

Summary of SDJV Research and Monitoring Projects for FY2021

(costs estimated as of April 14, 2021; subject to change, and conditional on funds availability)

PROJECT	LEAD(S)	DESCRIPTION	ESTIMATED COST TO SDJV IN FY2021
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 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.	\$241,245
SDJV #163: Improving US Sea Duck Harvest Estimates Through Improved Sampling Design and Model Development	U.S. Geological Survey - Patuxent, U.S. Fish and Wildlife Service - Migratory Bird Management, Environment and Climate Change Canada	The goal of this project is to provide recommendations for future survey/sampling modifications to improve sea duck harvest estimation. Project objectives include: 1) Develop Bayesian hierarchical models to estimate species' harvests by integrating data from the Waterfowl Harvest Survey and the Parts Collection Survey; 2) Evaluate model structures to identify critical factors affecting harvest estimation and determine streamlined design elements that capture main sources of uncertainty for performance; and, 3) Design a sampling scheme that most accurately estimates sea duck harvest on an annual basis.	\$80,400
SDJV #164: Assessing Hunting Pressure on Common Eiders in Chukotka, Russia	Wildlife Conservation Society – Beringia Program	Common Eiders are an important subsistence species across their range, although detailed knowledge about harvests in Chukotka (Russian Federation), Alaska, and Arctic Canada are	\$21,239

		poorly understood. Consequently, population modeling and management of this species is constrained by lack of information about mortality rates. This project focuses on understanding hunting pressure on Pacific Common Eiders from the population shared with North America, while wintering in coastal Chukotka waters. The primary objective of the study is to design and implement a comparable survey tool to those used in North America that can be reliably administered in Russia. The survey will be implemented through WCS's Russian partner Birds Russia. The key product will be a statistically defensible estimate of the magnitude of eider hunting in Chukotka, along with ancillary information on distribution of that pressure, any sex bias in the harvest, and any observations of change over time.	
SDJV #165: Nutrient Reserve Dynamics of American Common Eiders in New Brunswick Throughout the Annual Cycle – Data Entry	Avifaune, Canadian Wildlife Service, Environment and Climate Change Canada, University of Windsor	This project involves entry of a large dataset containing morphometric, lipid, and protein content of American common eiders, providing a pre-decline baseline of nutrient dynamics, and development of a set of models to allow researchers to estimate body condition (lipid and protein levels) of American Common Eiders throughout the annual cycle. The objectives are: 1) Collate and copy a large dataset on body composition analyses of American common eiders that has been archived on paper datasheets; 2) Develop a database to expedite efficient and accurate entry of data and facilitate the linkages with ancillary datasets on gut contents, parasite loadings and nest success; and, 3) Data entry and validation.	\$8,925
SDJV #166: Advancing Trans-boundary Sea Duck Conservation Actions: Surf Scoter Habitat Use and Movement Patterns in the Salish Sea.	Washington Department of Fish and Wildlife, Canadian Wildlife Service	The primary goal of this project is to identify critical habitat features and timing of habitat use for Surf Scoters in the Salish Sea. Objectives include: 1) Deploy a minimum of 60 GPS-GSM transmitters on Surf Scoters between Padilla Bay, Washington, US north into the Juan de Fuca Strait and the Strait of Georgia, British Columbia, Canada; 2) Create detailed spatial data products that can be used to identify critical habitat features	\$25,257

		to inform marine spatial planning, emergency preparedness and response, and other relevant conservation planning initiatives in the Salish Sea; and, 3) Establish relationships with regionally-relevant interpretive centers using data collected from marked Surf Scoters.	
SDJV #167: Estimating Sea Duck Productivity in Eastern North America Using a Photographic Survey	State University of New York-Brockport, USFWS Migratory Bird Management, Maine Department of Inland Fisheries and Wildlife	The primary goal of this project is to obtain annual estimates of productivity for the four target species of sea ducks at the eastern North America scale (Black Scoter, Surf Scoter, White-winged Scoter, and Long-tailed Ducks). Ground-based photographs of sea ducks will be collected, analyzed, and used to classify age and sex cohorts in eastern North America. This effort expands the spatial extent of a pilot survey conducted the fall and winters of 2018/19 and 2019/20, and data collection within the current extent, through the addition of personnel resources. Objectives are to evaluate the current survey design, increase sample sizes, and improve data analysis. This survey may lead to annual surveys of productivity, or a method to correct annual Parts Collection Survey estimates of productivity based on differential vulnerability to harvest of cohorts.	\$74,749