

# Lake Trout Recreational Harvest Regulation Review for MM 1-5

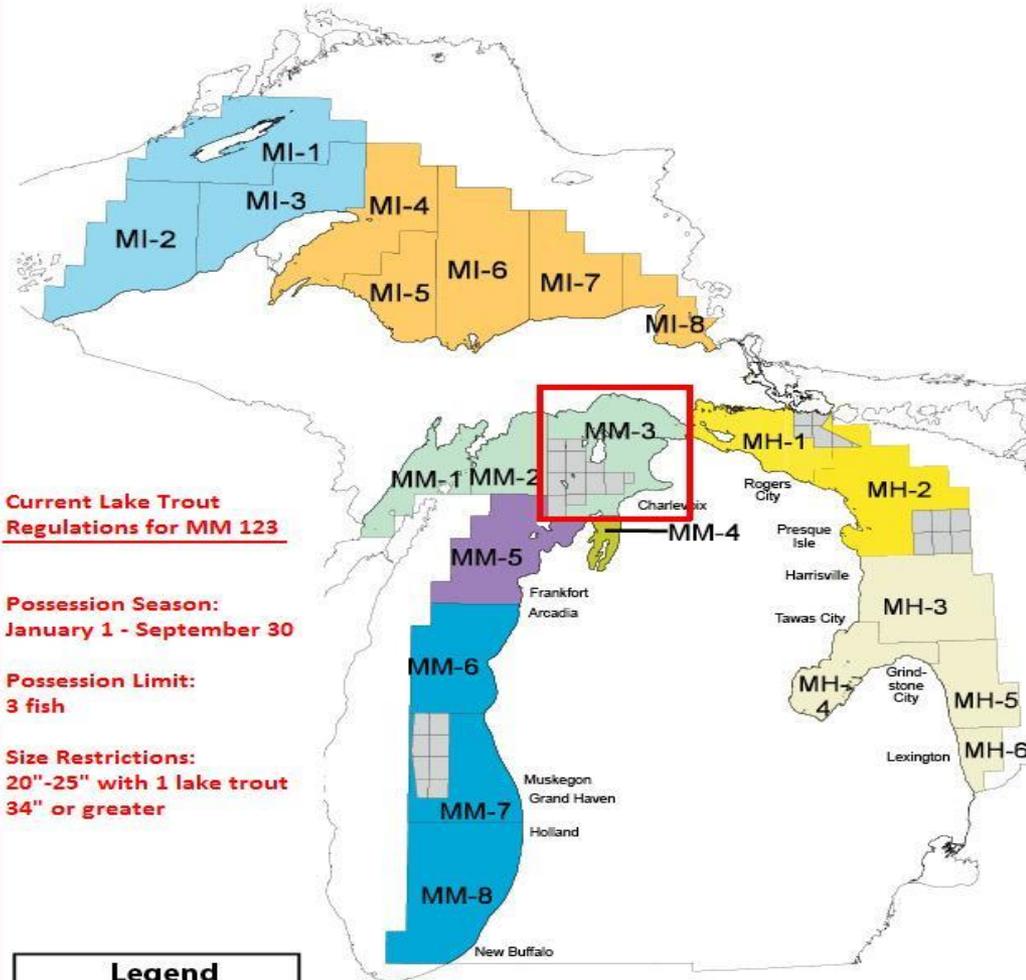


Charlevoix , Leland, Traverse City, Frankfort



**Department  
of  
Natural  
Resources**

# Lake Trout Management Units and Refuges



## Current Lake Trout Regulations for MM 123

**Possession Season:**  
January 1 - September 30

**Possession Limit:**  
3 fish

**Size Restrictions:**  
20"-25" with 1 lake trout  
34" or greater

### Legend

 Lake Trout Refuge  
Note: All refuges are closed to lake trout harvest.

For a complete description of refuge and management unit boundaries, see FO-200 available online or at any DNR Customer Service Center.

Great Lakes Boundary Data provided by ESRI



## Lake Trout Management Objectives:

- Assure the weight of lake trout harvested is below the TAC
- Reduce the age and biomass of harvested fish
- Increase number of fish harvested
- Maximize age structure and biomass of spawning lake trout to meet rehabilitation goals



## Why are we holding these public meetings?

- In 2010 we committed to reviewing lake trout regulations every five years; this would normally put start of the review process in 2015
- Due to the increased harvest of lake trout in 2013, our creel numbers are indicating that the current regulatory framework in MM123, 4, and 5 is no longer optimal, and we have decided to start the process a year early;
  - MM 123: harvested 30,000 lbs. out of 50,000 lbs. TAC (under by 20,000lbs – but anglers have requested a different regulation
  - MM4: 78,700 lbs. out of 77,200 lbs. TAC (over by 1,500 lbs.)
  - MM5: 58,800 lbs. out of 58,800 lbs. TAC



# 2000 Consent Decree

- Management framework
- Harvest is restricted by total harvest limits
  - Requiring recreational fishery limitations
- State allowed 10% of the total limit in MM-123
- Provisions of the Decree not fully implemented –Stipulation

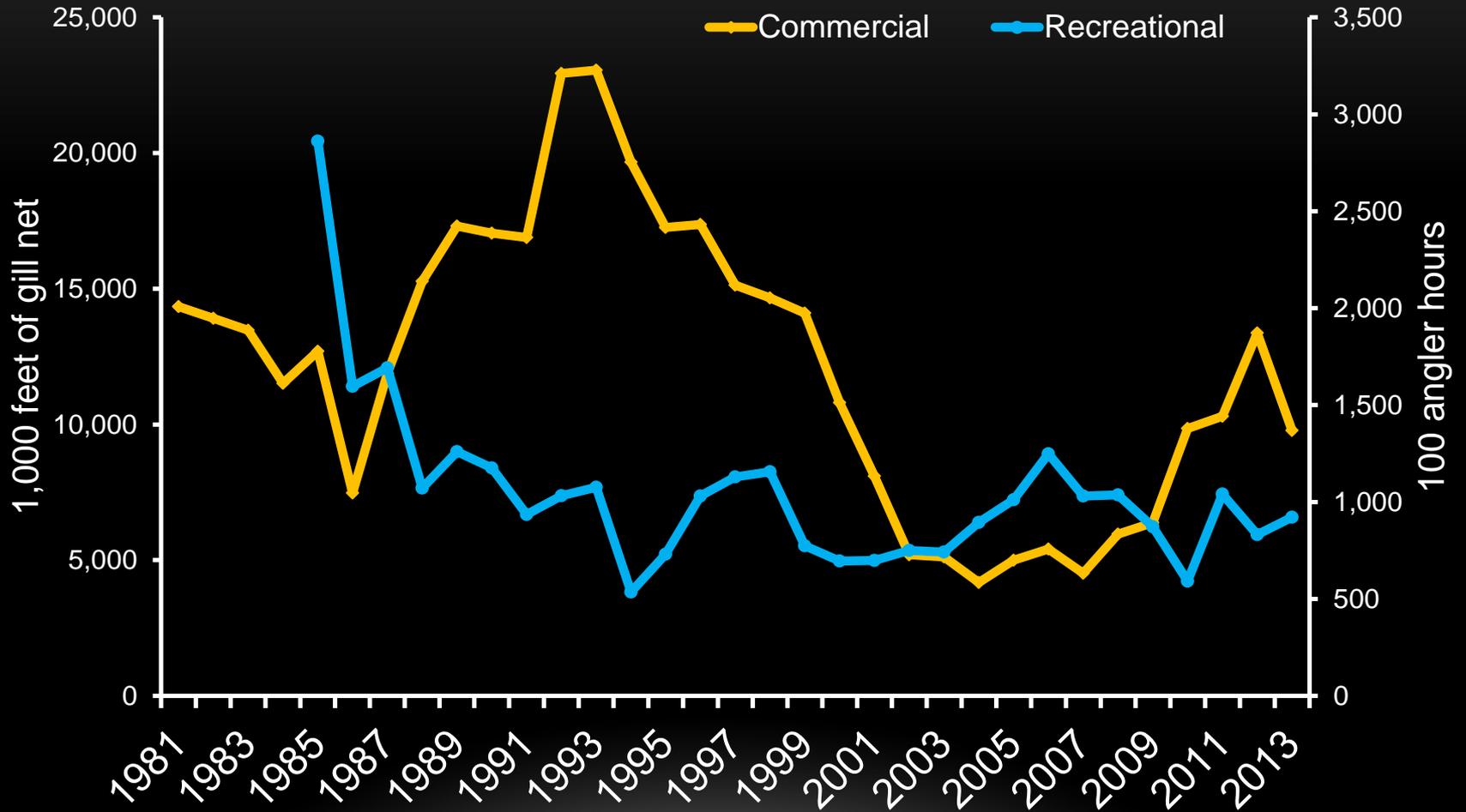


# Harvest Patterns

Year	CORA Harvest*	CORA HL	State Harvest	State HL
2006	154,817	453,000	13,976	50,000
2007	149,048	453,000	12,783	50,000
2008	240,453	453,000	14,685	50,000
2009	239,305	453,000	19,591	50,000
2010	308,679	453,000	14,140	50,000
2011	368,614	453,000	11,251	50,000
2012	387,936	453,000	16,348	50,000
2013	498,994	453,000	29,412	50,000

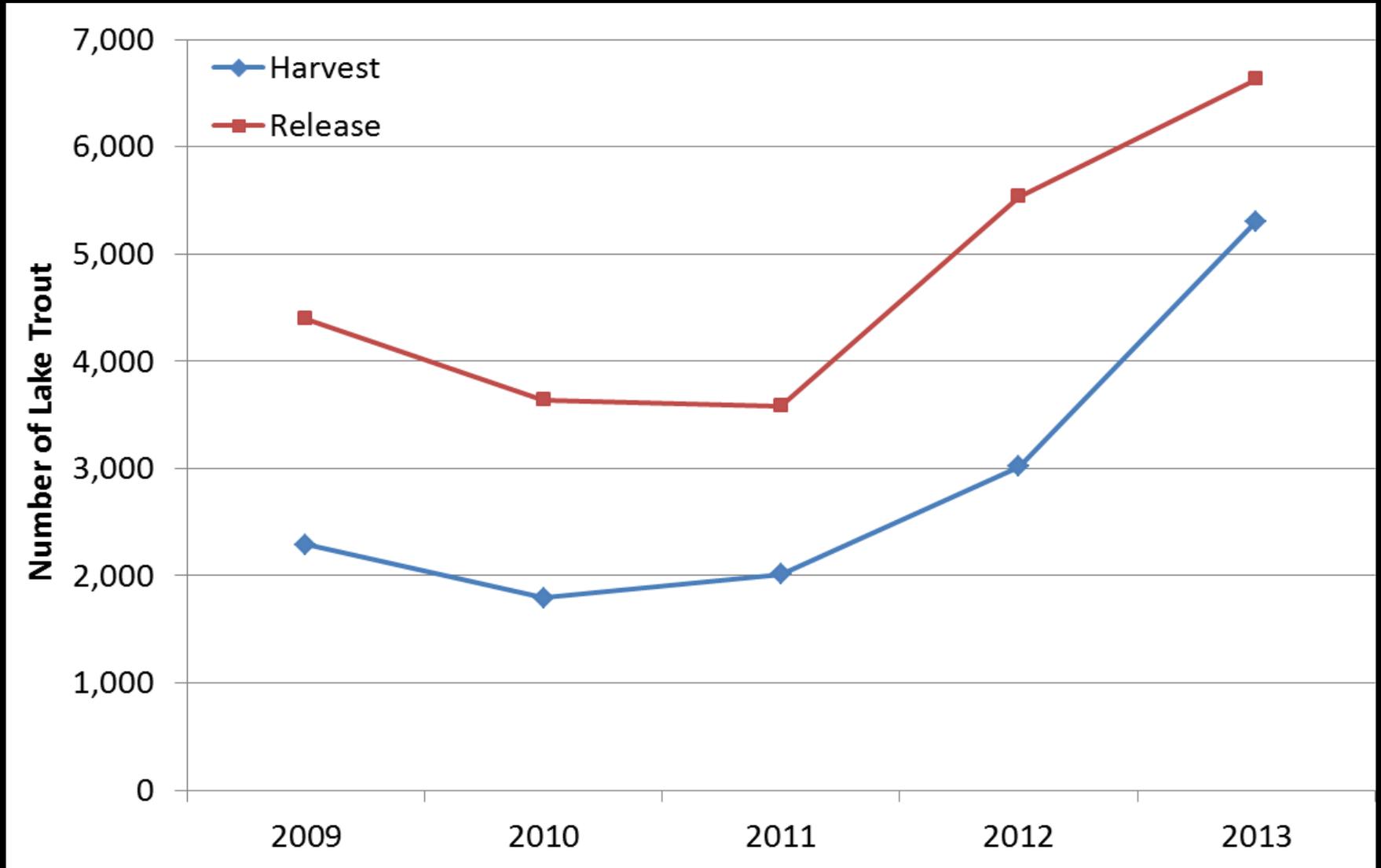
\*CORA harvest has increased proportionally to the number of fish stocked, effort decreased in 2013

# FISHING EFFORT IN NORTHERN LAKE MICHIGAN



# Recreational Harvest

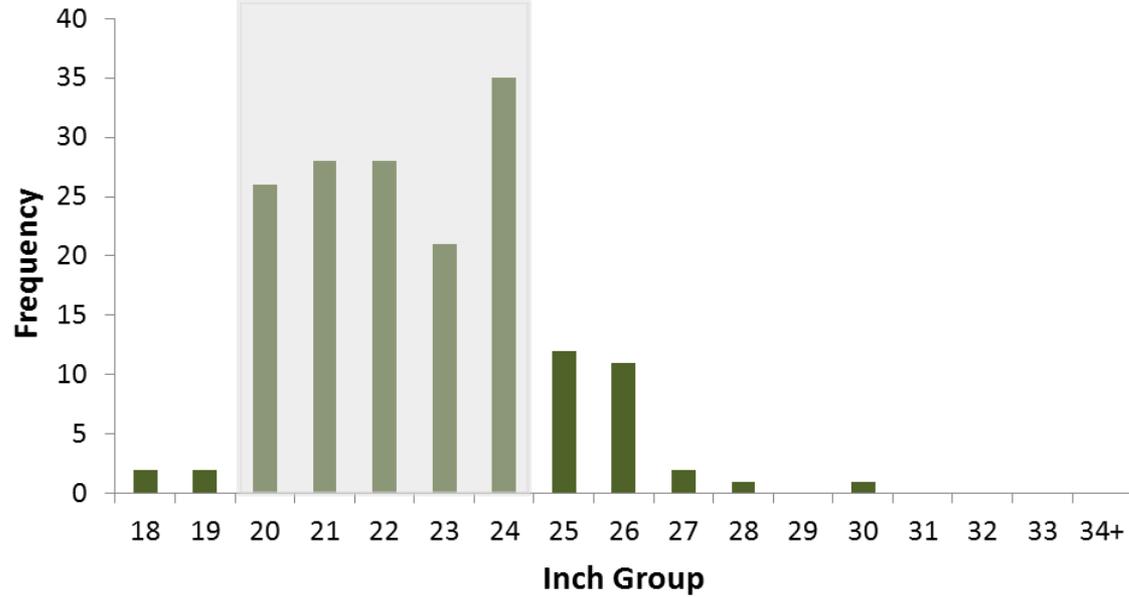
(Creel + Charter)



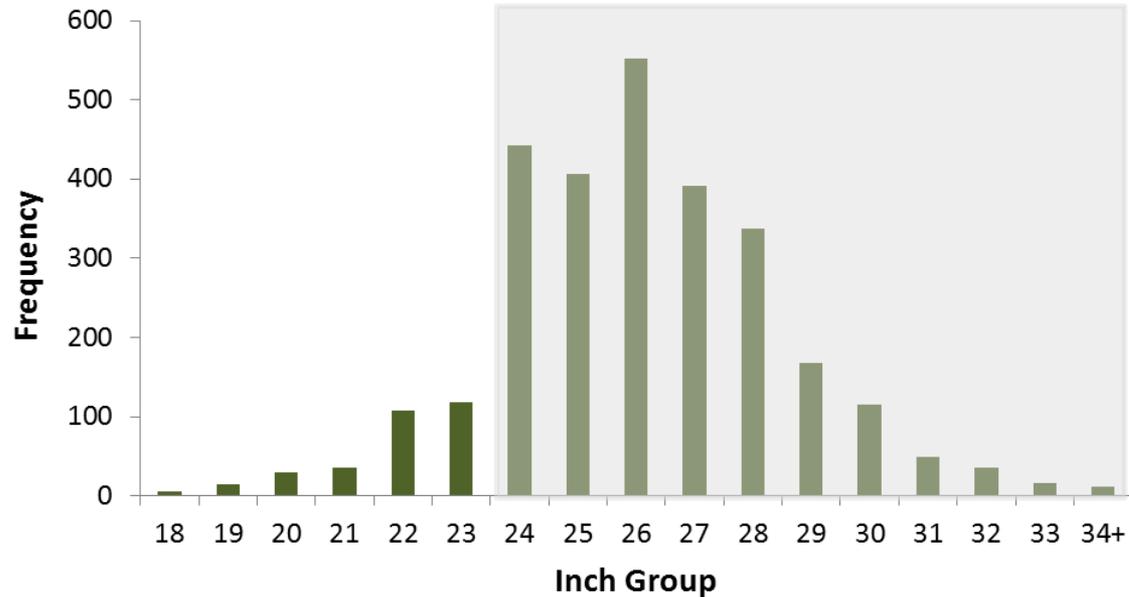


= inch groups legal to harvest

### LAT Harvest 2011-2013

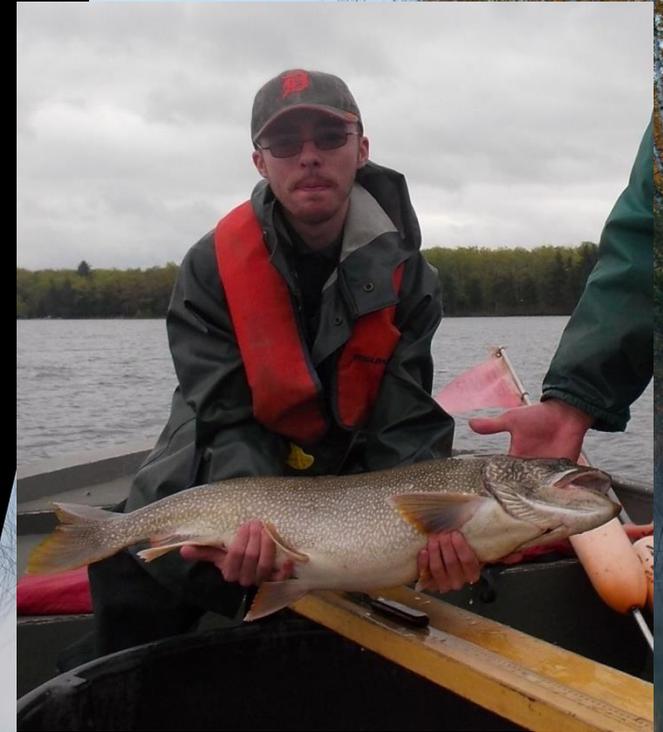


### LAT Harvest 1992-2010



# Compliance

- Projections are based on legal harvest
- Statewide illegal LAT harvest
  - Under minimum size limits, 5%
  - Under slot limits, 18%
- Northern Lake Michigan
  - Under 24" minimum, 23%
  - Under current slot limit, 20%
- Illegal harvest counts against harvest limit

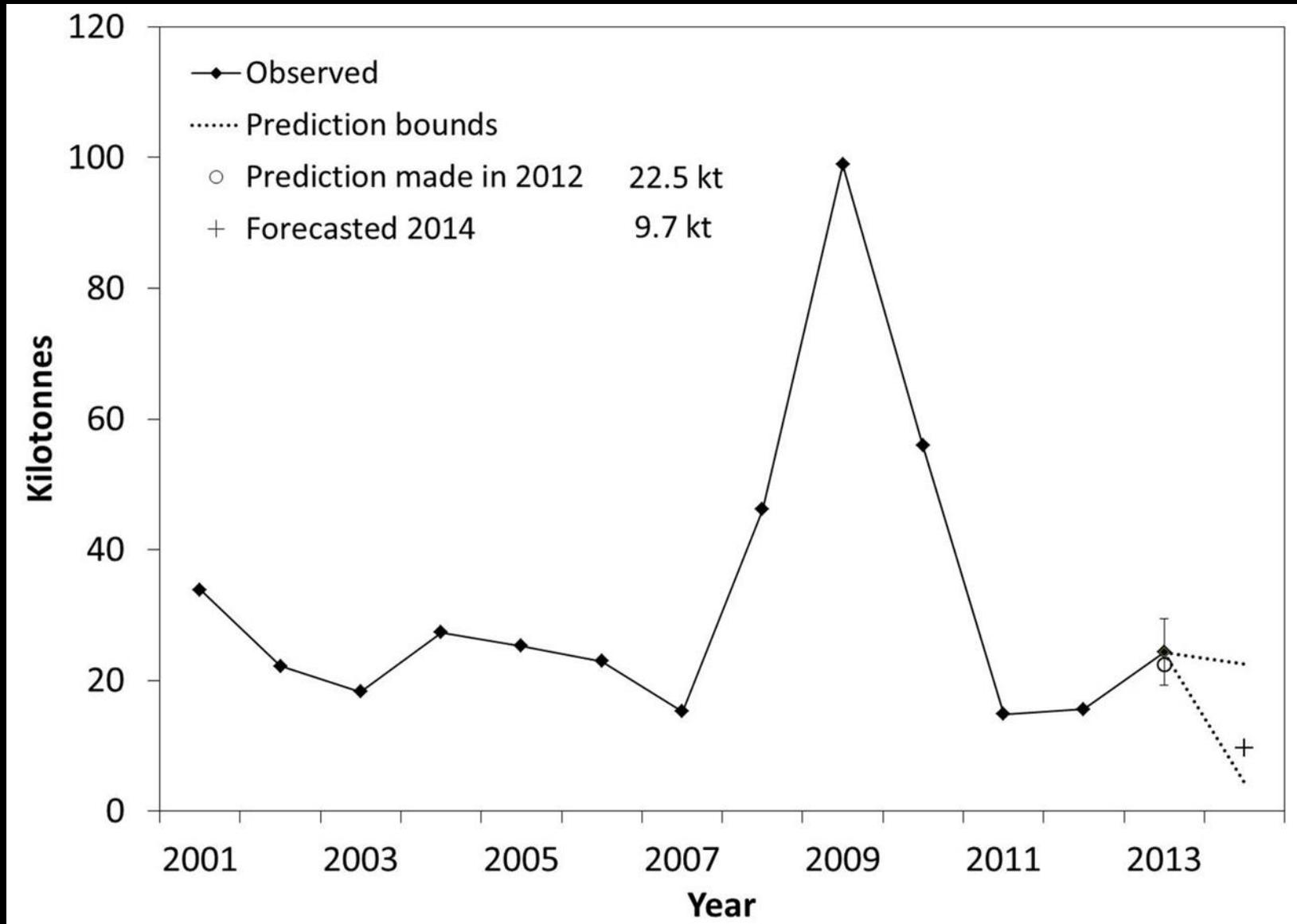


# Hooking Mortality

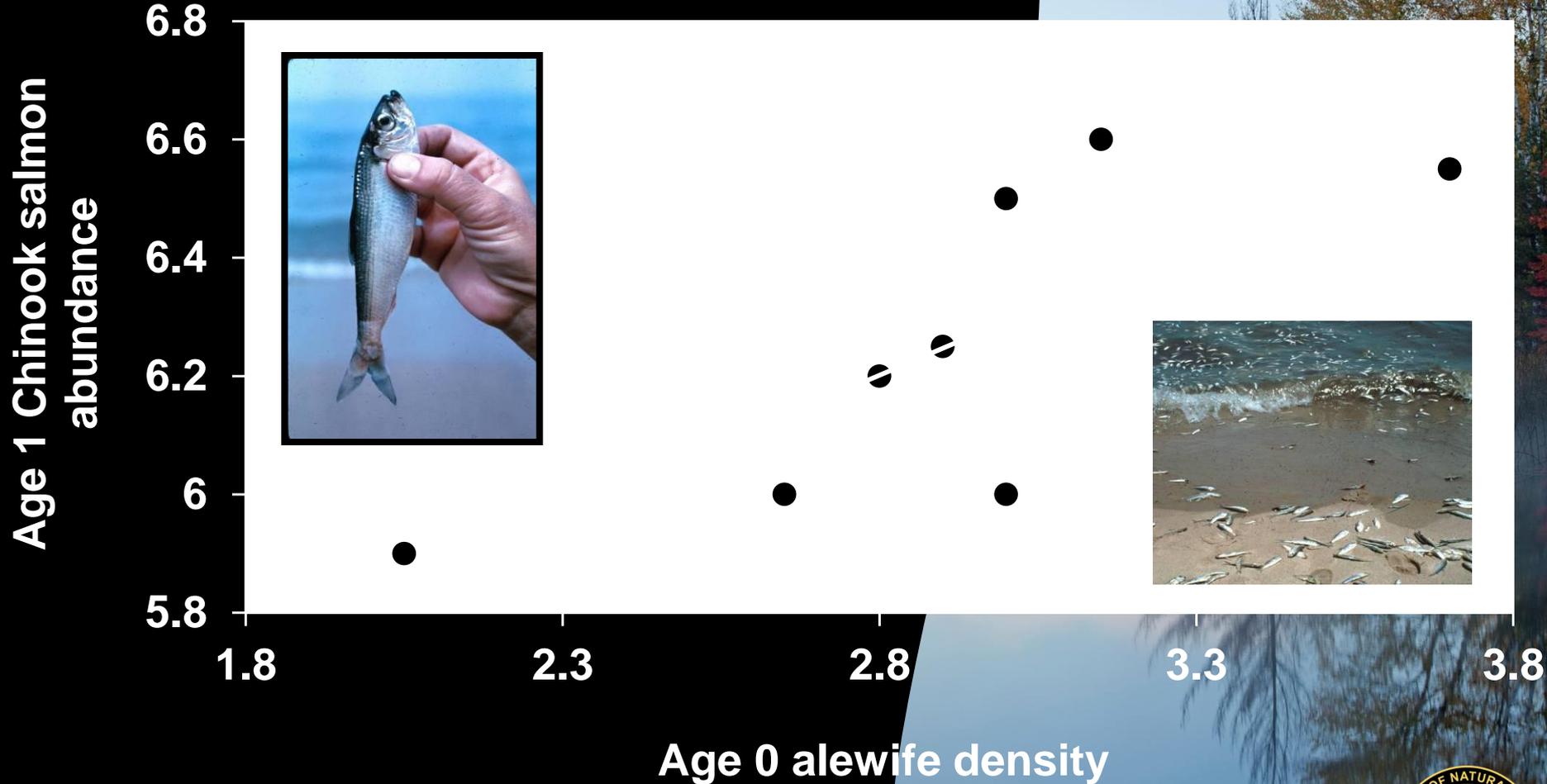
- Current Estimate = 15% of released fish, regardless of season or method of fishing
  - 1980s Lake Superior Study
- Ongoing research to be completed in winter 2016 to reassess
  - gear and seasonal component?
  - Preliminary estimates higher than 15%
- Release mortality counts against harvest limit



# Alewife Biomass with 2014 Forecast



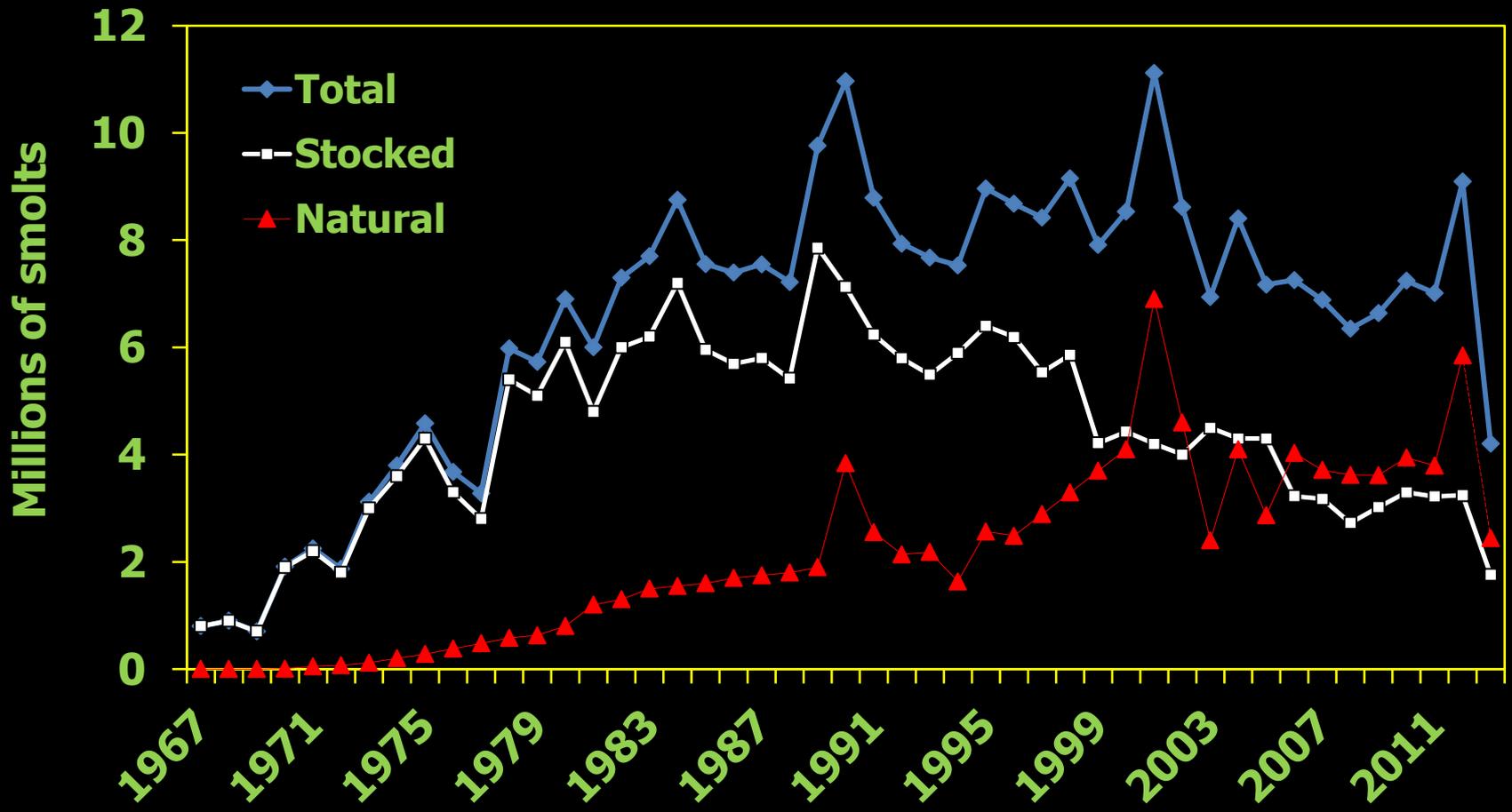
# More alewife = More Chinook salmon (Lake Michigan)



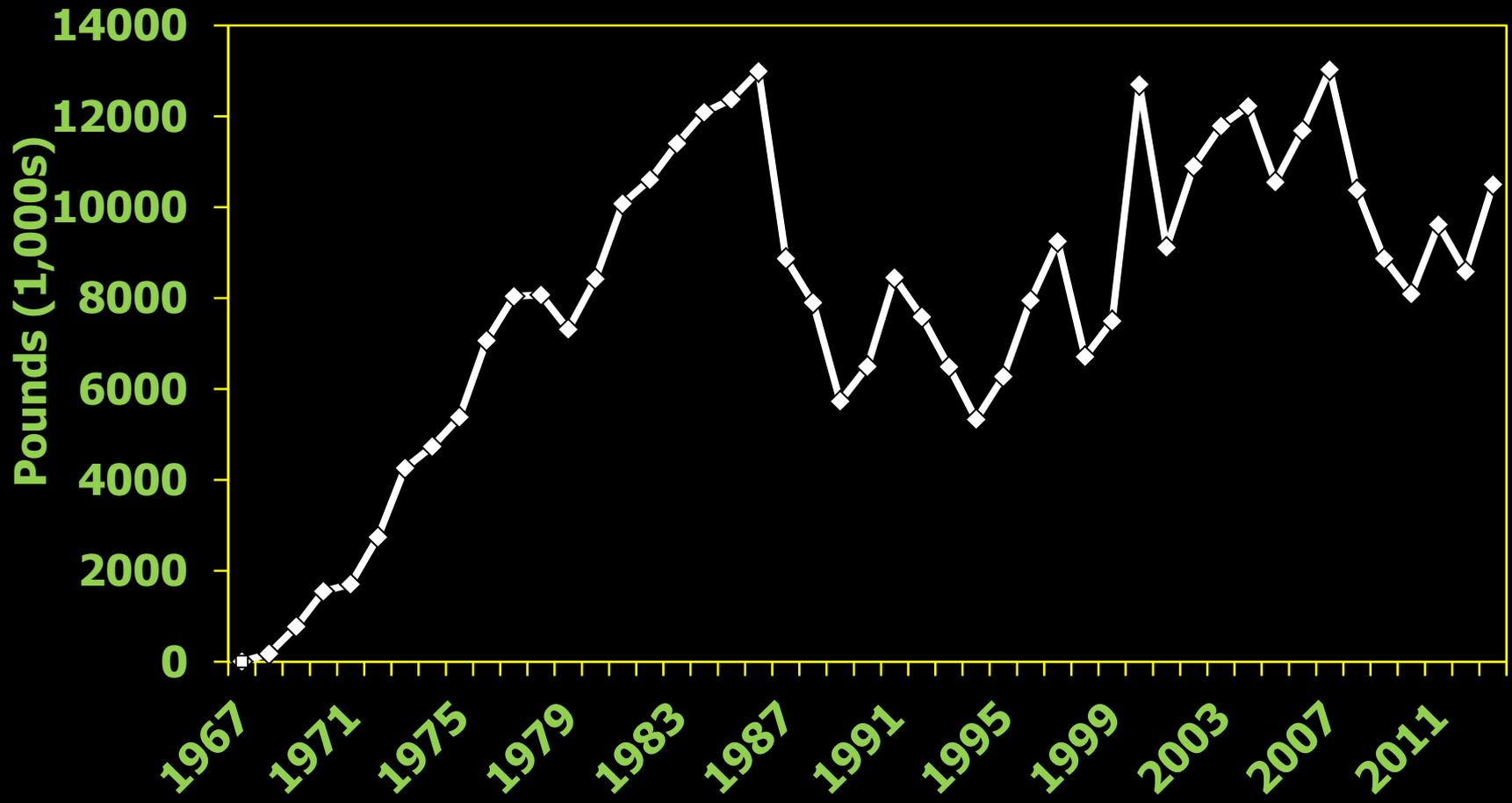
Warner, Kiley, Claramunt, and Clapp. 2008. TAFS. Vol. 137.



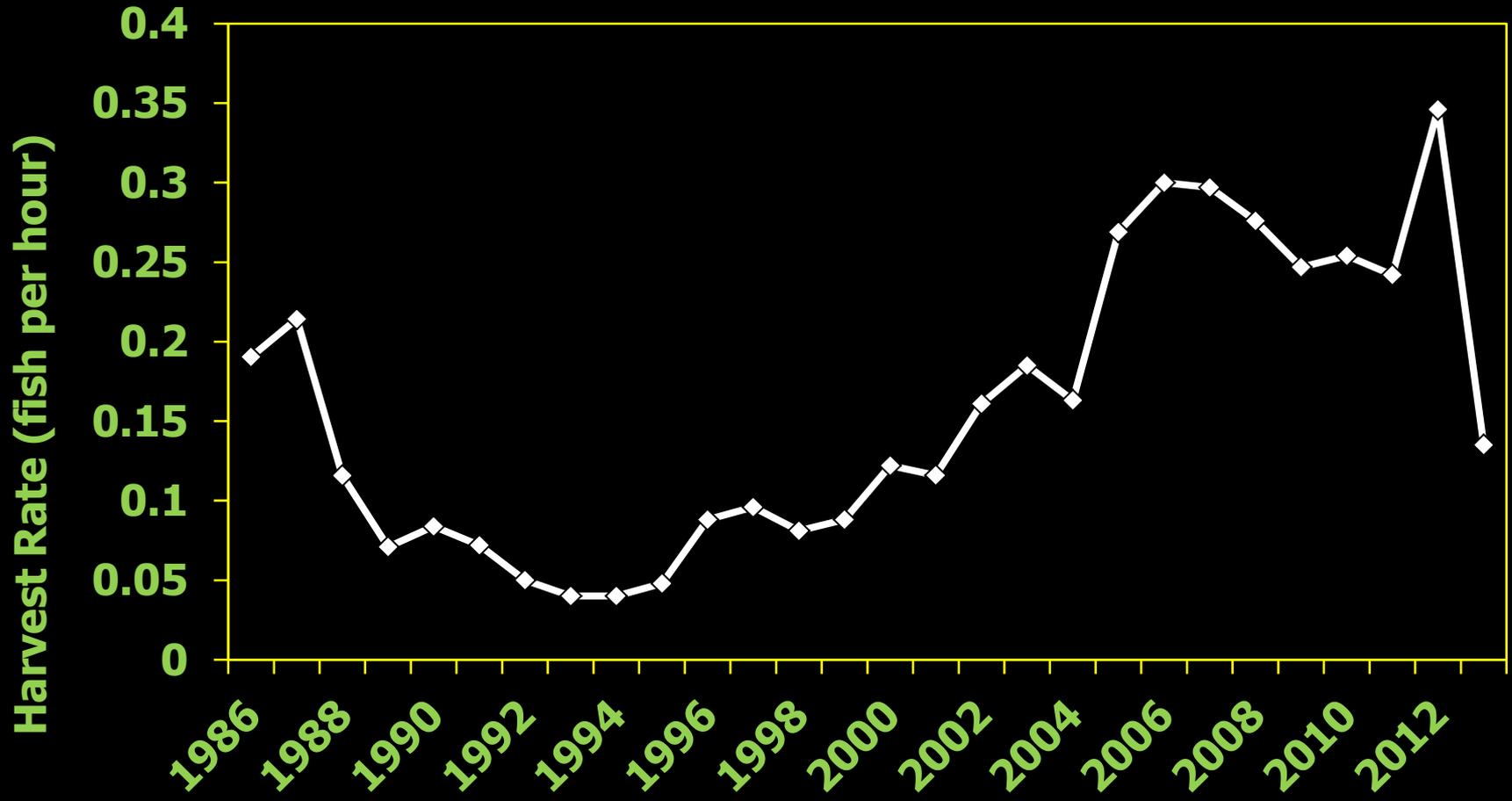
# Estimated Chinook Salmon Recruitment in Lake Michigan, 1967-2013



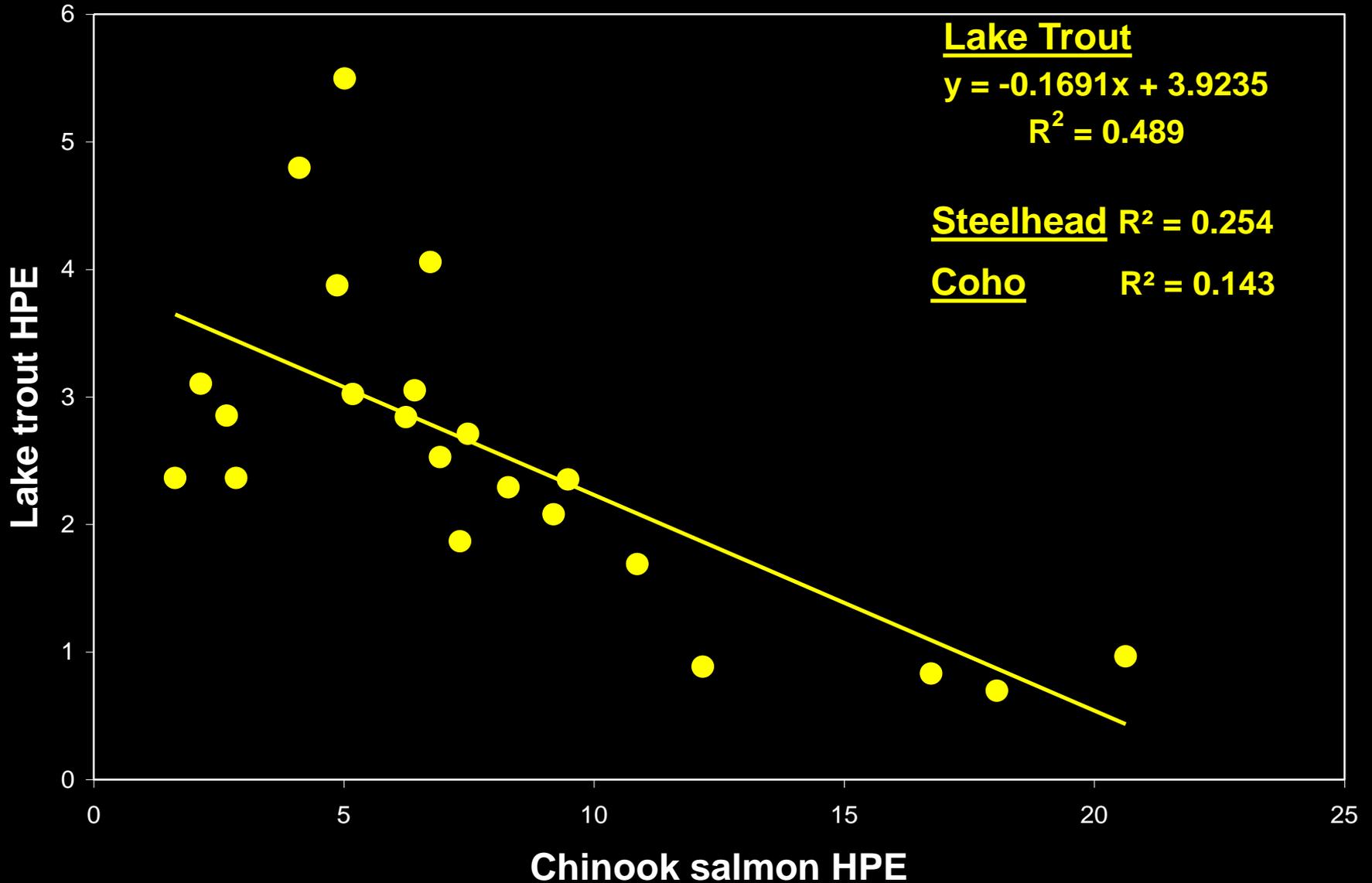
# Estimated Chinook Salmon Biomass in Lake Michigan, 1967-2013



# Chinook Salmon Harvest Rate in Lake Michigan, 1986-2013



# Lake trout and Chinook Harvest Rates



# Managing Risk

- HYPOTHETICAL SCENARIO:
  - 1) a poor CHS fishing year
  - 2) good weather resulting in additional effort
  - 3) higher hooking mortality implemented
  - 4) more fish recruiting to harvestable size
- Consent Decree imposes penalties on overharvest:
  - Our harvest limit is exceeded by 15K
  - Subtract from our original limit (50,000 lb), so we would have a 35,000 lb limit.
  - Timing of harvest reports and fishing guide publication are problematic
  - Danger of repeated overharvest given the regulation that would be in place, need for emergency order: i.e., MH-1 in 2009 and 2010



# Managing Risk

- Given the potential for overharvest and penalties, what level of risk are you willing to accept?
- What should our target harvest number be: the actual harvest limit, 10% below, 25% below, 50% below?



# Management Objectives for lake trout:

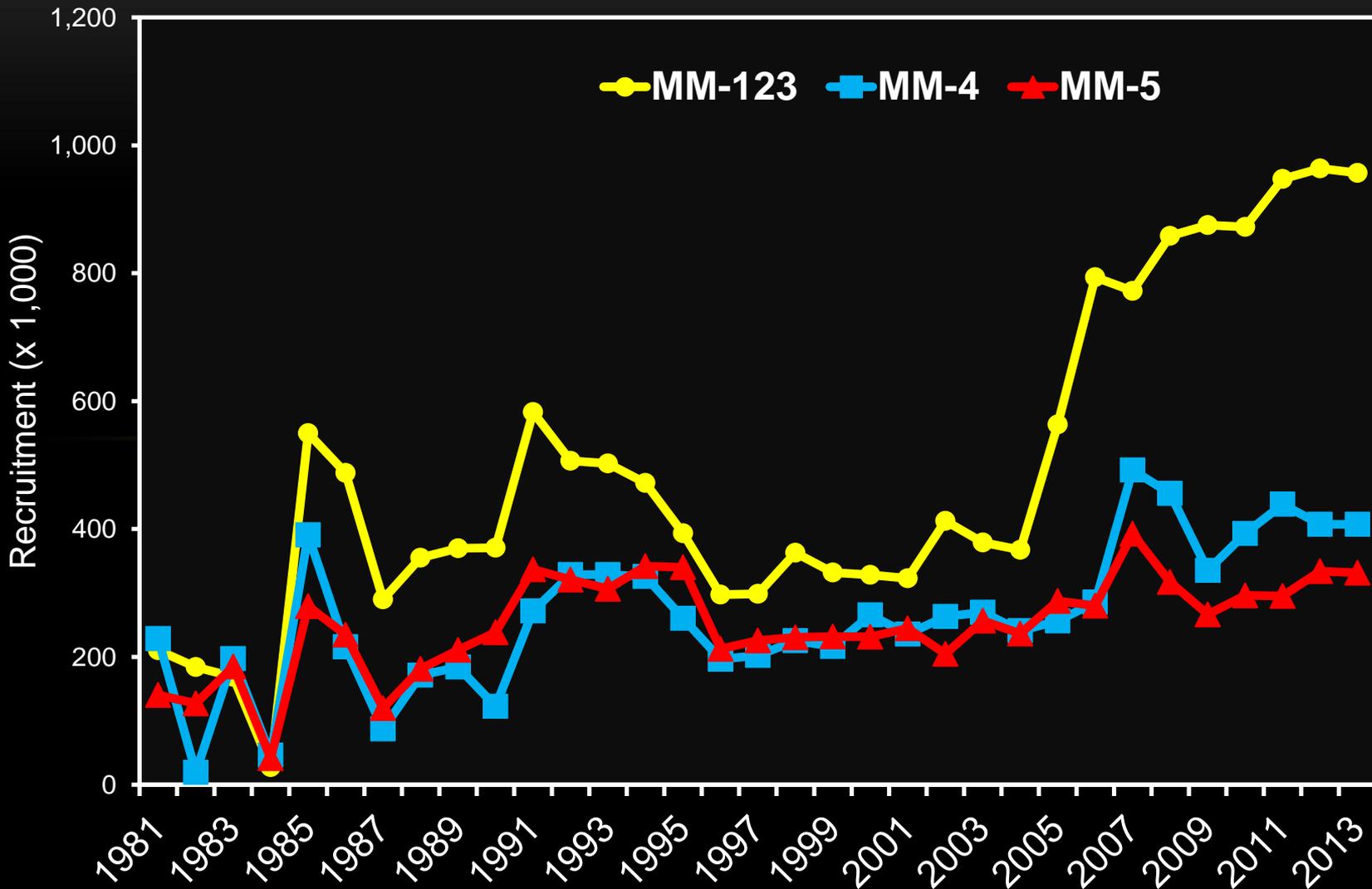
- Assure the weight of lake trout harvested is below the TAC
- Reduce the age and biomass of harvested fish
- Maximize age structure and biomass of spawning lake trout to meet rehabilitation goals
- Increase number of fish harvested

## Other concerns (sources of risk):

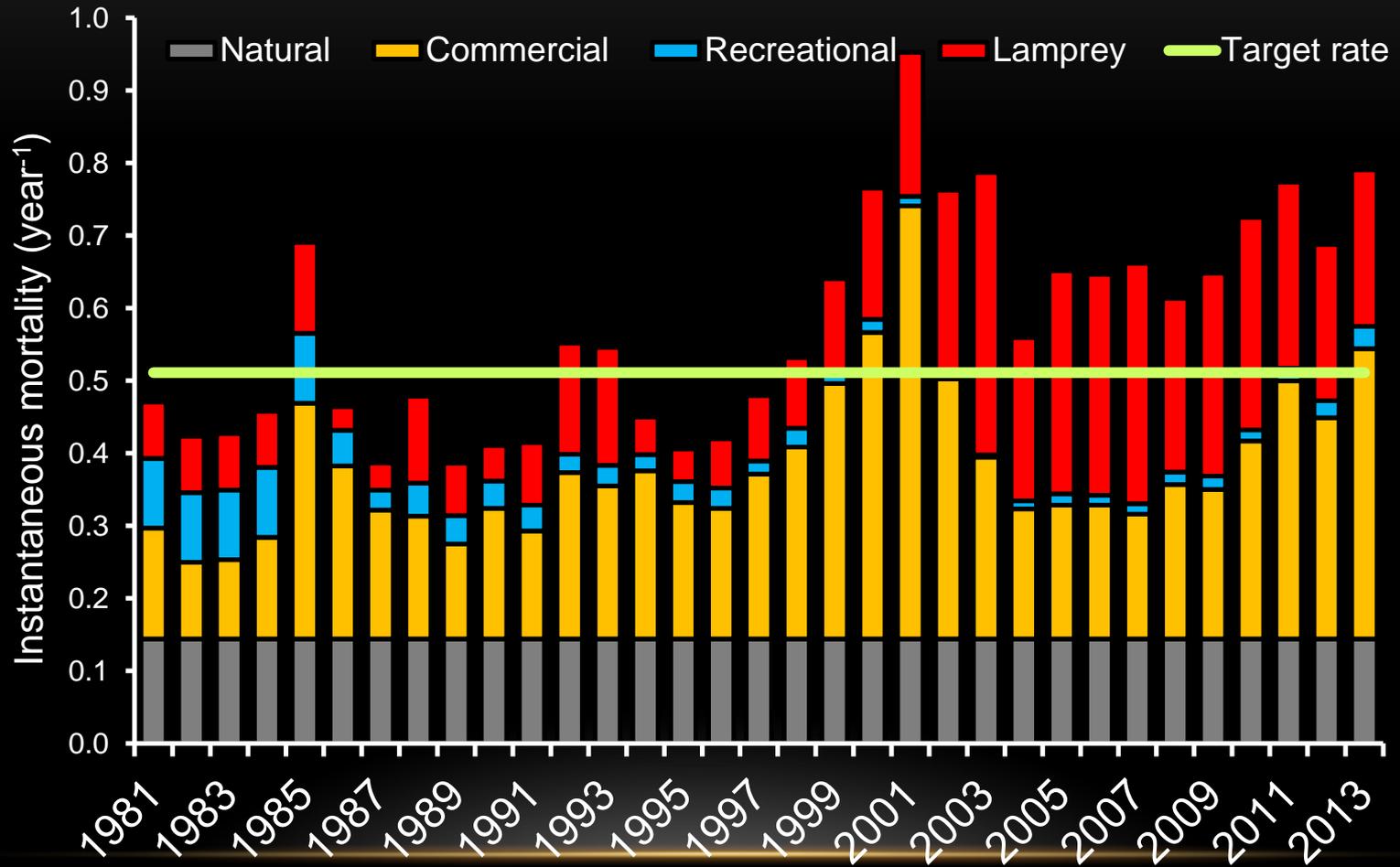
- Compliance with regulations.
- Hooking mortality estimates likely to increase from 15%.
- Unforeseen increases in the biomass of fish harvested (high stocking, low chinook catch)



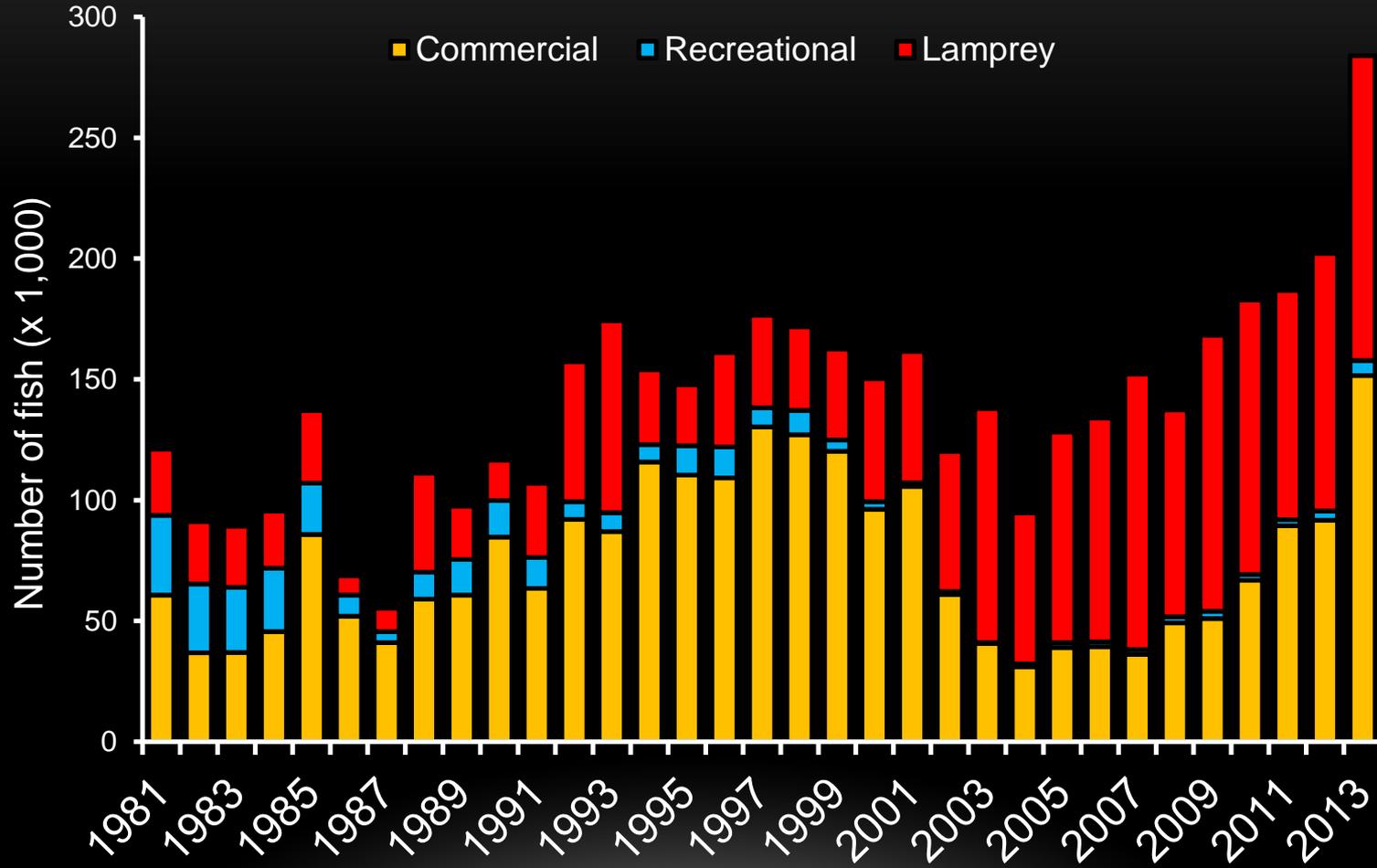
# Number of Age-1 Fish in Northern Lake Michigan MM-123



# MORTALITY RATES IN NORTHERN LAKE MICHIGAN



# NUMBERS OF FISH KILLED IN NORTHERN LAKE MICHIGAN

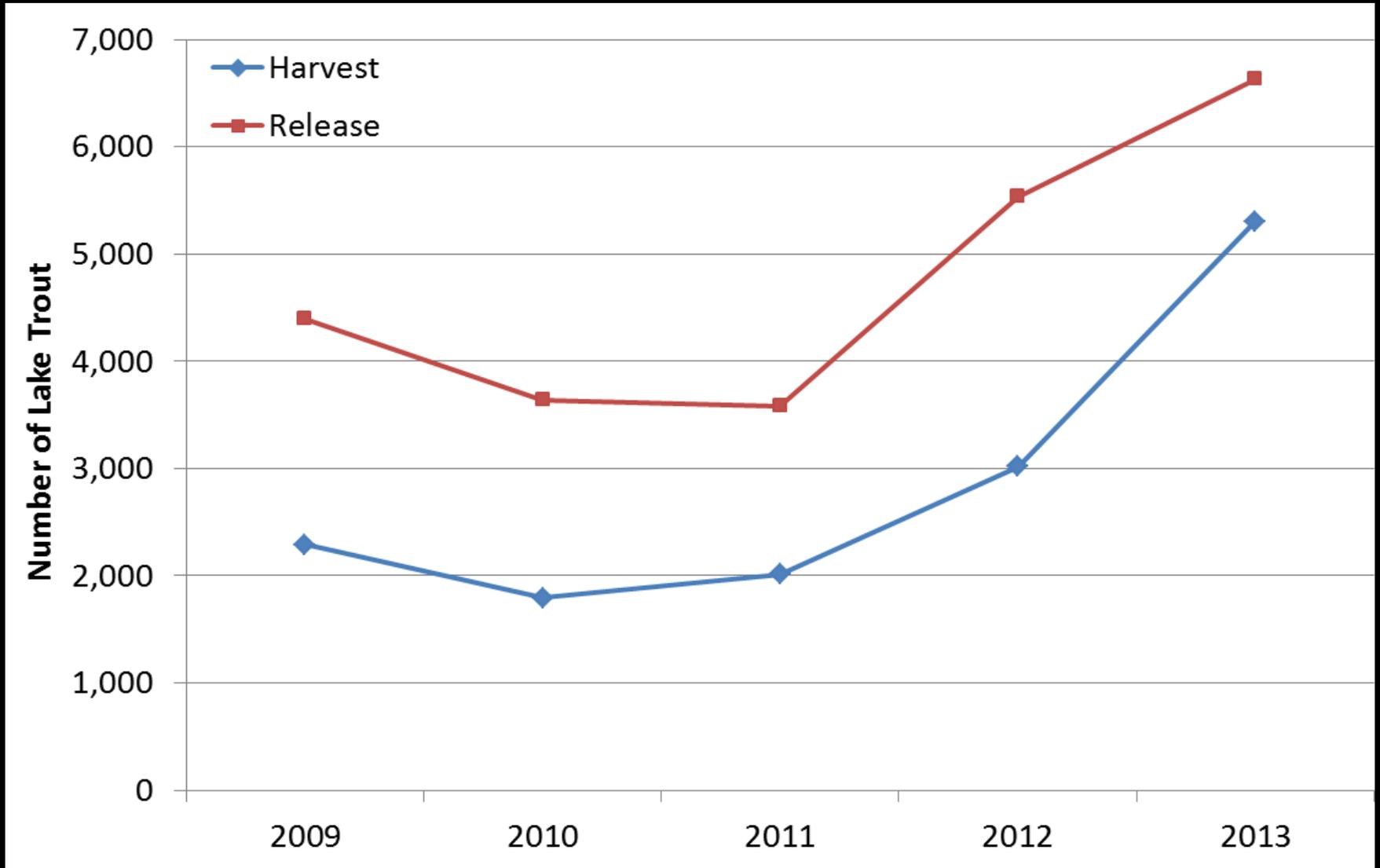


**WHAT HAS ANGLING  
HARVEST LOOKED LIKE?**

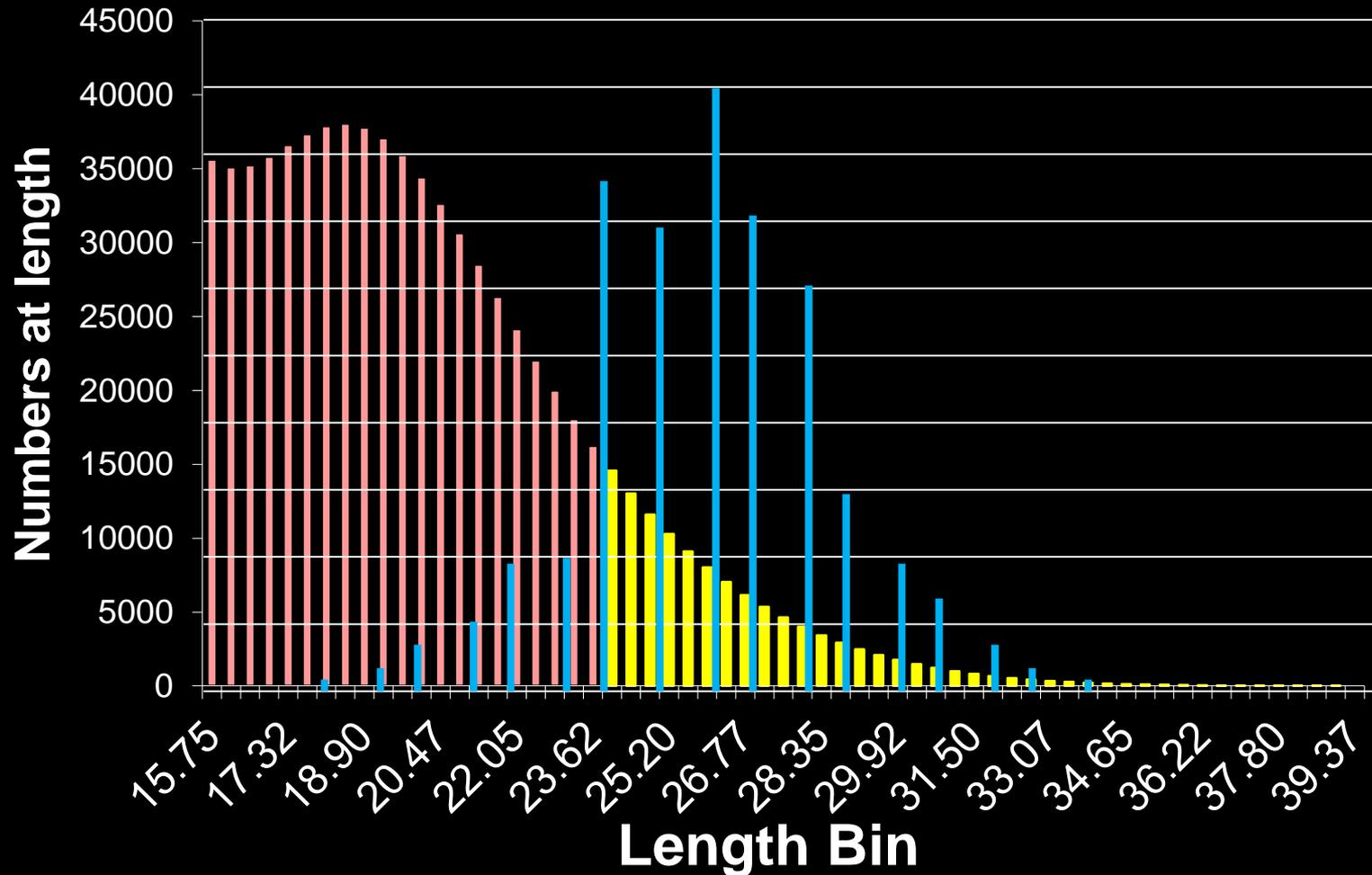
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# Recreational Harvest

(Creel + Charter)



# LENGTH DISTRIBUTION OF FISH IN NORTHERN LAKE MICHIGAN-2010 MODEL



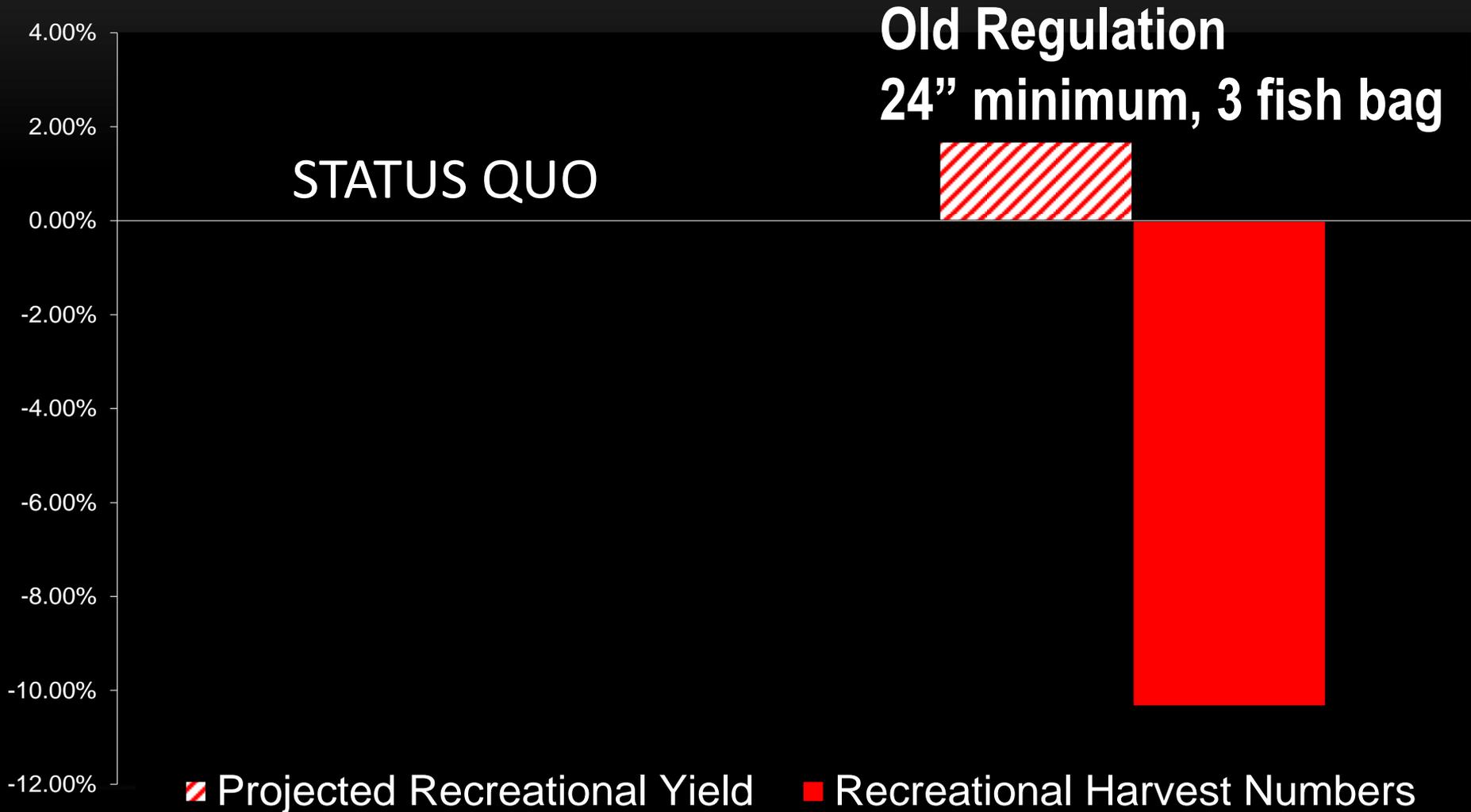
# 2010 MODEL RESULTS FOR NORTHERN LAKE MICHIGAN

15 yr

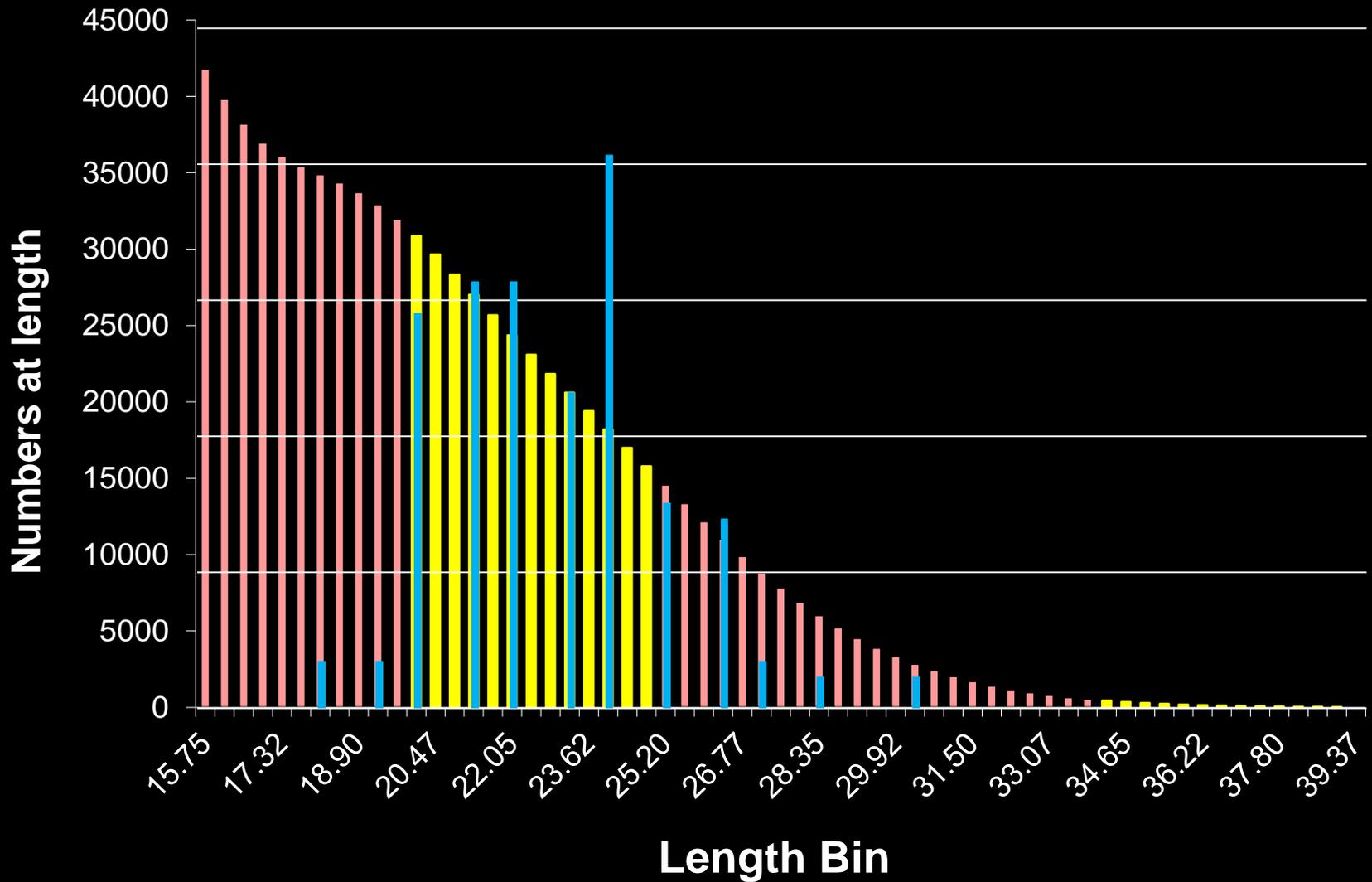


15 yr

# Old verses new regulations

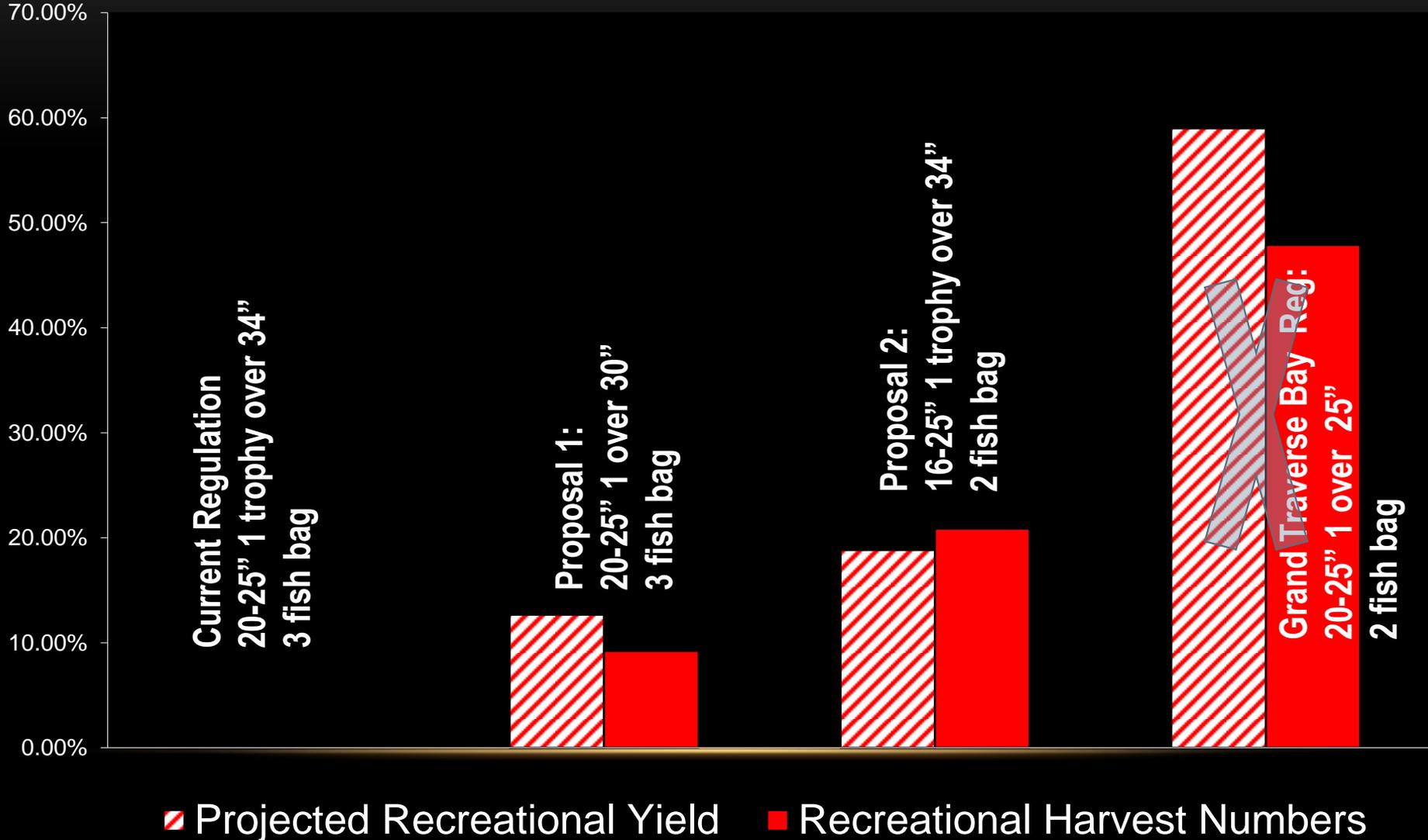


# LENGTH DISTRIBUTION OF FISH IN NORTHERN LAKE MICHIGAN-RECENT MODEL



15 yr

# 2014 MODEL RESULTS FOR NORTHERN LAKE MICHIGAN

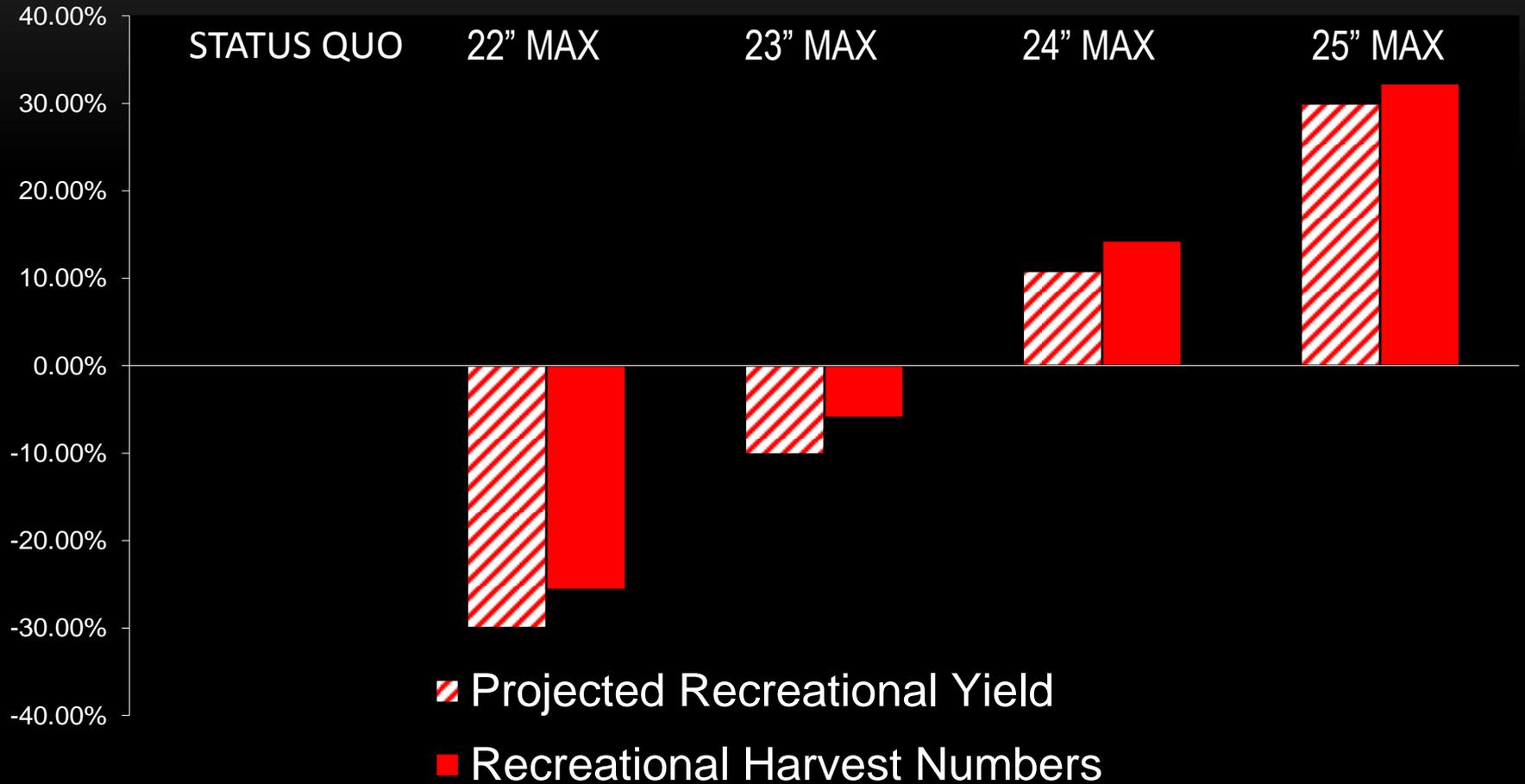


# Minimum Size Limit Scenarios = Northern Lake Michigan

15 yr



# Maximum Size Limit Scenarios = Northern Lake Michigan Scenarios allow <sup>15yr</sup> 1 trophy over 34"



## Contact Information;

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## Additional Lake Trout Management Units

MM 6, 7, and 8

- Managers for this set of management areas are proposing changing from the current regulation of a **20" MSL with a 3 fish bag limit** to a new regulation of a **15" MSL with a 3 fish bag limit**- the possession season under both regulations is January 1- October 31
- Opportunity available here to align the MSL for this portion of Lake Michigan with the MSL's on Lakes Huron and Superior, as well as increase opportunity for anglers.
- Based upon the harvest rates and modeling results for these units, this option does not go over the TAC for this area.

