

STEWARDSHIP OF GREAT BLUE HERONS IN THE COLUMBIA BASIN



Adult heron feeding near nest site near Golden, BC

INFORMATION FOR LANDOWNERS, MANAGERS AND THE PUBLIC

The Great Blue Heron (*Ardea herodias*) is a large wading bird found in riparian ecosystems throughout southern British Columbia. In the interior, herons breed near lakes, slow-moving rivers and wetlands in small to large colonies. They feed in shallow water and eat mainly fish, but their diet also includes small mammals, amphibians, reptiles, birds and invertebrates. Herons may remain near open water with access to adequate food throughout the winter.

Herons are known to be in decline in parts of their range in southern B.C. They are “blue-listed” (i.e., vulnerable and of special concern) by the BC Conservation Data Centre, due to habitat loss and disturbance in prime breeding habitats. Environmental contaminants, severe winters, and depredation by eagles can also impact herons.

Valley bottom wetland and riparian areas in the Columbia River Basin are important breeding and overwintering sites for herons. A 2002-2006 inventory found ≤ 16 active breeding sites in the basin in a given year and $>70\%$ of sites are on private land. Collaborative partnerships with landowners is critical to maintain and protect these sites.

Characteristics of Nesting Areas

Herons nest in small to large colonies and select sites within 1.5 km of shallow water feeding areas. Mature coniferous, deciduous and mixed stands with high canopy cover are preferred. Herons typically nest in large live black cottonwood and in a range of conifer tree species. Mature riparian stands represent potential breeding habitat for herons, irrespective of tree species composition.

Habitat suitability also depends on proximity to feeding areas and sufficient buffering from disturbance by humans and predators. Buffers can be in the form of forested stands providing visual screening or a waterway surrounding a site that prevents encroachment into the nest stand. Once established and productive, breeding sites may be re-used for many years.



Heron nesting stand in black cottonwood, Creston, BC



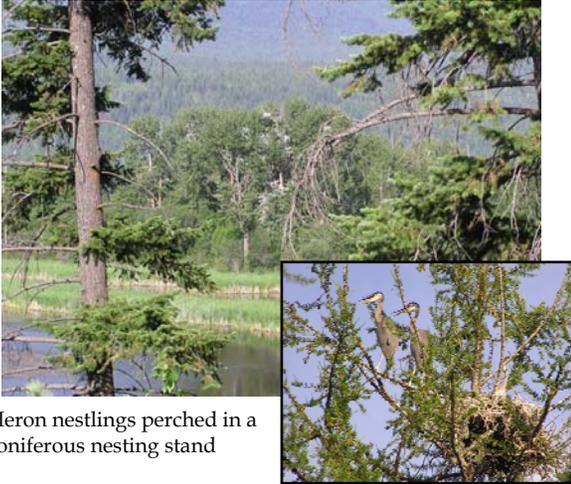
Heron adult with young at a nest in a spruce tree

Herons may abandon breeding sites because of disturbance, particularly during the nest-building, egg-laying and incubation phases.



Disturbance examples: clearing of trees in riparian habitat (left) and watercraft active near heron breeding site (right)

Human disturbances that have led to abandonment at breeding sites in the southern BC include nearby forest clearing, construction, road-building, logging, silviculture, motorised activity, livestock grazing, nearby camping, aircraft, helicopter and drone use, etc. Beaver and cormorant activities have also led to nest site failure or takeover, respectively.



Heron nestlings perched in a coniferous nesting stand

Protection of Heron Habitat

Wetlands that are home to Great Blue Herons are some of the richest habitats in the Columbia Basin. Maintaining suitable habitat for herons will protect many other wetland-dependent species as well.

Heron nesting sites are becoming increasingly rare due to:

- hydro-electric power developments that have reduced the quantity and quality of wetland habitats;
- wetlands being drained for various uses (e.g., agriculture, housing and commercial/industrial developments);
- fragmentation of suitable riparian forest stands and loss of existing and potential nest trees to forestry operations and other land clearing and development activities;
- disturbance at breeding and foraging sites by people, predators (e.g., bald eagles, ravens, crows), competitors; and
- accumulation of persistent environmental contaminants that are released into the food chain.

What Can the Public Do?

Actions to reduce heron habitat loss and disturbance include:

- avoid cutting mature and old trees;
- retain and protect existing wetlands; and
- avoid disturbance and recreational activities near active heron breeding, feeding, roosting and overwintering sites;
- avoid aircraft, helicopter or drone use near active heron breeding sites.

What Can Landowners and Managers Do?

***** Minimizing disturbance and maintaining nesting and feeding habitats are the key stewardship elements *****

- Minimize disturbance from people, ORVs, machinery, livestock and pets within a *core area* (≈300 m radius) around heron nesting areas during *the breeding season* (March 1 – August 15).
- Avoid tree harvesting and road-building within core areas.
- Maintain non-fragmented forest, existing and suitable alternate nest and roost trees, and nearby riparian feeding habitats.
- Where modifications are unavoidable within the core area, maintain and plant vegetative screening between the activity/modification and the colony. Also consider constructing a fence or other



barrier between the activity and the screening to buffer the site.

Longer Term Options for Occupied Sites

- Explore the possibility of a land conservation agreement (e.g., purchase, covenant, trust) for the site.
- Consider the broader landscape context and prioritise conservation of areas where several suitable sites are present with foraging habitat nearby.
- Monitor and protect the site and individual trees from other stressors (e.g., beavers)

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