

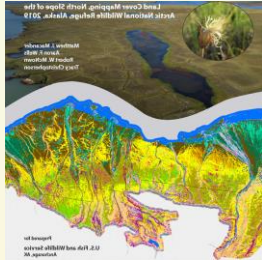
ABR, Inc.—Environmental Research & Services

info@abrinc.com | 907-455-6777



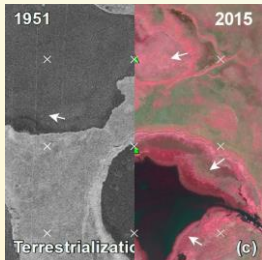
Caribou Herd Overlap

A team led by Alex K. Prichard compiled satellite telemetry data from 2003–2015 to explore the rates at which caribou from four arctic herds—the Western Arctic, Teshekpuk, Central Arctic, and Porcupine Herds—spent time with herds that were not their own. In a peer reviewed publication, the team finds that interchange was more common in the Teshekpuk and Central Arctic Herds, the smaller of the four, and that caribou from those herds could spend over a year with other herds.



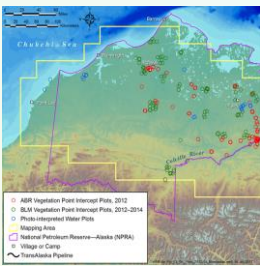
ANWR Habitat Mapping

ABR ecologist Aaron Wells and geographer Matt Macander produced a land cover map of the Arctic National Wildlife Refuge's North Slope region, including the entire 1002 area. They prepared a calibrated Worldview-2/3 imagery mosaic with estimated surface reflectance values at 2-m resolution and developed image segments (i.e., superpixels) from the WorldView mosaic. Field surveys in 2019 and expert photo-interpretation informed the assignment of land cover classes to a set of training and validation segments. The new map provides more accurate land cover and vegetation information than previous land cover maps.



Becharof National Wildlife Refuge Landscape Change

ABR ecologists JJ Frost and Aaron Wells developed long-term monitoring (LTM) and repeat photography (RP) networks for the Alaska Peninsula/Becharof National Wildlife Refuge. The LTM network consisted of intensive field plots with quantitative, repeatable measurements of vegetation, soils, and geomorphology. The RP network consisted of a historical photography database compiled from online archives, USFWS archives, and outreach efforts at Alaska Peninsula villages. LTM plots and RP stations are co-located to the greatest extent possible to increase the interpretive power and cost-effectiveness of monitoring efforts.



Mapping & Modeling Attributes of an Arctic–Boreal Biome Shift

In collaboration with the NASA Terrestrial Ecology Program and Northern Arizona University, ABR geographer Matthew J. Macander and ecologist Gerald V. Frost are developing extensive shrub structure calibration and validation data sets from airborne lidar and predictor data for modeling plant functional type cover in multiple epochs. They plan to develop and evaluate plant functional type fractional cover models at 30 m resolution, characterize the uncertainty of the models, and archive the final products.



Seabird Mortality Surveys

ABR collaborated with National Park Service to manage coastal carcass surveys in the Bering Land Bridge National Preserve and Cape Krusenstern National Monument. Surveys were conducted by local pilots from Golden Eagle Outfitters to reduce the risk of viral transmission in remote communities while collecting data critical to monitoring marine resources in the southeastern Chukchi Sea.



Management and analysis of avian data for the US Fish and Wildlife Service

The ABR wildlife team has begun work on manuscript and data management projects exploring various aspect of Alaska’s avian populations. These projects include field surveys and data management for Steller’s eiders near Utqiagvik, analysis of nesting ecology of Yellow-billed Loons in north-central Alaska, a manuscript describing Chukchi Sea seabird communities, designing surveys for overwintering Steller’s Eiders, and a statewide database of eagle nests.



Monitoring subsistence fishery in Nuiqsut

Fall 2020 will be ABR’s 14th year conducting on-ice subsistence harvest interviews and monitoring on the Nigliq Channel of the Colville River near Nuiqsut, Alaska. This year, ABR also conducted the first year of related subsistence harvest interviews during the open water (ice-free) fishing season. These summer fishery data will complement the fall under-ice fishery data set and include fishing data from outside the delta (e.g., lakes and other waterbodies).

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