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## **Appendix 5.4.8A**

# **Ring-necked Duck Species Account**

**Project Name:** Blackwater  
**Scientific Name:** *Aythya collaris*  
**Species Code:** B\_RNDU  
**Status:** Yellow-listed by the British Columbia Conservation Data Centre

## 1.0 DISTRIBUTION

### Provincial Range

Ring-necked ducks can be found throughout British Columbia.

### Elevational Range

Sea Level to 1,750 m elevation.

### Provincial Context

The only population estimates for British Columbia was of 28,000 birds in 1976, however, this species has expanded its range in recent decades across northern and northeastern British Columbia. The highest breeding densities of birds are thought to occur in the Shuswap-north Okanagan region, where an abundance of wetlands with emergent vegetation are present. Few breeding records are known from the coast, and most are from the Georgia Depression. This species vacates most of its breeding range by October, and when numbers may be found on the coast from Haida Gwaii to the Lower Mainland; principal wintering areas are located along eastern Vancouver Island.

### Project Area:

Ecoprovince:	<i>Central Interior</i>
Ecoregions:	<i>Fraser Plateau</i>
Ecoregions:	<i>Nazko Upland</i>
Biogeoclimatic Zones:	<i>Sub-boreal Spruce</i> <i>Sub-boreal Pine and Spruce</i> <i>Englemann Spruce-Sub-Alpine Fir</i> <i>Boreal Altai Fescue Alpine</i>

**Project Map Scale:** *project specific*

## 2.0 ECOLOGY AND KEY HABITAT REQUIREMENTS

Ring-necked ducks are found year-round in British Columbia, however, they are typically only found breeding in the interior and wintering along the coast. Ring-necked ducks in the project area are migratory, and likely arrive in May and depart in October. They are typically found on small freshwater wetlands year-round, most frequently in shallow fens and marshes; however, they also occur in swamps, bogs and in brackish tidal areas. Wetlands, such as beaver ponds and kettle lakes that are occupied during the breeding season typically have a mix of open water and emergent vegetation, fishless, and with acidic to neutral water conditions. Sedges and water lilies,

as well as smaller amounts of shrubs and other herbaceous vegetation are the types of vegetation most frequently found on breeding wetlands. This species has been found nesting mainly between 300 and 1,200 m, and while nesting has occurred throughout most regions in the province, the highest nesting density within the province is located in Shuswap-north Okanagan area.

### **3.0 HABITAT USE: LIFE REQUISITES**

#### **Living (LI)**

The Living life requisite for ring-necked ducks are satisfied by the presence of suitable reproductive, feeding, and security/thermal habitat, which are described in detail below.

#### **Reproducing (eggs)**

Reproductive habitat provides ring-necked ducks the ability to build a nest, incubate eggs, and raise young in safety from predators, precipitation, wind, and hot temperatures. Nests are typically over shallow water (0.3m), within a matrix of sedges and other herbaceous or woody water plants, frequently nests on top of sedge mats and adjacent to open water (~11m). Nests are also occasionally placed in upland areas, such as agricultural fields or in shallow depressions.

#### **Feeding**

Feeding habitat provides ring-necked ducks the ability to forage for aquatic invertebrates, plant seeds and tubers. Optimal habitat is provided by wetlands (structural stage 0) with emergent vegetation, typically fens and marshes.

#### **Security/Thermal**

Security and thermal habitat are provided by wetlands with emergent vegetation, typically fens and marshes, which provide ring-necked ducks with protection from predators and harassment. Optimal habitat is provided by wetlands (structural stage 0), typically fens, bogs and marshes.

### **4.0 TERRITORIALITY**

Ring-necked ducks are not known to be territorial. Paired males will only defend the space around their mate and potentially around the nest site, but males rarely accompany females to nesting sites. Many females have been known to nest on the same wetland.

#### **Season of Use**

Ring-necked ducks are likely present in project area only during the growing season (spring, summer, and fall), and based on the habitat requirements identified in this species account and the location of the project, the growing season will be rated (Table 1).

**Table 1: Monthly Life Requisites for Ring-necked Duck**

Month	Season*	Life Requisites
January	Winter	-
February	Winter	-
March	Winter	-
April	Early Spring	-
May	Late Spring	Reproductive/Feeding/Security&Thermal
June	Summer	Reproductive/Feeding/Security&Thermal
July	Summer	Reproductive/Feeding/Security&Thermal
August	Summer	Reproductive/Feeding/Security&Thermal
September	Fall	Reproductive/Feeding/Security&Thermal
October	Fall	-
November	Winter	-
December	Winter	-

## 5.0 HABITAT USE AND ECOSYSTEM ATTRIBUTES

Table 2 outlines how each life requisite relates to specific ecosystem attributes (e.g., site series/ecosystem unit, plant species, canopy closure, age structure, slope, aspect, terrain).

**Table 2: Relationship between Terrestrial Ecosystem Mapping (TEM) Attributes and the Life Requisite Ring-necked Duck**

Life Requisite	TEM Attribute
Living (reproduction, feeding, security/thermal)	<ul style="list-style-type: none"> <li>site-site series, site disturbance, elevation, structural stage</li> <li>vegetation - % cover by layer, species list by layer, structural stage modifier, stand composition modifier</li> </ul>

## 6.0 RATINGS

There is an intermediate level of knowledge of the habitat requirements of ring-necked duck in British Columbia and therefore, a 4-class rating scheme is used.

**Table 3: Habitat Suitability 6-Class Rating Scheme used for Ring-necked Duck**

% of Provincial Best	Rating	Code
100% - 76%	High	H
75% - 26%	Moderate	M
25% - 1%	Low	L
0%	Nil	N

## Habitat Suitability Ratings

Habitat Suitability is defined as the ability of the habitat in its current condition, to provide the life requisites of a species (RIC Habitat Rating Standards 1999). In assigning a suitability rating for ring-necked duck to a particular habitat that habitat is assessed for its potential to support the species for a specified season and life requisite compared to the best habitat in the province (i.e. the provincial benchmark) for the same season and life requisite. Each Biogeoclimatic zone, Site Series and Structural Stage (stages 1-7) is evaluated and assigned a Suitability Rating Class based on its ability to provide the life requisites for ring-necked duck for the growing season (spring, summer, and fall).

### Provincial Benchmark

Ecosection: Shuswap Basin Ecosection (SHB)

Biogeoclimatic Zones: Interior Douglas-fir; Sub-Boreal Spruce

Habitats: Wetlands (fens, bogs and marshes), and open water

### Ratings Assumptions

- Units with structural stages of 0 and with wetlands (fens, bogs and marshes) will be rated up to high.

**Table 4: Summary of General Habitat Attributes for Ring-necked Ducks**

Season	Life Requisite	Structural Stage	Requirements
Summer	Living (Reproduction, Feeding, Thermal/Security)	0	Open water, wetlands (principally fens and marshes)

## 7.0 RATINGS ADJUSTMENTS

Mapping adjustments to habitat ratings are suggested to reflect the extent of suitable habitat, and to reflect knowledge about use of wetlands throughout the study area.

## **8.0 LITERATURE CITED**

- Altman, B. and R. Sallabanks. 2000. Olive-sided Flycatcher (*Contopus cooperi*), in The Birds of North America, No. 502 (A. Poole and F. Gill, eds.). Birds of North America, Cornell University, Philadelphia.
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