing to bear the cost and initiate control measures when needed. It is the latter action that has now caused us to pause and reflect on a new set of problems developing with urban goose populations. In numerous cases throughout the U. S. and Canada we may have been too successful and in many instances are unable to control expanding urban Canada goose populations.

The U. S. Fish and Wildlife Service has developed policy for management of urban waterfowl which will be circulated for review and approval when the draft is completed. In addition to possible need for further limitations on releases into the wild, consideration has been given to two major avenues of control. These are what we refer to as production-allowed and production-denied strategies. Under the production-allowed strategy we are seeking expanded or new methods for harvesting annual production down to an agreed-upon limit, on a city-by-city basis. Methods to do this could involve expanded sport hunting (as was allowed in Michigan in 1980), even at golf courses and other suburban areas where local regulations permit. When large-scale removal of birds is necessary, charities might be considered as the beneficiaries. Production-allowed techniques would also involve dispersal and continued relocation of geese to areas open to hunting. Ultimately, however, relocation is a finite solution; there are only so many places to put them, and we are rapidly running out of recipients.

In the production-denied strategy, managers would continue to discourage or destroy production by collecting eggs, limiting nesting habitat or facilities on nesting areas, or developing new and acceptable techniques for preventing excessive reproduction in areas where capture, transplant or hunting is not possible.

We believe that urban Canada goose flocks should be managed primarily by the jurisdictions where they are located with strong public input, together with FWS and state technical and planning assistance, if requested.

An urban flock management plan, with population limits and production control or removal techniques clearly spelled out and agreed to, should emanate from the urbanites where the resource is located. The federal role should be extension-oriented rather than operational and regulatory insofar as possible. Waterfowl managers should make their expertise available to these jurisdictions and be prepared to offer a wide array of imaginative management options. Only in this way will we transform the current urban Canada goose issue into a controlled program that will benefit many interests. In any case, the advent of rapidly expanding flocks of urban Canada geese has added an important dimension to our knowledge of public interests and conflicts over use of waterfowl populations and presents an exciting management challenge to federal, state and city biologists, planners and administrators.

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