

Habitat Needs and Developments for Canada Geese

Habitat Extension Bulletin

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Few wildlife species command as much universal respect and affection as does our premier waterfowl species—the Canada goose. This admiration for the “honker” stems from its size, voice, wariness, and grace. V-shaped formations of Canada geese are often seen in the fall, winging south across the Wyoming sky to wintering areas. Wyoming supports more geese now than ever before due to concerted efforts by sportsmen and the Wyoming Game and Fish Department to improve goose habitat and re-establish Canada goose populations. By understanding the natural history and habitat requirements of Canada geese, landowners can participate in this success story and manage their property to attract and support geese for improved goose hunting and viewing opportunities.

The Canada goose is easily recognized by its resonant honking call, black head and neck, and white cheek patch. North America supports eleven races of the species which vary in size and plumage color. The larger races tend to migrate in smaller, family-sized groups, while the smaller races migrate in flocks ranging in size from 20 birds to more than a thousand. In Wyoming, the larger races are observed throughout the state as they breed and migrate to southern wintering areas. The smaller races of Canada geese generally breed in northern Canada but occur in the eastern portions of Wyoming during spring and fall migrations.



A Canada goose sits on a missile-type nest site. These structures serve the geese well and are easy to build and maintain.

On wintering grounds, large flocks of Canada geese comprise sub-flocks which include adult and young family units. The bond between adult pairs remains steadfast for life. Upon death of a mate, however, the surviving member will seek out a new mate. Large families dominate smaller families, with the gander (male) leading the family unit. As weather conditions improve in late winter, Canada geese begin their northward migration to breeding grounds.

Canada geese are the earliest nesters of all waterfowl species, with highly variable nesting periods depending on latitude. Studies in Yellowstone National Park and the Jackson Hole area, for example, indicate that nesting activity commences in late March to early April. Within nesting areas, pairs of adult geese leave their flocks to claim a nesting territory. Territory size varies among individual

pairs depending on temperament of individual geese, available habitat, and food availability. Studies show that territories can range in size from 800 square feet to 2.3 acres. Immature birds will also pair off during the breeding season, but most do not nest until they are three years old.

Nest sites are generally characterized by an unobstructed view of the surrounding area, nearby feeding and loafing areas, protection from predation, and most importantly, close

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proximity to relatively permanent water such as rivers, marshes, or ponds. Studies indicate that 90 percent of Canada goose nests are within 50 yards of a water source. While Canada geese have preferences for nest sites, they use a variety of locations. Marsh habitats, including muskrat huts and islands, are preferred although geese have nested on cliffs, in trees, on bulrush and cattail mats, in pastures, and in man-made structures such as barns, haystacks, and nesting platforms. Canada geese are site tenacious; they will often return to the same nesting area and even the same nest year after year, as long as the area remains suitable for nesting.

Nests are constructed with an outer frame of coarse plant material lined with down and fine plant material. The gander stands guard while the goose (female) incubates the clutch of five or six eggs. She remains on the nest almost continuously until hatching, leaving the nest twice daily for a short period to rest, preen, and feed. Incubation periods average 26 to 28 days.

In late April through May, the goslings hatch, usually all within a 24-hour period. Goslings depart from the nest site in another day, led by both adults to the security of open water. The goose family may remain near the nest or move to another area depending on nest location. Canada geese nesting along stream courses have been known to move their goslings several miles along a stream course to better feeding grounds.

On densely occupied nesting grounds, broods of different adults may mix and form loose flocks or "gang broods" which feed and rest together. While young are developing on brood-

rearing areas in June and July, adults undergo the molting process, shedding their worn flight feathers. Since they are flightless during molt, geese seek the safety of open water. Adults regain their feathers about the time the young are ready to fly. By August, two-month-old young take flight with the adults in family groups and begin their southward migration. Canada geese tend to return each year to particular migration, wintering, and breeding grounds. This tradition is passed from generation to generation.

Landowners desiring to improve their property for nesting Canada geese should provide three components necessary for successful reproduction: water, feeding areas, and nest sites.

Water

Large bodies of water for brood rearing and molting may be created by building a small dam or control structure on temporary wetlands that fill during spring runoff and other high water periods, creating a more permanent wetland. In addition, Canada goose habitat may be improved by flooding and damming old river channels or oxbows with water diverted from streams. Irrigated hay meadows can also provide sufficient water to attract nesting geese. Geese will use stock ponds if safe nesting and brood feeding areas are located nearby. In all these examples, the key is providing a water body with stable water levels throughout the nesting season. If water permanence is not maintained, particularly during the critical nesting period, geese will avoid nesting at the site.



Wyoming Game and Fish Department efforts have made Canada geese and the artificial nesting structures they depend on common throughout the state.



Give a Canada goose an old tire on an elevated platform and you have given it a home, a nest, a safe place to hatch its eggs. Artificial nesting structures should be located near feeding areas on the leeward side of shorelines, peninsulas, islands, or shallow water areas to prevent wind, water, and ice damage.

Food

Canada geese are primarily vegetarian grazers, feeding on such natural foods as spike rush, wild millet, sedges, bog rush, smartweeds, foxtail, sago pond weed, wigeon grass, and cut grasses (illustration). As opportunistic feeders, they will also consume clovers, aquatic vegetation, snails, tadpoles, and insects. Young goslings, requiring high-protein diets in their early weeks of life, feed almost exclusively on aquatic insects. A number of agricultural crops are eagerly consumed by Canada geese including wheat, barley, milo, corn, oats, soybeans and pasture grasses.

Natural foods are heavily used during the breeding season (late winter, early spring) while high-energy agricultural crops are used in late fall and early winter as weather conditions deteriorate. Harvestable grain crops are particularly attractive to wintering and migrating goose flocks and can be planted to attract geese. Breeding birds pose little threat to croplands due to low population densities and food habits. However, large flocks of wintering geese are a potential threat to certain crops such as winter wheat. The possibility of crop damage should be considered by anyone desiring to attract geese to an area.

Wintering geese require food and open water in close proximity to one another, with better wintering areas supporting both components. A deep marsh or pond greater than five acres, near suitable food reserves, is capable of supporting several thousand geese during the winter months. If feed remains available, geese will likely remain in an area until freeze-up.

Potential nesting habitat areas may be improved by providing suitable feeding sites close

to the nest site. Elevated spoil banks adjacent to newly created open water can be seeded with cool-season grasses to produce early spring food resources. Grasses, small grains, or alfalfa can be planted or mowed so the sprouts are in succulent growth stages during the brooding season. When mature, these crops will also attract geese during the fall hunting season.

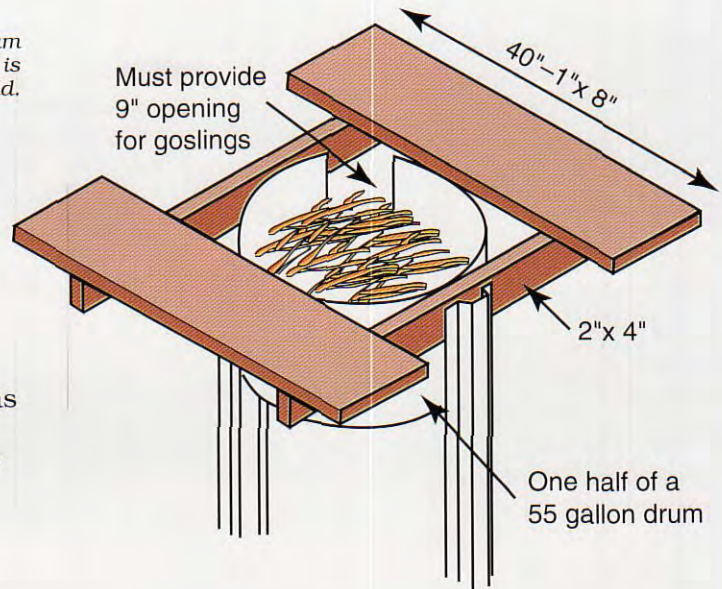
Cover and Nest Sites

In many instances, wetlands may provide suitable open water and brood feeding areas for Canada geese, but nesting site requirements may not be satisfied. Since Canada geese prefer to see danger approaching from a distance, cover in the immediate nest vicinity should be tall enough to conceal the nest but still afford the female an unobstructed view of the surrounding area.

Construction of islands or artificial nesting structures will promote nesting. Islands are also used as resting areas by Canada geese during spring and fall migrations. Spoil islands within excavated ponds or "dugouts" can provide safe nesting sites. On ponds five to 50 acres in size, ideal habitat consists of 30 percent tall emergent plants (plants rooting in the pond substrate, with shoots above the water surface), 65 percent open water, and 5 percent islands. Islands should have a minimum three-to-one slope at the shoreline, located at least 30 feet and preferably 200 feet from shore. Islands should be at least 10 to 15 feet in diameter and three feet or greater above the water level to allow for settling and prevent nest flooding.

Wind, water, and ice erosion may be reduced by constructing islands in the upwind portion of a basin. Seeding with grasses or sedges will help

This variation of a traditional split-drum nesting structure with wooden resting boards is attractive to geese and easy to build.



stabilize islands and provide nesting cover. Shrubs and trees should not be planted on islands to maintain good visibility. Riprap reinforcement on the windward side will also retard island erosion. Ground predators such as coyotes, fox, and raccoons will exploit land access routes to nesting islands during periods of low water levels. For this reason, low water levels should be avoided from March through May or moats should be excavated around islands. Flooding of nest sites and human disturbance should be discouraged in the vicinity of nesting islands during the breeding season.

Artificial nest structures may improve both nesting success and nesting density of Canada geese in a quick and economical manner. These structures may be required in wetlands with excessive wave action or flooding, high predator density, or low abundance of choice nesting sites.

Many types of artificial nesting structures have been used to enhance Canada geese production. These include wooden and split-drum platforms, tubs, missiles, and hay bales. Wooden platforms are three-by-four-foot wooden frames supported by seven-foot wooden or steel posts. Split-drum platforms are constructed from 55 gallon barrels cut in half lengthwise, bolted or welded side by side, and then bolted to metal fence posts. Tub structures are Number 3 galvanized washtubs secured to the top of 10-foot telephone poles. Missile-type structures consist of a tire on a platform mounted to a metal pipe and driven into the ground. Straw, bulrushes, cattails, or wood shavings are placed in these structures for course nesting material. Nesting material should be maintained within five inches of the structure rim so goslings can depart. Large, round bales of hay placed on shallow frozen marshes during the winter will be used by nesting geese in spring. The unobtrusive, natural appearance of hay bale structures may be more aesthetically pleasing, though they only last two years before disintegrating and requiring replacement. The different types of nesting structures described here are illustrated in the Wyoming Game and Fish Department habitat extension bulletin number 6a, "Nesting Structures for Canada Geese."

Regardless of the type of structure, yearly maintenance of elevated nesting structures will be necessary. Artificial nesting structures should be located near feeding areas on the leeward side of shorelines, peninsulas, islands, or shallow water areas to prevent wind, water, and ice damage. Additional information regarding nest structures is available in the Wyoming Game and Fish Department habitat extension bulletin number 6b, "Design, Placement, and Maintenance of Duck Nest Structures." Consult your local Game and Fish Department representative for additional advice.

Before modifying wetlands for nesting waterfowl, be sure to contact your local Soil Conservation Service office for assistance, to assure compliance with state and federal wetland regulations.

Canada geese remain one of the most popular waterfowl species for hunting enthusiasts and nonconsumptive users alike. Under proper conditions, the effects of habitat developments for Canada geese can be dramatic. By following these management suggestions, the Wyoming landowner can feel confident about his contribution to this universally admired species.

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This publication is one in a series of habitat extension bulletins produced by the Wyoming Game and Fish Department. Call 1-800-842-1934 for additional information or assistance.

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