



Tribal Efforts to Restore Native Fish in Flathead Lake

Barry Hansen

Confederated Salish and Kootenai Tribes

1. Fish Assemblage has radically changed over time

2. We can never put it back like it once was

But,

**3. With aggressive and persistent work,
we can rebalance the fishery to maintain native fishes**



Joseph Tomelleri

NATIVE (10)

Salmonidae

Bull trout

Westslope Cutthroat trout

Mountain Whitefish

Pygmy Whitefish

Catostomidae

Longnose Sucker

Largescale Sucker

Cyprinidae

Northern Pikeminnow

Peamouth

Redside Shiner

Cottidae

Sculpin

NATIVE (10)

Salmonidae

Bull trout

Westslope Cutthroat trout

Mountain Whitefish

Pygmy Whitefish

Catostomidae

Longnose Sucker

Largescale Sucker

Cyprinidae

Northern Pikeminnow

Peamouth

Redside Shiner

Cottidae

Sculpin

NON-NATIVE (14)

Salmonidae

Lake trout

Lake Whitefish

Rainbow trout

Brook trout

Kokanee

Percidae

Yellow Perch

Centrarchidae

Largemouth Bass

Smallmouth Bass

Bluegill

Crappie

Esocidae

Northern Pike

Cyprinidae

Fathead Minnow

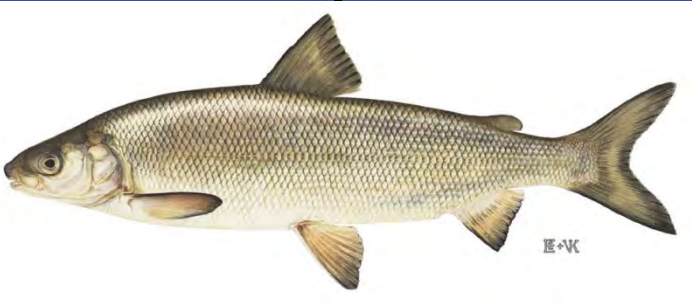
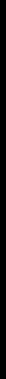
Ictaluridae

Black Bullhead

Gasterosteidae

Brook Stickleback

1896





1896

1905





1896

1916

1905





**Mysis introduced
in upstream lakes**

1896

1916

1905

1968



E-V

1968

**Ashley
Lake**

**Whitefish
Lake**

1968

68 km

85 km

21 km

Mysis

Introductions



1981

**Flathead
Lake**

**Swan
Lake**

1975



**Mysis introduced
in upstream lakes**

1896

1916

1981

1905

1968



**Mysis discovered
in Flathead Lake**





**Mysis introduced
in upstream lakes**

**Kokanee
crashed**

1896

1916

1981

1905

1968

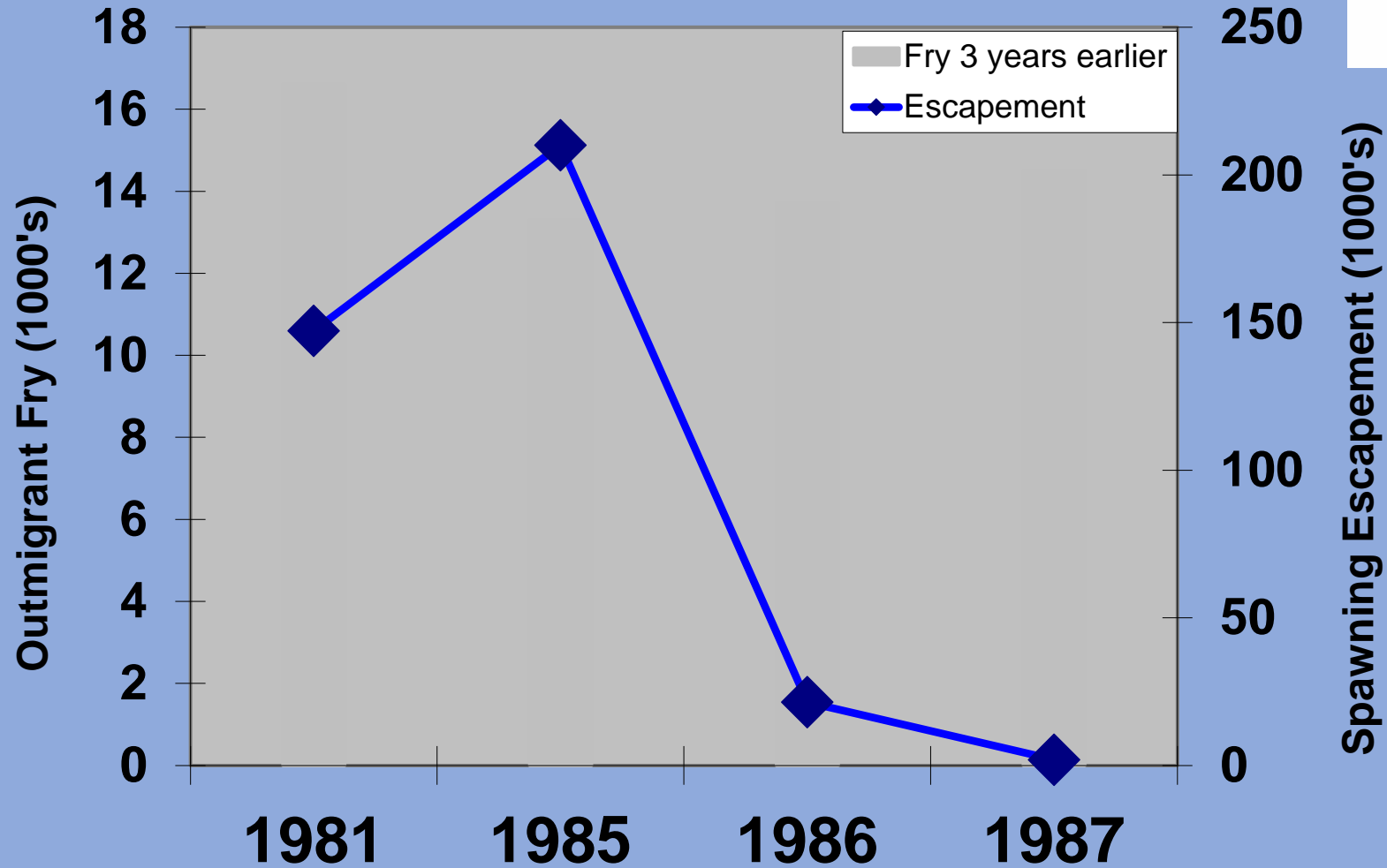
1987



**Mysis discovered
in Flathead Lake**

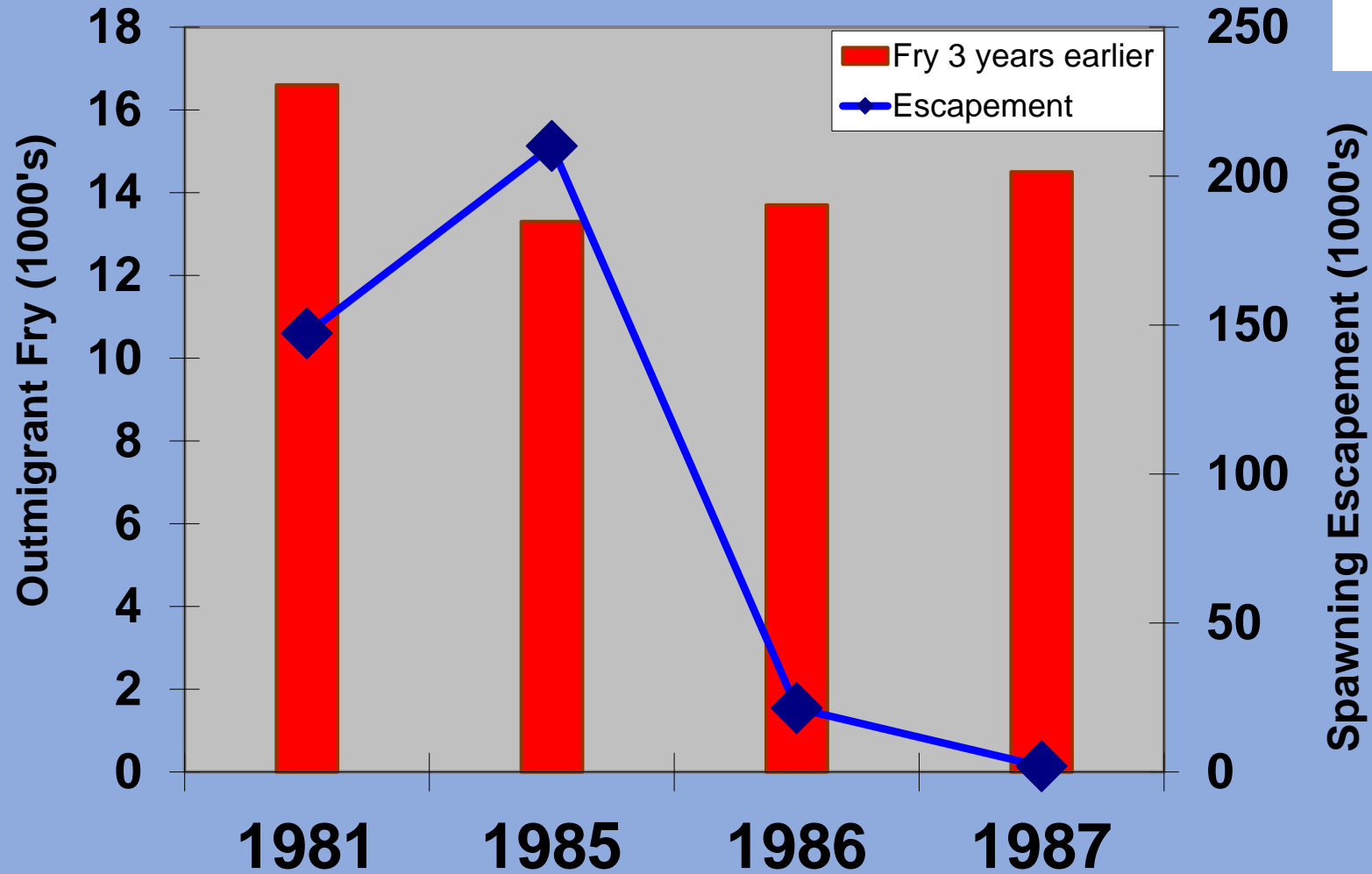


Kokanee Crash - Adults



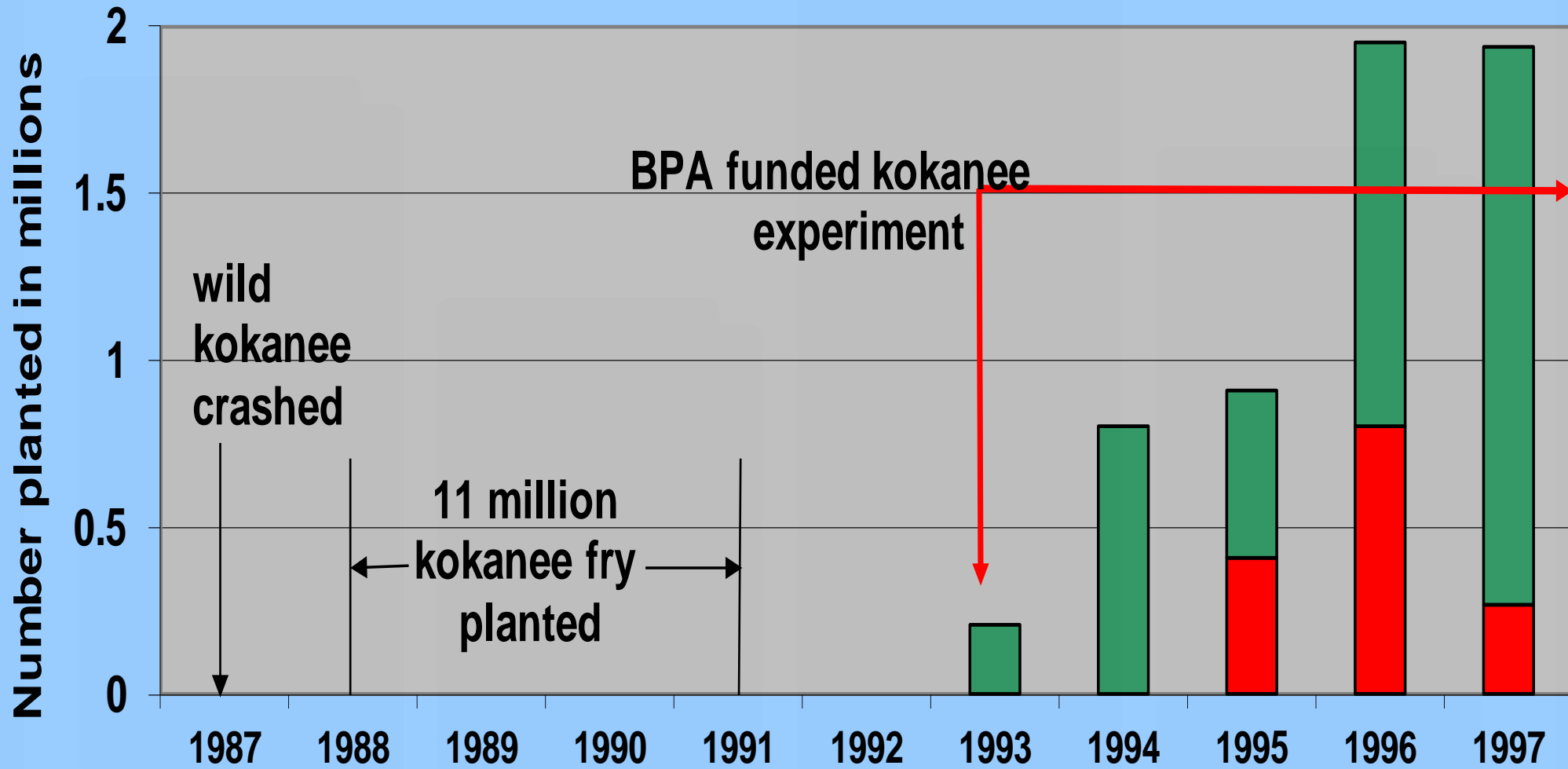
**Data Source: Montana
Fish, Wildlife and Parks**

Kokanee Crash



Data Source:
Montana Fish, Wildlife
and Parks

Kokanee planted in Flathead Lake







**Mysis introduced
in upstream lakes**



**Kokanee
crashed**

1896

1916

1981

1998

1905

1968

1987



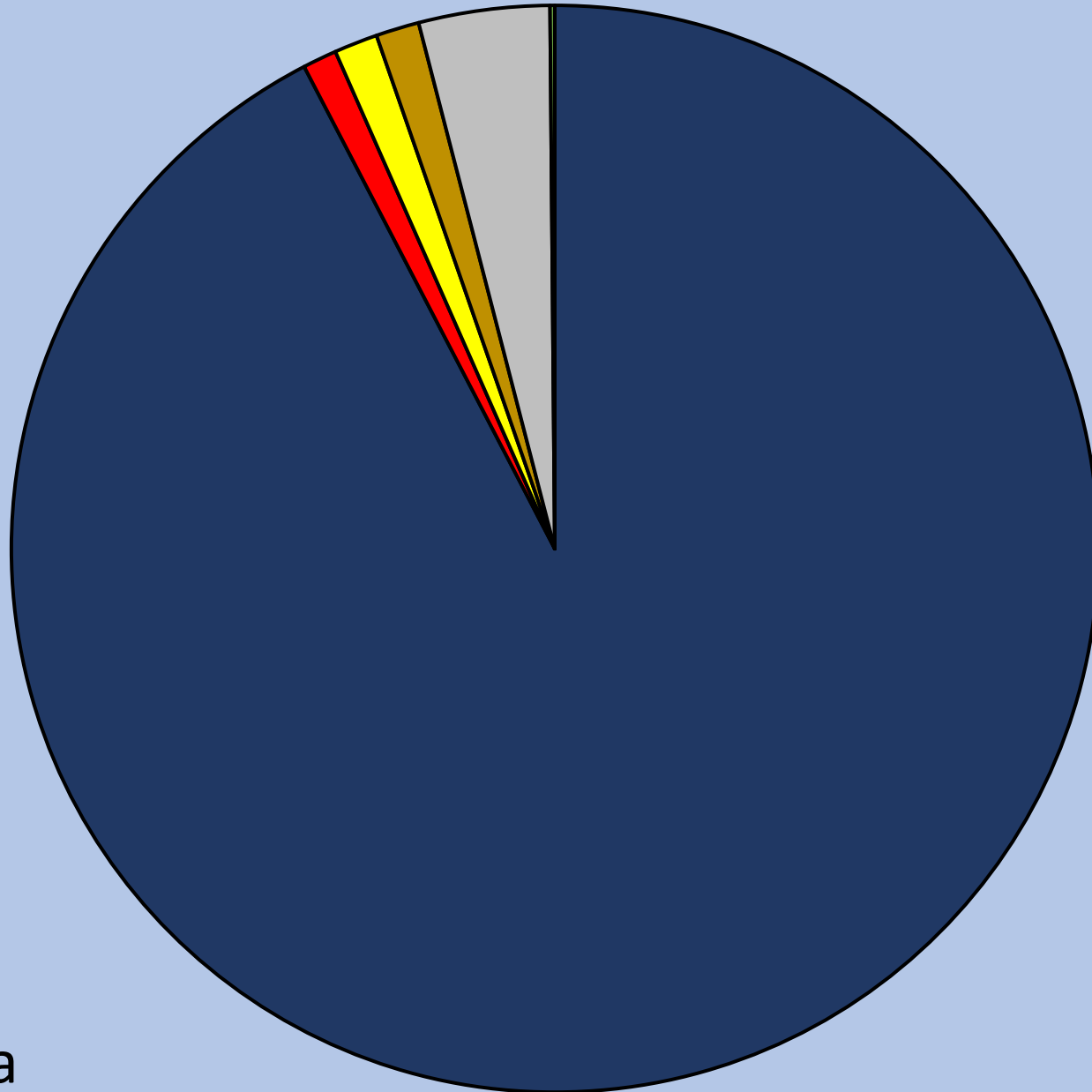
**Bull trout listed
as threatened**


**Mysis discovered
in Flathead Lake**



Flathead Lake Fishery Over Time

1981

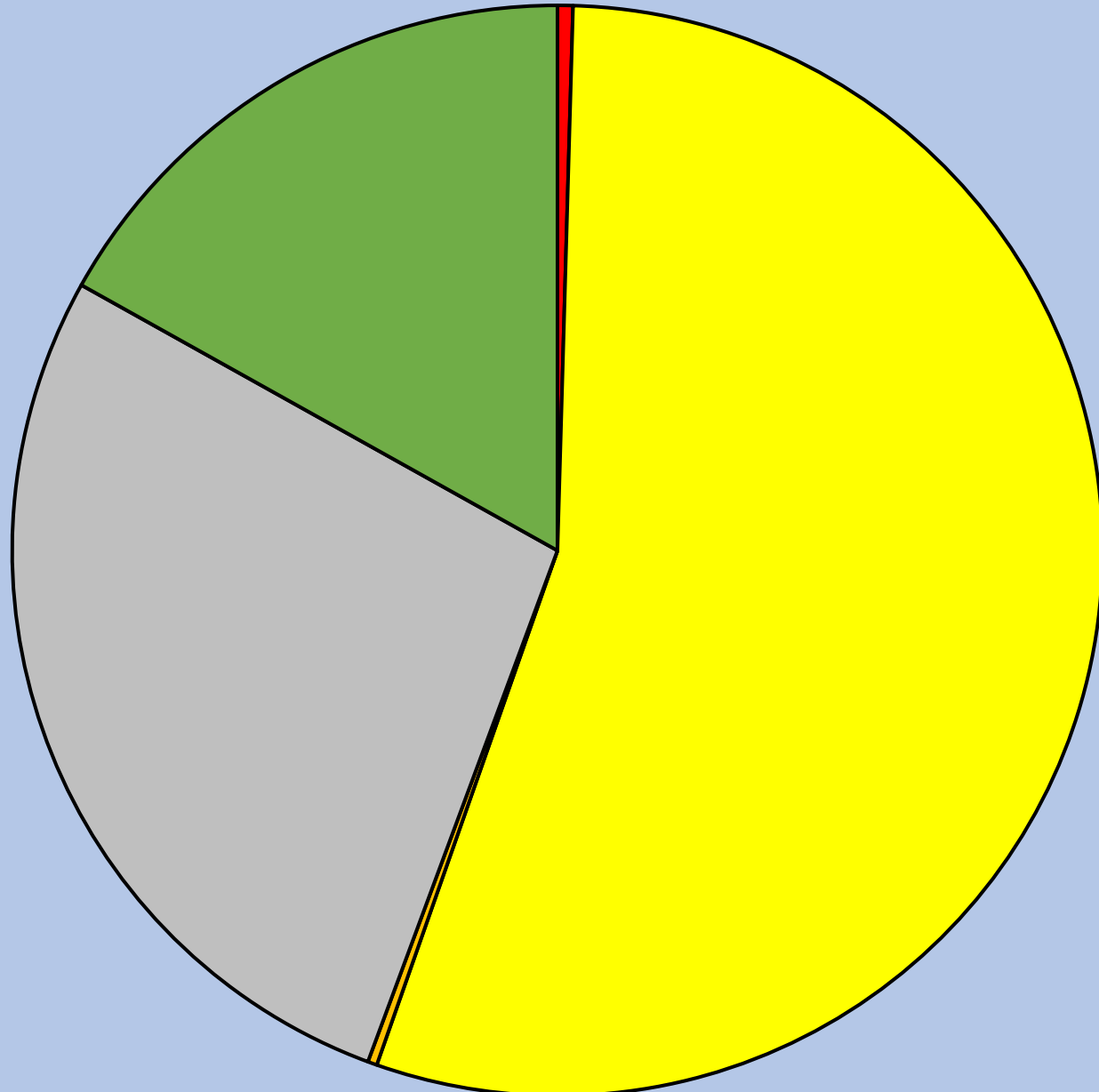


-  Kokanee
-  Bull Trout
-  Lake Trout
-  Cutthroat Trout
-  Yellow Perch
-  Lake Whitefish

MFWP Data

Flathead Lake Fishery Over Time

1992



■ Kokanee

■ Bull Trout

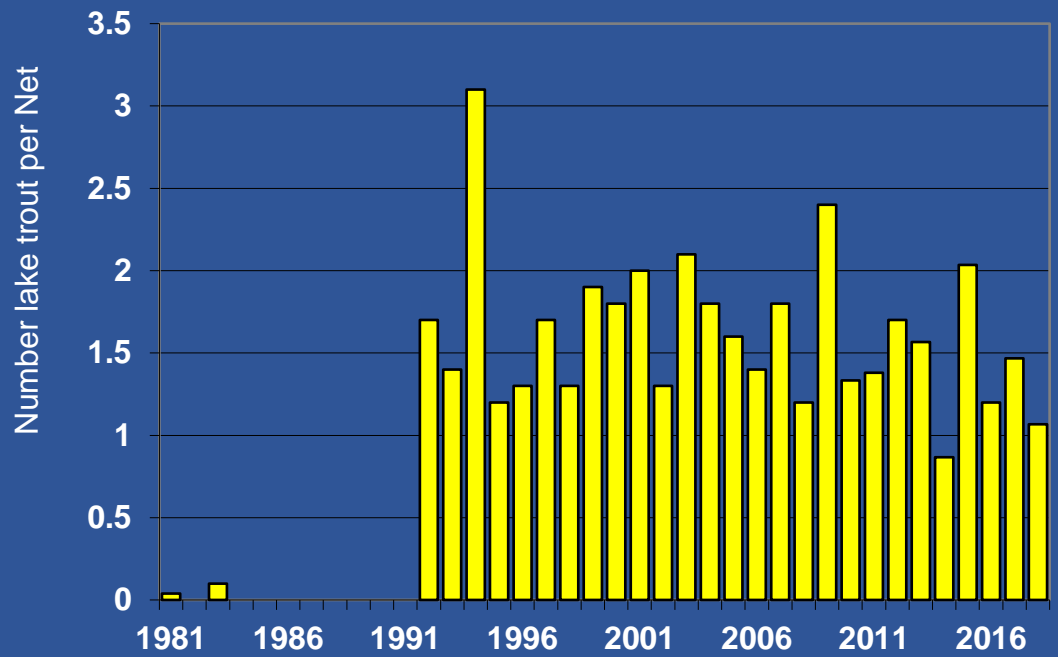
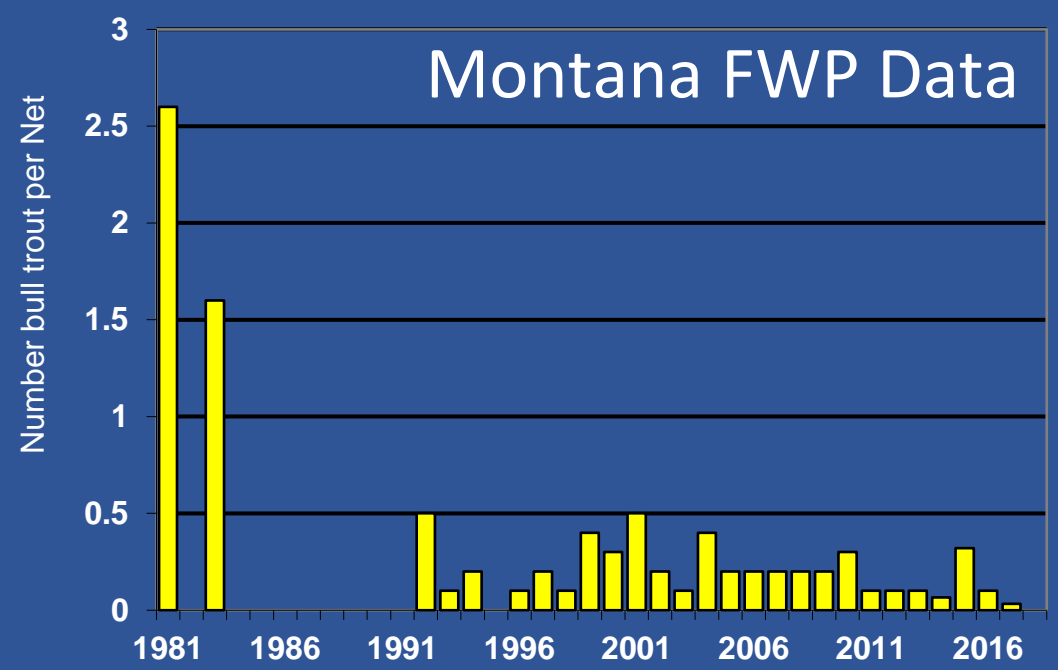
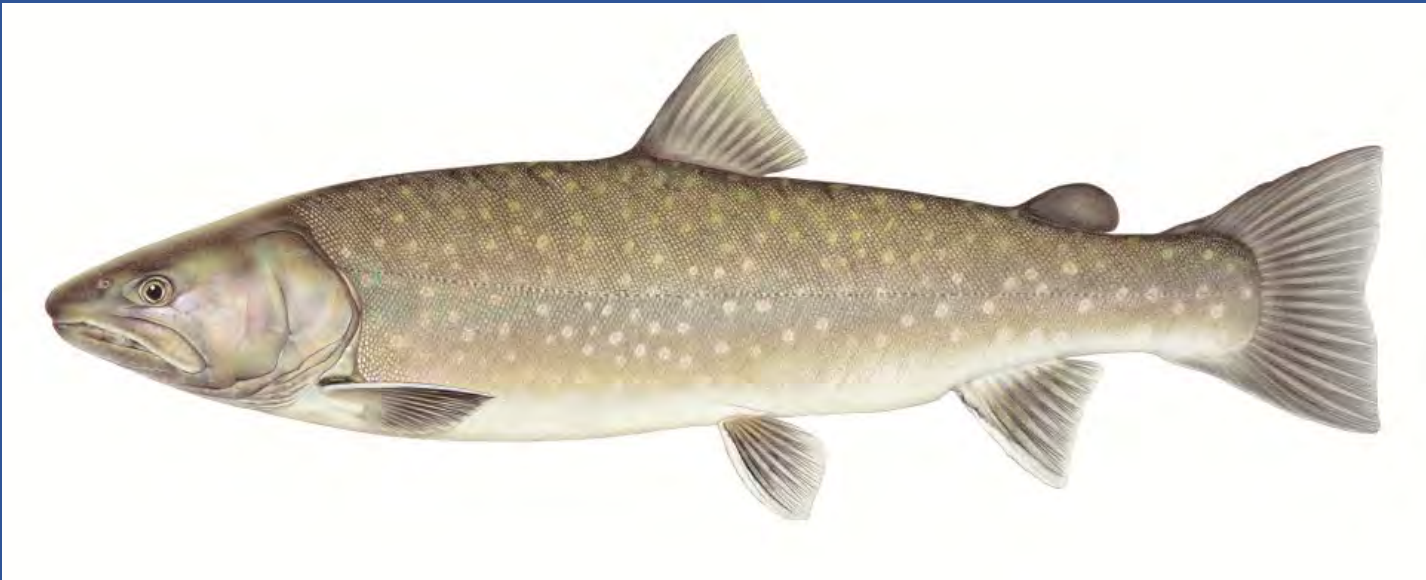
■ Lake Trout

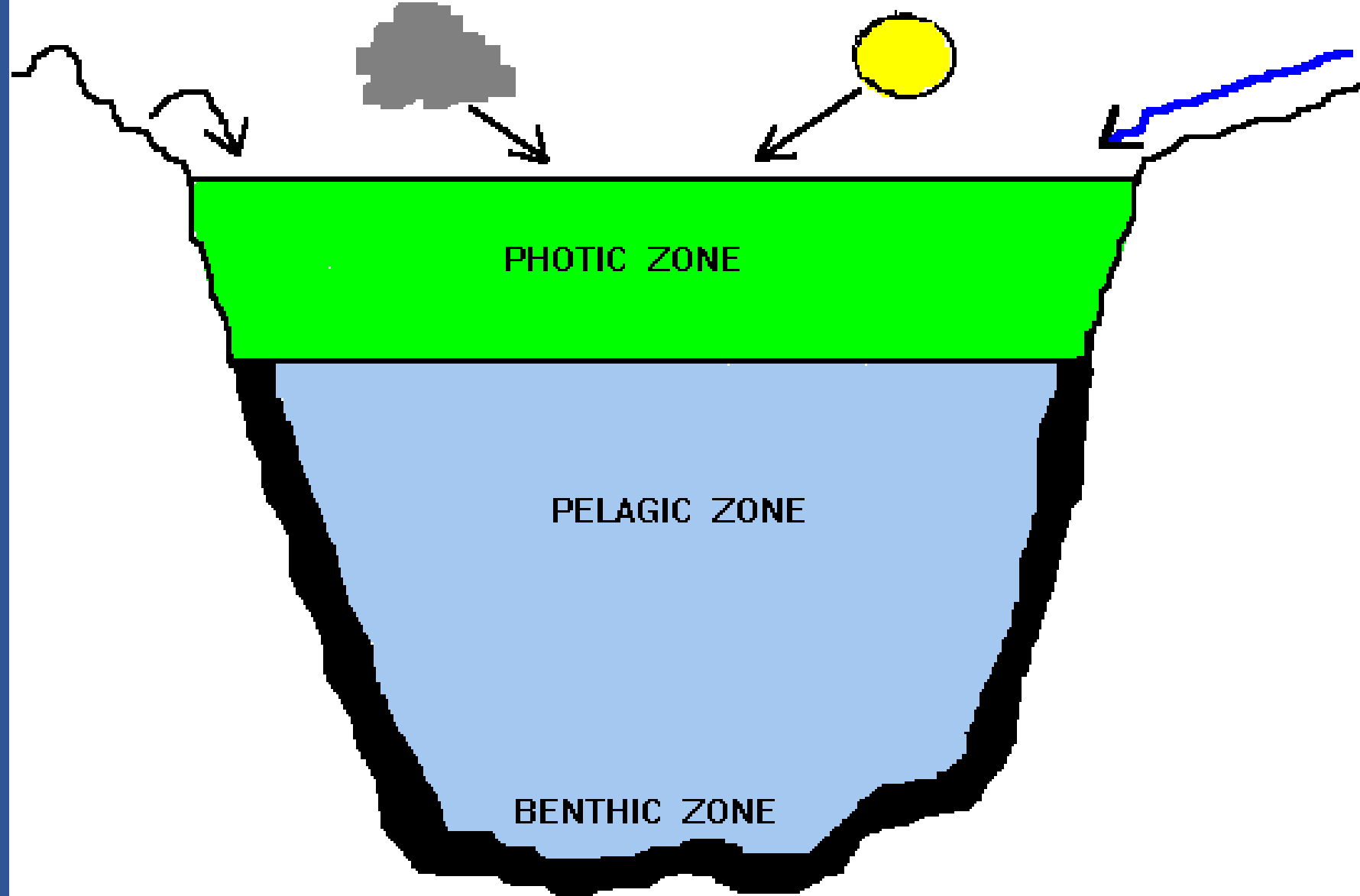
■ Cutthroat Trout

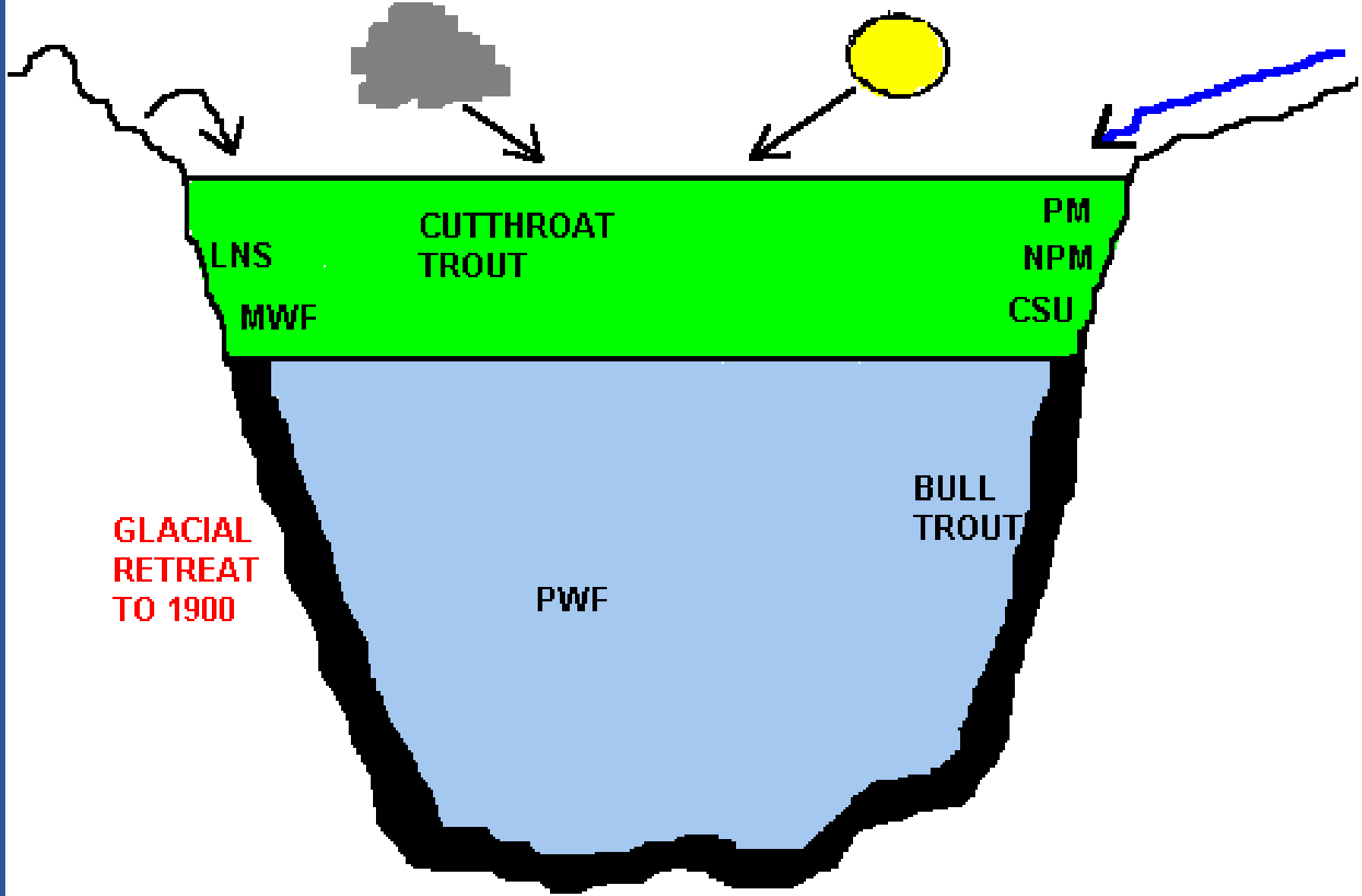
■ Yellow Perch

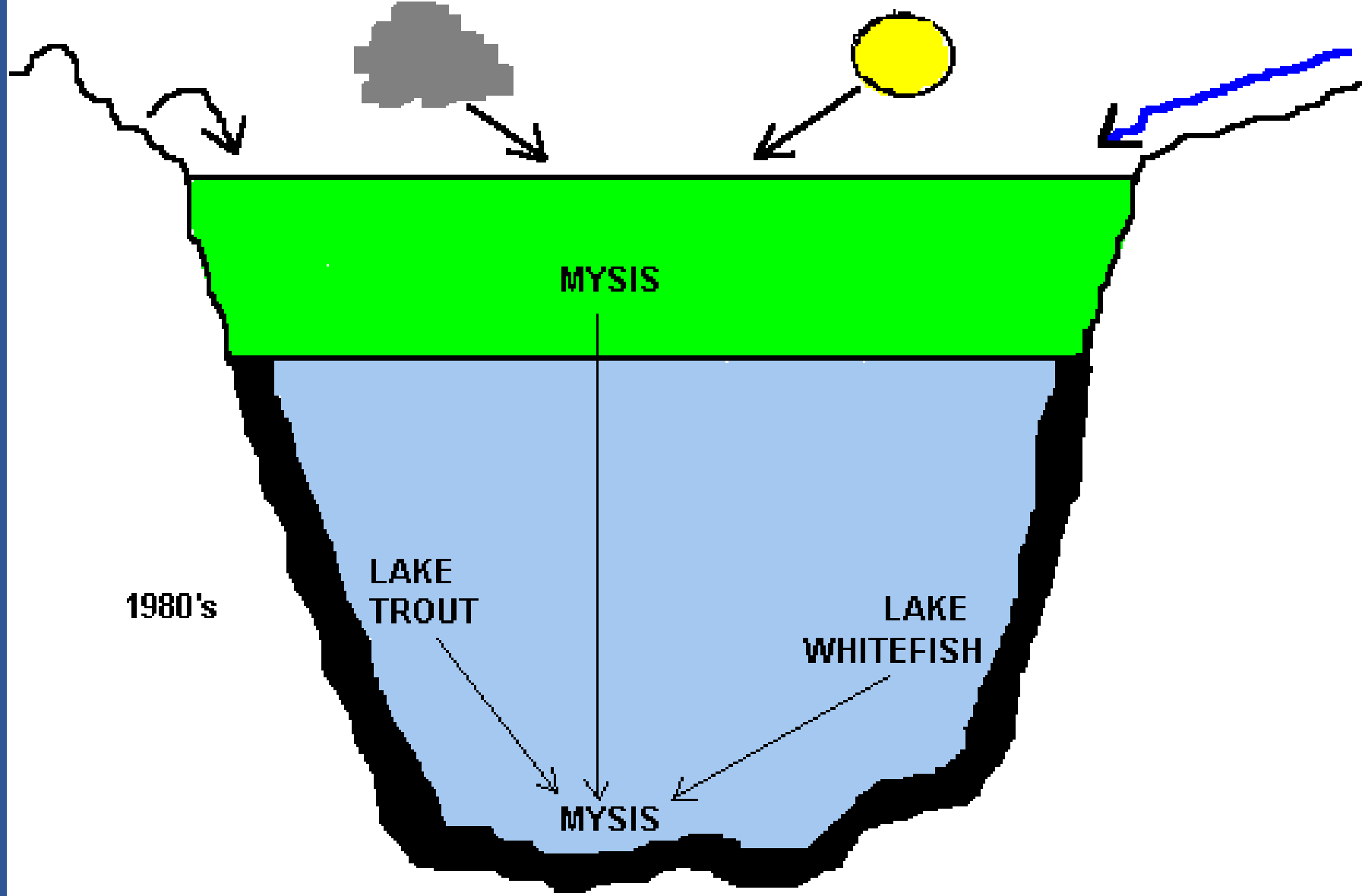
■ Lake Whitefish

CSKT Data









1980's

MYSIS

LAKE
TROUT

LAKE
WHITEFISH

MYSIS





Nineteen Spawning tributaries

Howell
Cabin
Trail
Whale
Red Meadow
Coal
Big

Strawberry
Bowl
Clack
Schafer
Morrison
Granite
Long
Bear
Ole
Park
Nyack

NORTH FORK

MIDDLE FORK

South
Fork

FLATHEAD LAKE



FLATHEAD LAKE AND RIVER FISHERIES COMANAGEMENT PLAN

2000

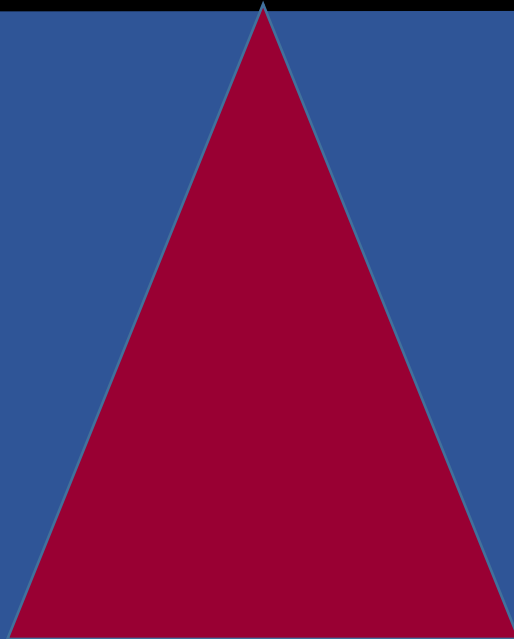
FLATHEAD LAKE AND RIVER FISHERIES COMANAGEMENT PLAN

GOAL: Balance tradeoffs

Native species conservation vs. Nonnative species reduction

(Bull Trout)

(Angler Pressure)



FLATHEAD LAKE AND RIVER FISHERIES COMANAGEMENT PLAN

STRATEGY: Suppress Nonnative Fish Through

- A. Recreational Angling,
- B. Commercial Fishing, and
- C. Netting

Lake Trout Suppression Program

1. Mack Days Fishing Contests



Incentivized Fishing Contests – Mack Days



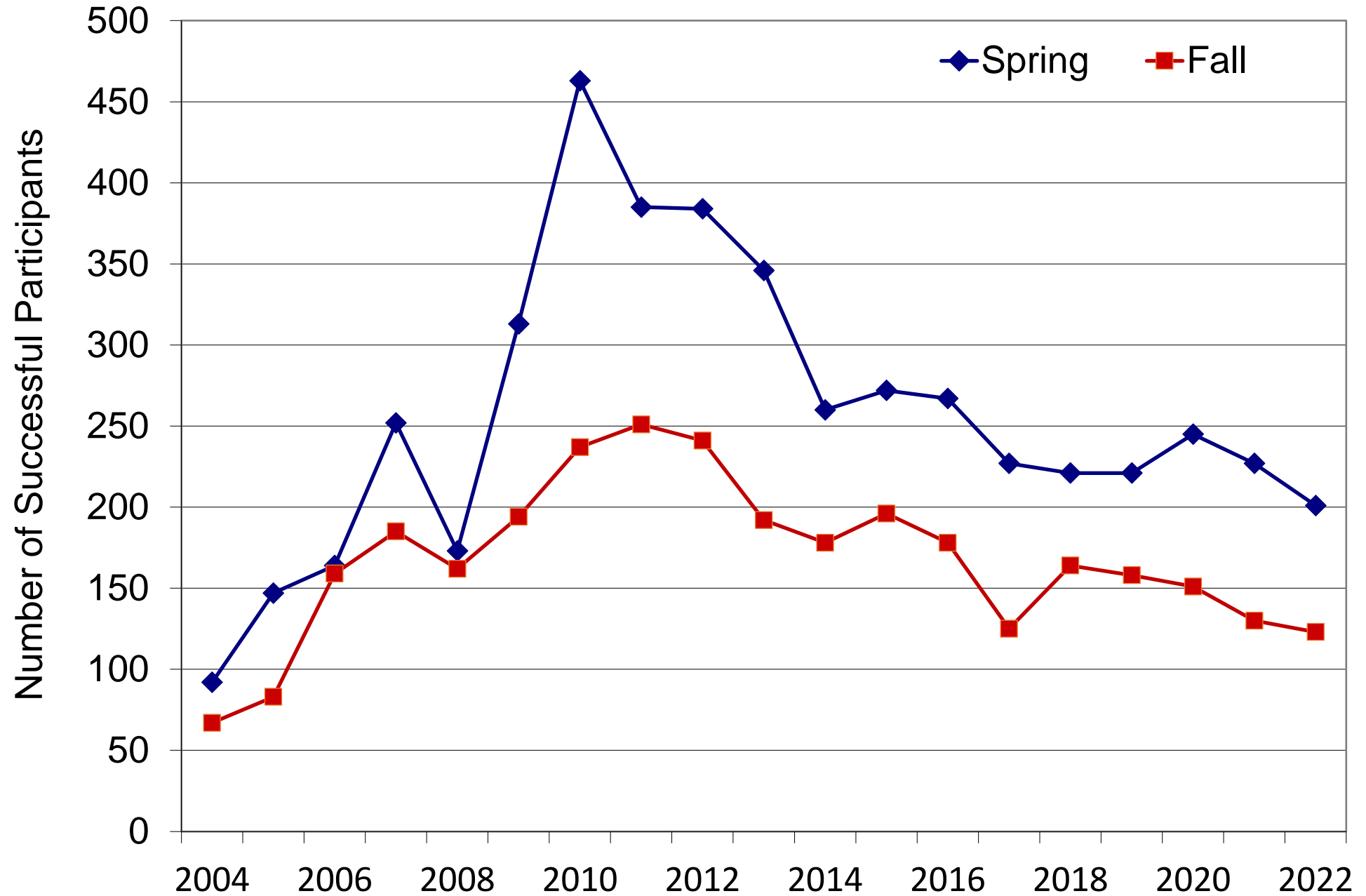
18 weeks per year

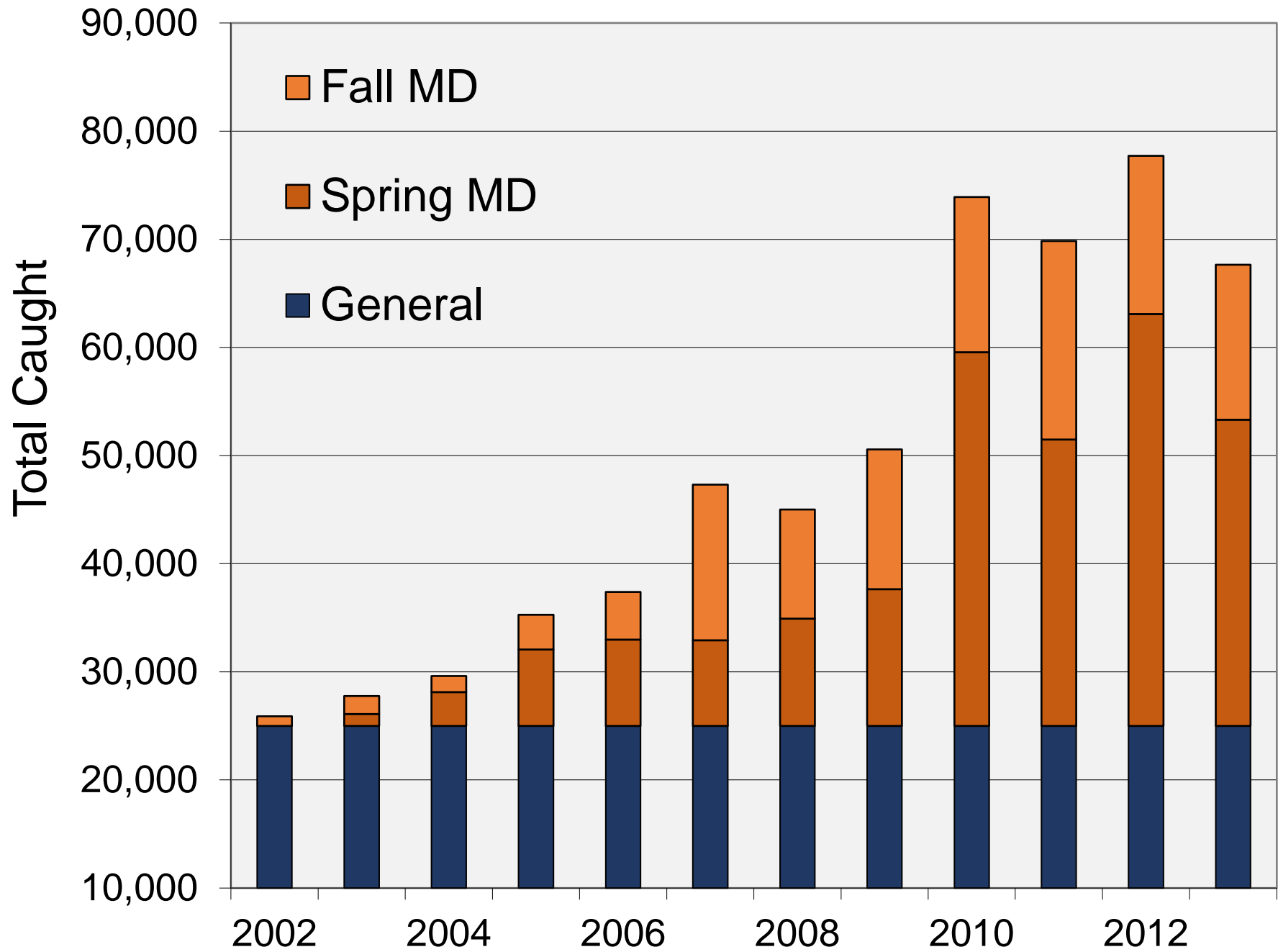
30,000 – 55,000 LT harvested/yr

Average cost of \$6/fish

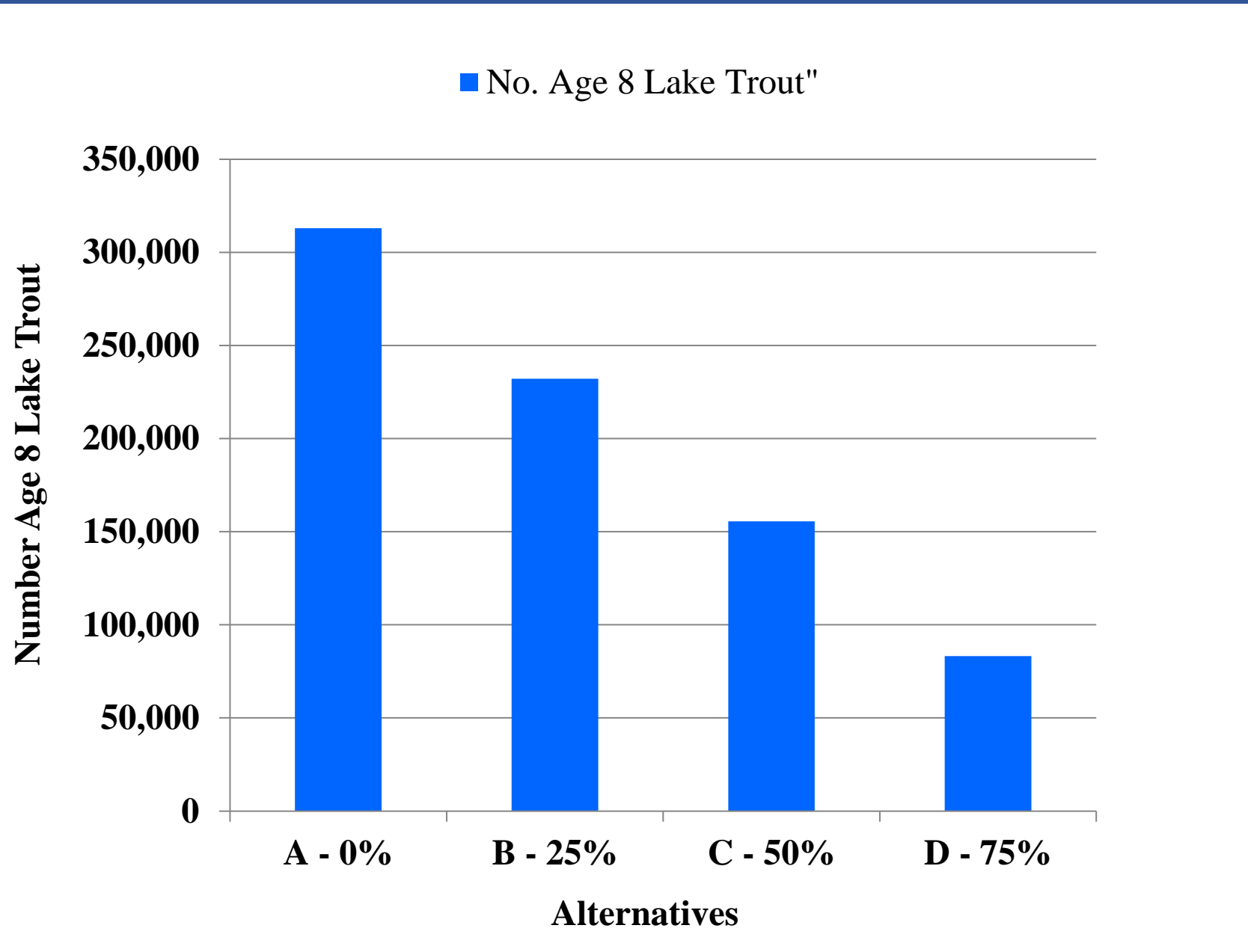
Top anglers avg \$10,000-25,000/yr

Mack Days Participation

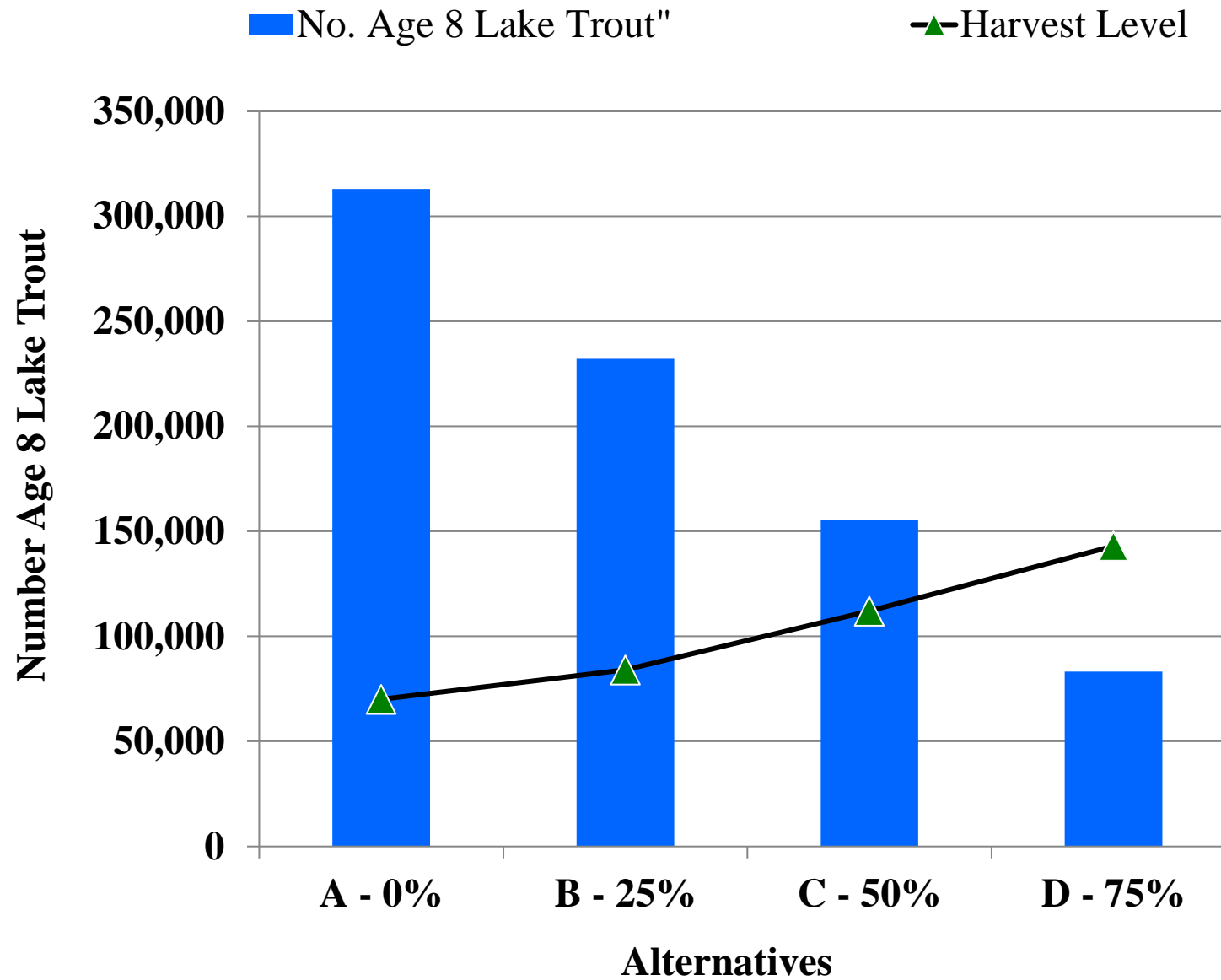




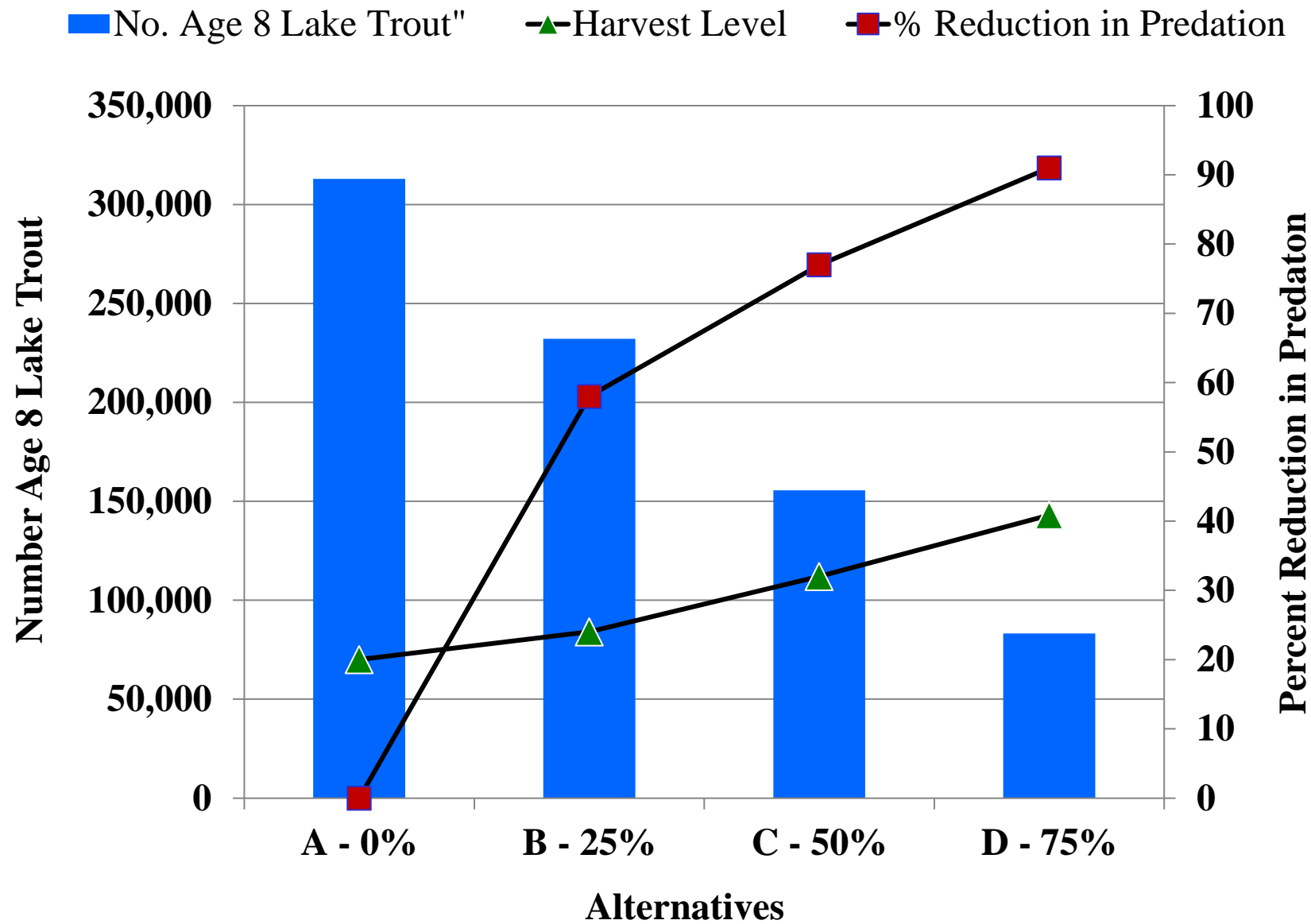
Modeled Outcomes



Modeled Outcomes



Modeled Outcomes



Lake Trout Suppression Program

2. Gillnetting





Gillnetting

40+ weeks per year

5 person crew

400,000 m net per year

65,000 LT harvested/yr

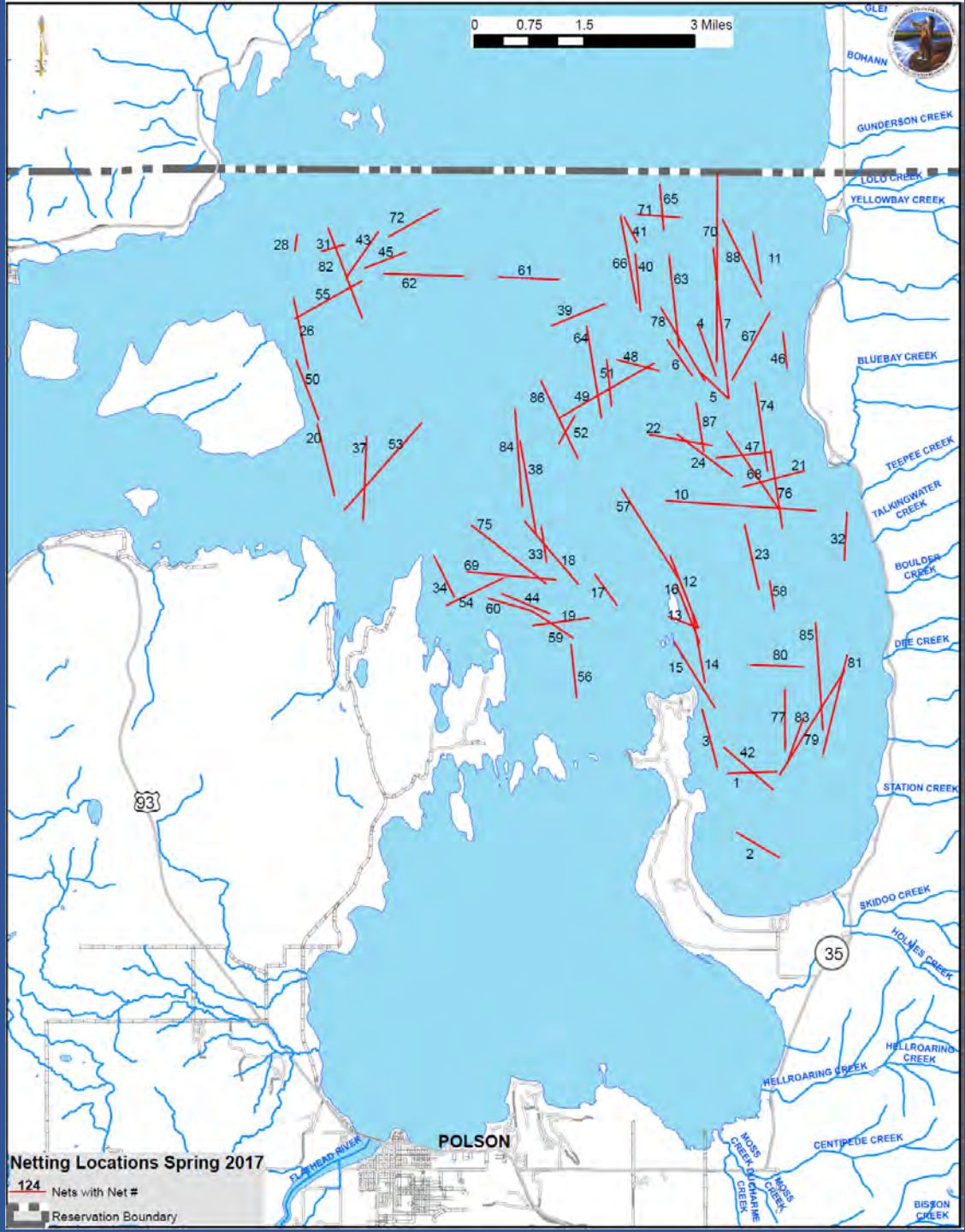
51 lake trout per box











Netting Locations in 2017

Native Fish Keepers, Inc.

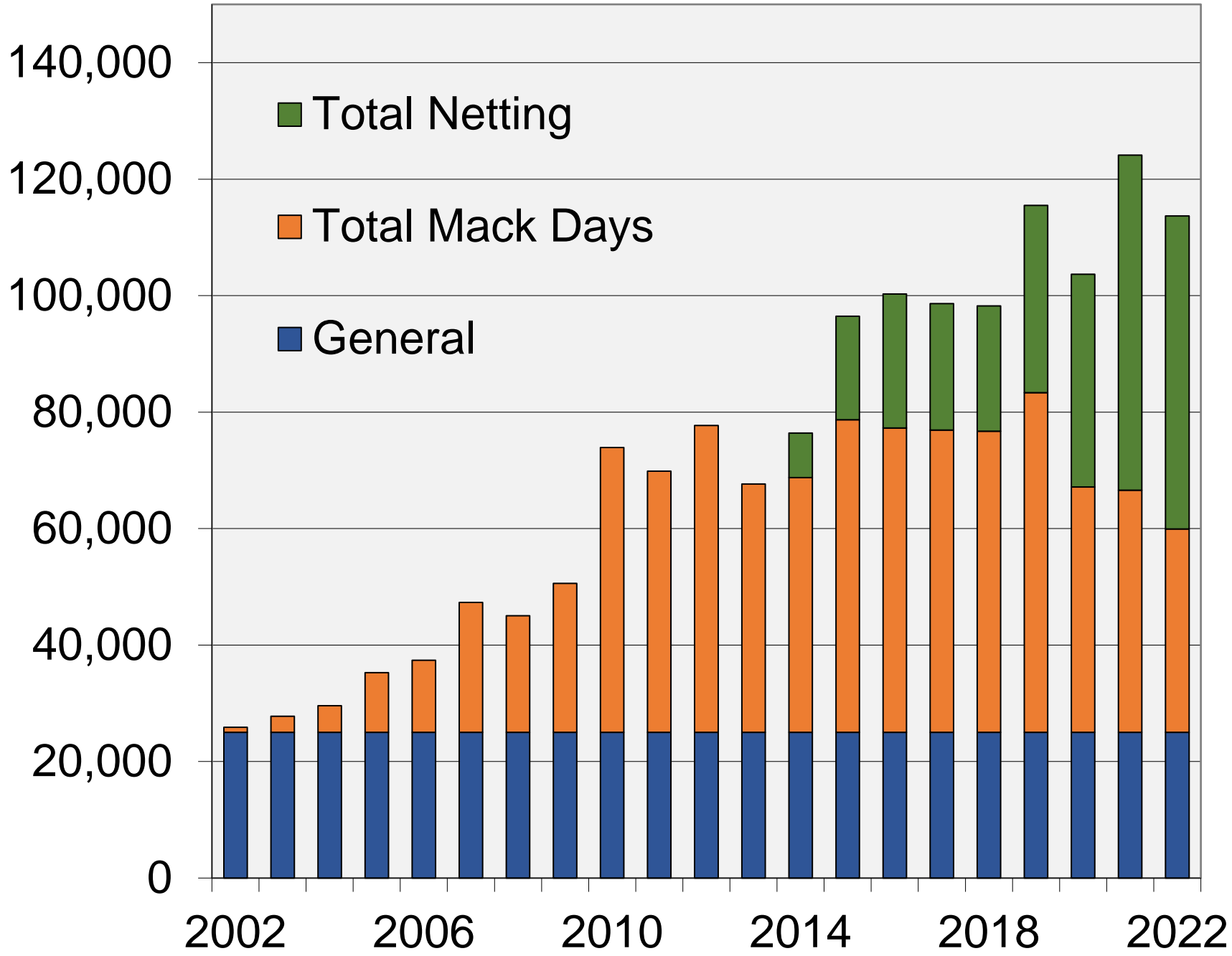




**All Sales Returned to
Suppression Program**

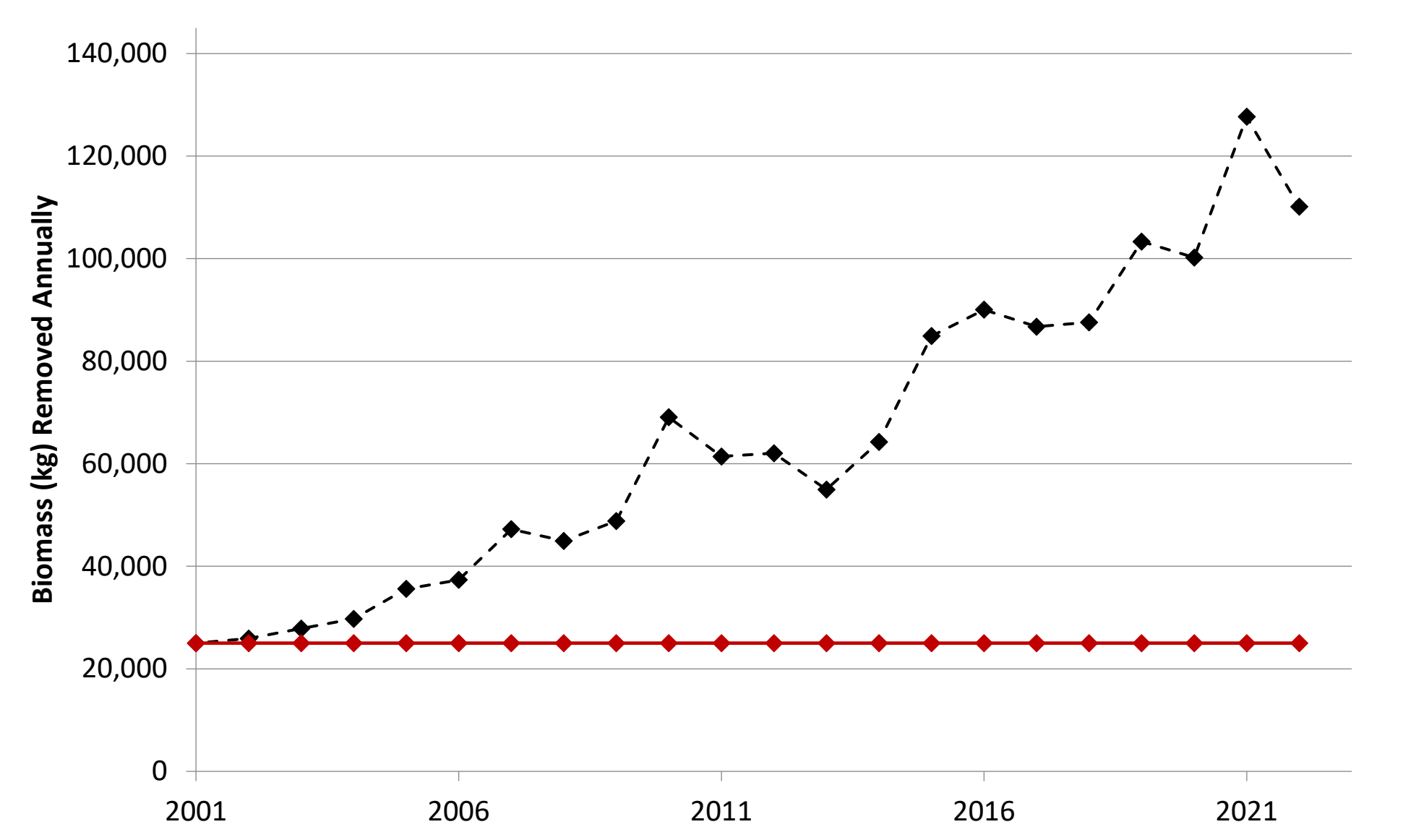
Offsets suppression costs by 20%

Total Caught

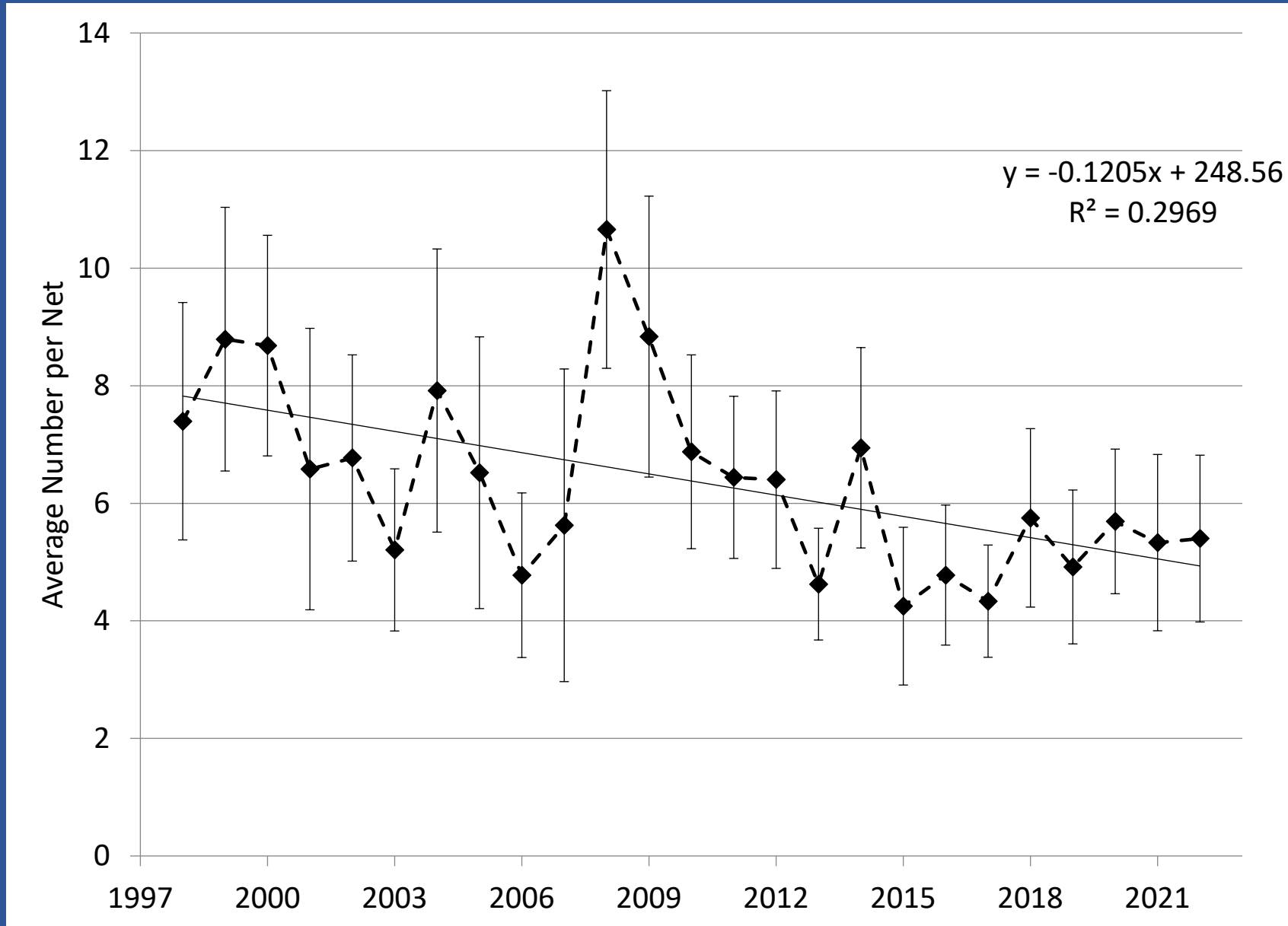


**Total
Lake Trout
Harvest –
All
Methods**

Biomass Removal



Catch rate of Lake Trout in Randomized Assessment Netting



Relative Weight of Lake Trout Caught in Randomized Assessment Netting

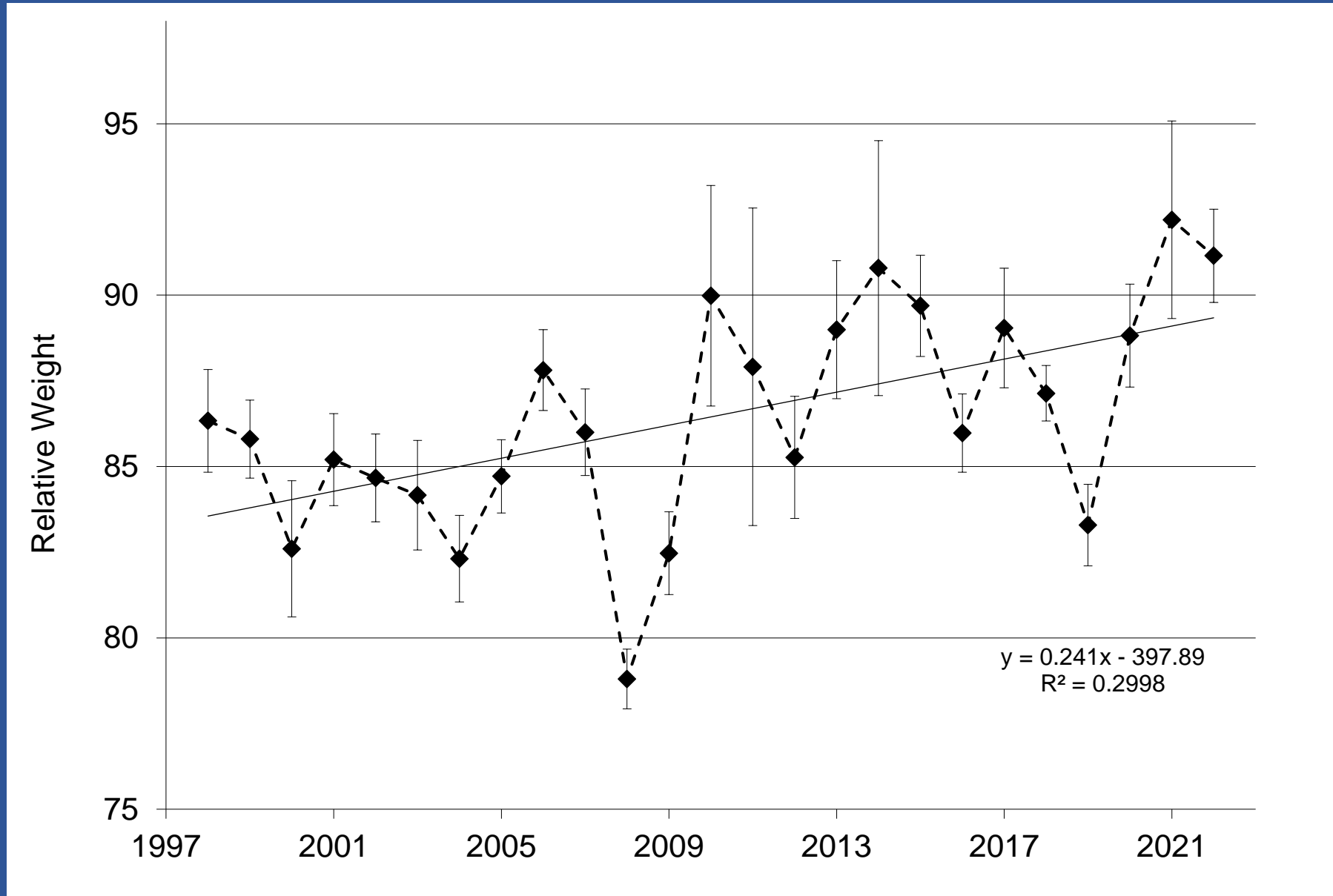




Photo: Aubrey Benson

