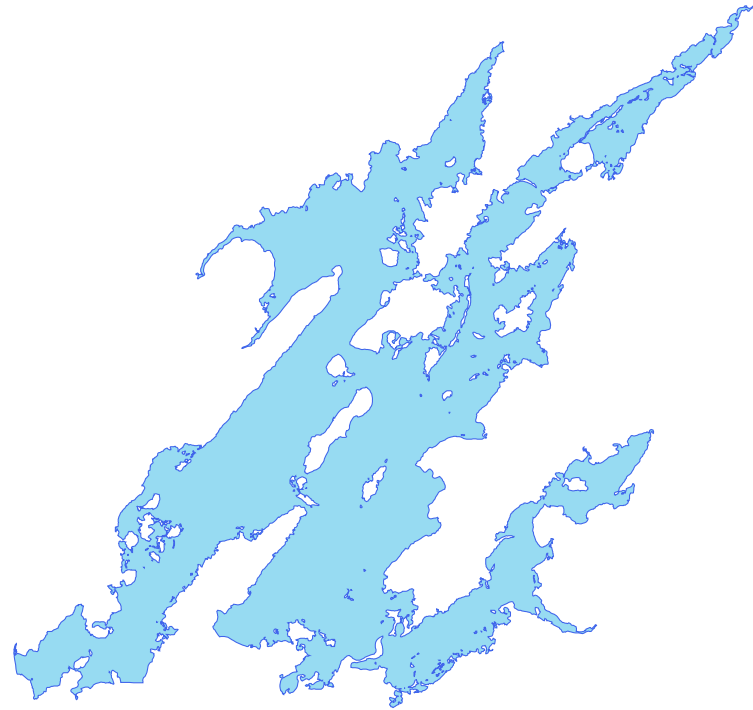


Update on Whiteface Reservoir Fisheries Management



Dan Wilfond | Fisheries Specialist

Deserae Hendrickson | Area Fisheries Supervisor

Patrick Schmalz | Fisheries Research Supervisor

September 5th, 2019

Topics

- Update on 2017 standard survey (DNR fish netting) and review of past surveys
- Results of the 2017-18 Angler Creel Survey
- Modeling Special Walleye Angling Regulations for Whiteface Reservoir
- Discussion







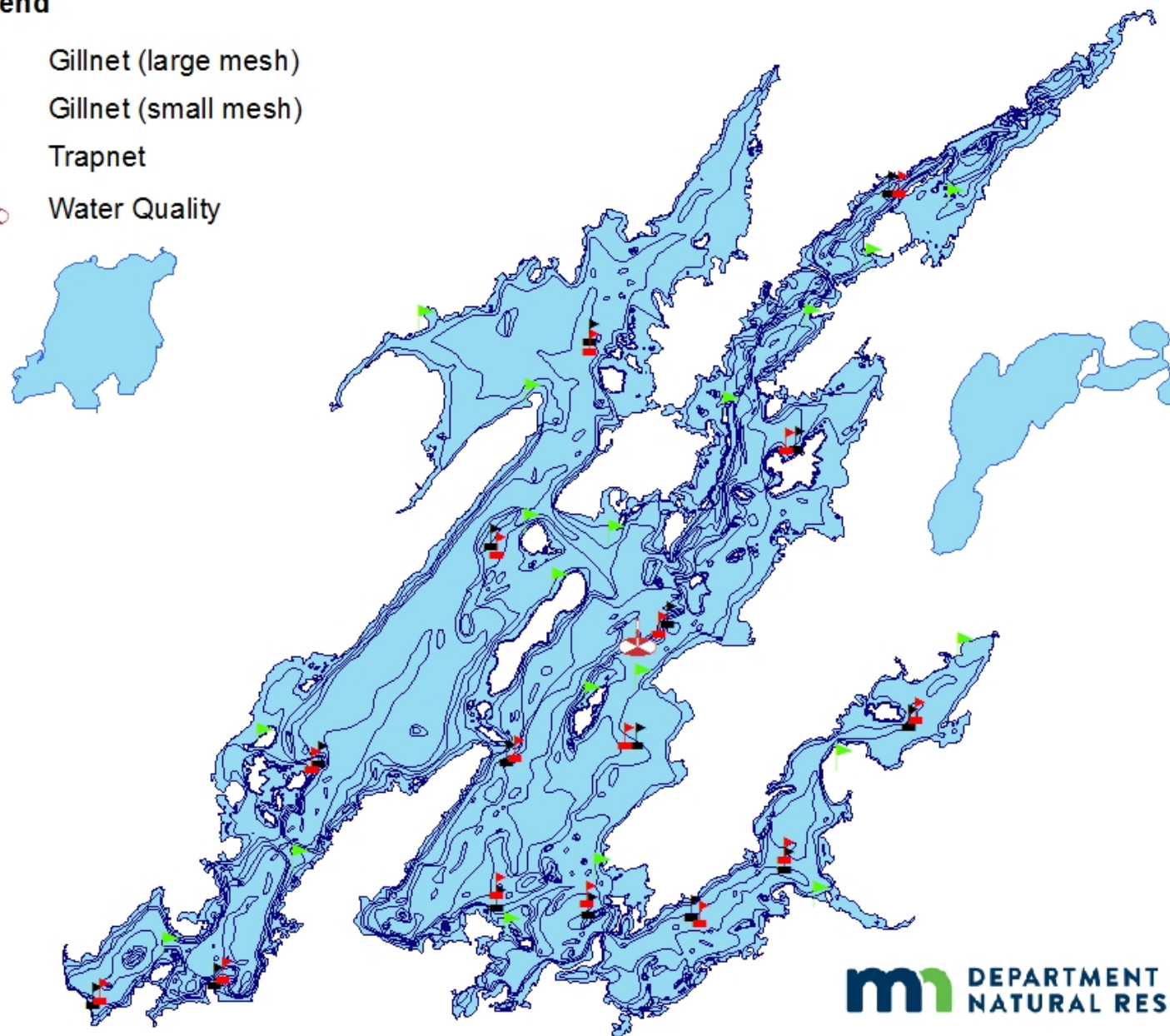
Quick Review of Fish Stocking History for Whiteface

Year	Walleye		Northern Pike		Largemouth Bass	Sunfish
	CANS	FRY	FRY	YRL	FGL	FGL
1931-1945	15	5,897,500			5,850	1,000
1946		200,000				
1948		200,000				
1949		200,000				
1953		300,000				
1961		150,000				
1968		500,000				
1969		300,000				
1970		500,000				
1971				881		
1972				618		

FGL=Fingerling; YRL=Yearling; ADL=Adult

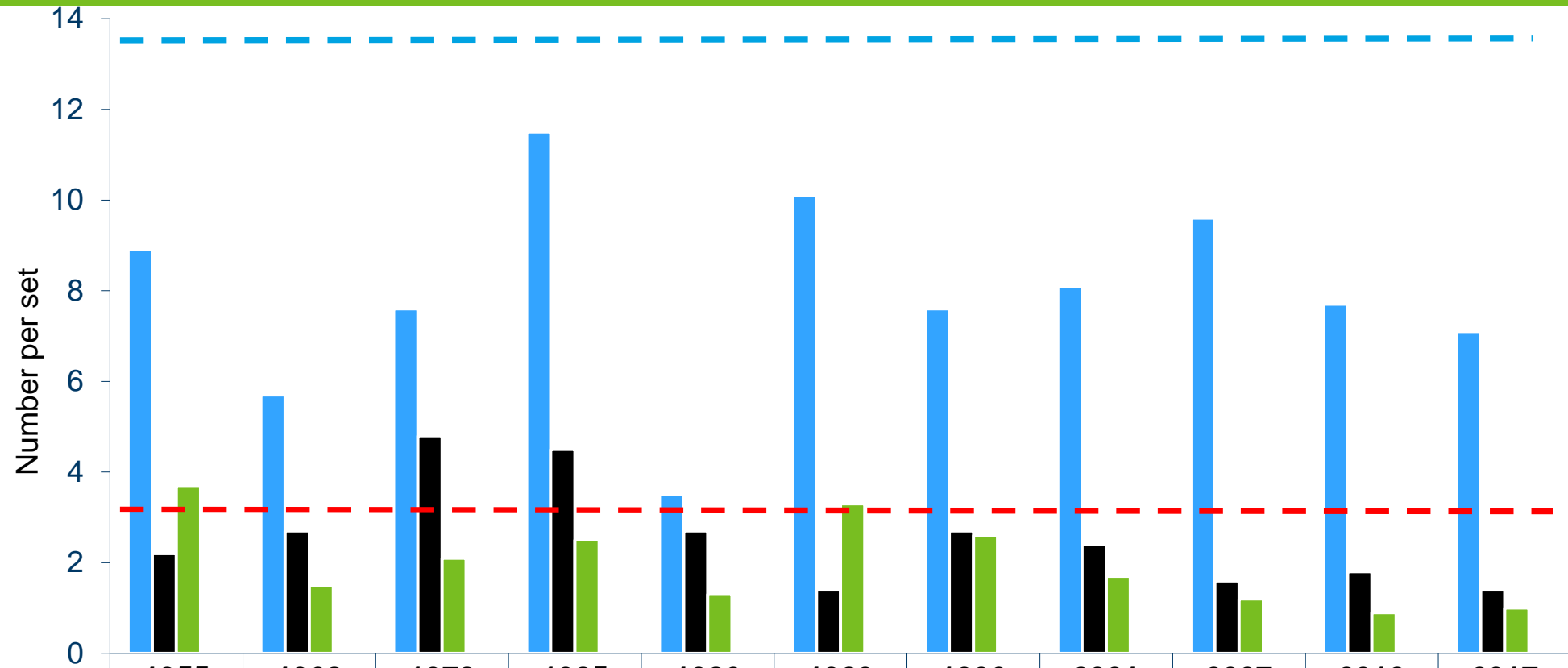
Legend

-  Gillnet (large mesh)
-  Gillnet (small mesh)
-  Trapnet
-  Water Quality



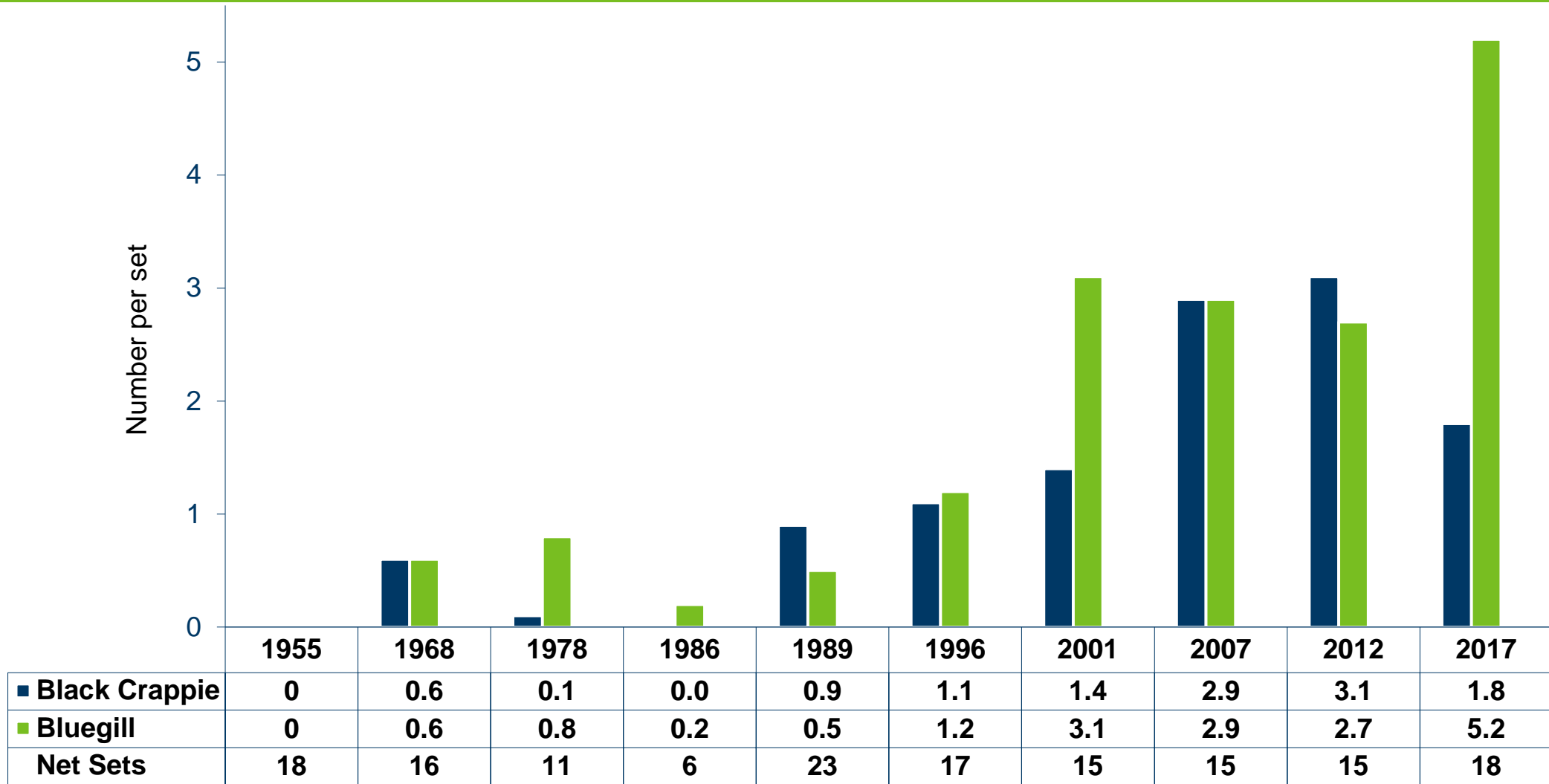
0 0.75 1.5 3 Miles

Whiteface Standard Survey - Gillnetting

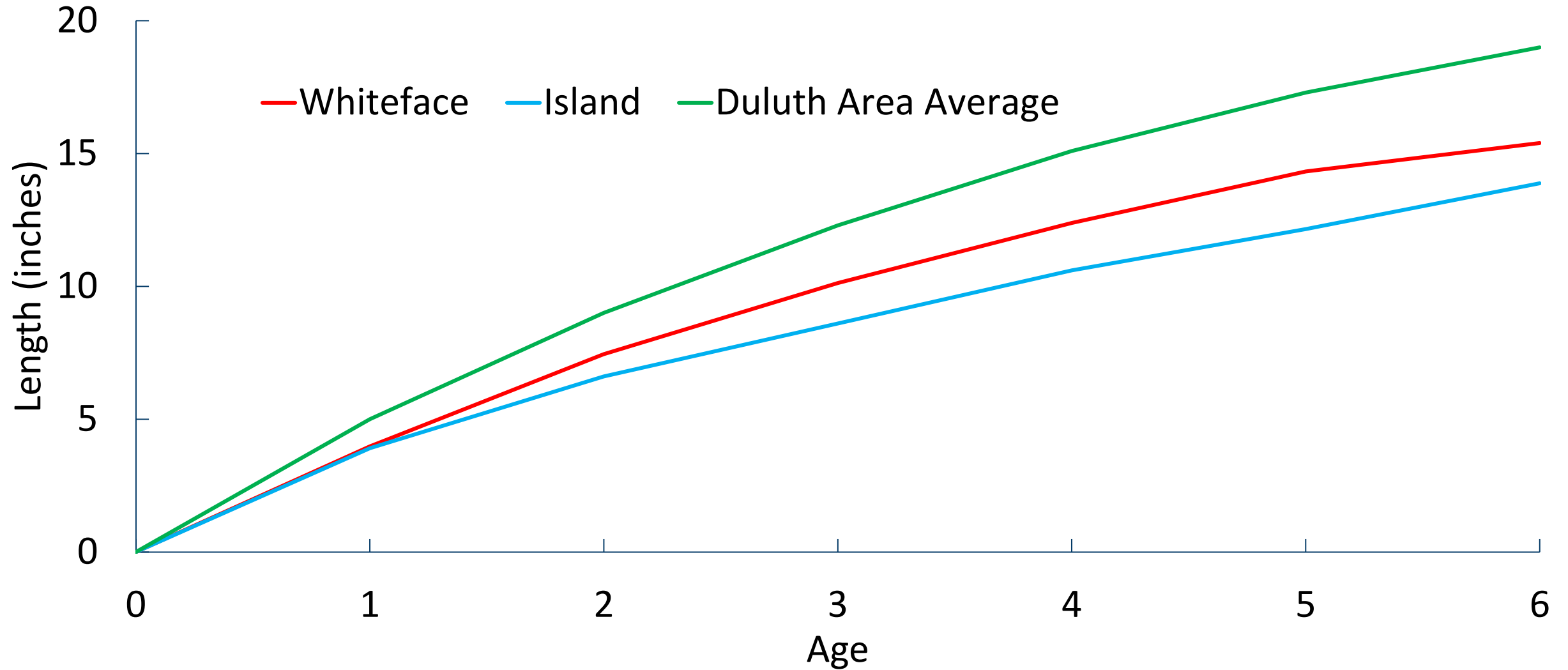


	1955	1968	1978	1985	1986	1989	1996	2001	2007	2012	2017
■ Walleye	8.9	5.7	7.6	11.5	3.5	10.1	7.6	8.1	9.6	7.7	7.1
■ Yellow Perch	2.2	2.7	4.8	4.5	2.7	1.4	2.7	2.4	1.6	1.8	1.4
■ Northern Pike	3.7	1.5	2.1	2.5	1.3	3.3	2.6	1.7	1.2	0.9	1.0
Net Sets	22	12	8	2	6	19	15	15	15	15	15

Whiteface Standard Survey - Trapnetting



Walleye Growth Rates



Walleye Year-Class Contributions

Year-Class	1989	1996
1995		33
1994		33
1993		6
1992		9
1991		11
1990		8
1989		6
1988	41	5
1987	40	1
1986	28	
1985	6	
1984	7	
1983	13	
1982	4	
1981	6	

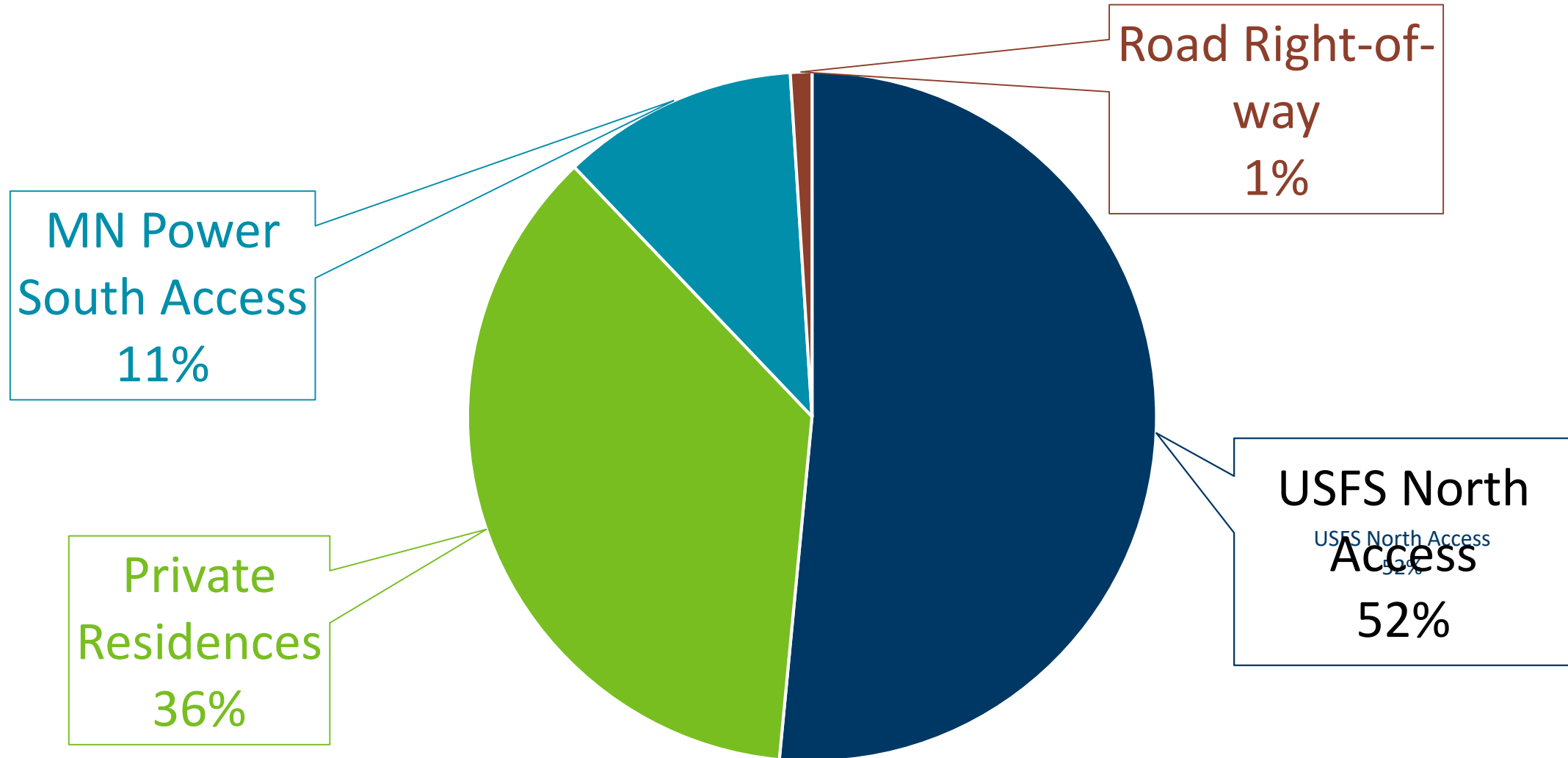
Year-Class	2001	2007
2006		31
2005		24
2004		38
2003		32
2002		7
2001		5
2000	12	
1999	25	3
1998	33	1
1997	19	1
1996	9	1
1995	14	
1994	5	
1993	3	
1992		

Year-Class	2012	2017
2016		24
2015		26
2014		9
2013		20
2012	4	16
2011	42	6
2010	35	3
2009	5	
2008	9	3
2007	8	2
2006	12	
2005	2	
2004	4	
2003	2	
2002	1	

Creel Survey Objectives (2017-18)

- Estimate
 - angler pressure
 - catch rates
 - harvest rates
- Quantify which species are being targeted
- Determine angler demographics

How are folks accessing Whiteface?



Where are Whiteface anglers coming from?

Demographic	Total Number	%
Local (Whiteface Area Zip Code)	74	5.8
Iron Range	557	43.6
Duluth Metro	366	28.7
Twin Cities Metro	228	17.9
State of MN	1324	96
Out of State	52	4

Out of State Representation: AZ, CA, CO, FL, IA, ID, IL, ND, NE, NV, OK, WI, WY

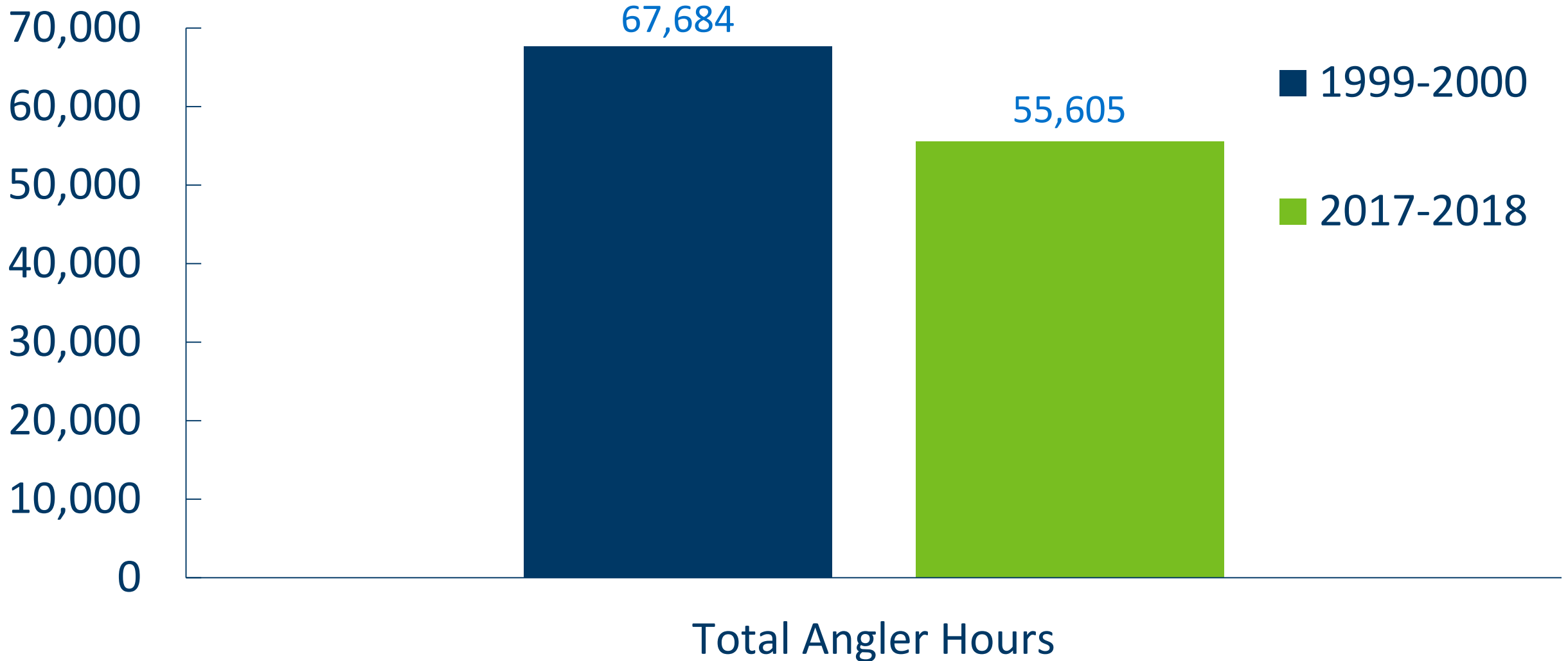
What were anglers targeting?

Species	% of anglers
Walleye	71.3
Black Crappie	18.3
Bluegill	5.9
Northern Pike	4.3
Yellow Perch	0.2

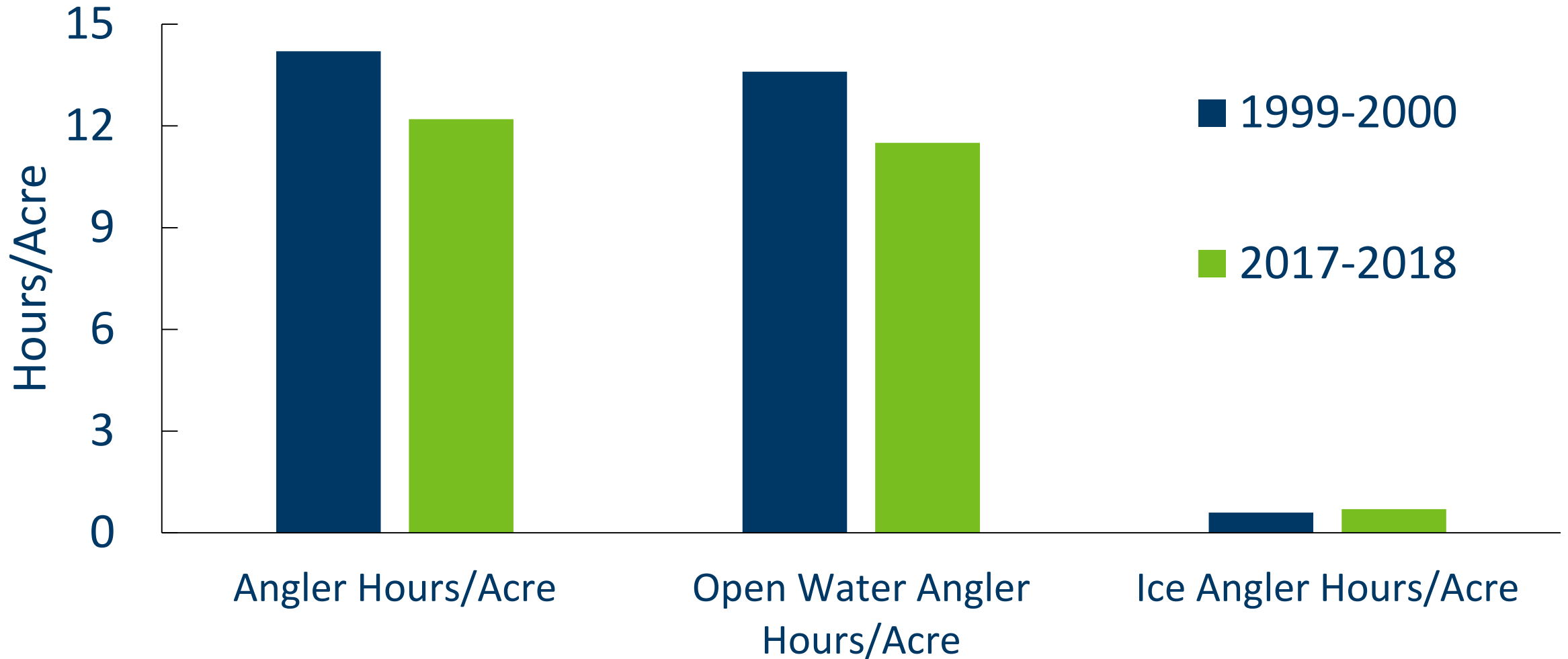
Whiteface 2017-18 Creel – Results

Total Angler Hours	55,605
Angler Hours/Acre	12.2
Interviews	1300
Anglers per interview	1.9
Average trip length (hours)	3.4
Estimated Walleye Catch	21,692

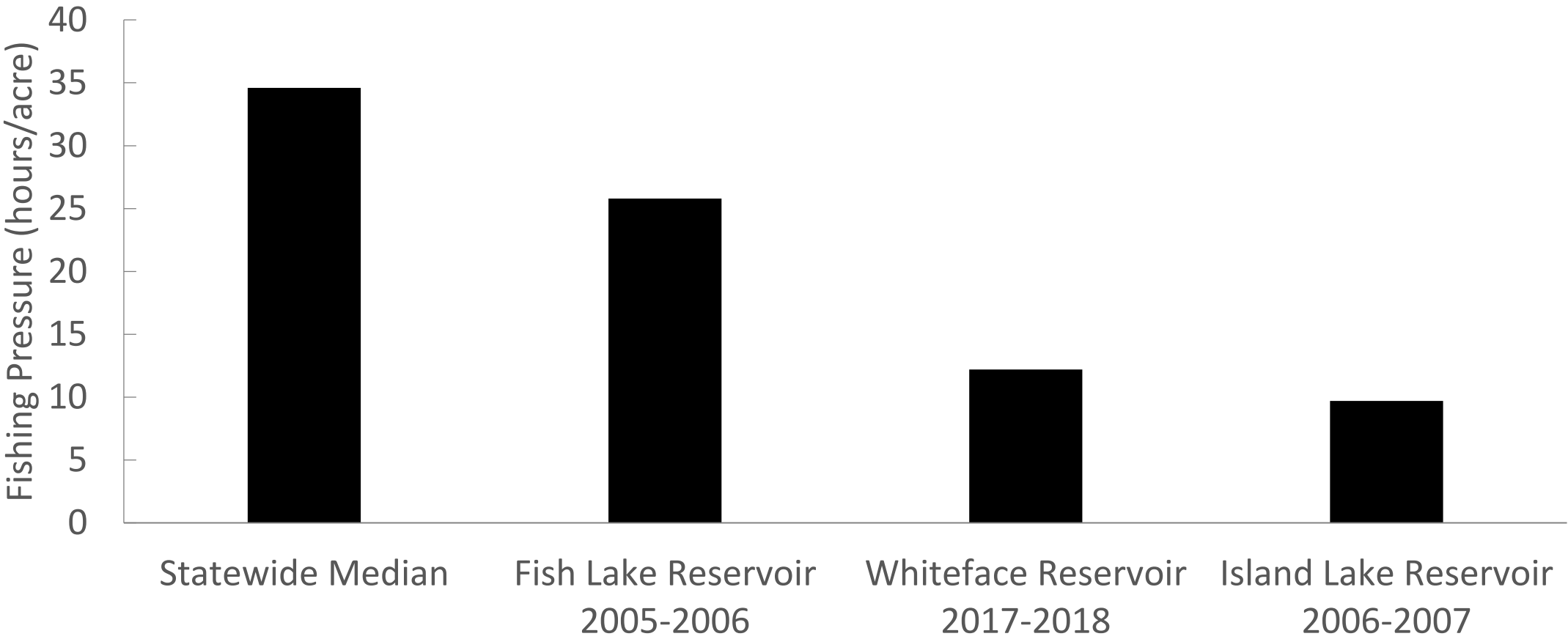
1999-2000 Rec Use Survey vs. 2017-2018 Creel



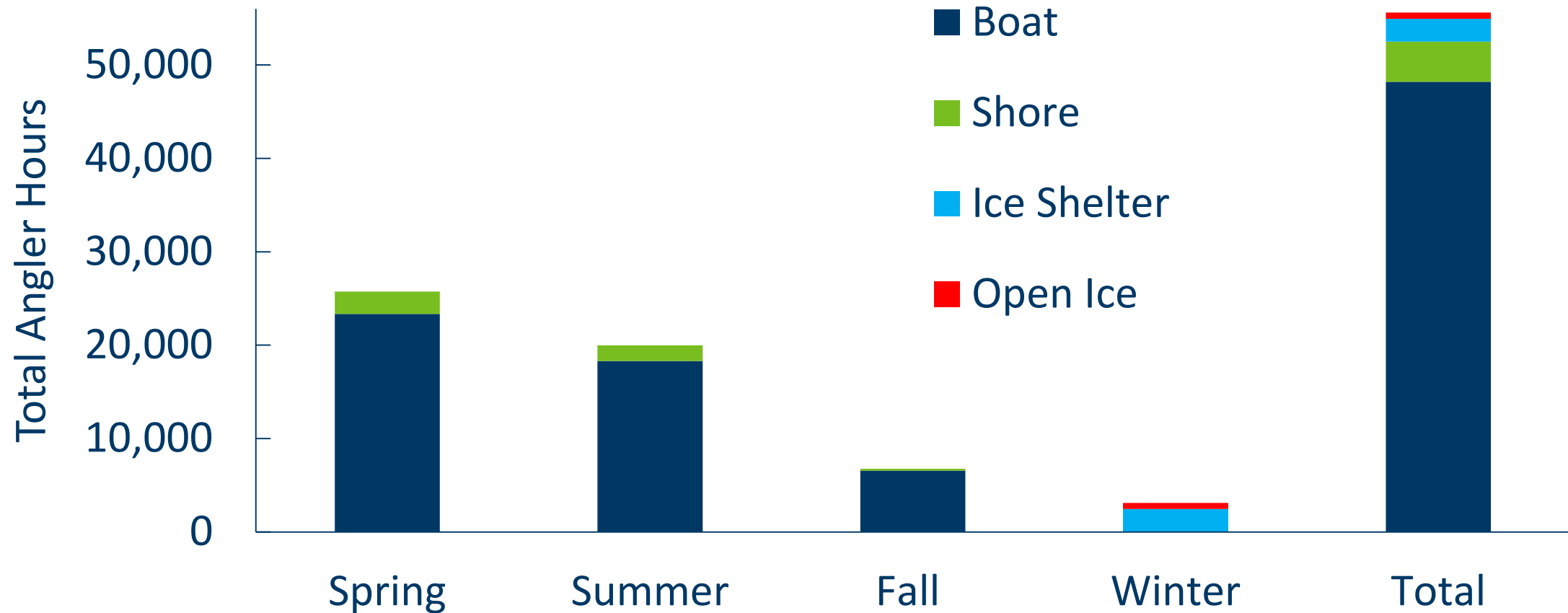
1999-2000 Rec Use Survey vs. 2017-2018 Creel



Fishing Pressure – Regional Comparison



Fishing Pressure – Breakdown



Species Catch Statistics

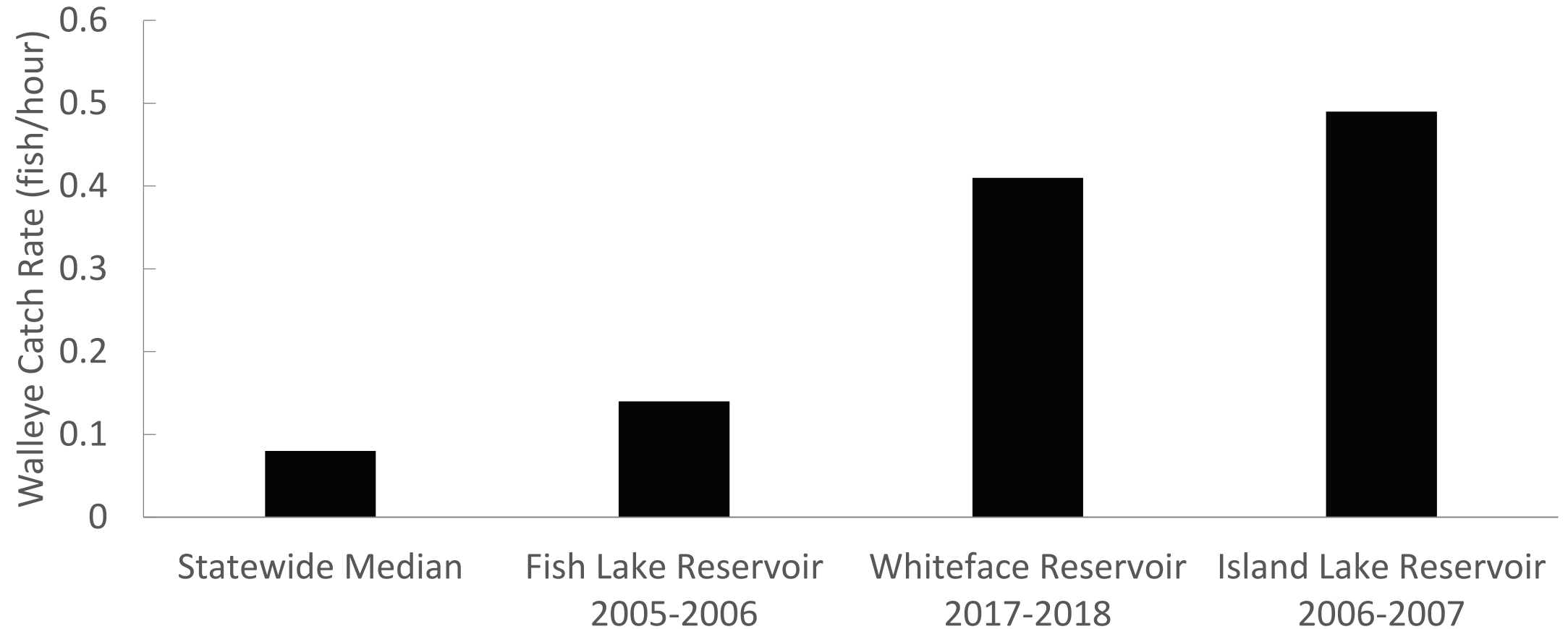
Species	Number Harvested	Average size (inches)
Walleye	9,928	14.1
Black Crappie	1,776	11.4
Bluegill	2,782	8.6
Northern Pike	582	20.1
Yellow Perch	862	10.6

Species	Number Released	Average size (inches)
Walleye	11,764	10.2
Black Crappie	645	9.5
Bluegill	1,217	7.9
Northern Pike	9,466	15.5
Yellow Perch	2,152	7.0

Species Catch Rates

Species	Catch Rate (all anglers)	Catch Rate (targeted anglers)
Walleye	0.41	0.43
Black Crappie	0.04	0.29
Bluegill	0.07	0.74
Northern Pike	0.19	0.24
Yellow Perch	0.06	0.07

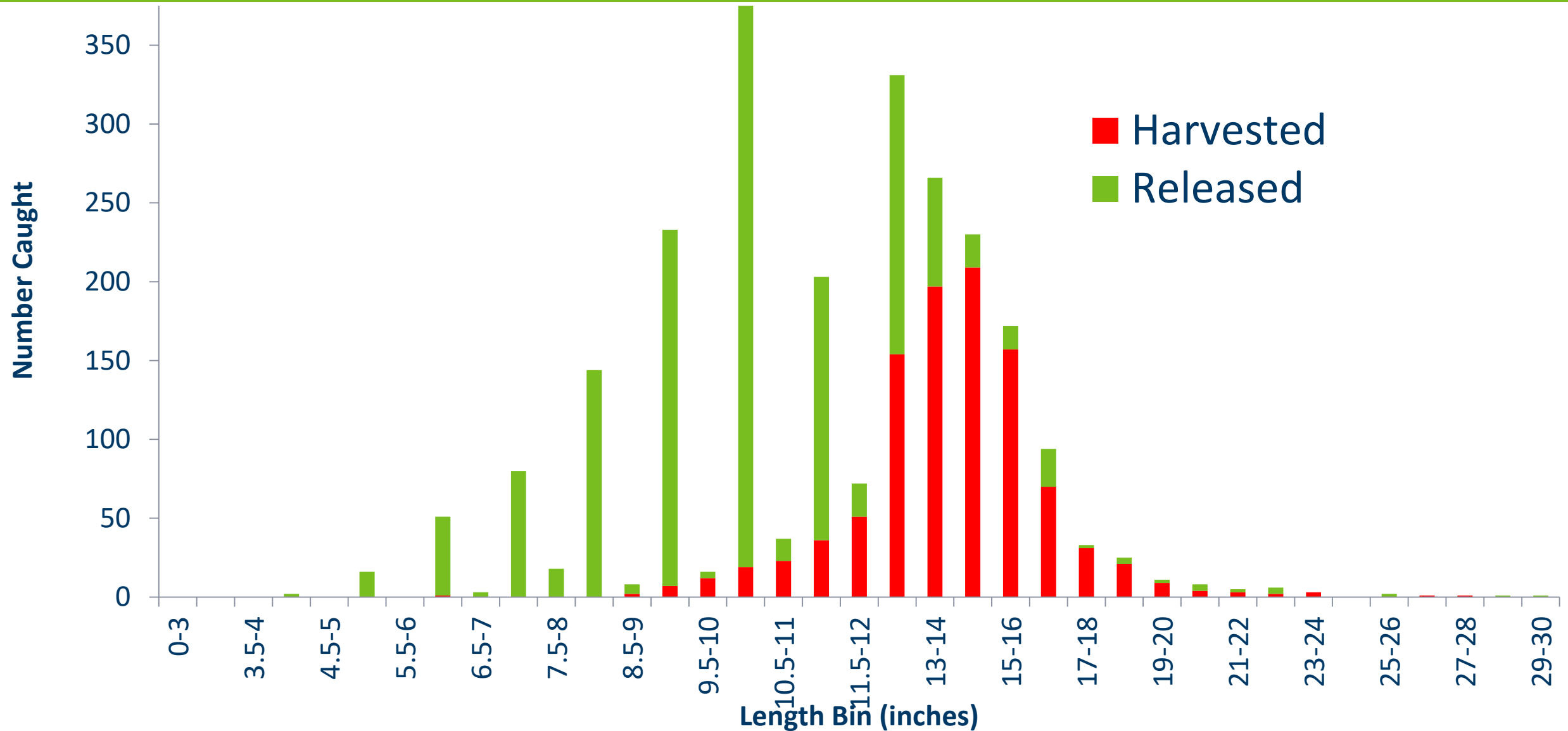
Walleye Catch Rates – Regional Comparison



Number of Walleye harvested per angler

Walleye Harvested	Number of Anglers	% of Anglers
0	728	58
1	111	9
2	199	16
3	82	7
4	51	4
5	50	4
6	29	2

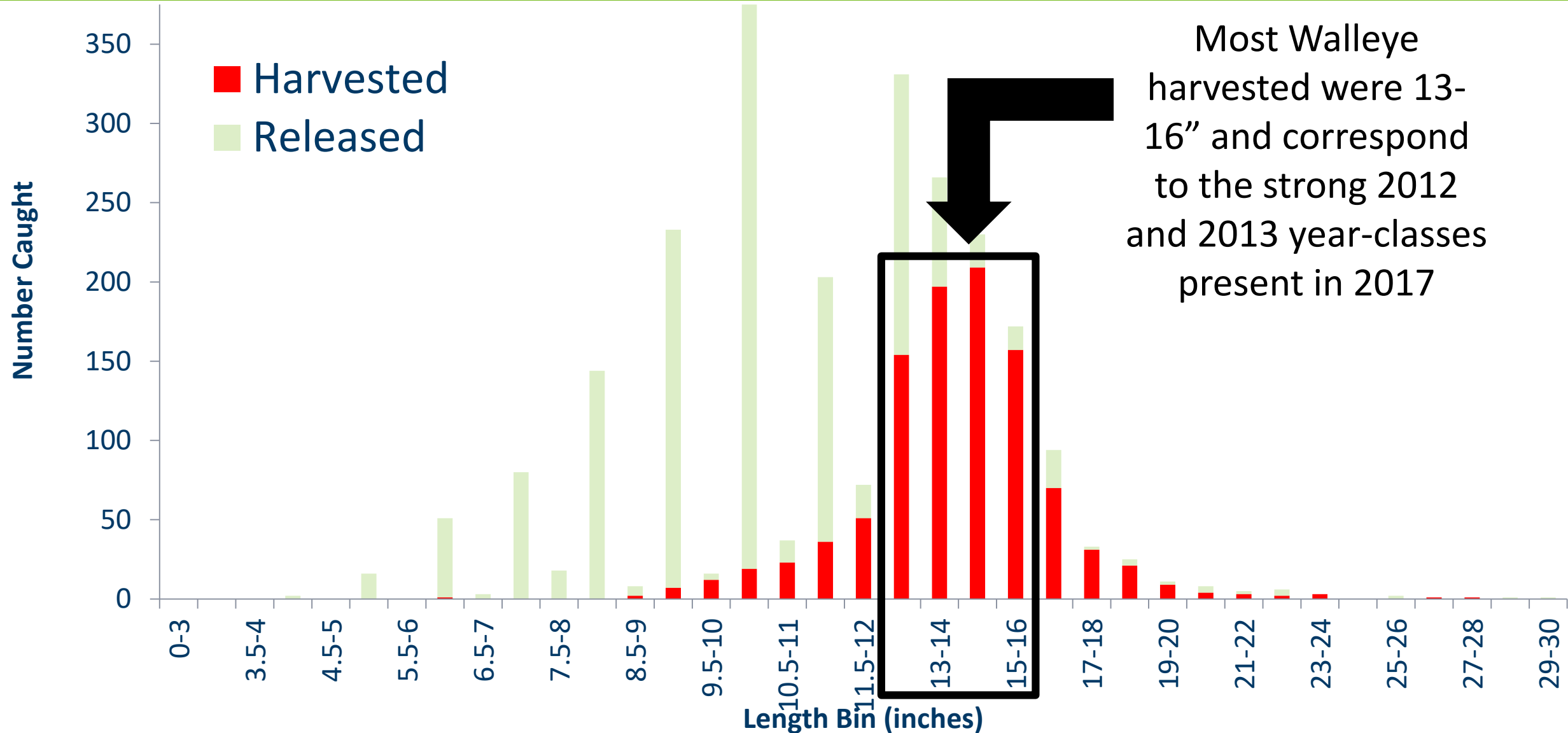
Walleye Length Frequency 2017-2018 Creel



Management Implications of the Creel

- Angling pressure decreased by 17.8% from what was observed in 1999-2000 and is well-below the statewide average
- Growth rates are below average but are not as slow as some other Duluth Area lakes
 - a function of the productive capacity of the lake
- Walleye harvest was significant but sustainable
 - Year-class effects
 - Excellent recruitment, exceptional spawning habitat and high fecundity of Walleye

Walleye Length Frequency 2017-2018 Creel



Walleye Year-Class Contributions

Year-Class	1989	1996
1995		33
1994		33
1993		6
1992		9
1991		11
1990		8
1989		6
1988	41	5
1987	40	1
1986	28	
1985	6	
1984	7	
1983	13	
1982	4	
1981	6	

Year-Class	2001	2007
2006		31
2005		24
2004		38
2003		32
2002		7
2001		5
2000	12	
1999	25	3
1998	33	1
1997	19	1
1996	9	1
1995	14	
1994	5	
1993	3	
1992		

Year-Class	2012	2017
2016		24
2015		26
2014		9
2013		20
2012	4	16
2011	42	6
2010	35	3
2009	5	
2008	9	3
2007	8	2
2006	12	
2005	2	
2004	4	
2003	2	
2002	1	

Additional Management Implications of the Creel

- Fisheries data collected about Whiteface over the last several years allows managers to simulate and test (model) potential management actions (angling regulations) of more conservative regulations
- Some Whiteface anglers have expressed interest in restricting harvest opportunities in an effort to improve Walleye angling

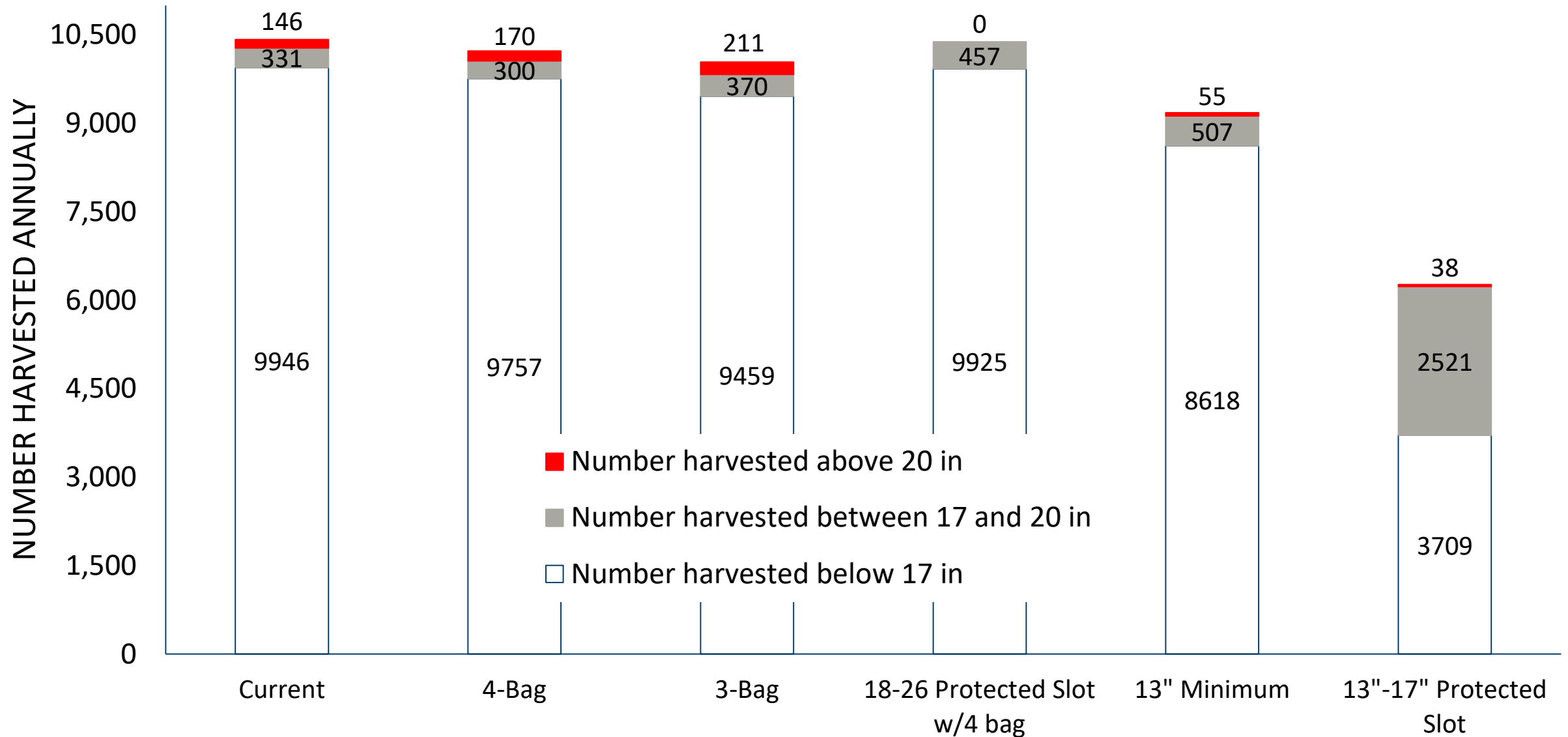


How Modeling Works

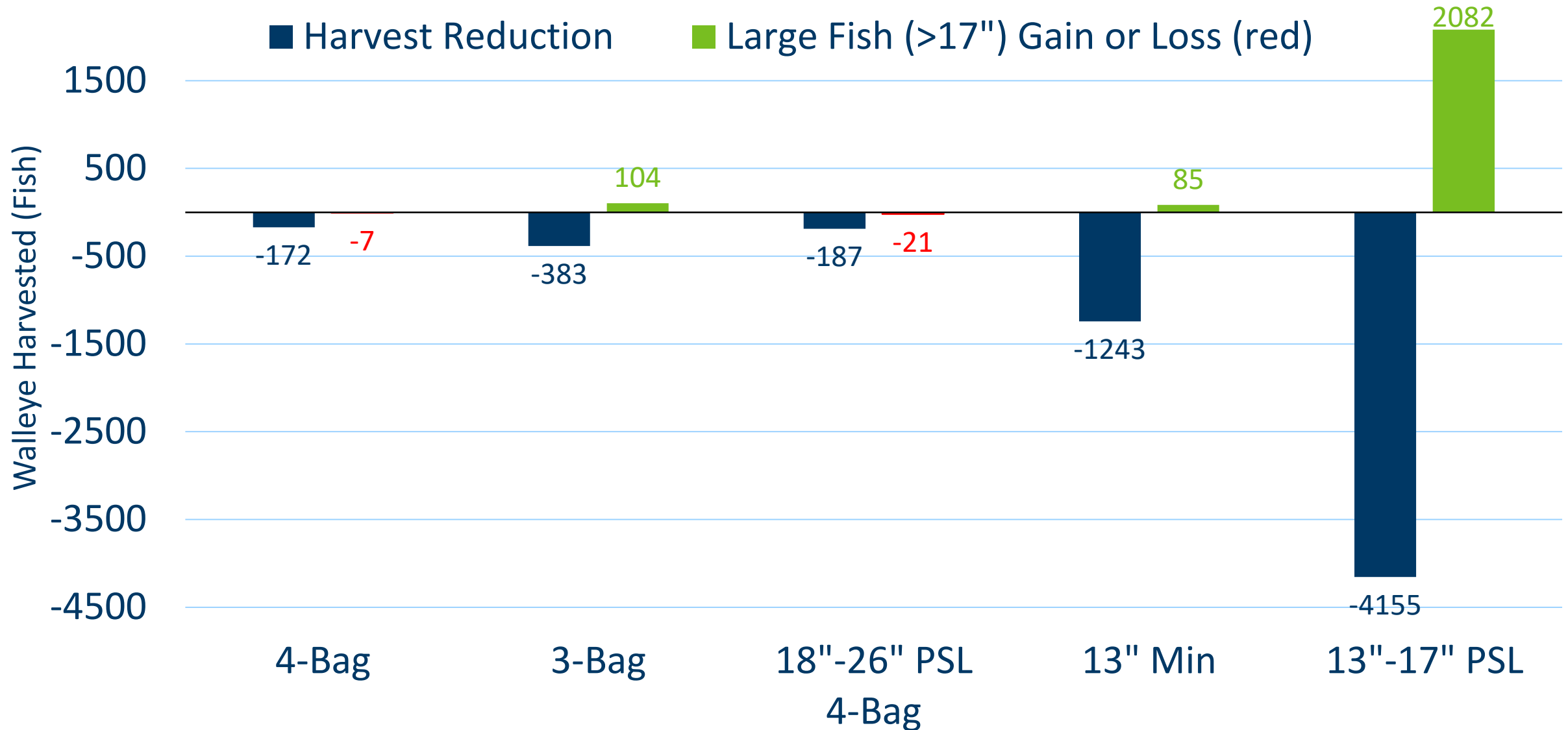
Whiteface fisheries data are used with modeling software to simulate impacts of different regulations on the walleye population over many years

- Angling Pressure/Harvest (Creel from 2017-2018)
- Growth Rates (DNR surveys)
- Natural Mortality (DNR surveys)
- Length/Weight Relationship (DNR surveys)
- Sex and Maturity (DNR surveys)

Model Results



Model Results – Reduction/Gain in Walleye Harvest



Whiteface Tribal Harvest

To date, tribal harvest has been insignificant at Whiteface

- 52.4 pounds of Walleye harvested by the tribe in 2016
 - MN licensed anglers harvested an estimated 10,355 pounds of walleye during 2017-2018
- Tribal harvest has not occurred at Whiteface since 2016

Don't be confused! Tribal **declarations** vs. **harvest**

- Tribes may declare they intend to harvest, but then not actually harvest any fish at all.
- Although harvest was declared on Whiteface in 2019, the tribe choose not to fish at Whiteface and did not harvest any fish

Whiteface Take Home Messages

The current state of the fishery is great!

Walleye population is very stable with consistent recruitment of young fish and a balanced size structure

- Walleye abundance is where we would expect for this type of fishery
- Stocking is unnecessary and would lead to suppressed natural reproduction and poor growth rates/survival
- Special Walleye regulations are biologically unwarranted but may be socially desirable

Panfish populations have increased recently, some anglers are targeting them and those anglers are catching quality Bluegill and Black Crappie

Discussion

- Please provide written input about Whiteface fisheries management on the forms supplied and return to one of us before departing
- Additional forms are available for those whom could not make this evenings meeting
- Thank you for attending and providing input about Whiteface fisheries management!