Summary of Sea Duck Joint Venture Research Projects for FY2023

PROJECT # and TITLE	COLLABORATORS	DESCRIPTION	ESTIMATED COST TO SDJV IN FY2023
SDJV #171: Identifying the diets and breeding areas of harvested juvenile sea ducks: a continued stable isotope investigation	University of Maryland Center for Environmental Studies, University of Florida, U.S. Geological Survey	The project is a follow up to SDJV project No. 158 funded in 2019 : Evaluating Stable Hydrogen Isotopes for Identifying Breeding Areas of Harvested Sea Ducks. The pilot project indicated that stable hydrogen isotope ratios (δ2H) are a promising tool for identifying the breeding grounds of hunter-harvested long-tailed ducks (LTDU) and surf scoters (SUSC). The new proposal intends to expand on those result to assess (1) variation in the location of breeding habitat across flyways and (2) the potential of coastal/marine habitat as fledgling areas. The goals of the new project are (1) increase feather sample sizes and fill geographic gaps for hunter-harvested juvenile LTDU and SUSC, (2) use δ13C, δ15N, and δ34S values to identify birds provisioned from terrestrial/freshwater vs. coastal/marine habitats during the period of feather growth, (3) use δ2H values to create a likelihood-of-origin map to identify geographic areas where individuals provisioned from terrestrial/freshwater environments fledged, and (4) evaluate hypotheses about variation in the location of fledging grounds of these species among flyways. Once complete the project should provide an isotopic map/process that will help to describe broad-scale dispersal patterns of juvenile sea ducks and delineate breeding grounds for LTDU and SUSC.	$83,461
SDJV #162: Identifying demographic bottlenecks and habitat use to support the recovery and management of American Common Eider: A range-wide, full life-cycle telemetry project	Canadian Wildlife Service, Ducks Unlimited Canada, Acadia University, Environment and Climate Change Canada, University of Quebec at Montreal	The goal of this project is to fill several critical information gaps through a range-wide satellite telemetry deployment in American Common Eider (AmCOEI). The primary objectives include: 1) Estimate relative levels of breeding propensity and body condition across the breeding range of AmCOEI; 2) Identify the periods in the annual cycle when mortality of adult females occurs; 3) Use telemetry data to identify marine habitat use, assess marine ecosystem changes in eastern North America and identify drivers of	$125,504 (years 3 and 4 of the project)

		altered abundance and habitat use by AmCOEI; 4) Identify inshore benthic habitat used by common eiders to inform impact assessment and marine spatial planning processes, as well as coastal and marine protected area planning and establishment.	