
New longevity record for Harlequin Duck more than 20 years

Harlequin Ducks (*Histrionicus histrionicus*) belong to the sea duck tribe (Mergini). They are specialized in feeding and nesting along fast-flowing streams and rivers. The western North American population breeds on streams from northern Wyoming to Oregon through Idaho, Montana, and Washington, throughout British Columbia and the mountainous areas of Alberta, and north into the Northwest Territories, Nunavut, Yukon and Alaska (Robertson and Goudie 1999). In winter they exploit intertidal habitats along the Pacific Coast, from northern California northwards through Alaskan waters (Palmer 1976).

Harlequin Ducks are similar to other species of sea ducks in that they have delayed sexual maturity, low annual production, high annual adult survival, and a long life span (Goudie et al. 1994). Life span may be longer for males than for females, as females generally have lower summer survival likely due to higher predation risk while nesting, whereas adult males and females have similar winter survival rates (Cooke et al. 2000). The documented longevity for Harlequin Ducks was only 10 years in 1999 (Robertson and Goudie 1999), but postulated to be 15-20 years (COSEWIC 2013). Harlequin Ducks are not as commonly

studied or hunted as many other waterfowl species, so it was not until researchers began using uniquely coded (different combinations of letters and numbers) color bands ca. 1994 (Rodway et al. 2003), on the opposite leg as the standard USFWS metal bands, that longevity records for this species began to accumulate. Contrary to many other waterfowl species, Harlequin Ducks frequently leave the water to rest on semi-submerged rocks and boulders (or floating logs) between feeding bouts, and the coded band is then readable using a spotting scope.

On 7 May 1995 we captured a male Harlequin Duck in a mist net set across the Bow River (Smith 2000, Smith et al. 2015) approximately four km southeast of Lake Louise, Alberta (51.399° N, 116.137° W) in Banff National Park. We applied a standard USFWS metal band (#0925-22212) on the right leg, and a red Darvic plastic band (Pro-touch Engraving, Saskatoon, SK) with white code BO@ on the left leg. He was aged as after-second-year by his definitive adult male plumage (Smith et al. 1998), meaning that he hatched in at least 1993. Male BO was recaptured again on the Bow River in spring 1996 and 1997.

Male BO was not observed again until 14 Mar 2014 at Hornby Island (49.541° N, 124.649° W), about 25 km southeast of Comox, BC, when John Ashley deciphered his band code using a 20-45x spotting scope. Hornby Island is one of a number of Pacific herring (*Clupea pallasii*) spawning areas in the Strait of Georgia that attract waterbirds to feed in aggregations of 50,000 to 300,000 individuals in late winter (Campbell et al. 1990, Haegele 1993). Aggregations of 3,400 - 5,500 Harlequin Ducks have been estimated there (Rodway et al. 2003).

At the time of his resighting, male BO was a minimum of 20 yr and 9 mo old, setting a new longevity record for Harlequin Duck, eclipsing previous records of 18 yr and 3 mo, and 18 yr and 10 mos (Lutmerding and Love 2016). Two other color-banded male Harlequin Ducks were observed on 12 and 13 Mar that may have been 19 and 20 yr of age, but the bands were very worn and the observer was not confident enough of the codes to submit them as resightings. This does suggest, though, that 20-yr-old Harlequin Duck males may not be

unusual. The ability to follow individual Harlequin Ducks identified with uniquely coded color leg bands that can be read from a distance has led to discoveries other than longevity, including the age when males obtain definitive basic plumage (Smith et al. 1998), the prevalence of long-term pair bonds (Smith et al. 2000), that females lead their young to the molting and/or wintering area (Regehr et al. 2001), and the extent of wintering area philopatry (Robertson et al. 2000).

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Harlequin Duck
 George West (Birchside Image portfolio)