

Fisheries Management

Lake Wausau



Al Niebur – DNR Fish Team Supervisor

Lake Wausau Management Plan Meeting
September 28, 2017



FISHERIES MANAGEMENT



WAUSAU FISHERIES STAFF

PORTAGE AND MARATHON COUNTIES



Fisheries
Biologist
Vacancy



Al Niebur
Fisheries Team Supervisor



Jake Thompson
Fisheries Technician



FISHERIES MANAGEMENT



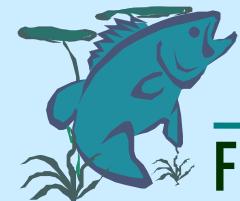
Topics Covered

- Fishery Characteristics and Historical Fish Management
- Fish Population Status
- Recommendations



Characteristics of Lake Wausau Fishery Regulations

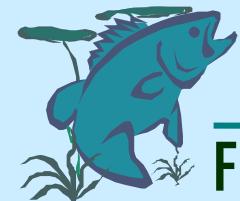
- Gamefish on the Wisconsin River are open year-round to fishing in Marathon and Portage Counties
- Fishery follows General Inland Rules for bag limits and length limits; except for walleye and panfish
- No minimum size on Walleye prior to 1990 on the Wisconsin River
- 1990 – 15 inch minimum size was established on the Wisconsin River walleye population
- 2002 – Slot limit established on Wisconsin River from Grandfather Dam (Lincoln County) to Prairie Du Sac Dam (Sauk County).
 - **5 bag, 15-20" harvest slot, 20-28" closed, 1 fish >28"**
- 2016 – Special Panfish Regulations: 25 daily bag limit but no more than 10 of each panfish species



Characteristics of Lake Wausau Fishery

Surveys, Stocking, Other Management

- 4 comprehensive fish surveys conducted in the last 30 years
- Most of the fishery is maintained from natural reproduction.
- Muskellunge maintained through private stockings.
- Lake sturgeon are present due to restoration stocking efforts in the Upper Wisconsin River.



FISHERIES MANAGEMENT



Fish Population Assessment

How and when does the DNR conduct fish surveys in Lake Wausau?



Spring Fyke-Netting





Electrofishing (Boomshocker)



Sampling Schedule

- Annual Fall Electrofishing Surveys:
 - Monitor walleye recruitment (new survey starting in 2017)
- Comprehensive Fish Community Survey
 - 7 year Rotation
 - Last survey in **2012**
 - **Next Survey is being moved up to 2018**

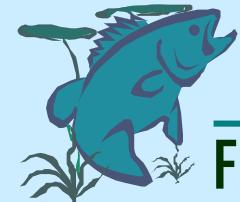


FISHERIES MANAGEMENT



What Information is Collected?

- Length
- Weight
- Gender
- Abundance (Total and Relative)
- Age and Growth



How does the DNR gauge a fish population?

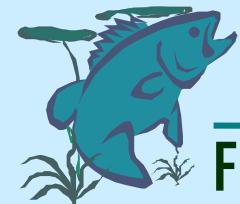
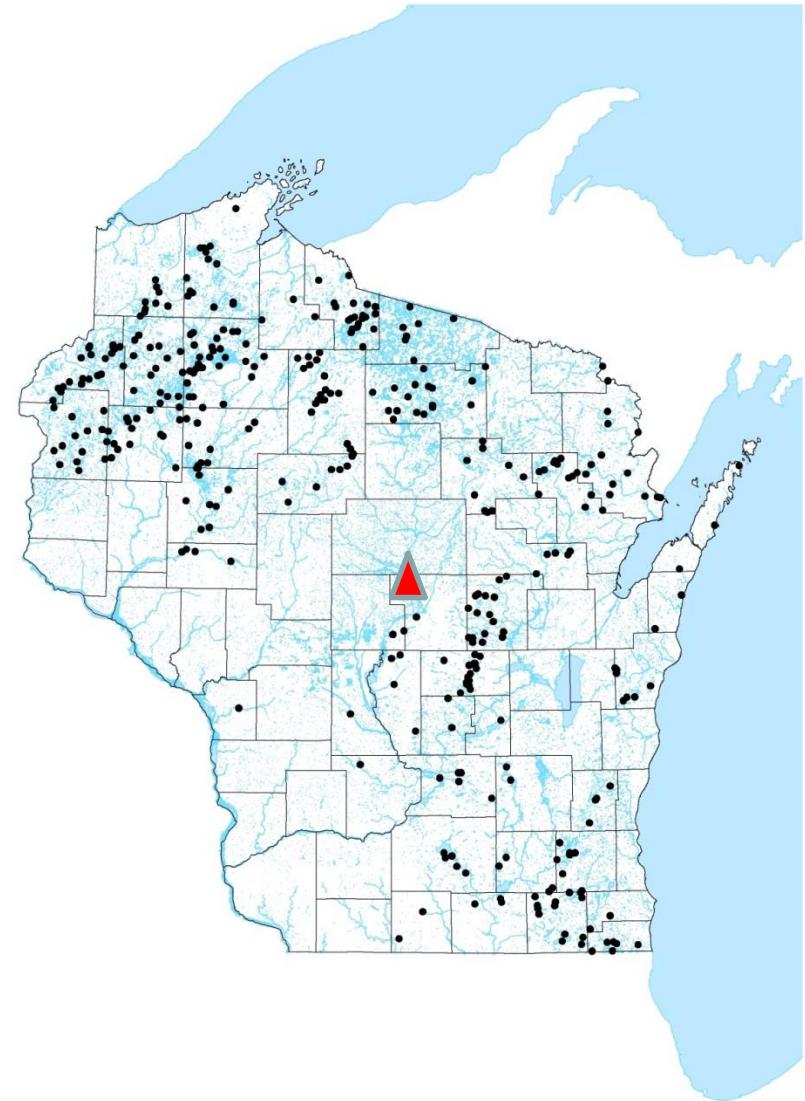
Metrics:

- Abundance
- Size Structure
- Growth



Metric Analysis

- Statewide Comparison
- Comparison to other WI River Flowages
- Trends over time in Lake Wausau



FISHERIES MANAGEMENT



Fish Population Status and Trends

Lake Wausau



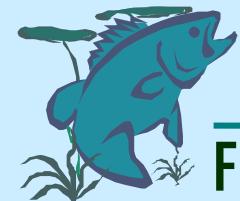
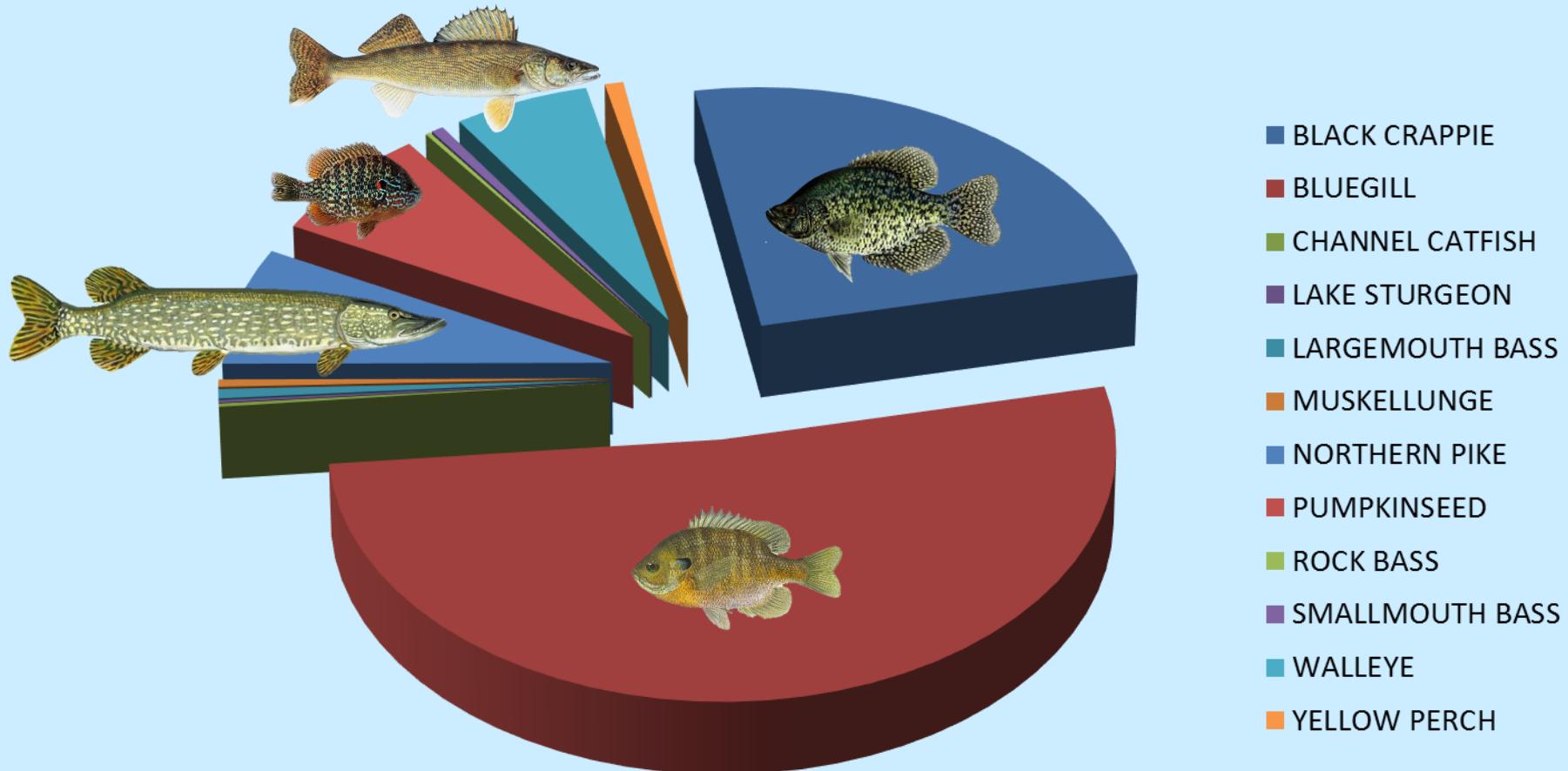
FISHERIES MANAGEMENT



WISCONSIN
DEPT. OF NATURAL RESOURCES

Gamefish and Panfish Catch

Fyke Netting - 2012



FISHERIES MANAGEMENT

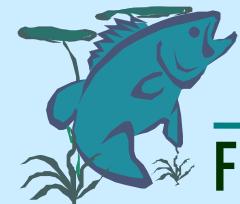


WISCONSIN
DEPT. OF NATURAL RESOURCES

Fish Community



BLACK BULLHEAD
BLACK CRAPPIE
BLACK REDHORSE
BLUEGILL
BOWFIN
BROWN TROUT
CHANNEL CATFISH
COMMON CARP
GOLDEN REDHORSE
GOLDEN SHINER
LAKE STURGEON
LARGEMOUTH BASS
LOGPERCH
MUSKELLUNGE
NORTHERN HOG SUCKER
NORTHERN PIKE
PUMPKINSEED
ROCK BASS
SHORthead REDHORSE
SILVER REDHORSE
SMALLMOUTH BASS
TADPOLE MADTOM
TROUTPERCH
WALLEYE
WHITE SUCKER
YELLOW BULLHEAD
YELLOW PERCH



FISHERIES MANAGEMENT

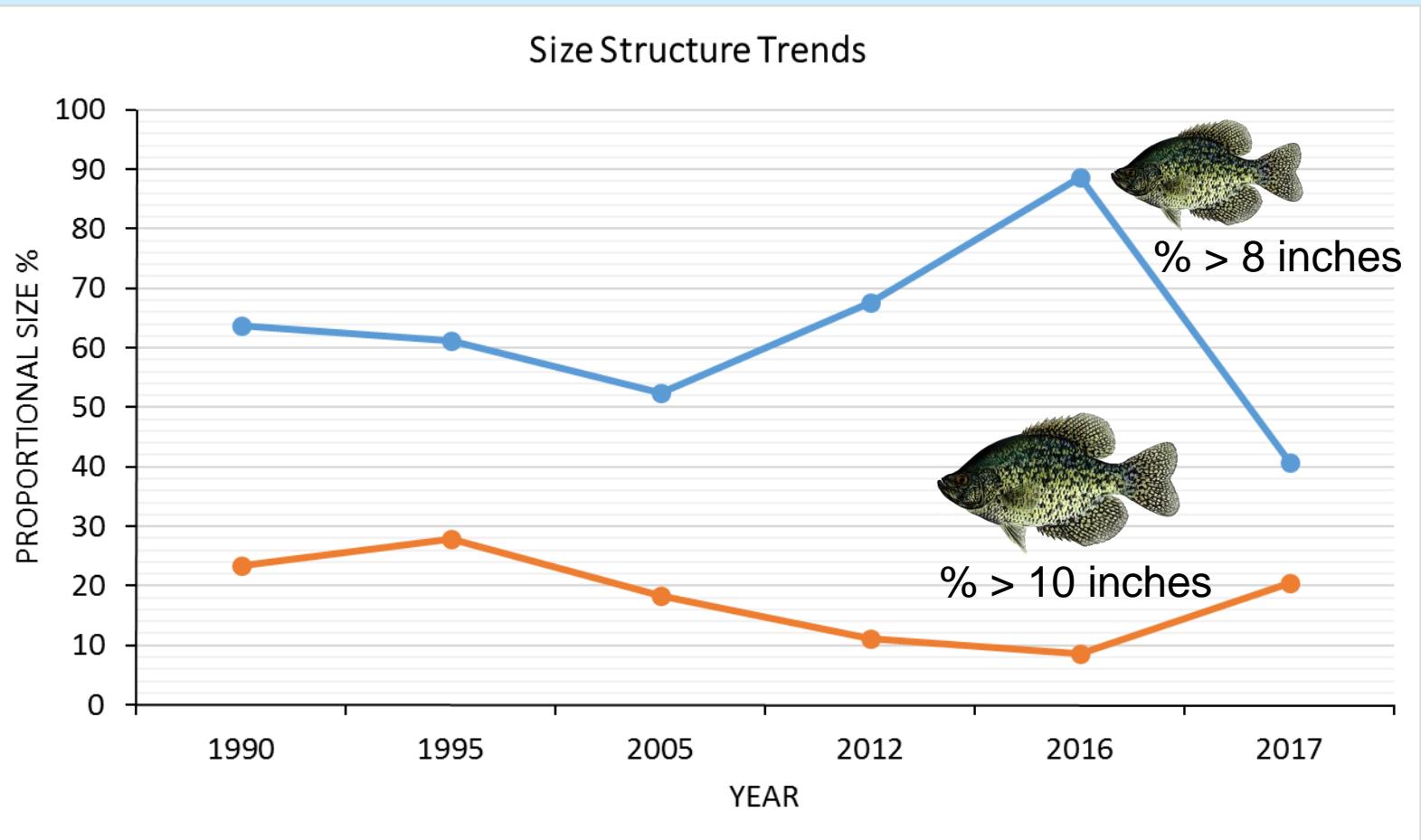


Black Crappie Status

- Abundance: Moderate
 - Electrofishing
 - CPE (all sizes) = 5.4 per mile (47th percentile)
 - Fyke Netting – 2012
 - Net CPUE = 5.6 per net night (63rd percentile)
- Size Structure: Moderate
 - PSD8 = 70% (60th percentile)
 - RSD10 = 11%
- Growth: Moderate

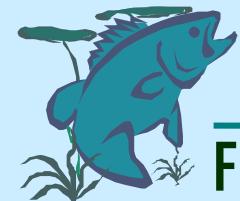


Abundance and Size Trends

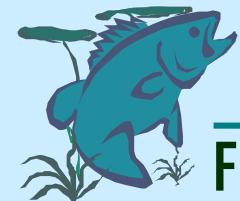
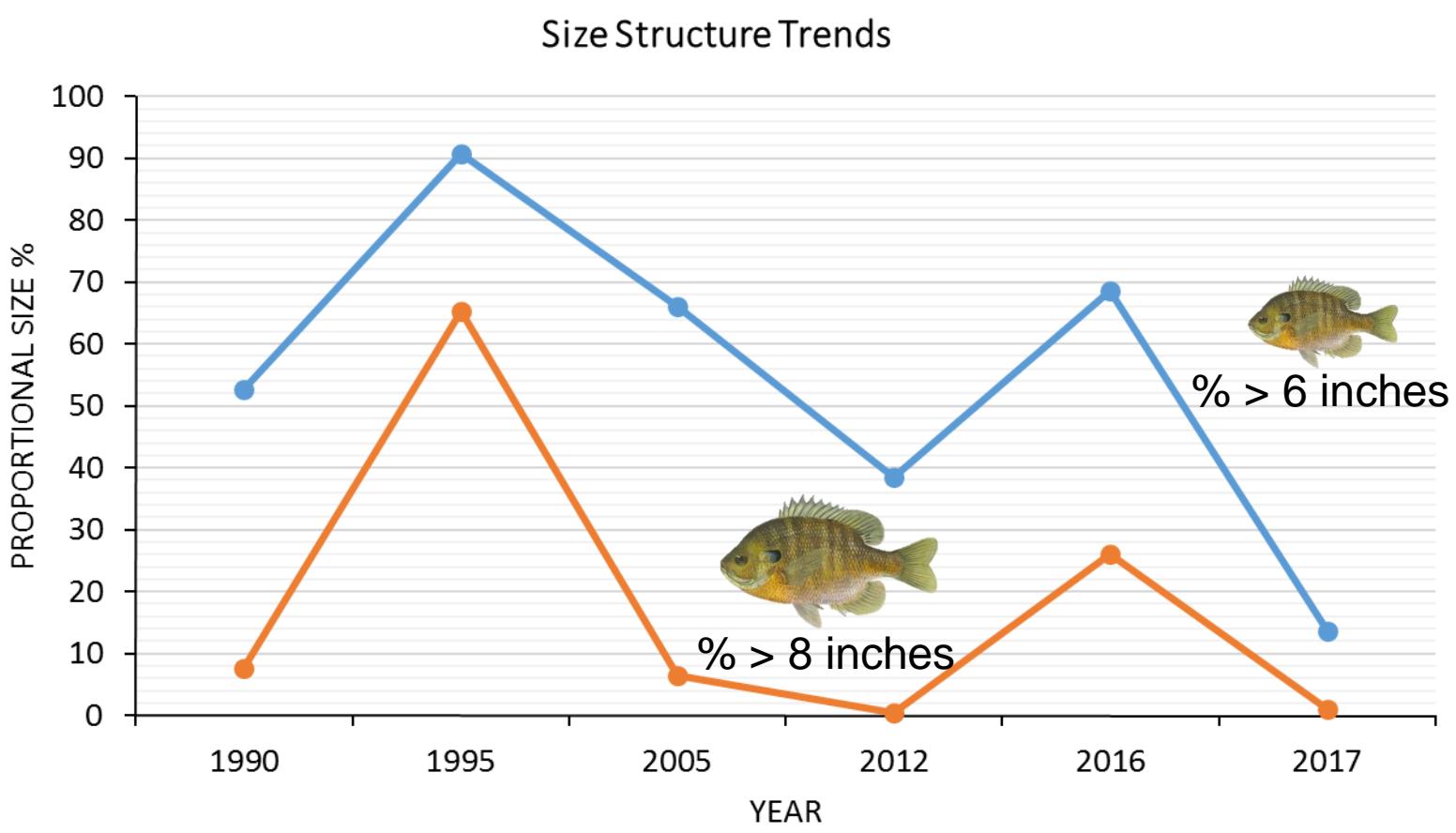


Bluegill Status

- Abundance: Moderate
 - Electrofishing
 - CPUE all sizes = 11.1/mile (15th percentile)
 - Fyke Netting - 2012
 - CPUE = 12.0 net night (54th percentile)
- Size Structure: Low
 - PSD6 = 14% (20th percentile)
 - PSD8 = 1%
- Growth: Moderate

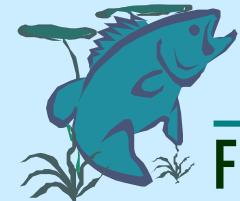


Bluegill Abundance and Size Trends

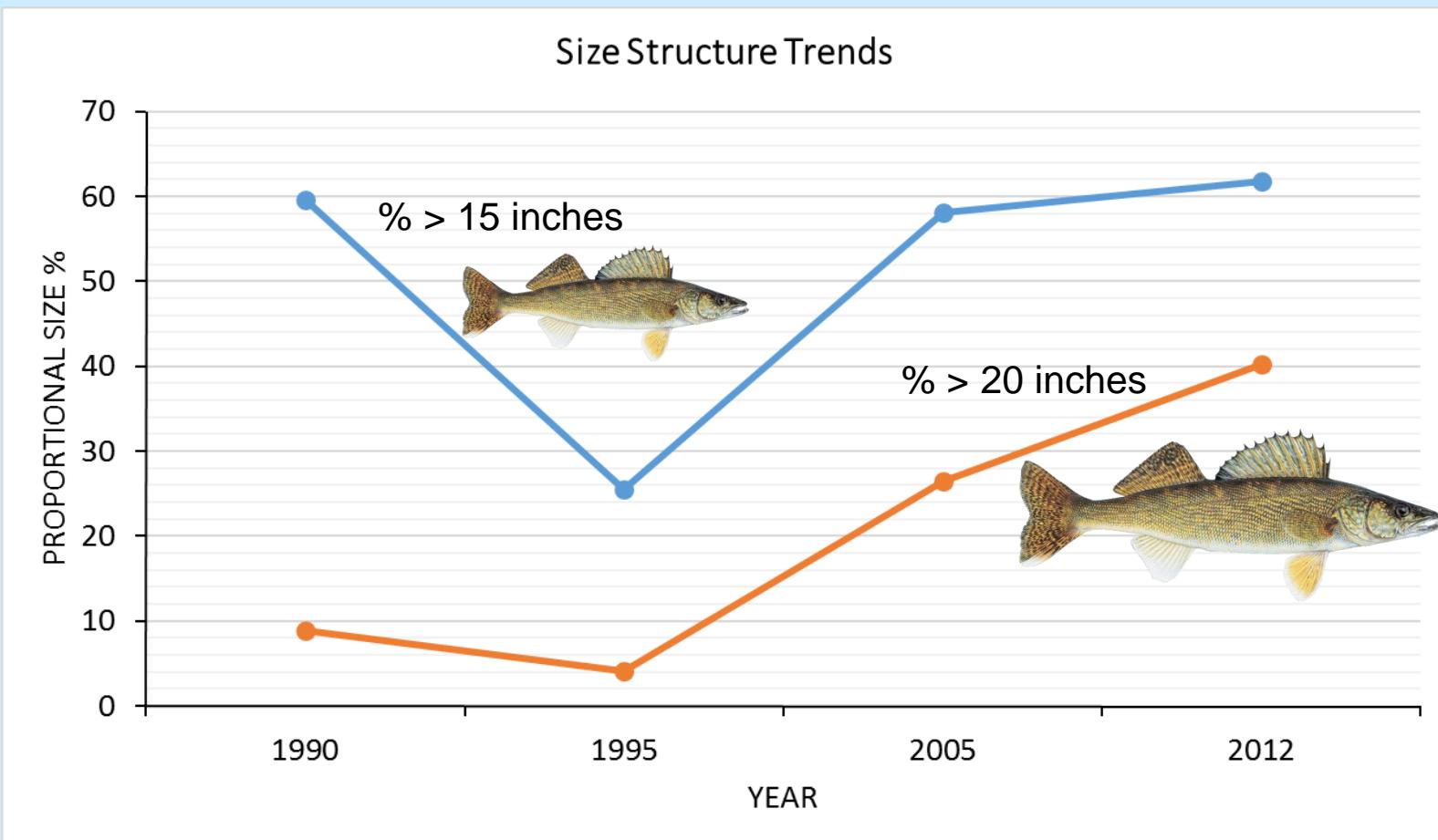


Walleye Status-2012

- Abundance: Moderate
 - Net CPUE = 2.82 net night (50th percentile)
- Size structure: Moderate-High
 - PSD15 = 73% (64th percentile)
 - RSD20 = 49%
- Growth: Moderate

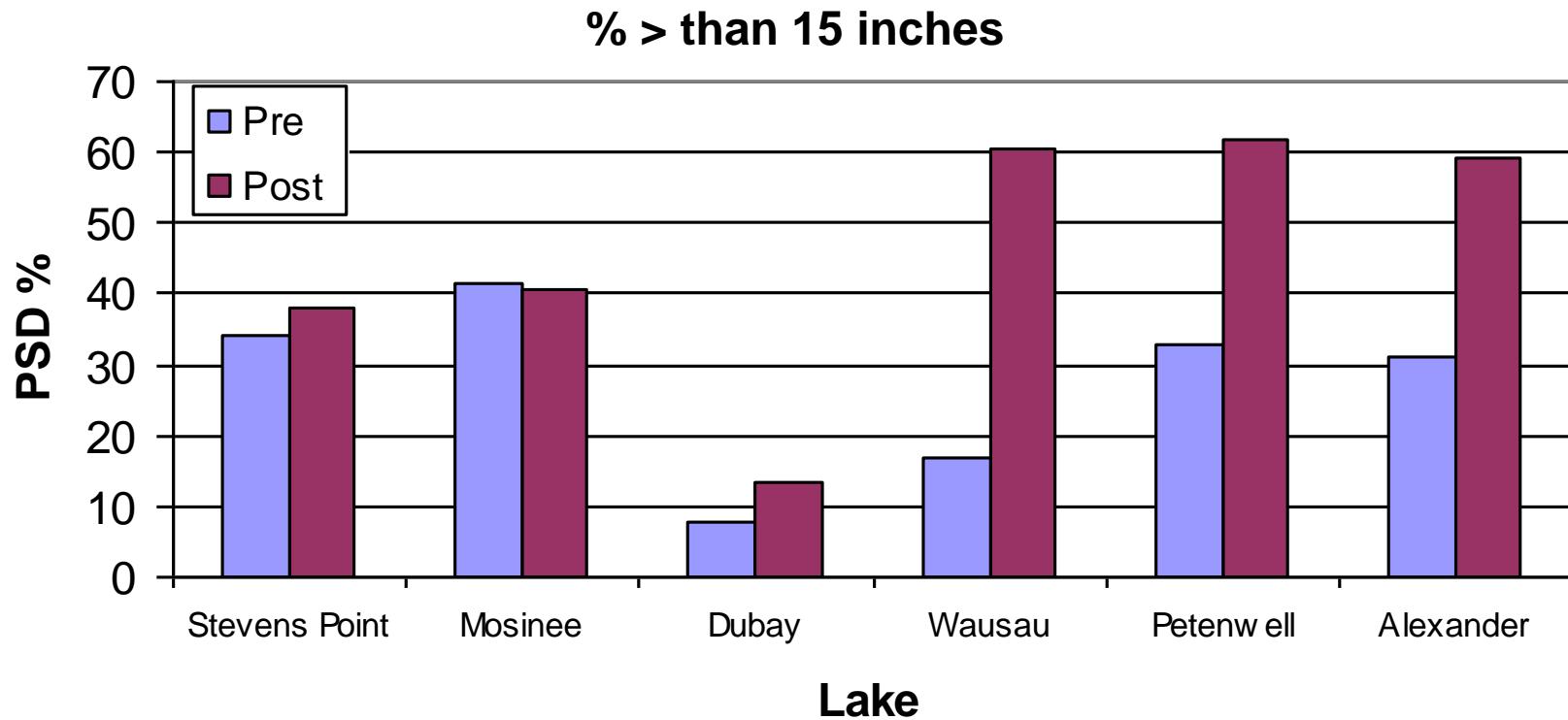


Walleye Size and Abundance Trends

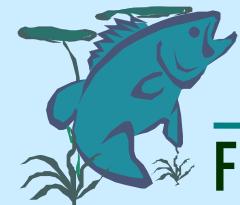


FISHERIES MANAGEMENT

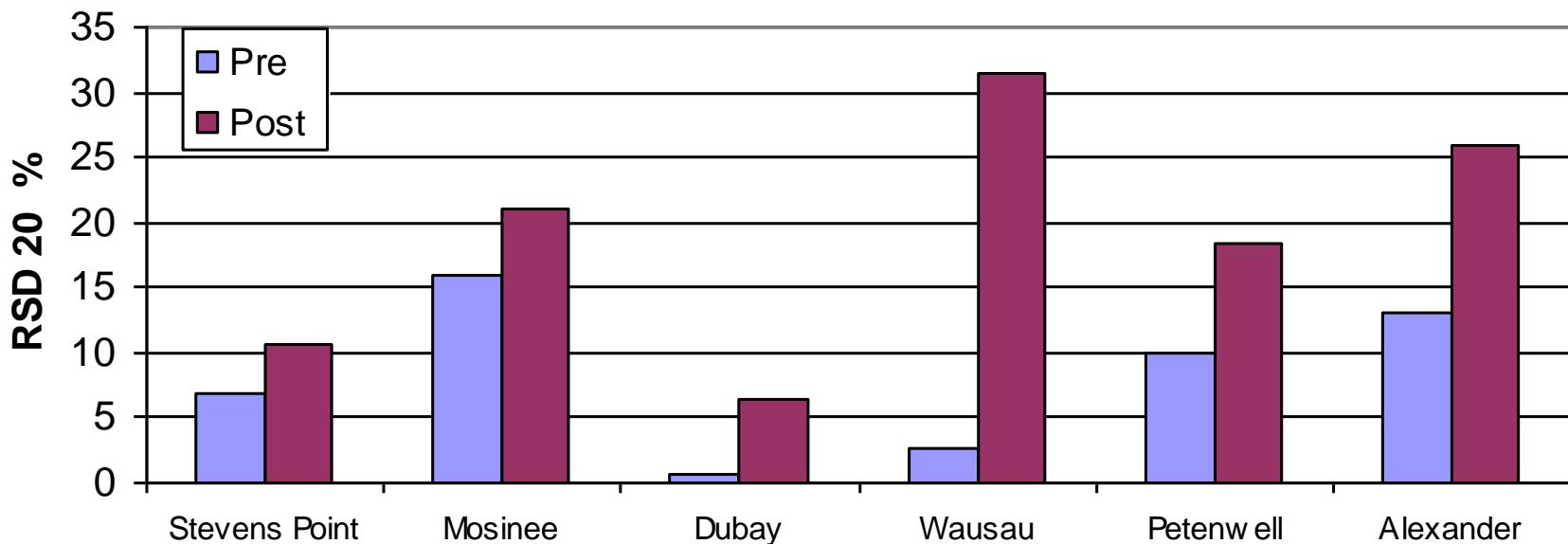




A comparison of pre-regulation and post-regulation stock density (PSD) for walleye from 6 flowages of the Wisconsin River.



% > than 20 inches

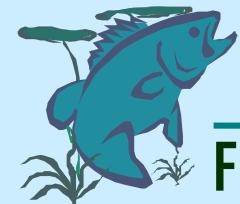


A comparison of pre-regulation and post-regulation stock density (RSD20) for walleye from 6 flowages of the Wisconsin River.



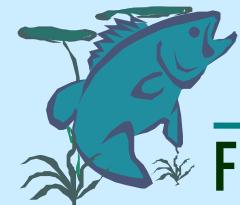
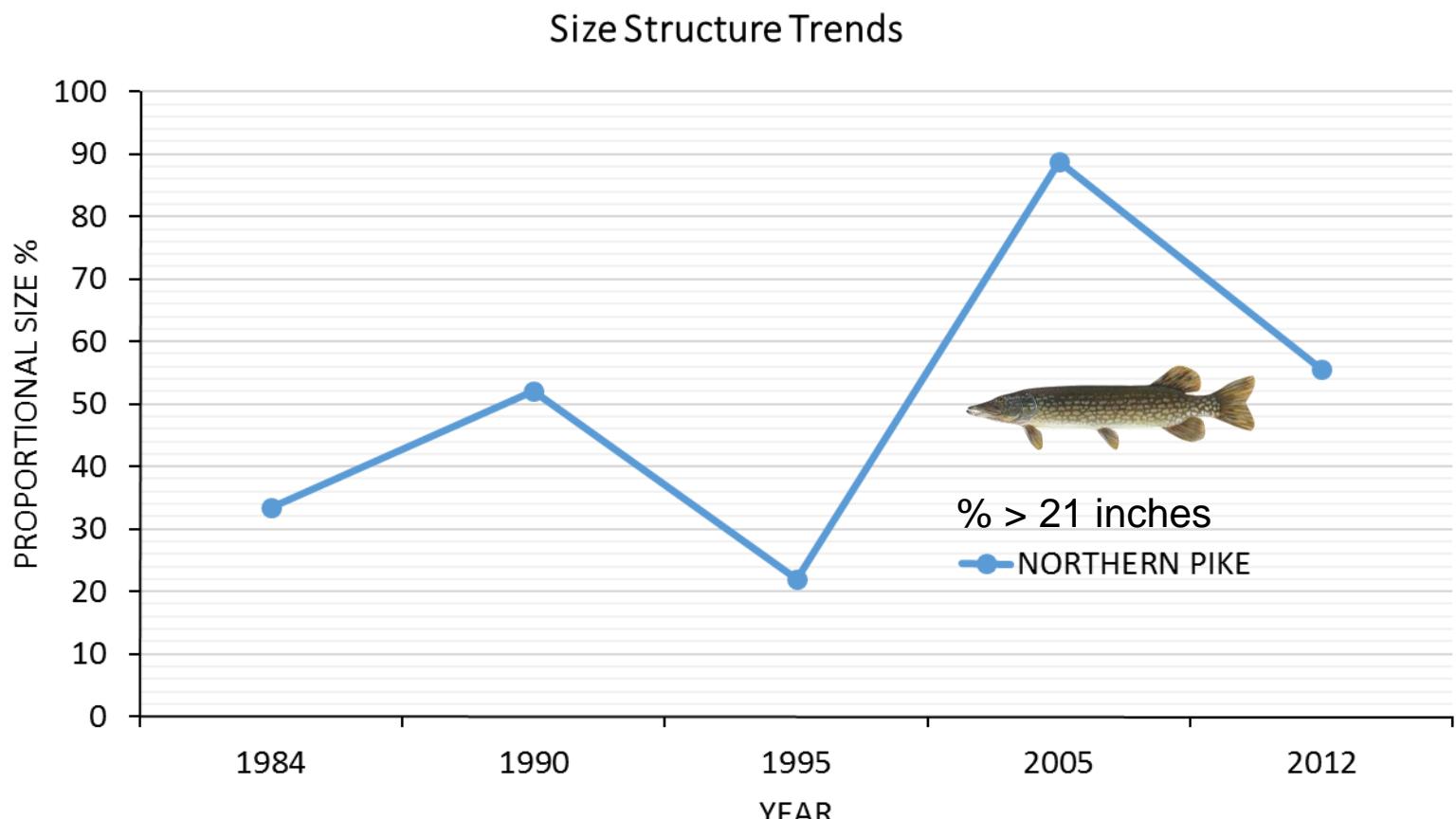
Northern Pike Status

- Abundance: Moderate
 - Net CPUE = 2.6 net night (66th percentile)
- Size Structure: High
 - PSD21 = 78% (87th percentile)
 - RSD26 = 43%
 - RSD34 = 11%
 - Largest = 38.6 inches
- Growth: Fast



Northern Pike

Abundance and Size Trends



FISHERIES MANAGEMENT



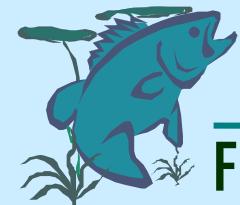
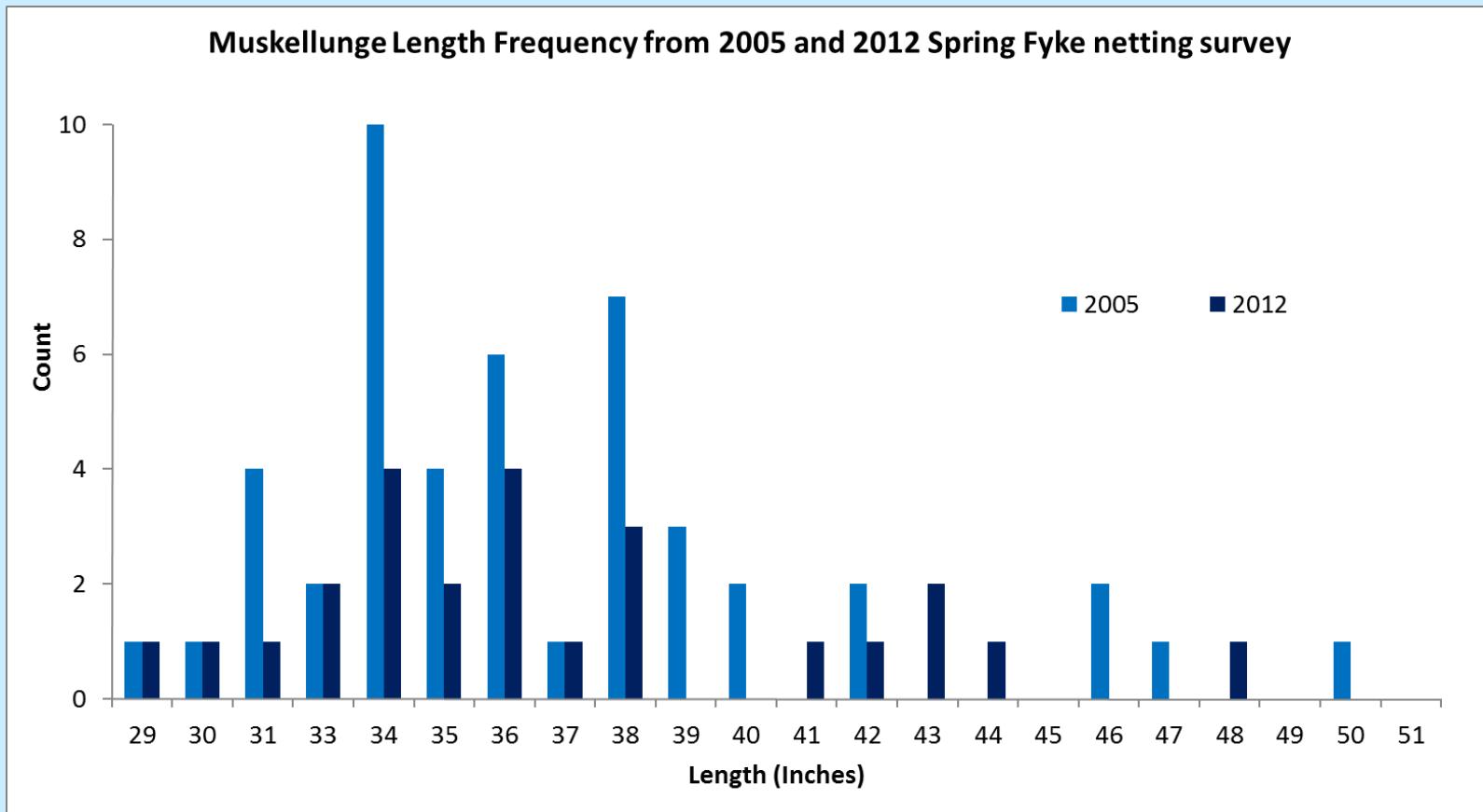
WISCONSIN
DEPT. OF NATURAL RESOURCES

Muskellunge Status

- Abundance: Moderate
 - CPUE = 0.23 per net night
- Size Structure: High
 - PSD34: 85%
 - RSD42: 14%
 - Largest Musky = 48.0 inches
- Growth: Moderate

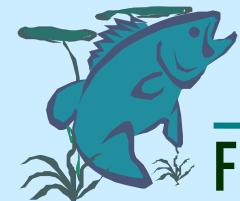
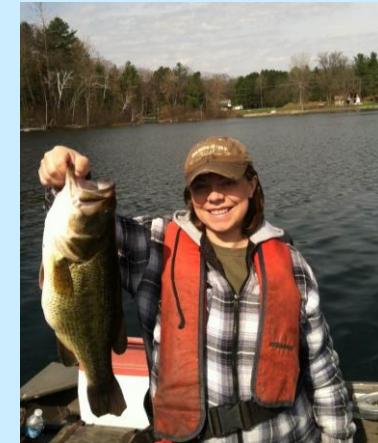
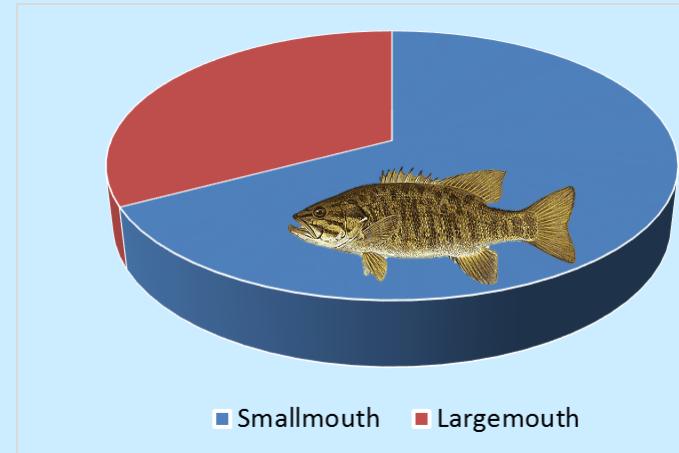


Abundance and Size Trends

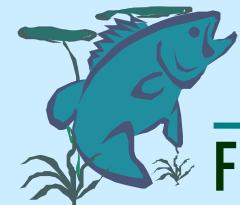
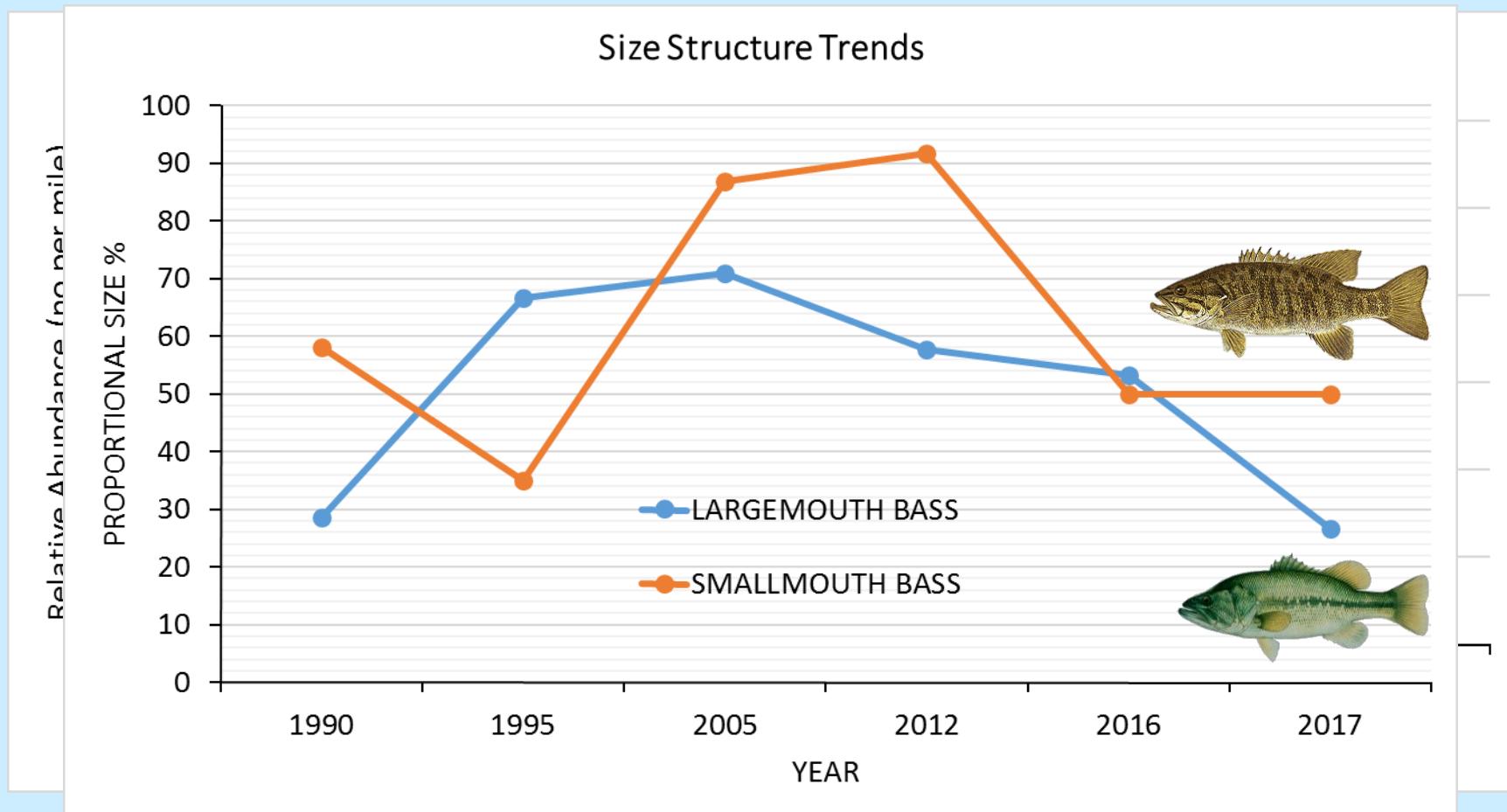


Black Bass Status

- Abundance: Moderate
 - Smallmouth CPE = 3.9 per mile (50th percentile)
 - Largemouth CPE = 1.9 per mile (16th percentile)
- Size Structure: High
 - Smallmouth PSD14: 89% (90th percentile)
 - Largemouth PSD15: 57%
 - Largest Smallmouth: 20.7 inches
 - Largest Largemouth: 19.9 inches
- Growth: Moderate



Abundance and Size Trends



Management Recommendations

- Continue fisheries assessments
 - Annual fall walleye recruitment survey
 - Comprehensive Surveys on 7 year rotation (next survey in 2018)
- Continue evaluations on fishing regulations
 - Panfish 10/25 bag limit
 - Walleye Harvest Slot
- Aquatic Habitat
 - Maintain and/or enhance coarse woody habitat
- Angler Perception Survey?
- Other??

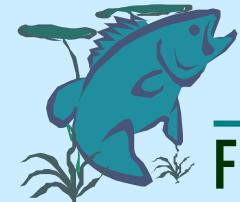


Coarse Woody Habitat

- Survey conducted by UWSP in 2005 estimated 241 logs per mile*



* Crunkilton, R and C Koeller. 2015. Lake Wausau In-lake Habitat, UW Stevens Point

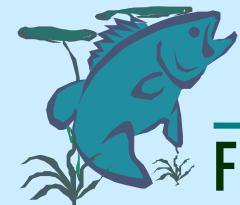


FISHERIES MANAGEMENT



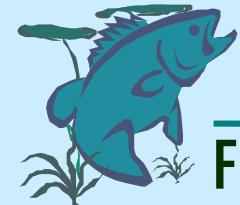
Management Plan – Black Crappie

- **Goal:** A crappie population of moderate density with a high proportion of quality size (8+ inch) and moderate proportion of preferred size (10+ inch) fish.
- **Objective (density):** A relative abundance of 10-15 crappie per net night from spring fyke netting surveys.
- **Objective (size structure):** Of all crappie 4.0 inches and longer captured by fyke net in spring, 40-60% should be 8.0 inches or longer and 10-20% should be 10.0 inches or longer. (***Objective being met***)
- **Management Strategies:**
 - Regulatory: Continue with experimental reduced panfish bag limit and evaluate
 - Habitat: Manage for natural aquatic plant communities; control EWM and CLP; Maintain coarse woody habitat
 - Other: maintain adequate predator densities.



Thank You

Questions?

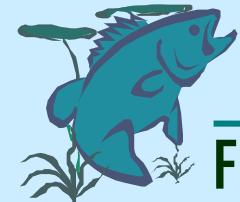


FISHERIES MANAGEMENT



Management Plan - Walleye

- **Goal:** A walleye population of moderate density with a moderate proportion of quality-size (15+) fish and preferred-size (20+) fish.
- **Objective (Density):** A population density of 3-6 adult walleye per acre in spring population estimates
- **Objective (Size Structure):** Of all walleye 10+ inches, 40-50% should be 15+ inches and 10-15% should be 20+ inches.
- **Objective (Recruitment):** A relative abundance of 10-15 young of year per mile in fall electrofishing recruitment surveys.
- **Management Strategies:**
 - **Regulatory:** Maintain current regulation but continue evaluating efficacy.
 - **Habitat:** Protect walleye spawning habitat. Protect enhance coarse woody habitat.



Management Plan - Bluegill

- **Goal:** A bluegill population of moderate density with a high proportion of preferred size (7+ inch) fish.
- **Objective (density):** A relative abundance of 7+ inch bluegill of 10-15 per mile from spring electrofishing surveys.
- **Objective (size structure):** Of all bluegill 3 inches and longer captured by electrofishing in late spring, 30-40% should be 7+ inches and 5-15% should be 8+ inches.
- **Management Strategies:**
 - **Regulatory:** Continue current special regulations.
 - **Habitat:** ??
 - **Other:** Maintain adequate predator densities to control bluegill recruitment/density.



Management Plan – Northern Pike

- **Goal:** A northern pike population of moderate density with a moderate proportion of quality (21+ inch) and preferred size (26+ inch) fish.
- **Objective (density):** A relative abundance of 3-6 adult northern pike per net night in spring fyke net surveys.
- **Objective (size structure):** Of all northern pike 11 inches and longer captured by fyke net in spring, 30-50% should be 21 inches or longer and 10-15% should be 26 inches or longer. (***objective being met***).
- **Management Strategies:**
 - **Regulatory:** None at this time.
 - **Habitat:** Manage for natural aquatic plant communities; identify and protect spawning areas (Big Rib River Confluence?).



Management Plan - Muskellunge

- **Goal:** A muskellunge population of low density with moderate proportions of preferred and memorable fish and potential for trophy size fish.
- **Objective (density):** 0.1 to 0.3 adult muskellunge per acre in spring population estimates
- **Objective (size structure):** Of all muskellunge 30 inches and longer captured by fyke netting in early spring, 30-50% should be 38 inches or longer and 10-20% should be 42 inches or longer. (***objective being met***).
- **Management Strategies:**
 - **Stocking:** stocking quota of 0.5 to 1.0 large fingerling per acre every 2 years.
 - **Assessment:** evaluate if natural reproduction is occurring and to what extent
 - **Regulatory:** Maintain current size limit regulation

