



WAYNE LYNCH

# Alberta's Harlequin Duck

*(Histrionicus histrionicus)*

## special concern

## status

**Alberta:** Recommended by the Endangered Species Conservation Committee (ESCC) as a Species of Special Concern

**British Columbia:**  
Sensitive

**Saskatchewan:**  
Accidental

**Manitoba:** Accidental

**Northwest Territories:**  
May Be At Risk

**Nunavut:** May Be At Risk

**Yukon Territory:** Secure

**Canada (COSEWIC):**  
Special Concern  
(eastern population;  
NU and QC east)

**USA:** Apparently secure  
(N4B, N4N)

## Description

The harlequin duck is a small, subarctic sea duck that is known for the male's colourful plumage. The male has a slate-blue body, with a dark blue-brown belly, chestnut sides and streaks of white on the head and body. The head is dark, and the crown has a black stripe with a chestnut stripe on either side. Distinguishing characteristics are the white crescent in front of the eye and a white patch near the ear. The female is plainer, with dark brown body plumage, a white belly, and white patches behind, below and in front of the eye. Immature harlequin ducks have similar plumage to the females until the late autumn of their first year, when males begin to develop distinct plumage.

## Distribution

The harlequin duck has a Holarctic distribution, and populations are found along both the Pacific and Atlantic coasts of North America. The narrow habitat requirements of the species restrict its breeding range to the mountains and foothills of the Smoky, Athabasca, North Saskatchewan, Red Deer, Bow and Oldman river watersheds in Alberta. Within this range, harlequins are generally distributed in relatively low densities along streams and rivers with suitable habitat and limited human access.

## Habitat

Harlequin ducks spend 8 to 10 months of the year in rocky coastal habitats and

only migrate inland during the summer to nest. This behaviour pattern is unique among ducks in North America.

Individuals arrive in Alberta in late April or early May and nest along swiftly flowing, clear mountain streams that are removed from human disturbance and have adequate nesting cover on islands or along the banks to conceal nests. Harlequin ducks demonstrate a close association with very specific habitat and stream quality characteristics in their breeding habitat, and pairs will often return to the same area each year.

## Population

Harlequin ducks exist at low densities in Alberta and are unevenly distributed in relatively inaccessible watersheds, making it difficult to accurately estimate populations. Expert opinion on the size of the breeding population varies widely, with estimates as low as 1000 and as high as 3000, and trends cannot generally be assessed because of a lack of historical data. Where information is available, populations appear to have been stable over the last four to five years. However, western populations as a whole are believed to be of special management concern, because of the species' life history characteristics, breeding habitat requirements and sensitivity to human disturbance. The Canadian population along the Pacific coast is currently estimated at 200 000 to 300 000.



## Threats

Harlequin ducks live for a relatively long time and their life history characteristics tend to make them more vulnerable to human disturbance. Harlequin ducks have a relatively low population size, begin breeding at a late age (two to five years) and may not breed every year, resulting in low annual productivity. They have specific breeding habitat requirements within a small geographical range, and appear to be sensitive to human disturbance such as recreational activities that are concentrated near the shoreline, and development that alters the characteristics or water quality of streams. Harlequin ducks are subject to similar threats on their wintering grounds, where large numbers are concentrated in a small area.

## Management

The harlequin duck and its nests in North America are protected under the *Migratory Birds Convention Act* of 1917. A lack of information on the biology of harlequin ducks has made management of this species uncertain in the past, but research is now providing a basis for evaluation and

management of these ducks. Until recently, the harlequin was simply managed as a migratory game bird, although waterfowl hunting does not generally occur within its range in Alberta. Regional inventories and research initiatives have led to restrictions on recreational boating and rafting on a number of streams and rivers in Alberta, potential site-specific mitigation for the effects of mining, and monitoring programs to evaluate population response.

## What You Can Do To Help

**As a member of the public, a land manager, or an industrial developer:**

- Report any observations of the harlequin duck to the nearest office of the Fish and Wildlife Division, Alberta Sustainable Resource Development.
- Construct stream crossings with bridges or arched culverts and install pipelines by boring under streambeds.
- Contact wildlife management staff at the nearest Fish and Wildlife Division office for information on ways in which you can minimize impacts on harlequin duck populations.

