



# Pigeon Lake Fisheries Management Plan



March 2009

# Agenda

- Background
- Fish Stock classification
- Fish stock allocation
- Species information updates
- Proposed sport fishing regulation changes
- Commercial fishery
- Your feed back

# FMAC Representation

- Alberta Fish and Game Association
- Four Nations Band
- Zone B Commercial Fishermen Association
- Pigeon Lake Watershed Association
- Alberta Conservation Association
- Alberta Sustainable Resource Development

# Why did we do a Management Plan?

- ASRD wanted public direction and consensus on how lake whitefish, walleye and other species should be managed.
- Conflicts between recreational and commercial fisheries.

# Purpose of the Plan

- Outline current fishery status and issues.
- Allocate fish stocks between - First Nations, recreational and commercial fishers.
- Develop fisheries management recommendations.
- Recommend future management actions for enforcement, lake access, monitoring requirements and plan implementation.

# Vision Statement

*Pigeon Lake will be managed to conserve healthy fish populations for present and future generations that can be shared among all users.*

# Management Principles

- Maintain the ecological integrity and habitat of the lake.
- Manage the fishery for conservation and sustainability.
- Maintain a level of enforcement adequate to support management objectives.
- Provide allocation for all fishers for economic or social benefit.
- Keep the public involved and informed about management decisions.
- Maintain public access to the resource.

# Lake Classification

## Trophy

When harvest is low, few young (replacement) fish are needed to sustain the population. Fish grow slowly, spawning later in life.



## Vulnerable

Greater fishing pressure leads to higher harvest levels. Populations become vulnerable when too many spawners are caught.



## Stable

With moderate harvest, fish grow more quickly and spawn at an earlier age. More young are produced to replenish stocks.



## Collapsed

When fishing pressure is too high and nearly all spawners are caught, many populations lose the ability to sustain themselves through natural reproduction.



# Pigeon Lake - stock classifications

- Lake whitefish - stable.
- Walleye – vulnerable-stable, stocked population.
- Northern pike - collapsed-vulnerable.
- Yellow perch - collapsed-vulnerable.
- Burbot - collapsed- vulnerable.

# Fish Allocation - Definitions

- Fish production - is the amount of fish beyond conservation needs that can be harvested.
- Allocation - dividing the fish production among the different users (i.e. how much of the pie does each user group get).

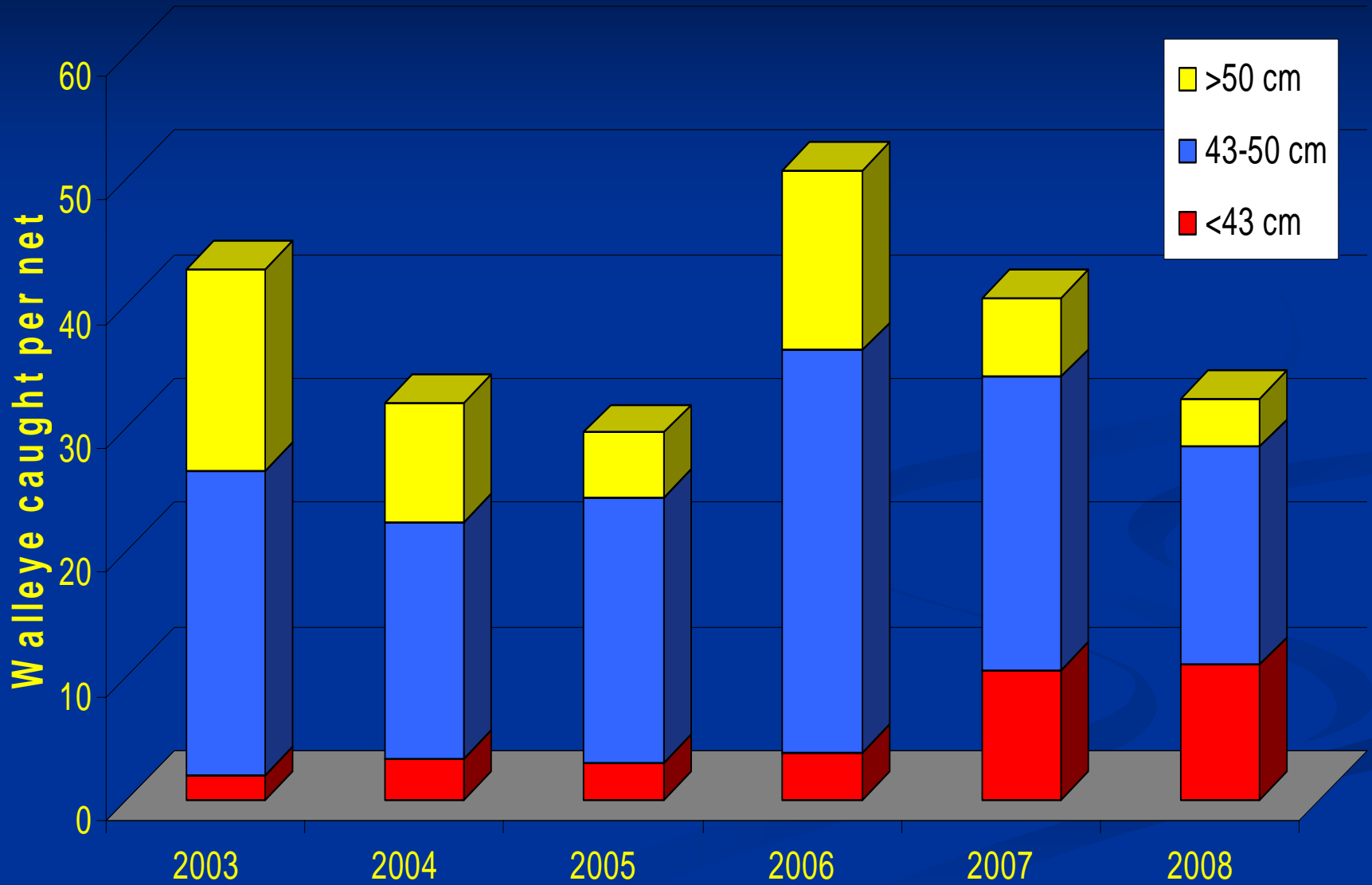
# General Comments

- Catch and release mortality is part of the sport fishery harvest.
- Commercial guidelines - allocation of up to 25% of sport fish production.
- Recovery production - in a collapsed population harvest needs to be kept below this level for the population to recover.

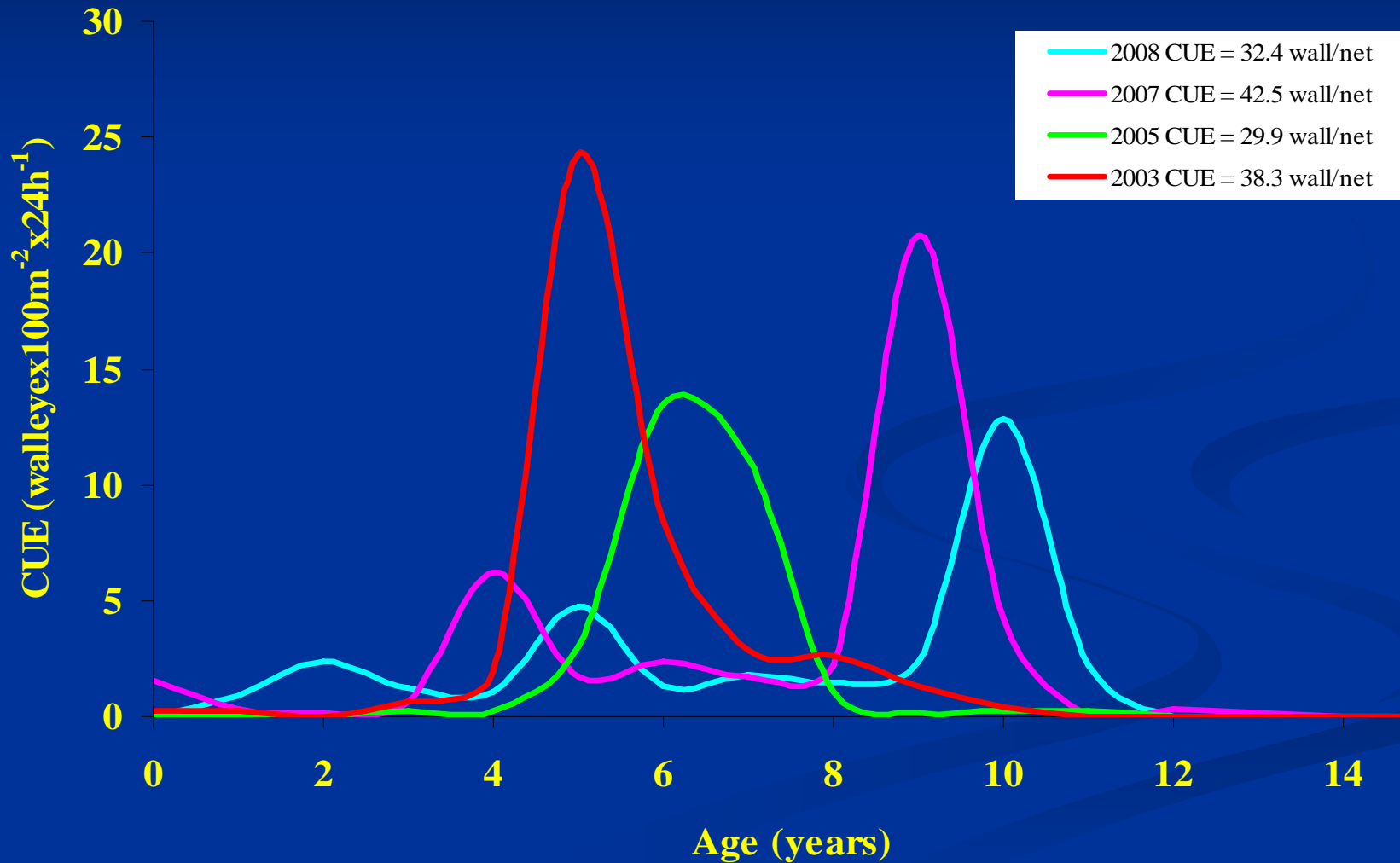
# Production & Allocation (kg)

	Potential Production	Recovery Production	Current Allocation			
			Domestic	Commercial	Sport	Total
Whitefish	135,000		15,000	100,000	20,000	135,000
Pike	21,274	5,318	400	1,300	2,000	5,300
Perch	21,274	5,318		500	4,000	4,500
Walleye	12,088		2,900	500	11,349	14,749

# Fall Walleye Index Netting Catch by Size Category



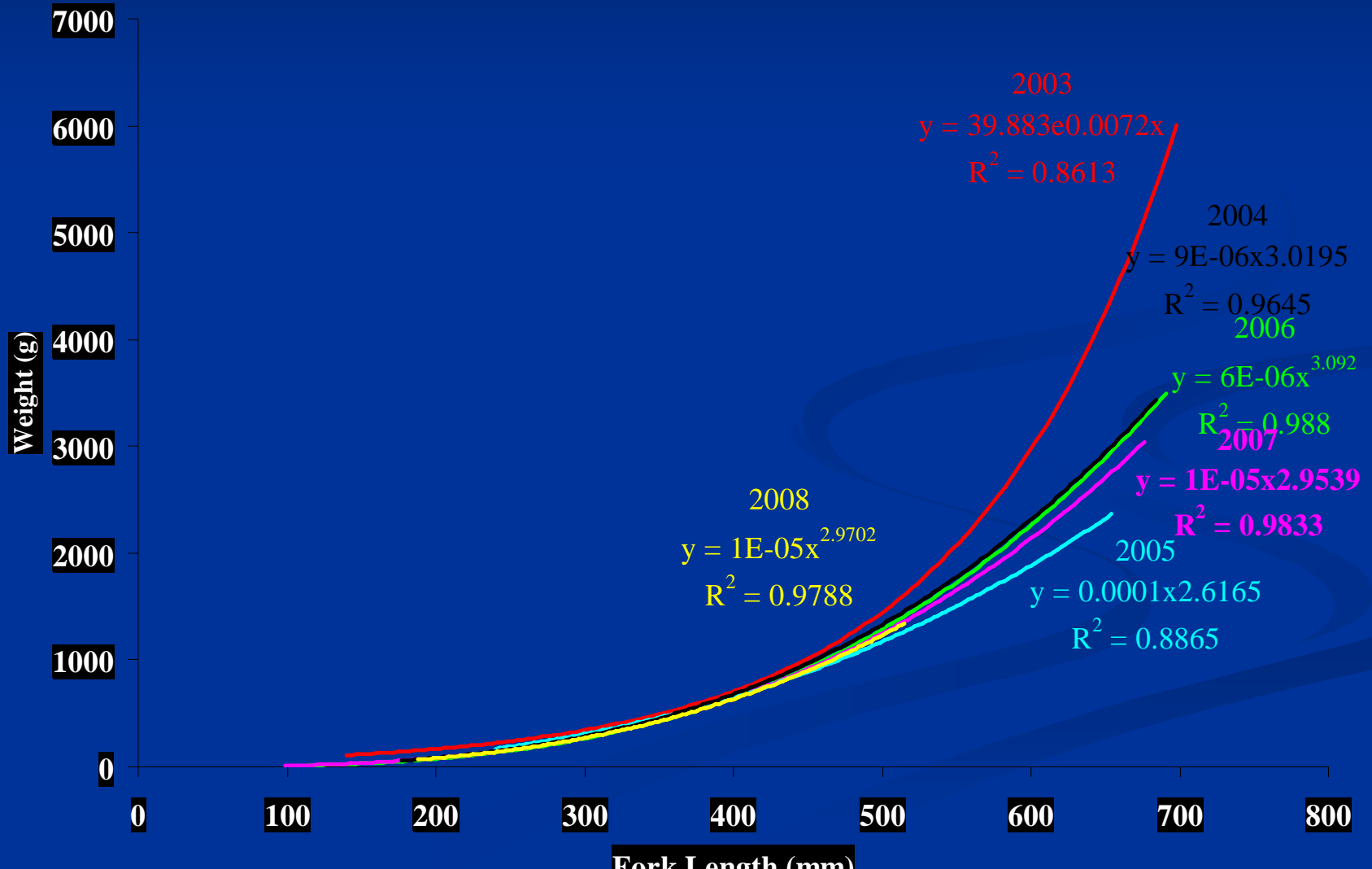
# Walleye – Age distribution



# Walleye Recruitment

	Walleye recruitment after 1999	
	% of sample	fish/net/ 24 hrs
2008	46.1	15.0
2007	34.7	14.7
2006	27.8	14.8
2005	13.4	3.9
2004	18.2	7.2
2003	2.2	1.0

# Walleye condition



# Summer Creel

	Angling Pressure hours/ha	walleye/ hour	C & R Mortality (# fish)	Tag Harvest (# fish)
1999	1.2	0.30	160	-
2003	3.3	2.97	3,600	-
2006	4.6	4.13	11,416	331
2007	4.4	3.50	8,352	4,013

# Special Walleye Licences

Size class	Available ( <i>SOLD</i> )		
	2006	2007	2008
Small (<43 cm)	0	0	4,683 (1,374)
Medium (43-50 cm)	3,450 (425)	3,804 (1,708)	1,411 (1,411) <i>oversubscribed</i>
Large (>50 cm)	1,600 (900)	4,747 (1,539)	1,035 (1,035) <i>oversubscribed</i>
Total	5,050 (1,325)	8,551 (3,247)	7,129 (3,820)

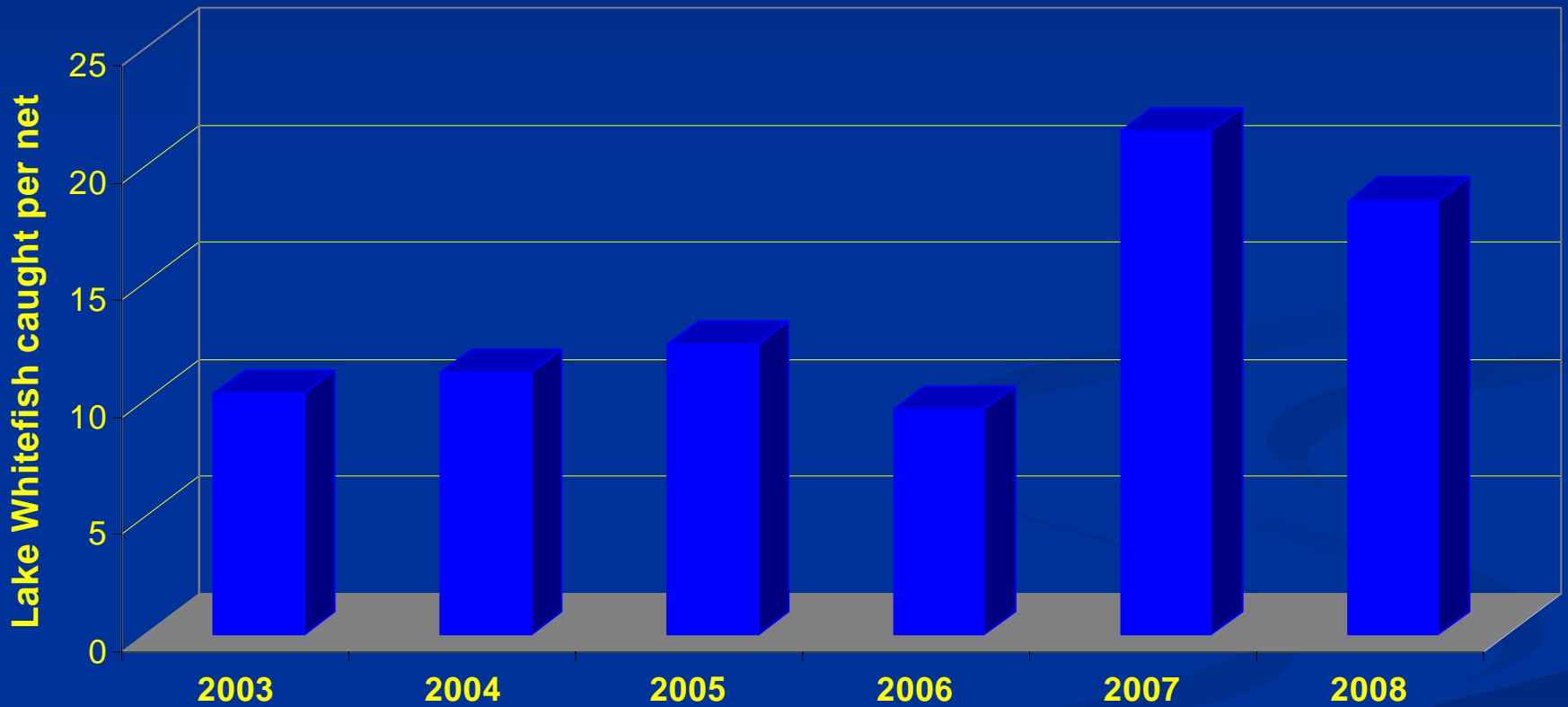
# Calculating Tag Numbers

- Target walleye density levels have been set, harvest is allowed when these density levels are exceeded.
- We use the most recent index netting data to determine density.
- Other factors – accidental mortality (catch & release), illegal harvest, First Nations harvest, commercial harvest

# Walleye Management

- Sport fish harvest will continue to be managed through the Special Walleye Licence.
- To reduce the accidental mortality of walleye released by anglers, a ban on the use of all baits including scented or flavoured lures is proposed. The use of maggots and mealworms would continue to be allowed. (this would also benefit northern pike)
- To reduce the accidental mortality of fish released by anglers, it is proposed to allow only one hook (could be a single or treble hook) per lure.

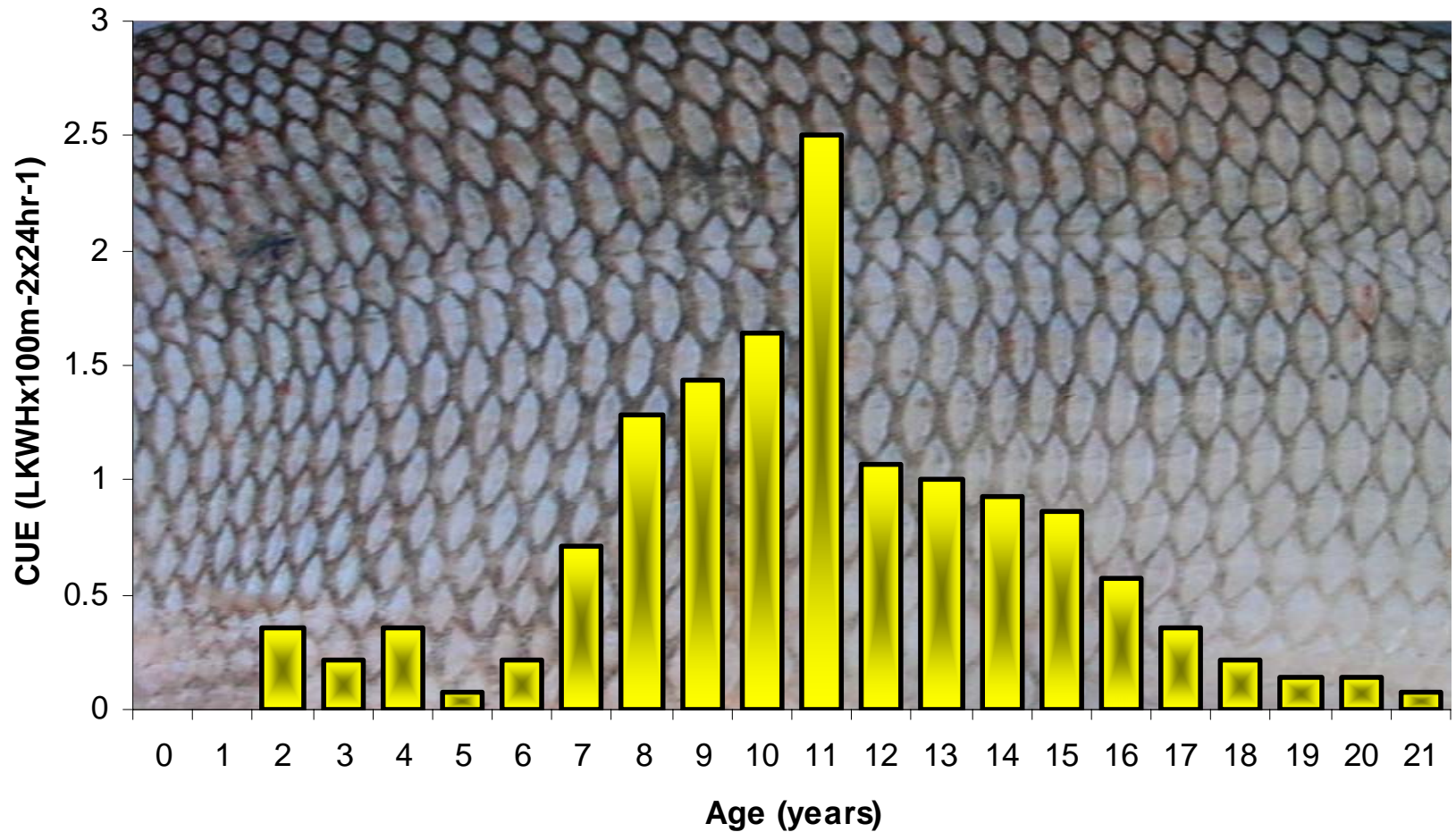
# Index Netting – Whitefish Catch



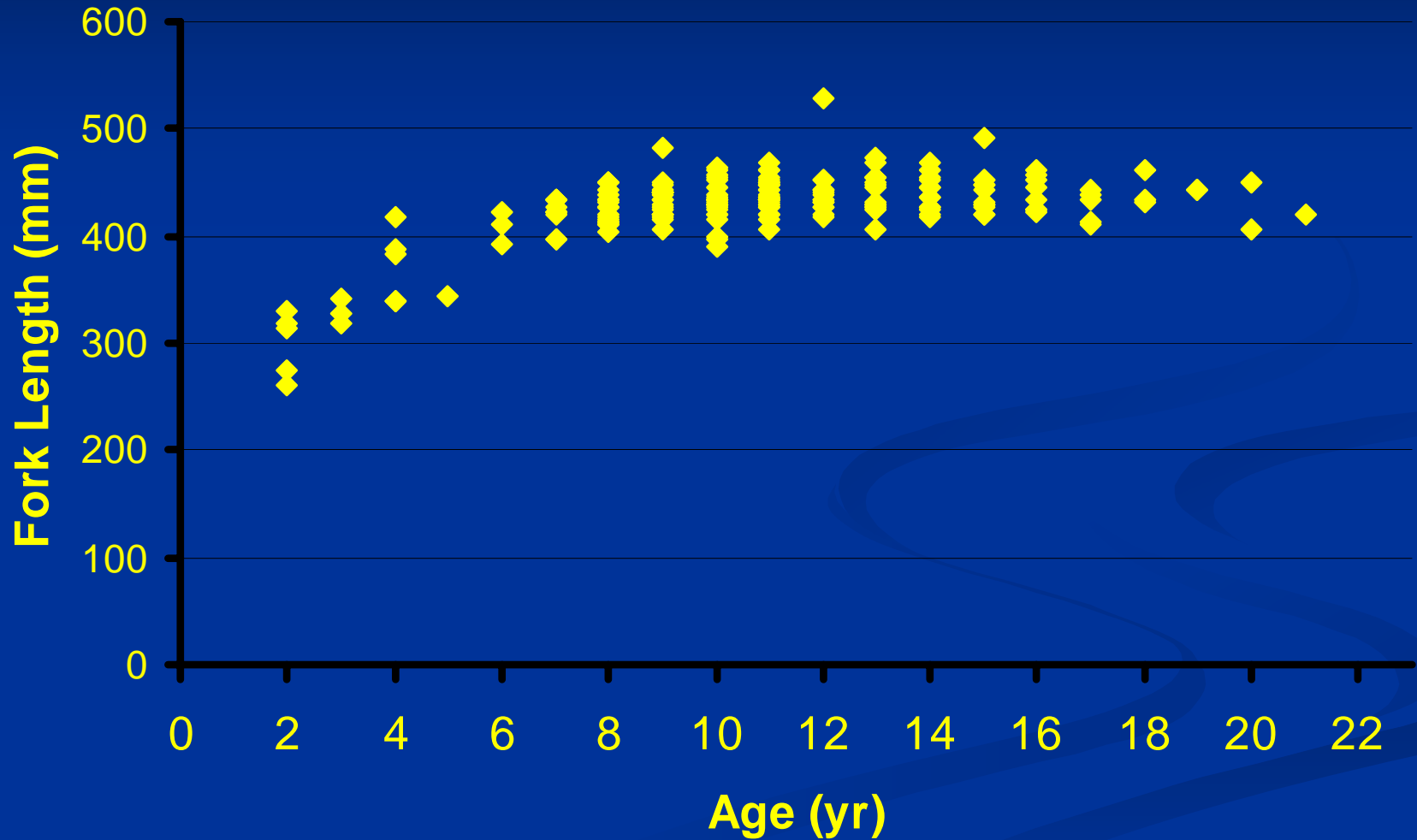
# Average Length & Weight - Whitefish



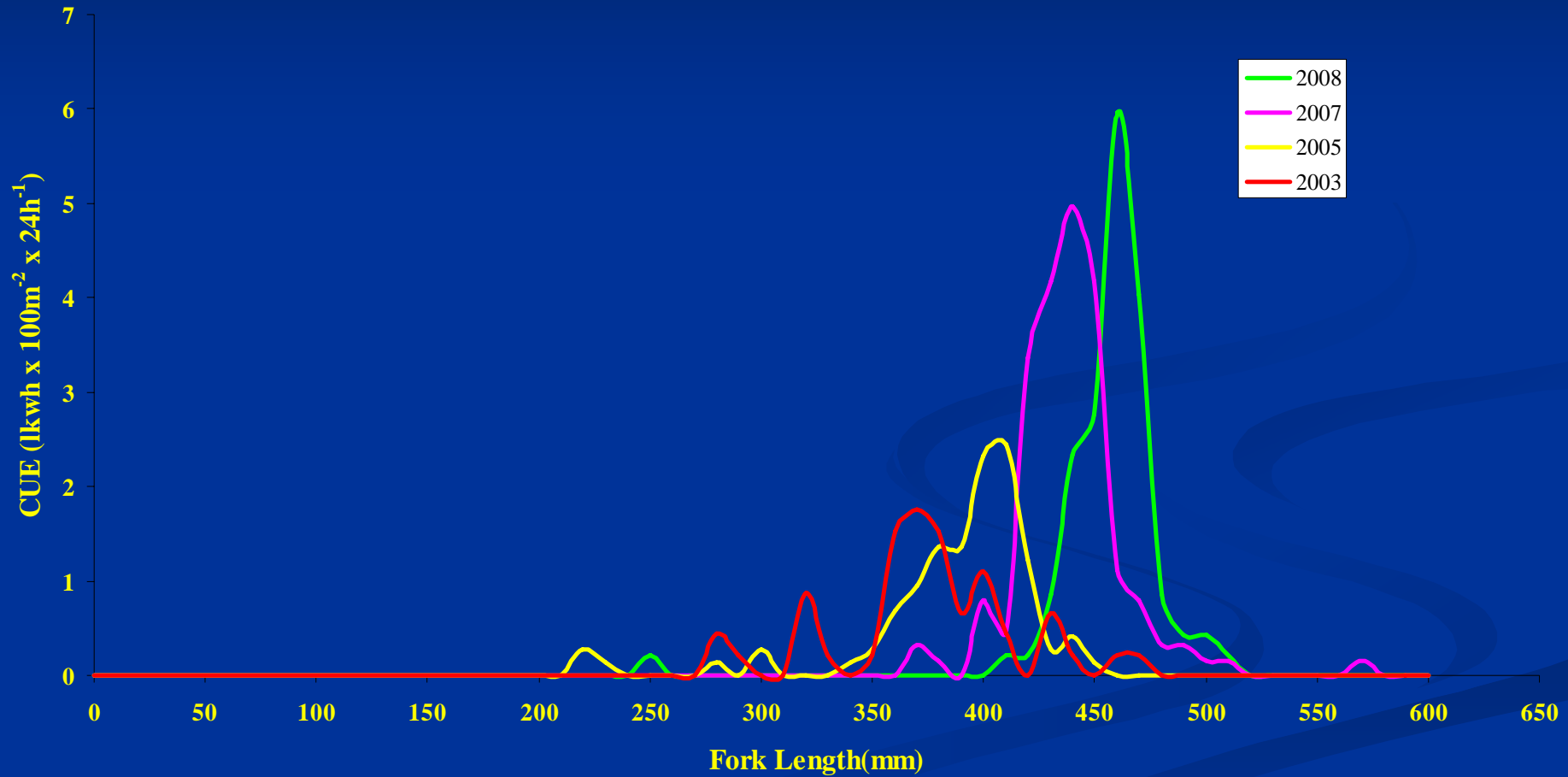
# Lake Whitefish - January 2008



# Lake whitefish: length at age



# Lake whitefish – length dist'n



# Whitefish – winter creel

	Angler Pressure (hours/ha)	Whitefish/hour
1972/73	3.1	0.5
1973/74	2.0	0.3
1988/89	12.3	0.24
2001/02	7.3	0.24
2007/08	4.5	0.05

# Lake whitefish - Management

- No proposed changes.
- Continue to manage the sport fishery with a catch limit of ten (10) fish.

# Northern pike

- Population continues to remain low.
- Fishing pressure is a factor, but habitat loss is also a major factor.
- Recovery of a healthy pike population is unlikely to occur unless shoreline habitat is restored around the lake.
- It is recommended that the size limit for harvest be increased from one fish over 63 cm to one fish over 100 cm.

# Burbot

- Population continues to remain low.
- It is recommended that the catch limit for burbot be decreased from three (3) fish to one (1) fish.

# Commercial Fishery

- suspended after the walleye and northern pike tolerance quotas were exceeded in 2000.
- Since 2000 the number of commercial fishing gear units (i.e. nets) was reduced from 520 to 137 and the number of commercial fishers from 248 to 32.

# Commercial Fishery

- January 2008 – did a limited test with different mesh sizes.

Mesh size	Number of fish per 100 meter net		
	Lake whitefish	Walleye	Northern pike
102 mm (4 in)	98.8	22.2	0.2
140 mm (5.5 in)	90.4	2.5	0.1

# Proposed Commercial Test Fishery

- January 2010
- Mesh size of not less than 140 mm (5.5")
- Nets can be pulled and reset only once per day, nets can only be set and not checked on opening day (i.e. no continuous checking or running of the nets)
- Quotas
  - Lake whitefish- 50,000 kg.
  - Northern pike- 1,300 kg.
  - Yellow perch- 500 kg.
  - Walleye- 750 kg.

# Your comments

- Walleye Management – tag system, bait ban, hook reduction
- Lake Whitefish Management
- Northern Pike Management – increase size limit
- Burbot Management – decrease catch limit
- Commercial Fishery – test fishery