Migratory Bird Management

U.S. Fish and Wildlife Service Migratory Bird Management and Landscape Conservation Cooperatives in Alaska: Science for the Conservation of Migratory Birds

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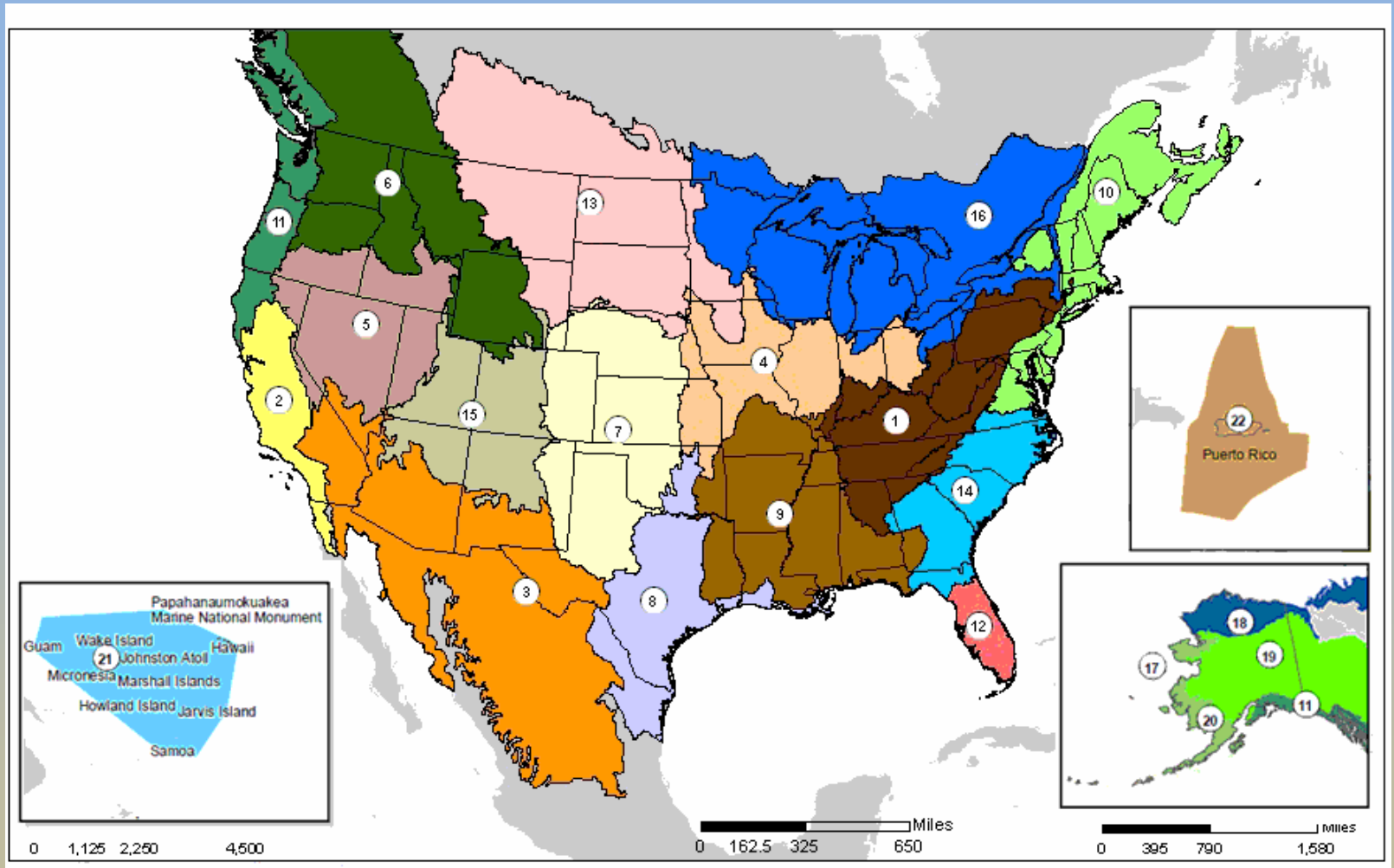
LANDSCAPE CONSERVATION COOPERATIVES

- In 2009, the U.S. Department of Interior launched Landscape Conservation Cooperatives (LCCs) to better integrate science and management to address climate change and other complex landscape scale challenges.

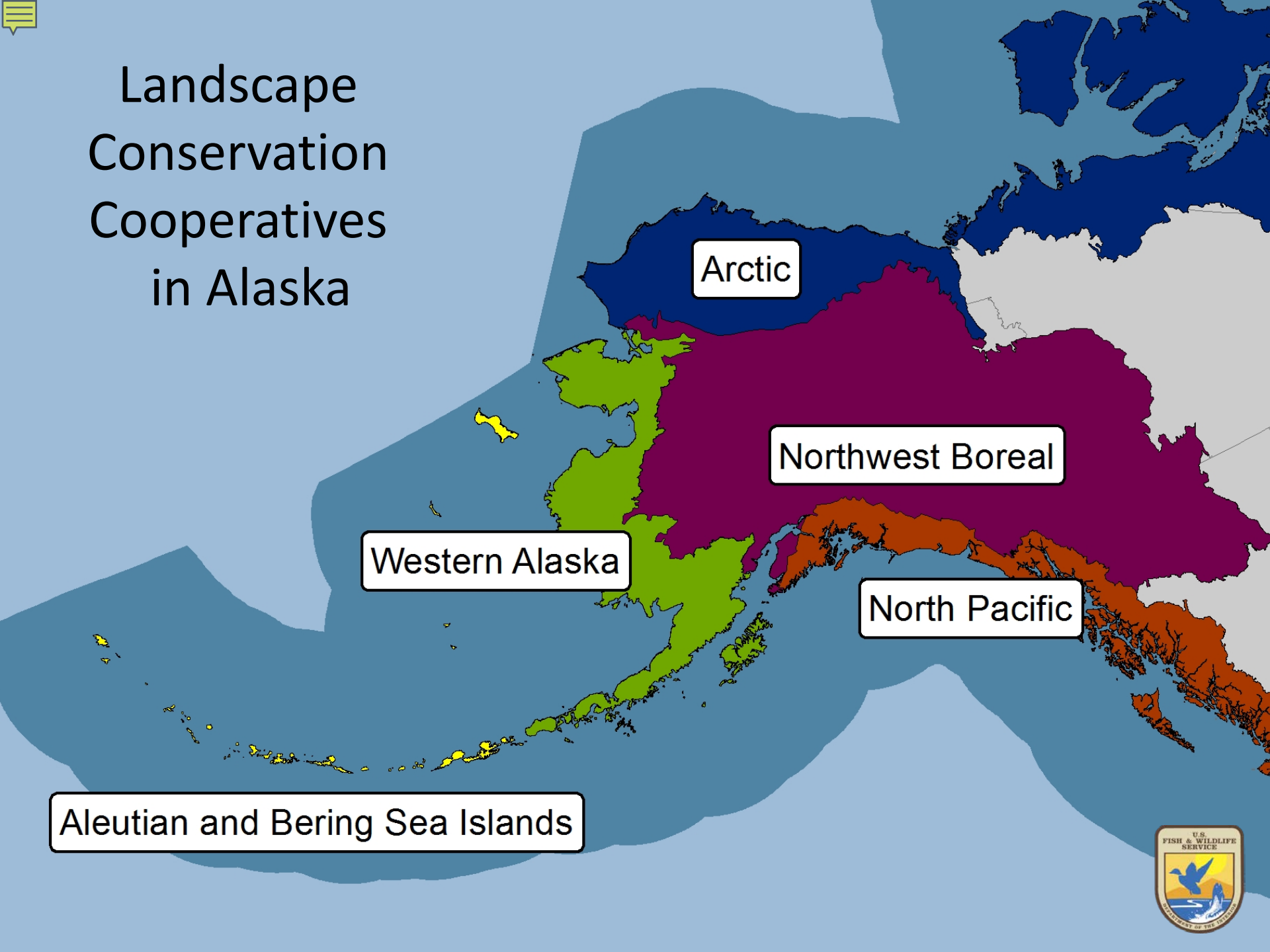
- Foundation is based on collaboration among agencies, research institutions, universities, First Nations, and Tribes to identify, implement, and use landscape level science.

  - *Landscapes capable of sustaining natural and cultural resources for current and future generations.*

Landscape Conservation Cooperatives



Landscape Conservation Cooperatives in Alaska



U.S. Fish and Wildlife Service
Division of Migratory Bird Management

Protect, restore, and manage migratory bird populations to:

- ensure long-term ecological sustainability of all migratory bird populations;
- increase socioeconomic benefits;
- improve hunting and birdwatching, other outdoor bird-related experiences;
- increase awareness of the value of migratory birds and their habitats for their intrinsic, ecological, recreational and economic significance.

How MBM is engaged with LCCs?

1. Serve as board members and scientific advisors

2. Participate on planning efforts
   - strategic plans, workshops, identifying high priority species, reviewing climate-vulnerability assessments

3. Conduct migratory bird research to address priority landscape-scale science needs
   - Pacific Black Brant and Western High Arctic Brant

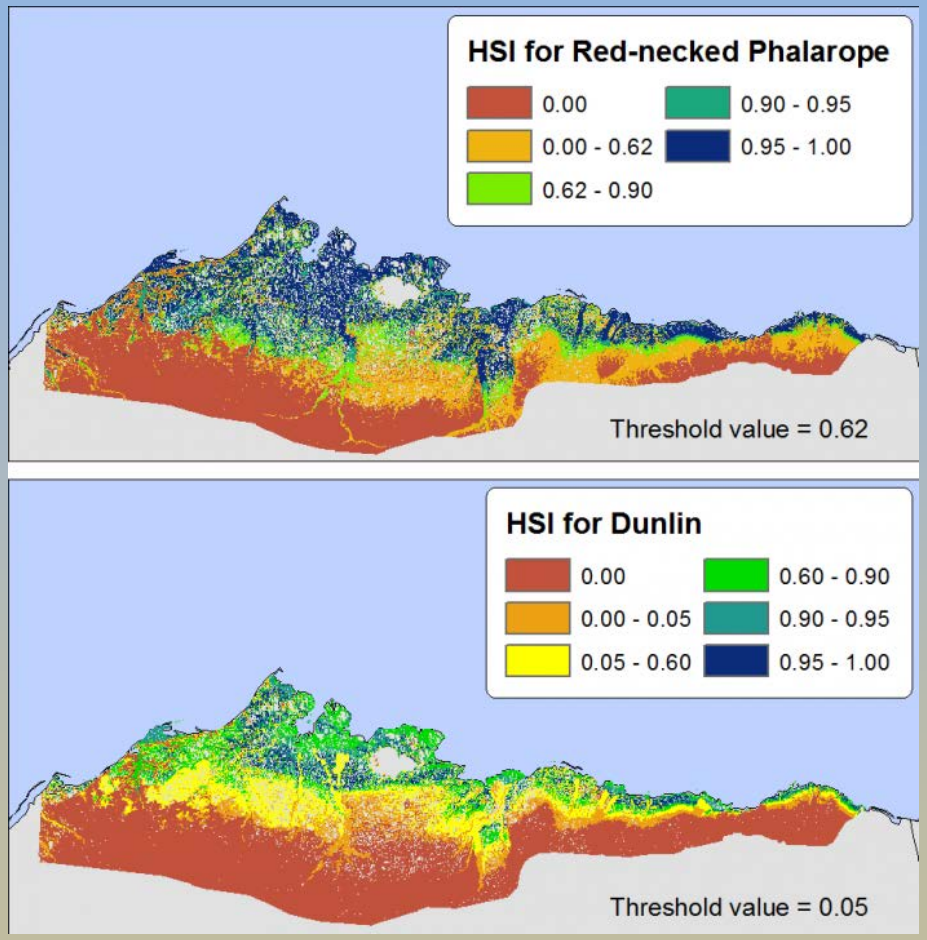
     Semipalmated Sandpipers

     American Golden Plover

High Priority Landscape-scale Science - I

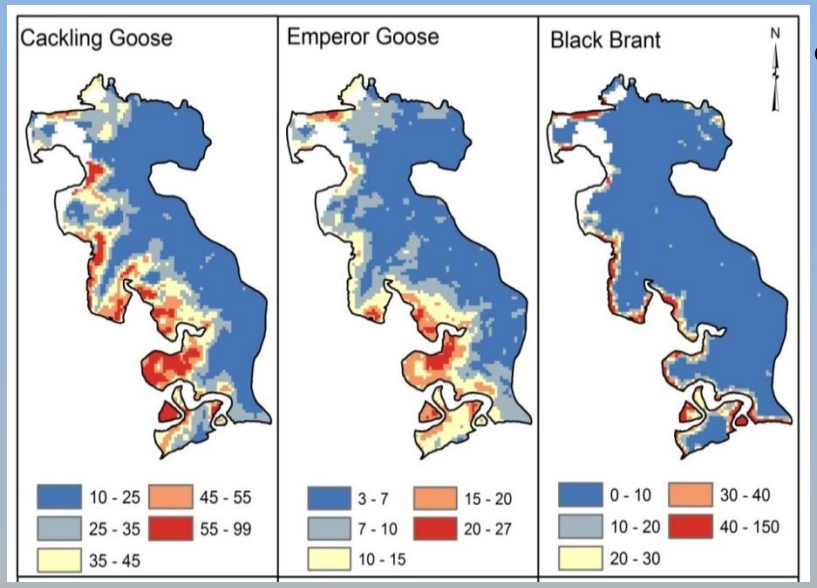
- Habitat suitability analyses on distributions of waterbirds
- Interdisciplinary investigations on the effects of climate change to physical and biological processes as related to trophic mismatch
- International collaborations evaluating how climate-mediated changes affect distribution, ecology, and demography of shorebirds and landbirds
- Broad scale seabird distribution in the Aleutians & Bering Sea
- Vulnerability assessments in relation to shipping hazards and introduced species in the Aleutians and Bering Sea Islands

Shorebird Distributions in Arctic Alaska



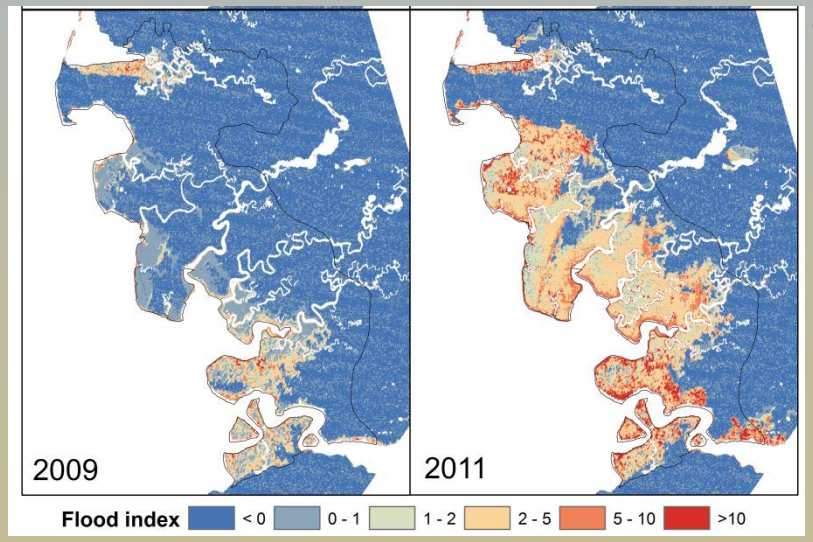
- Arctic LCC supported the development of habitat suitability models across the Arctic Coastal Plain of Alaska
- Maps used to:
  - Forecast shorebird distributions for projected climate scenarios
  - Minimize impacts of industrial development for conservation planning

Impacts of Storms on Breeding Waterbirds



- Western Alaska LCC supported:
  FWS to develop habitat selection models for waterfowl nesting on the Yukon-Kuskokwim Delta

  University of Alaska to develop storm surge models



- FWS and UAA collaborated in vulnerability assessments to determine how current and future storms under sea-level rise will impact nesting habitats

High Priority Landscape-scale Science - II

- Large-scale habitat suitability analyses to determine current distributions of waterbirds
- Interdisciplinary studies to assess effects of climate change on physical and biological processes: trophic mismatch
- International collaborations evaluating how climate-mediated changes affect distribution, ecology, and demography of shorebirds and landbirds
- Broad scale seabird distribution in the Aleutians & Bering Sea
- Vulnerability assessments in relation to shipping hazards and introduced species in the Aleutians and Bering Sea Islands

Arctic Wetlands, Invertebrates, and Shorebirds

How Does Timing and Interacting Processes of:

Pond Melt

Invertebrate Emergence

- Influence shorebird chick growth rates and population trends?

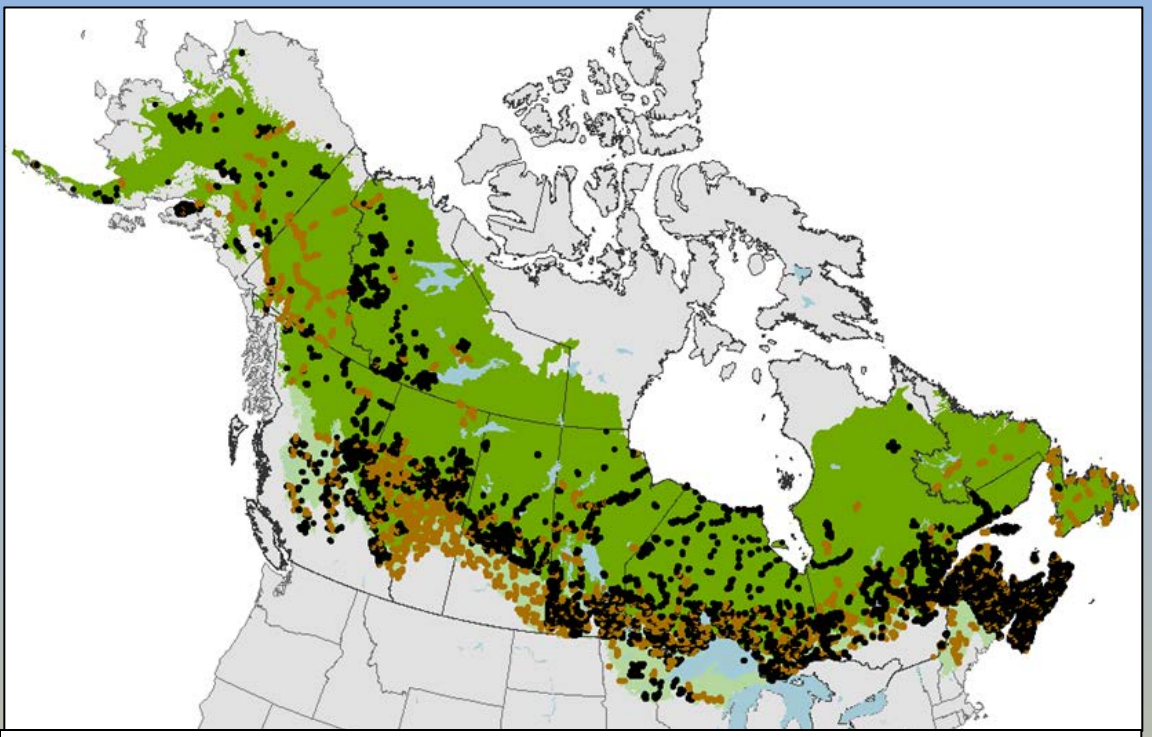
High Priority Landscape-scale Science - III

- Large-scale habitat suitability analyses to determine current distributions of waterbirds
- Interdisciplinary investigations on the effects of climate change to physical and biological processes as related to trophic mismatch
- How do climate-mediated changes affect distribution, ecology, and demography of shorebirds and landbirds?
- Broad scale seabird distribution in the Aleutians & Bering Sea
- Vulnerability assessments in relation to shipping hazards and introduced species in the Aleutians and Bering Sea Islands

Arctic Shorebird Demographic Network

- Arctic LCC support allowed collaboration of 16 circumpolar sites across Alaska, Canada, and Russia to assess shorebird survival and productivity
- Results will identify factors limiting populations and recommend areas for conservation

Boreal Avian Modelling Project



- Breeding Bird Survey (n=53,443 points)
- Boreal Avian Modelling (n=126,904 points)

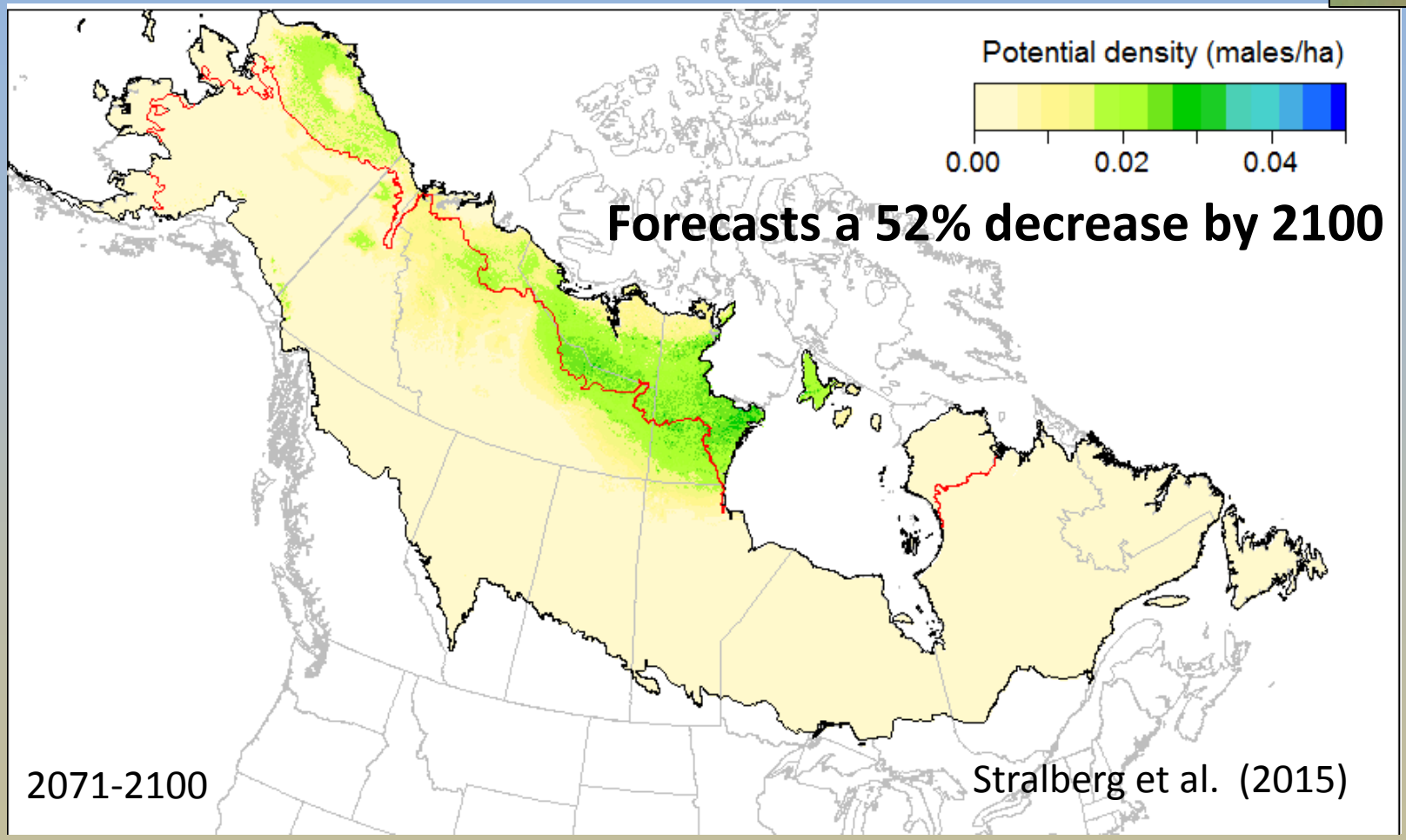
- NW Boreal LCC support allowed 180,000 avian point count surveys to be compiled across the North American boreal biome.

- Identify climate change influence on bird distribution and abundance.

➢ Provide guidance in the conservation of boreal birds and predict impacts of human activities on the boreal forest ecosystem

Rusty Blackbird

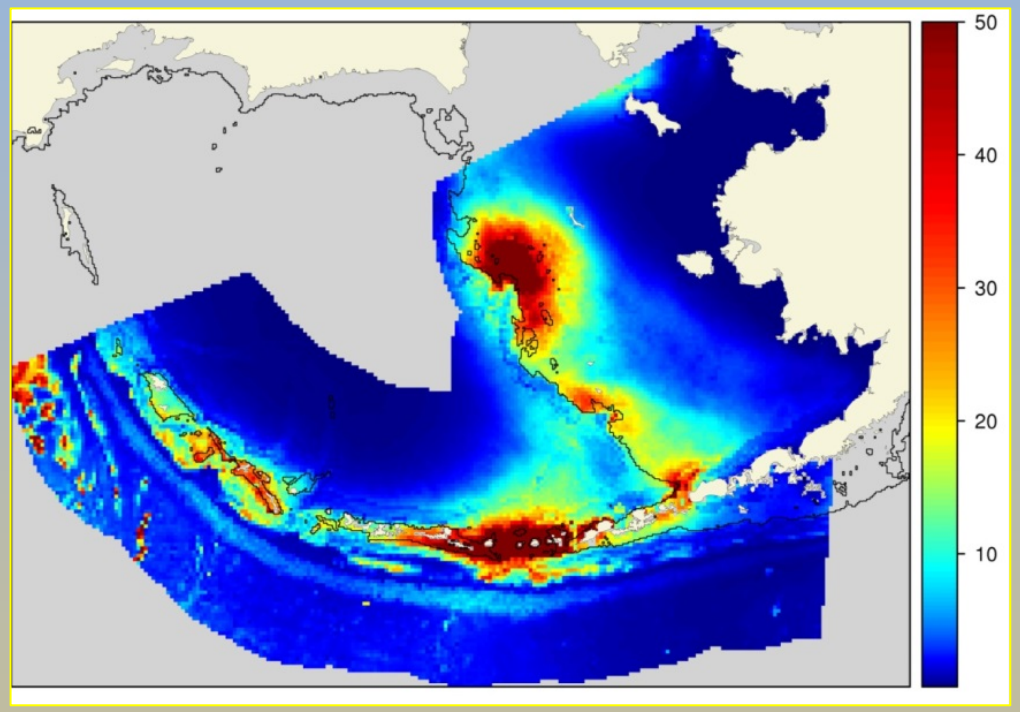
Future declines for an already steeply declining bird?



High Priority Landscape-scale Science - IV

- Large-scale habitat suitability analyses to determine current distributions of waterbirds
- Interdisciplinary investigations on the effects of climate change to physical and biological processes as related to trophic mismatch
- International collaborations evaluating how climate-mediated changes affect distribution, ecology, and demography of shorebirds and landbirds
- Seabird distribution in the Bering Sea region
- Vulnerability assessments in relation to shipping hazards and introduced species in the Aleutians and Bering Sea Islands

Seabird Distribution and Risk Assessments



Aleutian-Bering Sea Islands LCC supported FWS to model seabird distribution to estimate risks from shipping increases in the Bering Strait region

= Migratory Bird Conservation

FWS MBM (Alaska) invests in LCCs:

- Serve on steering committees and in planning efforts
- Draft justifications for priority and surrogate species
- Provide migratory bird aerial and ground survey data

LCCs provide opportunities to FWS MBM (Alaska):

- Establish science priorities large landscapes
- Foster national and international partnerships
- Provide funds to leverage support

➢ Benefit migratory birds during nesting, staging, molting wintering and migration in all flyways and biomes.

Group Discussion

Cackling Canada Geese: Tim Bowman