

**STATE  
THREATENED**

## Harlequin Duck

*(Histrionicus histrionicus)*



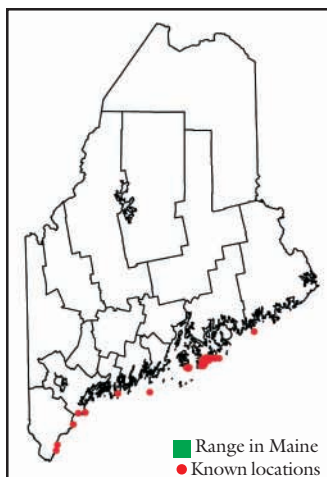
### Description

The harlequin is a small diving sea duck and is among the most beautiful waterfowl of North America. As such, it is much sought after by bird watchers and naturalists. The striking blue, white, black, and chestnut plumage of the males gives the duck its name, in honor of the Italian clown. Adult males have slate-blue bodies, chestnut flanks, and white streaks and spots on the head, neck, and back. A white crescent between the eye and the bill extends alongside the black crown stripe. Adult and juvenile females are uniformly sooty-brown with three white dots on the head. Young males achieve their adult plumage after the molt during their second summer.

### Range and Habitat

Harlequins are found in the northern hemisphere and winter on both the Atlantic and Pacific Oceans. The larger Pacific population (300,000 birds) breeds in Asia and western North America. Fewer than

15,000 harlequins are thought to exist in the Atlantic population, and they breed in eastern Canada, Greenland, and Iceland. Harlequins that winter along the coast of eastern North America, including Maine, seem to come primarily from a breeding population of about 1,800 individuals in southeastern Canada



(Quebec, Newfoundland, and Labrador). The closest nesting population occurs on the Gaspé Peninsula. The eastern Canadian population winters from Newfoundland south to Virginia, although the majority winter in the Gulf of Maine. About 1000 birds winter in Maine, primarily at a few traditional sites in outer Jericho and Penobscot Bays.

Eastern North American harlequins nest in the subarctic. They winter in small flocks on rough coastal waters and exposed rocky shores, especially on the outermost, remote islands in Maine.

### Life History and Ecology

Beginning in late March, harlequin ducks leave their wintering grounds and migrate to eastern Canada where they breed and nest inland along turbulent mountain streams and rivers. After mating, the females lay 3-8 creamy to buff-colored eggs that are incubated for about 28 days. The nest is frequently on the ground in a rock crevice or dense cover, although nests in tree cavities have sometimes been observed. After breeding, the males depart for molting areas along the coast. Some wintering birds from Maine were documented molting in Greenland. Despite being separated for a period of time each summer, harlequins establish long-term pair bonds that are reformed each year on wintering areas. Fall migration begins in September, and birds arrive on wintering areas in October and November. They winter in the same locations each winter, and the same pairs can often be seen feeding and resting at the same ledge year after year. They forage by diving in the foaming surf along remote, exposed rocky shorelines where they glean amphipods (small shrimp-like animals), small snails, and other marine invertebrates from the seaweed and bottom. They

spend much of the short winter days feeding, but during warm fall and spring days they haul out on the rocks to rest and preen.

## Threats

Compared to other waterfowl, harlequin ducks have an extremely low reproductive potential. They do not breed until they are three years old and have small clutch sizes. In some years, only half of the breeding-age females may breed, perhaps because of limited food resources or other disturbances in the breeding areas. As a result, the eastern North American population is particularly susceptible to sources of adult mortality. Harlequin populations declined from unrestricted subsistence hunting and liberal limits for sport hunting. Hunting was discontinued in eastern Canada and Maine in the early 1990s. A potential threat is oil spills. A catastrophic spill in outer Penobscot Bay in winter could affect most of the eastern North American population.

## Conservation and Management

The harlequin was listed as endangered in eastern Canada in 1990, but was removed from the Canadian list in 2001. It was listed as threatened in Maine in 1997. It was a candidate for federal listing in the early 1990s, and in 1998 was petitioned for federal listing. The proposed listing was determined to be unwarranted because of lack of information about movements between the three Atlantic breeding populations.

Because of concern about its status and future, considerable effort has been directed at conserving harlequin ducks in Maine. A University of Maine graduate student completed landmark life history studies in the 1990s and continues to capture and mark birds to document movements, survival, and site fidelity. Considerable research continues in eastern Canada to better document nesting areas and breeding success. MDIFW and others have conducted numerous comprehensive surveys of wintering habitat by shore, boat, and aerial counts. Satellite telemetry and genetic studies are underway to determine the relationship between Canadian and Greenland nesting populations and the origin of birds wintering off the coast of Maine. Population augmentation techniques have not been developed. It is believed that the population will slowly increase on its own in response to protection from hunting and other sources of human-caused mortality. As a state-threatened species, the harlequin is strictly protected in Maine.

## Recommendations:

- ✓ Avoid activities that routinely disrupt the feeding of harlequins on wintering areas (e.g., dragging for fish and shellfish, excessive disturbance by bird watchers and waterfowl hunters).
- ✓ Route oil-bearing ships away from known harlequin wintering areas and develop oil spill contingency plans for these habitats.
- ✓ Protect birds from poaching and other sources of human-caused mortality. 🐦