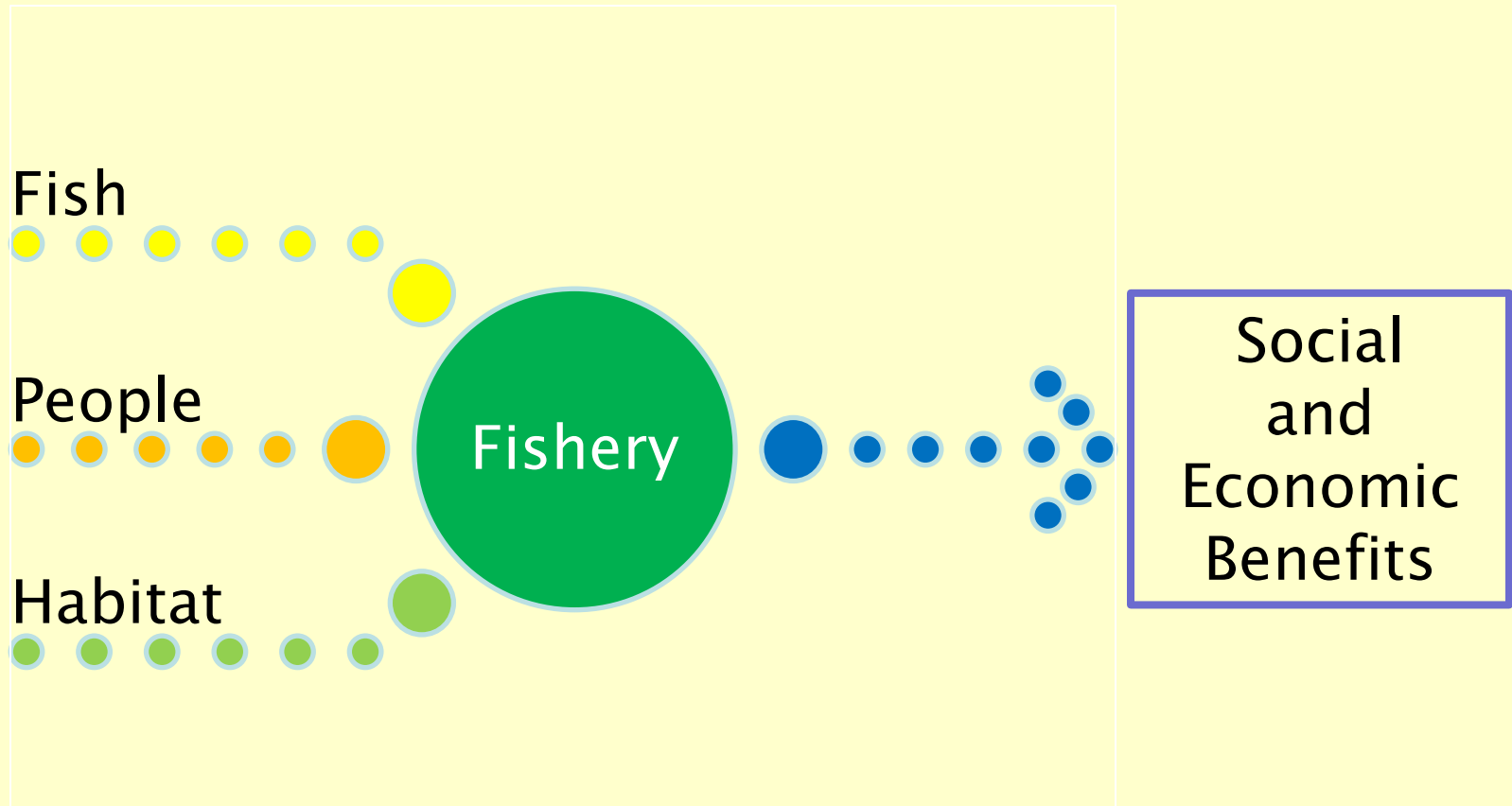


Summary of 2012 DNR and Partners Fisheries Surveys in St. Clair/Lake Erie and Fishery Forecast for 2013



LE/LSC Citizens Fishery
Advisory Committee
April 2, 2013
Michael Thomas
Fisheries Research Biologist

A Fishery is the Intersection of 3 Components

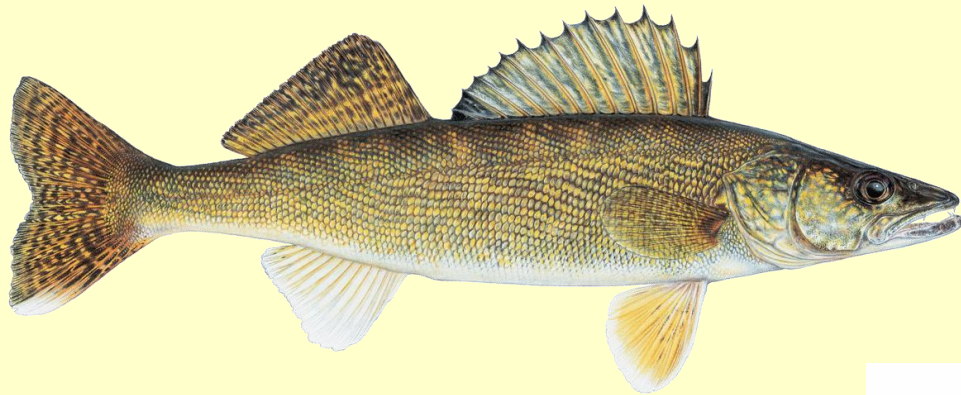


Social and Economic Benefits

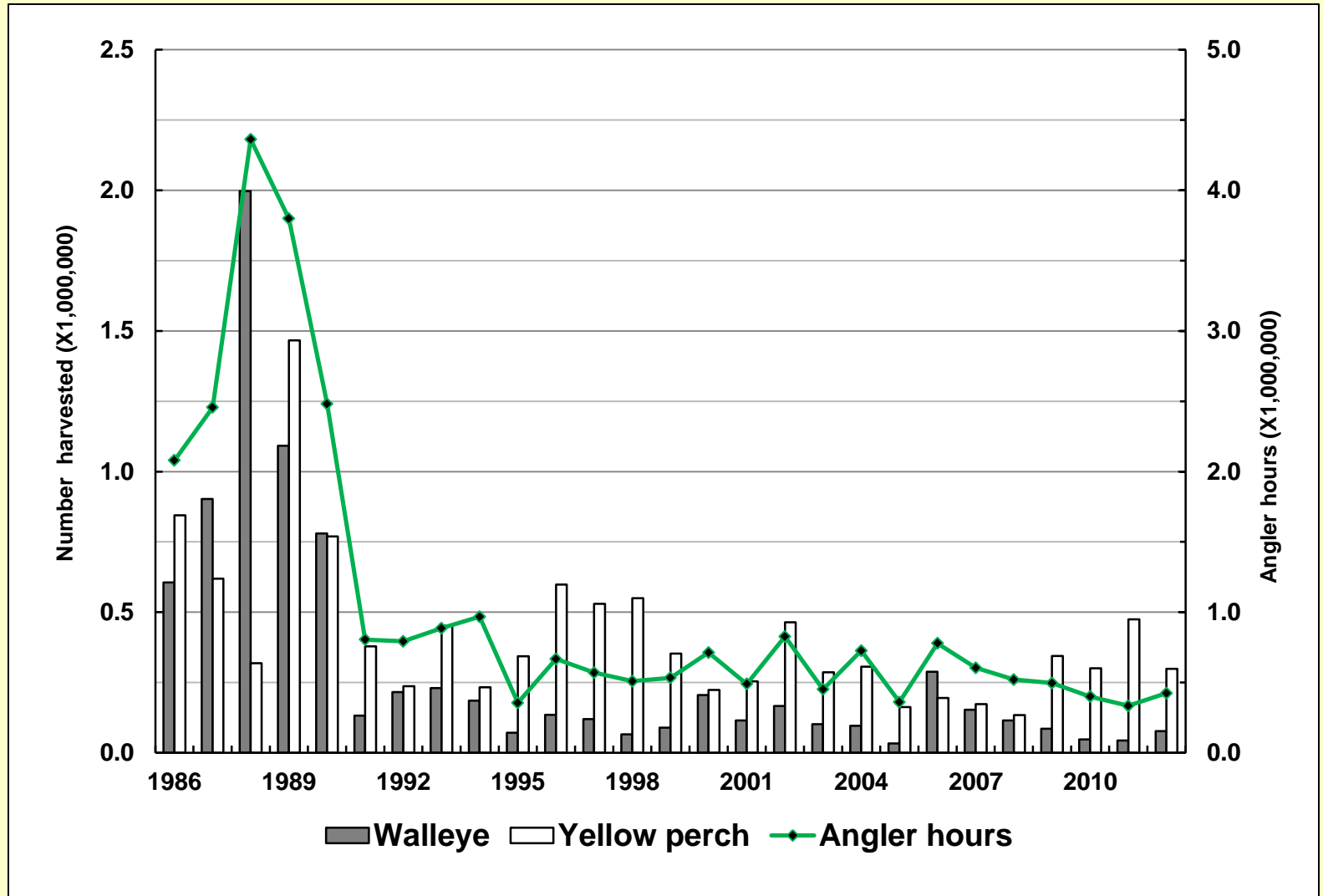
- **Food**
 - harvest fisheries (yellow perch and walleye) provide important source of protein
- **Finance**
 - economic activity generated by fishery in the MI waters of the St. Clair system in 2004 >\$36 million
 - MI LE fishery exceeds \$5 million annually
- **Fun**
 - fishing for fun is a major objective for much of the recreational fishery
 - having fun has physical/mental benefits for people
- **Function**
 - ecological functions of fish benefit society
 - important indicators of ecosystem health (canary-in-the-coal-mine)



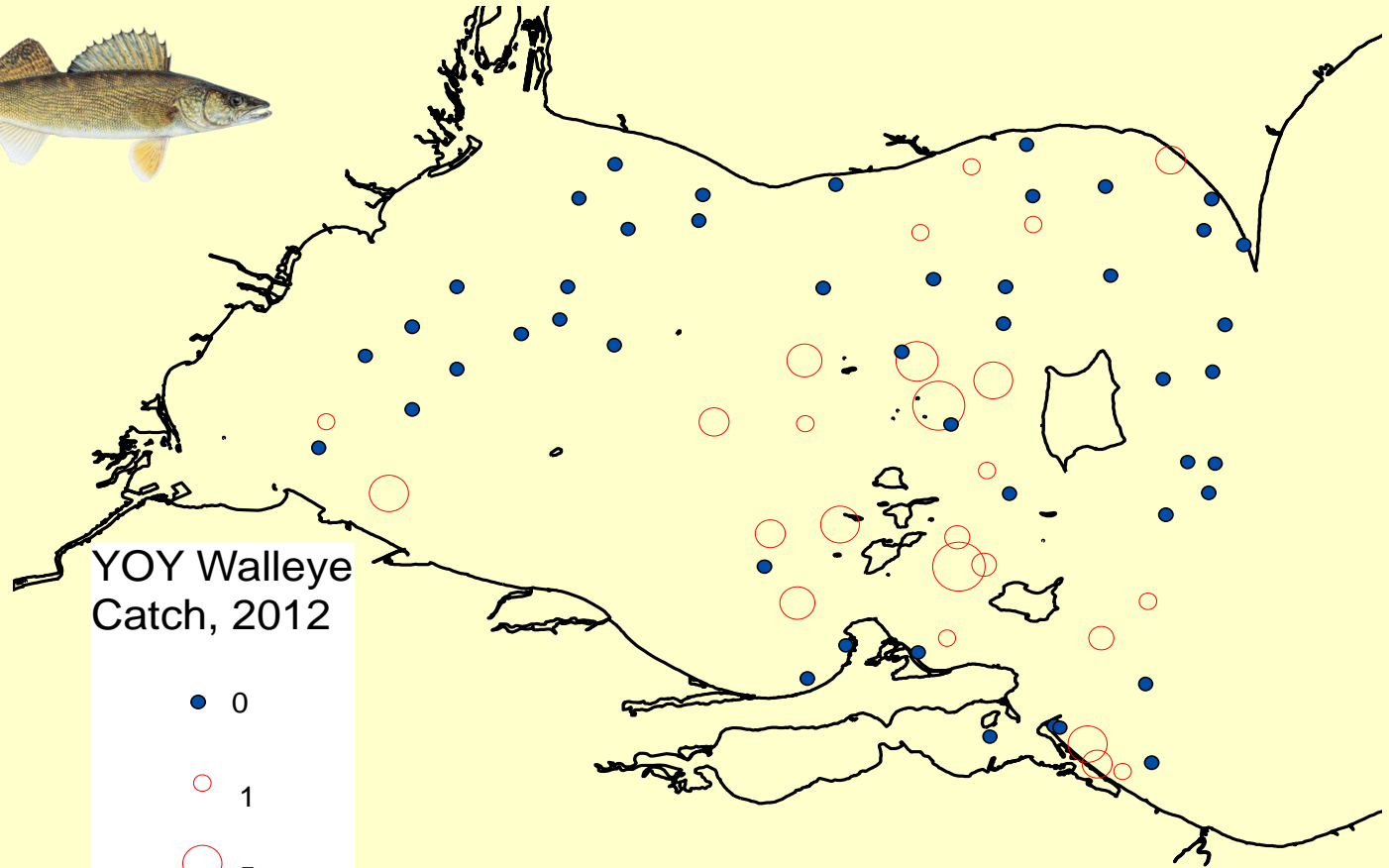
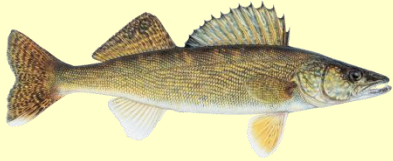
Lake Erie Fishery



Lake Erie Fishing Effort and Harvest



Lake Erie Interagency Trawl Index (pooled OH and ONT YOY walleye trawl catch)



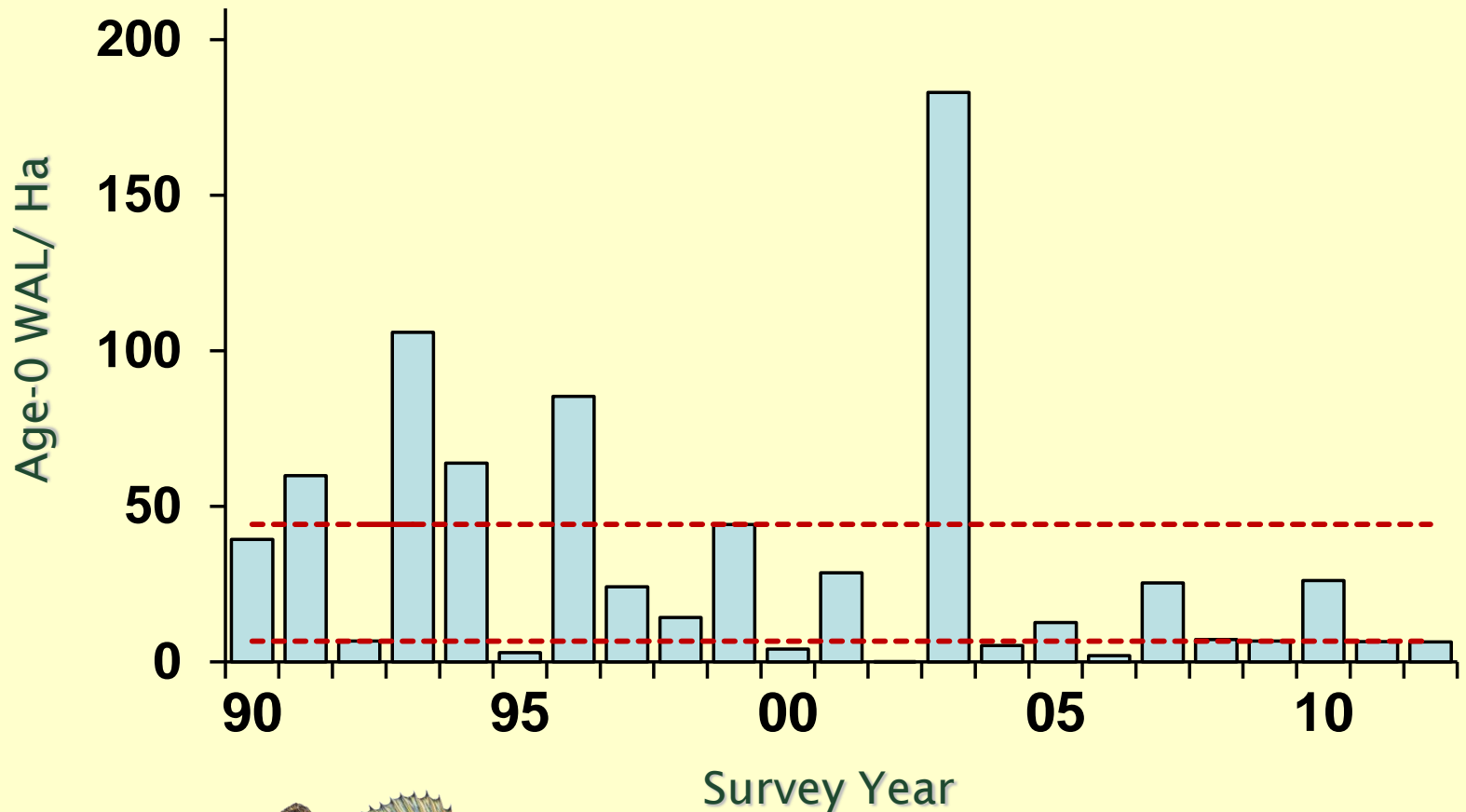
YOY Walleye
Catch, 2012

- 0
- 1
- 5
- 10



Lake Erie Interagency Trawl Index

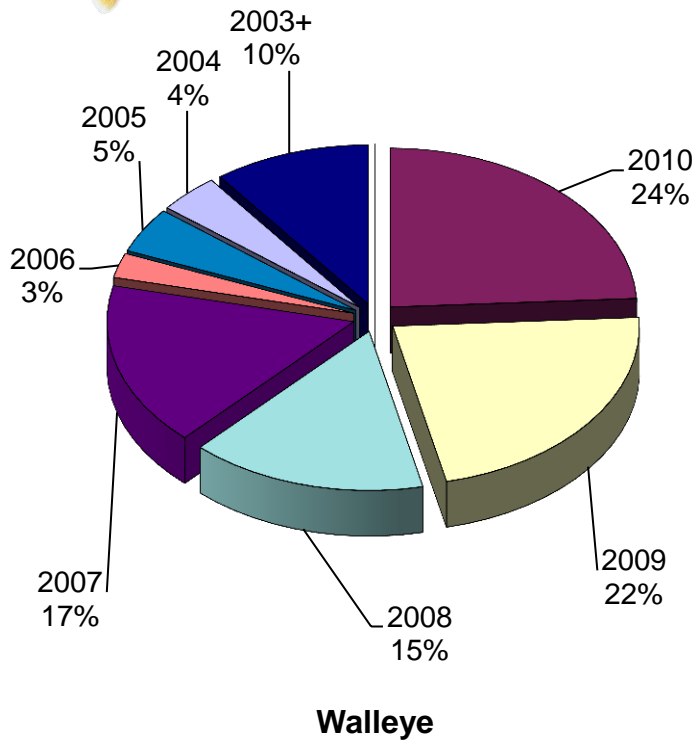
(pooled OH and ONT YOY walleye trawl catch)



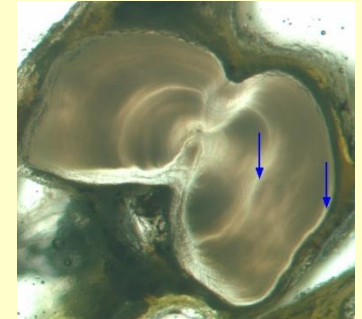
--- 1st and 3rd quartiles



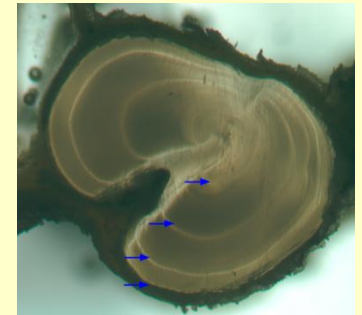
Walleye Age Composition Michigan Creel Survey - 2012



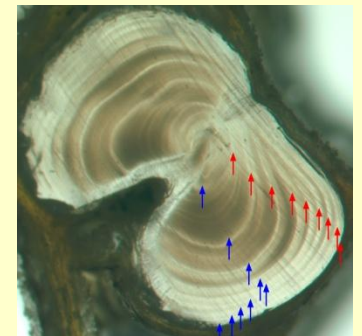
Age 2
TL= 15.1"



Age 4
TL= 20.1"



Age 9
TL= 25.9"

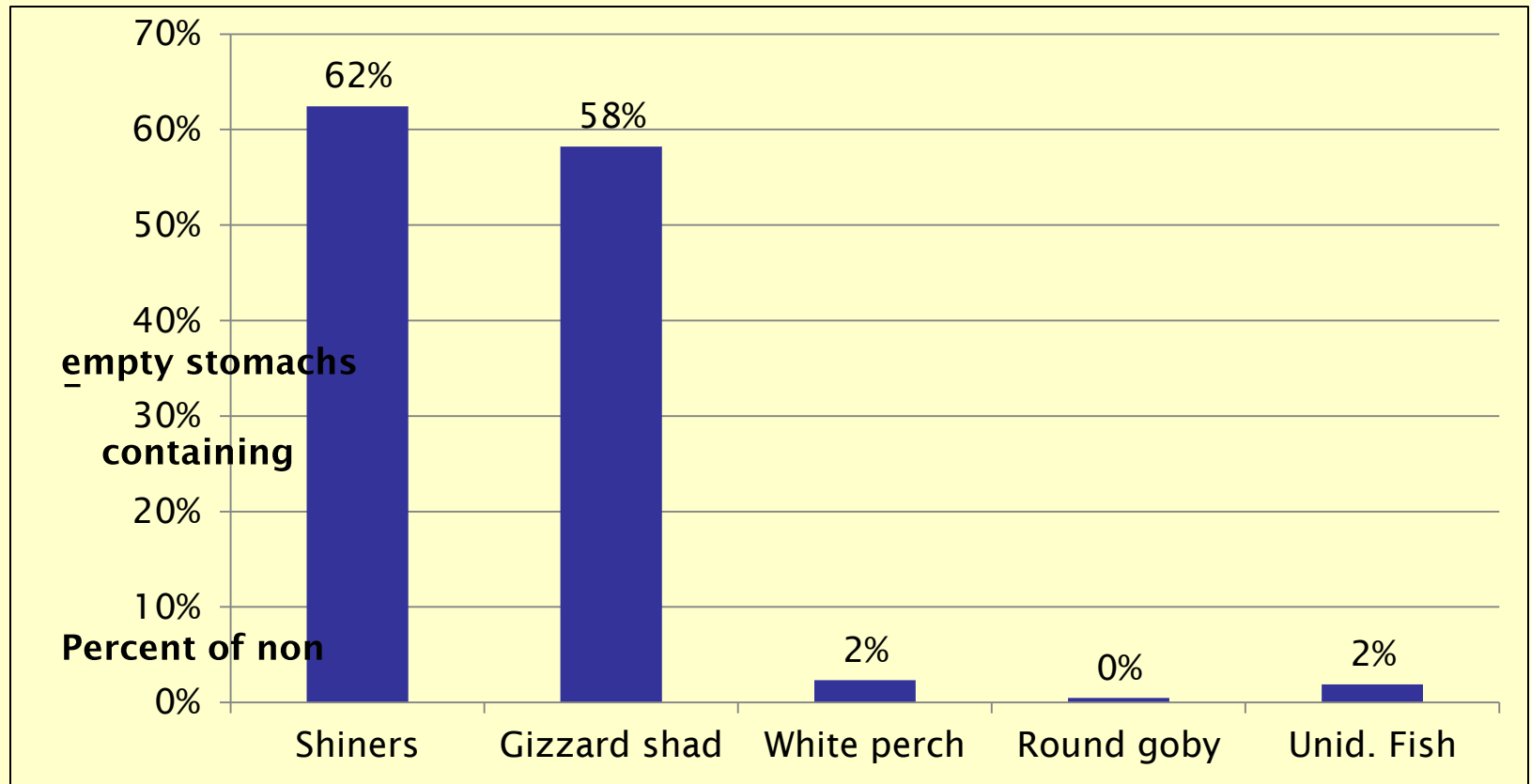


Percent of harvest by yearclass for 2012
Michigan Lake Erie sport fishery (N=800)



Lake Erie Walleye Diet

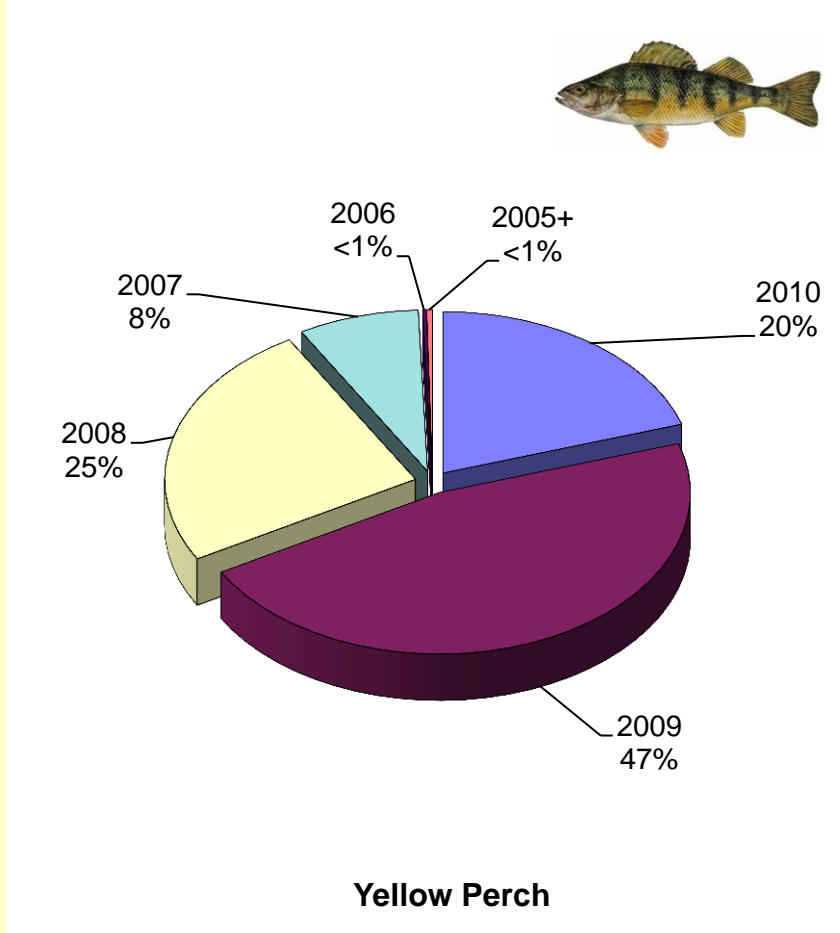
(MI October Index Gill Net Survey Samples)



- 223 walleye stomachs sampled
- 213 contained diet items
- 1,922 identifiable diet items
- Avg. 17 food items per stomach

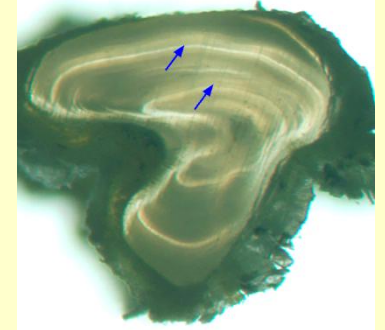


Yellow Perch Age Composition Michigan Creel Survey - 2012

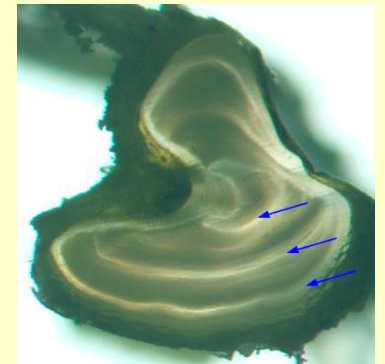


Percent of harvest by yearclass for 2012
Michigan Lake Erie sport fishery (N=846)

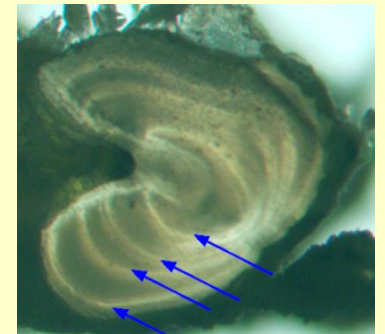
Age 2
TL= 8.5"



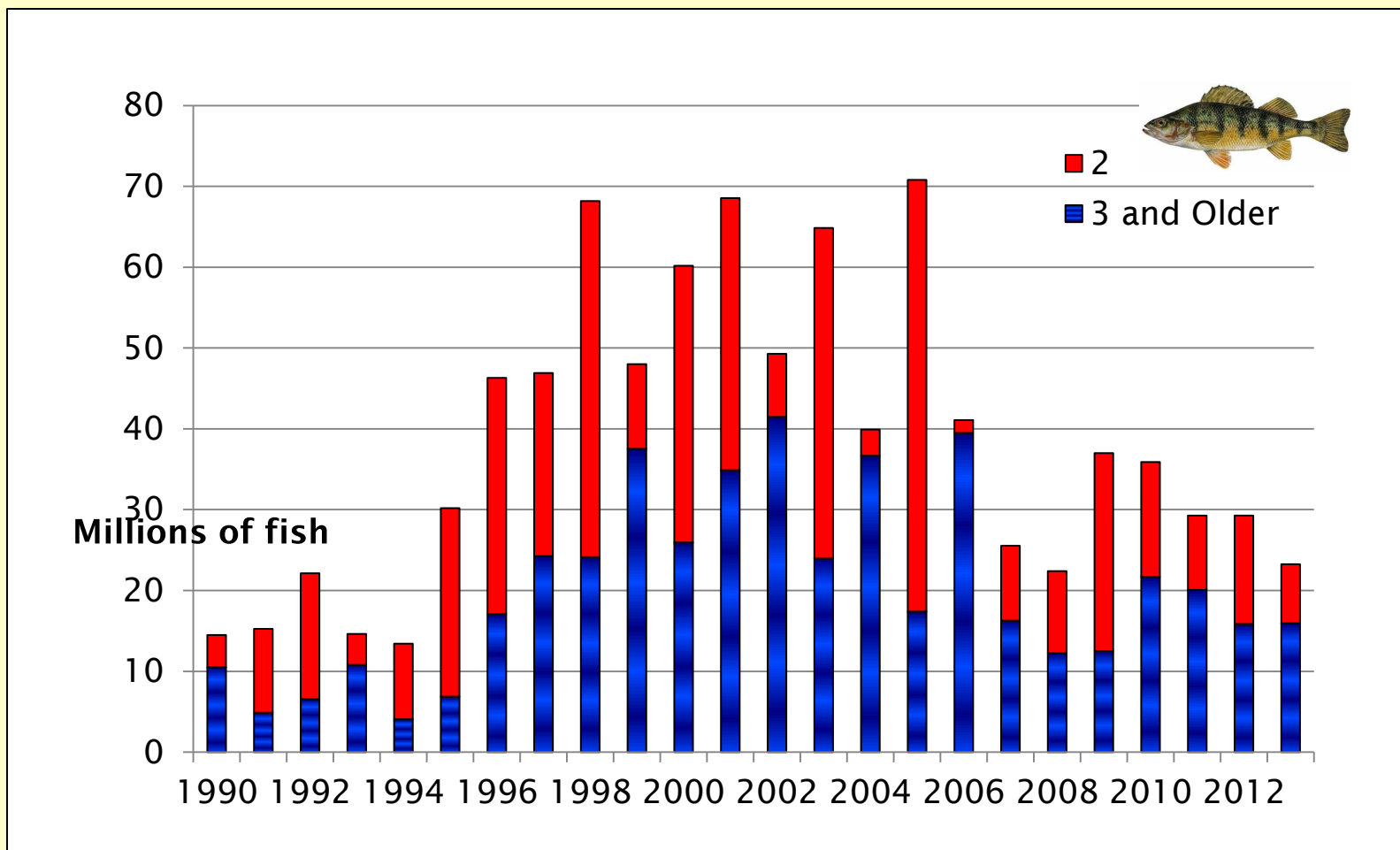
Age 3
TL= 9.8"



Age 4
TL= 8.0"



Yellow Perch Abundance – MU1 (Catch-at-age model estimates)



Lake Erie yellow perch population estimates for MU 1 for age 2 (red bars) and ages 3+ (blue bars).
Estimates for 2013 are from ADMB and regressions for age 2 from survey gears.



Lake Erie's Problems/Issues Today



- **Sedimentation**
- **Phosphorus and nutrient loading**
- **Harmful algal blooms (HABs)**
- **Aquatic invasive species**
- **Dead Zone**
- **Climate Change—Makes the others worse**
- **Coastal Economic Development**



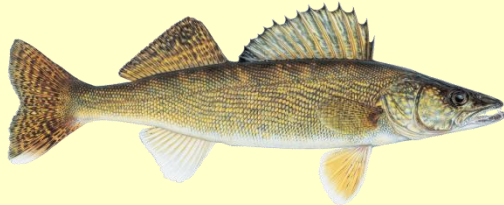
Microcystis Bloom - Luna Pier, Fall 2009



Photos: Mike Thomas

MDNR Lake St. Clair Fisheries Research Station

Lake St. Clair Fishery



MODIS: March 29, 2013



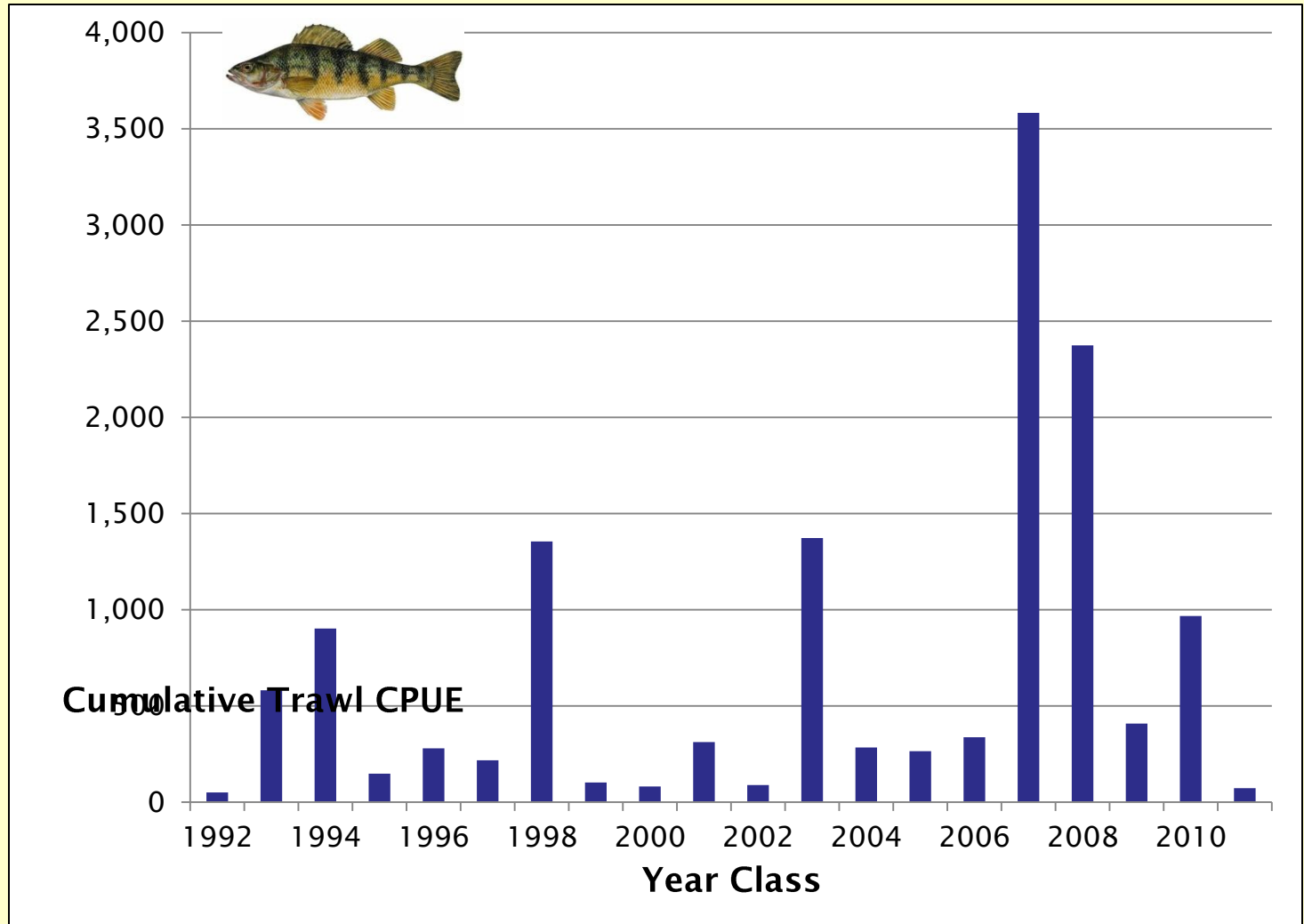
Yellow Perch

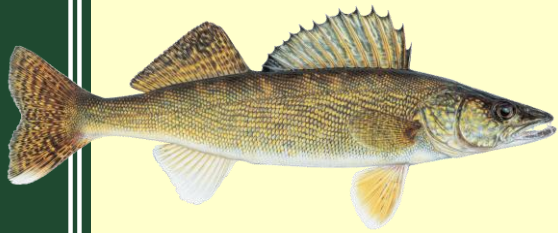


- The most sought after species in LSC
- Open water and winter ice fishery
- 53% of the total fishing effort directed at YP
- MI anglers harvest about 750,000 each year



June Index Trawl CPUEs by Year Class LSC Yellow Perch





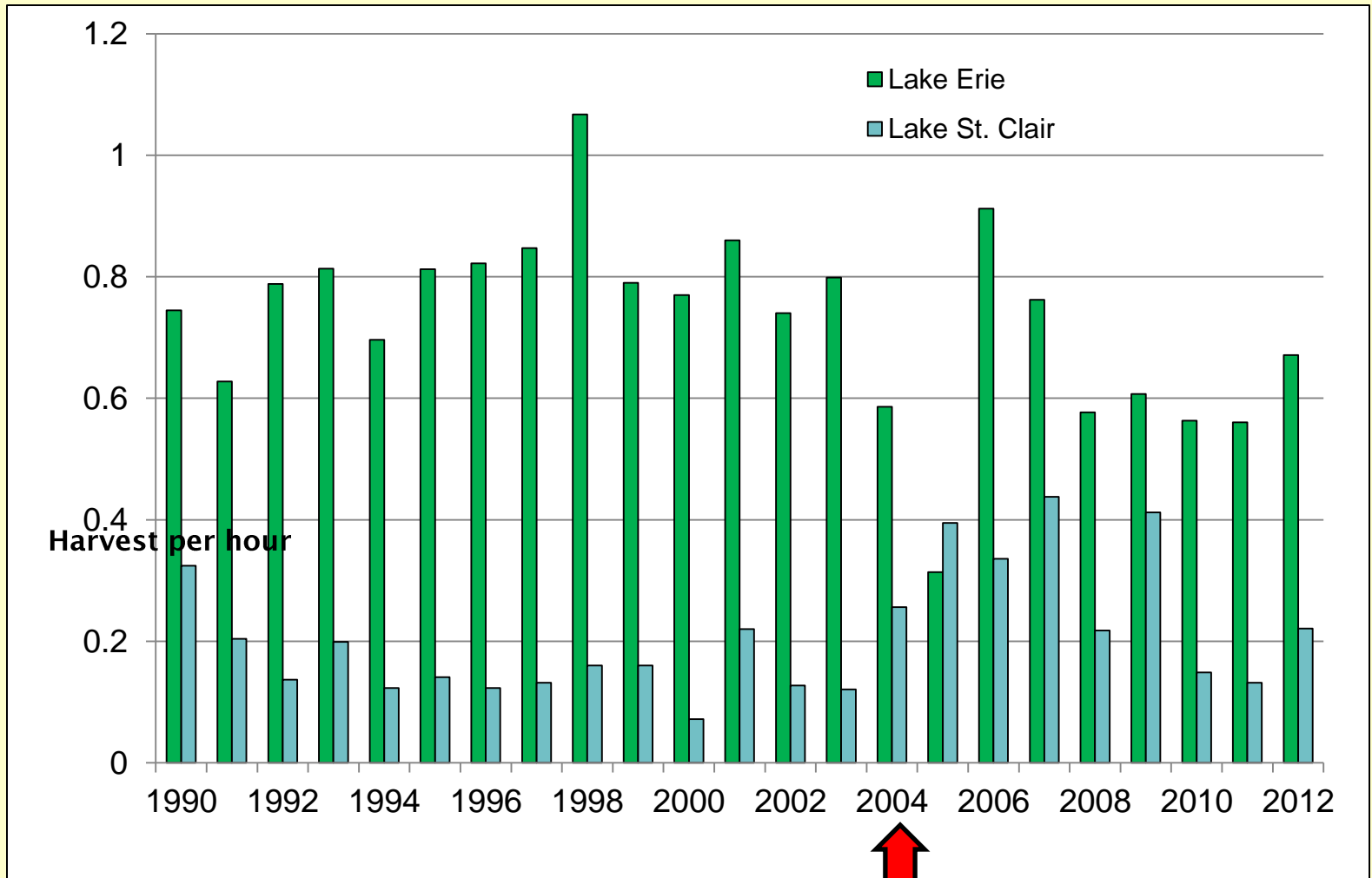
Walleye



- Walleye fishing ~ 30% of the boat fishery
- 80% of all legal-sized walleye caught are harvested
- ~40,000 legal-sized walleye are harvested from LSC by MI anglers yearly – 2012 was very good
- Most walleye caught in LSC are migratory



Charter boat walleye catch rate for LE and LSC

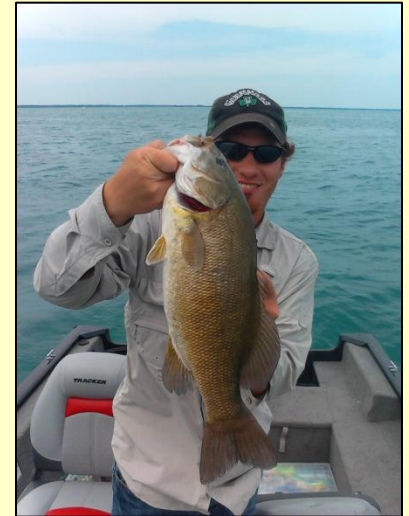


LE Minimum size limit increased to 15" in 2004





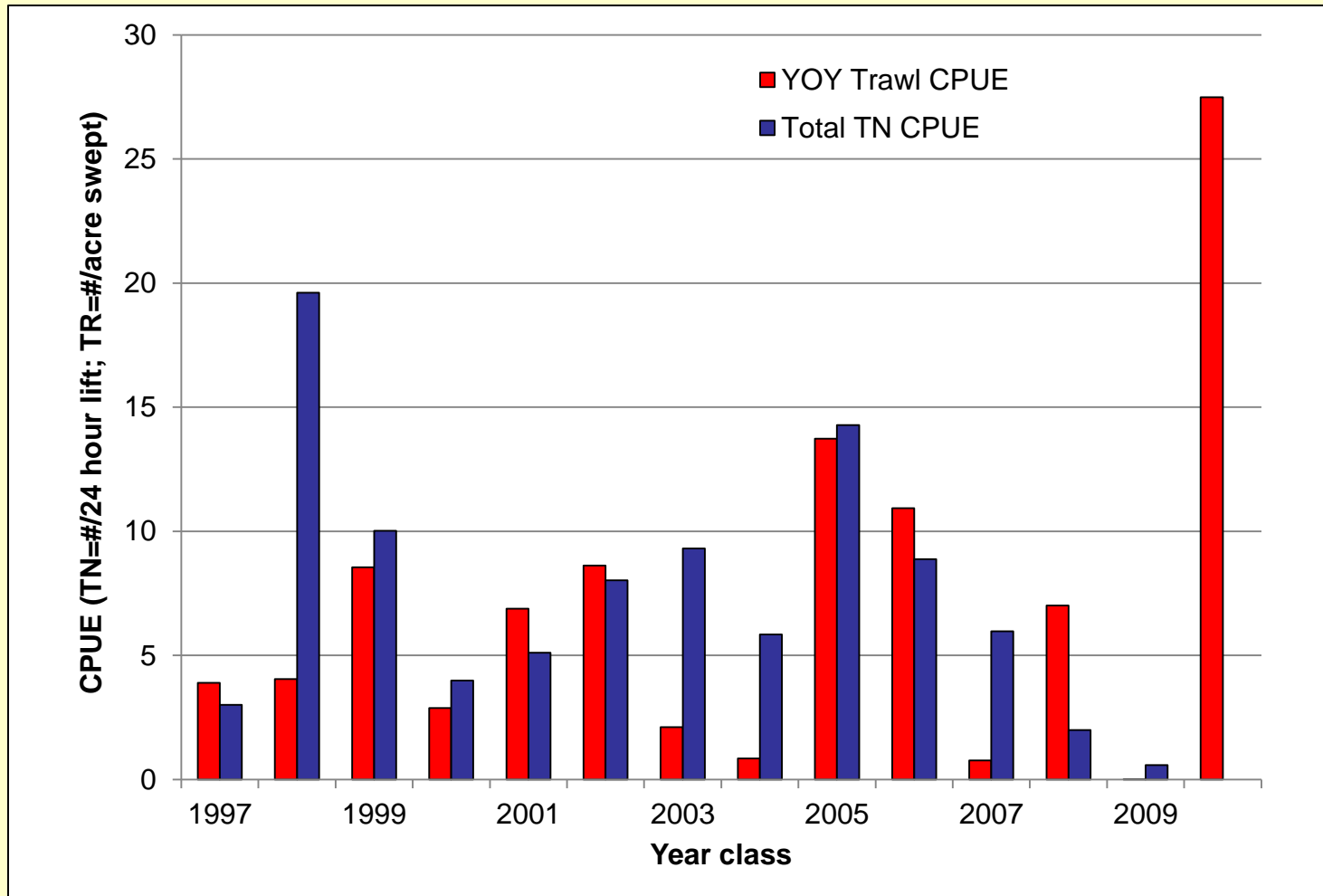
Smallmouth Bass



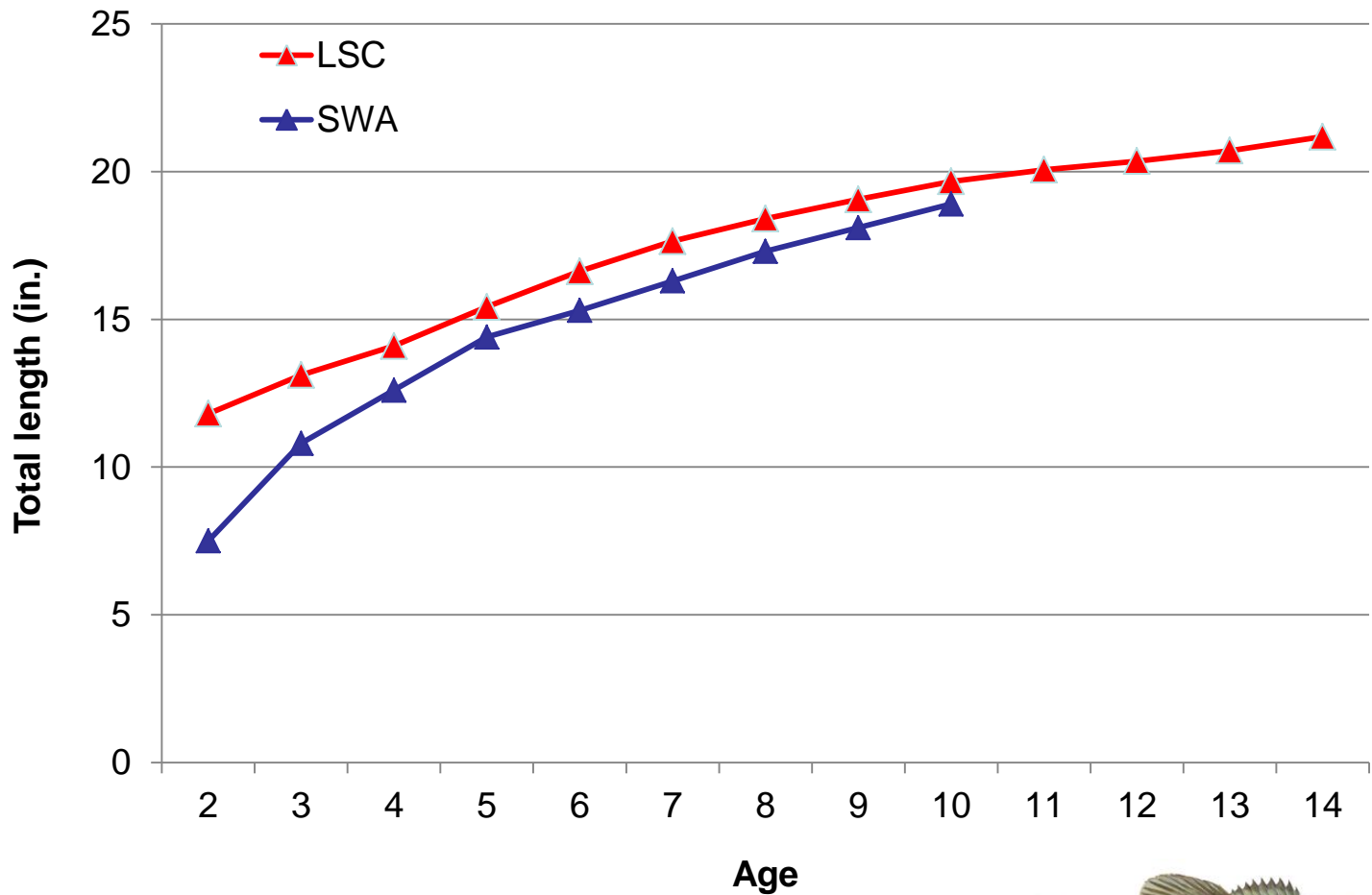
- SMB fishing ~ 20% of the boat fishery effort (2004)
- >100,000 legal-sized SMB caught annually from MI LSC waters
- >90% of all legal-size SMB caught are released
- SMB fishing attracts many out-of-state anglers
- Many tournaments target SMB



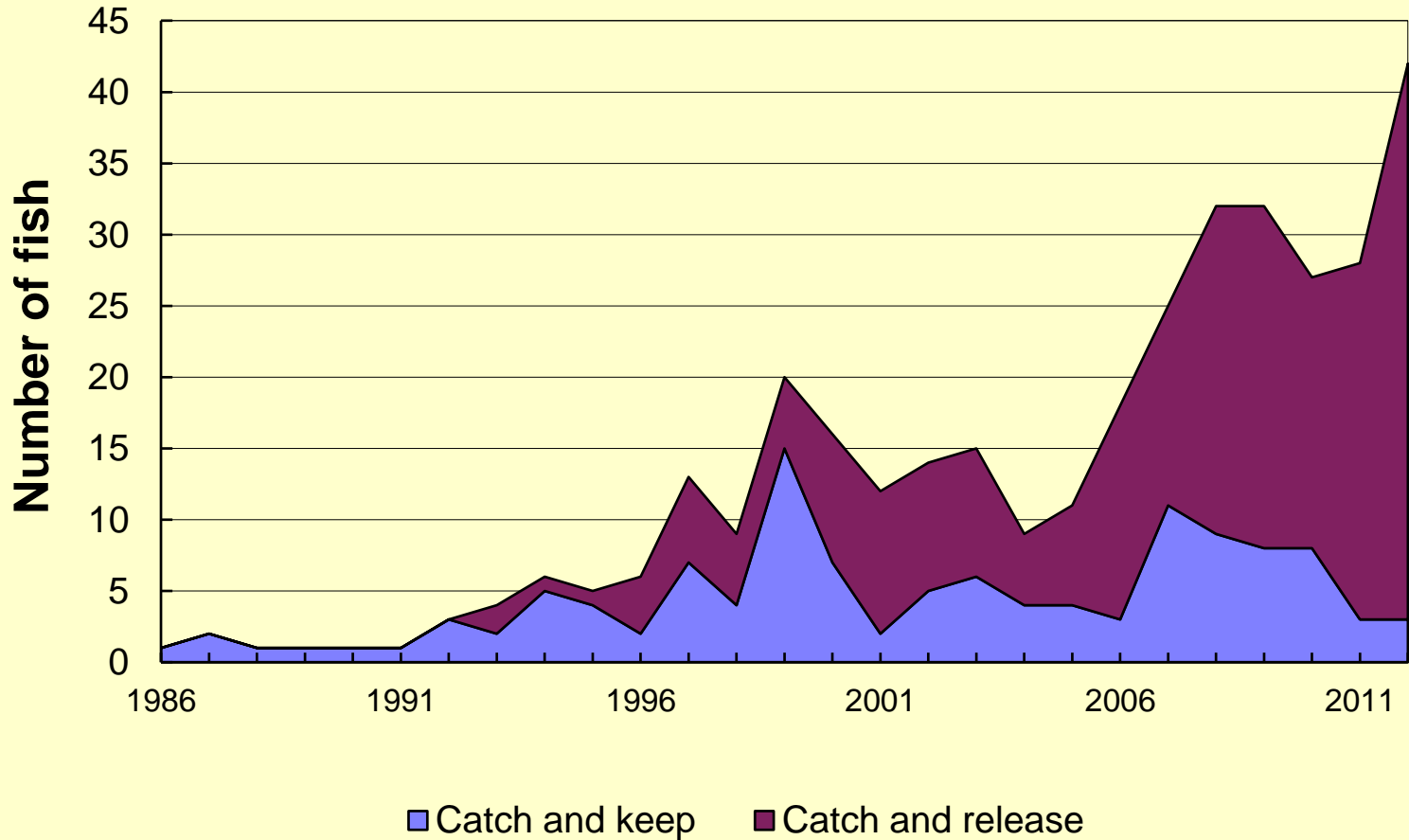
Smallmouth Bass catch rates from LSC TN and TR Surveys by Year Class



LSC SMB length-at-age compared with Statewide Average (SWA)



St. Clair System SMB Master Angler Entries



39% of all 2012 SMB MA entries were from St. Clair System waters



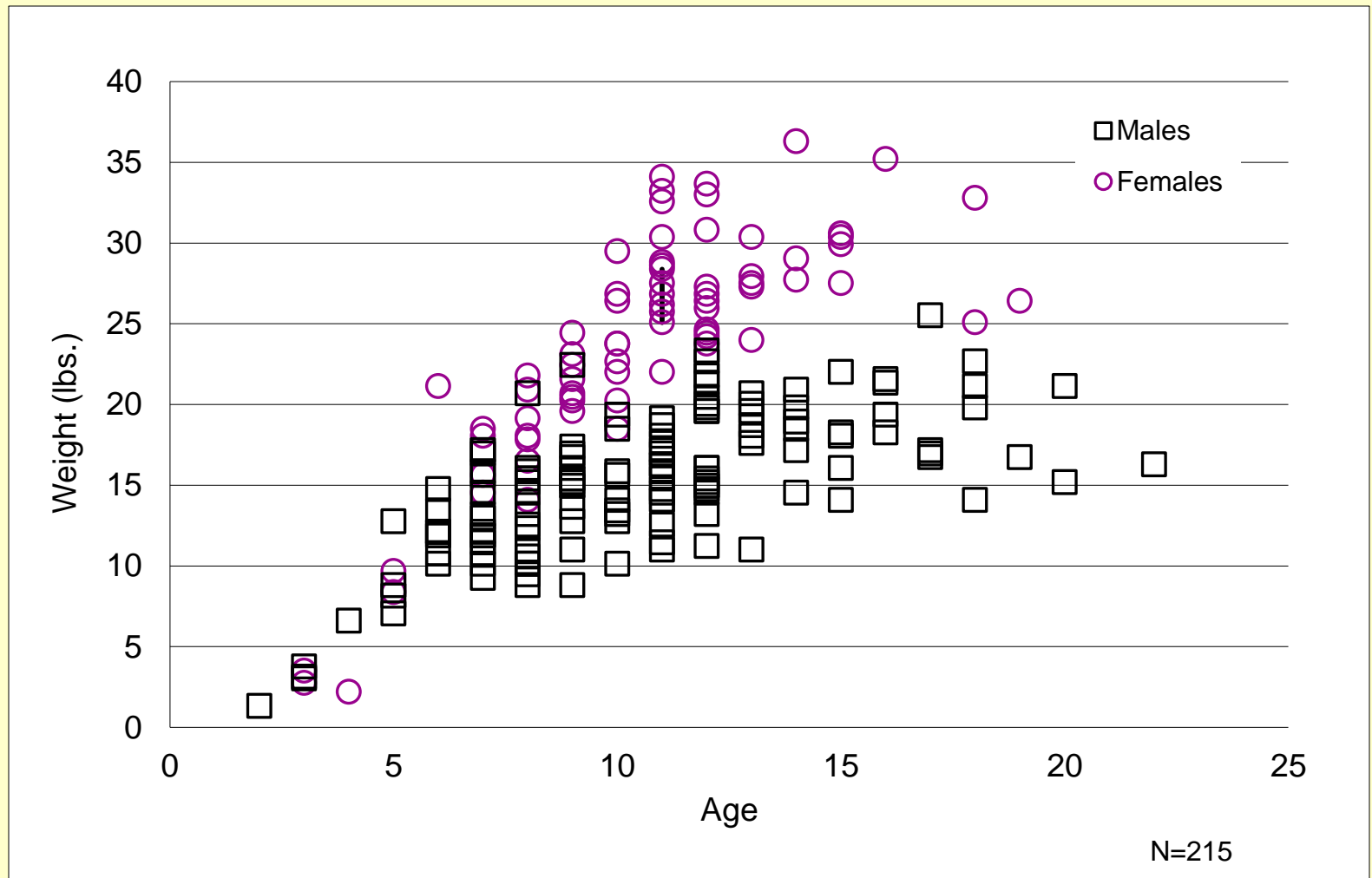
Muskellunge



- Legendary muskie fishery: high catch rates and increasing numbers of large fish
- 30% of all LSC charter fishing trips target muskie
- ~99% of all muskies caught on LSC are voluntarily released
- Fishery expanded and diversified in recent years



Weight at age by sex for LSC muskellunge (Trap net catch - 2005 to 2012)



N=215

And There's More!



Black Crappie



Bluegill



Rock Bass



Northern Pike



Largemouth Bass



White bass



Channel Catfish



Mooneye

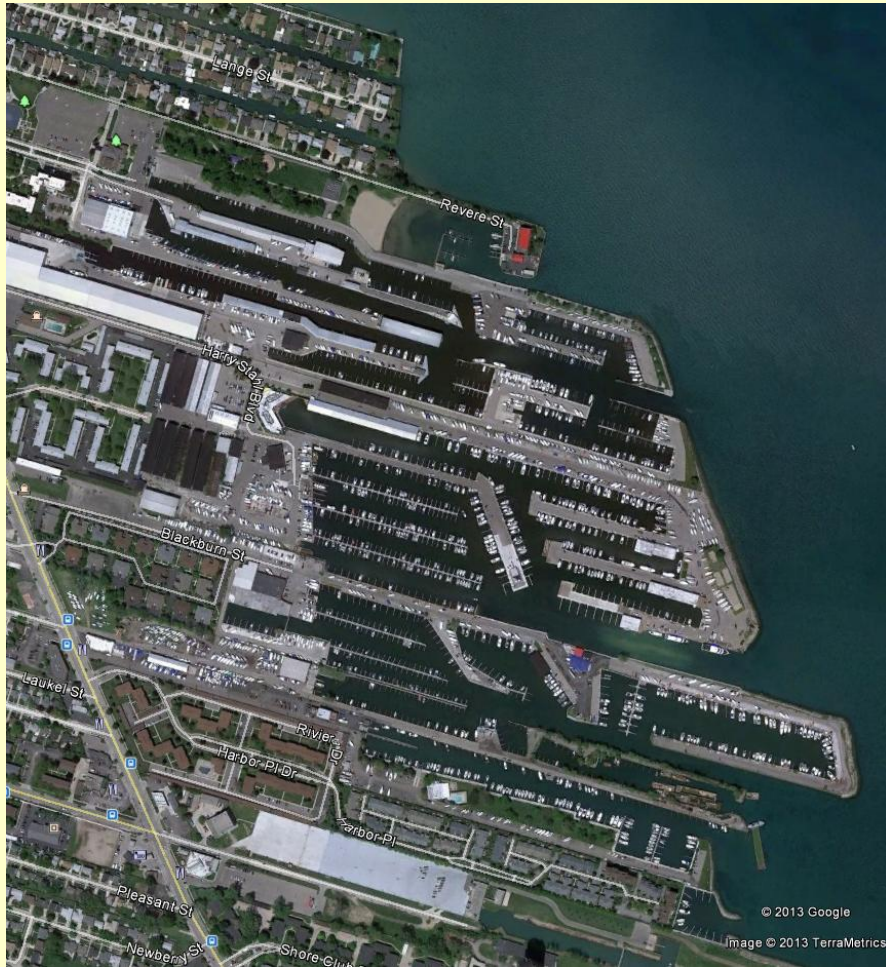


Lake Sturgeon

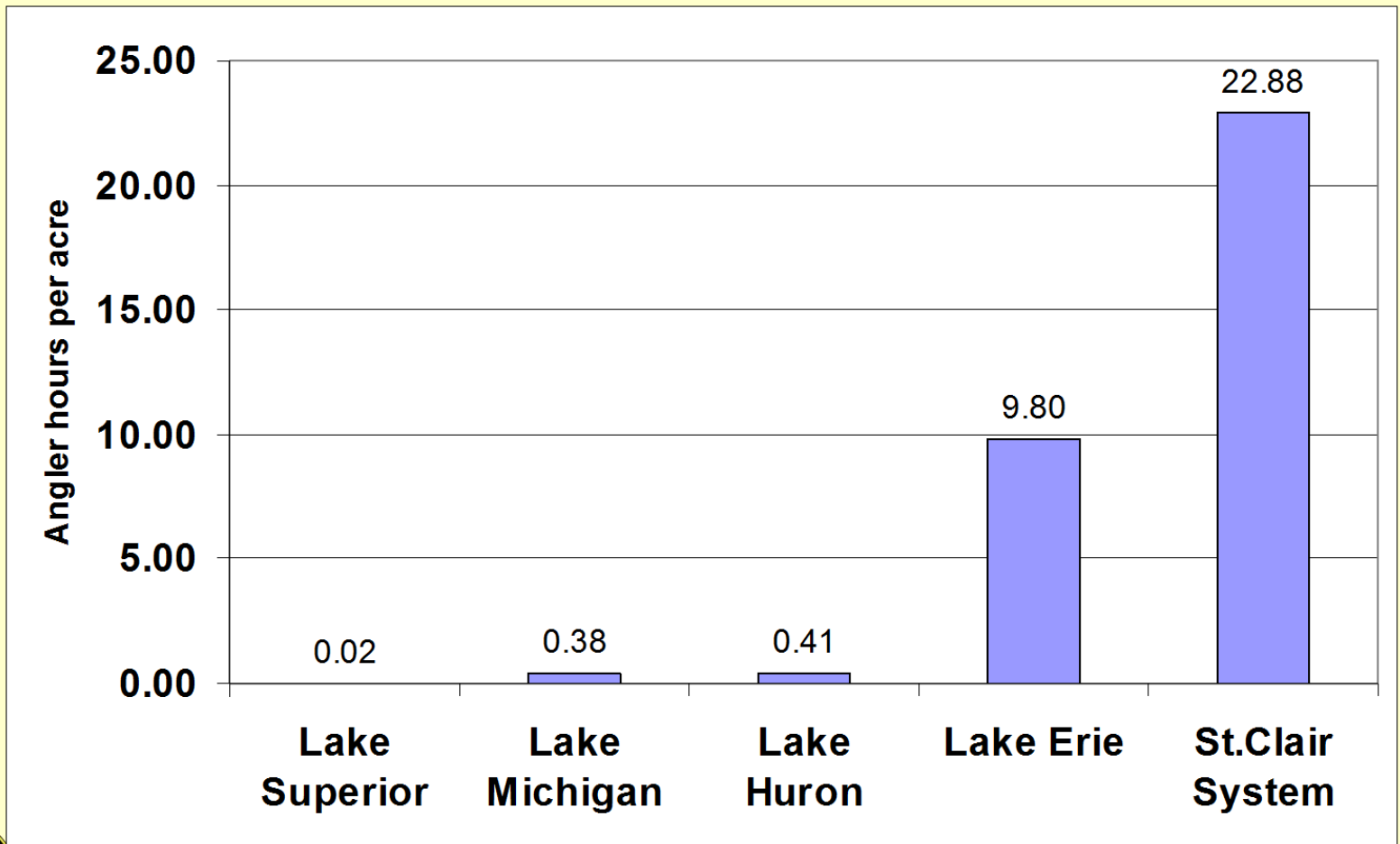
- Abundant populations of other species that provide even more diversity for the fishery
- Includes unique fishing opportunities for mooneye and lake sturgeon



Lots of People and Good Access



LSC Fishery is Intense



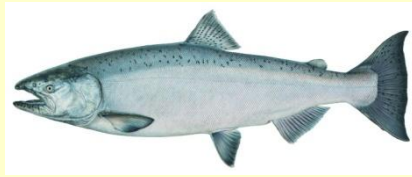
NO STOCKING!



- Good water quality, diverse habitat
- Abundant submerged aquatic vegetation
- Plentiful food resources for small fish
- Sound fisheries management protects spawning populations



But Wait...There's Still More!



- Seasonal salmonid fisheries supported by stocking of brown trout and steelhead
- Chinook and coho salmon, lake trout, and even lake whitefish add further diversity to the fishery



Shorefishing too!



- 2012 shore fishing creel survey on St. Clair River
- Over 70,000 angler hours (Apr.-Oct., daylight)
- Catch >50,000 fish, harvested >20,000
- Most harvested species – White Bass



2013 Fishery Forecast



- Self-sustaining stocks of yellow perch, walleye, smallmouth bass and muskellunge will continue to provide high quality recreational fishing opportunities for SE MI anglers from Lake Erie to Port Huron
- Abundant populations of other species add more diversity to the fishery
- Seasonal salmonid fishery will continue to add further diversity to this incredible fishery
- Weather conditions can greatly influence fishing effort and fishing success from year to year
- Water levels will have an impact on access for some anglers and can affect fish distribution
- High fuel prices can reduce fishing effort



Thank You!



Email: Thomasm4@michigan.gov