

Current Status Report:

Connecting Wyoming's Breeding Harlequin Duck Population to their Important Wintering and Molting Areas and Identifying Crucial Habitats

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Use of Funding:

Through the generous support of the Meg and Bert Raynes Wildlife Fund, the Biodiversity Research Institute (Portland, ME) purchased two satellite transmitters from Telonics Inc. (Mesa, AZ) and two geolocator tracking devices from Migrate Technology (Cambridge, UK). In May 2016, Lucas Savoy of BRI traveled to Jackson, Wyoming to meet up with the remainder of the field team. The two satellite transmitters and two geolocators were successfully deployed among two breeding pairs of harlequin ducks in Grand Teton National Park. We successfully tracked the two males equipped with a satellite transmitter to their Pacific coast molting areas and wintering areas. The cost to acquire the remote satellite data during the harlequin tracking was also provided by the Meg and Bert Raynes Wildlife Fund.

Current Project Results:

During May 19-21 (2016), we successfully captured two breeding pairs of harlequin ducks in Grand Teton National Park. A mist net was strung across the stream and each pair of harlequin ducks were captured and safely removed from the nets. Each pair was quickly transported together to a nearby field cabin for processing. Each harlequin duck was weighed, measured, and banded with a USGS stainless steel metal leg band and an orange coded plastic leg band was placed on the opposite leg. A sample of whole blood (1.0 ml) was drawn and a feather plucked from each harlequin. The samples will be analyzed for mercury concentrations. A satellite transmitter was surgically implanted in each of the two male harlequins by the team wildlife veterinarian. A geolocator tracking device was attached the plastic color leg band of each of the two females. Each pair of harlequins was held for approximately 1 hour after processing, to closely monitor their recovery. As expected, the procedures went accordingly and each pair of harlequin ducks were released together at the capture location of their respective breeding stream. The capture and tagging effort was highly successful. Both satellite tagged male harlequins migrated from their breeding streams in Grand Teton NP to their Pacific coast molting locations. One male departed Grand Teton NP on July 01 and the other on July 10. Both male harlequins migrated across the boreal forest areas of Montana, Idaho and Washington toward the Pacific coast. Migration lasted between 3-9 days (Figure 1). Each male molted in differing areas along the west coast of Vancouver Island, British Columbia, Canada. We will continue to monitor the movements of the male harlequin ducks. Funding support through the state of Wyoming will enable the field team to expand the project and revisit the breeding streams in Grand Teton NP in spring 2017, in an effort to recapture the

two female harlequins and retrieve the geolocator tracking devices and download the data to determine their molting and wintering areas. We will also deploy four additional satellite transmitters.

Public Outreach:

In 2016, similar harlequin duck studies simultaneously occurred in neighboring Montana, as well as Washington and Alberta, Canada. A collaborative presentation summarizing the migration data and connecting breeding areas to Pacific molting and wintering areas was created and displayed at the 6th International Sea Duck Conference, San Francisco, California (February 6-10). A publicly accessible project page was created on Biodiversity Research Institute's website:

<http://www.briloon.org/harlequin-duck-study-in-wyoming>

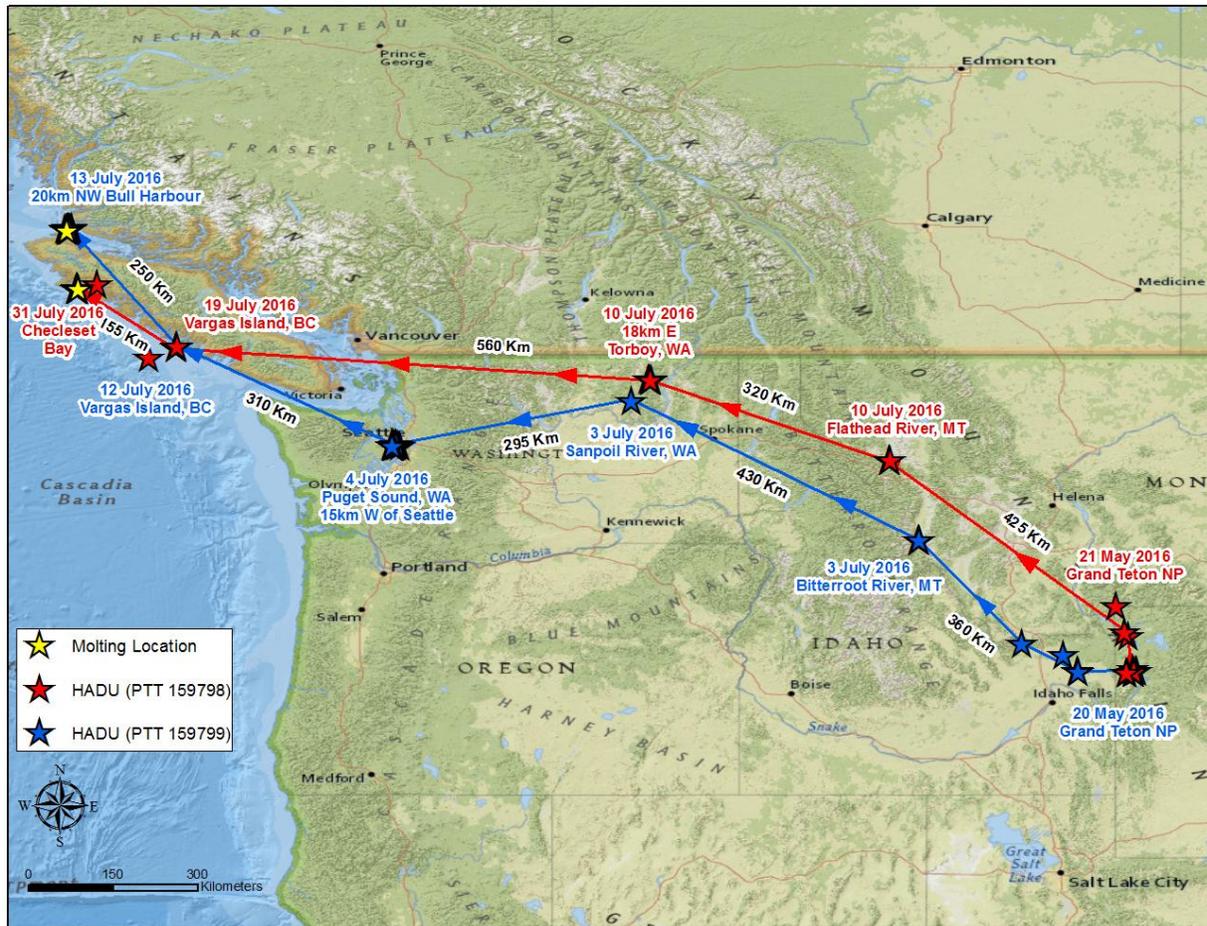


Figure 1: Migratory locations of two male harlequin ducks satellite tagged in Grand Teton national Park, 2016.