Census of Environment: A framework for salt marsh ecosystem accounting

Released at 8:30 a.m. Eastern time in The Daily, Tuesday, November 8, 2022

Salt marshes are important coastal wetlands that provide benefits, such as global climate regulation, coastal protection against storms and flooding, and provision of habitat for many species of plants and animals.

To measure the ecosystem benefits salt marshes provide, Statistics Canada is releasing an accounting framework for measuring salt marsh extent, condition and ecosystem services. These accounts are part of Statistics Canada's new Census of Environment program, which will eventually report on all ecosystems in Canada.

Measuring salt marsh ecosystems in Canada

Data for 2022 indicate that there were 3,602 km^2 of mapped salt marsh in Canada. An additional 1,304 km of the coastline were classified as salt marsh but had no associated area estimate. Overall, 63% of Canada's mapped salt marsh was on the Arctic coast, mainly on Hudson's Bay; 17% was on the Pacific coast, and 21% was on the Atlantic coast.

The known extent of these coastal ecosystems covers an estimated 9% of Canada's coastline. Other coastal ecosystems include tidal mudflats and sandy and rocky beaches. However, large areas of Canada's coastline are unclassified.

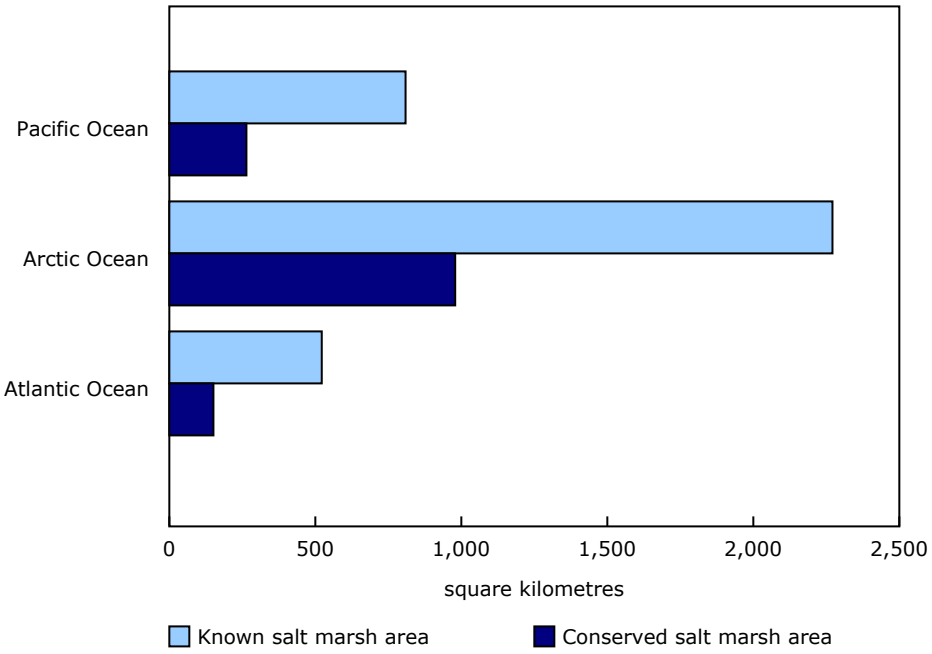
More than one-third of mapped salt marsh area is conserved

Salt marsh vegetation is adapted to withstand stress from daily flooding with salt water. However, it is still affected by climate change and human activities.

Some salt marsh areas are protected by provincial and federal legislation, such as provincial parks acts or the *Canada Wildlife Act*, while others are conserved through other conservation measures. In 2021, 38% of salt marsh on the Arctic coast was conserved, compared with 33% on the Pacific coast and 23% on the Atlantic coast.

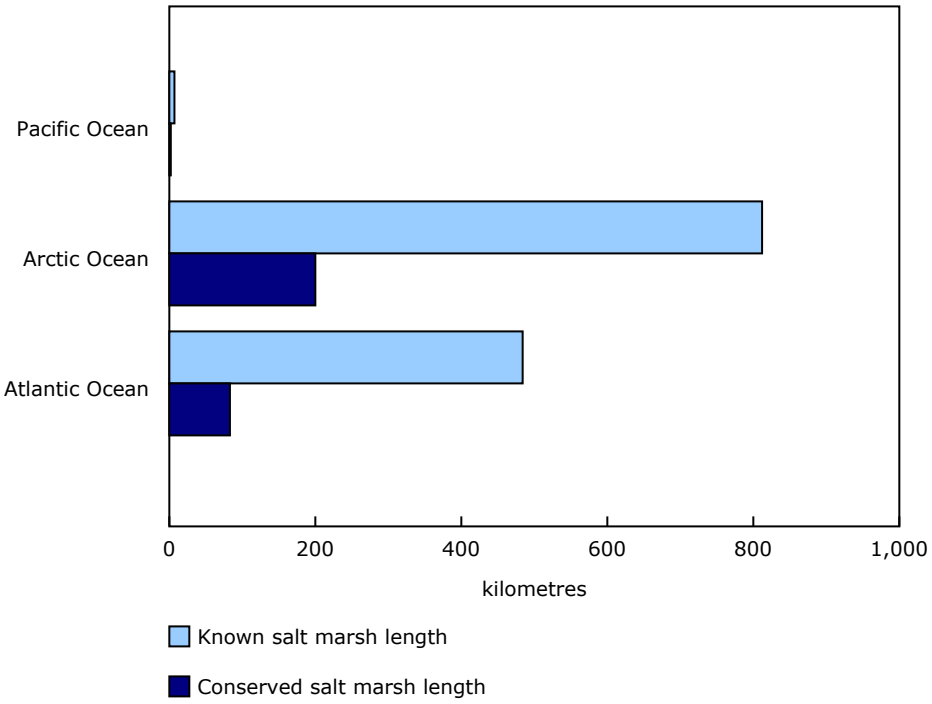
While these salt marshes are safe from the direct threat of development, they remain open to indirect and cumulative impacts as they are connected to and influenced by both the ocean and the land around them.

Chart 1
Extent of salt marsh area and conserved area



Source(s): Valuing the salt marsh ecosystem: Developing ecosystem accounts and Environment and Climate Change Canada, Canadian Protected and Conserved Areas Database.

Chart 2
Extent of salt marsh coastline and conserved length



Source(s): Valuing the salt marsh ecosystem: Developing ecosystem accounts and Environment and Climate Change Canada, Canadian Protected and Conserved Areas Database.

Salt marshes help regulate global climate, among other services

Salt marshes provide a variety of ecosystem services to humans, including helping regulate global climate by efficiently sequestering and storing carbon. Canadian salt marshes may sequester as much as 785 kilotonnes of carbon per year, based on a global average sequestration value. This benefit to society, along with other ecosystem services, depends on the continued health of salt marsh ecosystems.

Note to readers

Statistics Canada's new Census of Environment program reports on ecosystems in Canada, providing information to help Canadians make evidence-based decisions to protect, rehabilitate, enhance and sustain our environment. It follows the internationally accepted environmental economic standard for producing information on ecosystems' extent, their condition and the services they provide.

This release provides a framework for the development of salt marsh ecosystem accounts and includes estimates of salt marsh extent, as well as proposed metrics for salt marsh condition and ecosystem services. Salt marsh area estimates were compiled from various datasets and gaps exist. Moving forward, Statistics Canada aims to improve these estimates and track change over time.

Conserved areas include protected areas and other effective area-based conservation measures.

Have your say: The Census of Environment

Help shape the future of the Census of Environment. Visit the page Statistics Canada is seeking input on the new Census of Environment program to participate.

For more information see: Canadian System of Environmental-Economic Accounting – Ecosystem Accounts (5331).

Definitions, data sources and methods: survey number 5331.

The technical paper "Valuing the Salt Marsh Ecosystem: Developing Ecosystem Accounts" is now available in the *Environment Accounts and Statistics Analytical and Technical Paper Series* (**16-001-M**).

The infographic "Salt Marshes in Canada" is now available in the series *Statistics Canada – Infographics* (**11-627-M**).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; **infostats@statcan.gc.ca**) or Media Relations (**statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca**).