

BC's Coast Region: Species & Ecosystems of Conservation Concern

Double-crested Cormorant (*Phalacrocorax auritus*)

Global: G5, Provincial: S3B, COSEWIC: NAR, BC List: Blue



Breeding



Non-breeding

Notes on *Phalacrocorax auritus*: This member of the family Phalacrocoracidae (Cormorants and Shags), is part of a unique order found worldwide. Most birds in this order have a bare throat patch ("gular patch"), and the nostrils have evolved into dysfunctional slits, forcing them to breathe through their mouths. The names "cormorant" and "shag" were originally the common names of the two species of the family found in Great Britain. "Shag" refers to the bird's crest, which many forms of the genus lack or is only visible during breeding season.

Description

Length 70-90 cm, wingspan 1.14-1.32 m. A large diving bird with a stocky body, long neck and moderately hooked beak. Breeding adults are iridescent, greenish-black with orange-yellow skin on the face and gular patch, eyes are aqua coloured. Juveniles and non-breeding birds are browner in colour. The double crest ("shag") is only found on adults early in the breeding season

Diet

Double-crested Cormorant is an opportunistic feeder and will predate on a number of fish species (generally less than 13 cm long) including herring, minnows and stickleback, as well as juvenile salmonids. Aquatic invertebrates and (rarely) small vertebrates other than fish will be taken. Foraging dives are from the surface of the water, usually to depths < 15 m.

Look's Like?

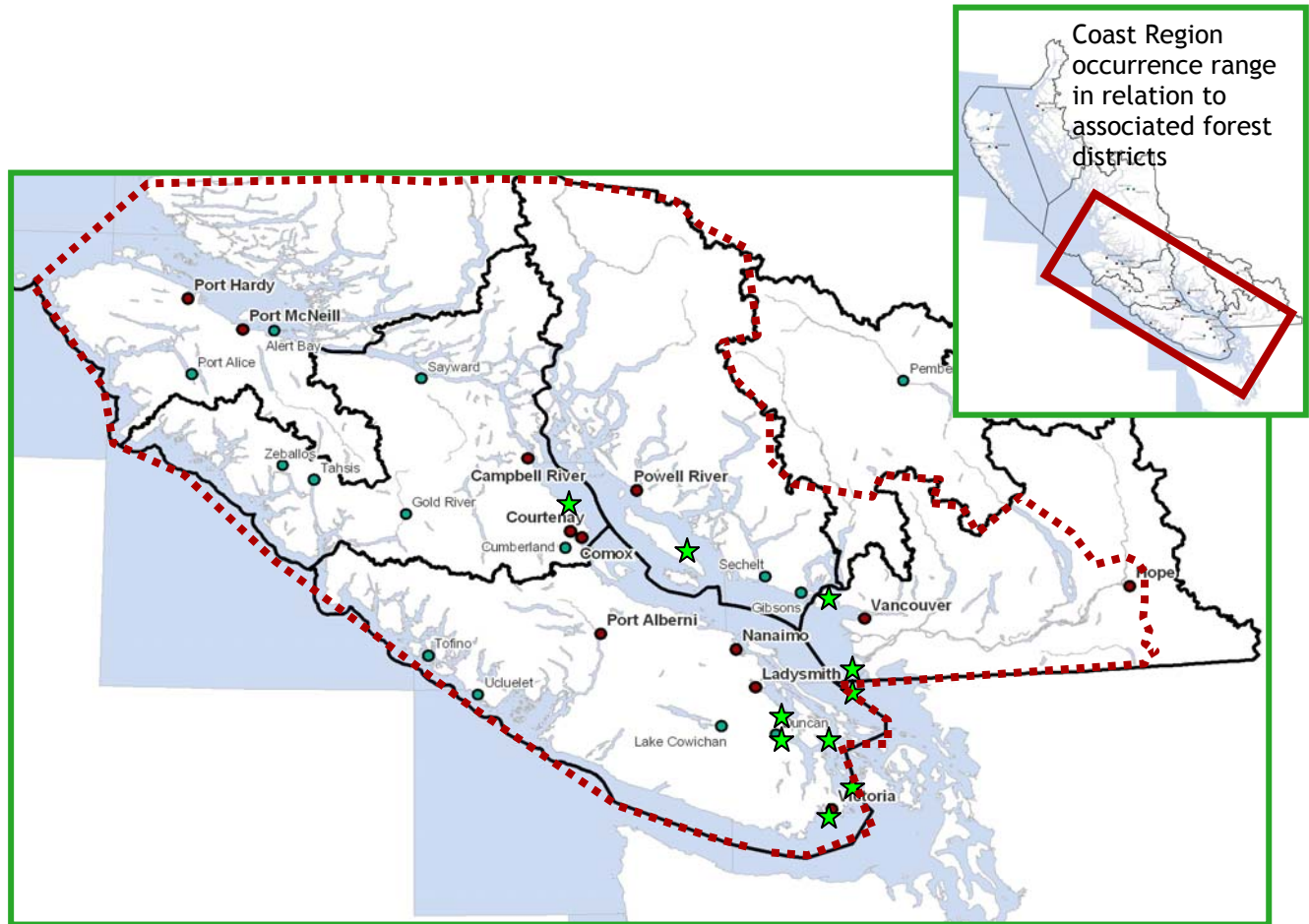
Pelagic Cormorant is the species most likely to be confused with *P. auritus* as they can be found congregating in the same waters seasonally. The Pelagic species has a much wider range covering the entire coast and open ocean areas of BC. The main distinguishing trait for Pelagic Cormorant are colours of the gular patch (much redder), and body plumage (more iridescent blue and green on the head), during breeding season. Pelagic Cormorant also has a white flank patch under the wings (usually visible only in flight). Several other species of waterbirds such as Common Loon and Common Merganser have similar body shapes in flight and may forage seasonally in the same waters as many seabirds.



Pelagic Cormorant

Distribution

On the Coast Region, Double-crested Cormorant is represented by the Pacific Population and is distributed based on time of year (breeding and non-breeding seasons). During breeding season birds can be found in colonies near the Fraser Estuary, Vancouver Harbour, Howe Sound and southeastern Vancouver Island. Nesting colonies on the South Coast (Delta-Tswassen, Howe Sound-Lion’s Bay area) have been experiencing declines over the last two decades. A nesting colony was once active above the seawall at Stanley Park in Vancouver but this site has declined and may no longer be in use. Birds can be found overwintering in freshwater rivers and lakes at various elevations throughout the Fraser Lowlands as far as Hope and in sheltered marine waters up and down both sides of the Straights of Georgia and Juan de Fuca.



Double-crested Cormorant (*Phalacrocorax auritus*), known occurrence range (breeding - green stars) and potential winter foraging distribution for the Coast Region

Habitat Preferences

Habitat use varies somewhat between breeding and non-breeding phases. Lakes, ponds, rivers, lagoons, swamps, coastal bays, marine islands, and marine coastlines; usually within sight of land are the most common habitats utilized. Nesting colonies can be found on rocky marine islets, coastal cliff formations or steep bluffs as well as human structures over or adjacent to water.



Critical Features

Nest colonies are constructed in areas 4-17 m above the high-tide line with good visibility on steeply sloping sites on the ground or on floating human structures in association with water. Open water, rock overhangs or height and gradient are key barriers to access by potential terrestrial predators. Nests range from a sparse collection of twigs and seaweed, to elaborate structures of sticks, well lined with grasses, seaweed, feathers and marine debris. As a colonial-nesting waterbird, Double-crested Cormorant congregate in areas with ample food resources and are dependent on the stability and predictability of those resources for successful breeding.

This species readily utilizes freshwater streams, rivers and lakes throughout the year in developed urban and rural areas as well as human structures such as high span bridges, buoys and docks.



Seasonal Life Cycle

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
			Courtship / Breeding									
					Eggs laid			Fledging				

Threats

- ◆ Nest predation by Glaucous-winged Gull and Northwestern Crow is believed to be the primary cause of nesting failure and declines in BC.
- ◆ Distribution of nesting colonies coincides with areas of concentrated human activity and pollution (e.g. oil spills).
- ◆ Long-term impacts to breeding and growth development from persistent marine pollutants such as polychlorinated biphenyls (PCBs), polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). All three have been found at elevated levels in the Pacific Population of this species.
- ◆ Instability and declines in main forage fish species contribute to declines in breeding success and potential impacts to over-wintering survival. This may increase with climate change effects on ocean conditions.
- ◆ Direct mortality from commercial fishing gear (net entanglements) as well as predator control on fish farms or by commercial fishermen.

Conservation & Management Objectives

- ◆ Apply conservation and management approaches and measures and fill critical knowledge gaps as set out in “A Status Assessment Of The Double-crested Cormorant (*Phalacrocorax auritus*) In Western North America”. Integrate complimentary recommendations identified in “Double-crested and Pelagic Cormorant Inventory in the Strait of Georgia in 2000” and the “Status of the Double-crested Cormorant in British Columbia

- ◆ Inventory and monitor using standardized methods (Resource Information Standards Committee # 13 draft protocol Inventory Methods for Seabirds: Cormorants, Gulls, Murres, Storm-petrels, Ancient Murrelet, Auklets, puffins, and Pigeon Guillemot.

Specific activities should include:

- ◆ Further research is needed on the effect of human disturbance on breeding success in coastal colonies. Guidelines to reduce human disturbance near cormorant colonies should be developed and implemented.
- ◆ Work with landowners to create conservation covenants to buffer and protect sensitive marine foreshore and coastal bluff habitats. Unprotected breeding colonies should be secured through habitat acquisition, administrative transfer, or long-term stewardship agreements as appropriate.
- ◆ Area management plans for each colony should be developed in cooperation with respective government agencies and stakeholders.
- ◆ Marine oil spill response plans should be evaluated and amended as necessary to address the needs of Double-crested Cormorant populations. Develop methods to monitor and assess annual mortality of adults and juveniles from pollution events.
- ◆ Movement patterns of breeding birds among colonies should be investigated. Surveyors should check for chick malformations potentially caused by environmental contaminants. Eggshell fragments and other tissues should be collected regularly from selected colonies for analysis of environmental contaminants.
- ◆ Census of other colonies and winter concentrations should be conducted on a regular basis to monitor population trends and persistence of breeding colonies.

This species is subject to protections and prohibitions under the BC Wildlife Act. Habitat for this species may also be governed under provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act as well as Regional and local municipal bylaws.

Content for this Factsheet has been derived from the following sources

- Adkins, Jessica Y. and Daniel D. Roby. 2010. [Internet] A Status Assessment Of The Double-crested Cormorant (*Phalacrocorax auritus*) In Western North America: 1998-2009. Prepared for the U.S. Army Corps of Engineers
- B.C. Conservation Data Centre. 2010. [Internet] Species Summary: *Phalacrocorax auritus*. B.C. MoE.
- Chatwin, Trudy A. et al 2000. [Internet]. Double-crested and Pelagic Cormorant Inventory in the Strait of Georgia in 2000. BC MoE. 2001.
- Gadsden, Gord. 2007. Fraser Valley Regional District[Pers. communication]
- Ministry of Environment, Lands and Parks Resources Inventory Branch. [Internet]. Inventory Methods for Seabirds: cormorants, gulls, murres, storm-petrels, Ancient Murrelet, auklets, puffins, and Pigeon Guillemot. Standards for Components of British Columbia's Biodiversity No. 13.
- Fraser, D.F., W.L. Harper, S.G. Cannings, and J.M. Cooper. 1999. [Internet] Rare birds of British Columbia. Wildl. Branch and Resour. Inv. Branch, B.C. Minist. Environ., Lands and Parks, Victoria, BC. 244pp.
- Moul, I.E., and M.B. Gebauer. 2002. Status of the Double-crested Cormorant in British Columbia, B.C. Minist. Water, Land and Air Protection, Biodiversity Branch, Victoria, BC. Wildl. Working Rep. No. WR-105 36pp
- Polster, D. et al. 2006. Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. Prepared for the BC Ministry of Environment. Victoria (BC).
- US Fish & Wildlife Service. 2006. [Internet] Alaska Seabird Information Series. Double-crested Cormorant *Phalacrocorax auritus*
- Wires, Linda R. and Francesca J Cuthbert. 2006. [Internet] Historic Populations of the Double-crested Cormorant (*Phalacrocorax auritus*): Implications for Conservation and Management in the 21st Century. Waterbirds 29(1): 9-37, 2006

Prepared by: Pamela Zevit of Adamah Consultants for the South Coast Conservation Program (SCCP) in partnership with: International Forest Products (Interfor), Capacity Forestry (CapFor) and the BC Ministry of Environment (BC MoE), E-Flora and E-Fauna the Electronic Atlas of the Flora and Fauna of BC, Species at Risk & Local Government: A Primer for BC. Funding for this factsheet was made possible through the Sustainable Forestry Initiative (SFI): <http://www.sfiprogram.org/>

Every effort has been made to ensure content accuracy. Comments or corrections should be directed to the South Coast Conservation Program: info@sccp.ca. Content updated August 2010.

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