

Lake Trout Recreational Harvest Regulation Review for MM-5 (tip of GTB – Arcadia)



April 23, 2014 - Frankfort



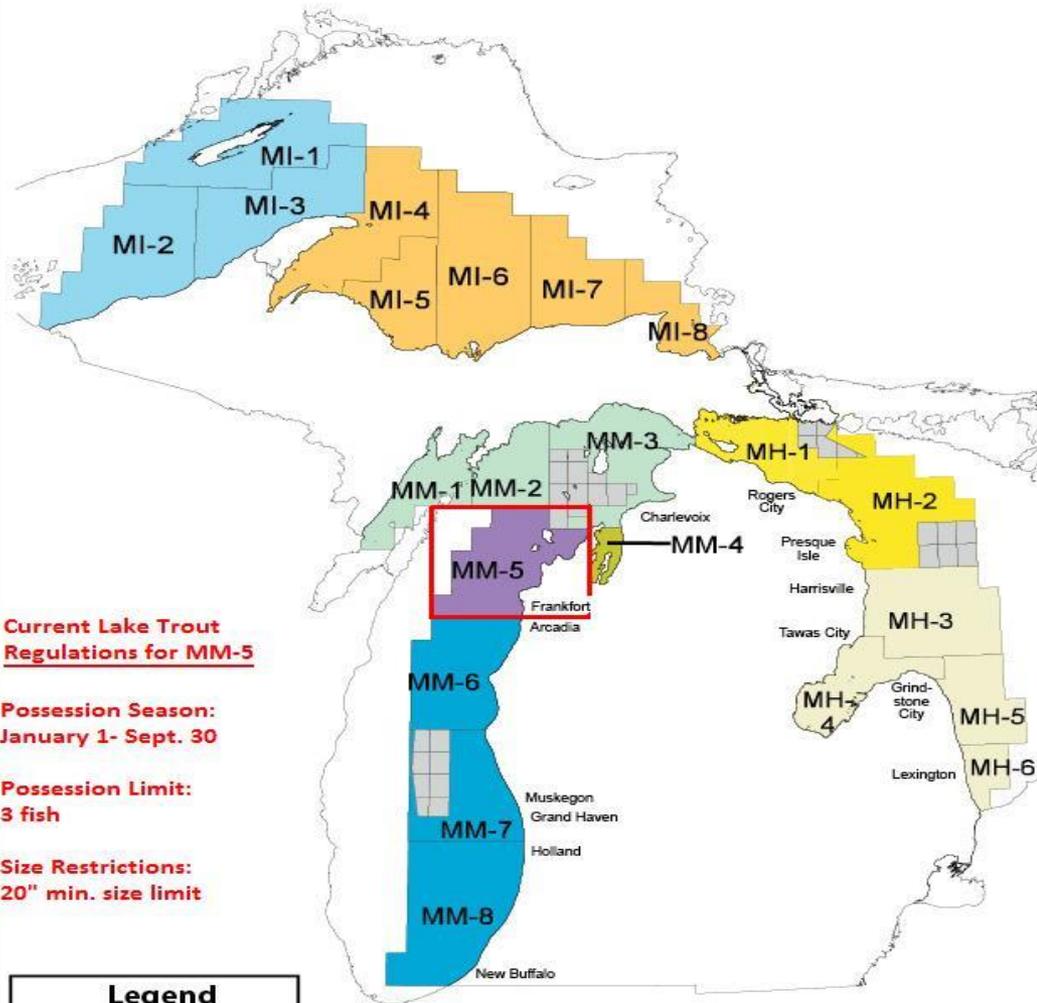
**Department
of
Natural
Resources**

Why are we holding these public meetings?

- Five year review process: 2010-2015
- Earlier review prudent
 - Changes to fisheries order process/fishing guide publication
 - Recent harvest patterns
- MM 123: 50,000 lb limit
 - harvested 29,412 lb
- MM4: 77,200 lb limit
 - harvested 77,849 lb
- **MM5: 58,800 lb limit**
 - **harvested 57,718 lb**



Lake Trout Management Units and Refuges



Current Lake Trout Regulations for MM-5

Possession Season:
January 1- Sept. 30

Possession Limit:
3 fish

Size Restrictions:
20" min. size limit

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.

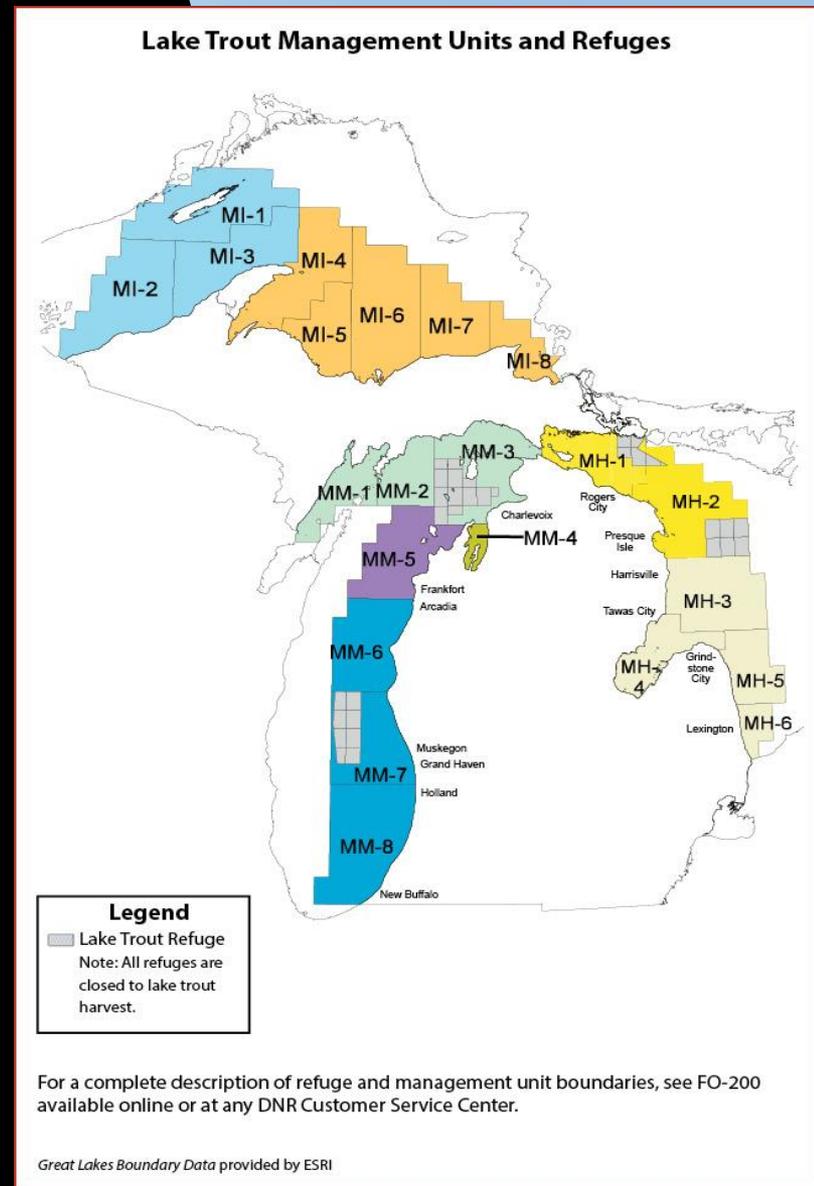
Great Lakes Boundary Data provided by ESRI



Additional Lake Trout Management Units

MM 6, 7, and 8

- Managers are proposing changing from the current regulation of a **20" MSL** to a new regulation of a **15" MSL** the possession season and bag limit under both regulations would be unchanged.
- This will align the MSL for southern Lake Michigan with the MSL's on Lakes Huron and Superior and increase opportunity for anglers.
- Only possible due to the large harvest limit (>325,000 lb) in this area.



Lake Trout Management

Objectives:

- 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



2000 Consent Decree

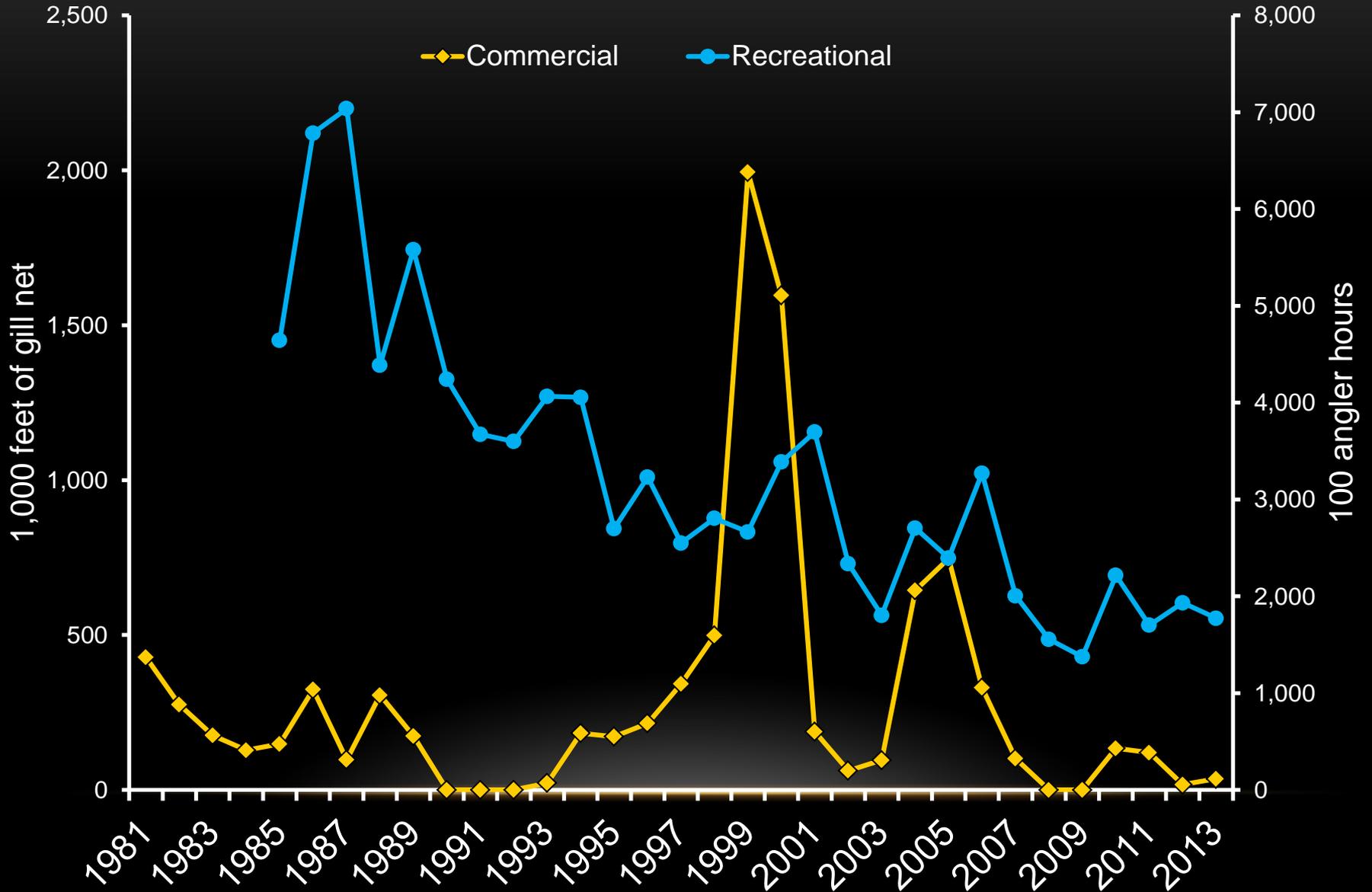
- Management framework
- Harvest is restricted by total harvest limits
 - Requiring recreational fishery limitations
- State allowed 60% of the total limit in MM-5
- Provisions of the Decree not fully implemented –Stipulation



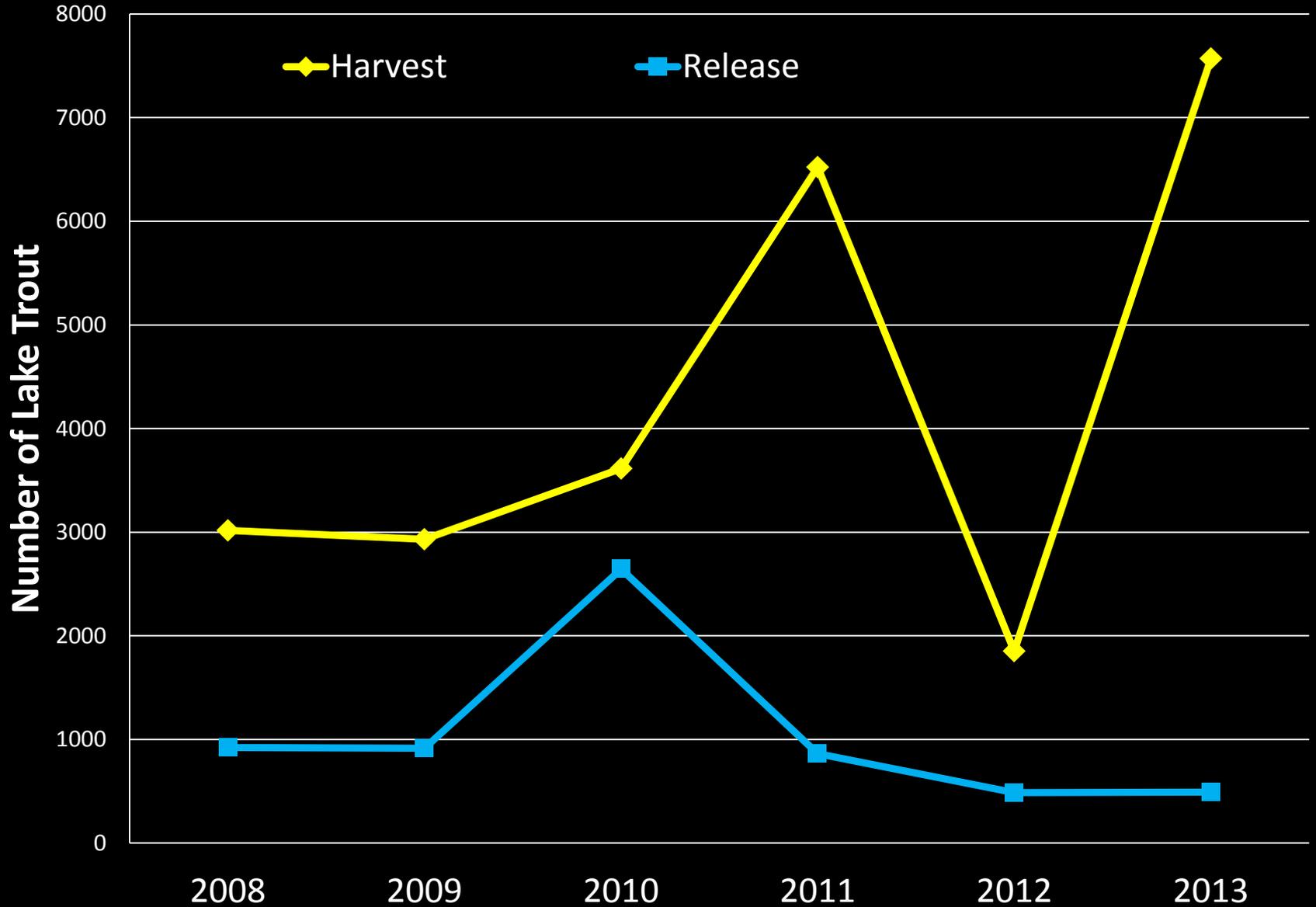
Harvest Patterns

Year	CORA Harvest	CORA HL	State Harvest	State HL
2007	14,580	54,100	18,621	81,300
2008	300	53,800	13,704	81,000
2009	0	61,611	16,149	92,417
2010	20,521	68,627	23,619	103,016
2011	33,276	47,658	47,490	71,511
2012	15,009	40,740	12,852	64,054
2013	19,695	39,200	57,718	58,800

FISHING EFFORT IN MM-5



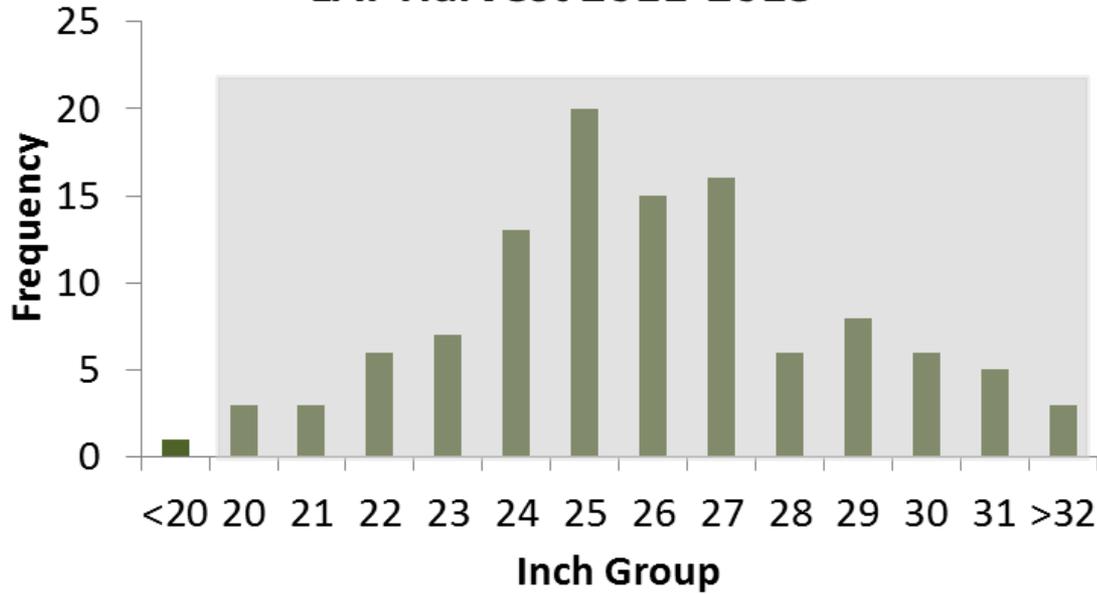
Recreational Harvest (Creel + Charter)



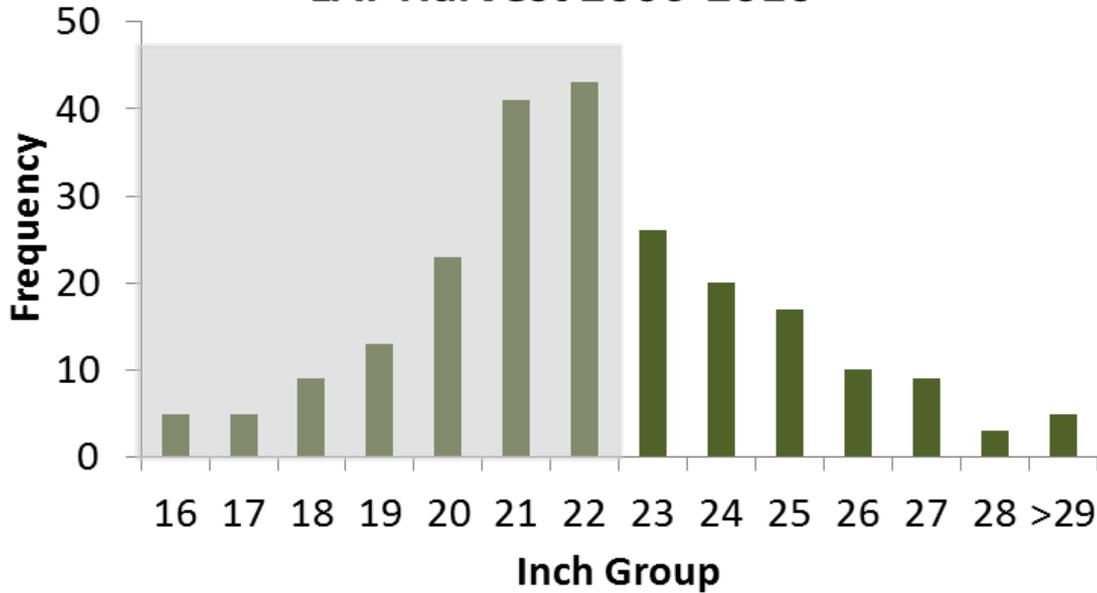


= inch groups legal to harvest

LAT Harvest 2011-2013

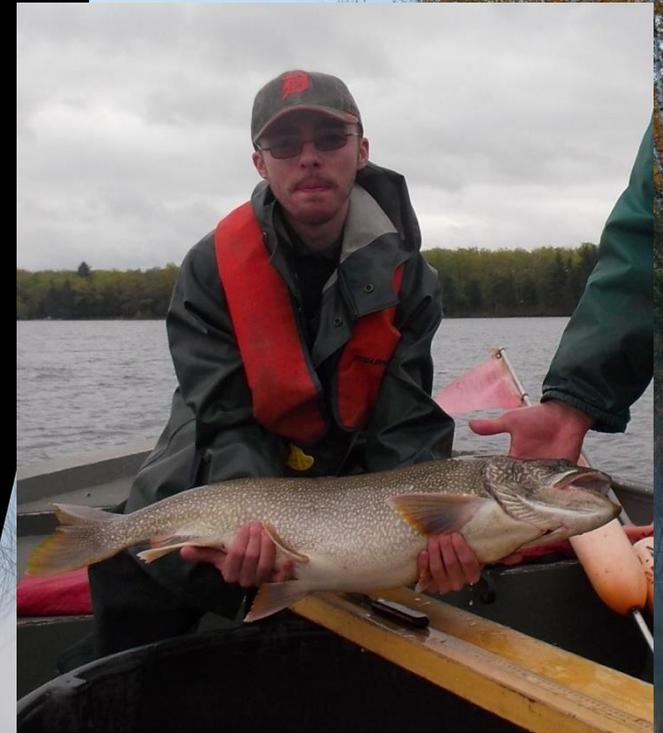


LAT Harvest 2006-2010



Compliance

- Projections are based on legal harvest
- Statewide illegal LAT harvest
 - Under minimum size limits, 5%
 - Under slot limits, 18%
- MM-5 specifically
 - Under current minimum <1%
 - Under 23" max 49%
- Illegal harvest counts against harvest limit

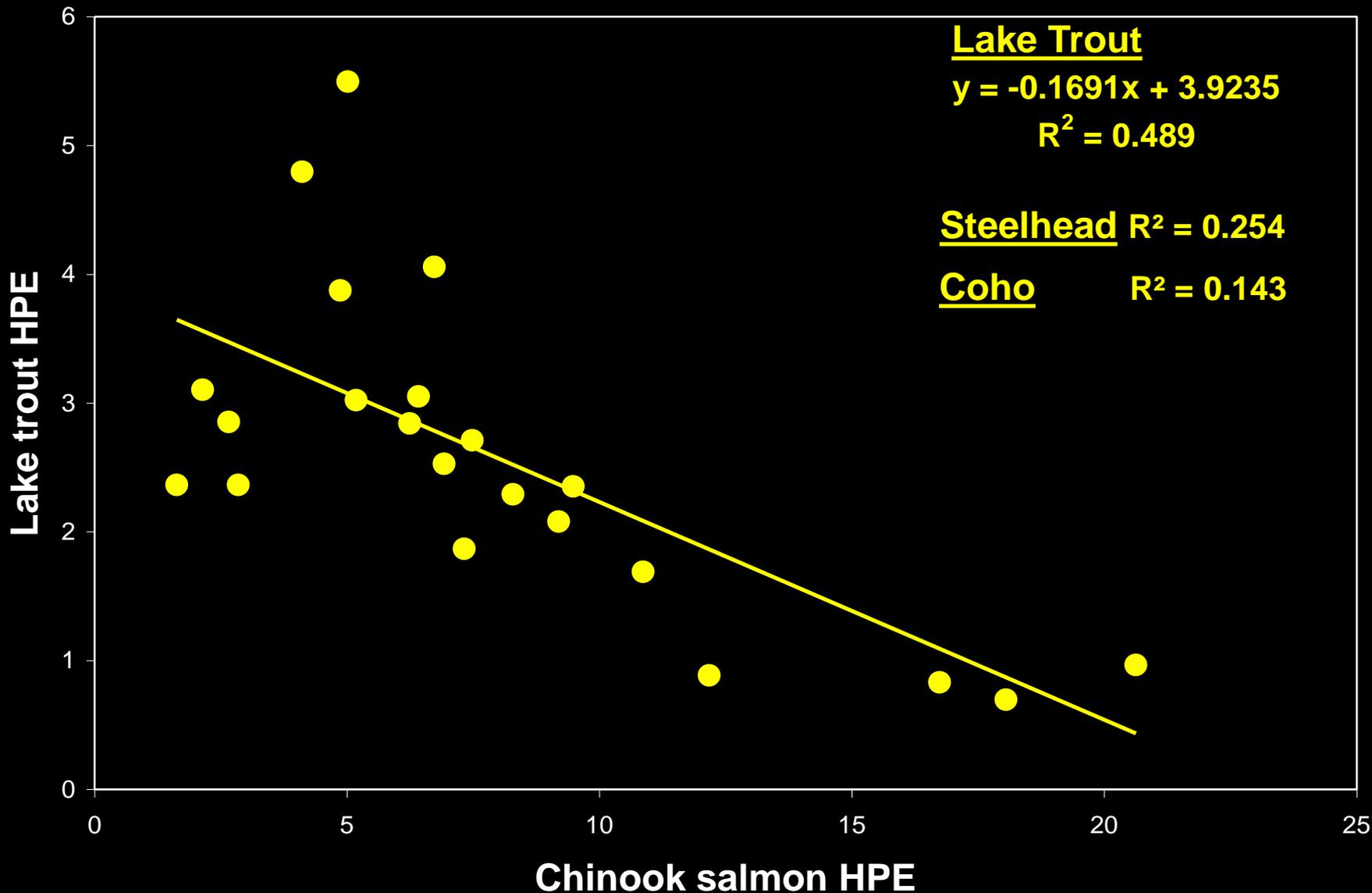


Hooking Mortality

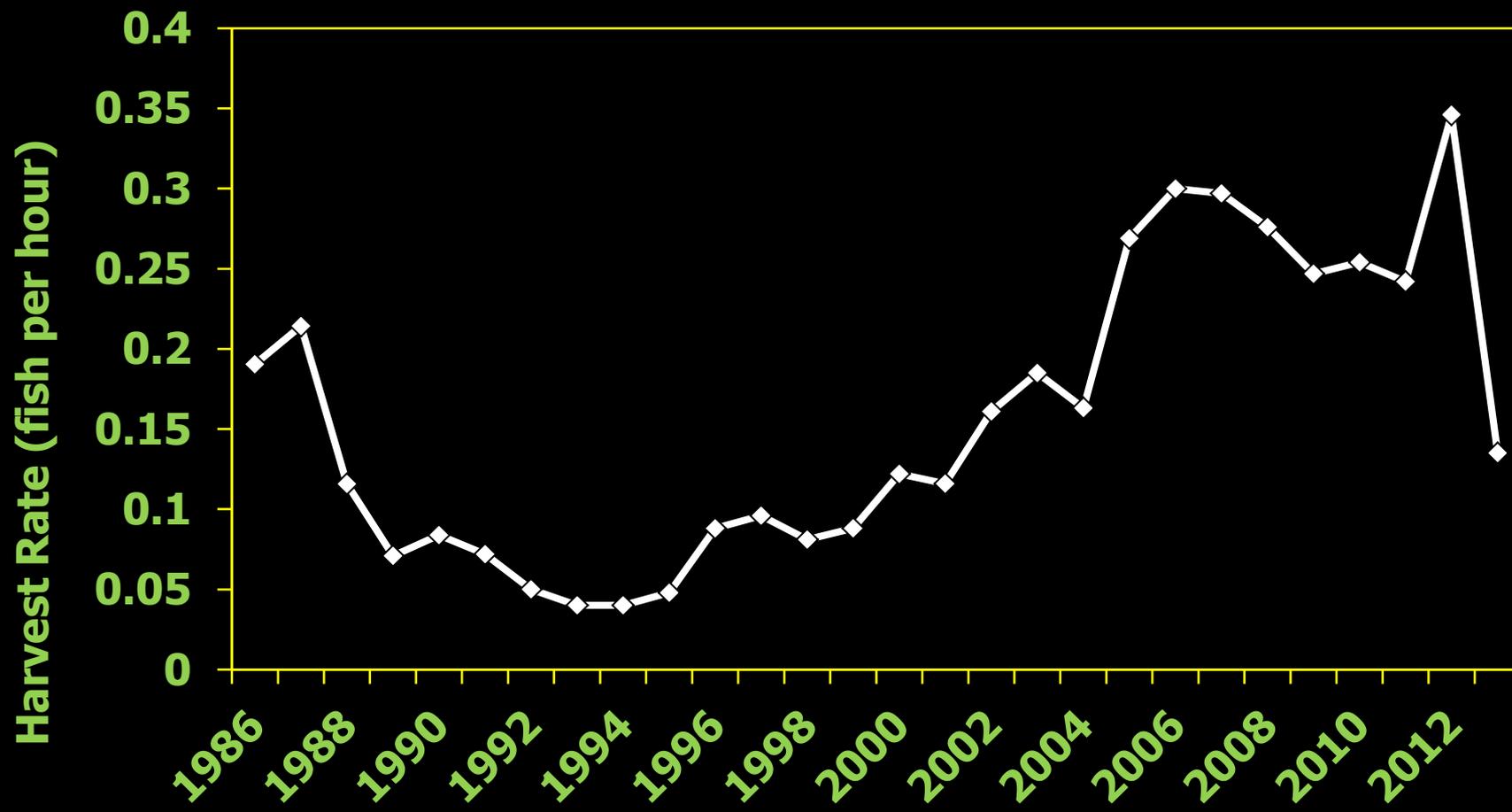
- Current Estimate = 15% of released fish, regardless of season or method of fishing
 - 1980s Lake Superior Study
- Ongoing research to be completed in winter 2016 to reassess
 - Gear and seasonal component?
 - Preliminary estimates higher than 15%
- Release mortality counts against harvest limit



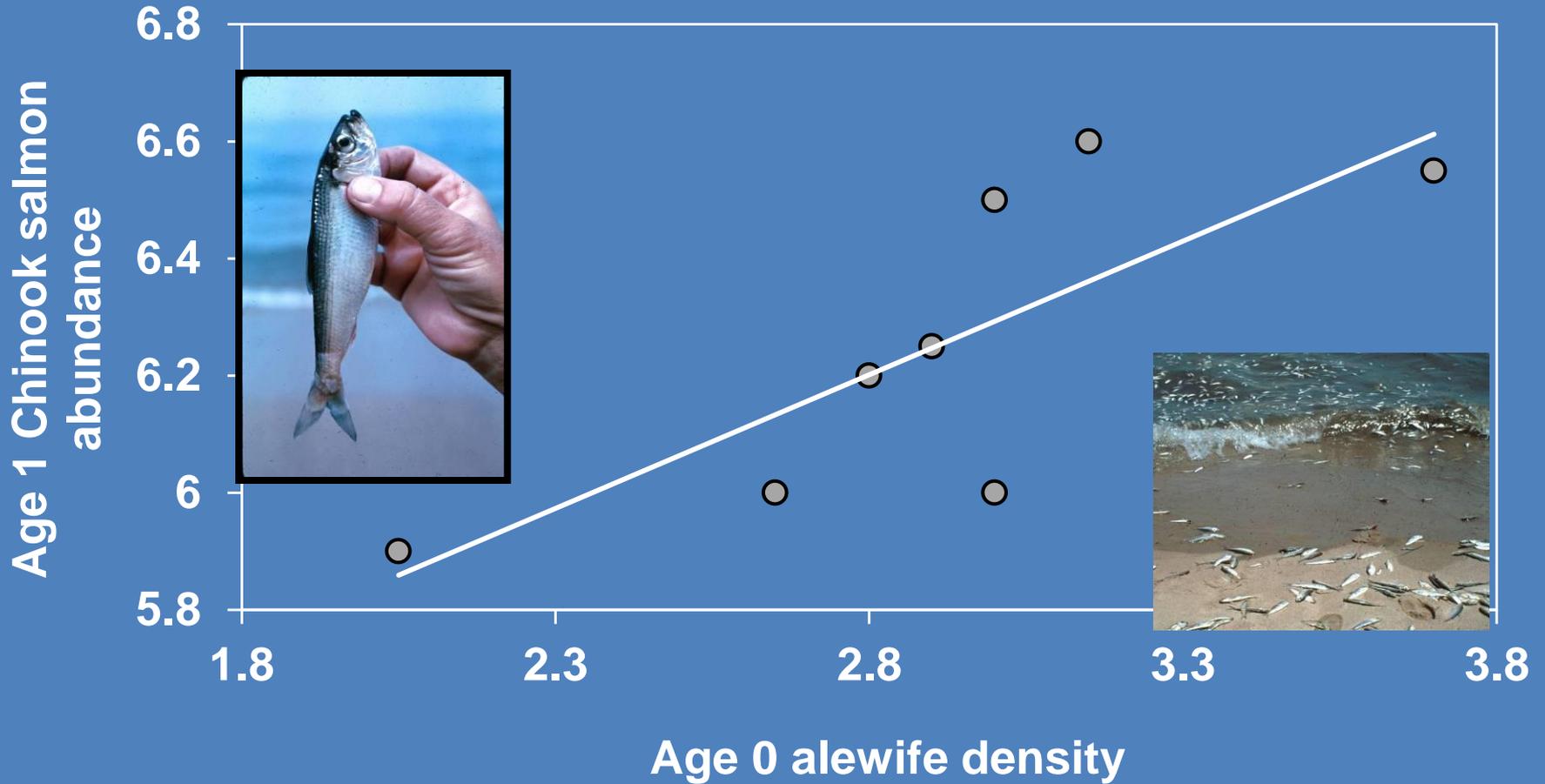
Lake trout and Chinook Harvest Rates



Chinook Salmon Harvest Rate in Lake Michigan, 1986-2013



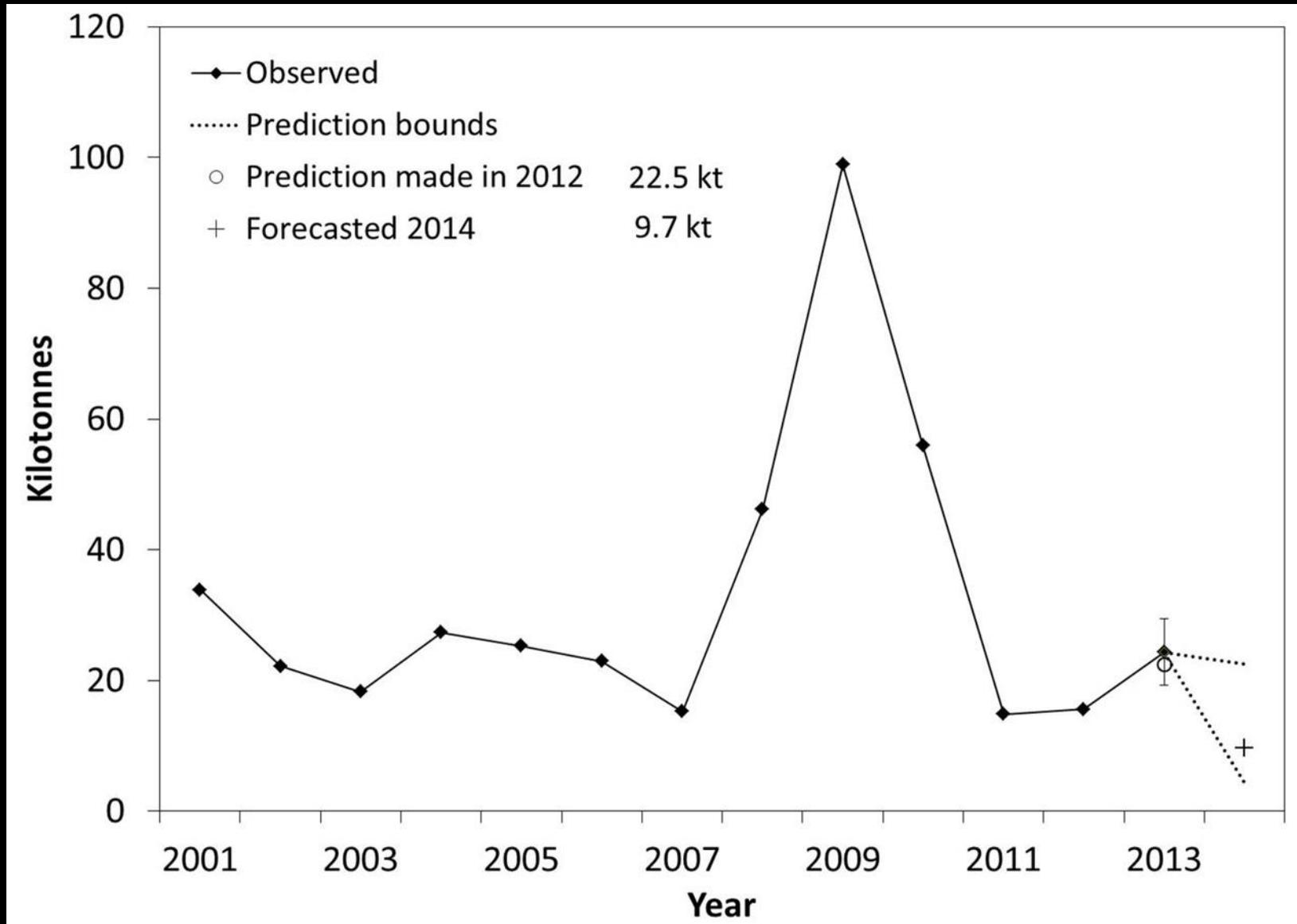
More alewife = More Chinook salmon (Lake Michigan)



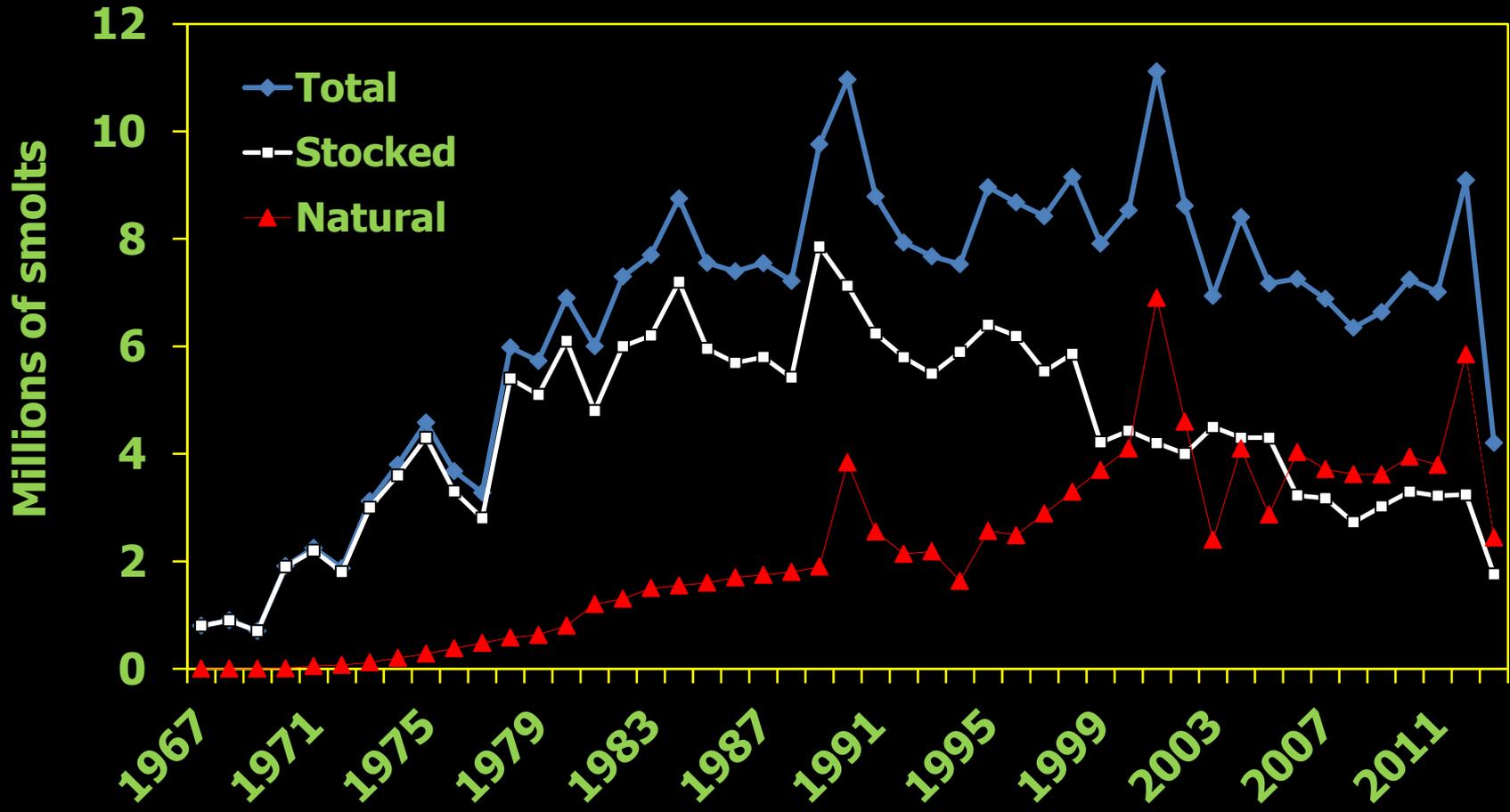
Warner, Kiley, Claramunt, and Clapp. 2008. TAFS. Vol. 137.



Alewife Biomass with 2014 Forecast



Estimated Chinook Salmon Recruitment in Lake Michigan, 1967-2013



Managing Risk

HYPOTHETICAL SCENARIO:

- 1) higher hooking mortality implemented
- 2) a poor CHS fishing year
- 3) good weather resulting in additional effort

Consent Decree imposes penalties on overharvest:

- Exceed harvest limit by 15,000 lb
- Next years limit would be reduced by 15,000 lb, and would be 43,800 lb.
- 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 (MH-1 example)



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?



Criteria for setting harvest limits in MM-5:

- Annual mortality rate: 45%
- Spawning stock biomass targets
 - older fish have higher value
- Total Allowable Catch (TAC) Allocation:
 - 40% Tribal Commercial
 - 60% State Recreational



Management Objectives for lake trout:

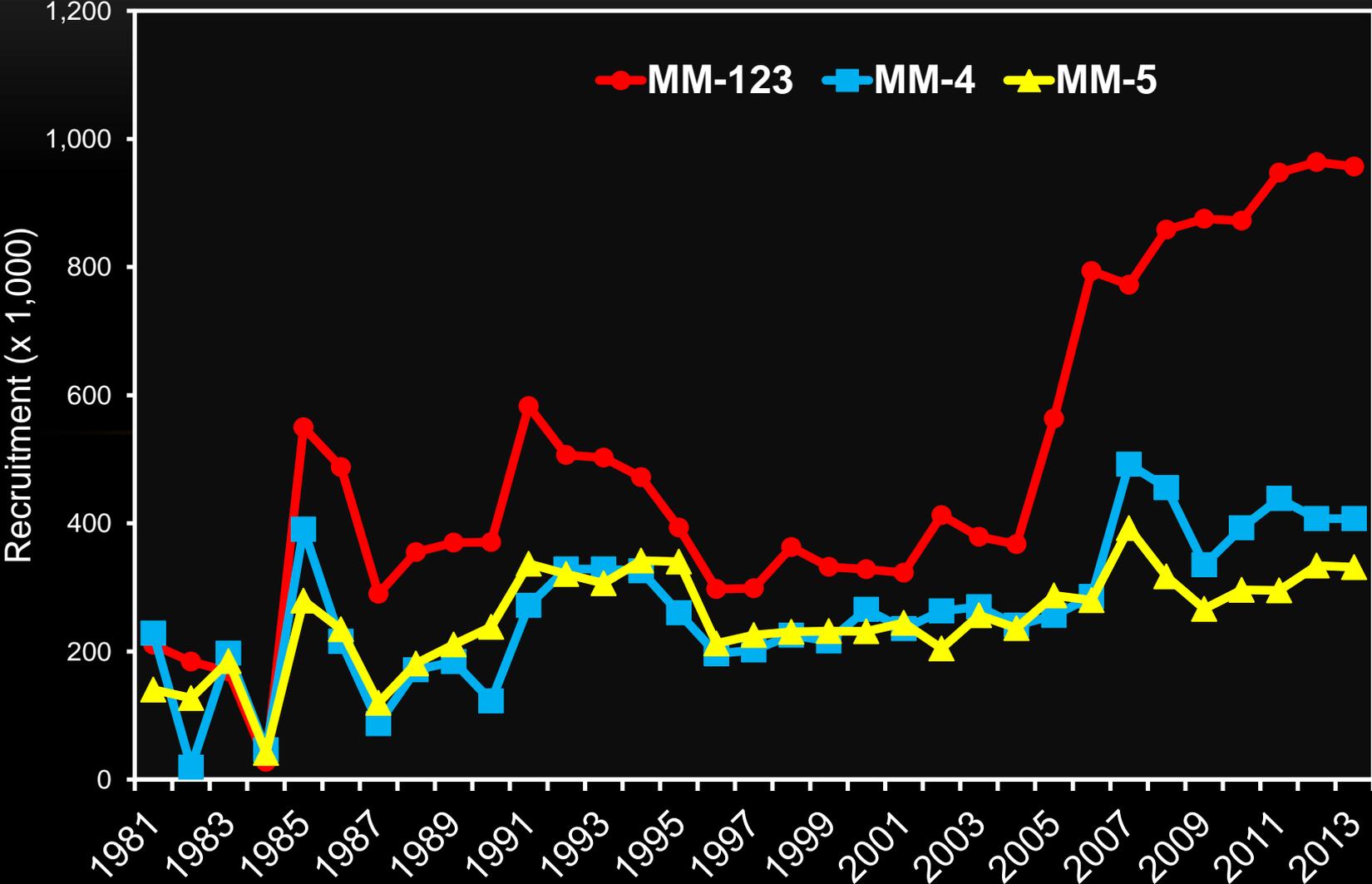
- Assure the weight of lake trout harvested is below the TAC
- Reduce the age and biomass of harvested fish
- Maximize age structure and biomass of spawning lake trout to meet rehabilitation goals

Other concerns (sources of risk):

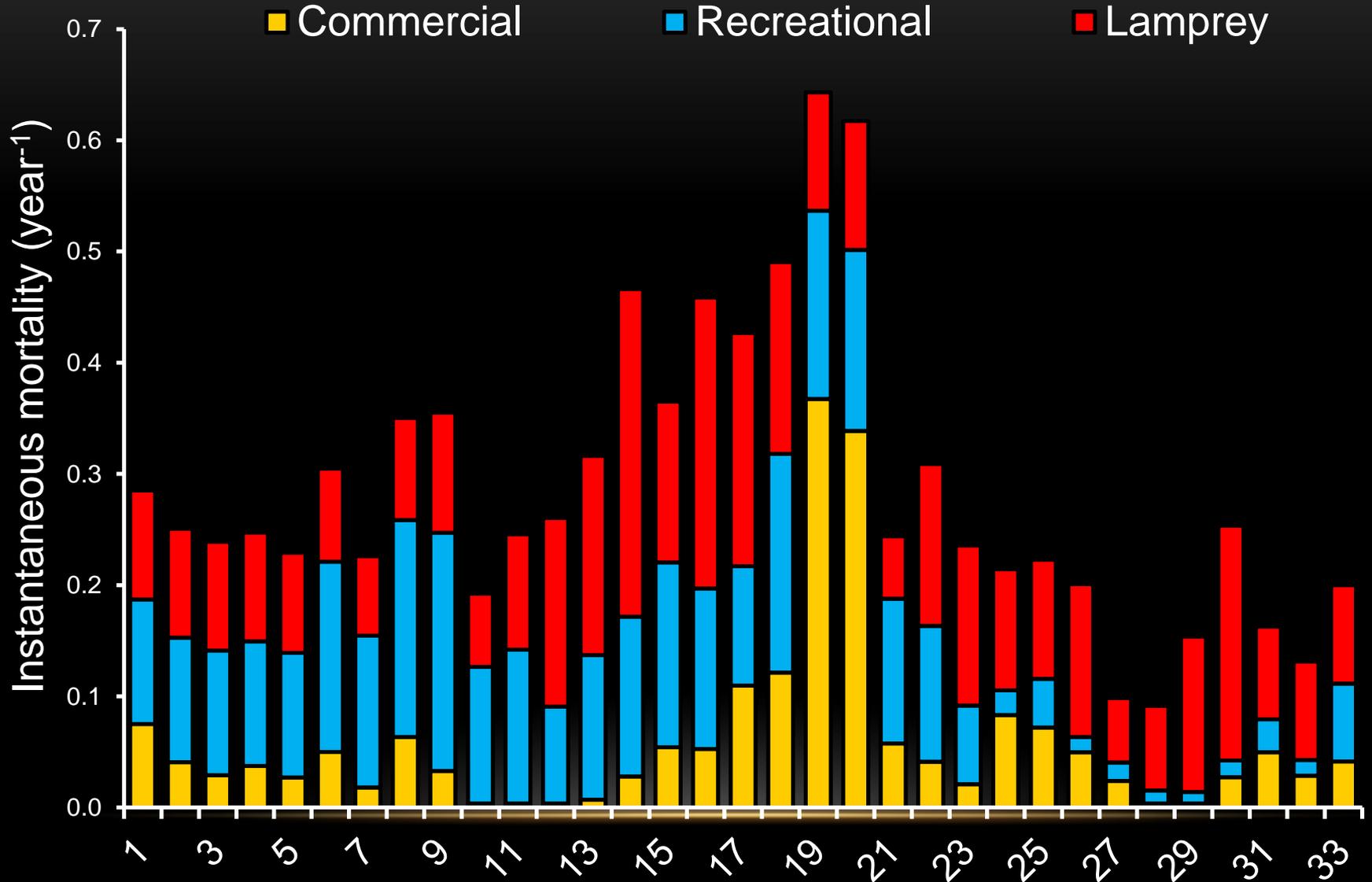
- Compliance with regulations
- Hooking mortality estimates likely to increase from 15%
- Unforeseen increases in the biomass of fish harvested (low CHS catch)



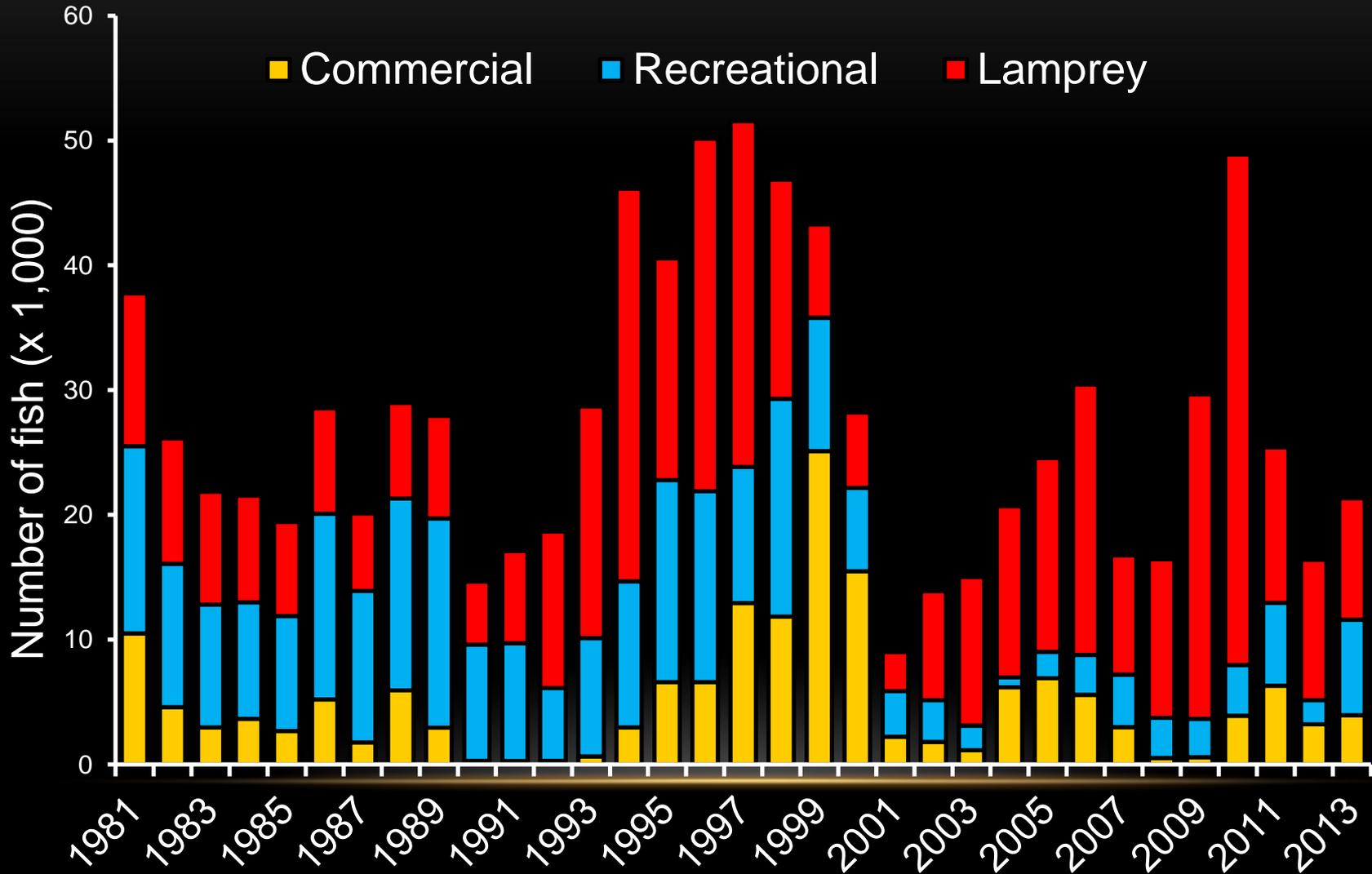
Number of Age-1 Fish



MORTALITY RATES IN MM-5



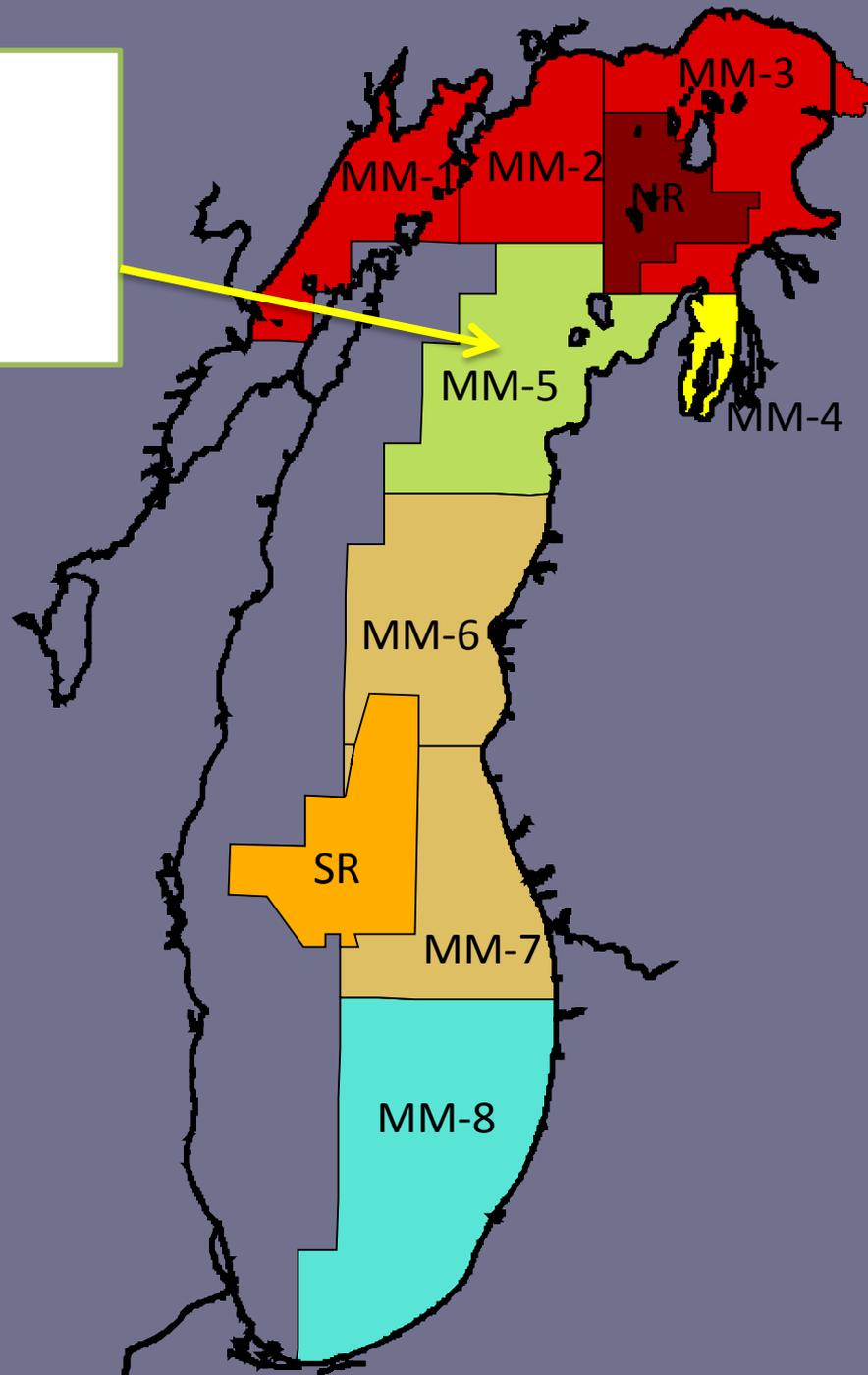
NUMBERS OF FISH KILLED IN MM-5



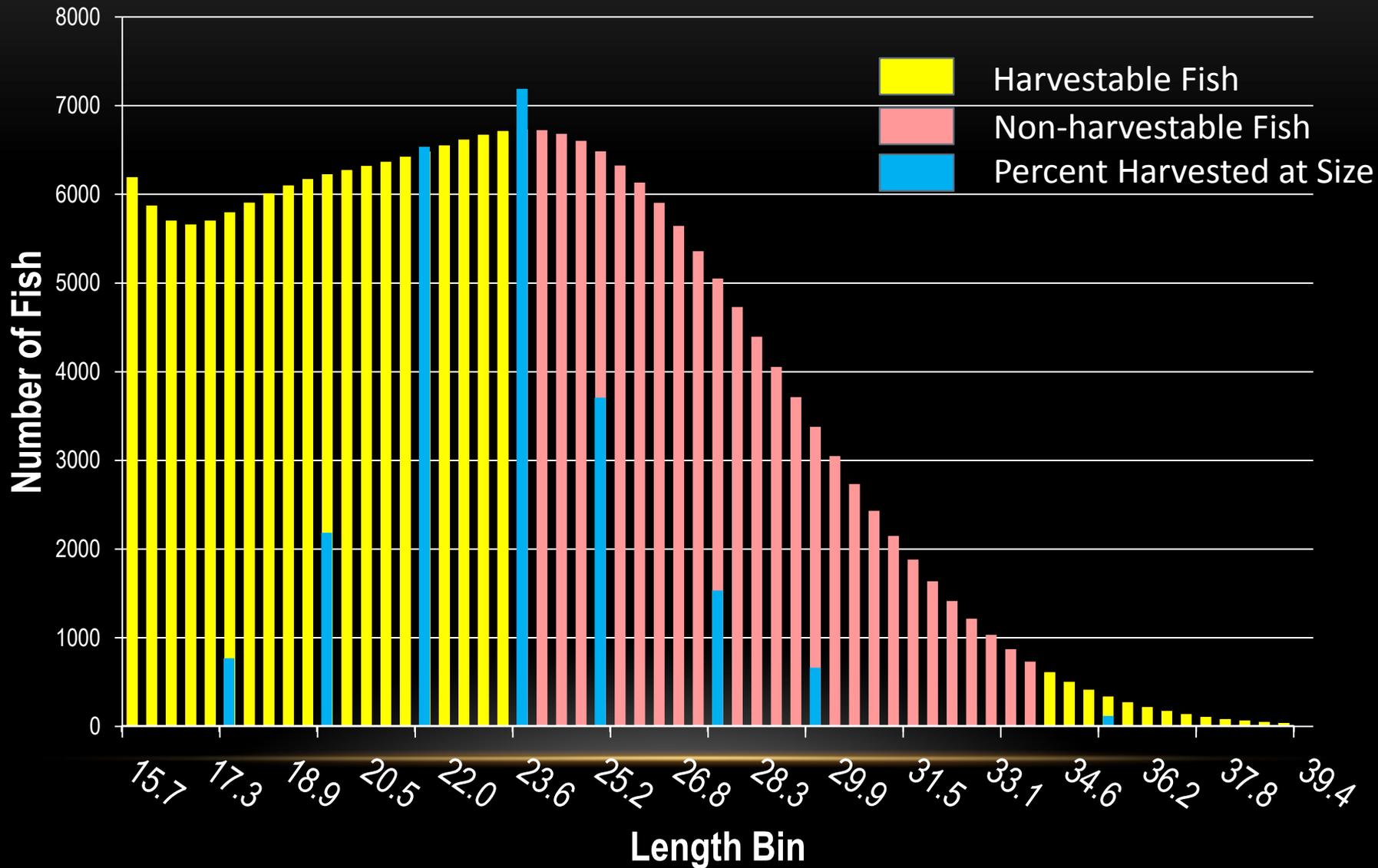
**WHAT HAS ANGLING
HARVEST LOOKED LIKE?**

Recent Regulation Changes:

- 1) 2003 22" min to 24" min
- 2) 2006 24" min 23" max
- 3) 2011 23" max to 20" min

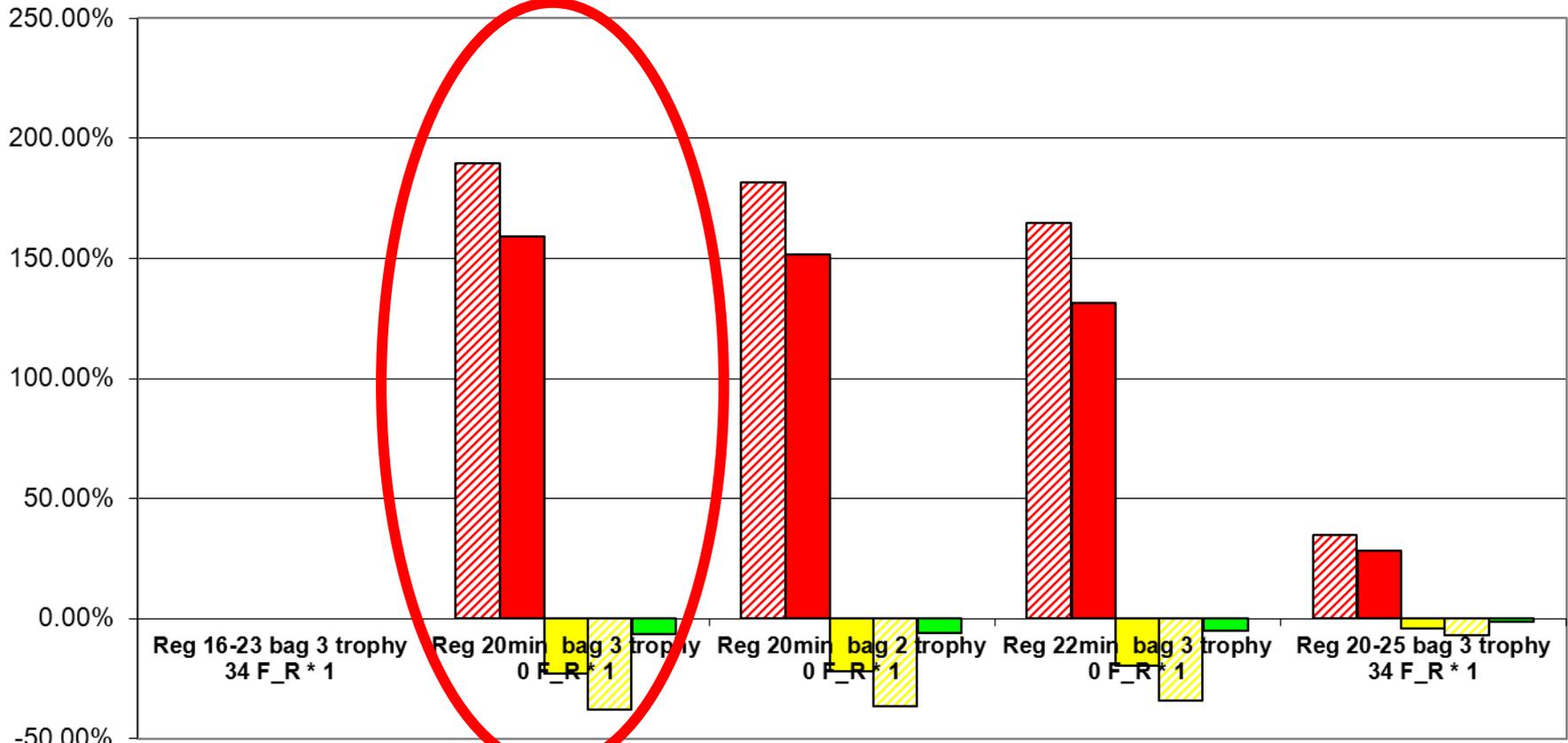


LENGTH DISTRIBUTION OF FISH IN MM-5 -2010 MODEL



2010 MODEL RESULTS FOR MM-5

15 yr



▨ Projected Recreational Yield

■ Recreational Harvest Numbers

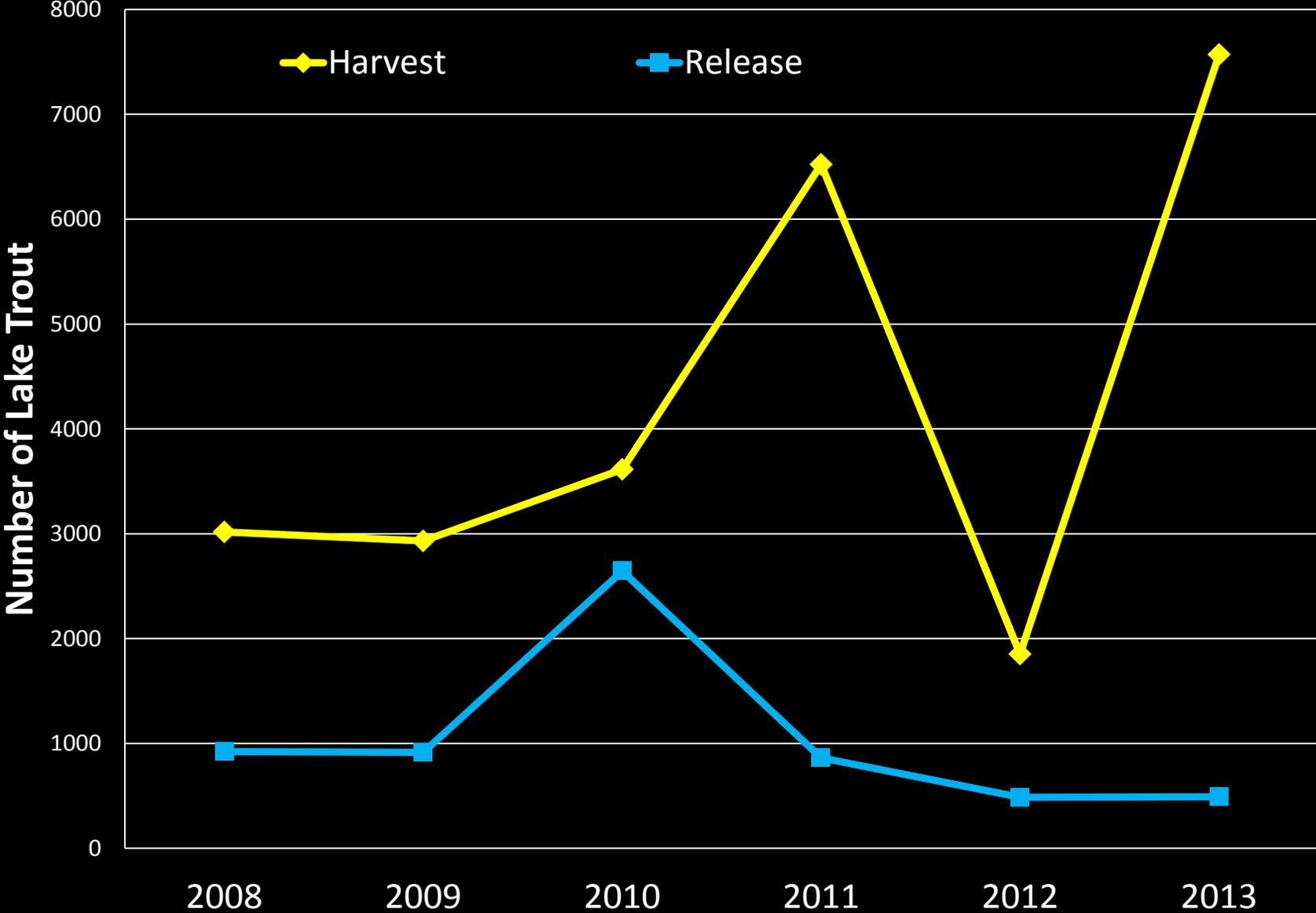
■ SSB

▨ Age 12+ Population Size

■ Age 3+ Population Size

Recreational Harvest

(Creel + Charter)

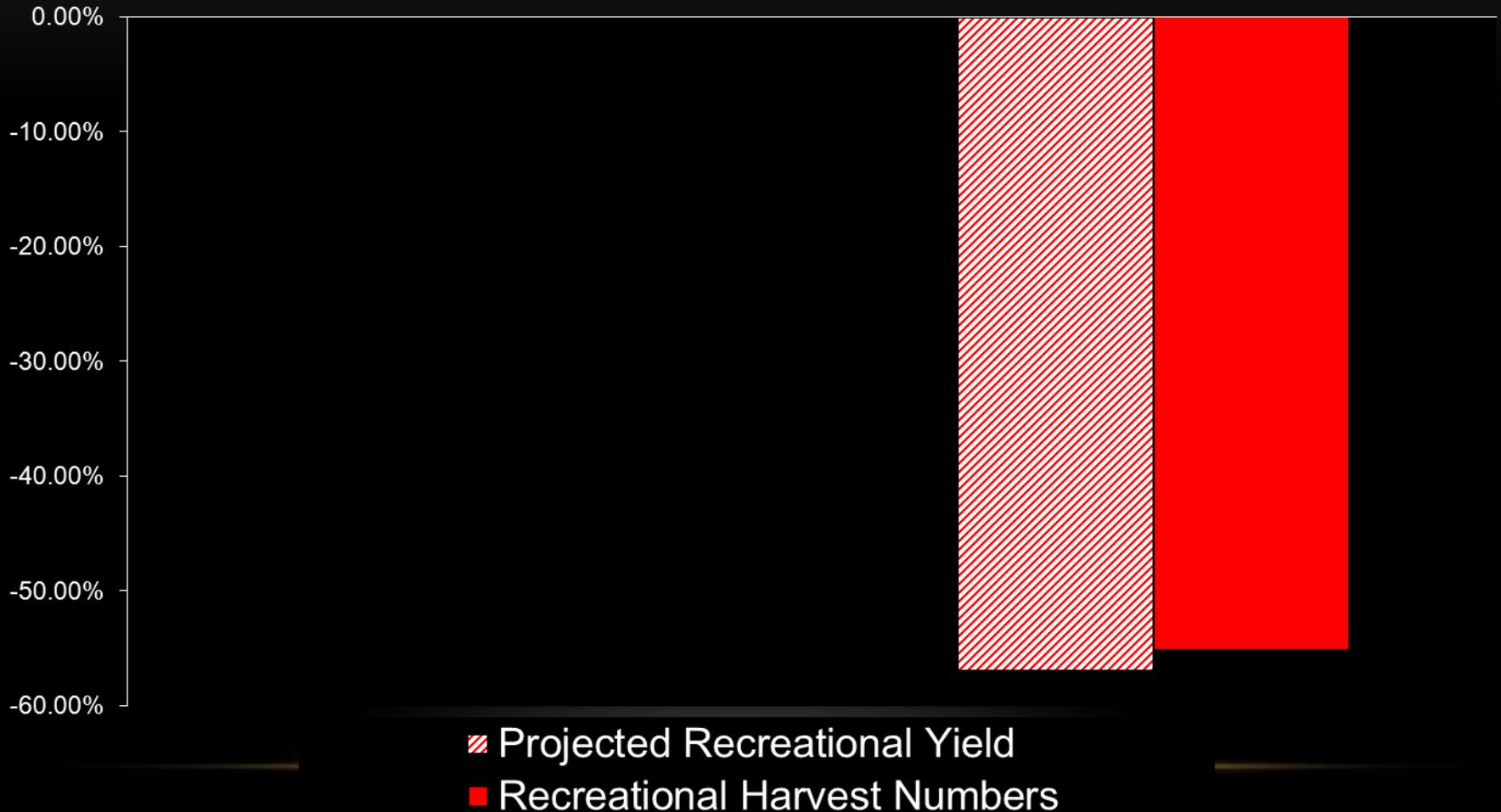


Old verses new regulations

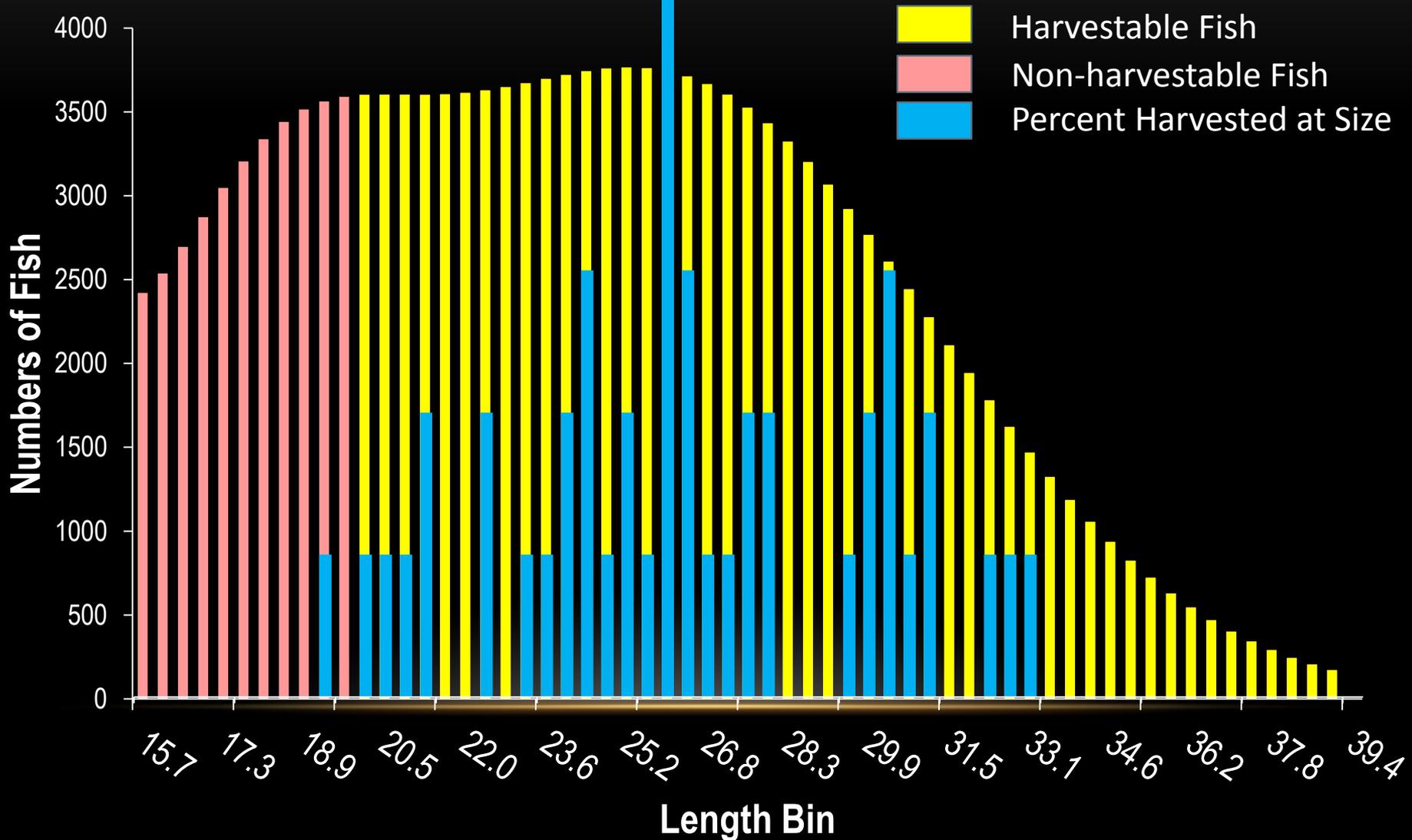
STATUS QUO

Old Regulation

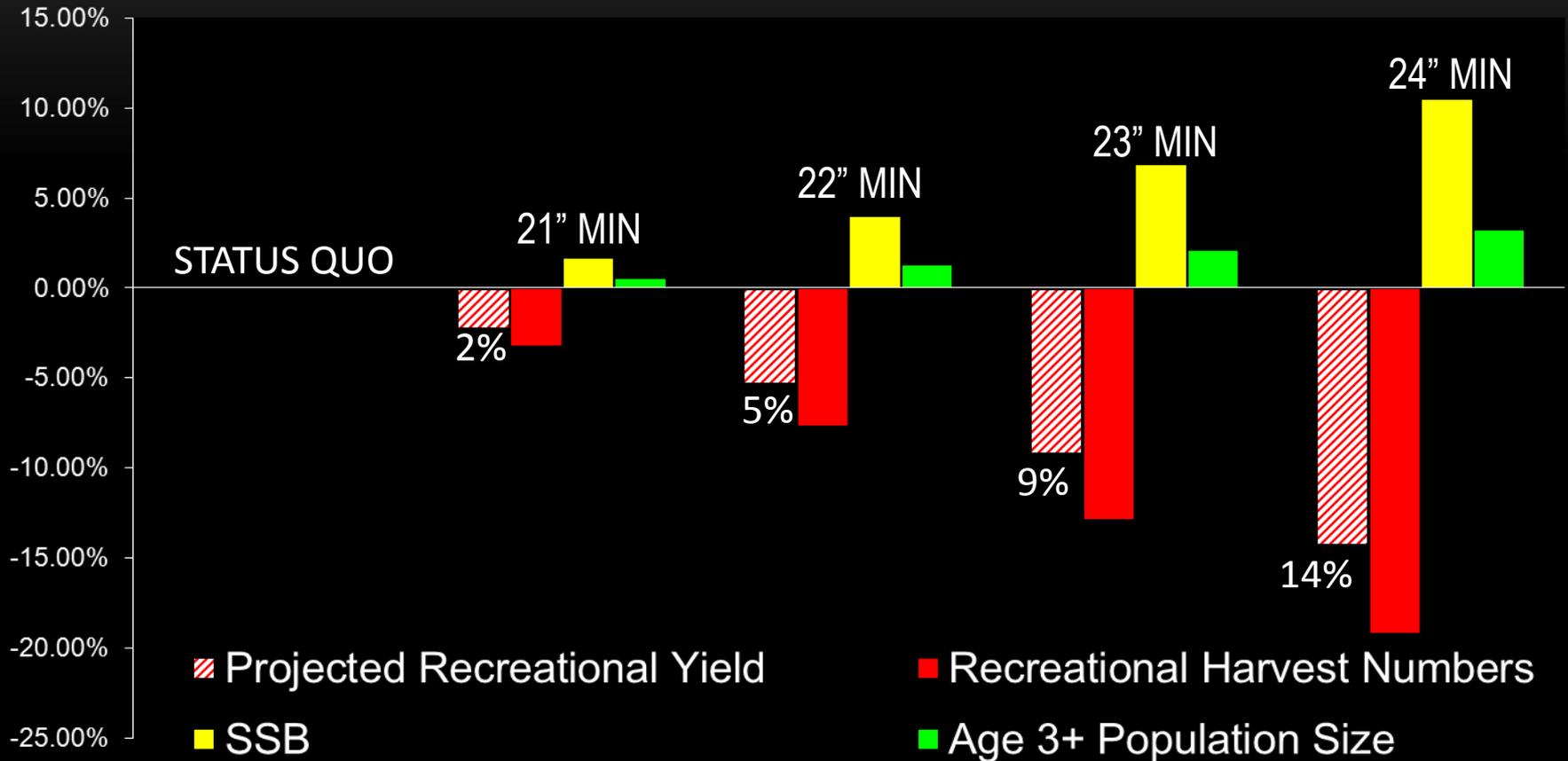
23" max 1 over 34", 3 fish bag



LENGTH DISTRIBUTION OF FISH IN MM-5-RECENT MODEL

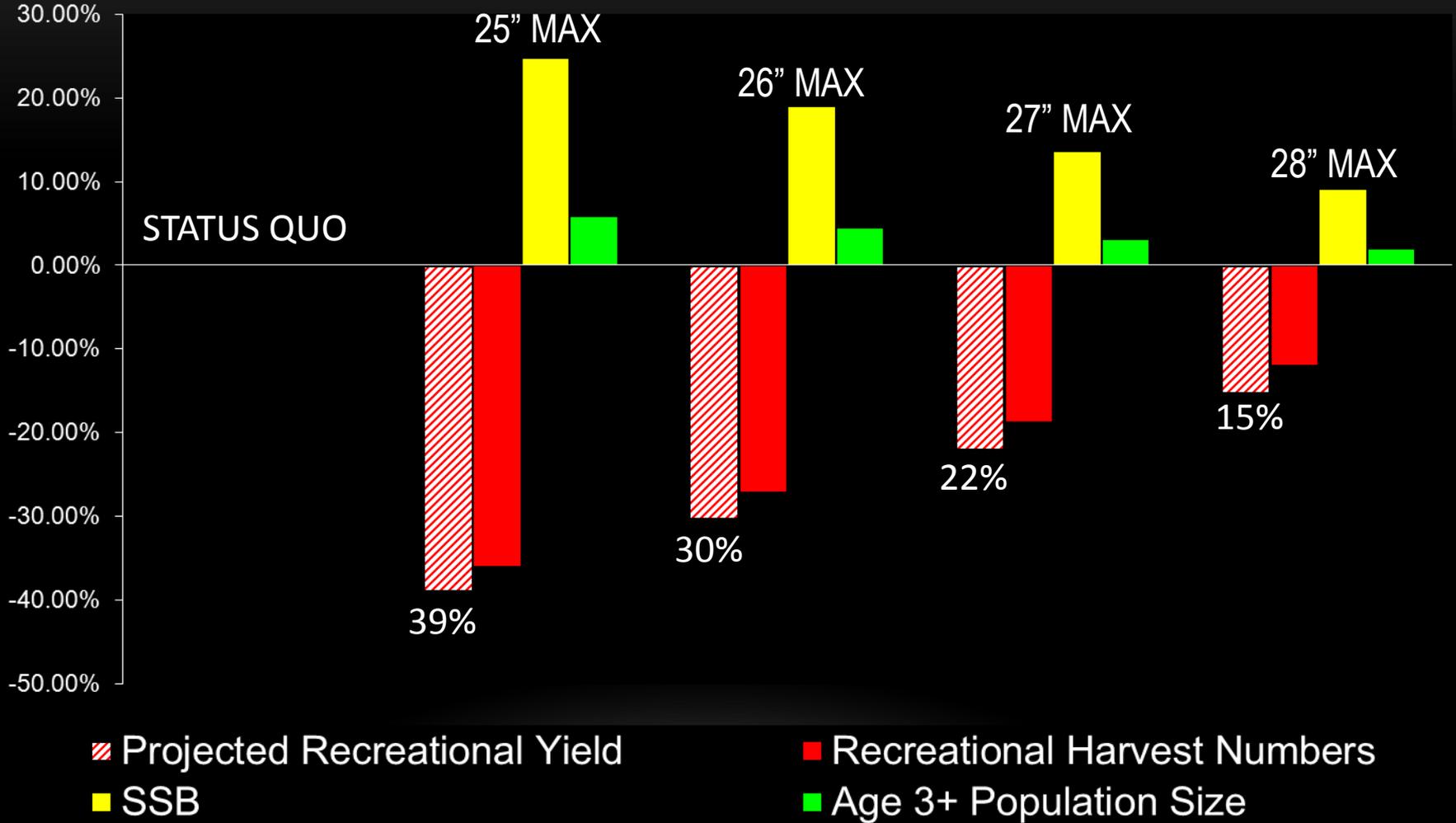


Minimum Size Limit Scenarios = MM-5

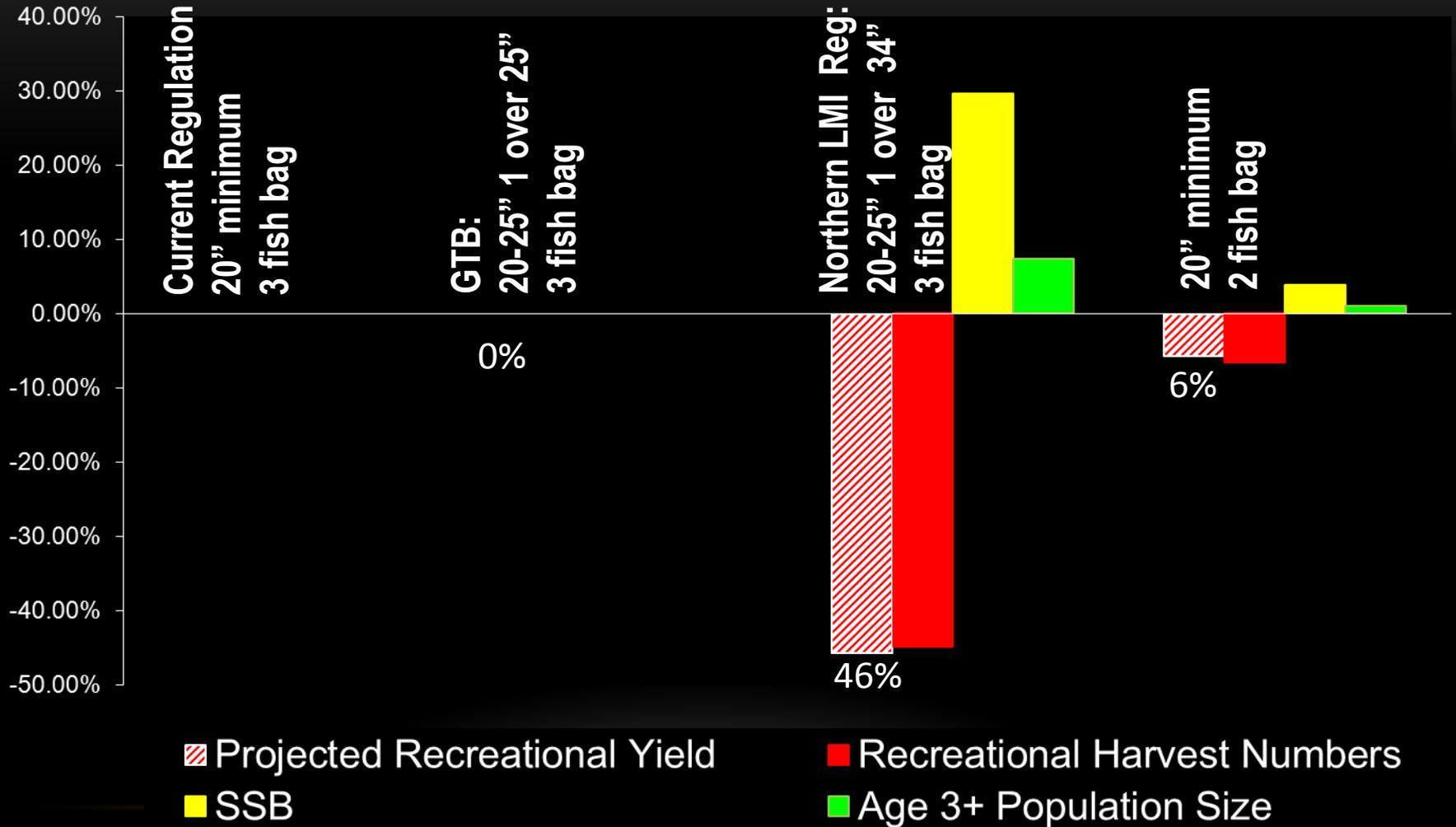


Maximum Size Limit Scenarios = MM-5

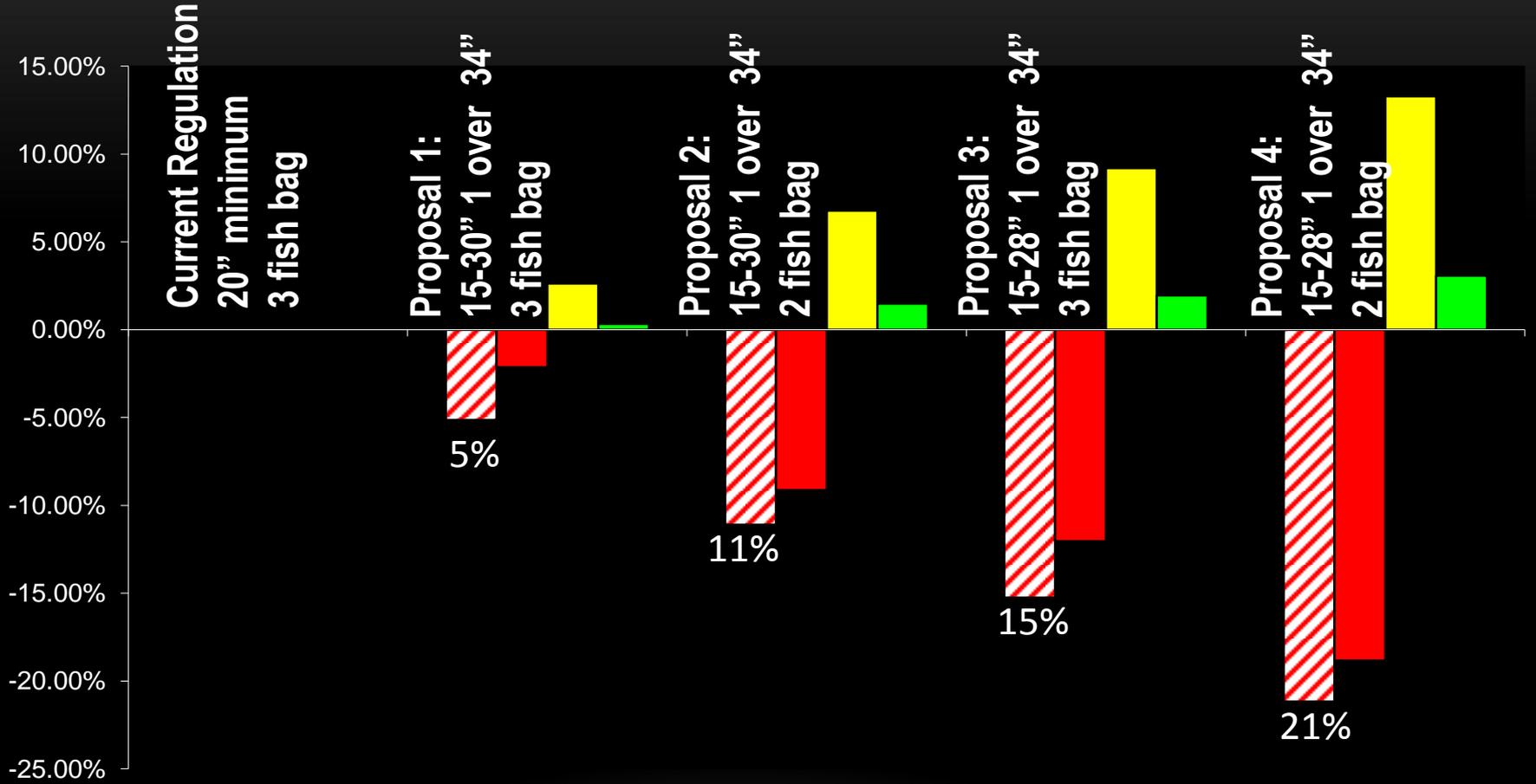
Scenarios allow 1 trophy over 34"



2014 MODEL RESULTS FOR MM-5



15 yr



▨ Projected Recreational Yield
■ SSB

■ Recreational Harvest Numbers
■ Age 3+ Population Size

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