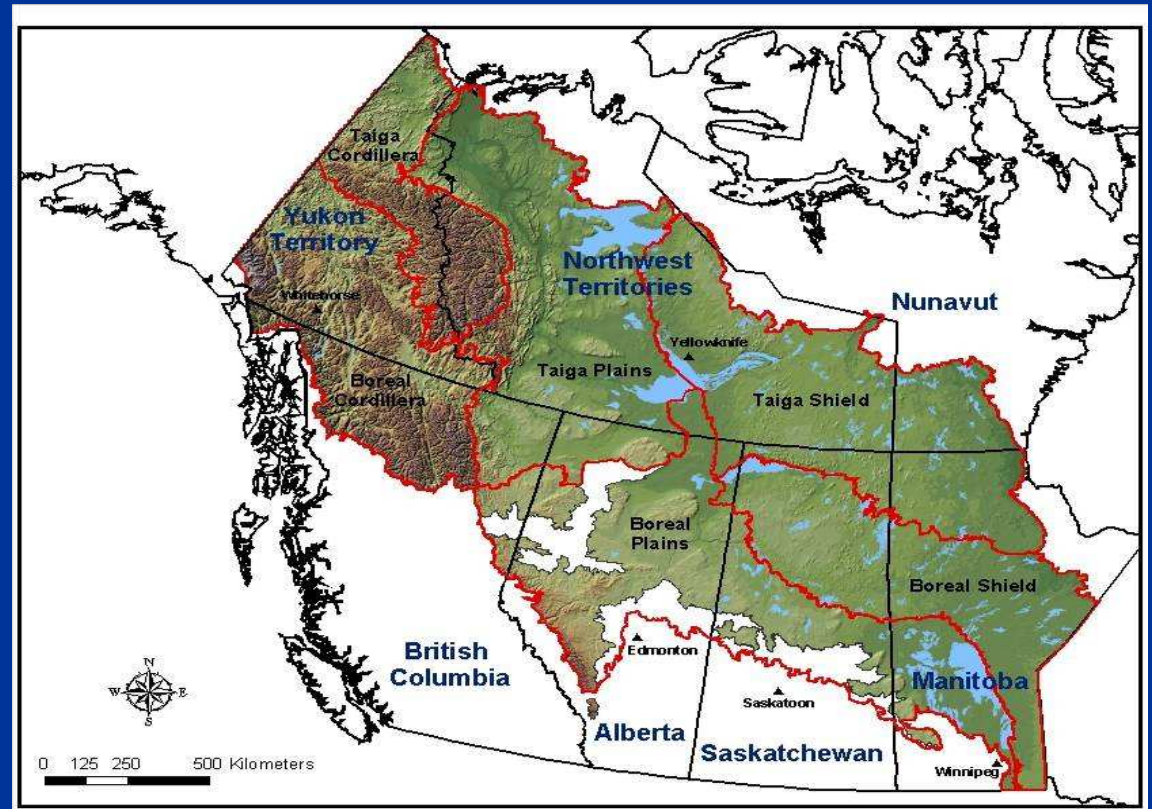


Threats to boreal wetlands, and duck population trends

Glenn G. Mack
Ducks Unlimited Canada
Rusty Blackbird Workshop, April 12-13, 2007

Western Boreal Forest-Canada

- Boreal / Taiga Plain
- Boreal / Taiga Shield
- Boreal / Taiga Cordillera
- Hudson Plains



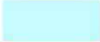





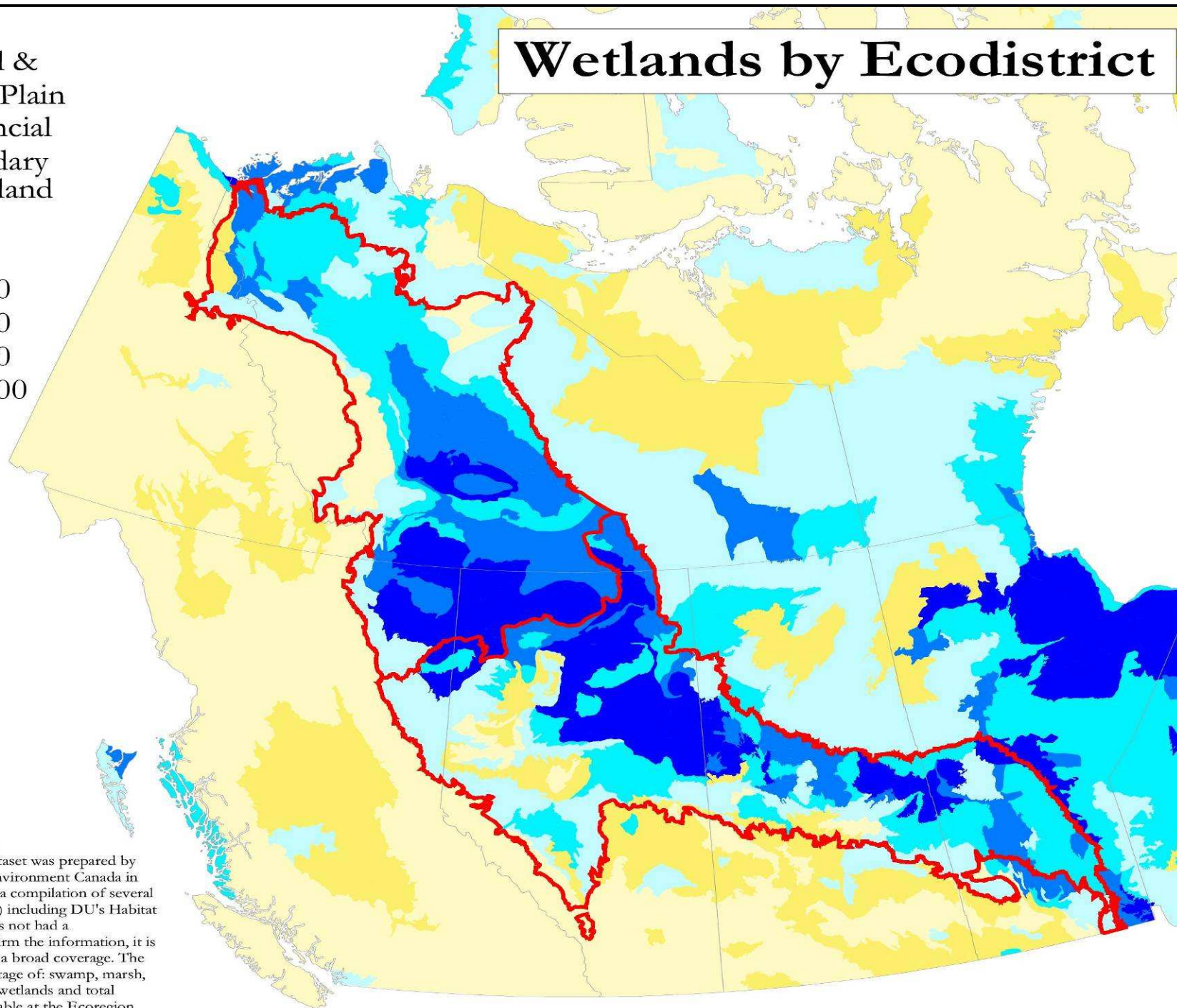
***Public Lands**

Wetlands by Ecodistrict

Legend

 Boreal & Taiga Plain
 Provincial Boundary
 Percent Wetland

 0 - 5
 5 - 10
 10 - 20
 20 - 40
 40 - 60
 60 - 100



National Wetland Dataset

The National Wetland Dataset was prepared by Polestar Geomatics for Environment Canada in early 1997. The dataset is a compilation of several sources (approximately 30) including DU's Habitat Inventory. Although it has not had a "scientific review" to confirm the information, it is the best available for such a broad coverage. The wetland classes are percentage of: swamp, marsh, bog, fen, undifferentiated wetlands and total wetlands. The data is available at the Ecoregion and the Ecodistrict levels.

Western Boreal Program Project Status 2006



LEGEND

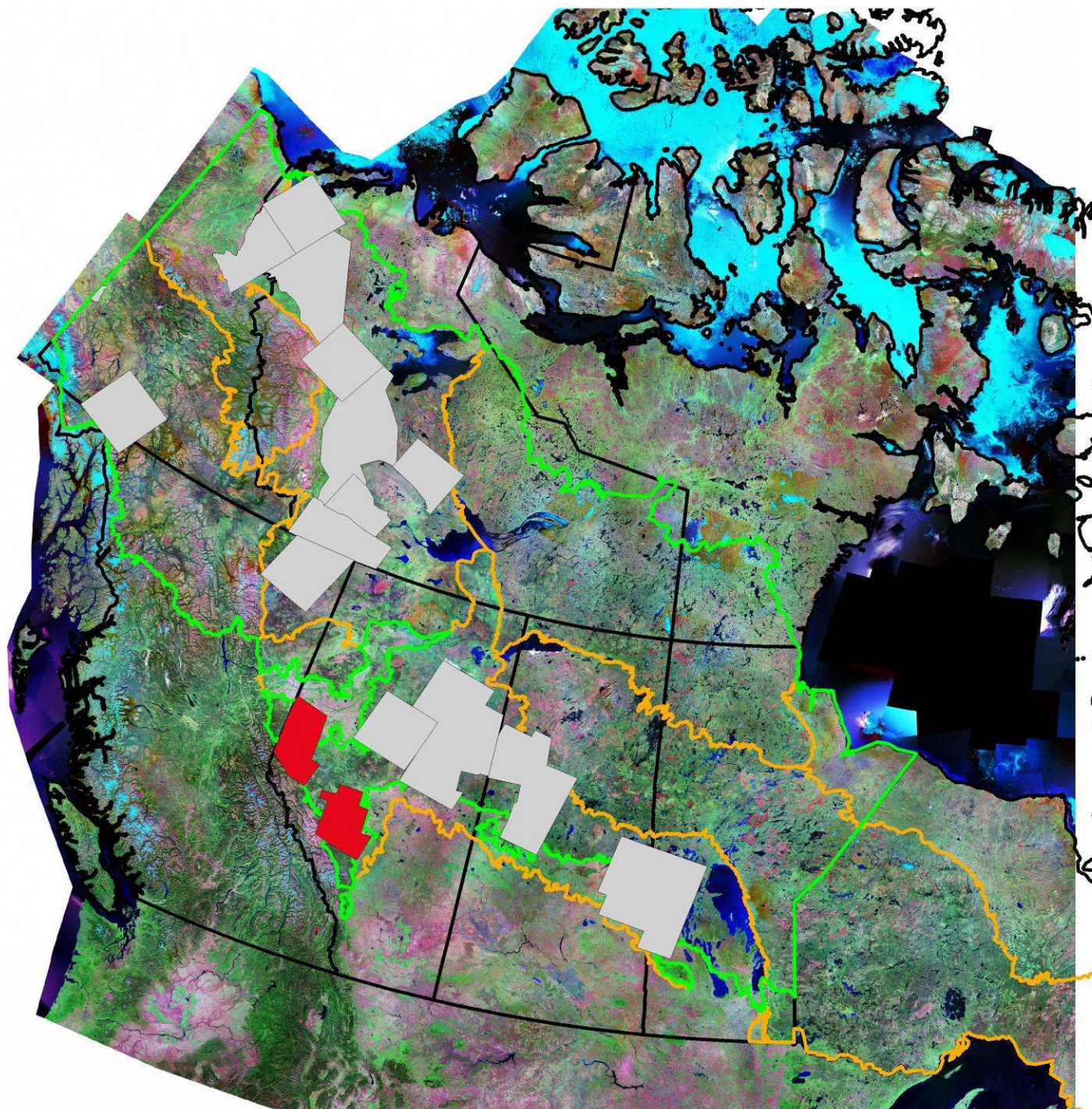
 New Project 2006

- 16 Projects
- 160 Million Ac
- 65 Million Ha

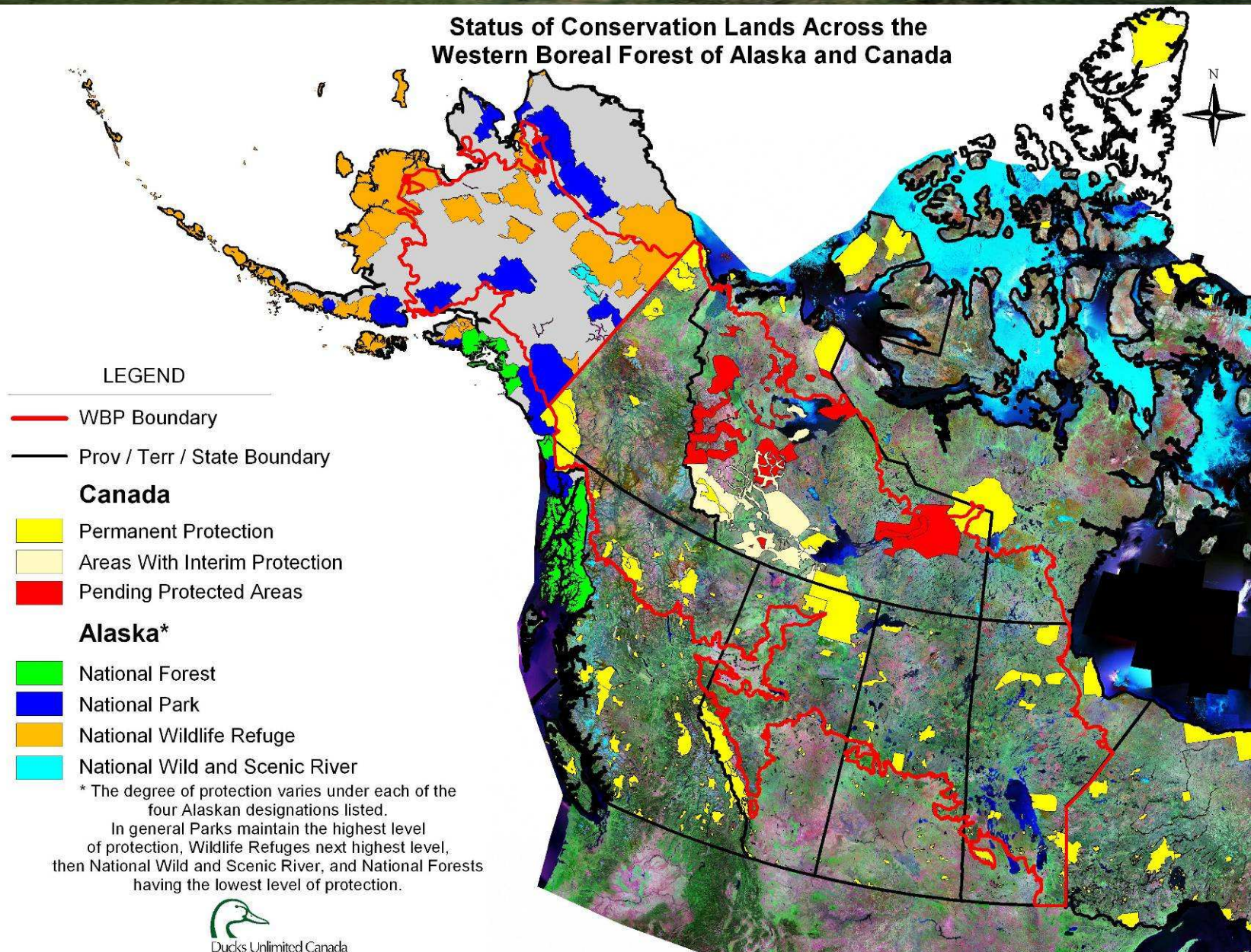
 WBP Boundary

 Prov / Terr Boundary

 WBP Ecozone Boundary

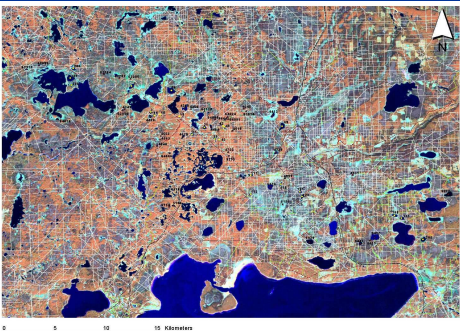


Protected Lands



Conservation Challenges

- Multiple industrial activities
- Impact on wetland systems and waterfowl populations is not well understood
- Public land with multiple crown and corporate policies
- Multiple managers with different ideas on land use and conservation issues



Wetland Classes



Bog



Fen



Swamp



Marsh



Open Water



Hydrology Research on Boreal Plain

- Hydrology is not well understood in WBF
 - Need to understand wetland functions and connectivity
 - Informs us on how development may impact hydrology, wetlands, and waterfowl
 - Informs conservation planning

Threats to Boreal Wetlands

- Agriculture
- Climate Change
- Forestry
- Oil and gas
- Hydro Development
- Mining
- Peat extraction
- Recreation

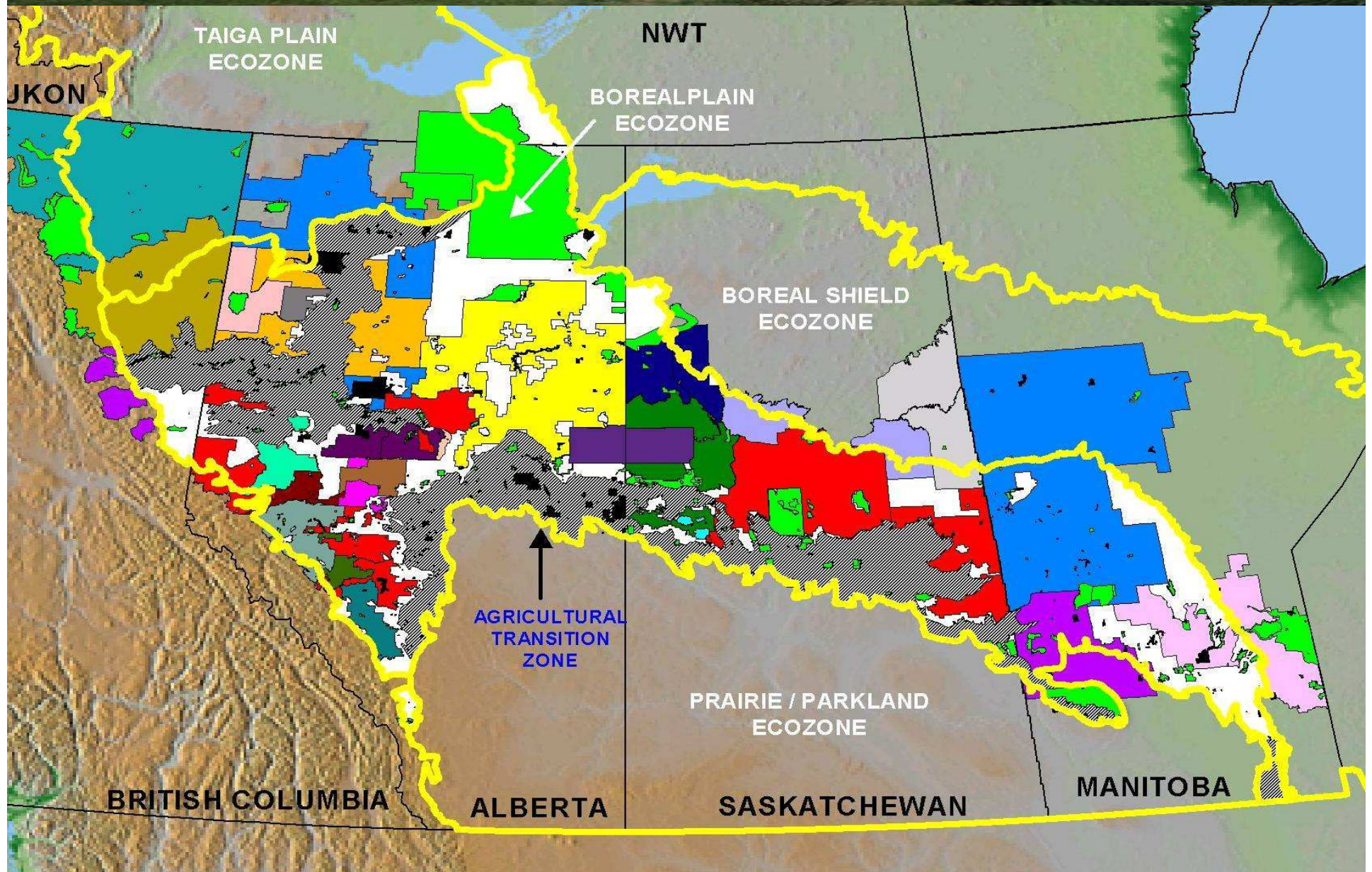




Climate Change

- Changes in permafrost
 - Increased flows
 - Water chemistry
- Changes in surface water
 - Increased formation of taliks
 - Increased soil water holding capacity
 - Increased evapotranspiration
 - Terrestrialization.

Land Use Allocations



Forestry

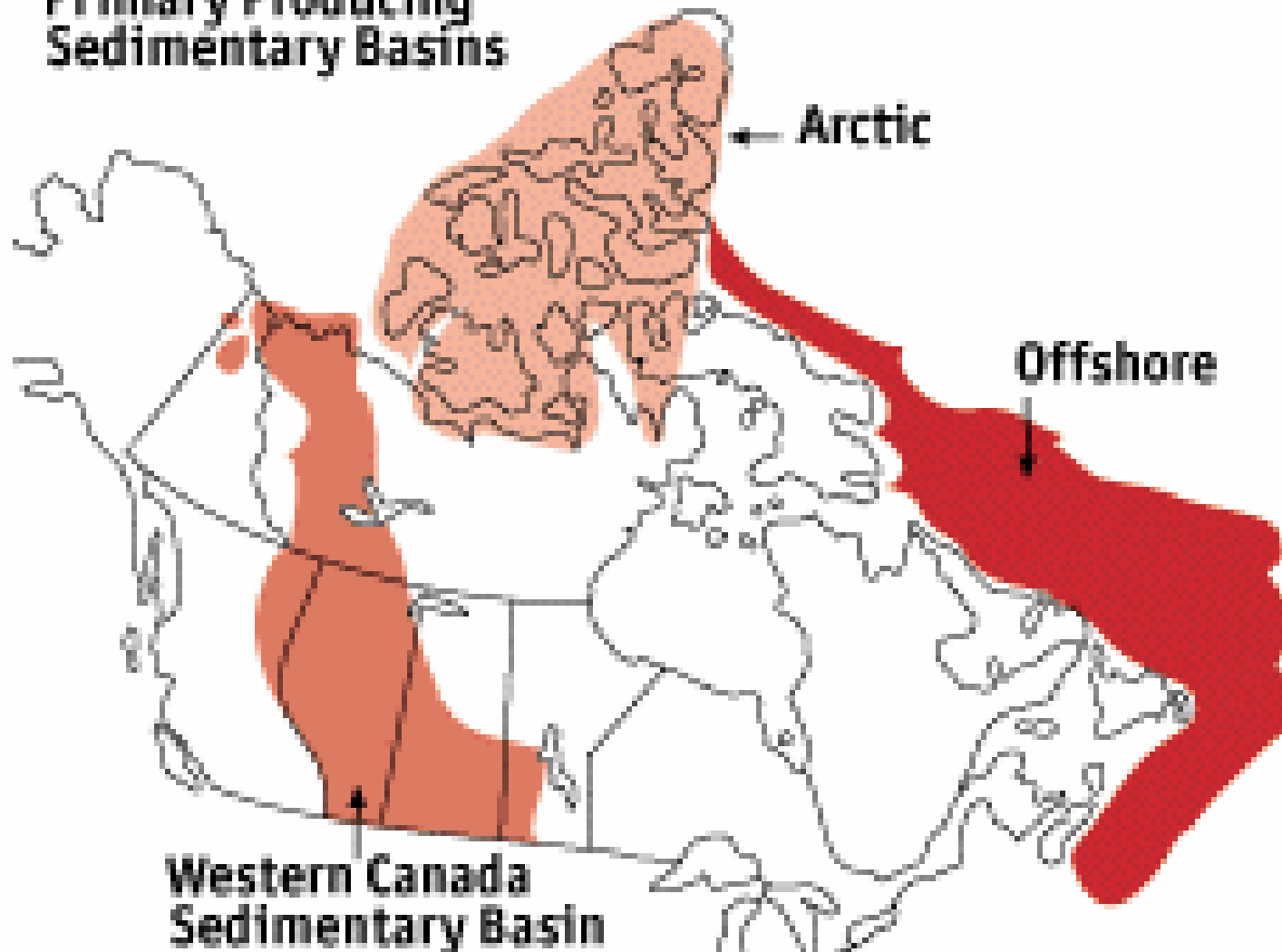


Agriculture

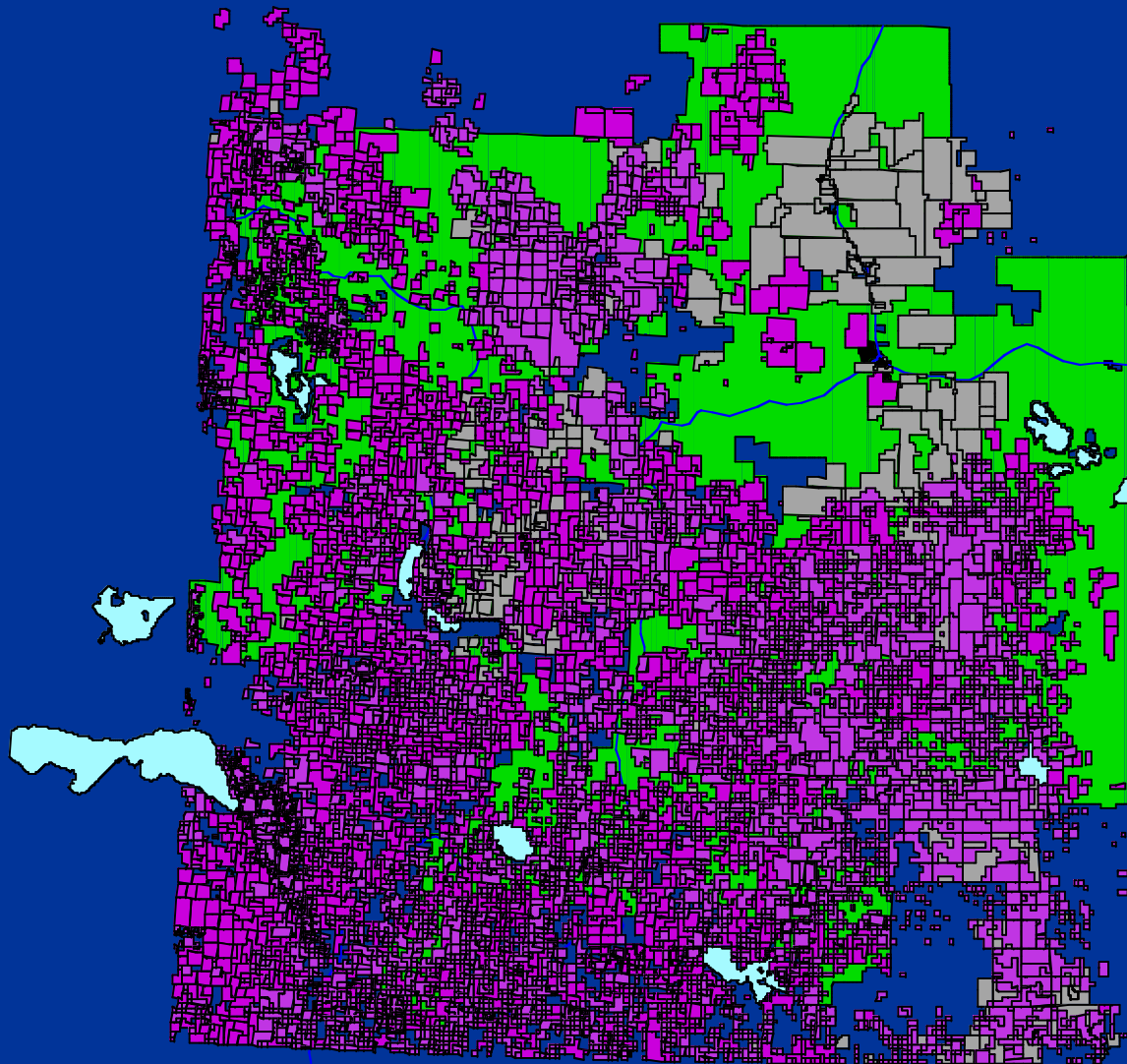


Oil and Gas Industry

**Primary Producing
Sedimentary Basins**

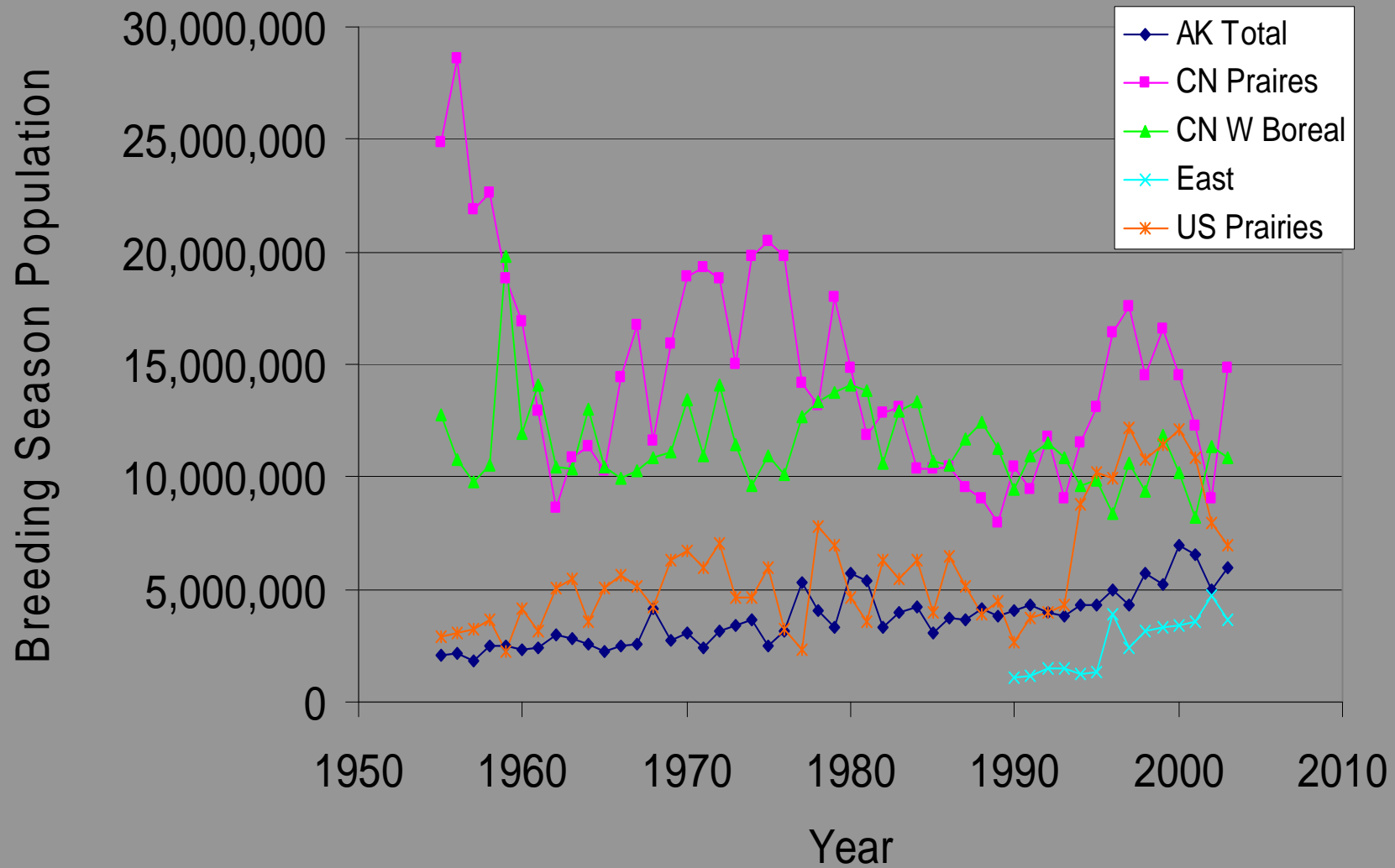


All Energy Dispositions (oilsands in gray)





Duck Trends, 1955 - 2003



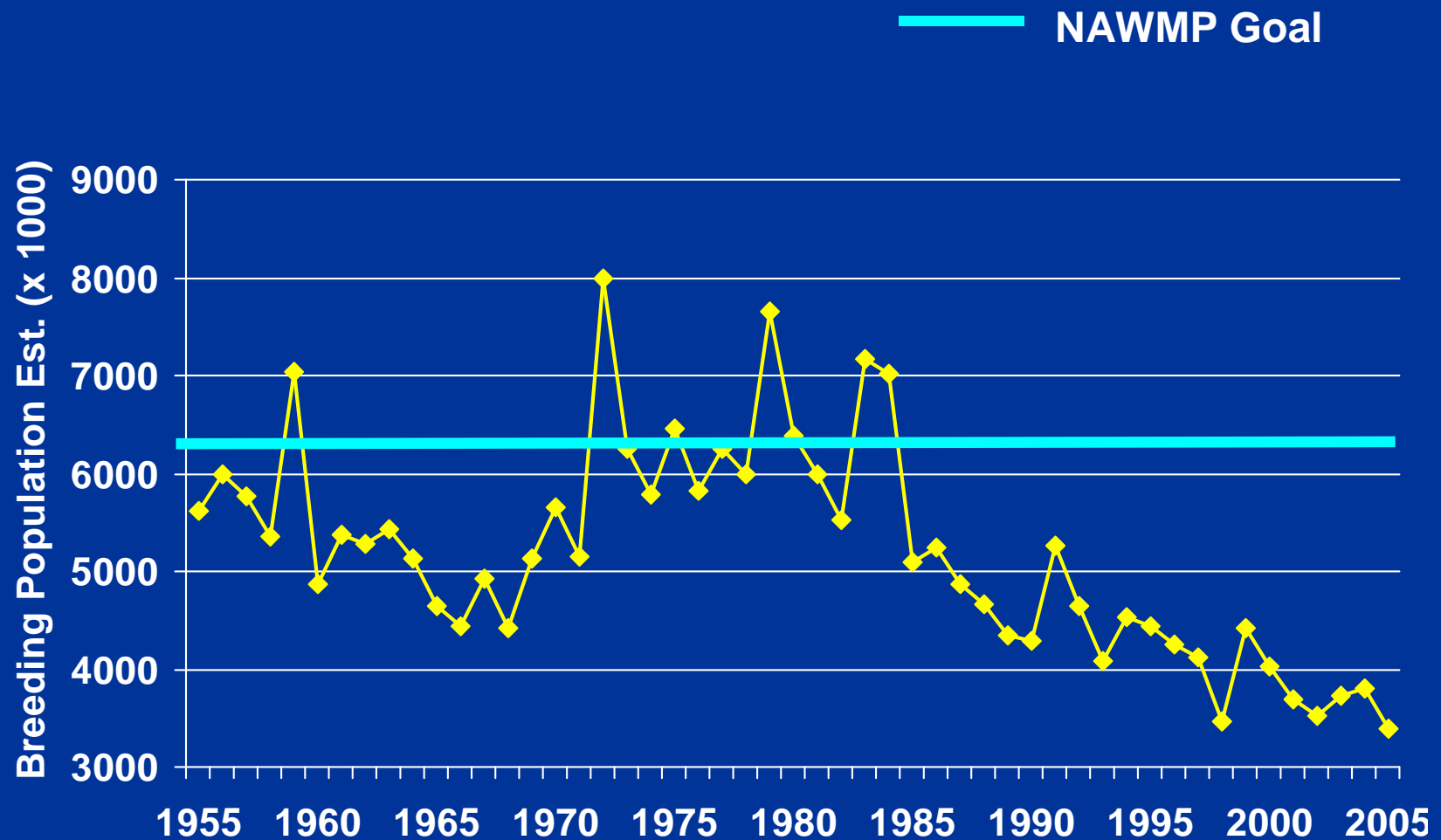
Source USFWS/CWS

WBF: 12-15 Million Breeding Season Ducks

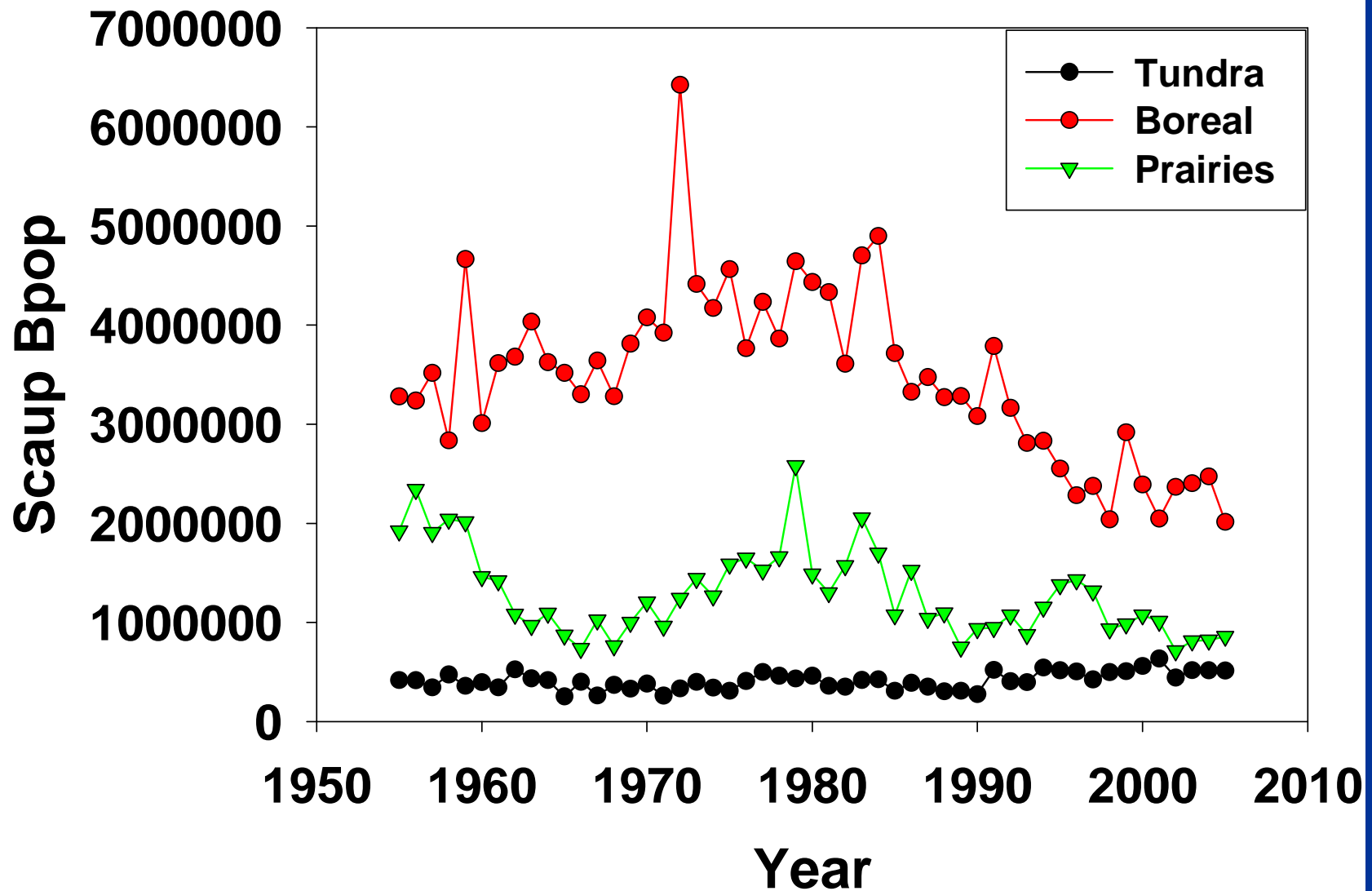
- 23 Different Species
- 6 spp. >50% annual BPOP in WBF

<u>Common Species</u>	<u>% BPOP in TSA</u>
•Mallard	24-34%
•American Wigeon	56-61%
•Green-winged Teal	53-65%
•Scaup	61-69%
•Goldeneye	78-80%
•Scoters	76-82%
•Ring-necked Duck	78-85%

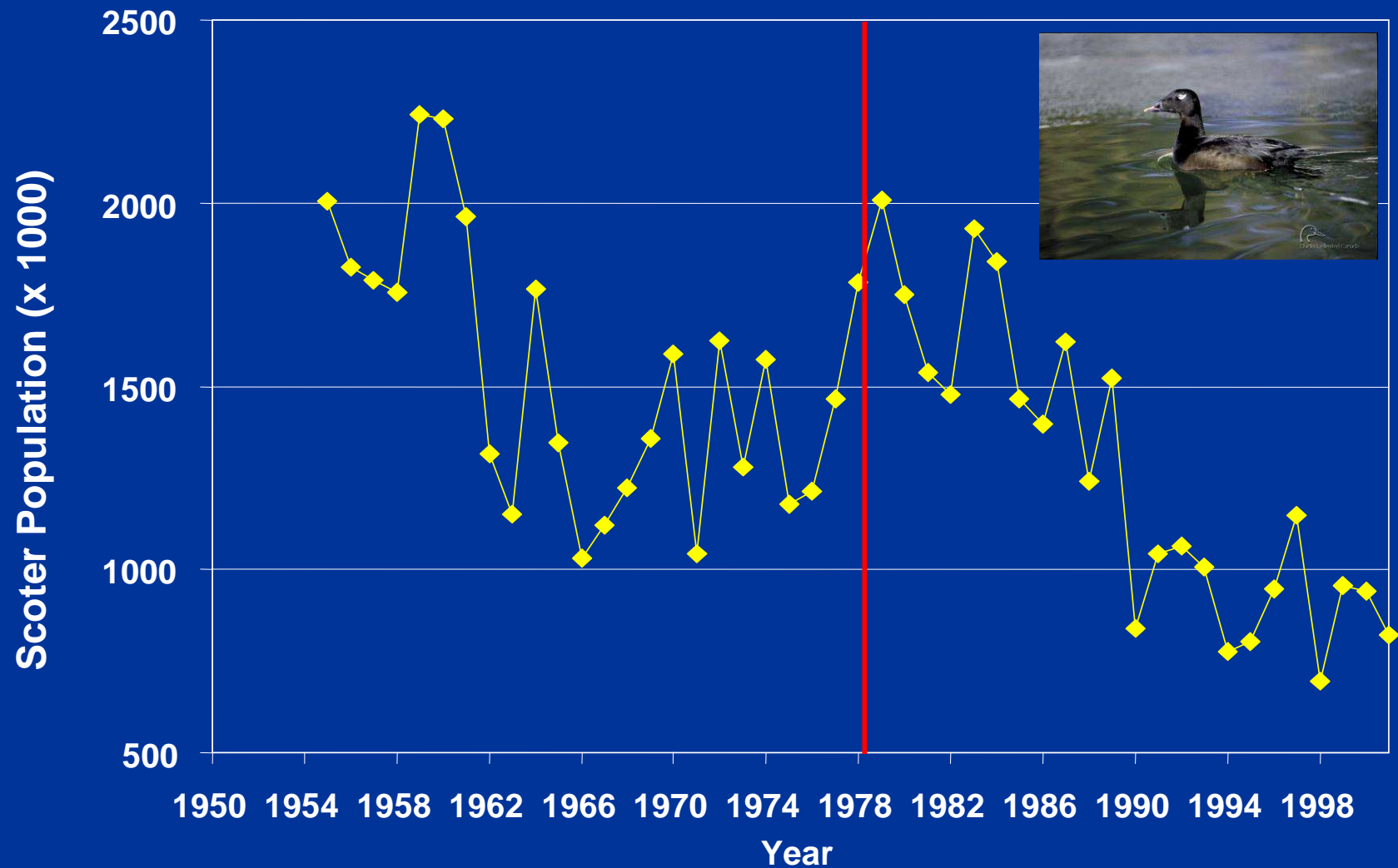
Scaup Population Trend



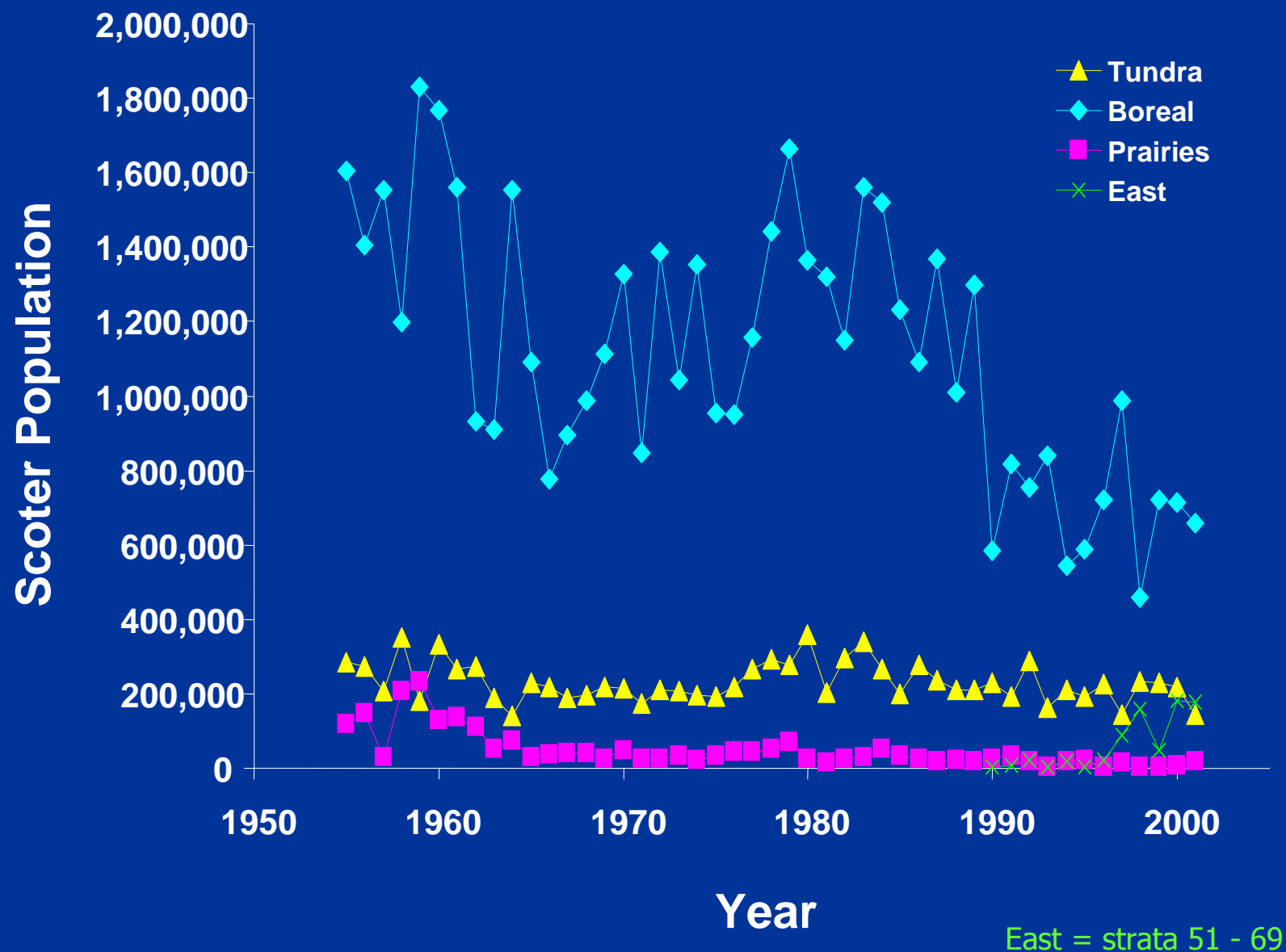
Scaup Trends by Biome



Scoter Population Trend



Scoter Distribution and Trends Among Biomes



Opportunities for Conservation

- Increased awareness of the importance of water and need for conservation
- Growing demand for sustainable land-use practices and protected landscapes
- DUC is a leading proactive conservation organization

