

SEATRACK - More than a decade of multi-species, multi-population tracking of seabirds on an ocean-basin scale





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SEATRACK is a large-scale international collaboration of

69 partners from 52 institutions based in 14 countries that systematically track seabirds since 2014.

Main questions Where are North Atlantic

SEAPOP

NINA

Åbo Akademi University

ACADITA

BirdLife

BirdLife SVERIGE

TJÓÐSAVNIÐ

LUNDS UNIVERSITET

HERIOT WATT

McGill McGill

HAVSTOVAN

INSTITUTE OF GEOGRAPH
Russian Academy of Sciences
Founded in 1918

NIBIO

UCC

University of Gdańsk

NÁTTÚRUSTOFA AUSTURLANDS

University of Glasgow

seabirds when they are not breeding? And why are they there?

How does the changing environment and human activities affect their demography and population trends?

Theme 1 Migration & wintering strategies Life history & Contaminants population & diseases dynamics Ecosystem based and marine spatial planning **Theme 3**

16 study species

Chosen to represent the North Atlantic seabird community

Black-legged kittiwake Northern fulmar Arctic tern

Leach's storm petrel

Great Skua Glaucous gull

Lesser black-backed gull

Herring gull

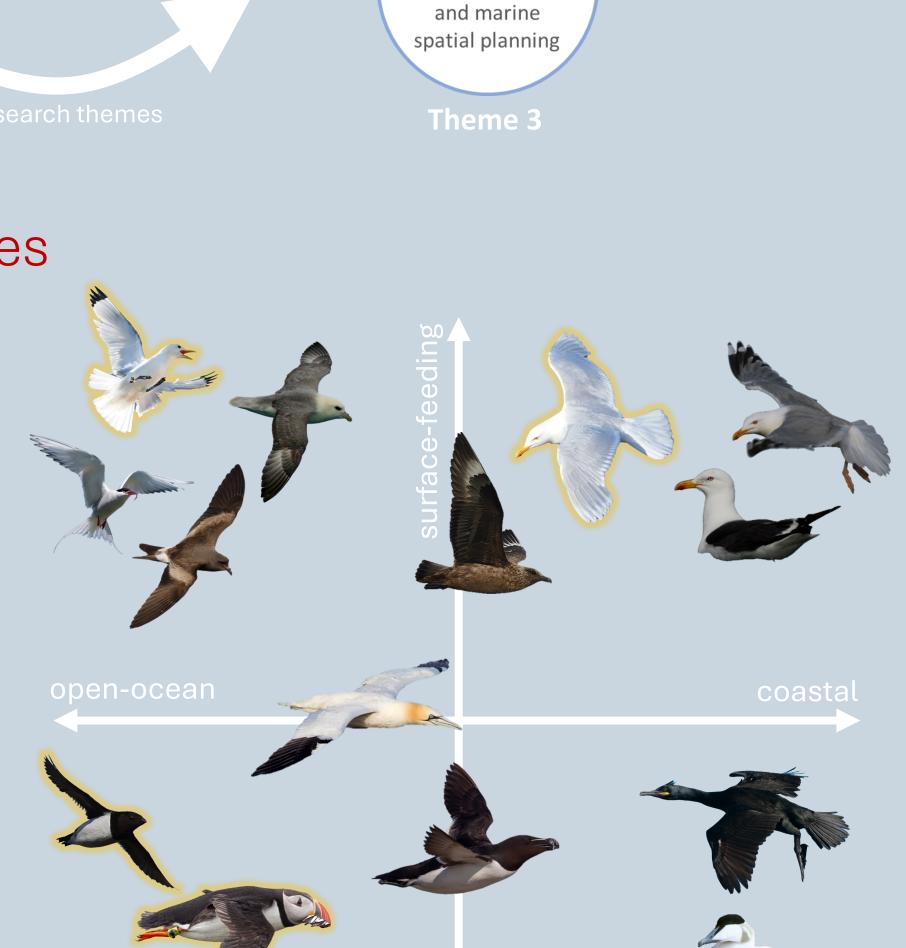
Northern gannet Little auk

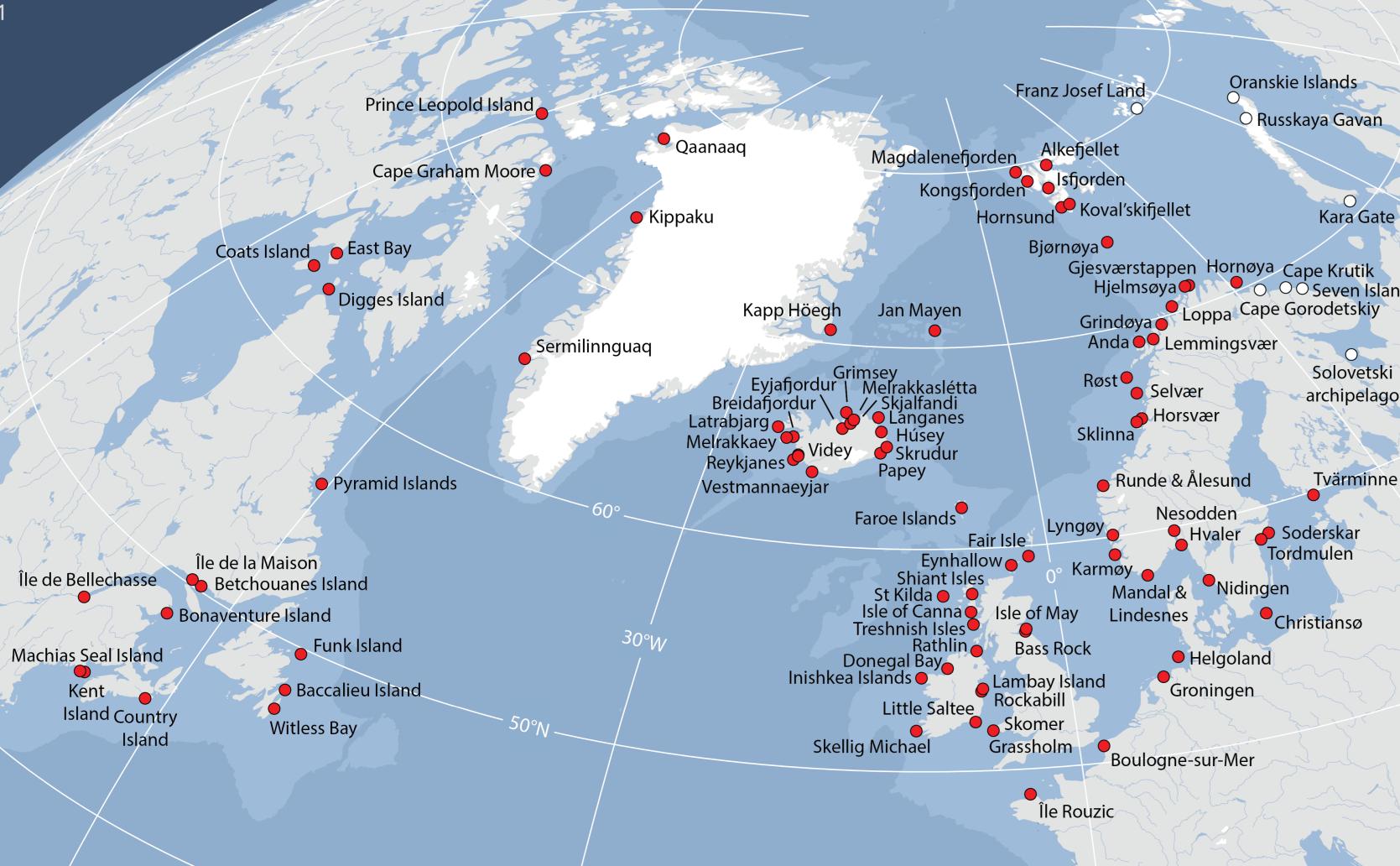
Atlantic puffin

Common guillemot

Brünnich's guillemot Razorbill

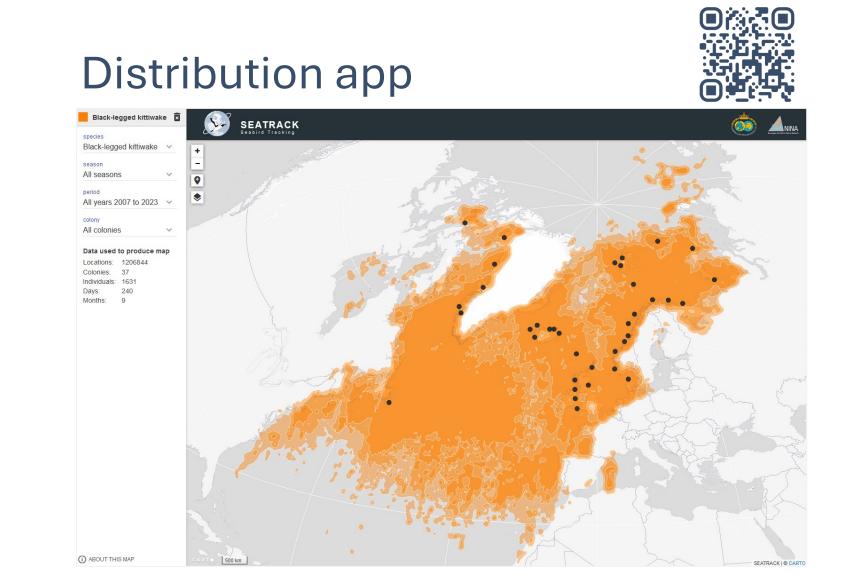
European shag Common eider

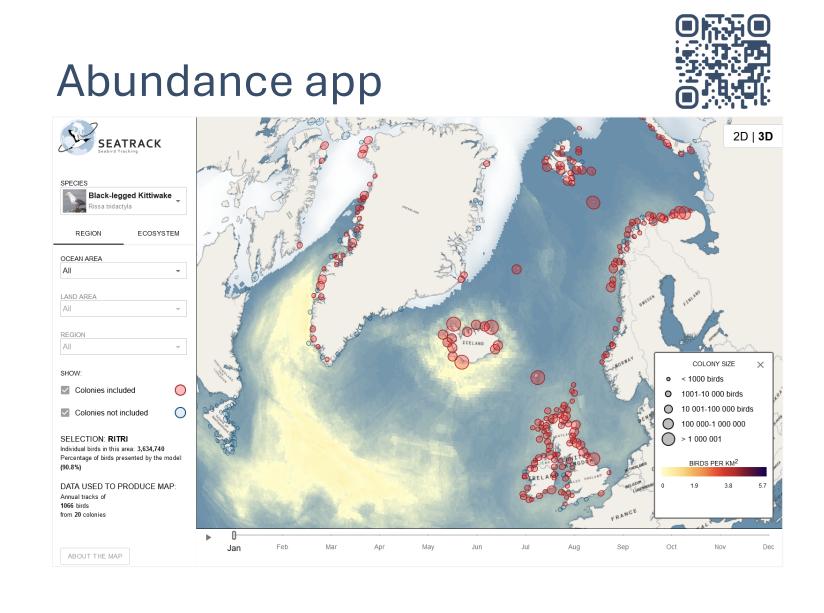




SEATRACK field sites throughout the North Atlantic. Russian colonies are not included in phase III of the program (white dots).

Data products





Strengths of SEATRACK

Collaboration

Enabling synergies Pooling resources

Infrastructure

Logistics

Standardization & comparability

Big picture

Multi-species hotspots

Community connectivity & vulnerability General migration corridors

Real world impact

MPA, IPA, ERA, OSPAR, OSPAR, CIEM

Updatable

New population estimates Increased spatial coverage (incl juveniles) Improved methodology

Approach

Large-scale simultaneous and coordinated seabird tracking across the North Atlantic, with the help of:

- Common sampling protocol
- Standardized meta data collection
- Standardized data processing
- Centralized database and file archive
- Formalized data sharing
- Agreement of understanding
- Annual workshop

The project's history

Technology

Additionally, juveniles are tracked of species in yellow

Light-level geolocators (all species)







Data Annually

~2 000 - 2 600 deployments (**~500** on chicks since 2019) ~1 000 - 1 400 retrievals

Database status as of 2023

~25 000 loggers deployed

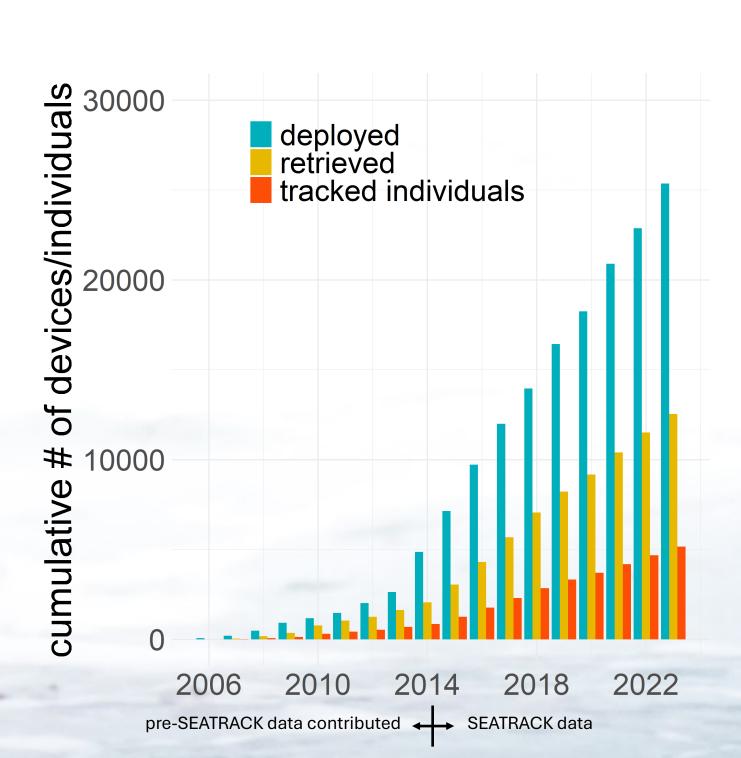
~12 000 loggers retrieved

>5 100 individuals tracked

~4.3M location datapoints

~2.4B sensor datapoints

(light, temperature, immersion)



2018 2022 PHASE III **PHASE II**

2014 11 species The Northeast Atlantic

geolocators

PHASE I Light-level

Tracking juveniles Northwest Atlantic

Exploring new GPS

logger technology

5 new species Expansion towards Enhance spatial

GPS-GSM tracking





















Environment and Climate Change Canada Want to get involved? seatrack@npolar.no