

A blue silhouette map of Lake Superior is centered on the page. The text of the title is overlaid on the map.

The State of the Lake Superior Fish Community in 2000

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Ontario Ministry of Natural Resources



Habitat

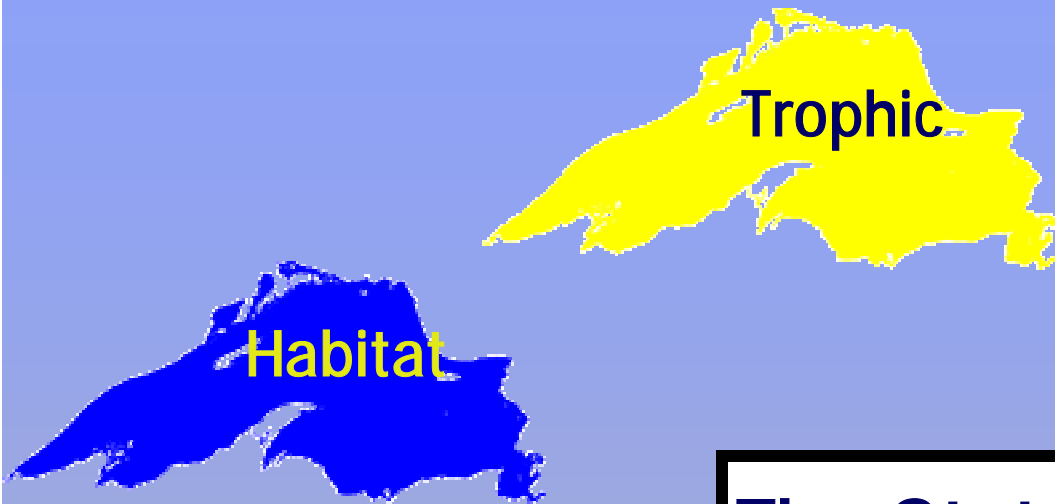
The State of Lake
Superior
in 2000

In-lake Habitat in Good Condition



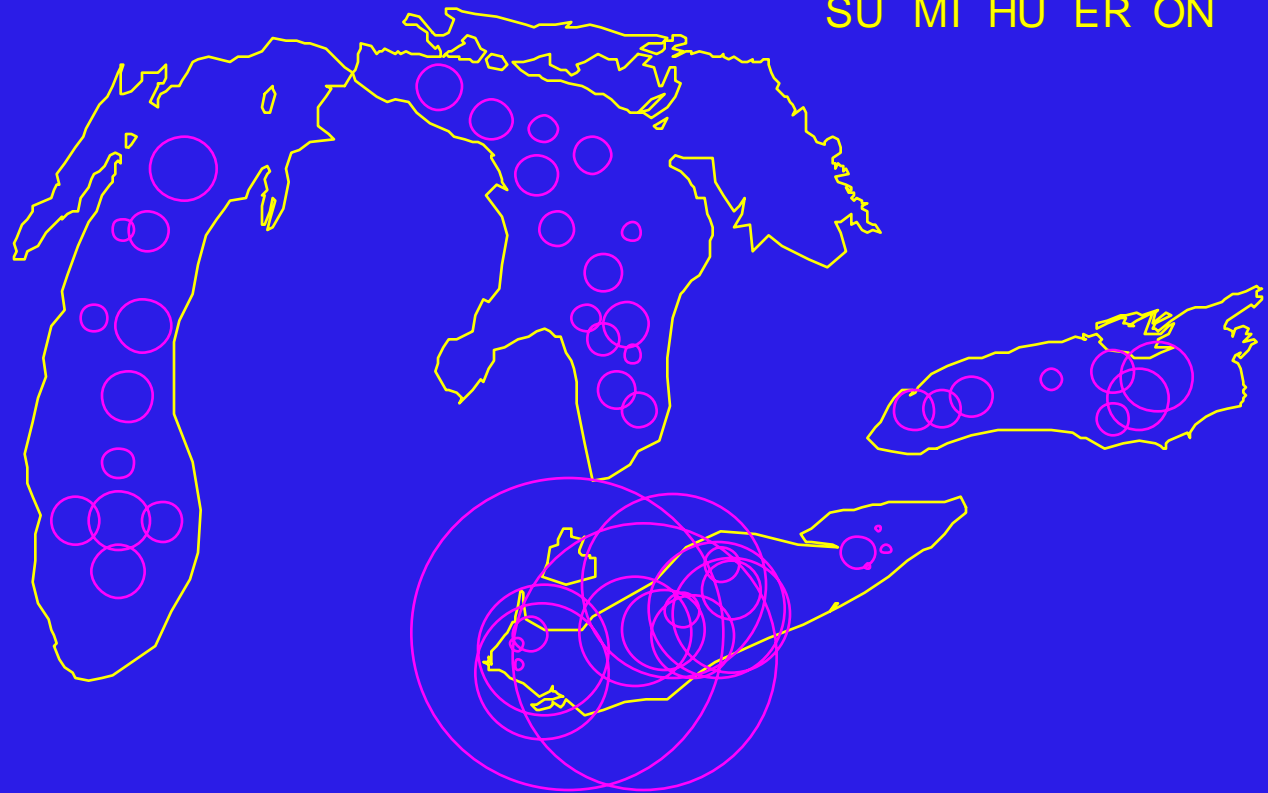
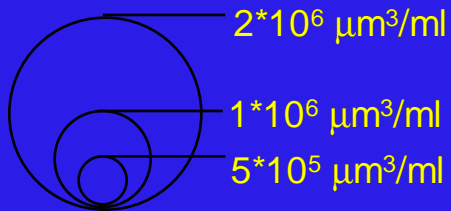
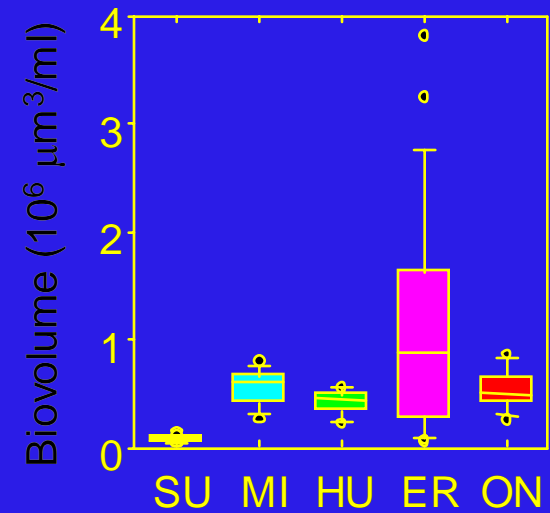
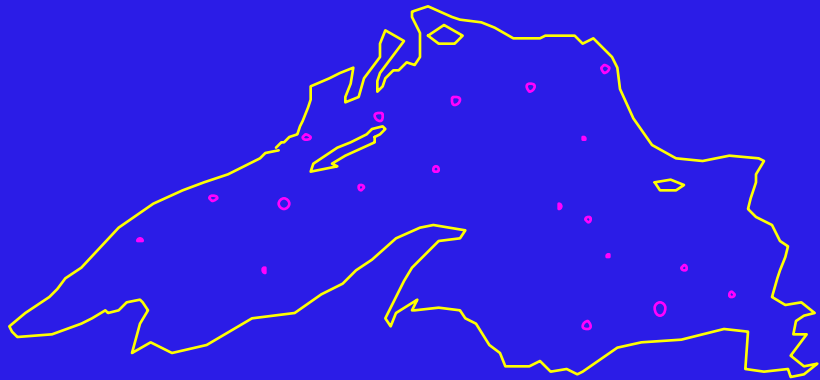
Lake Superior Binational Program



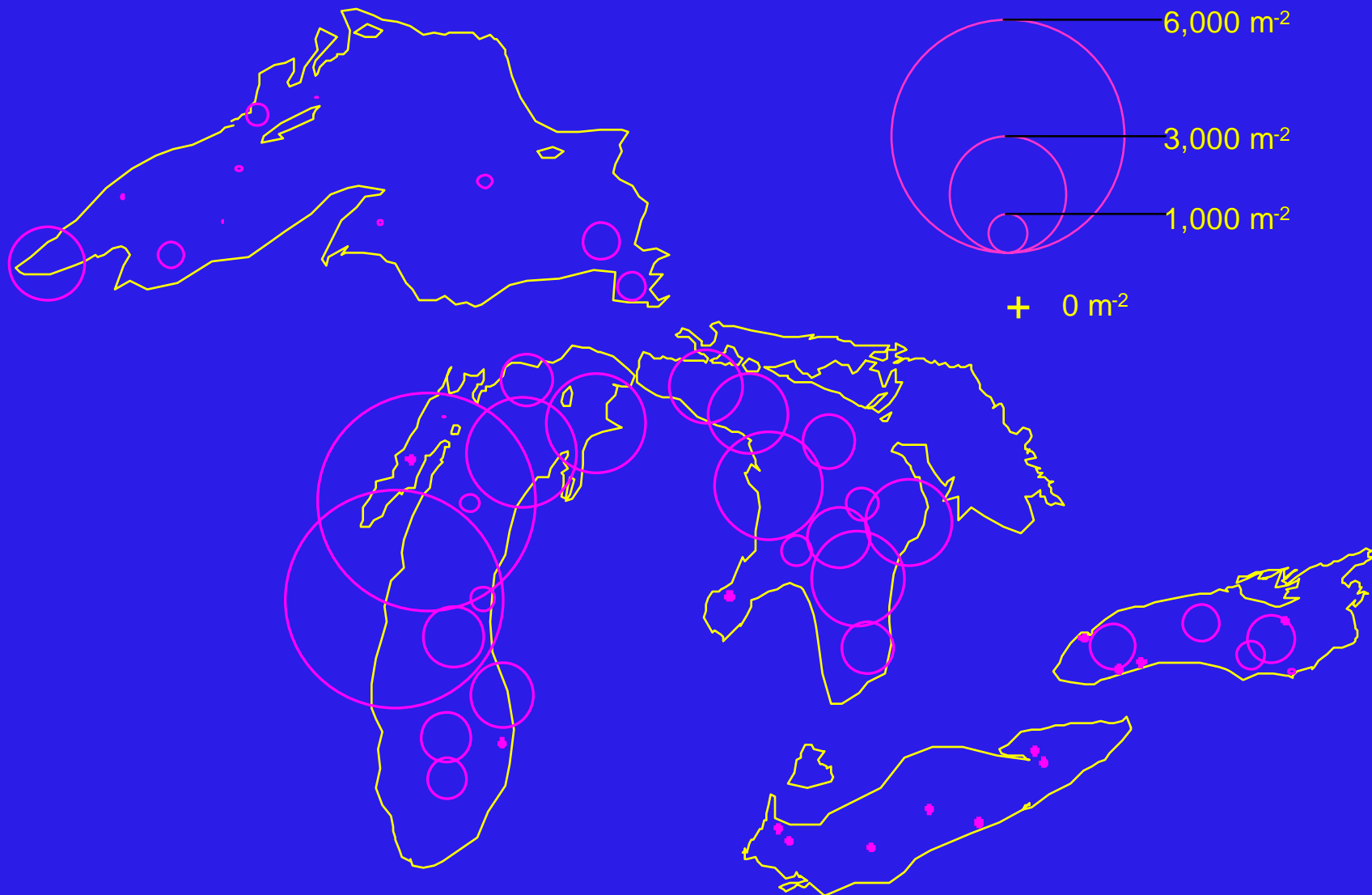


**The State of Lake
Superior
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Phytoplankton Biovolume, Spring 1999



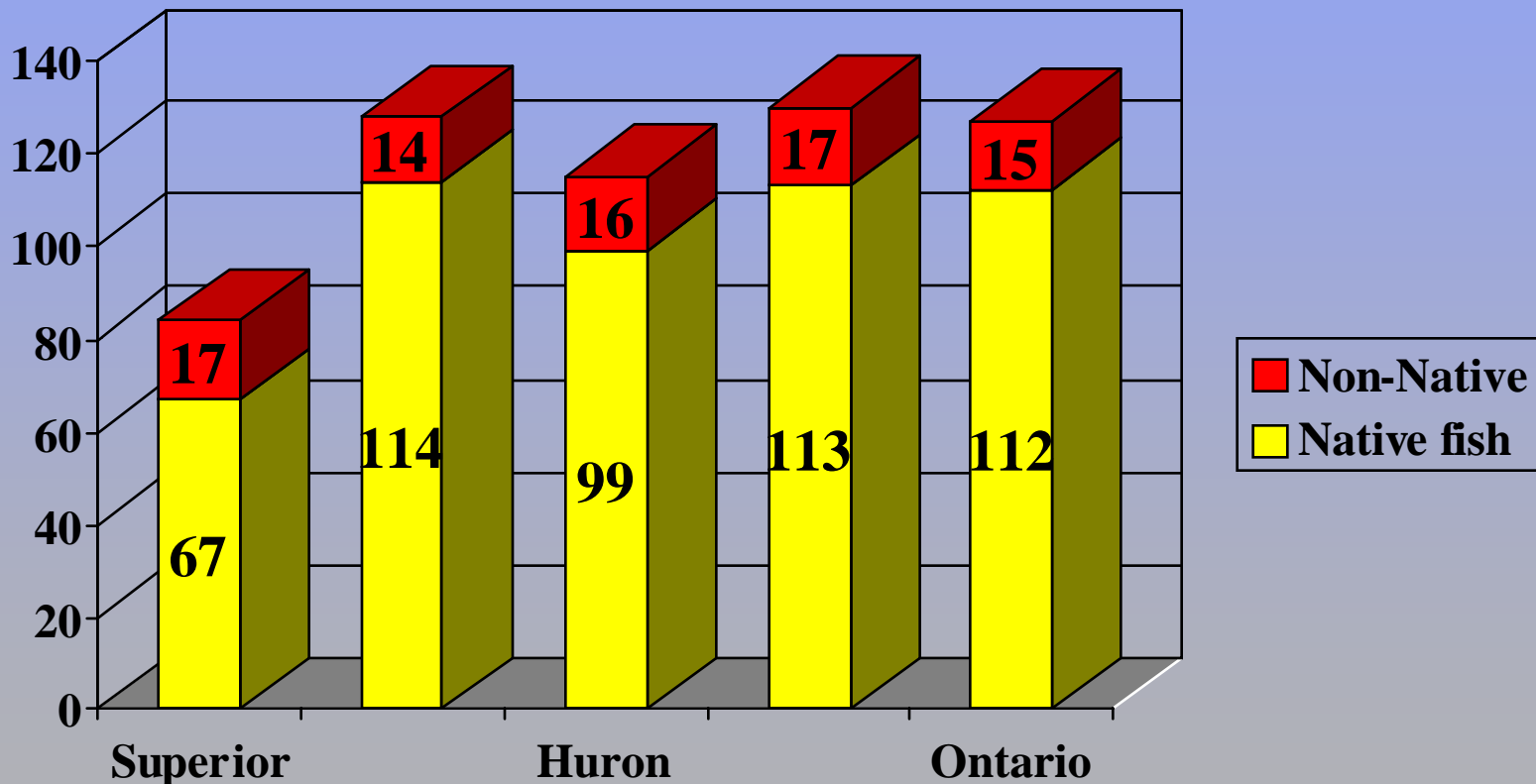
Abundance of *Diporeia* throughout Great Lakes, 1999





The State of Lake Superior
in 2000

Proportion of native and non-native fish species in the Great Lakes



Based on Mills et al. 1993, D.A. Jensen (manuscript in prep 2000)

Unintentionally Introduced Fish (9) in Lake Superior

- Ruffe ship ballast
- Fourspine stickleback ship ballast
- Threespine stickleback ship ballast
- Round goby ship ballast
- Tubenose goby ship ballast
- White perch ship ballast
- American eel canals
- Sea lamprey canals
- Alewife canals/ballast

Non-Native Species

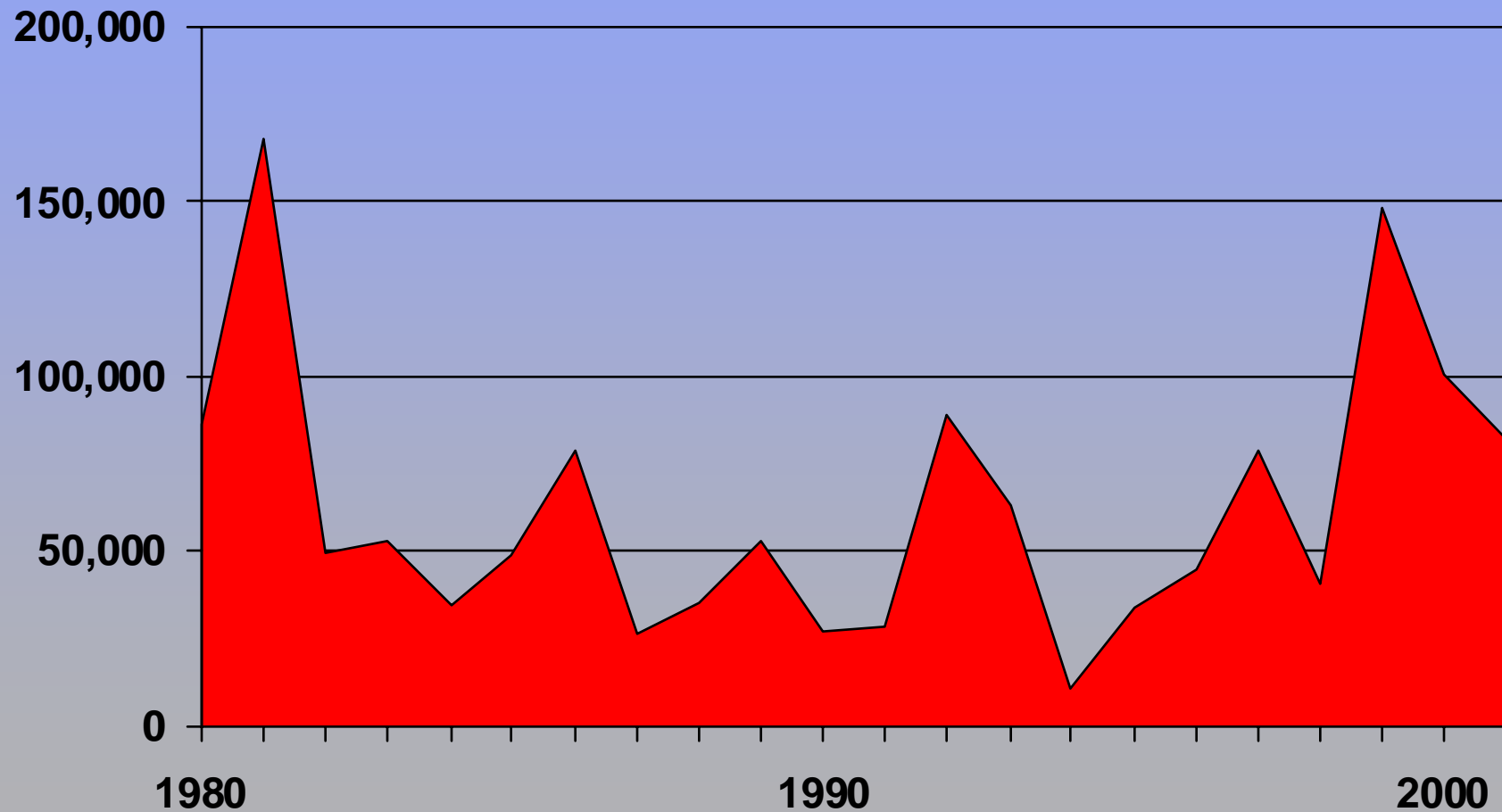
> Recent Invaders

> Sufficient Buffering Capacity

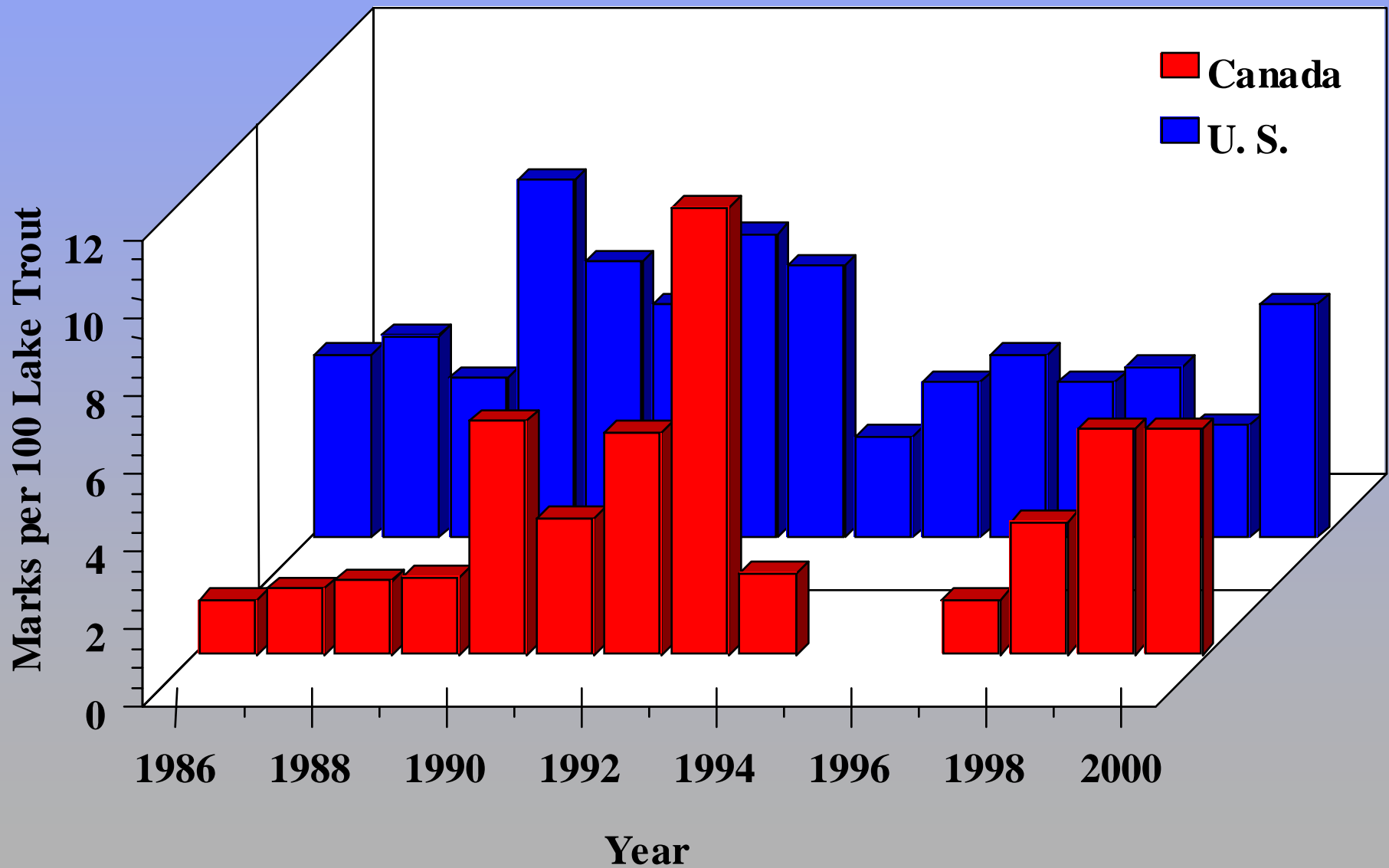
Present Fish Community

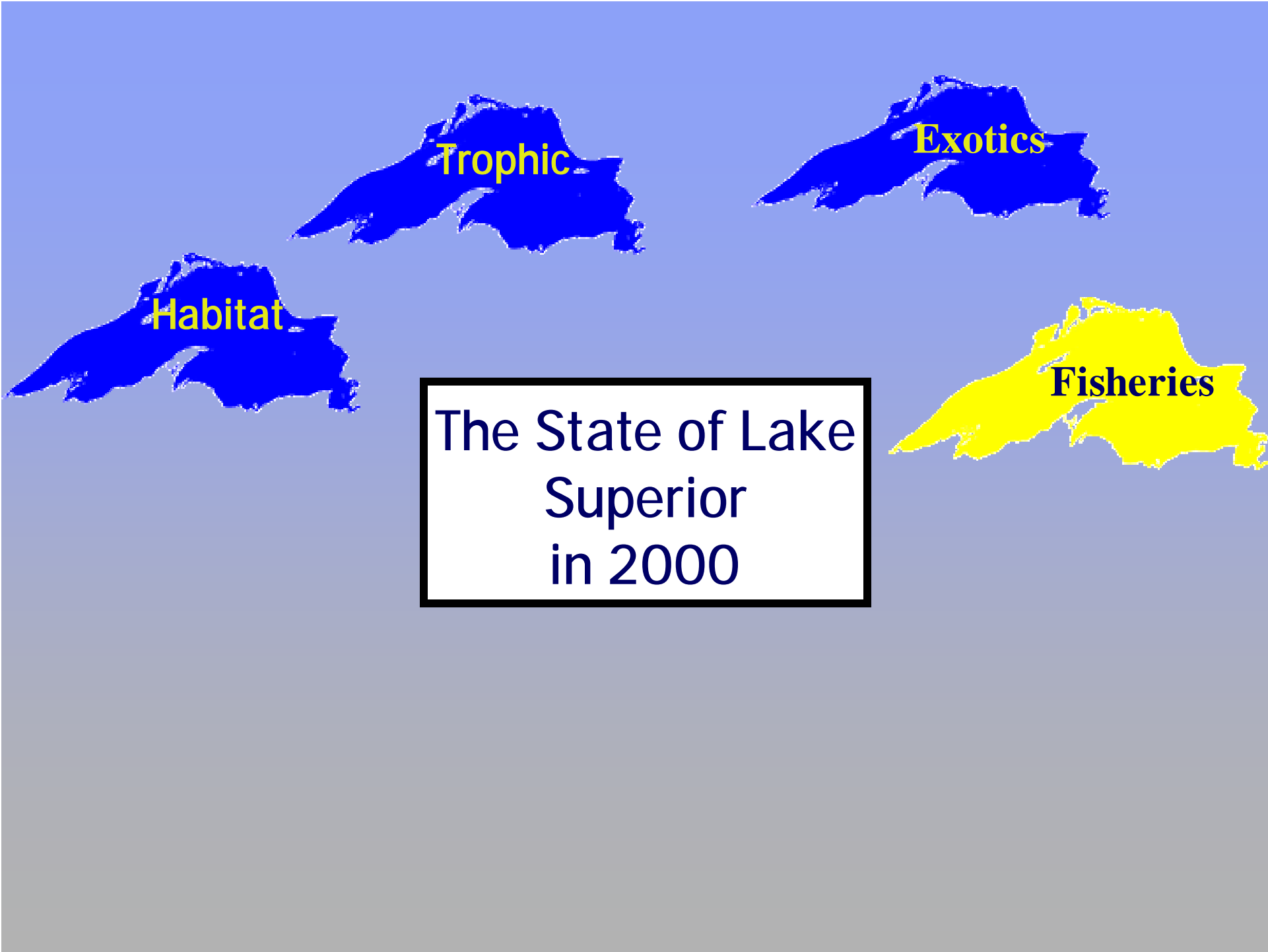


Estimated Lamprey Spawners - Lake Superior 1980 - 2001



Lamprey Marking of Lake Trout Lake Superior, 1986-2000





Trophic




Exotics

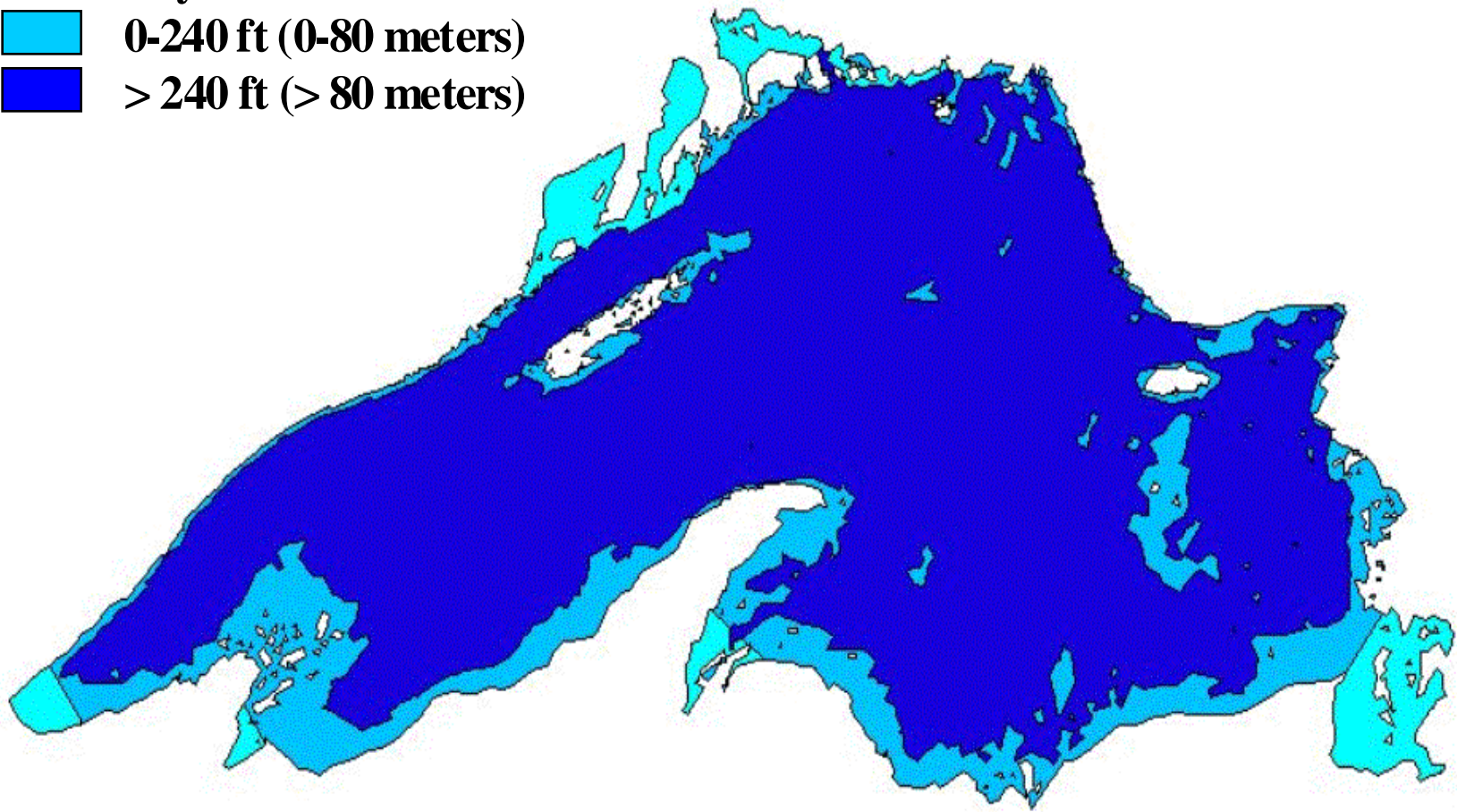
Habitat

Fisheries

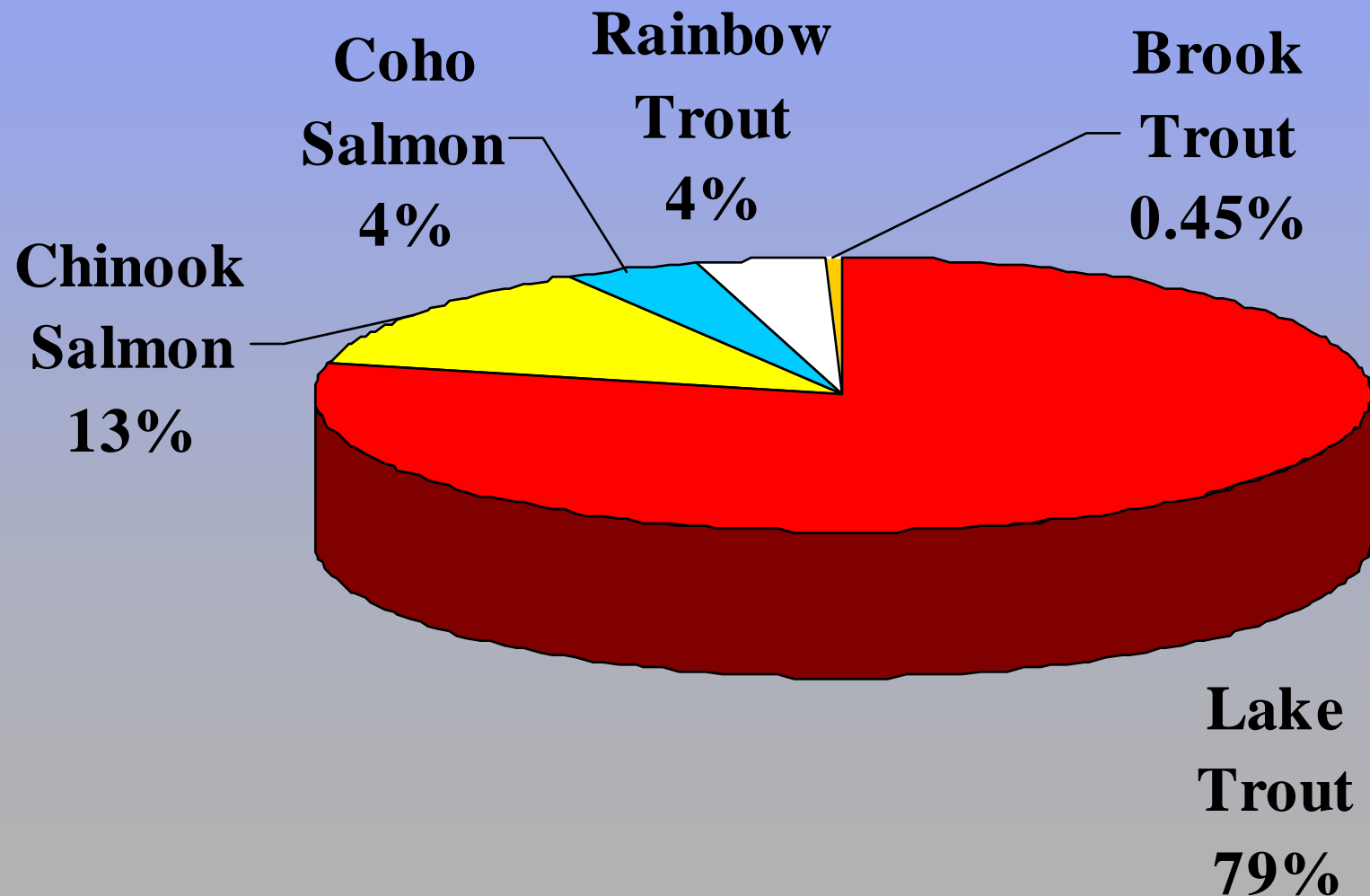
The State of Lake Superior
in 2000

Waters of Lake Superior

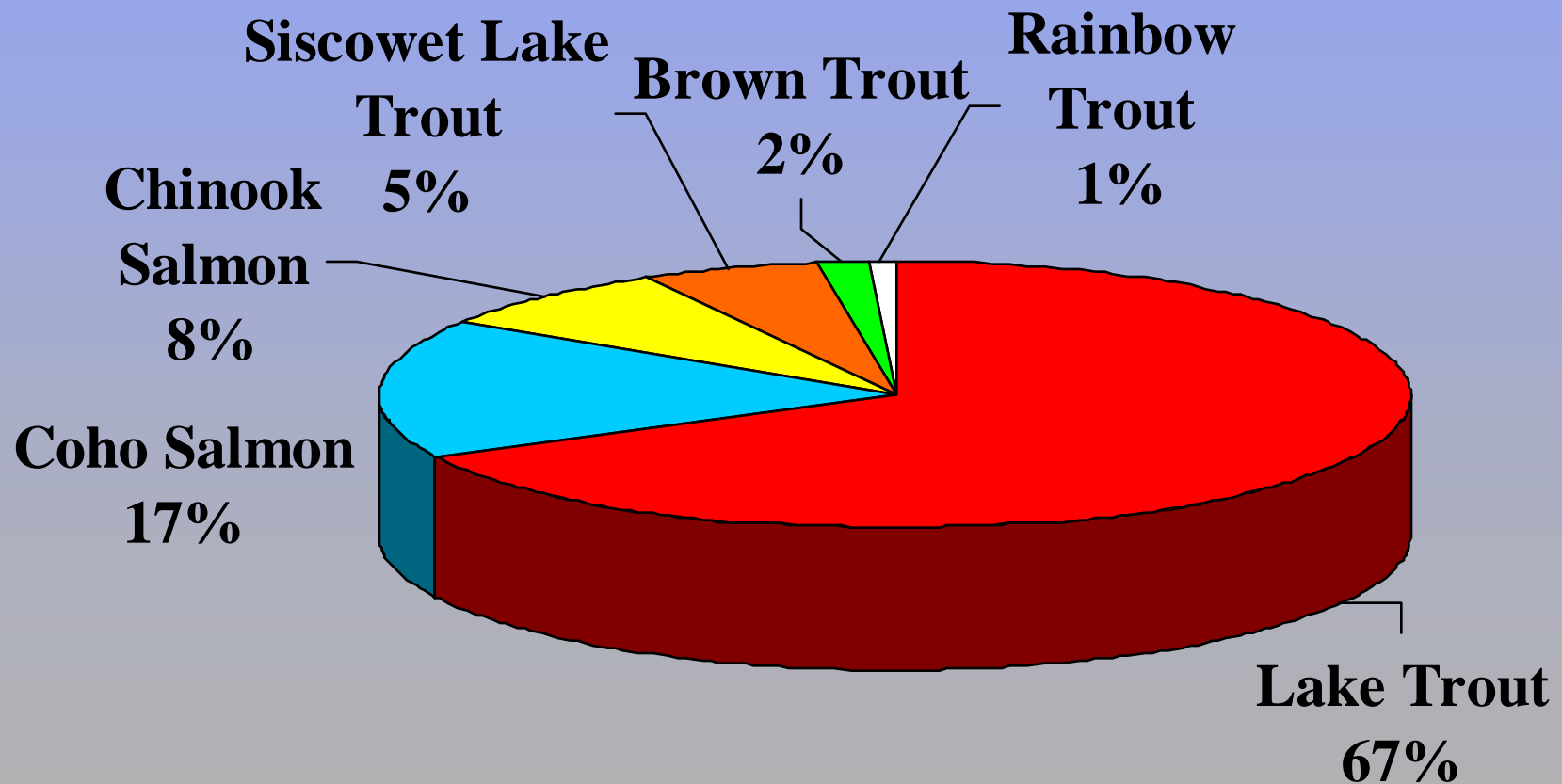
-  Bays
-  0-240 ft (0-80 meters)
-  > 240 ft (> 80 meters)



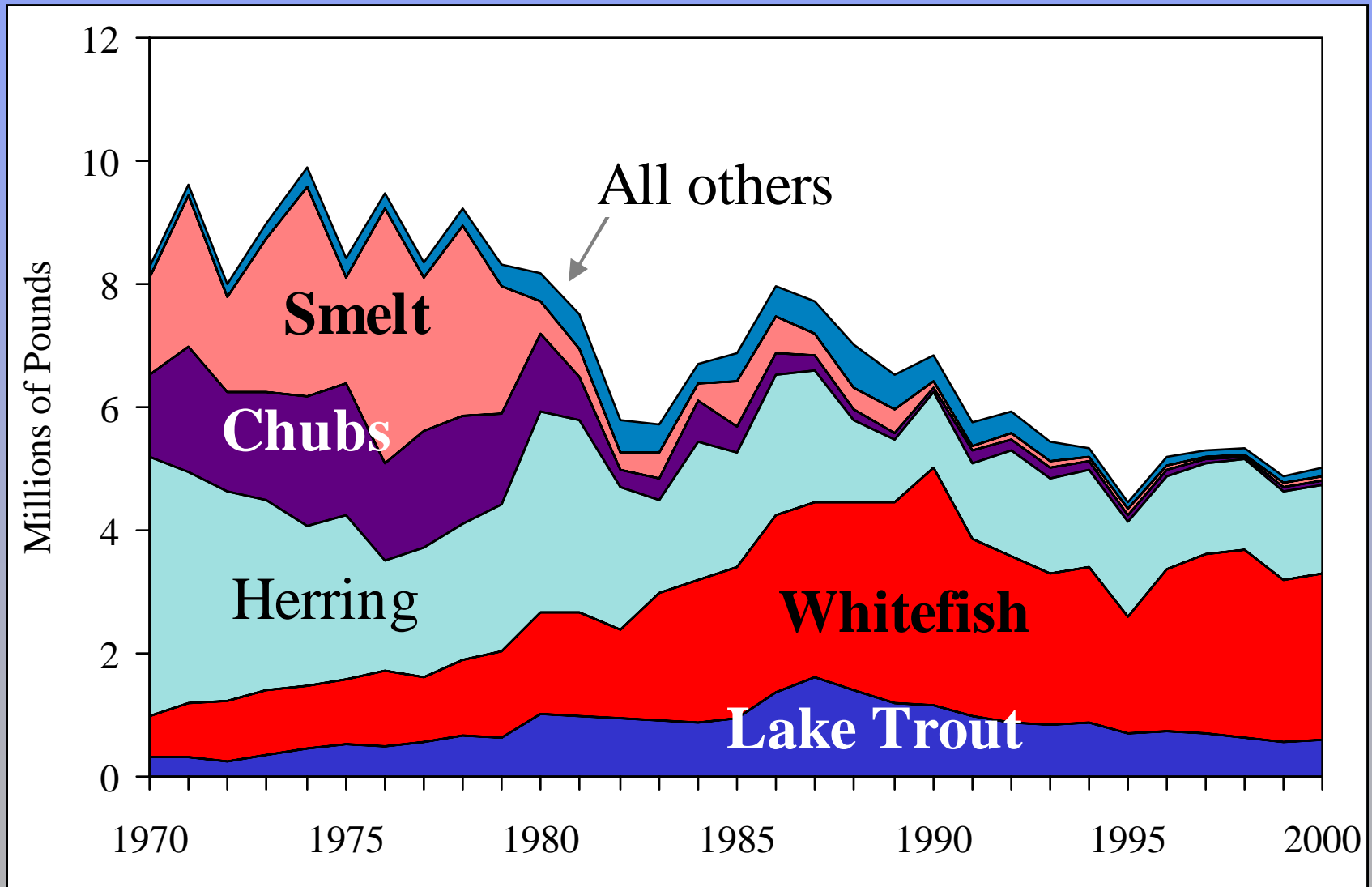
Sports Fishery - Salmonids in Catch from Ontario Waters of Lake Superior 1987-1999



Sports Fishery - Salmonids in Catch from U.S. Waters of Lake Superior 1990-2000



Commercial Fishery Harvest 1970-2000



Summary Commercial Catch

1. Size of fishery declining
2. Primarily Native American fishery
3. Prices declining or stable
4. Gill net effort declining
5. Trap net effort increasing
6. Whitefish primary fishery, herring secondary
7. Lake trout harvest declining



Trophic



Exotics



Habitat

The State of Lake Superior
in 2000

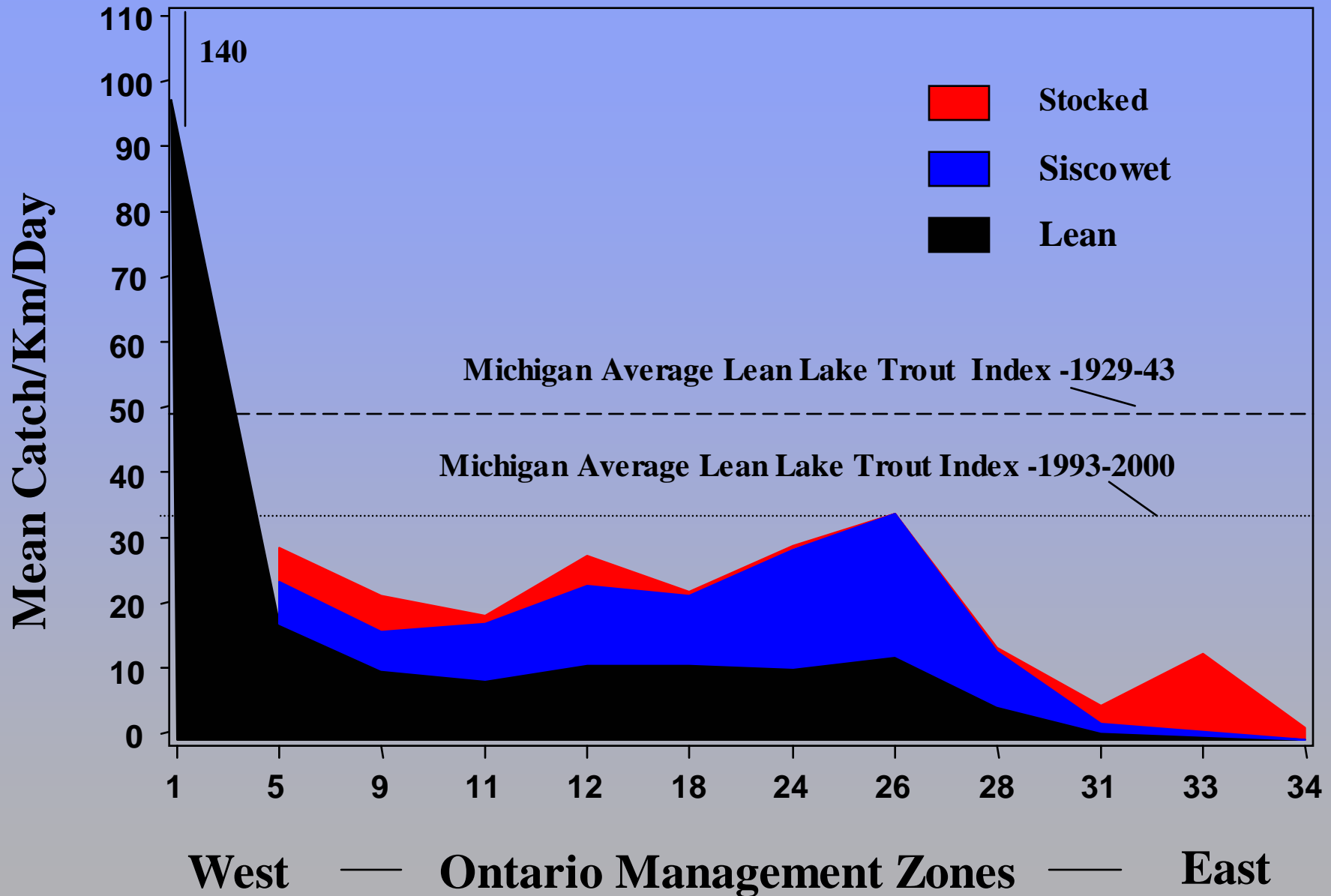


Fisheries

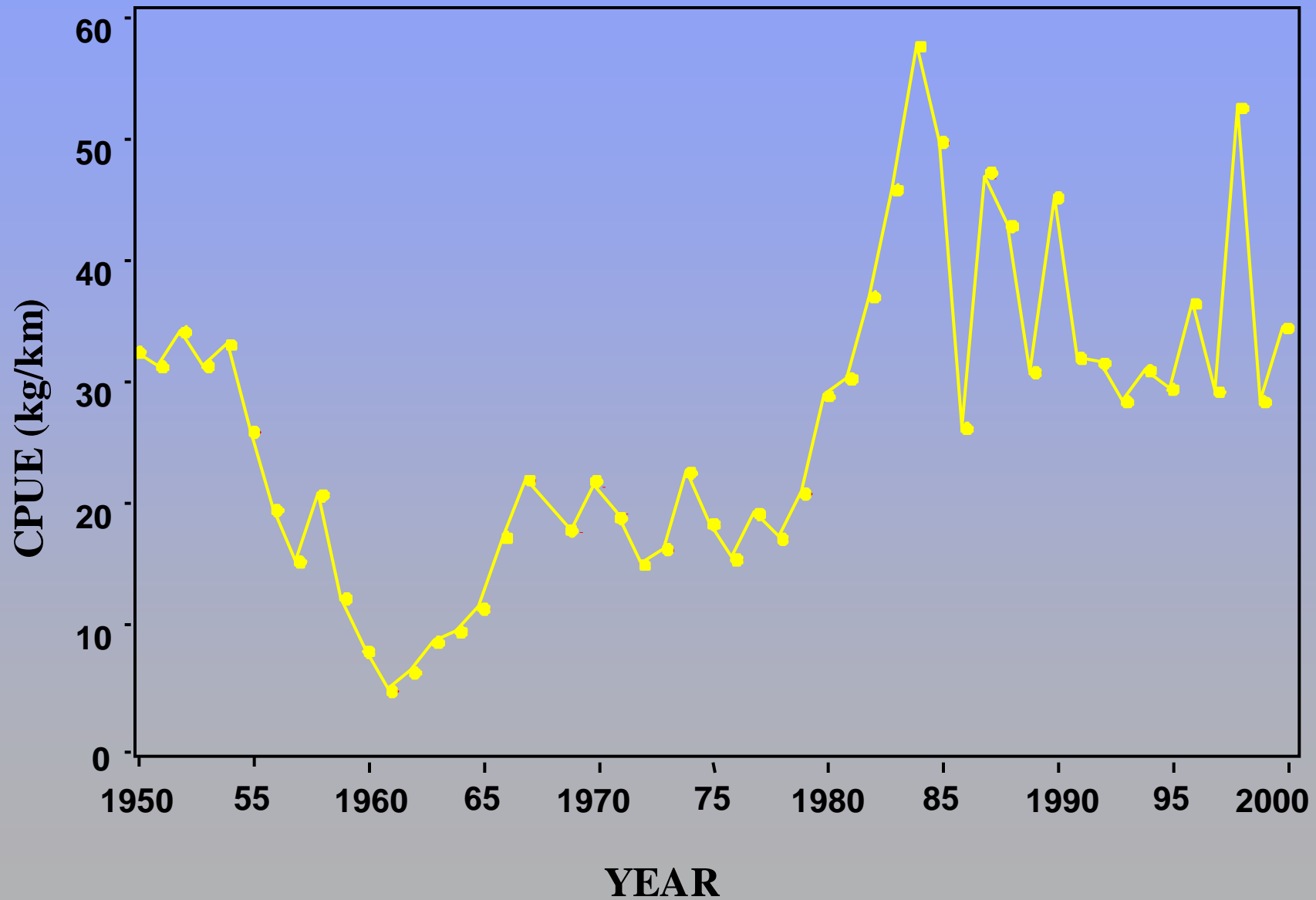


Fish Species

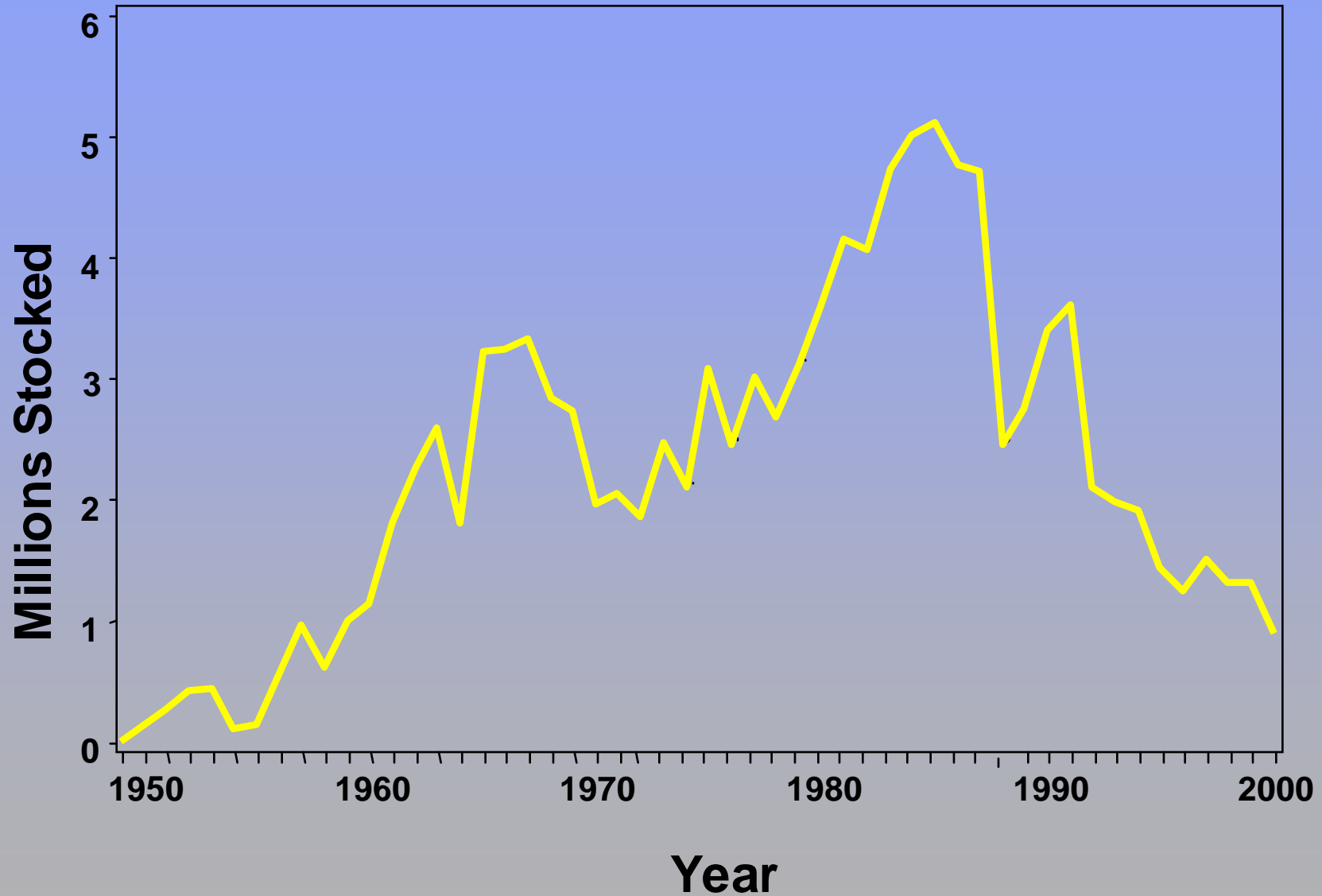
Ontario Lake Trout Indices 1997-2001



Lake Trout - Ontario Commercial Harvest



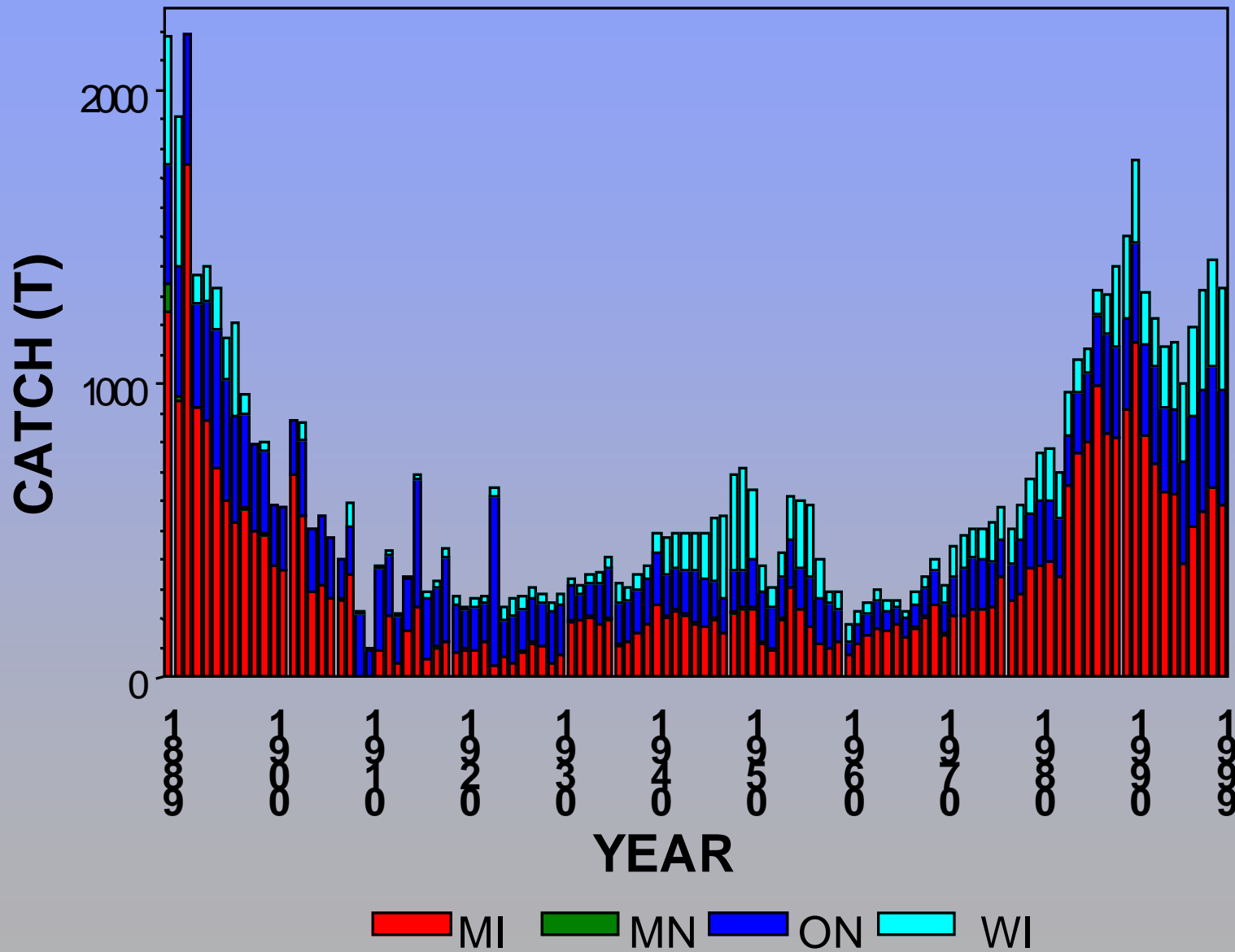
Lake Trout Stocking in Lake Superior



Status of Lake Trout in Lake Superior 2000

- Wild lake trout abundance increasing MN & WI and ONT waters of Lake Superior
- Current abundance MI and Western ONT waters of Lake Superior is higher or comparable to historic values
- Growth rates continue to decline and began in 1970s
- Siscowet abundance high & may be increasing
- Sea lampreys kill more lake trout than the combined sport and commercial fisheries

Lake Whitefish - Total Lake Superior Harvest



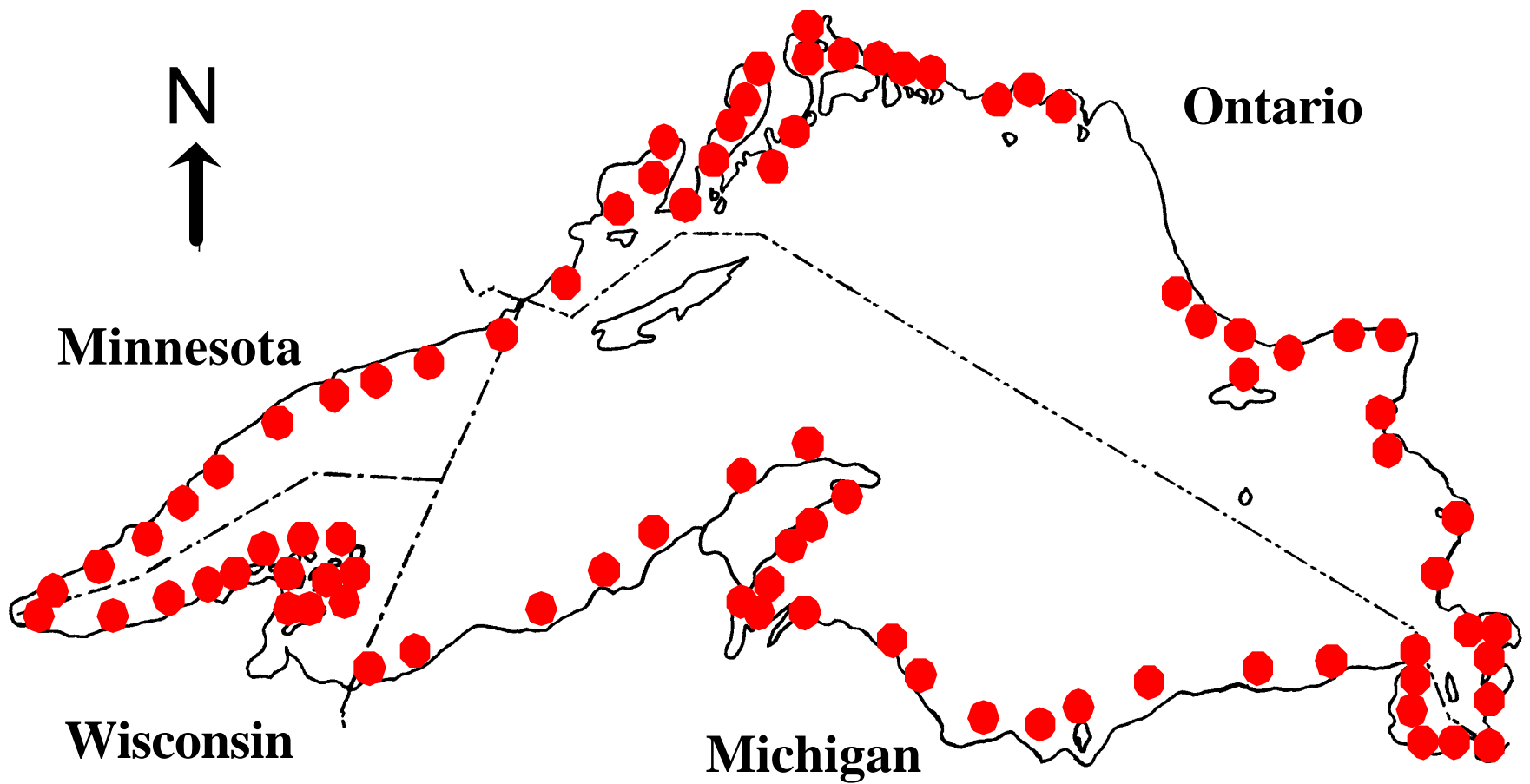
Status of Lake Whitefish in L. Superior 2000

- Abundance is high in most zones, likely a consequence of stocks rebuilding after removal of effort when lake trout fishery collapsed in 1950s
- Mortality below 60-65% guideline in most zones
- Harvest composed mainly of mature fish
- Average harvest weight has been increasing or is static in many zones
- Prognosis is good for lake whitefish in most areas

Sturgeon, Walleye, & Brook Trout Present

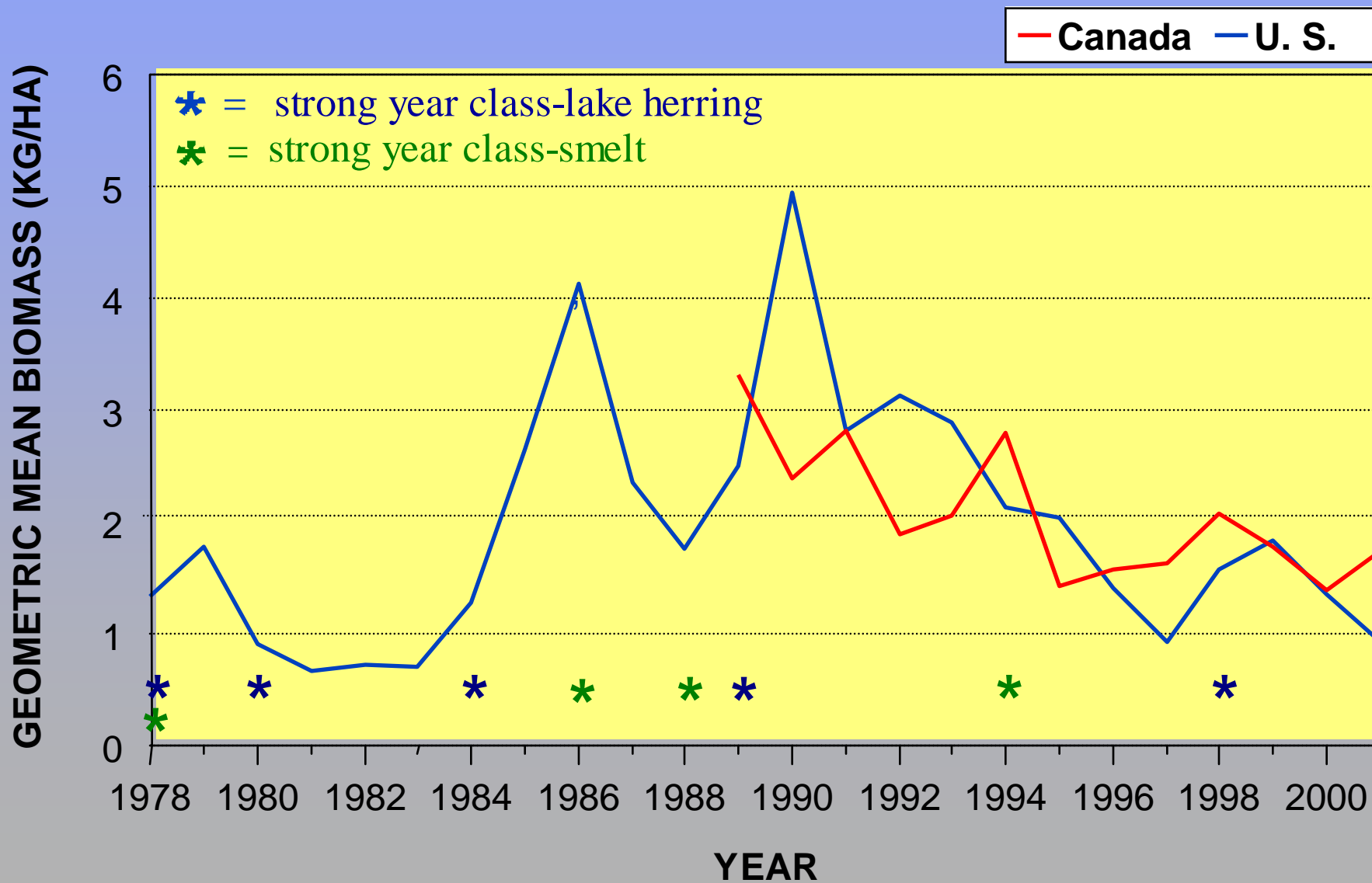
- >Increasing in Abundance
- >Sturgeon & Walleye widespread





**Trawl stations for assessment of
Lake Superior prey fishes, 1978-2001**

Biomass of bloater, smelt, and herring in Lake Superior, 1978-2001





Trophic



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Habitat

The State of Lake Superior
in 2000



Fisheries



Research



Fish Species

Future Research Needs/ Issues

Fish Community Objectives 14 Recommendations

- 1. Sustainability of Lake Trout Populations**
- 2. Food Web Dynamics**
- 3. Rehabilitation of Depleted Native Species**
- 4. Lower Trophic Level Monitoring**
- 5. Effects of Introduced Species**

A map of Lake Superior with a red outline. The word "Trophic" is written in red text across the center of the map.

Trophic

A map of Lake Superior with a red outline. The word "Exotics" is written in red text across the center of the map.

Exotics

A map of Lake Superior with a red outline. The word "Habitat" is written in red text across the center of the map.

Habitat

The State of Lake
Superior
in 2000

A map of Lake Superior with a red outline. The word "Fisheries" is written in red text across the center of the map.

Fisheries

A map of Lake Superior with a red outline. The word "Future" is written in red text across the center of the map.

Future

A map of Lake Superior with a red outline. The words "Fish Species" are written in red text across the center of the map.

Fish Species

A map of Lake Superior with a red outline. The word "Research" is written in red text across the center of the map.

Research

Future Fish Community

1. Brook trout, lake sturgeon and walleye populations resurge
2. Lake trout rehabilitation will continue
3. Whitefish stocks stabilized
4. Lake herring partially recovered
5. Habitat degradation will continue
6. Several new non-native species

Nipigon Brook Trout

