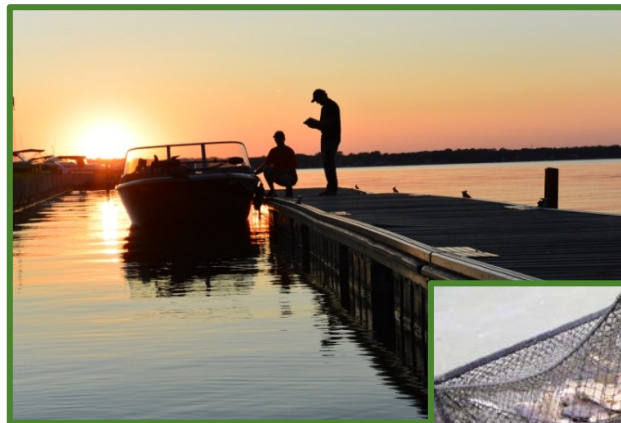


Lake St. Clair Fish Community and Fishery

Megan Belore – Ontario Ministry of Natural Resources and Forestry

Mike Thomas – Michigan Department of Natural Resources



Fish Community



Fish Community



- Mixture of warm water and cool water species
- More than 110 fish species live in, or move through Lake St. Clair and its connecting waters
- Provides spawning and nursery habitat to more than 45 species of fish

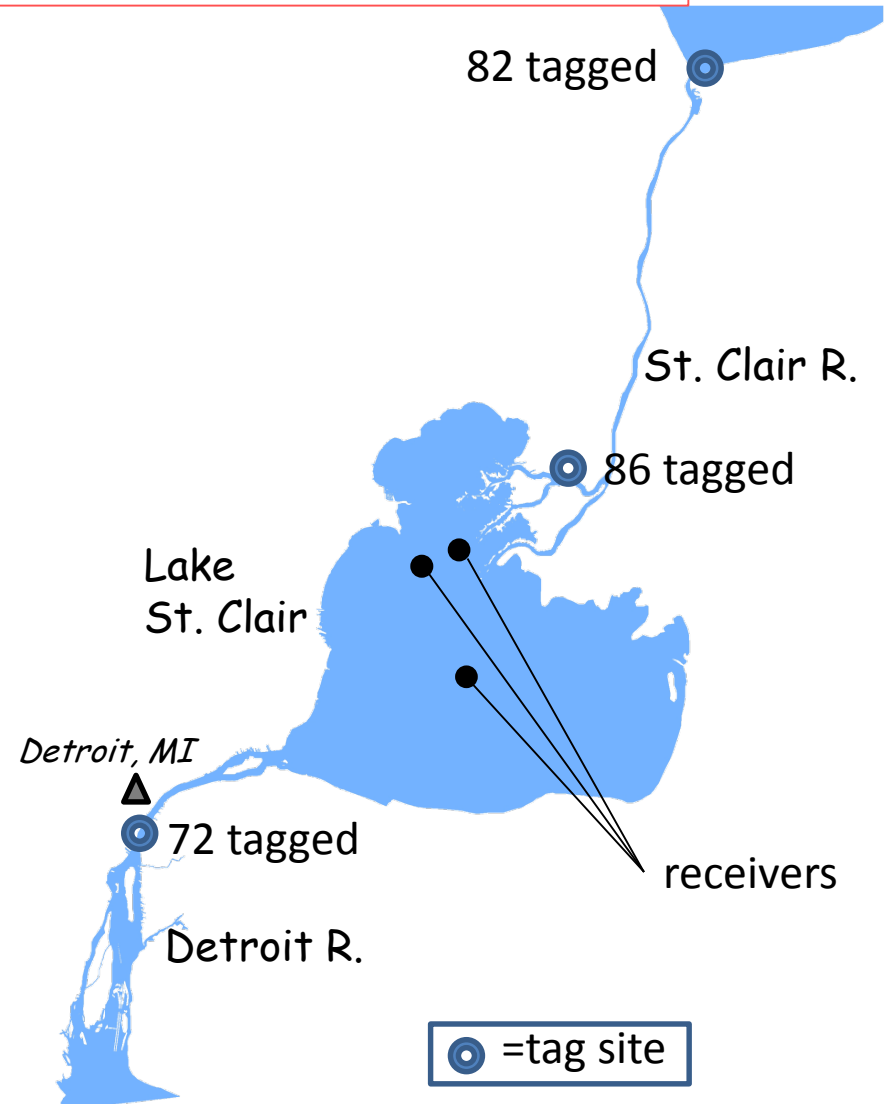
Species At Risk

Common Name	ON Status	MI Status
Brindled madtom		Special concern
Channel darter	Threatened	Endangered
Eastern sand darter	Endangered	Threatened
Grass pickerel	Special concern	
Lake chubsucker	Threatened	
Lake sturgeon	Threatened	Threatened
Mooneye		Threatened
Northern madtom	Endangered	Endangered
Pugnose minnow	Threatened	Endangered
Pugnose shiner	Endangered	Endangered
River darter		Endangered
Sauger		Threatened
Silver chub	Special concern	Special concern
Silver lamprey	Special concern	Not listed
Spotted Gar	Threatened	Special concern
Spotted sucker	Special concern	Not listed



Lake St. Clair is important lake sturgeon habitat

40% of all (108 of 268) acoustic-tagged lake sturgeon were detected in Lake St. Clair in 2014 during a 4 month period (Jul-Oct)



Ontario

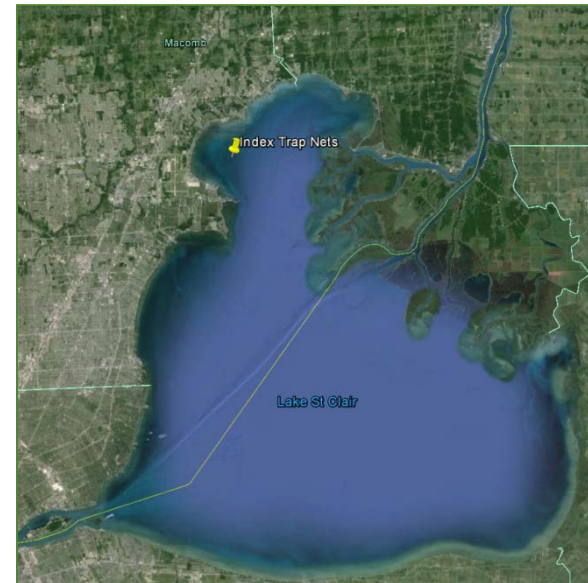


Assessment Programs

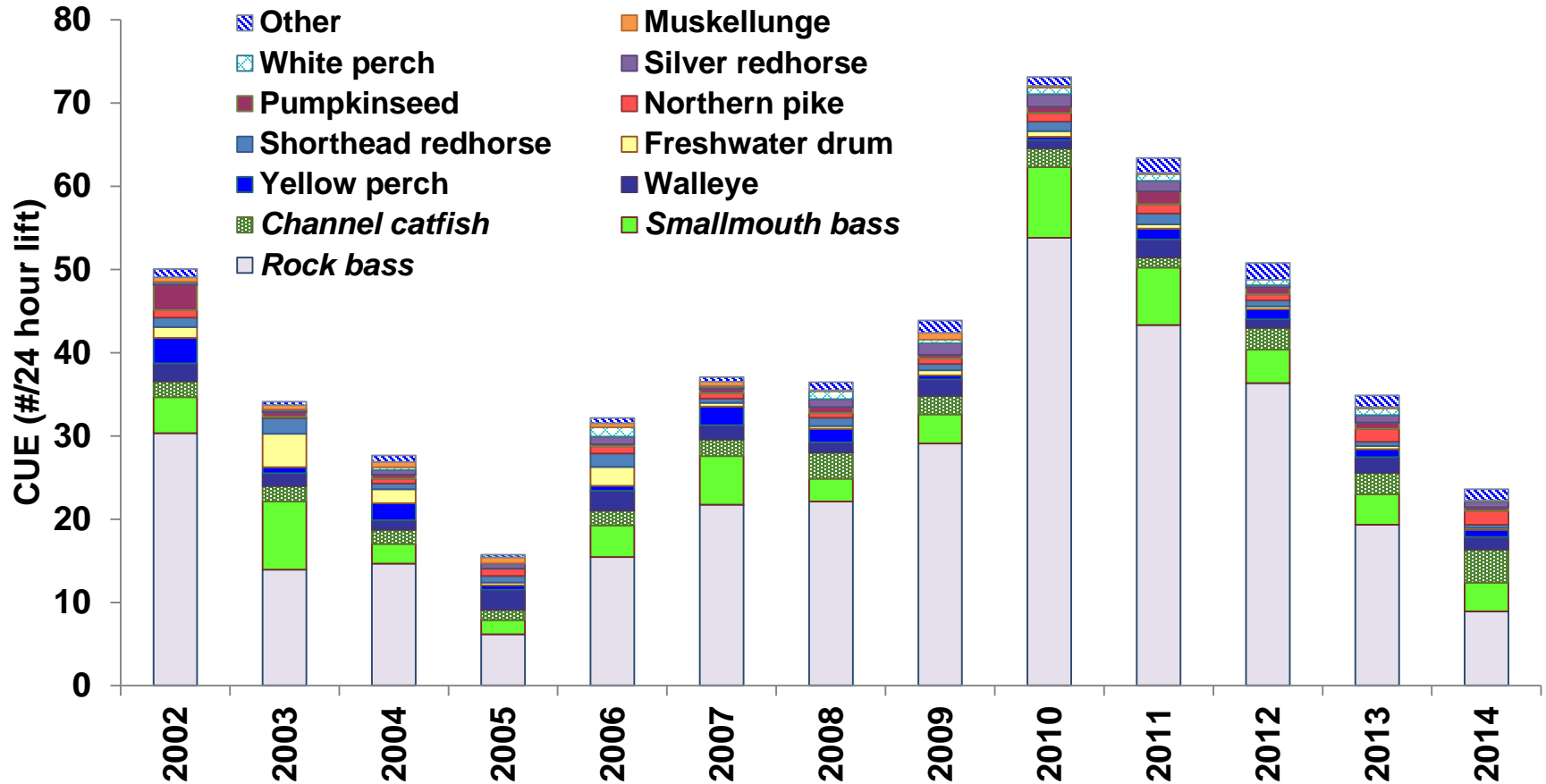


Michigan Spring Trap Net Index

- Evaluates the adult fish community composition
- Survey dates back to 2002
- 4 trap nets fished in Anchor Bay
- Late April to late May
- All fish identified, counted, and measured
- Selected species aged
- Smallmouth bass tagged



Michigan Trap Net Survey Average CUE



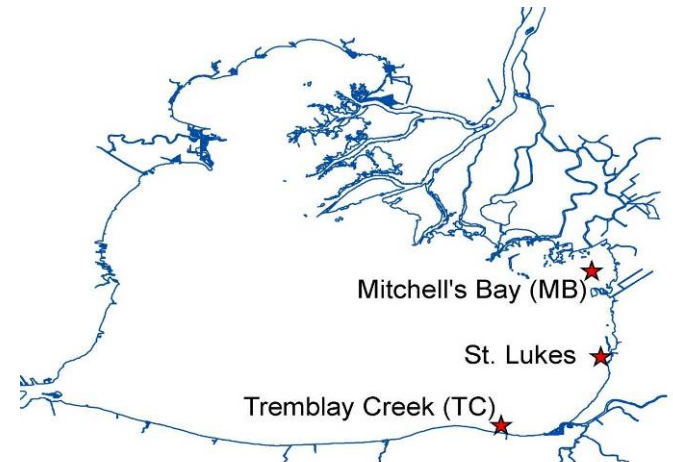
CUE - 29% in 2014 from 2013

2014 CUE 24.9 (mean 40.3)

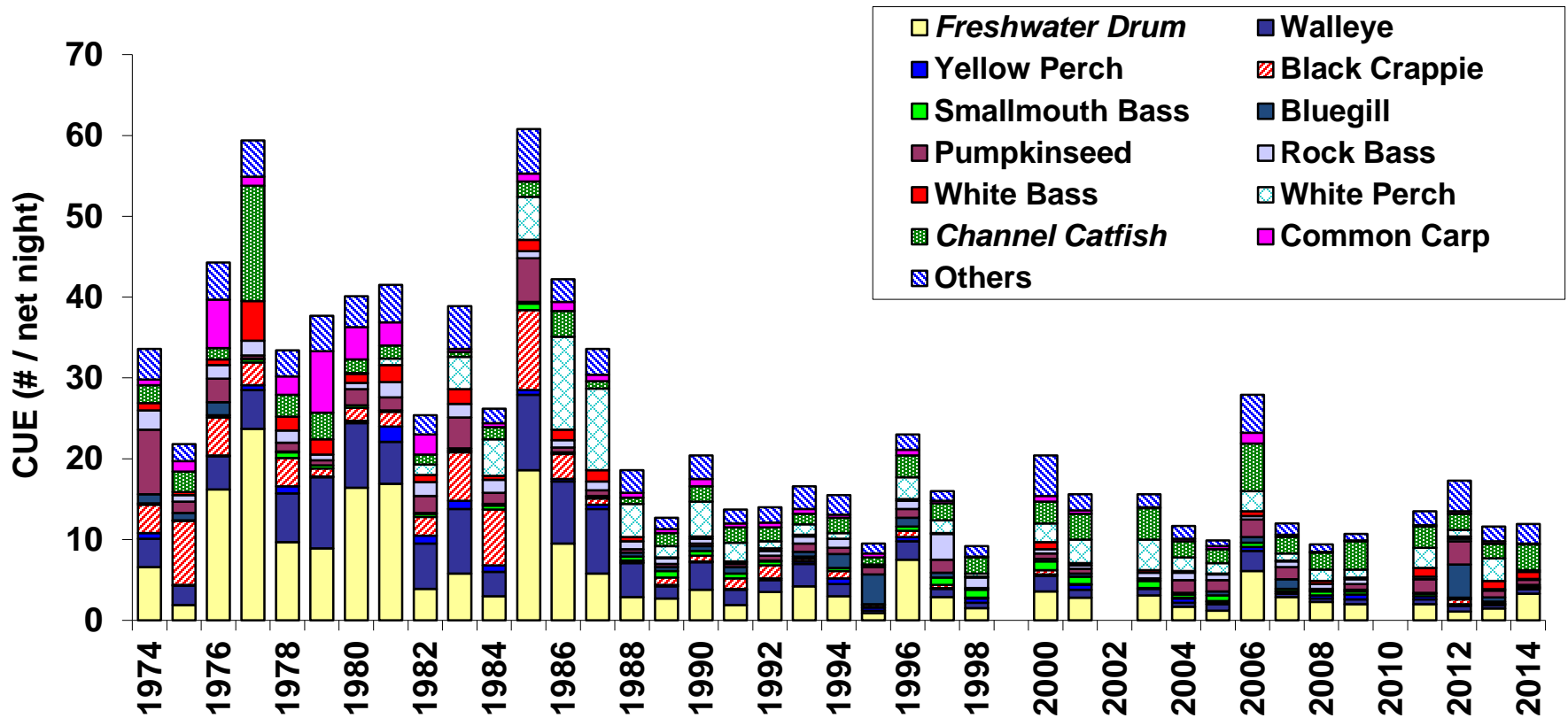


Ontario Fall Trap Net Index

- Evaluates the adult fish community composition
- Survey dates back to 1974
- 3 sites
- Generally fished beginning of October to mid November
- All fish identified, counted, and measured
- Selected species aged



Ontario Trap Net Survey Average CUE



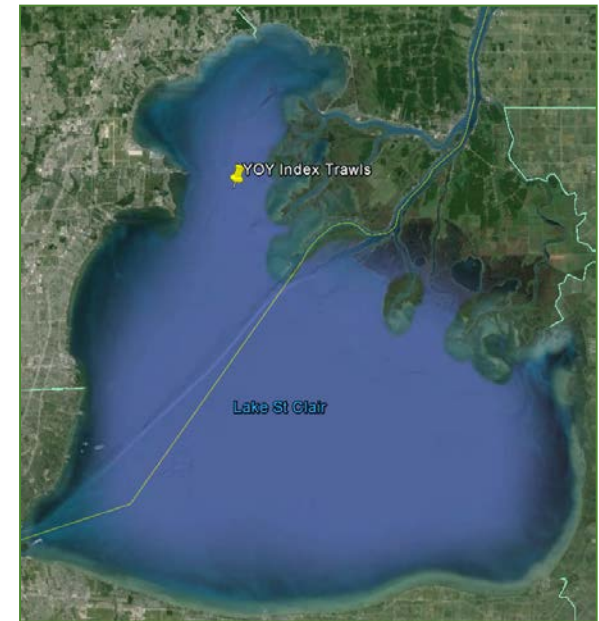
CUE + 3% in 2014 from 2013
 2014 CUE 11.9 (mean 23.2)

No survey in
 1999, 2002 and 2010

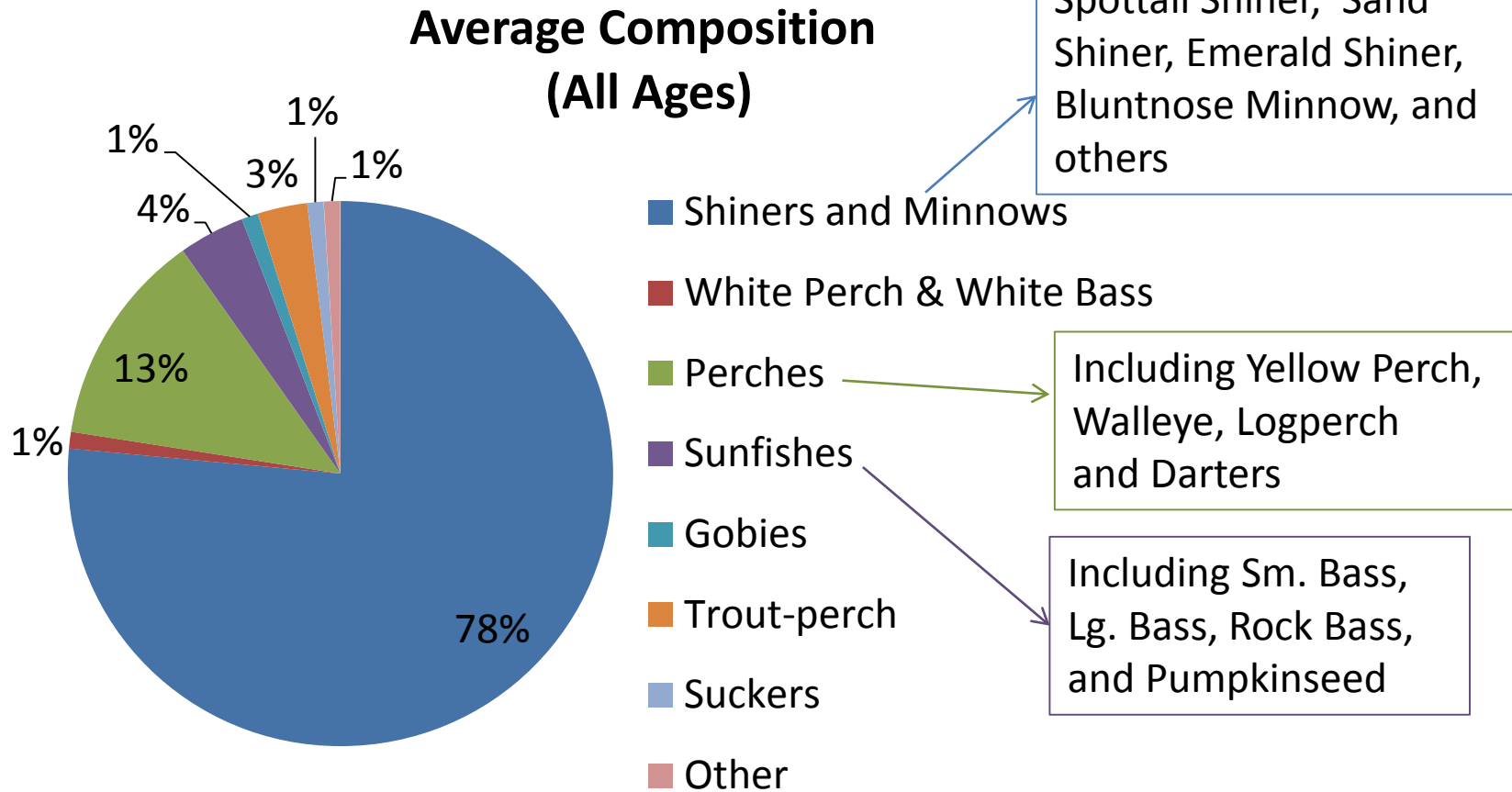


Michigan Fall Trawl Index

- Used to assess the fish community composition and YOY abundance of yellow perch and smallmouth bass
- Survey dates back to 1996
- Anchor Bay site in early September
- 3 to 10 trawl tows
- All fish identified and enumerated
- Lengths for select species and age groups

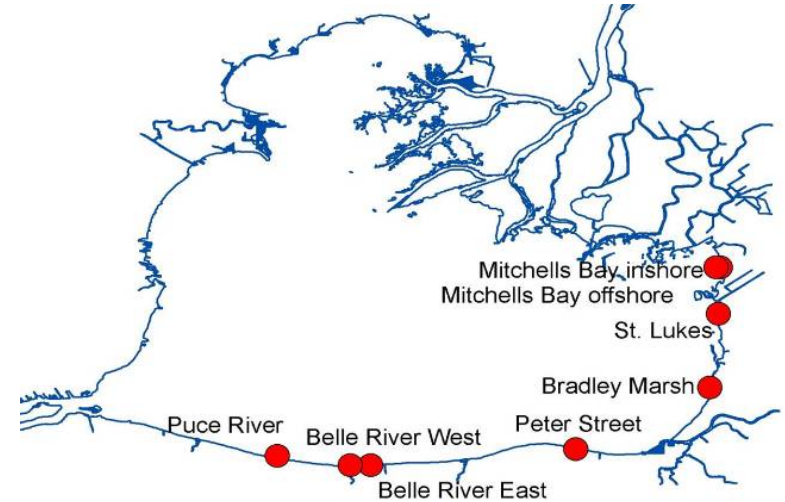


Michigan Fall Trawl Index

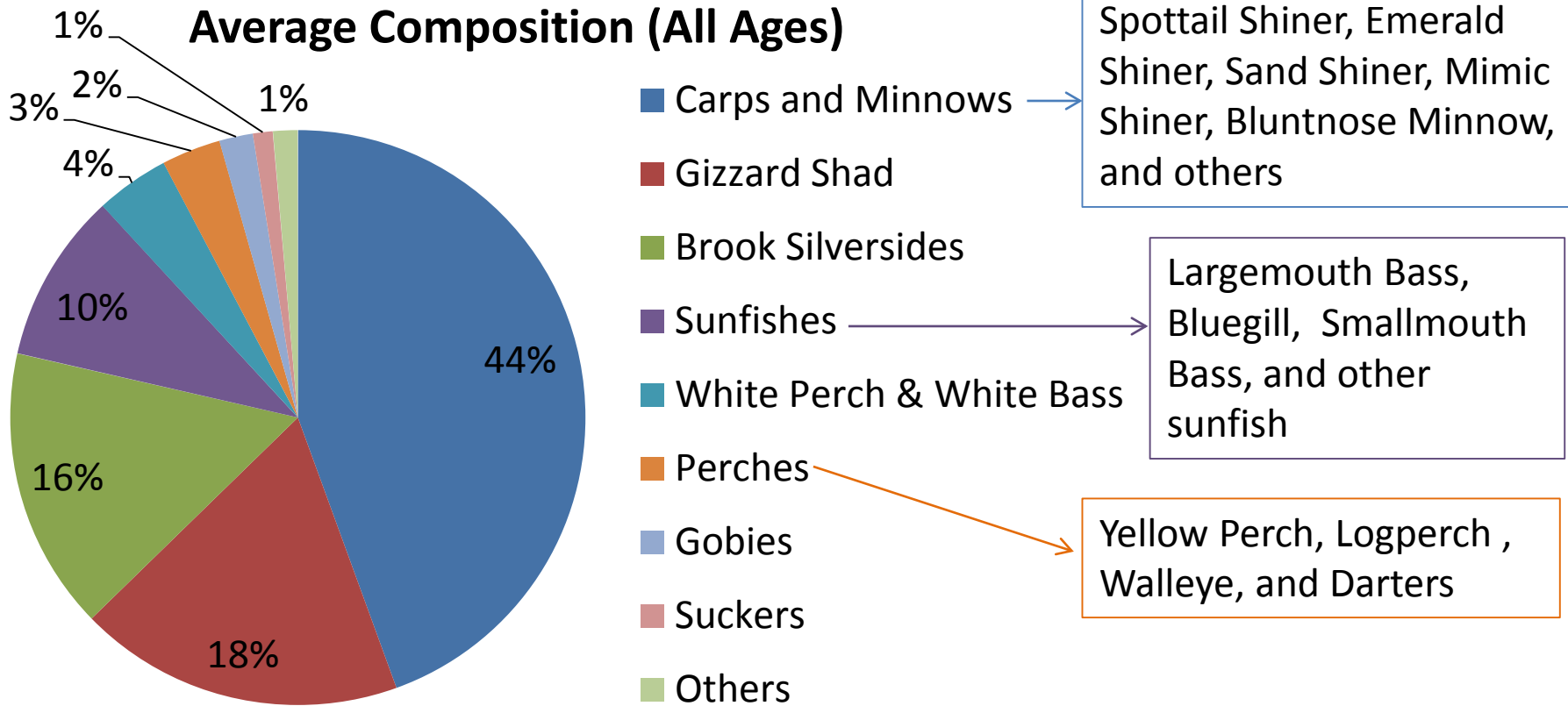


Ontario Young-of-the-Year Index

- Used to assess the nearshore fish community composition and YOY abundance
- Survey dates back to 1979
- 8 Sites, June - July
- 2 hauls with 30m small-mesh beach seine net
- All fish identified and enumerated



Ontario YOY Seine Index

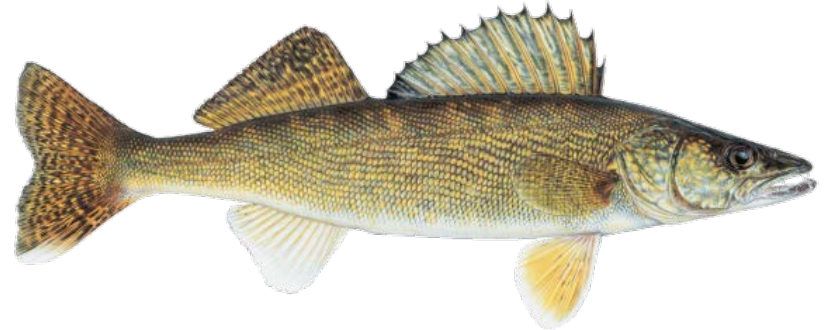


Angler Diary Program

- Volunteer sport catch reporting program
- Supported by OMNRF and MDNR
- Lake Erie, Lake St. Clair, Detroit River, St Clair River

Survey Area	Number of Diarists	Number of Trips	Number of Rods per Trip	Total Rod Hours	Hours per Trip
Lake St. Clair	35	485	2.6	5,803	4.6
Detroit River	31	297	2.0	2,467	4.2
St. Clair River	18	85	2.4	818	4.0
Total	57	867	2.4	9,088	4.4

Common Sport Fish



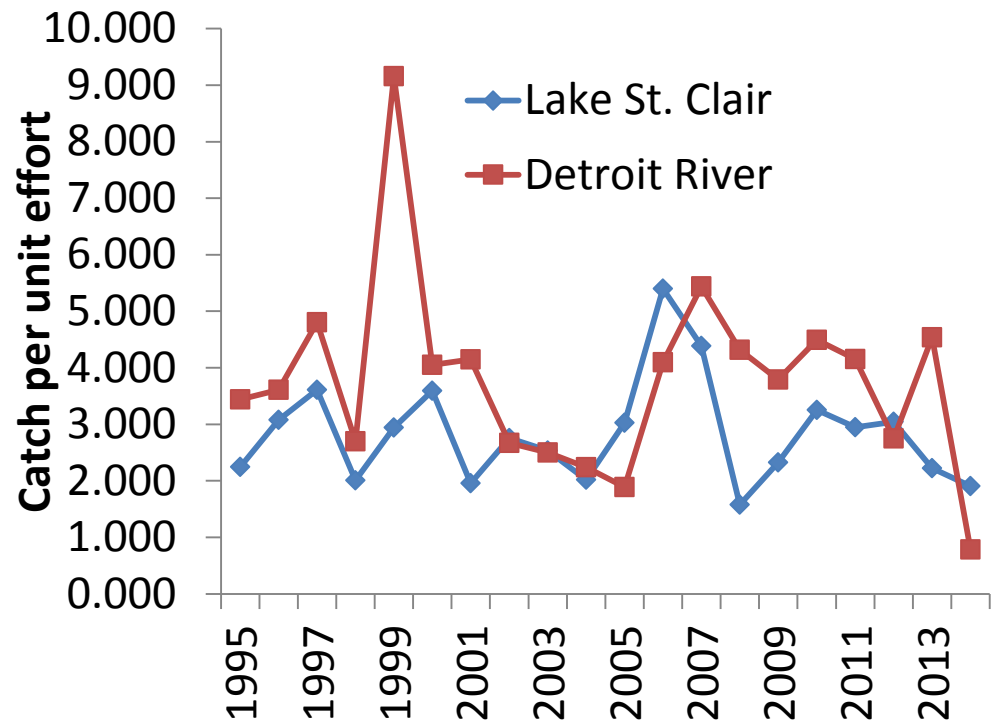
Yellow Perch



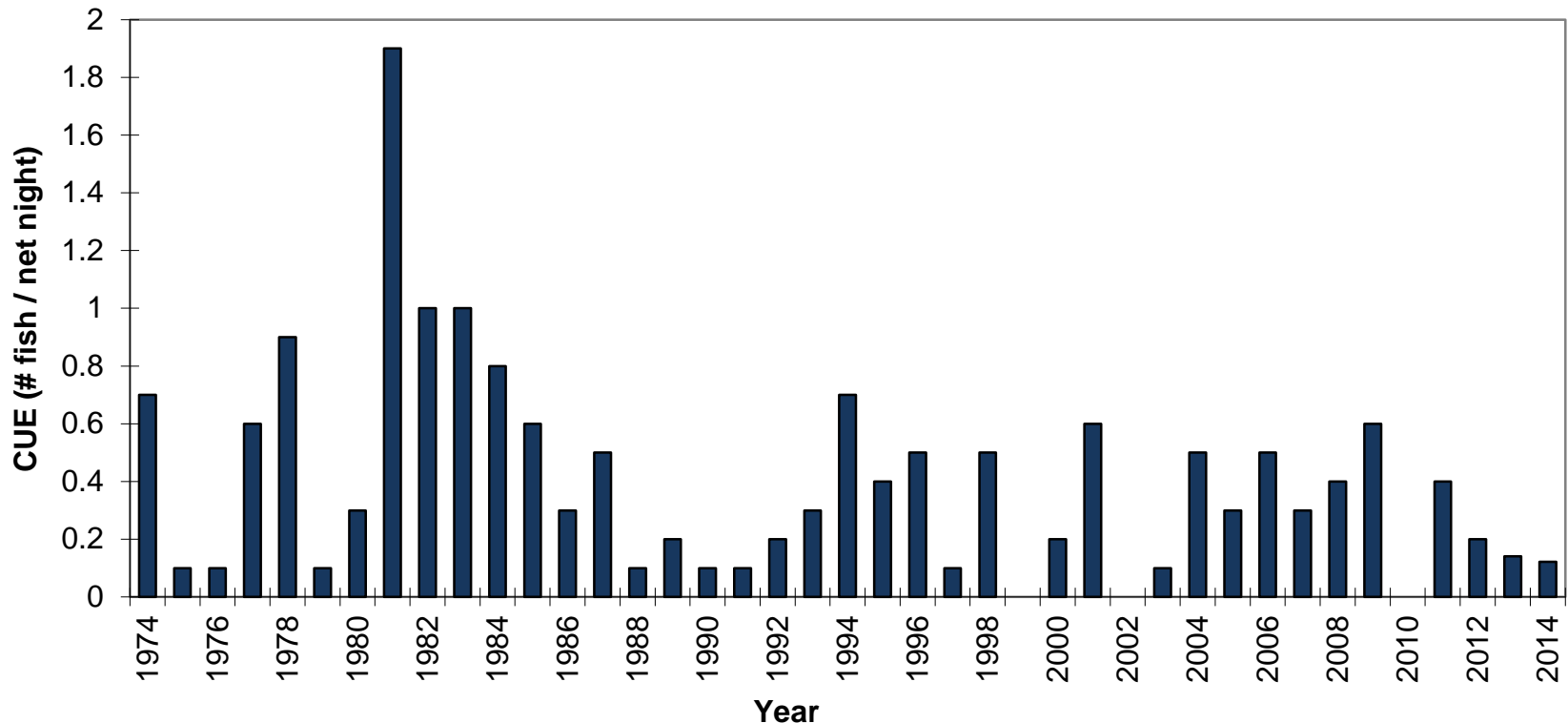
- The most sought after species in Lake St. Clair
- Open water and winter ice fishery
- Half of the total annual fishing effort in Michigan
- Michigan anglers harvest ~750,000 each year

Angler Diary Yellow Perch CUE

- Angler Diarists recorded 152 fishing trips targeting yellow perch in 2014.
- 24% of effort was directed towards yellow perch in Lake St. Clair, and 8% in Detroit River



Ontario Yellow Perch Fall Trap Net CUE



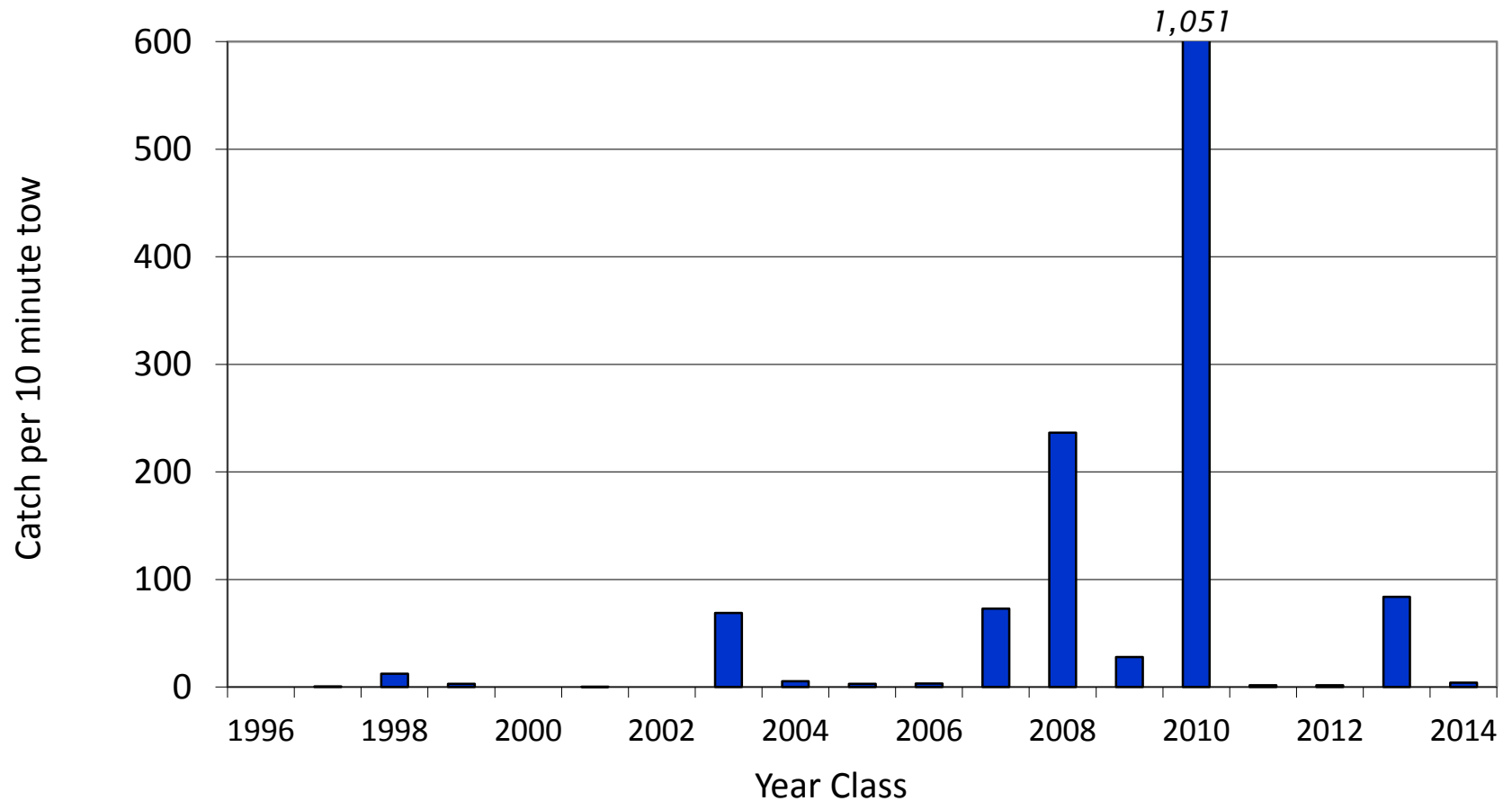
CUE - 13% in 2014 from 2013
2014 CUE 0.1 (mean 0.4)

No survey in 1999,
2002 and 2010

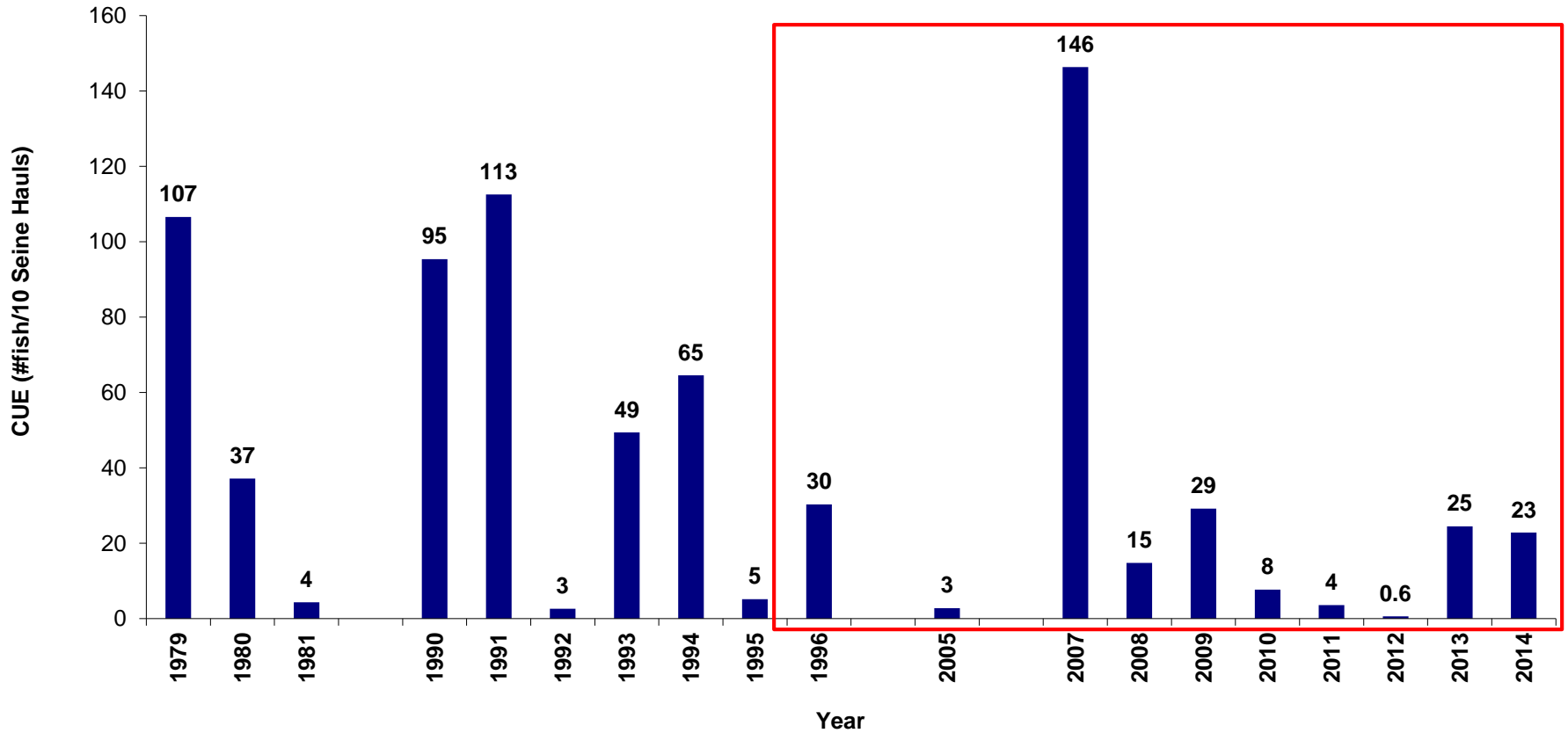


Michigan September Index Trawls

YOY Yellow Perch



Ontario YOY Yellow Perch CUE



CUE -8% in 2014 from 2013
BM;BRE;PR;PS – July Only

No surveys from 1982-
1989;1997-2004; and 2006





Walleye



- Walleye fishing ~ 30% of the boat fishery
- 80% of legal-sized walleye caught are harvested

St. Clair System Walleye Harvest

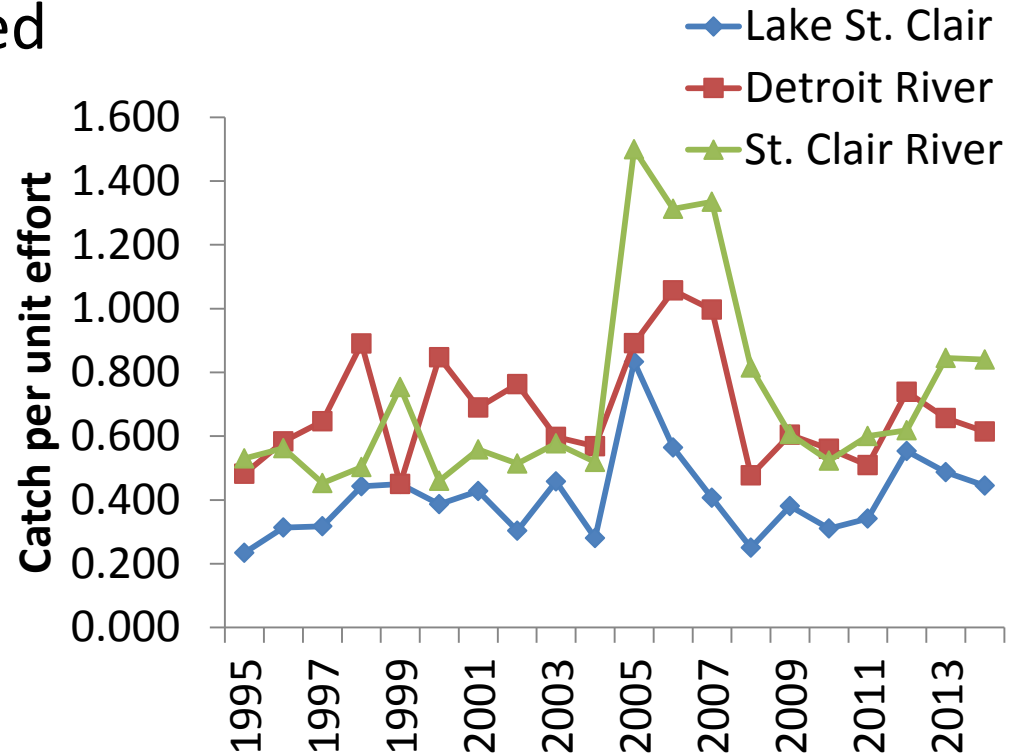
Water	2002	2003	2004	Average
SCR	30,744	46,767	No data	38,756
LSC	48,841	93,155	32,822	58,273
DR	199,219	No data	134,967	167,093
Total	278,804			264,121

- Creel estimates for Michigan waters only
- >250,000 legal-sized walleye are harvested from the Michigan waters of the system annually
- Many walleye caught are migratory – spawning is in the Detroit River and Lake Erie sites

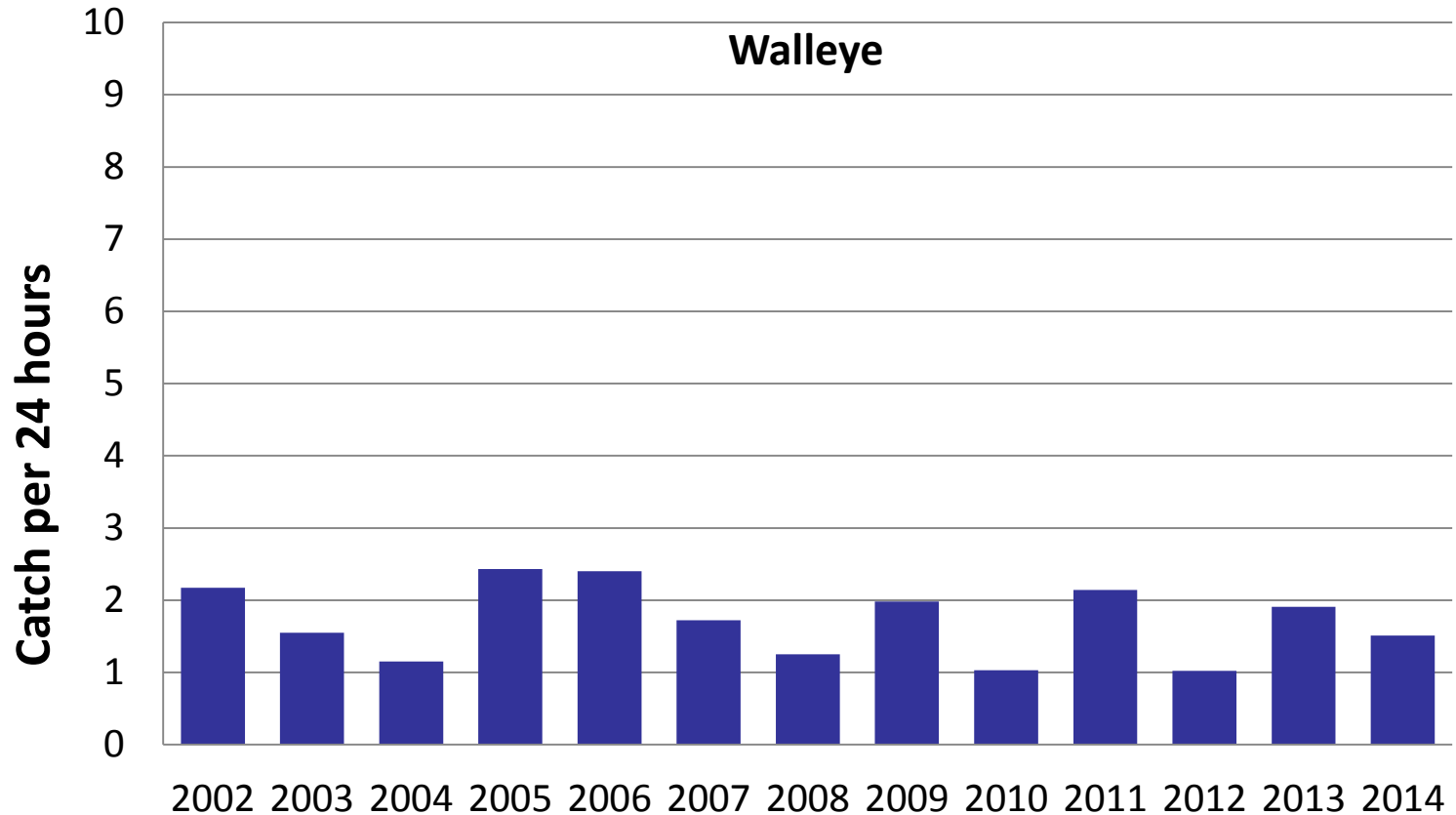
Angler Diary Walleye CUE

➤ Angler Diarists recorded 616 fishing trips targeting walleye in 2014.

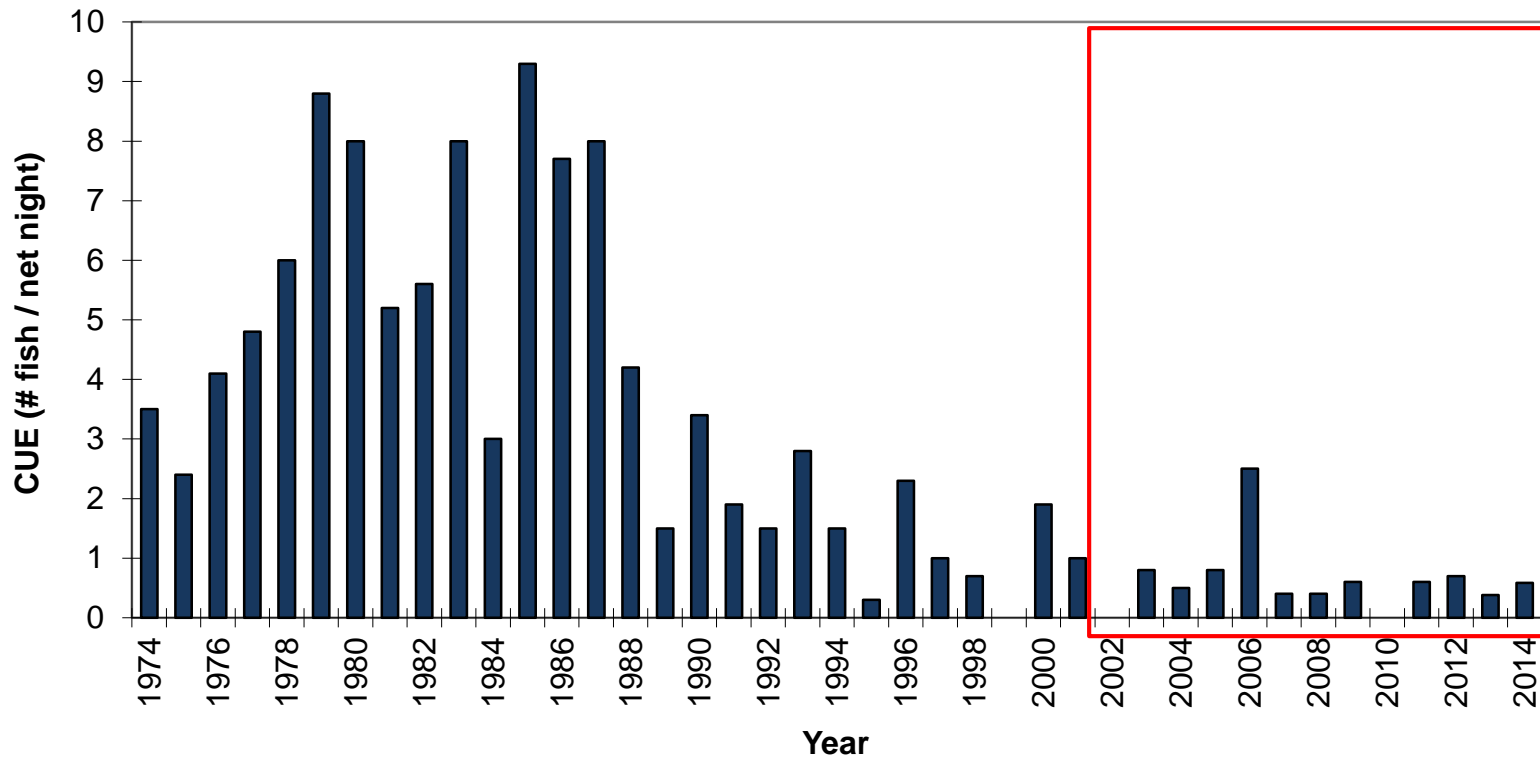
➤ 94% of effort was directed towards walleye in the Detroit River, 55% in St. Clair River, and 36% in Lake St. Clair



Michigan Spring Trap Net CUE



Ontario Walleye Fall Trap Net CUE



CUE +53% in 2014 from 2013
2014 CUE 0.6 (mean 3.1)

No survey in 1999,
2002 and 2010



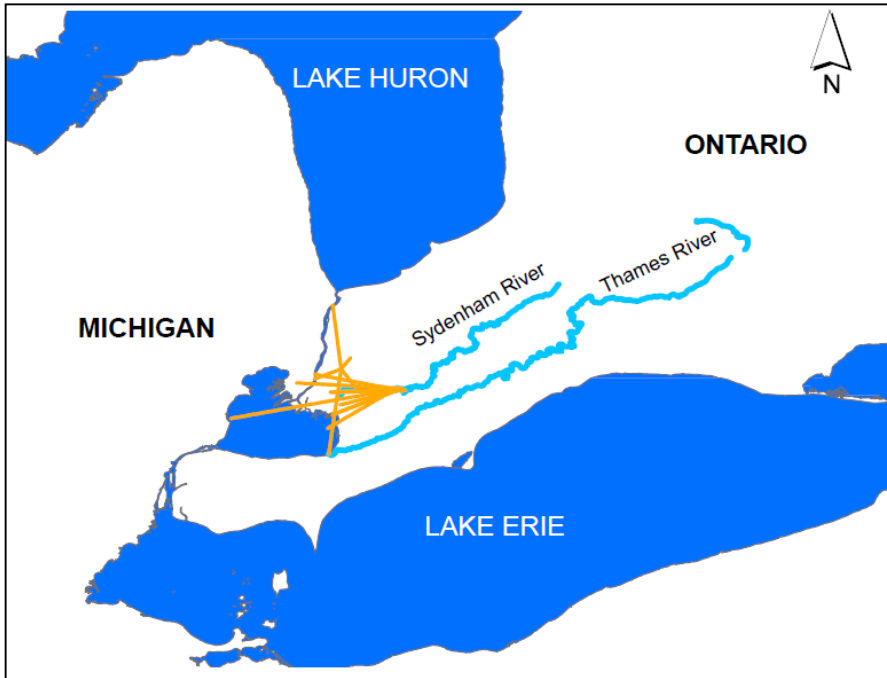
Walleye Tagging on the Thames and Sydenham Rivers

River	Year	Tagged	Recaptured		
			2013	2014	2015
Sydenham	2013	399	10	9	0
Thames	2014	253		10	2
	2015	340			18

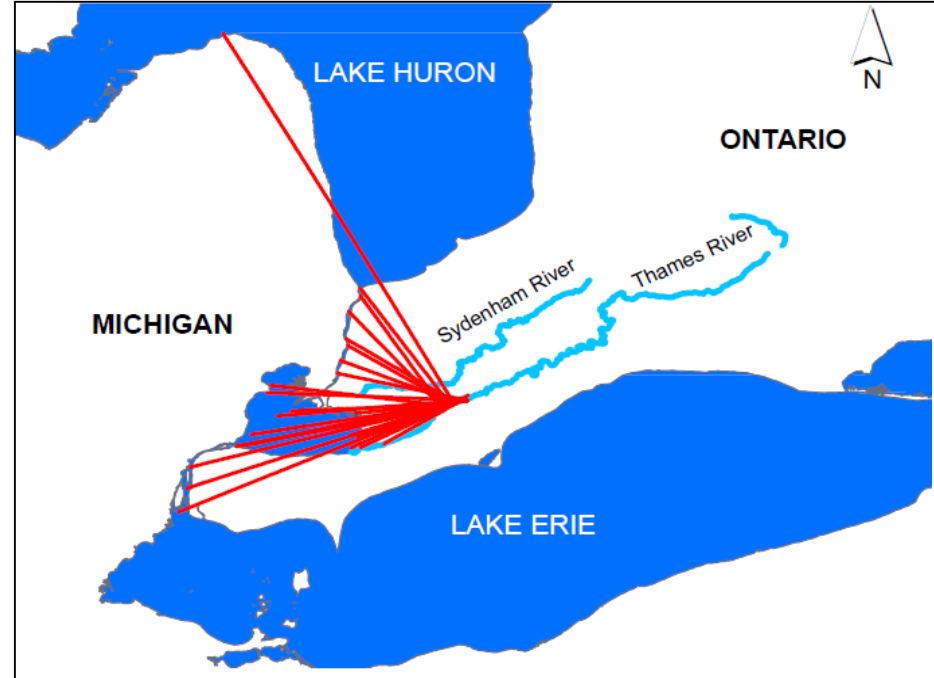


- Purpose: To assess the status and characteristics of the Walleye population
- Double tagged with PIT and jaw tags

Walleye Recaptures By Tagging Origin 2013-2015



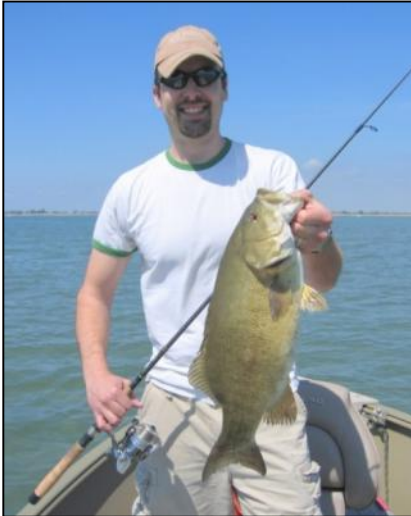
Tagged in Sydenham River 2013



Tagged in Thames River 2014-15

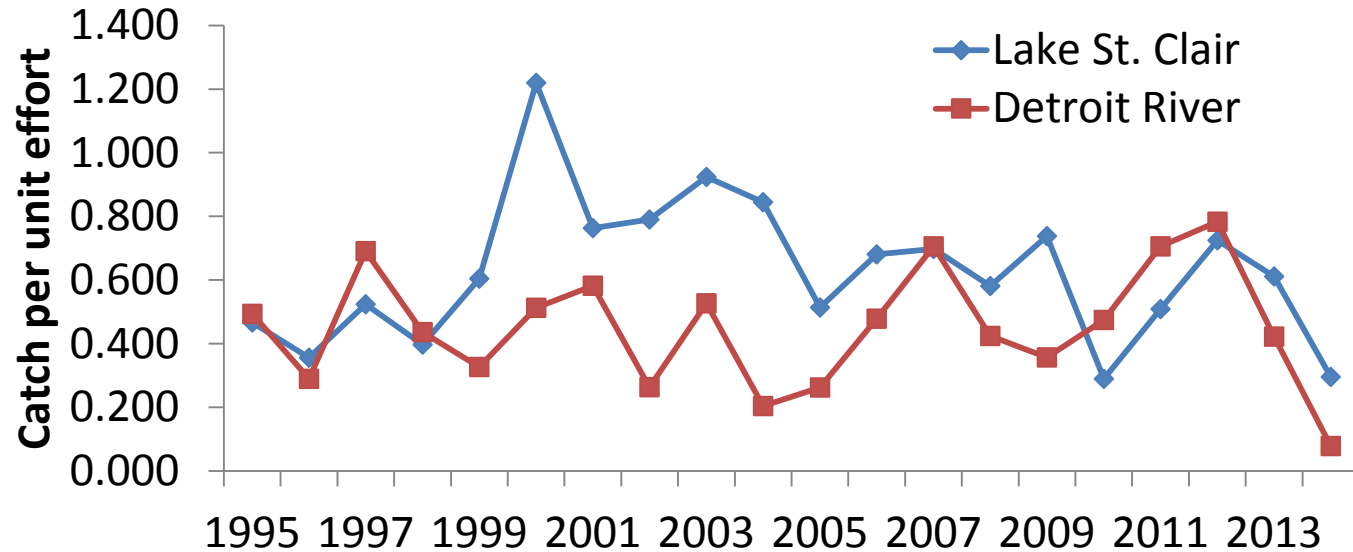


Smallmouth Bass



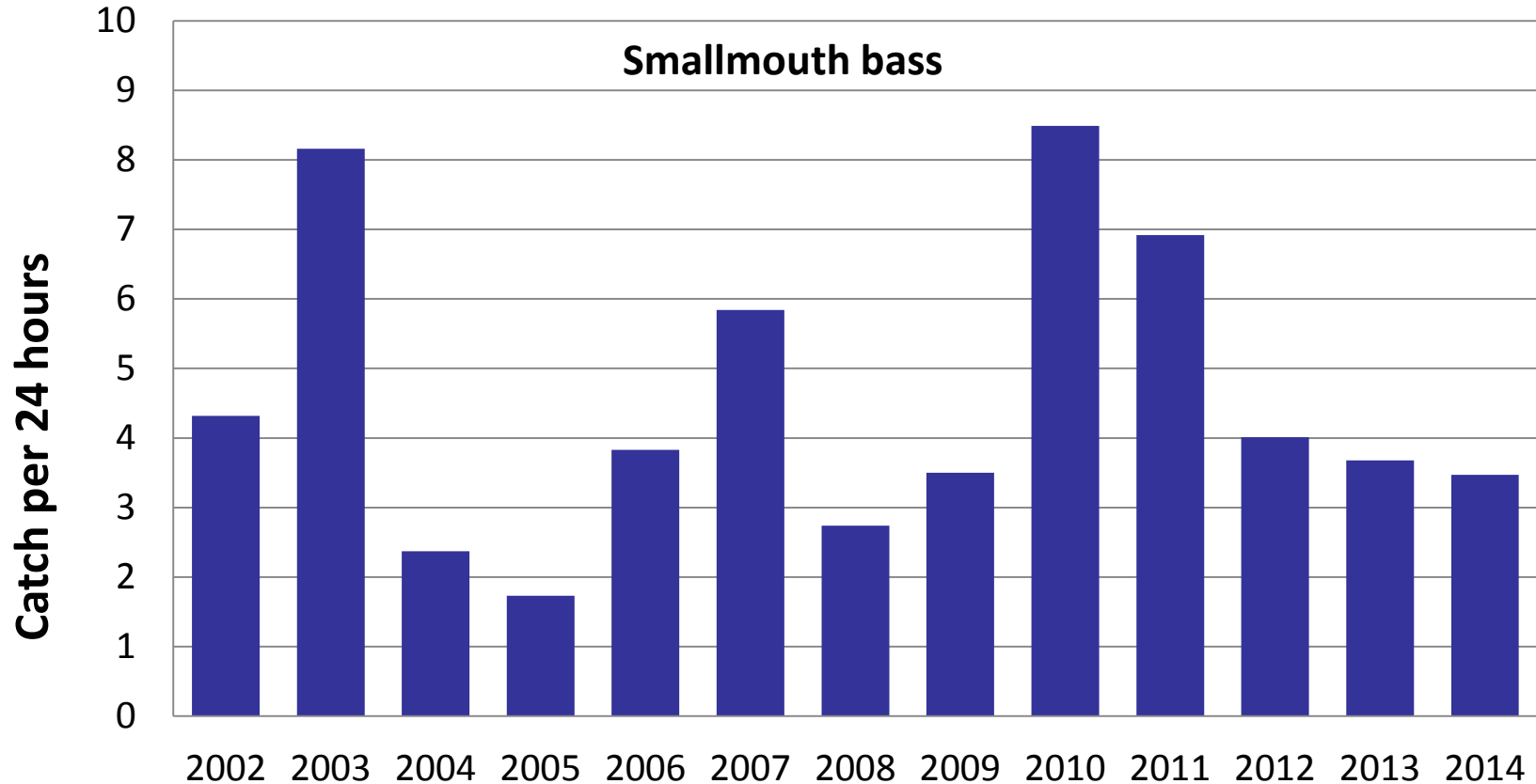
- ~20% of the boat fishery effort
- >100,000 legal-sized smallmouth bass caught annually from Michigan waters of Lake St. Clair
- >90% of legal-size smallmouth bass are released
- Fishery attracts out-of-state anglers, tournaments

Angler Diary Smallmouth Bass CUE

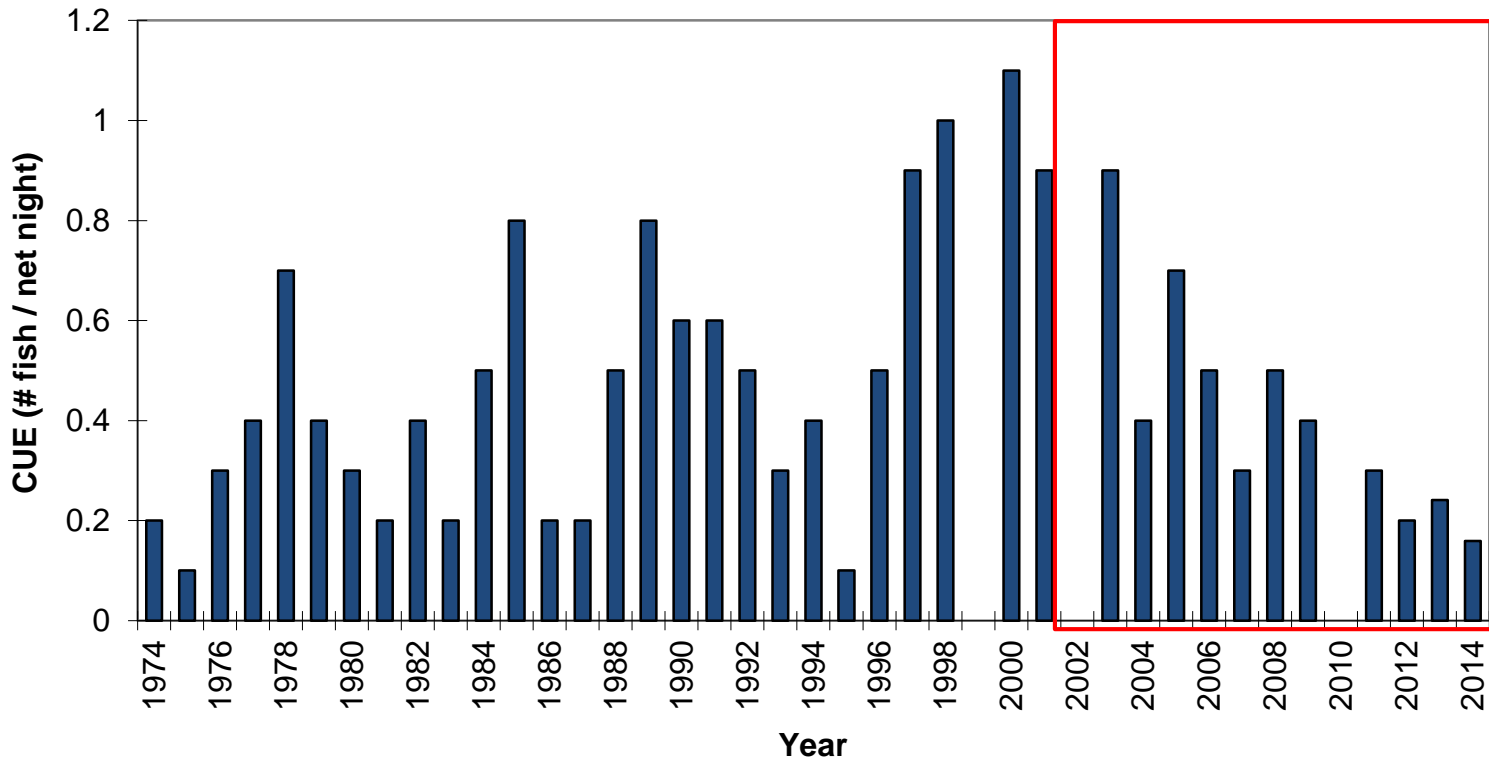


- 24% of effort was directed towards yellow perch in Lake St. Clair, and 12% in Detroit River

Michigan Spring Trap Net CUE



Ontario Smallmouth Bass Fall Trap Net CUE



CUE - 34% in 2014 from 2013

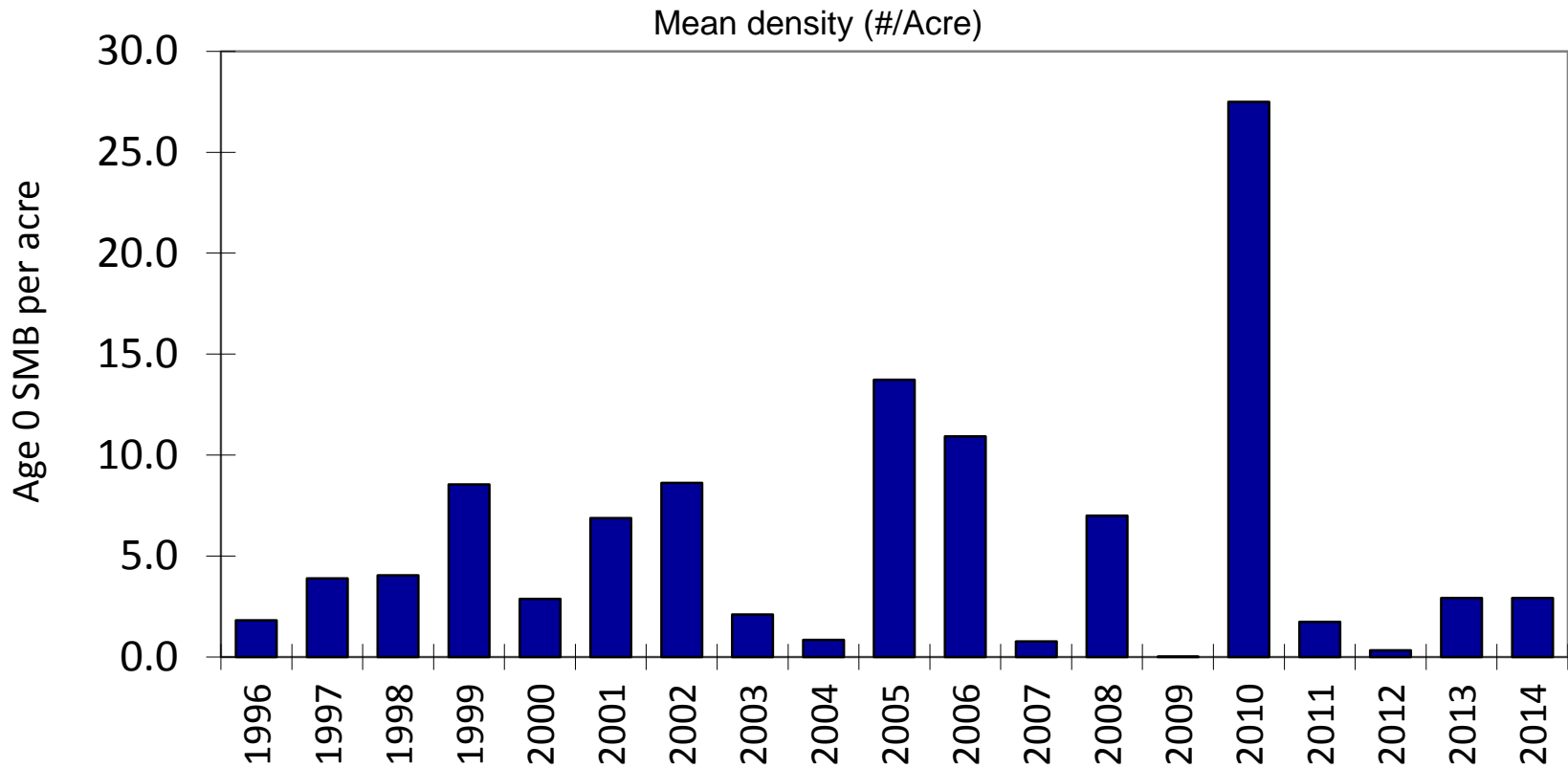
2014 CUE 0.2 (mean 0.5)

No survey in 1999, 2002 and 2010

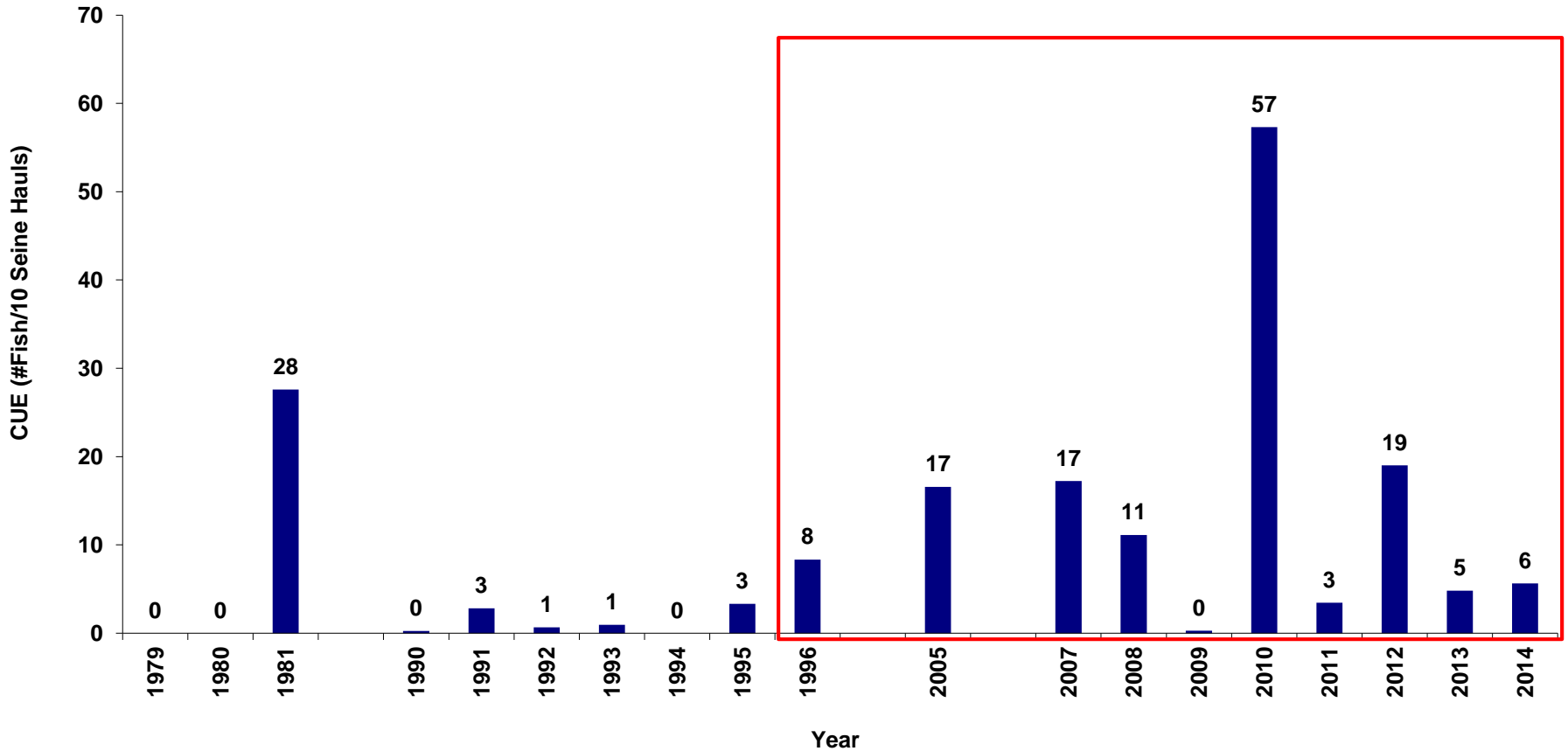


Michigan September Index Trawls

YOY SMB



Ontario YOY Smallmouth Bass CUE



CUE +20% in 2014 from 2013

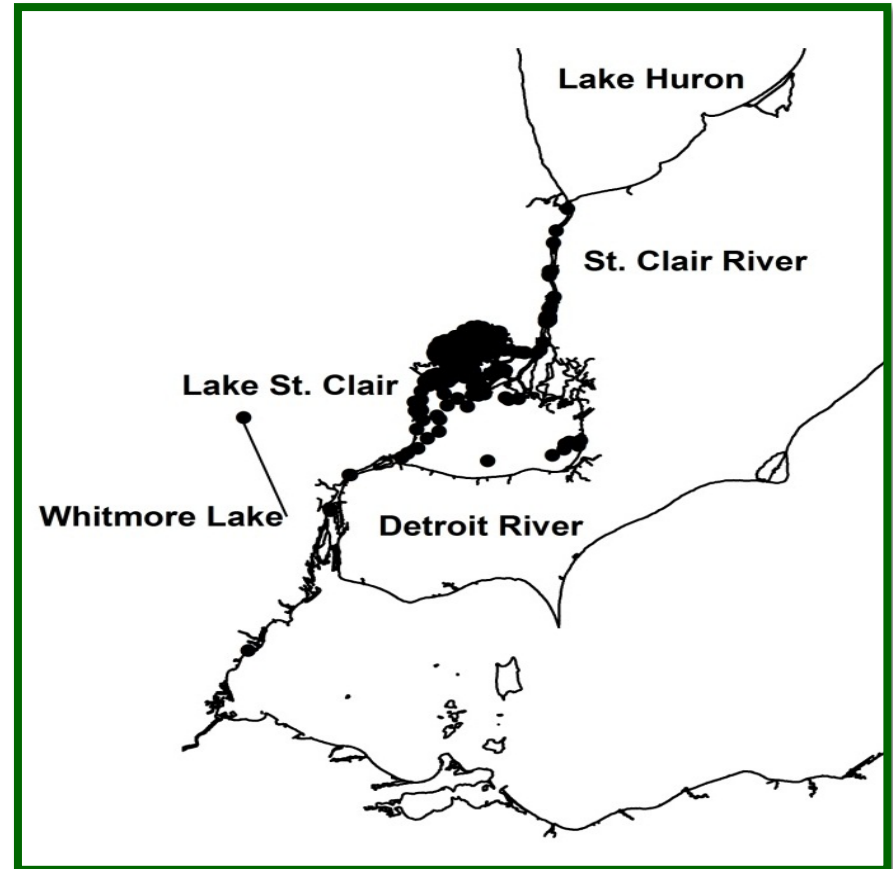
BM;BRE;PR;PS – July Only

No surveys from 1982-1989;1997-2004; and 2006



Michigan Smallmouth Bass Tagging

- 4,598 tagged in Anchor Bay since 2002
- 573 tags reported by anglers from 2002 to 2014
- Some fish with multiple recaptures
- Recaptures heavily clumped in Anchor Bay area

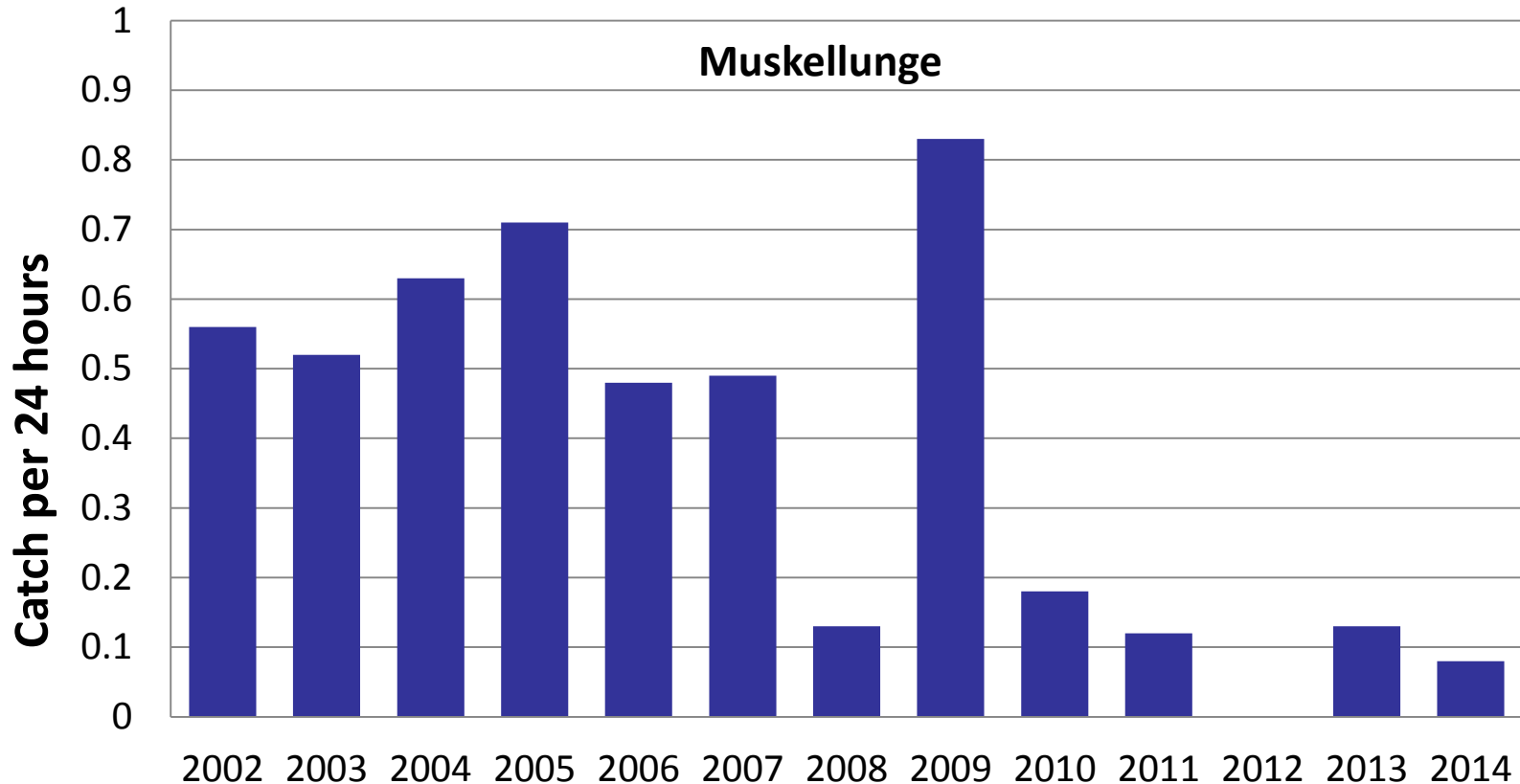


Muskellunge

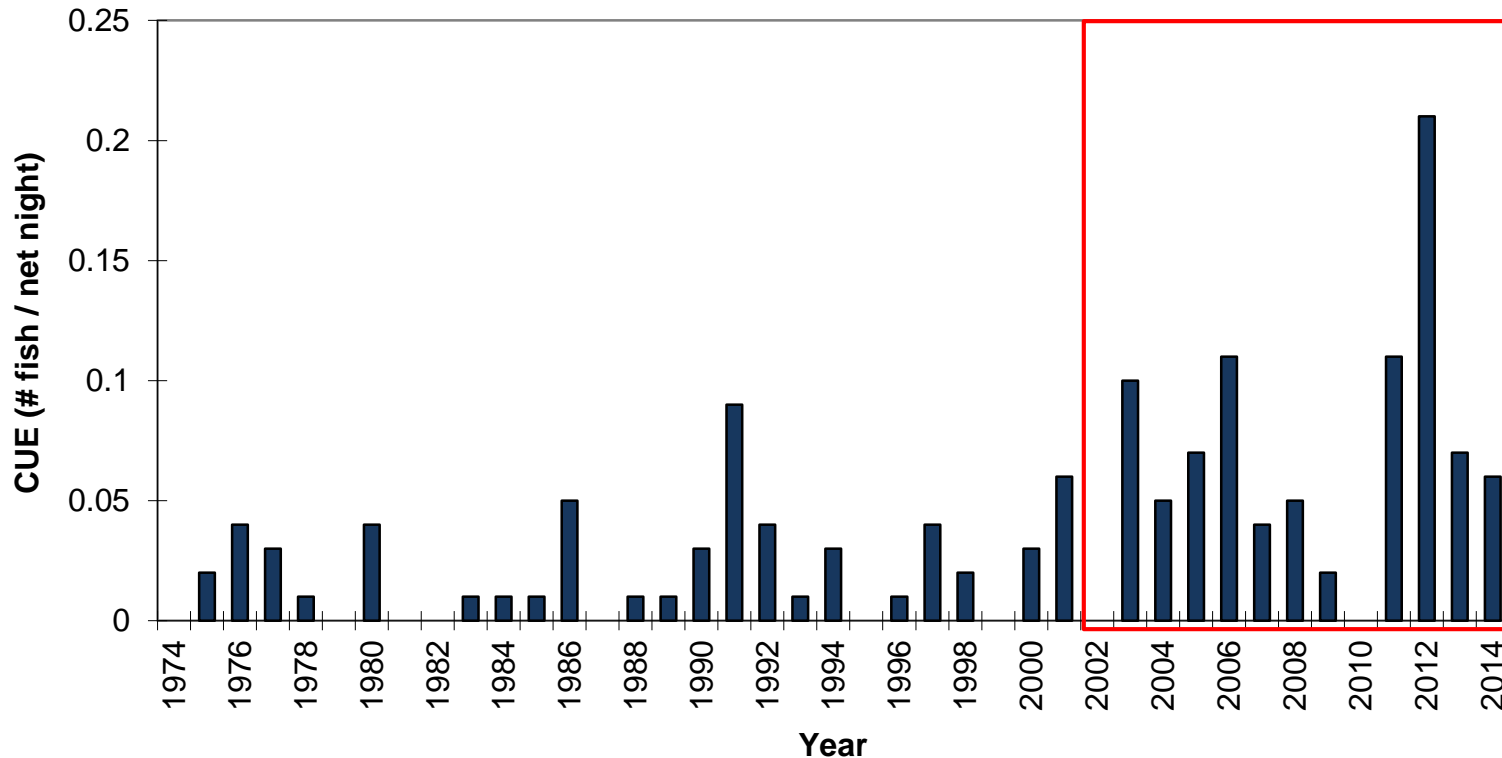


- Legendary fishery known for high catch rates and increasing numbers of large fish (>50")
- 26% of all Lake St. Clair charter fishing trips in Michigan targeted muskie in 2014
- ~99% of all muskies caught on LSC are released

Michigan Spring Trap Net CUE



Ontario Muskellunge Fall Trap Net CUE



CUE - 13% in 2014 from 2013
2014 CUE 0.06 (mean 0.04)

No survey in 1999,
2002 and 2010



Bi-National Detroit River Creel Survey in 2015



Joint creel survey by
MDNR and OMNRF with
support from USGS



Questions

