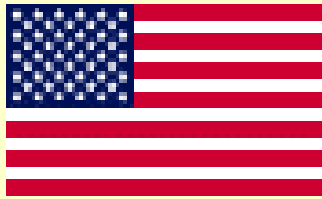


STATE OF THE LAKE LAKE MICHIGAN FISHERIES

**Thomas Trudeau
Illinois Department of Natural Resources**



A Joint Strategic Plan for Management of Great Lakes Fisheries



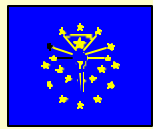
COTFMA



GLIFWC



Illinois



Indiana



Michigan



Great Lakes Fishery Commission



Minnesota



New York



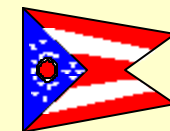
Wisconsin



Ontario



Pennsylvania



Ohio

Changes in Lake Michigan fishery

Pre-1900

Major Predators

lake trout

burbot

Planktivores

7 species ciscoes

2 species whitefish

lake herring

emerald shiners

Benthivores

lake sturgeon

4 species sculpin

suckers

Post-1970

Major Predators

lake trout, burbot, **coho**

chinook, rainbow t, brown t

Planktivores

1 species ciscoes

2 species of whitefish

smelt, alewife

Benthivores

suckers

2 species sculpin

carp

Non-native species in red

Goal for Lake Michigan Fish Community Objectives

- To restore and maintain the biological integrity of the fish community so that production of desirable fish is sustainable and ecologically efficient

The State of Lake Michigan Planktivores

by Guy Fleischer (USGS)

Maintain a diversity of planktivore (prey fish) species at population levels matched to primary production and to predator demands. Expectations are for a lakewide planktivore biomass of 0.5 to 0.8 billion kg (1.2 to 1.7 billion lb).

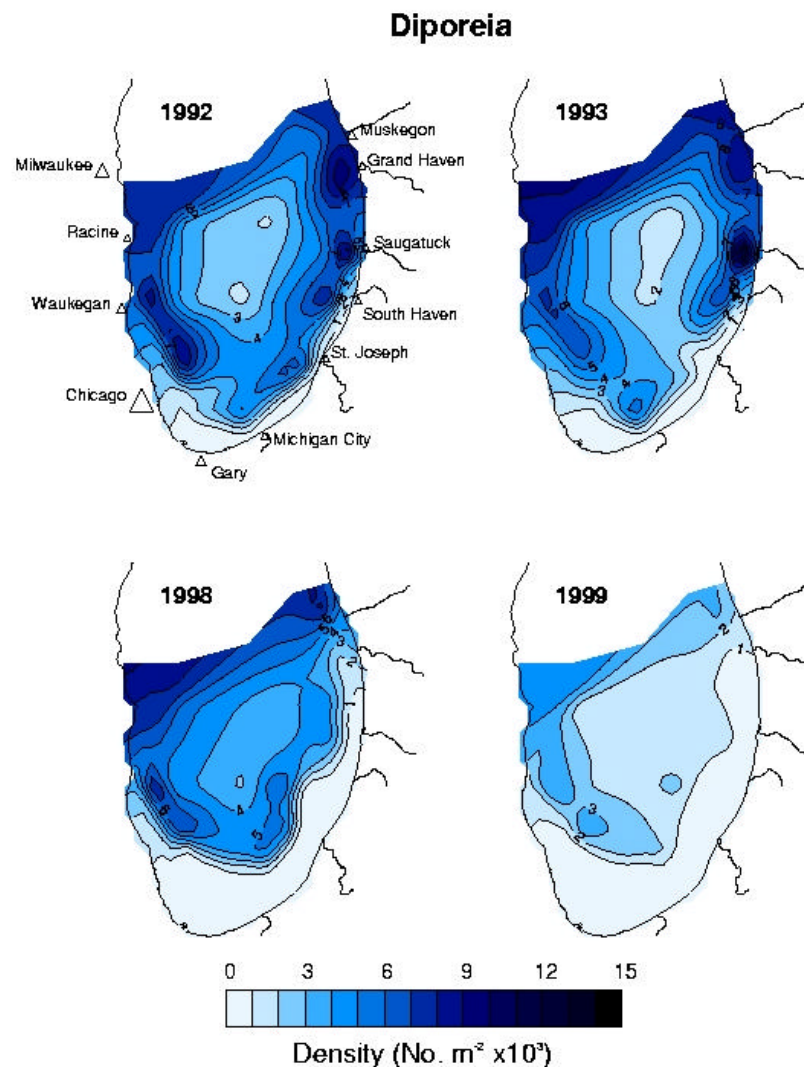




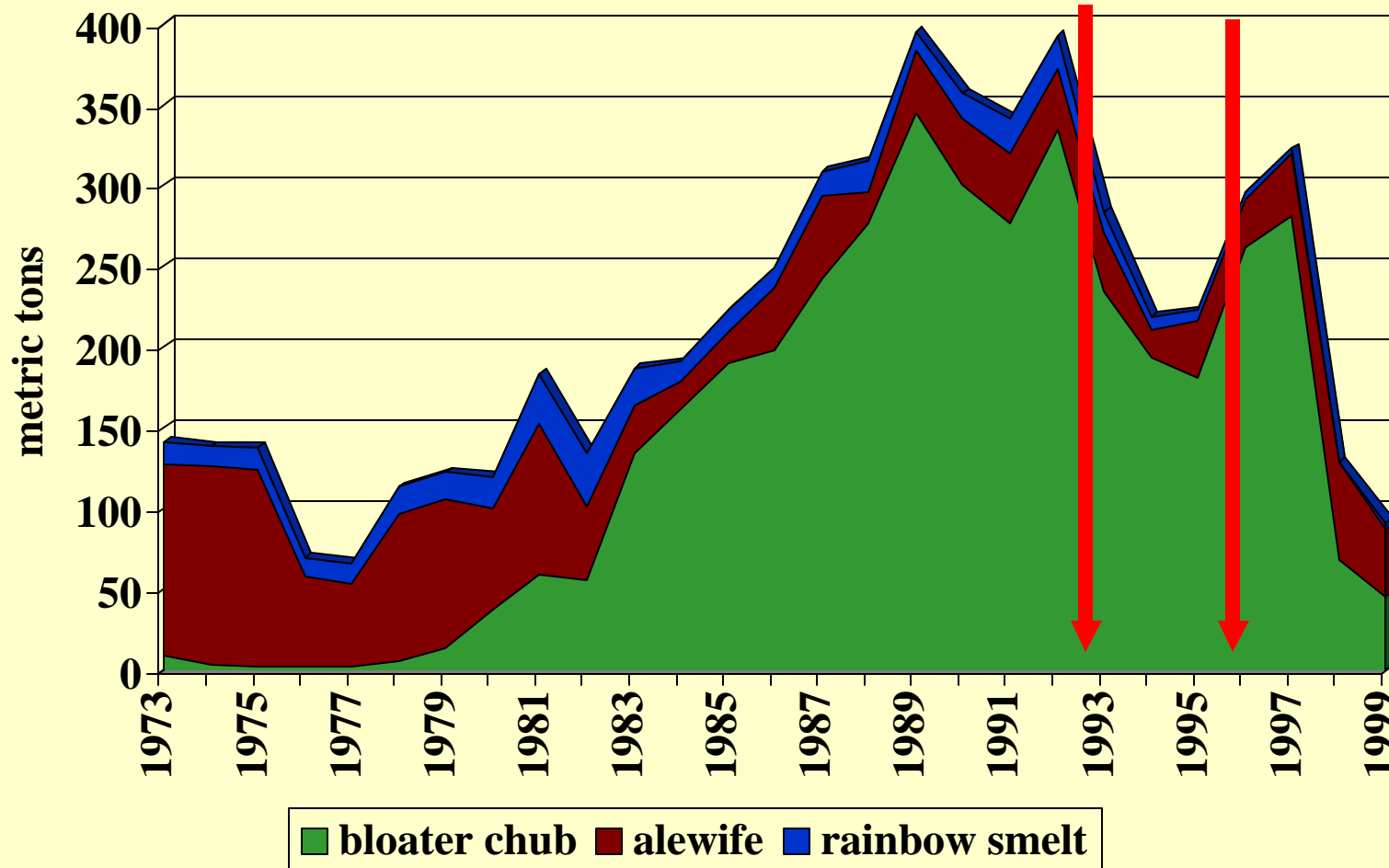
Monitoring: *Diporeia* Decline



Routine monitoring of the abundance of benthic amphipods at 40 sites in Lake Michigan's southern basin has shown a decline in bottom life. While the exact cause of the decline is unknown, GLERL scientists suspect it is linked to the introduction of zebra mussels. The dominant amphipods, *Diporeia spp.*, are eaten by a variety of Great Lakes fish and are an important component of the Lake Michigan food web.

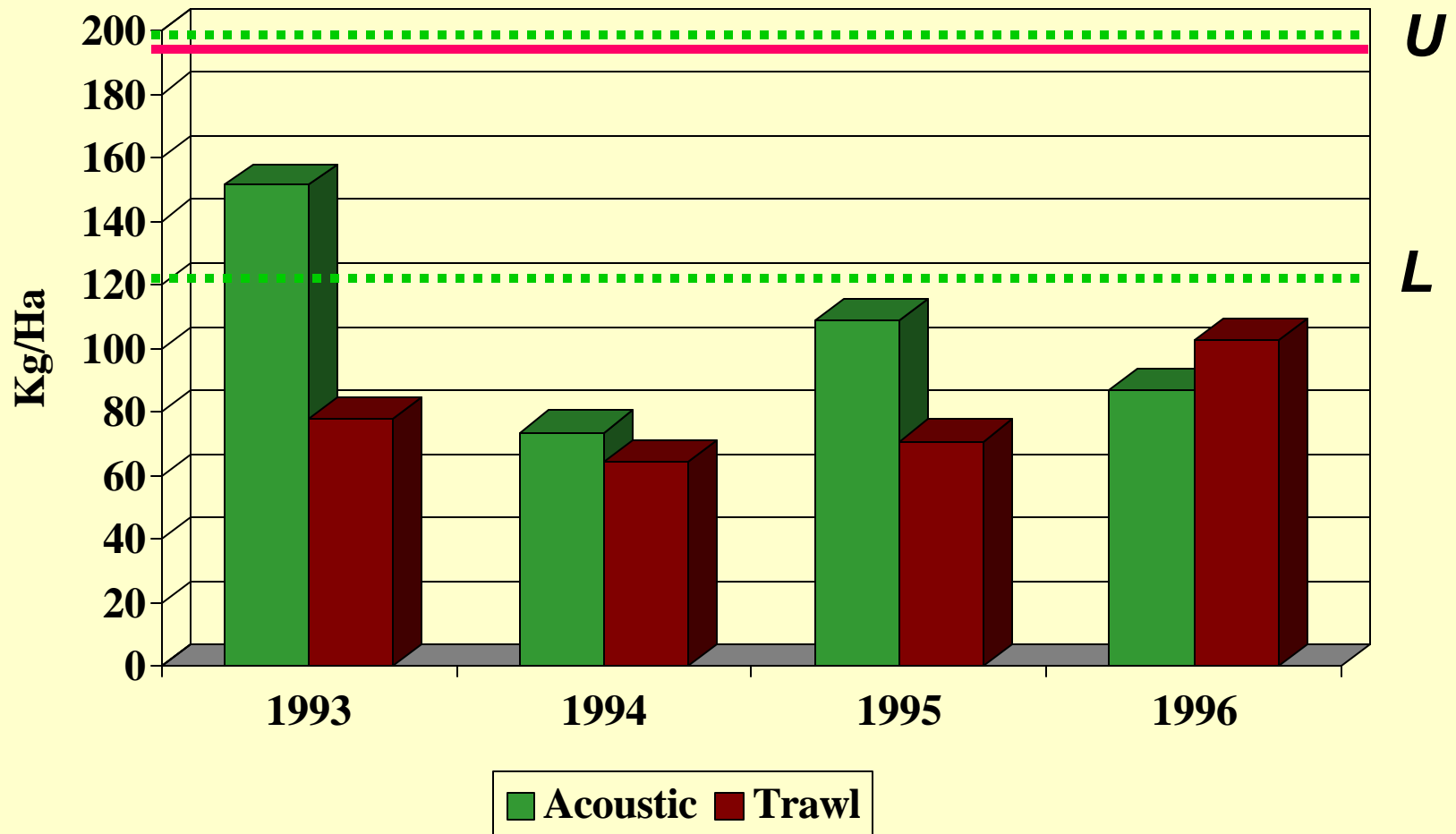


Lake Michigan Forage Fish Estimate



From annual USGS Bottom Trawl Assessment

Lake Michigan Forage Fish Estimate



The State of Lake Michigan Salmonines

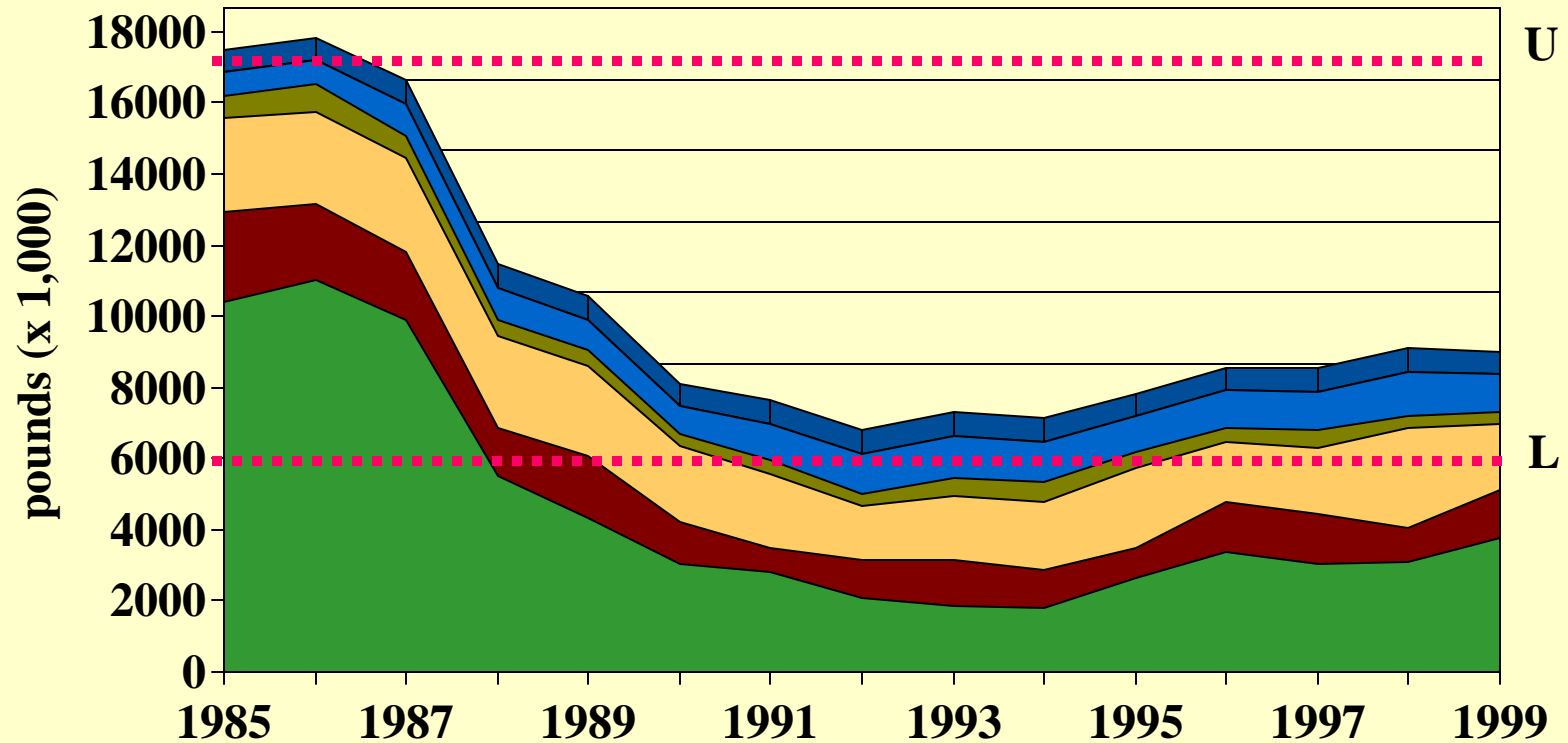
by Jory Jonas (MnDNR)

Establish a diverse salmonine community capable of sustaining an annual harvest of 2.7 to 6.8 million kg (6 to 15 million lb), of which 20-25% is lake trout.

Establish self-sustaining lake trout populations.



Lakewide Trout and Salmon Harvest

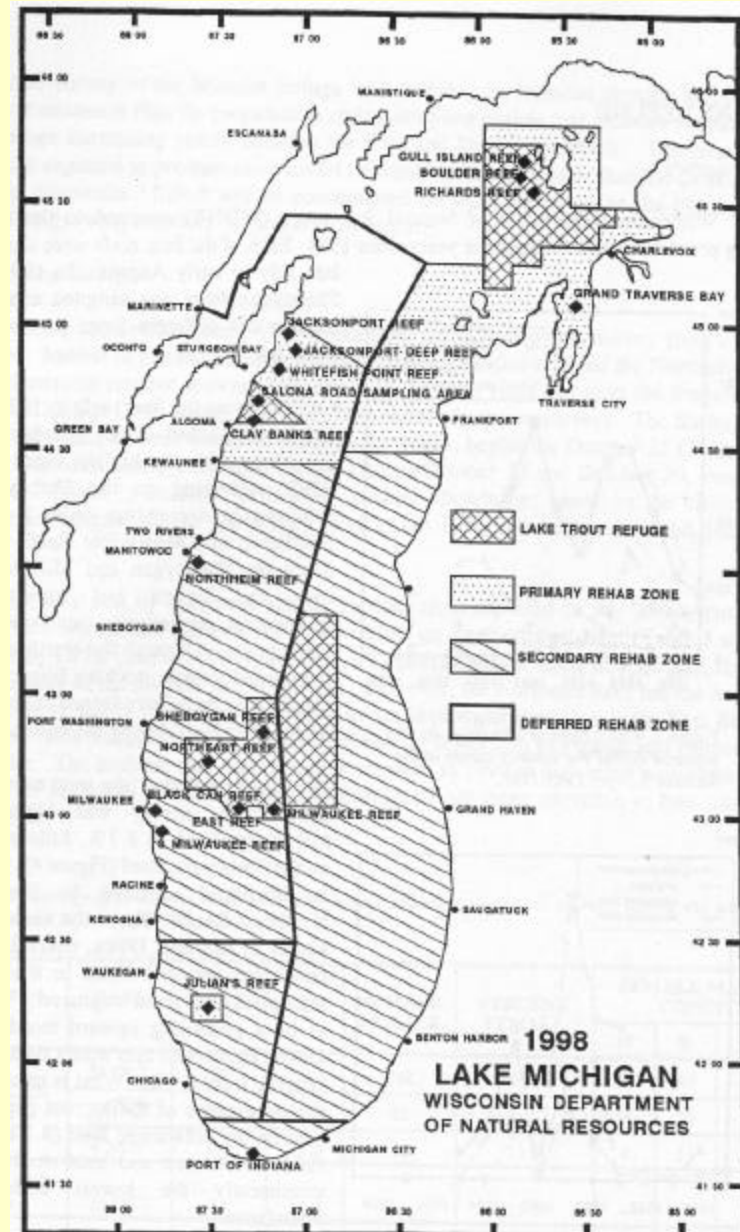


■ chinook salmon ■ coho salmon ■ lake trout ■ brown trout ■ rainbow trout

Lake Trout Rehabilitation Plan 1985

Achieve self-sustaining lake trout populations capable of sustaining an annual harvest of 1,100 t through:

- ◆ establishment of rehabilitation zones based upon quality of spawning habitat
- ◆ a total mortality cap not to exceed 40%
- ◆ specific prioritized stocking rates by zones
- ◆ evaluation of different strains



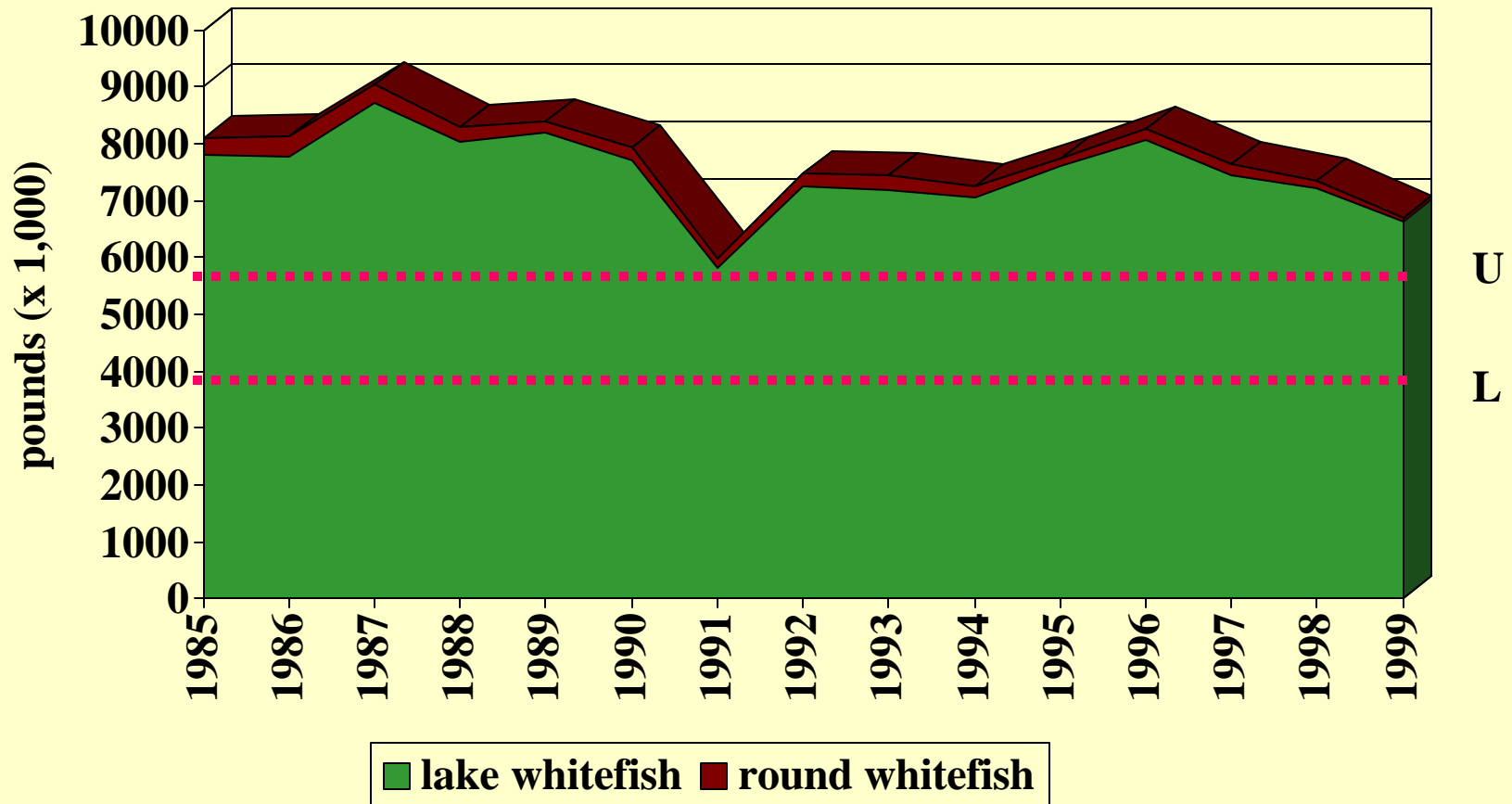
The State of Lake Michigan Benthivores - Coregonids

by Phil Schneeberger

Maintain self-sustaining stocks of lake whitefish, round whitefish, sturgeon, suckers, and burbot. The expected annual yield of lake whitefish should be 1.8-2.7 million kg (4 to 6 million lb).



Lakewide Coregonid Harvest



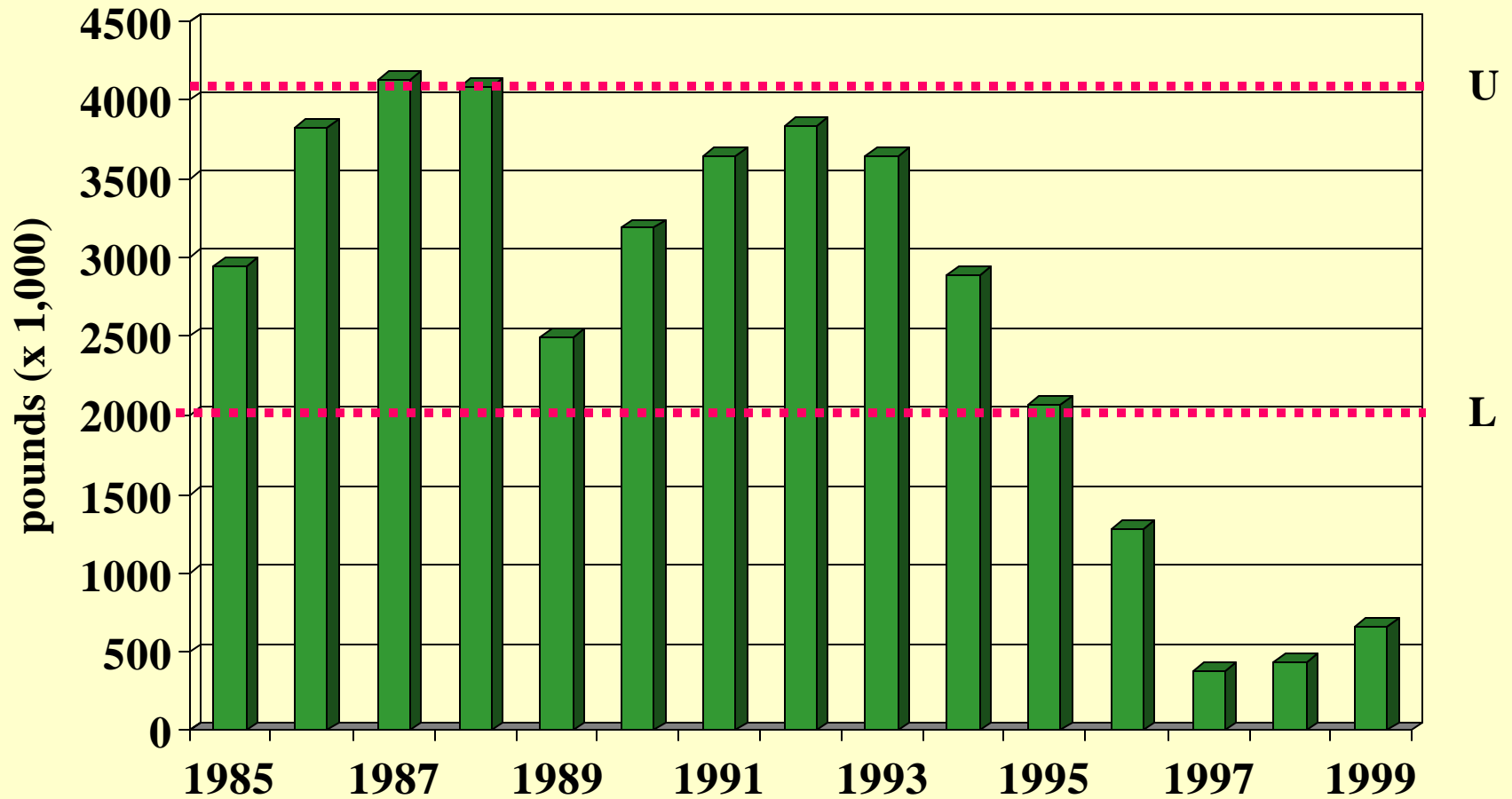
The State of Lake Michigan Inshore Fish Stocks

by Dave Clapp (MnDNR)

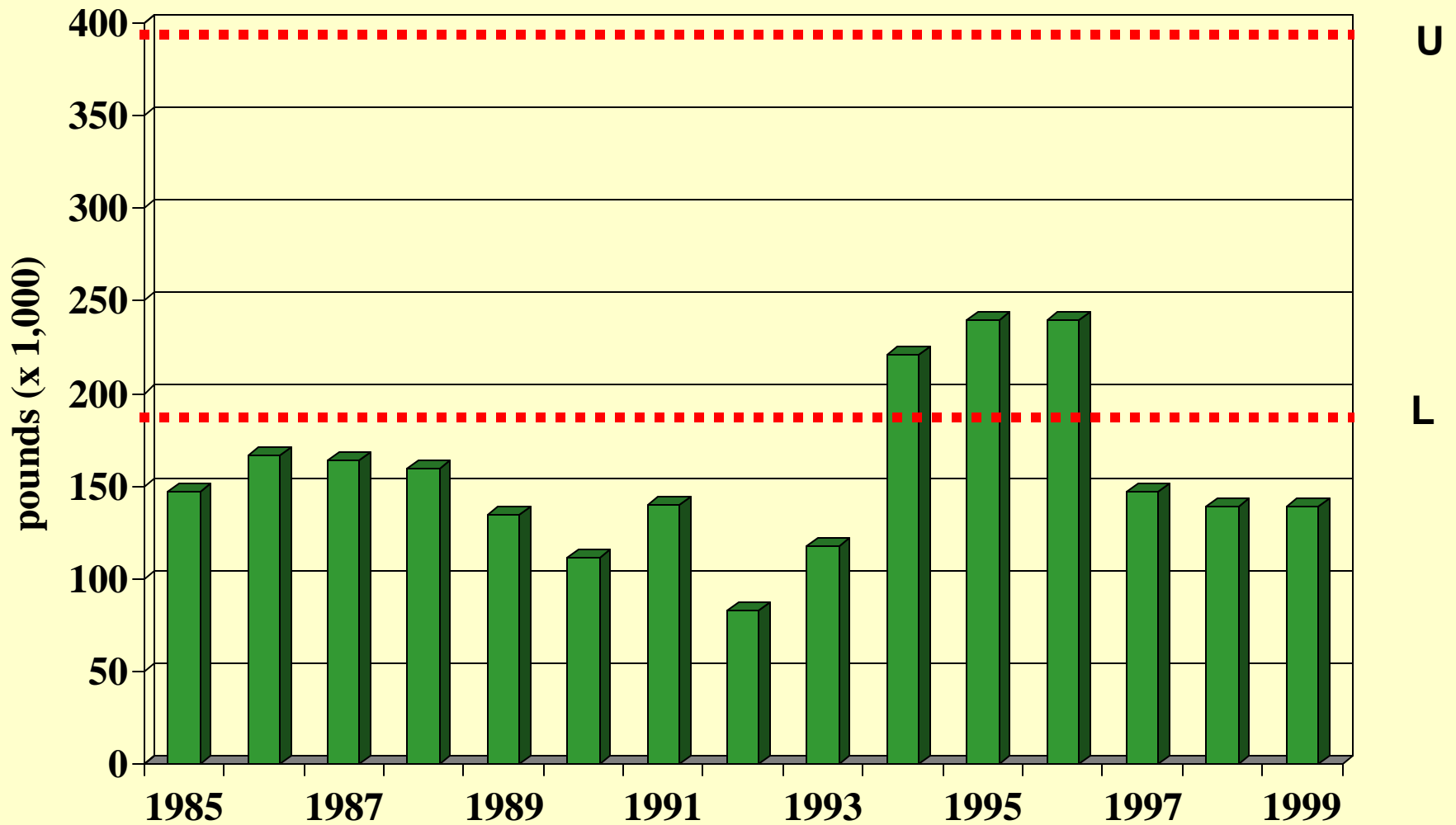
Maintain self-sustaining stocks of yellow perch, walleye, smallmouth bass, pike, catfish, and panfish. Expected annual yields should be 0.9 to 1.8 million kg (2 to 4 million lb) for yellow perch and 0.1-0.2 million kg (0.2 to 0.4 million lb) for walleye.



Lakewide Yellow Perch Harvest



Lakewide Walleye Harvest



The State of Lake Michigan Physical/Chemical Habitat

by Mark Holey (USFWS)

Protect and enhance fish habitat and rehabilitate degraded habitats.

Achieve no net loss of the productive capacity of habitat supporting Lake Michigan's fish communities. High priority should be given to the restoration and enhancement of historic riverine spawning and nursery areas for anadromous species.

- Remedial Action Plans (RAPs) are in various stages of remediation for the ten AOCs.
- River flow management through Hydroelectric facilities
- No Net Fish Habitat Loss
- Lake Michigan Mass Balance Project
- Lakewide Management Plan (LaMP)

Fish Community Objectives

- **Other Species Objective**

Protect and sustain a diverse community of native species, including other species not specifically mentioned earlier (for example, cyprinids, gars Lepisosteus spp., bowfin (Amia calva), brook trout, and sculpins). These species contribute to the biological integrity of the fish community and should be recognized and protected for their ecological significance and cultural and economic values.

- **Sea Lamprey Objective**

Suppress the sea lamprey to allow the achievement of other fish-community objectives.

Progress Toward Achievement of Fish Community Objectives

<i>Objectives</i>	<i>Grade</i>
<i>Fish Population Structures</i>	Mixed/Improving
<i>Restoration/Protection Of Fish Habitat</i>	Mixed/Deteriorating
<i>Prevention/Control of Aquatic Nuisance Species</i>	Mixed

