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# Harlequin Duck

## *Histrionicus histrionicus*

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Aves — Anseriformes — Anatidae

### CONSERVATION STATUS / CLASSIFICATION

Rangewide: Apparently secure (G4)  
Statewide: Critically imperiled breeding (S1B)  
ESA: No status  
USFS: Region 1: Sensitive; Region 4: Sensitive  
BLM: Peripheral species (Type 4)  
IDFG: Game bird

### BASIS FOR INCLUSION

Restricted distribution and low breeding population in Idaho.

### TAXONOMY

*Histrionicus* is a monospecific genus in the tribe Mergini (sea ducks). Genetically distinct populations of harlequin duck are associated with the Atlantic and Pacific oceans in North America. However no subspecies is currently recognized (Robertson and Goudie 1999).

### DISTRIBUTION AND ABUNDANCE

Harlequin ducks breed in the northeastern and northwestern U.S. and Canada, Iceland, Greenland, and eastern Siberia. Harlequin ducks winter along the Atlantic and Pacific coasts of North America, off the shores of Iceland, western Greenland, Kamchatka peninsula, in the southeastern Okhotsk Sea, Sea of Japan, and along the east coast of Korea. In Idaho, harlequin ducks breed along streams from the Canadian border to the Selway River and in southeastern Idaho near the Wyoming border (Cassirer et al. 1991, 1996). Population size of this species is unknown although the western North American population has been estimated at 150,000–200,000, with a wintering population of 1000 and a breeding population of at least 1600 in the U.S. outside Alaska (Cassirer et al. 1996, Robertson and Goudie 1999, Pacific Flyway Study Committee 2004). Approximately 70 pairs are estimated to breed in 16 breeding areas in Idaho (Cassirer et al. 1996).

### POPULATION TREND

Overall population trend is unknown. Wintering populations were stable in Puget Sound, Washington 1994–2004 (Nysewander et al. 2003, Pacific Flyway Study Committee 2004). Breeding populations in Idaho declined between 1995 and 2004 (Cassirer 2004).

### HABITAT AND ECOLOGY

Harlequin ducks are sea ducks that migrate inland to breed. Wintering areas are in shallow intertidal zones along rocky coastlines. Breeding occurs along clear, swiftly-flowing streams. Harlequin ducks dive or dabble to feed on freshwater and marine

invertebrates and use fish roe when available. In Idaho, harlequin ducks feed primarily on benthic macroinvertebrates and use 2nd-order or larger streams containing reaches with an average gradient of 1–7%, riffle habitat, clear water, gravel to boulder-sized substrate, and forested bank vegetation. This species establishes pair bonds on wintering grounds and migrates together to breeding areas. Nests are located near the stream on the ground, in or under stumps and logs, in cliff crevices, and in tree and streambank cavities. Clutch size averages 5–6 eggs (Robertson and Goudie 1999). Breeding areas in Idaho are occupied from April–September. A third of pairs are successful at raising a brood to fledging and average brood size at fledging is 3. Once incubation begins in mid- to late May, the male departs for molting grounds on the coast (Cassirer et al. 1991, Cassirer and Groves 1994). Males and females are separated while the female incubates, rears the young, returns to the coast, and molts. Pairs reunite on the wintering grounds and maintain long-term pair bonds (Smith et al. 2000). Harlequin ducks marked in Idaho have been observed along the coasts of Washington and British Columbia during the nonbreeding season (Cassirer and Groves 1994, Smith and Smith 2003). This species exhibits high fidelity to breeding, molting, and wintering grounds (Robertson and Goudie 1999, Iverson et al. 2004).

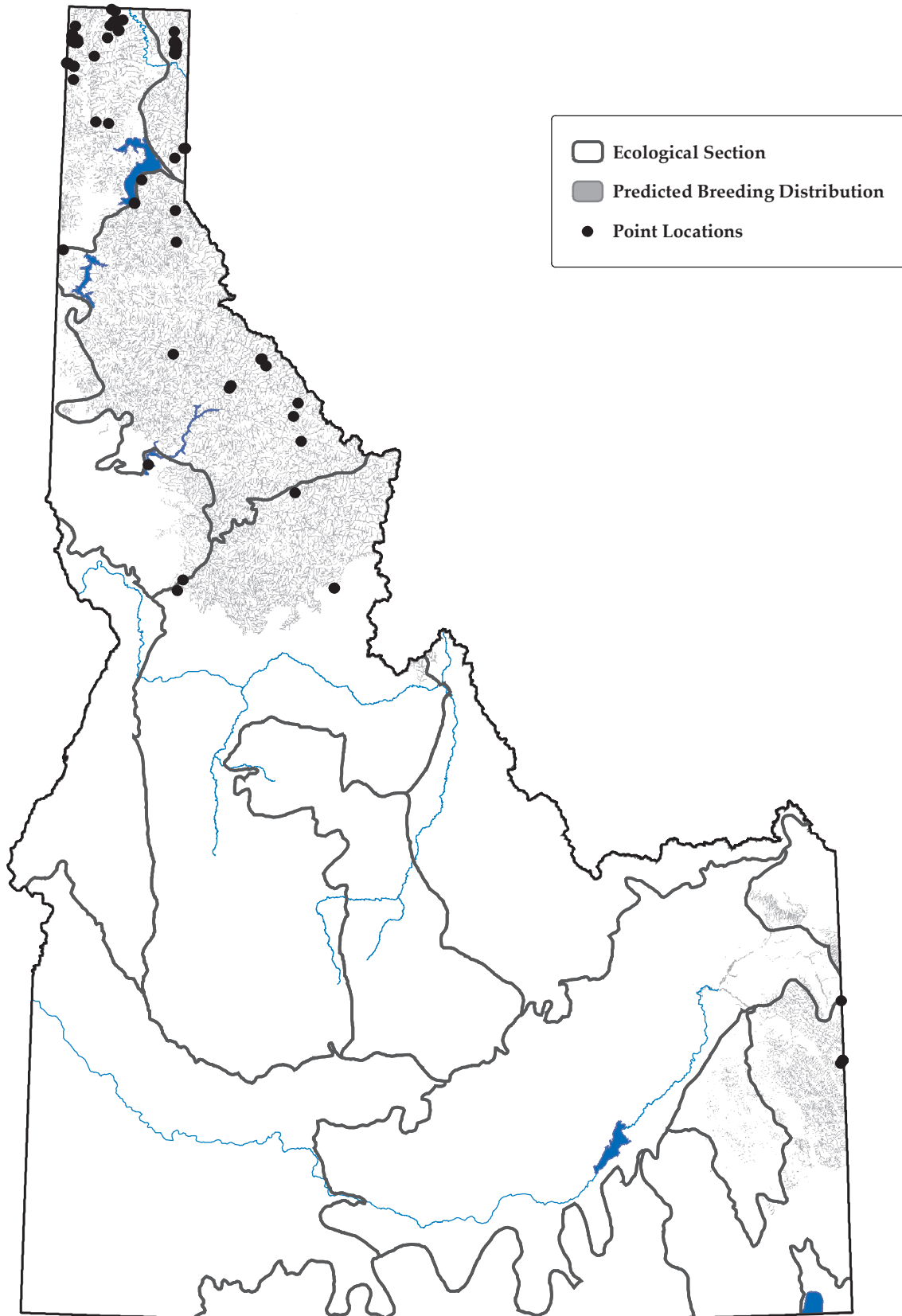
## **ISSUES**

Potential threats to harlequin ducks in Idaho include activities that affect riparian habitats, water yield, water quality, and increase disturbance during the breeding season (Cassirer et al. 1996). On wintering areas, harlequin ducks are vulnerable to destruction of coastal habitat and pollution such as oil spills (Robertson and Goudie 1999, Esler et al. 2000). Overharvest of remnant populations on wintering areas likely caused a significant decline in the Atlantic population of harlequin ducks (Goudie 1989). Washington and British Columbia have adopted reduced bag and possession limits due to concerns about the potential impacts of harvest (Pacific Flyway Study Committee 2004).

## **RECOMMENDED ACTIONS**

Habitat conservation needs include protection of breeding area watersheds, and coastal molting and wintering sites (Cassirer et al. 1996). Current information needs include demography, population size, and trend (Robertson and Goudie 1999, Pacific Flyway Study Committee 2004). Metapopulation structure and dispersal rate data are needed to delineate appropriate population management units (Iverson et al. 2004).

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Map created on September 21, 2005  
and prepared by Idaho Conservation Data Center.  
Sources: Point data are from Idaho Conservation Data Center,  
Idaho Department of Fish and Game (2005). Predicted distribution  
is from the Wildlife Habitat Relationships Models (WHR),  
A Gap Analysis of Idaho: Final Report. Idaho Cooperative Fish  
and Wildlife Research Unit, Moscow, ID (Scott et al. 2002).  
Predicted distribution is approximate (for more information, go to  
[http://www.wildlife.uidaho.edu/idgap/idgap\\_report.asp](http://www.wildlife.uidaho.edu/idgap/idgap_report.asp)).

