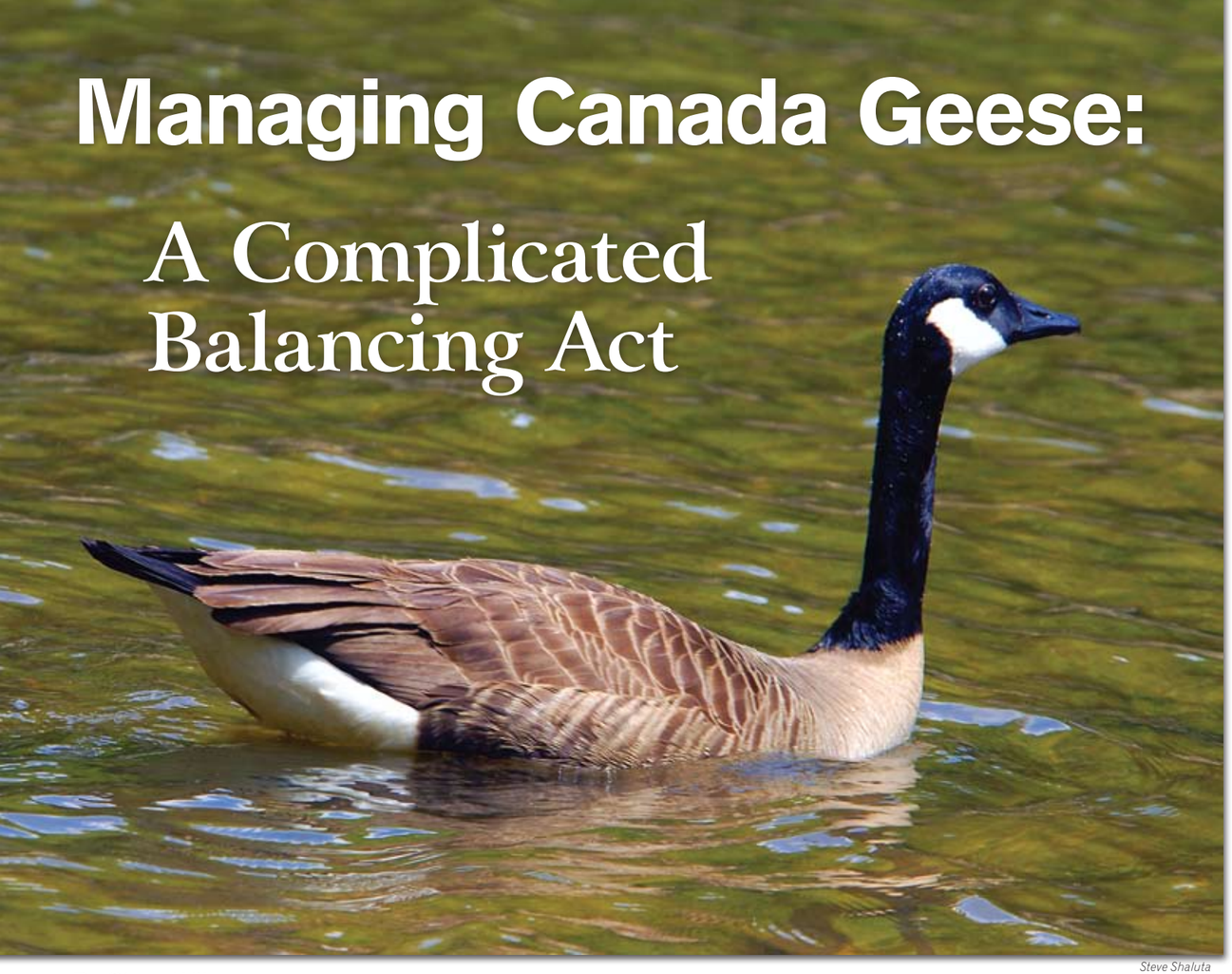
Managing Canada Geese:

A Complicated Balancing Act



Steve Shaluta

By Steve Wilson

What is complicated about managing Canada geese? There are lots of them everywhere! That's probably what most readers thought when they read the title of this article. But did you know that there are at least 11 races (or sub-species) and 13 recognized populations of Canada geese? Since they all look very much alike, the casual observer, hunter or even professional waterfowl biologist cannot tell to which race or population that flock of birds flying overhead belongs. Because of this, managing Canada geese is a complicated endeavor.

The term "race" is applied to a group of individuals of a species that show variation in size or plumage as a result of geographical or ecological isolation. Canada geese exhibit only minor differences in plumage between races, but size variation is significant. Sizes range from 12.5 pounds for adult male giant Canada geese to 3.4 pounds for adult male cackling Canada geese. Culmen (bill), wing, tail and tarsus (leg) measurements are also used to differentiate races, with bill length being the most commonly used feature. Most Canada geese in West Virginia belong to either the giant or interior races.

What population a goose belongs to is much more important to waterfowl managers than race. Canada geese have a strong propensity to use traditional breeding areas, migration paths and wintering areas. Groups of geese using specific areas are known as populations, and biologists manage each population individually. To complicate the matter, multiple races can occur within a given population and more than one population can be in the same area at certain times of the year.

The Atlantic Flyway which covers approximately the eastern quarter of North America, including West Virginia, is used by four different Canada goose populations.

Resident Population Canada geese (RPCG) nest from southeastern Canada southward and westward through most of the United States. They typically do not migrate, but they commonly move for brief periods of time and relatively short distances during the winter. One group of RPCG that does migrate annually is the flock nesting in Canaan Valley. They spend the winter near Durham, North Carolina. RPCG are now the most numerous population in all of North America.

Jeff Craig

Many Resident Population Canada geese nest and raise their young in West Virginia.

Atlantic Population Canada geese (APCG) nest in the tundra zone of northern Quebec along the eastern shore of the Hudson and James bays, across the Ungava Peninsula to Ungava Bay. They migrate south through New York and eastern Pennsylvania and winter in the mid-Atlantic region from southern New York to North Carolina. This population, the backbone of the world famous Eastern Shore goose hunting, was once the largest Canada goose population in North America. APCG numbers declined significantly in the 1980s and early 1990s resulting in the closing of most regular season goose hunting in a large portion of the Atlantic Flyway in 1995. Their numbers have rebounded substantially, and carefully regulated hunting is once again allowed.

Tom Oldham

DNR personnel round up geese to tag them with leg bands when the birds are molting and can't fly.

North Atlantic Population Canada geese (NAPCG) nest in Labrador and Newfoundland, migrate down the Atlantic coast, and winter along the coast from maritime Canada south to New Jersey. This goose population is also relatively small so hunting must be carefully regulated.

Southern James Bay Population Canada geese (SJBPCG), as their name implies, nest along the southern shores of James Bay and on Akimski Island. Most of this population migrates and winters in the Mississippi Flyway, but a portion uses western Pennsylvania and the Ohio River Valley in West Virginia. Like most other migrant Canada goose populations, SJBPCG need to be managed carefully to sustain their numbers.

Let's review briefly. Four distinct populations of Canada geese use the Atlantic Flyway. The three migrant populations are limited in number, requiring careful regulation of harvest levels. The fourth, a resident population, is excessively numerous and needs high harvest levels to keep their numbers in check. Geese from all four populations look alike. And, during the regular hunting season extending from October through January, each population shares migration and wintering areas with one or more of the other populations.

So how do waterfowl biologists manage each of these populations individually? Harvest levels are regulated by manipulating season dates, season length and bag limits. Several important pieces of information are needed for each population to establish population-specific harvest regulations. First, and probably foremost, is a reasonably accurate estimate of the size of each population. This can only be accomplished by conducting surveys on the breeding grounds during the nesting season when geese are segregated by population. Biologists count breeding pairs, assess habitat conditions, and estimate nesting success to produce fall flight (pre-hunt) population size estimates for each population. Once the population size is known, it is relatively easy to determine the percentage that may be safely harvested to maintain, increase or decrease the size of next year's breeding population.

Tom Oldham

Leg bands help biologists determine migration routes and schedules.

After determining the number of birds that may be harvested from each population, biologists select a combination of season dates, length, and bag limits to achieve the desired harvest level. Hunter survey data provides information on the numbers of hunters, days hunted and birds harvested for each season. Sometimes biologists collect tail fans from harvested geese. These tell biologists the age of the birds killed so they can determine the age ratio of the harvest. In addition, leg band recovery data provides a harvest rate (percent of available birds which were harvested). These data are used to calculate expected harvest levels for various combinations of season lengths and bag limits.

The simple approach at this point would be to apply the regulations package required for the smallest population to all populations in the entire flyway, but this approach has a couple of problems. First, it would unnecessarily reduce hunting opportunity for those populations that are more abundant. More importantly, it would severely limit the use of hunter harvest to control the numbers of over-abundant RPCG.

Addressing these problems requires population-specific information on when and where geese migrate and winter. Leg band recovery data, neck collar observations and satellite tracking provides this information. Restricted season lengths and bag limits can then be applied to specific locations and time frames to protect one population, while liberal regulations can be allowed in other areas or times to kill enough PRCG to control the population. Migrant Canada geese typically do not arrive in the United States portion of the flyway until October and most leave by late January or early February. Special early (September) and late (February) seasons allow extra harvest of RPCG when migrant geese are not present. Regular seasons (October through January) vary considerably between, and even within, states to apply restrictive regulations to the specific areas and time slots necessary to protect migrant Canada goose populations. Although a few SJBPCG winter here, West Virginia is considered a resident population area and is allowed the most liberal season. For the 2007-08 season, that included 80 days of hunting with a five bird daily bag limit during the regular season, and a special 13-day September season with a daily bag limit of five.

Clearly, managing Canada geese is no simple task; and this article provides only a basic overview. Several pages would be required to explain in detail all the surveys and data analysis mentioned here. Methods and rules regarding Canada goose nuisance and damage complaints is another facet of Canada goose management not even discussed. Finally, readers should also note that this must all be done cooperatively. The Atlantic Flyway includes 17 state wildlife agencies, five Canadian provincial wildlife agencies and two national government wildlife agencies that all share in the management effort.

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