



SOUTH DAKOTA GAME, FISH and PARKS

Lake Oahe Fishery Update

Agenda

- Oahe Walleye history
 - Abundance (#s)
 - Condition
 - Growth
- Recent Walleye stocking
 - Rationale
 - How many and where
- Current Walleye trends
 - Abundance
 - Growth
- Plans Going forward
- Questions?

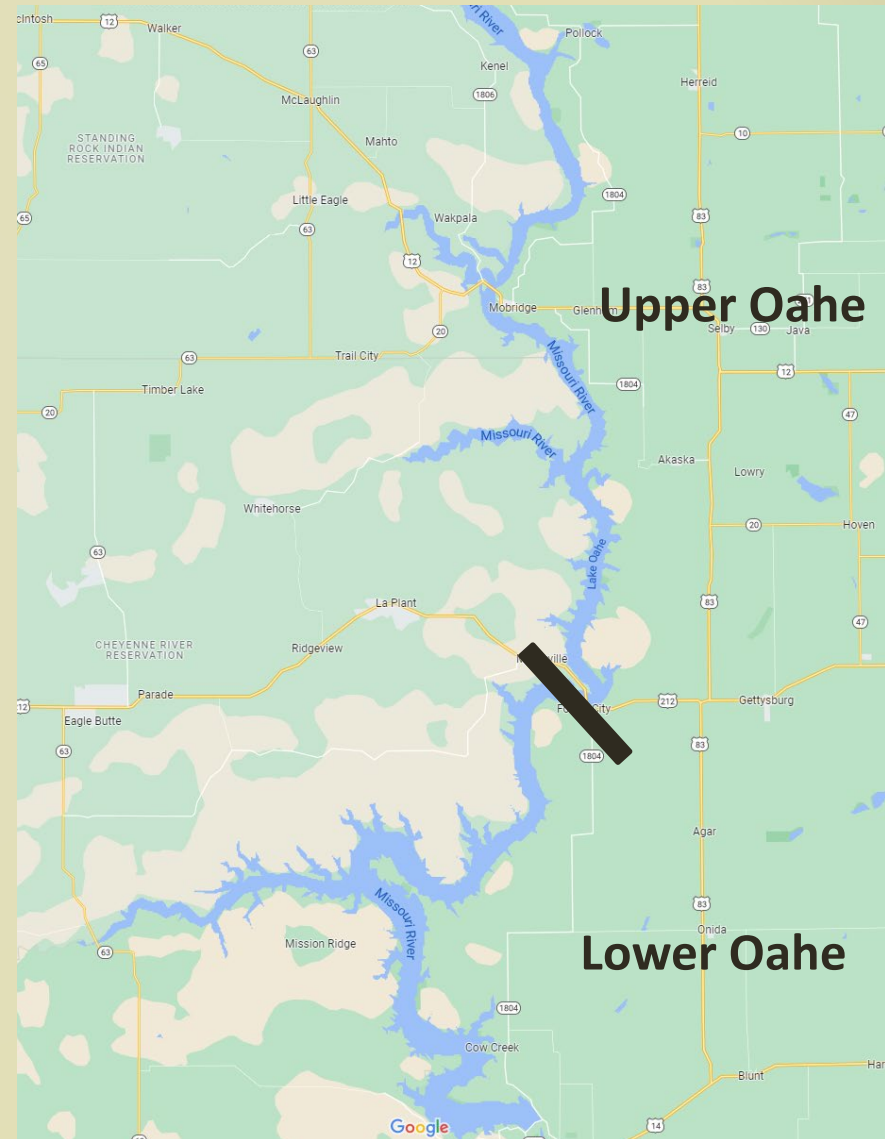


Lake Oahe

- SDGFP splits Oahe into 2 management zones
 - Upper
 - Lower

- Upper Oahe (historical)
 - High abundance
 - Small size structure
 - Good recruitment

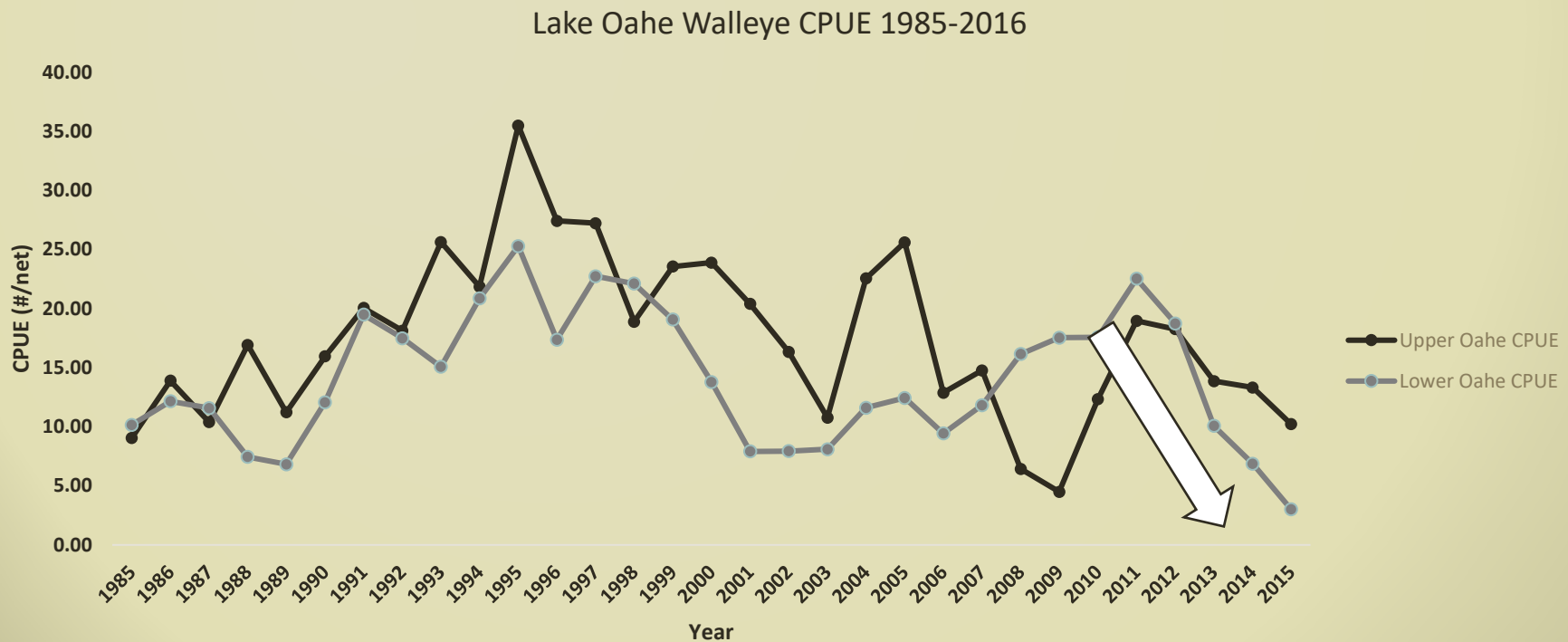
- Lower Oahe (historical)
 - Low abundance
 - Large size structure
 - Weak recruitment





Lake Oahe – Walleye Abundance

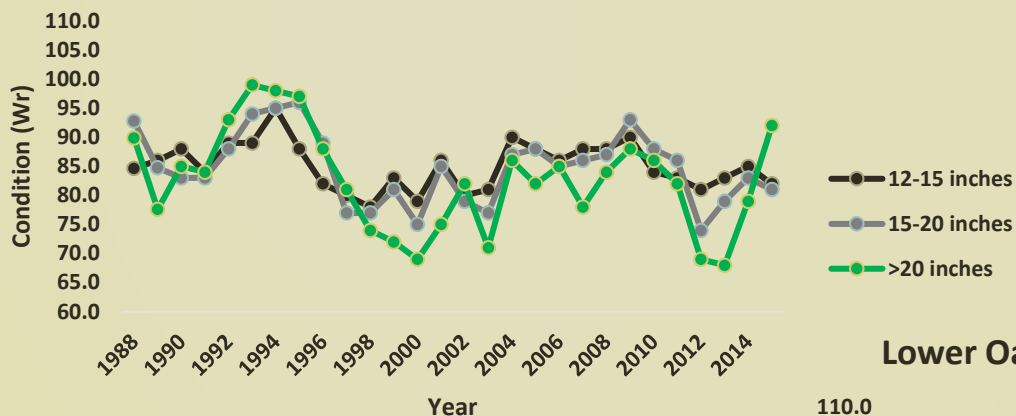
- Prey collapse ('97, '11) notable impact on Walleye abundance
- Notice particularly steep decline in abundance in Lower Oahe following 2011 flood



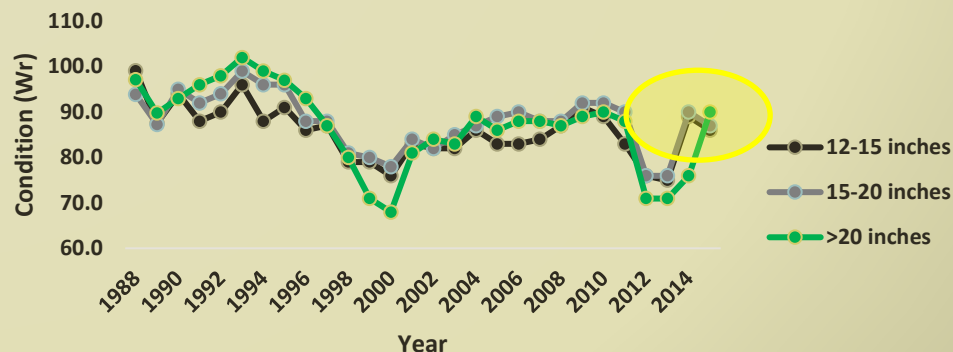
Lake Oahe – Walleye Condition

- Prey collapse ('97, '11) notable impact on Walleye condition
- By 2014/2015, lower Oahe Walleye condition was “good” for all size classes

Upper Oahe Walleye Condition (Wr) 1988-2015

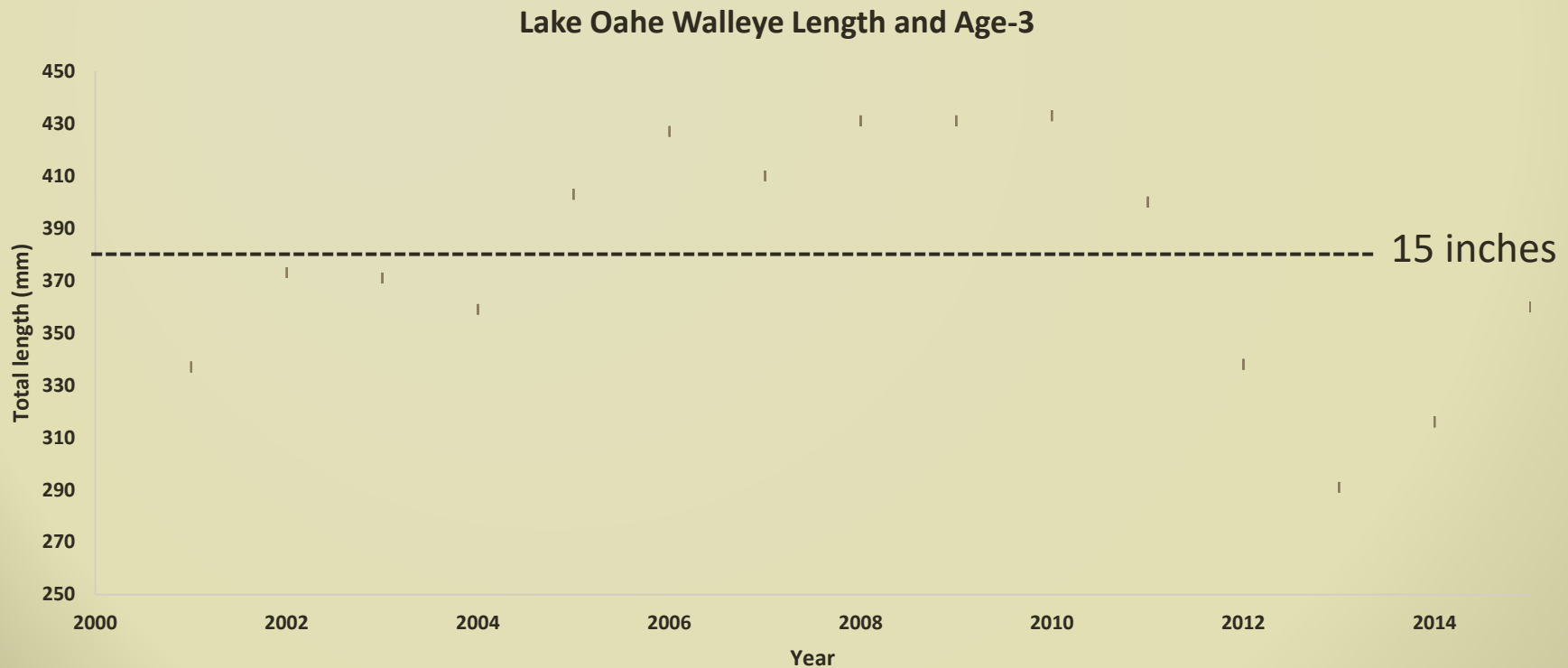


Lower Oahe Walleye Condition (Wr) 1988-2015



Lake Oahe – Walleye Growth

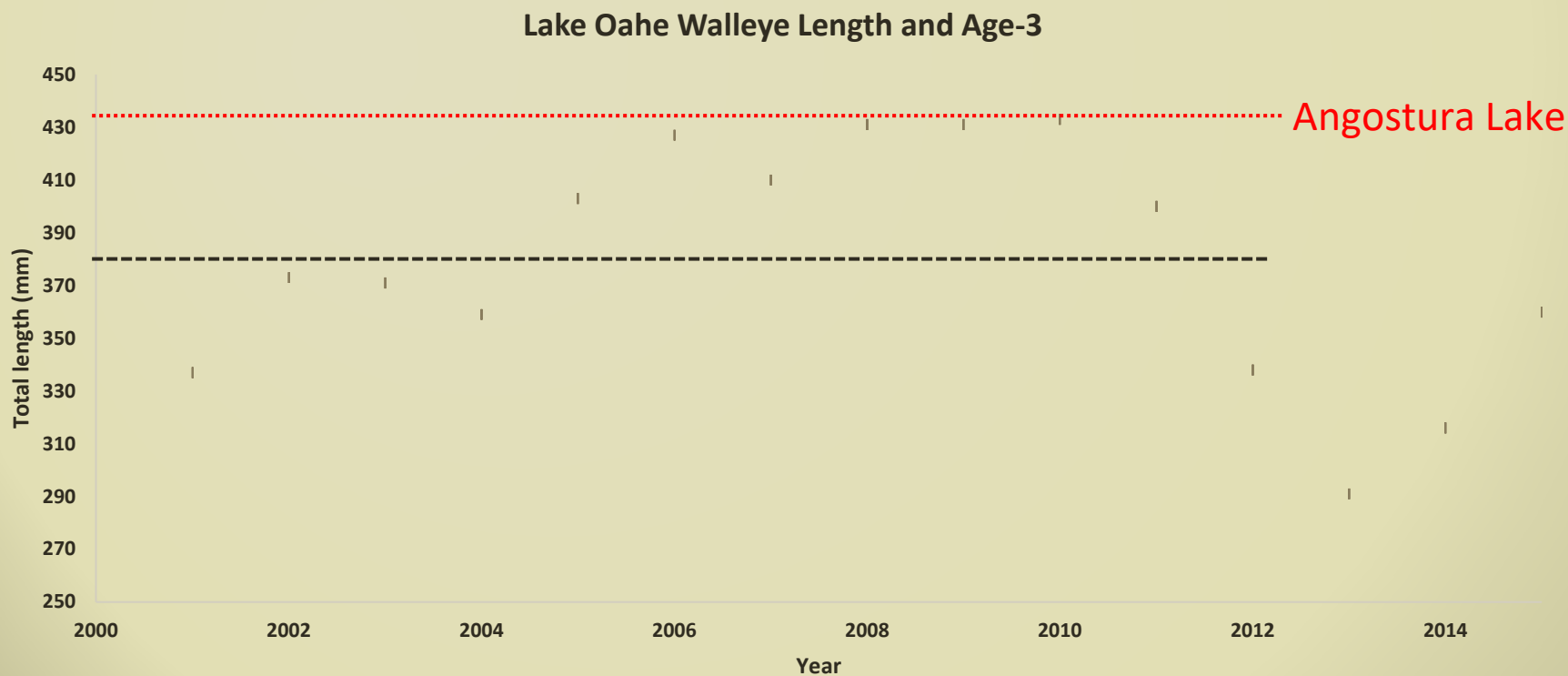
- Use average length at age-3 to compare growth rates
- Reference lakes
 - Variable year-to-year





Lake Oahe – Walleye Growth

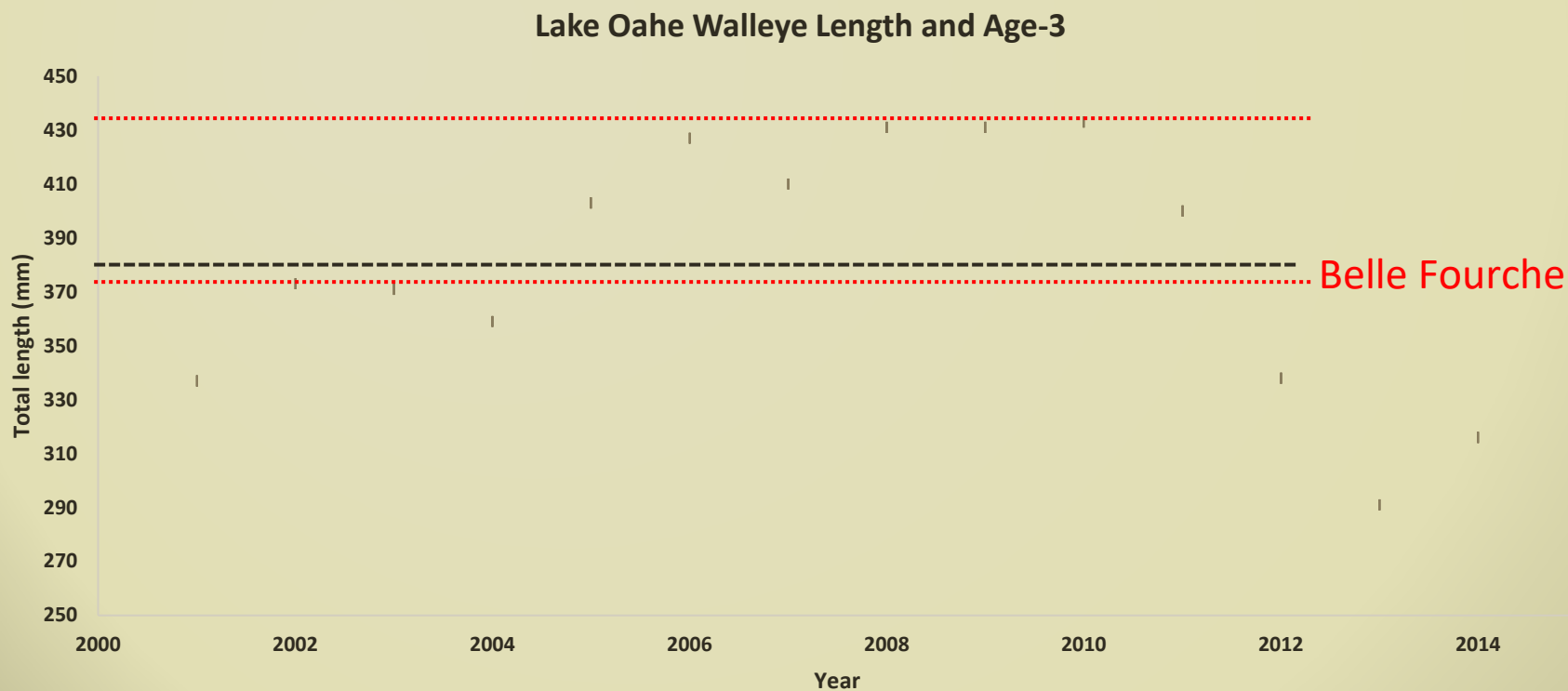
- 10-year average
 - Angostura ~435 mm (17 inches)





Lake Oahe – Walleye Growth

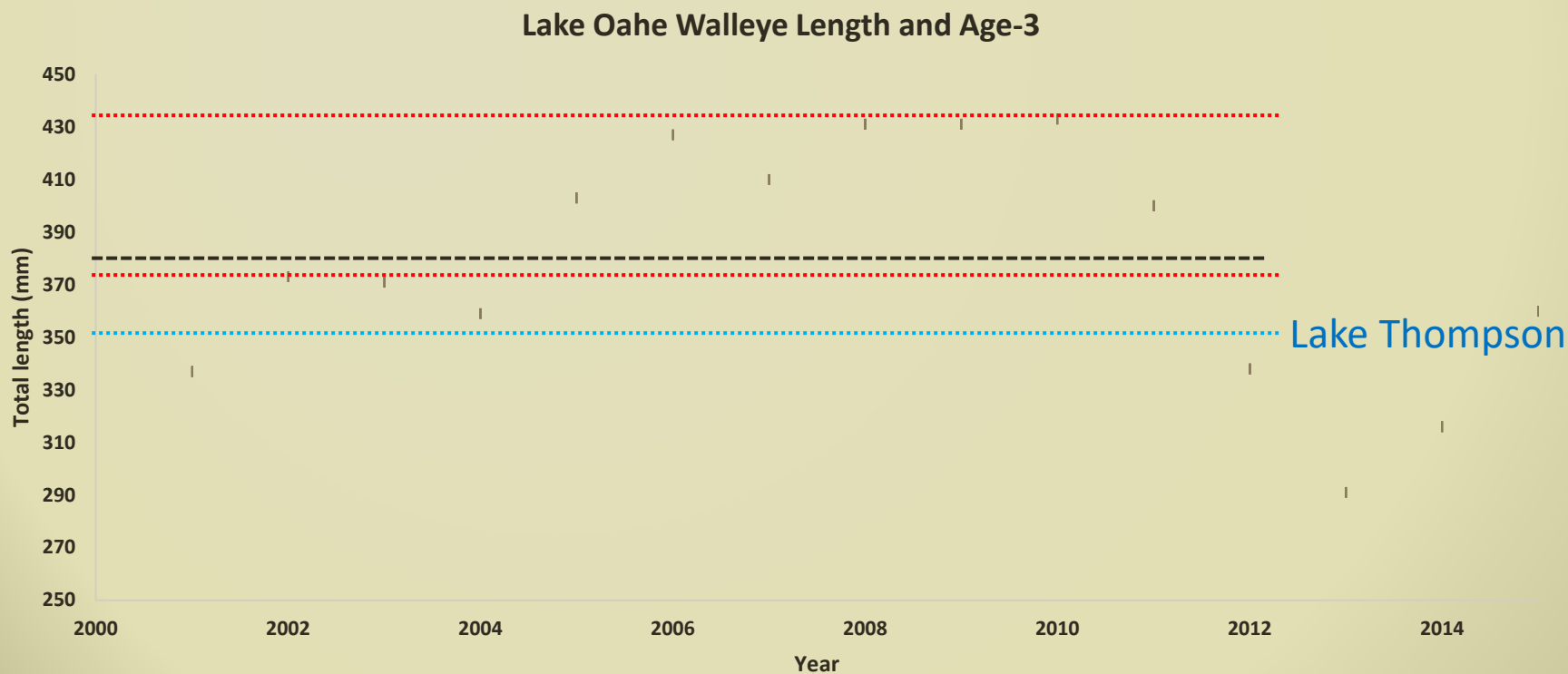
- 10-year average
 - Belle Fourche ~371 mm (14.8 inches)





Lake Oahe – Walleye Growth

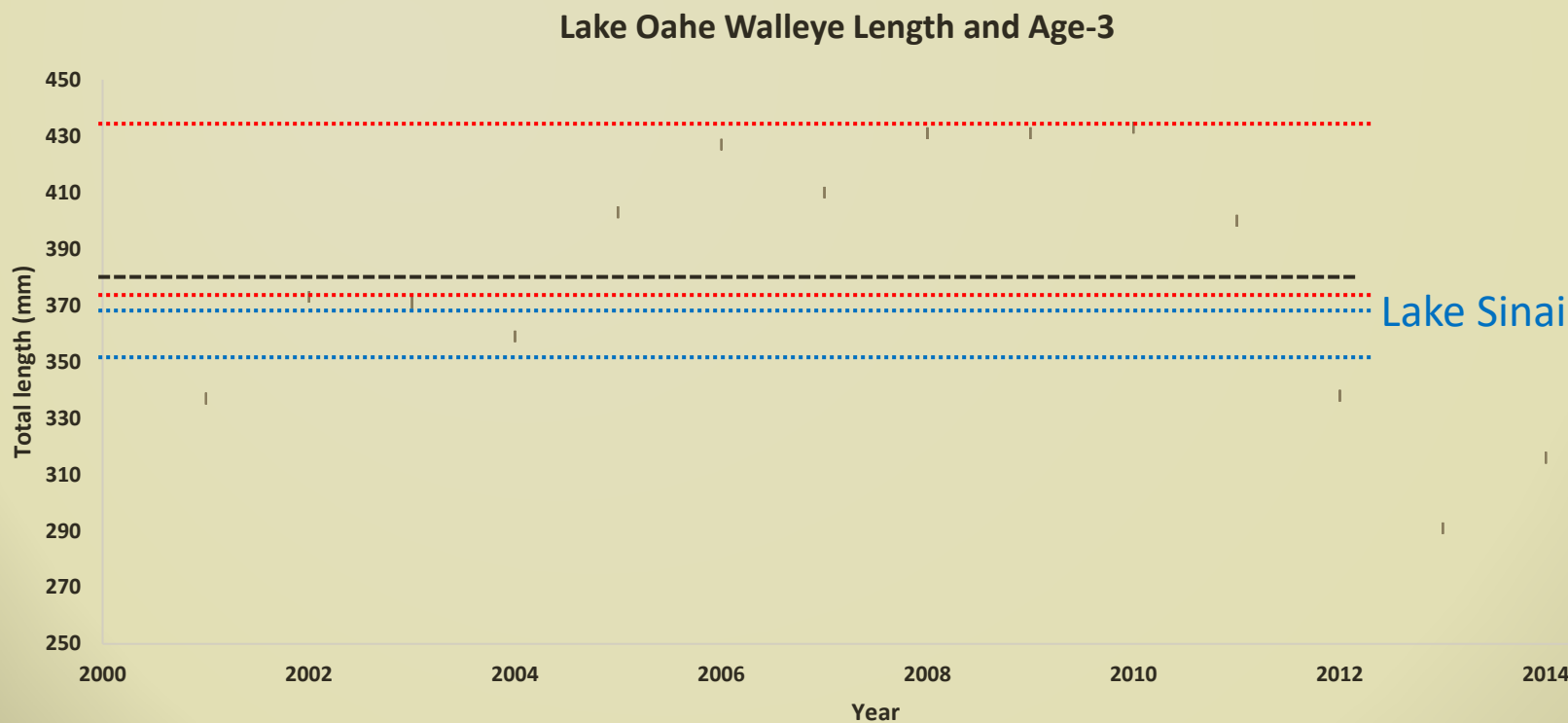
- 10-year average
 - Lake Thomson ~357 mm (14 inches)





Lake Oahe – Walleye Growth

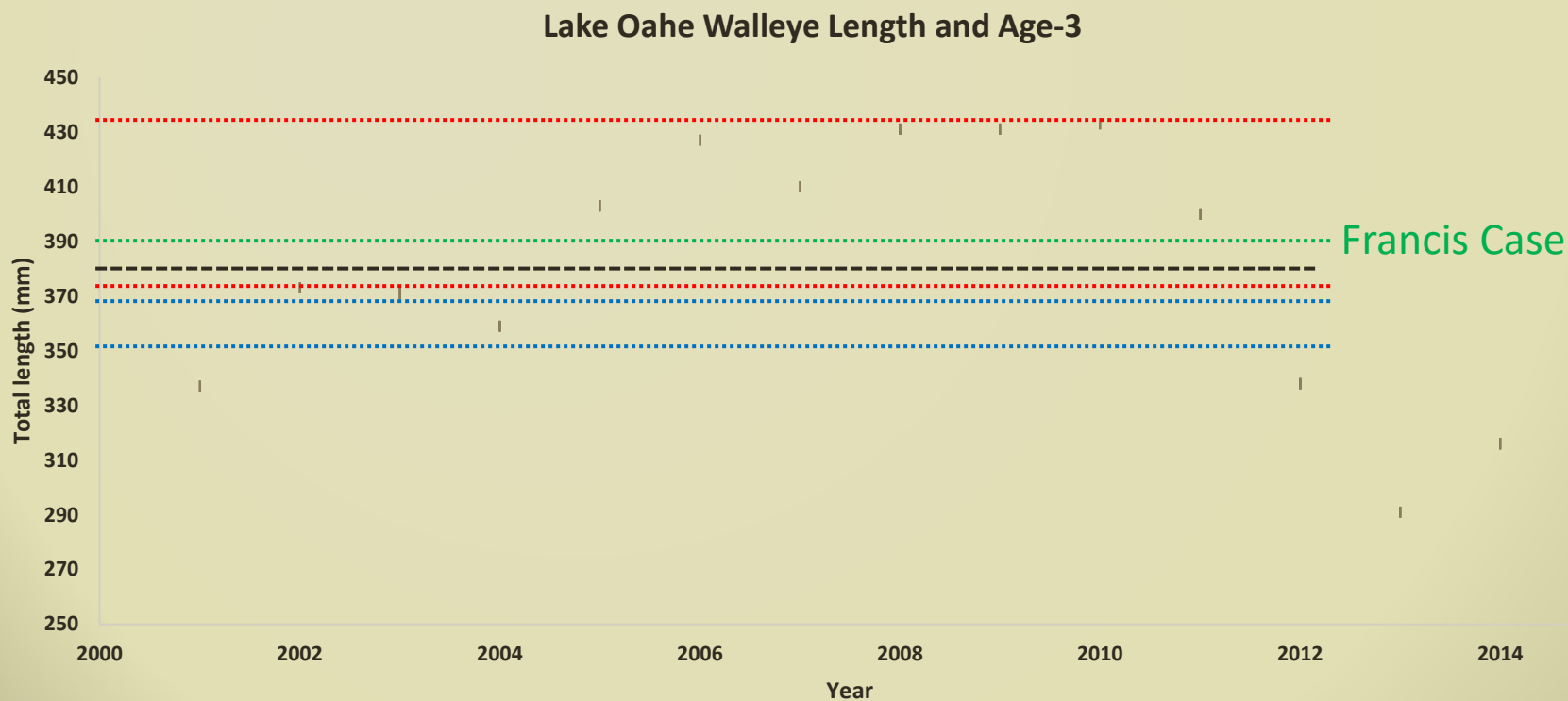
- 10-year average
 - Lake Sinai ~357 mm (14.6 inches)





Lake Oahe – Walleye Growth

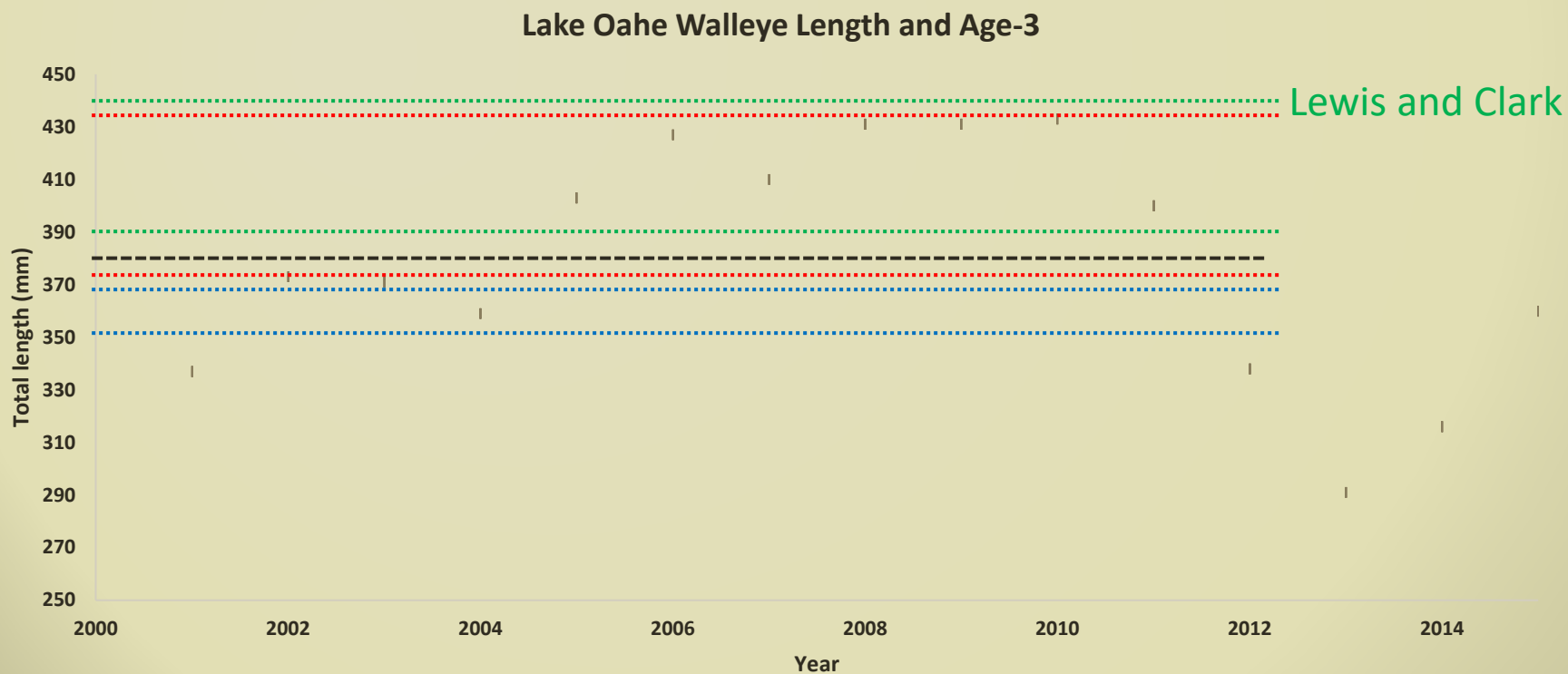
- 10-year average
 - Lake Francis Case ~357 mm (15.4 inches)





Lake Oahe – Walleye Growth

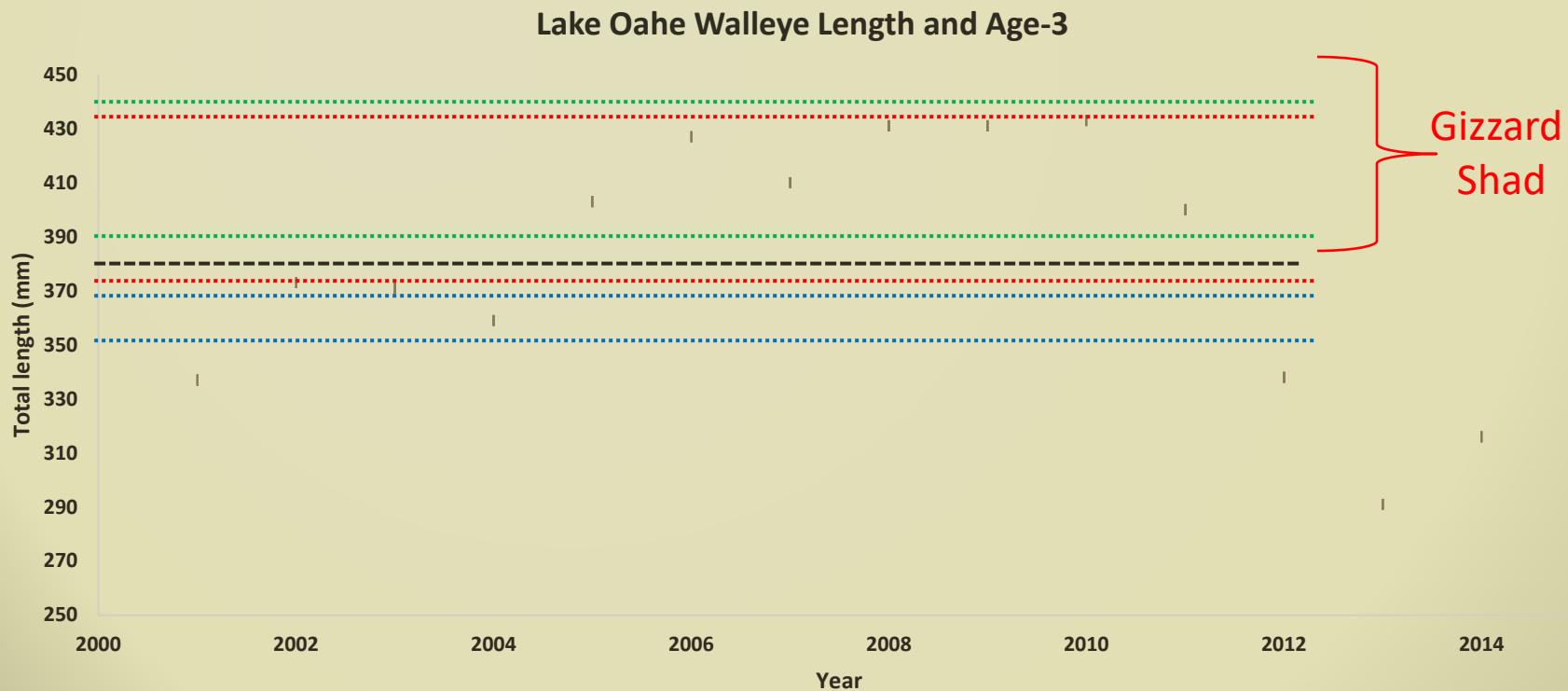
- 10-year average
 - Lake Lewis and Clark ~357 mm (17.3 inches)





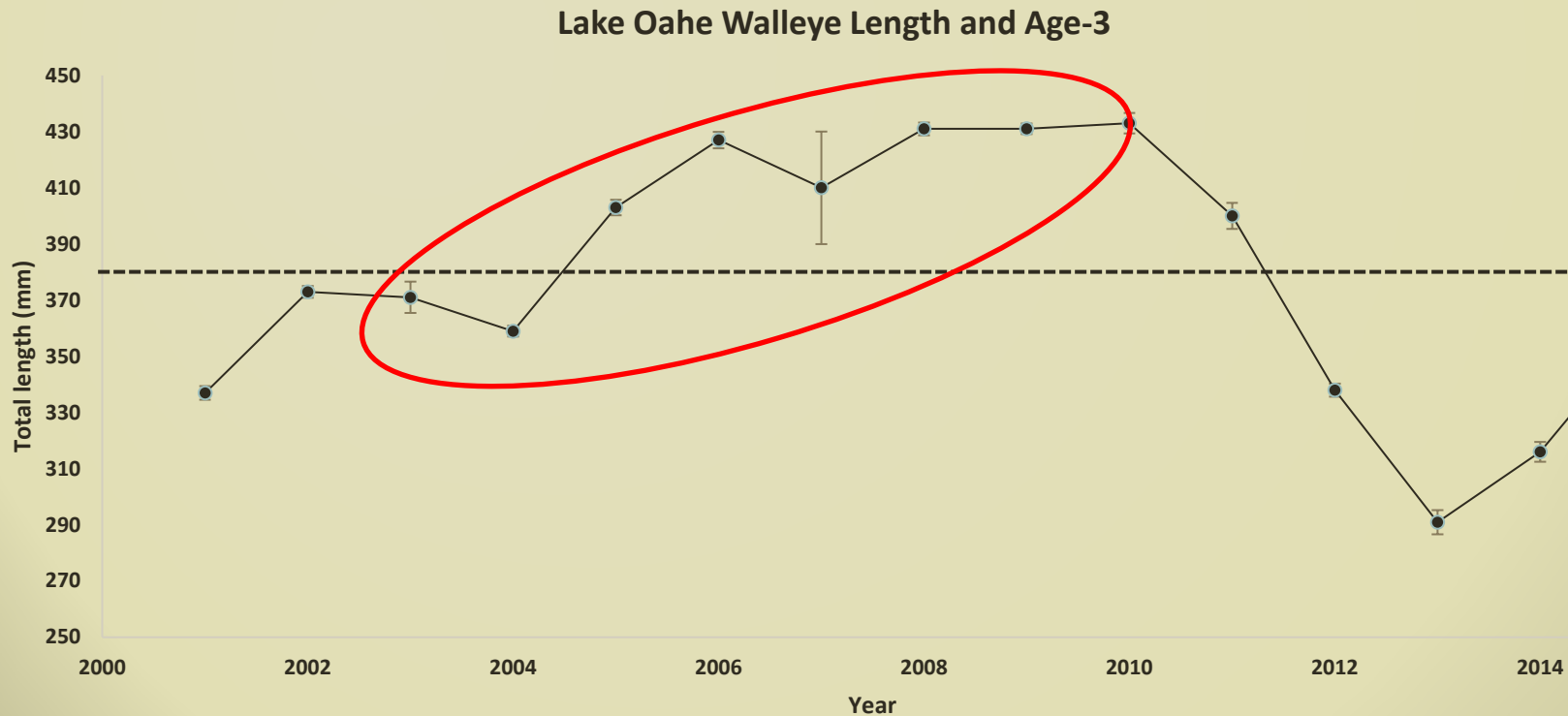
Lake Oahe – Walleye Growth

- Notable trends – Walleye growth in lakes that Gizzard Shad are a primary forage



Lake Oahe – Walleye Growth

- Lake Oahe – mid 2000s fantastic Walleye growth
 - Gizzard Shad as an important forage
 - Rainbow Smelt recovering



Lake Oahe – Historic Summary

- Following the 2011 flood
 - Declining Walleye abundance (extreme on lower Oahe)
 - Walleye condition and growth dropped following flood
 - Beginning to recover particularly on lower Oahe
- What did SDGFP do to combat trends?



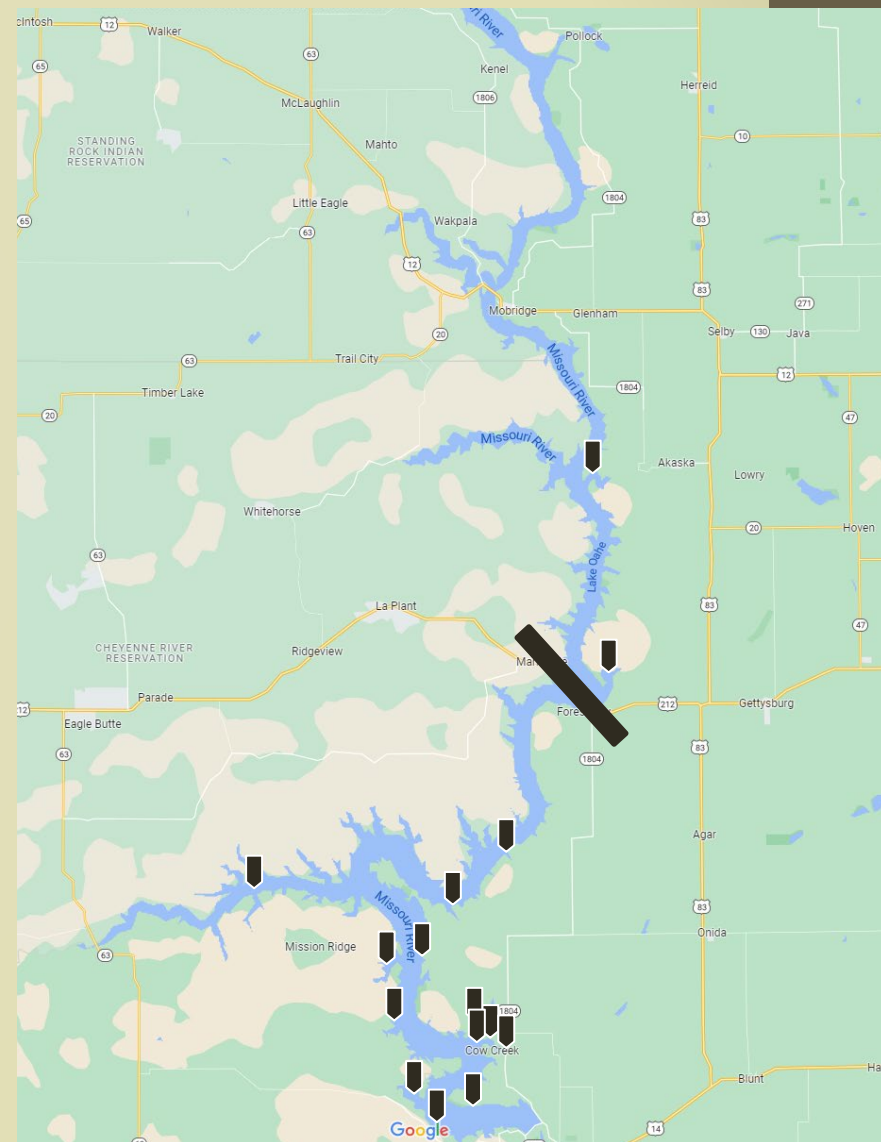


Walleye stocking 2017-2022

Year	Fry (#)	Small Fingerlings (#)
2017	3,700,000	300,820
2018		2,079,540
2019		364,500
2021		2,151,660
2022	2,000,000	

- 17 different stocking locations

- Minneconjou
- Chantier Creek
- Cow Creek
- Okobojo Point
- Peoria Flats
- Spring Creek
- Swan Creek
- Nystrom Bay
- Snake Creek
- East Whitlock
- Garrigan's Landing
- Pike Haven
- Sutton Bay
- Bush's
- Lighthouse Pt.
- Twin Bays
- Agency Bay



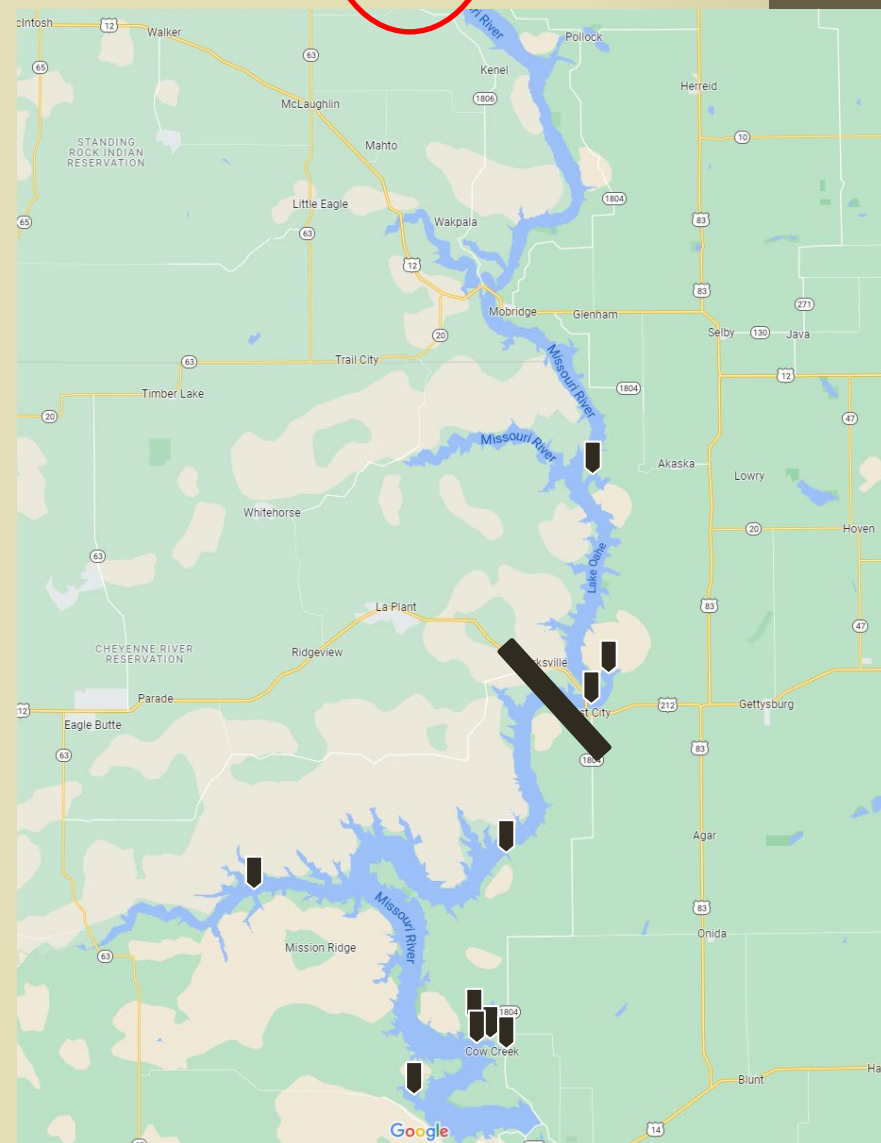


Gizzard Shad stocking

Year	Adult Shad Stocking (#s)
2012	1,465
2013	716
2014	980
2015	168
2021	599
2022	520

- 10 different stocking locations

- Minneconjou
- Chantier Creek
- East Whitlock
- Garrigan's Landing
- Spring Creek
- North Dakota (Missouri River)
- Sutton Bay
- Swan Creek
- South Whitlock
- Cow Creek
- Lighthouse

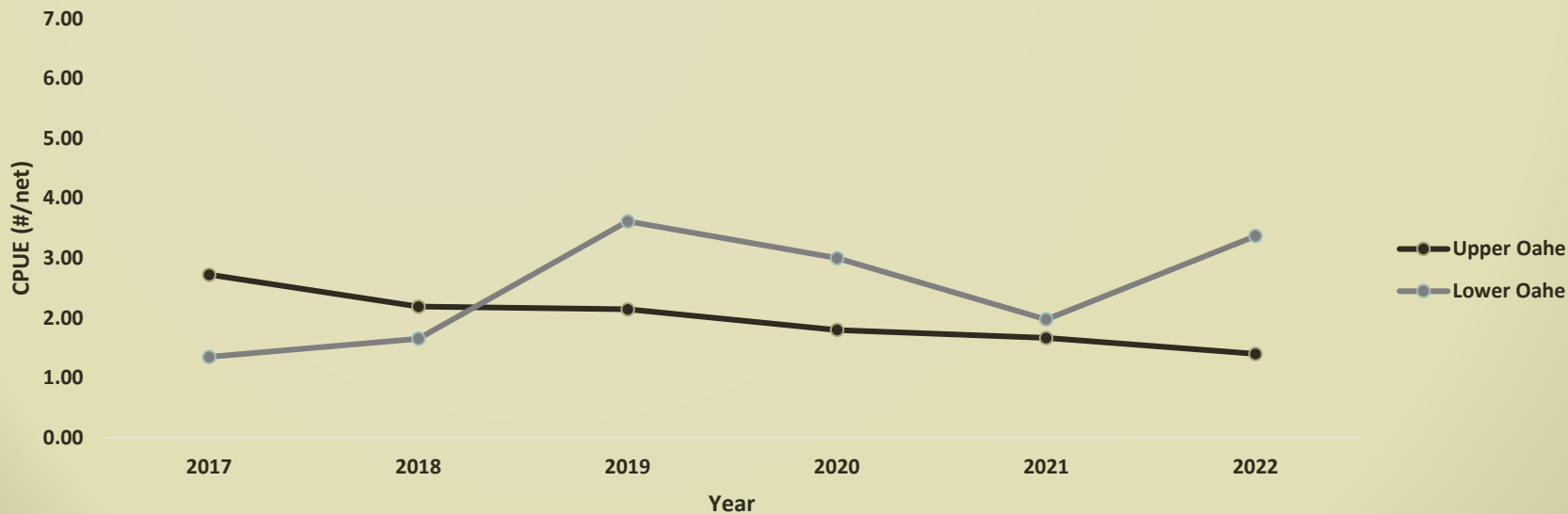




Lake Oahe – Current Conditions

- Walleye abundance
- Improving on lower Lake Oahe
- Continued decline on upper Lake Oahe

Lake Oahe Walleye CPUE 2017-2022

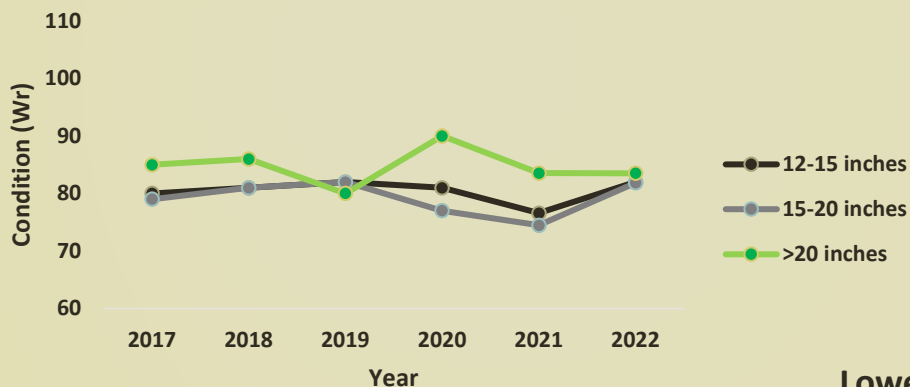




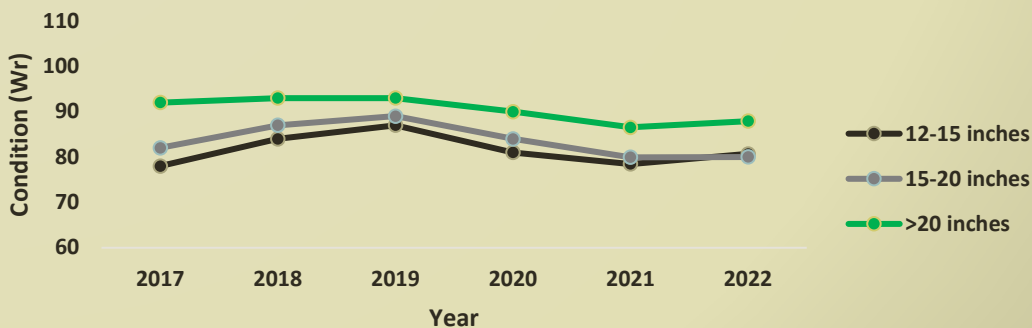
Lake Oahe – Current Conditions

- Walleye condition
- Stable in both lower and upper Oahe

Upper Oahe Walleye Condition (Wr) 2017-2022



Lower Oahe Walleye Condition (Wr) 2017-2022

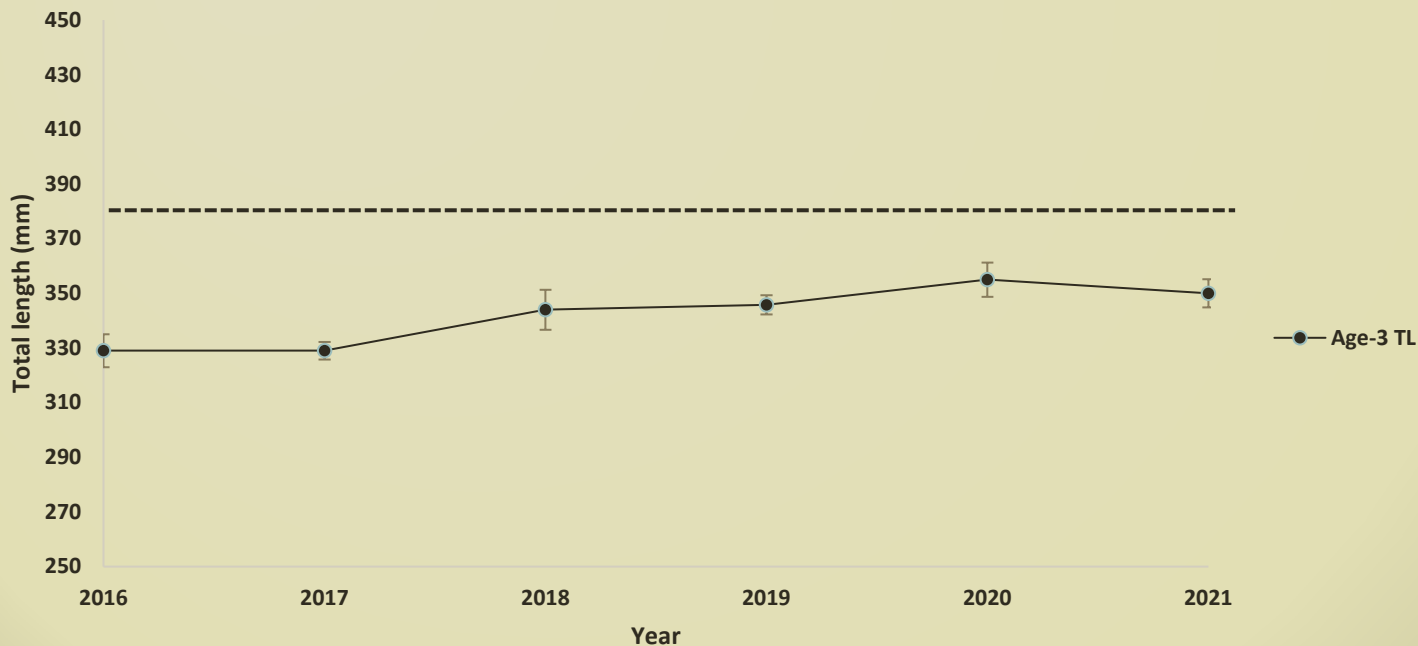




Lake Oahe – Current Conditions

- Walleye growth
- Improving (slowly)

Lake Oahe Walleye Length at Age-3



Lake Oahe – Recent Summary

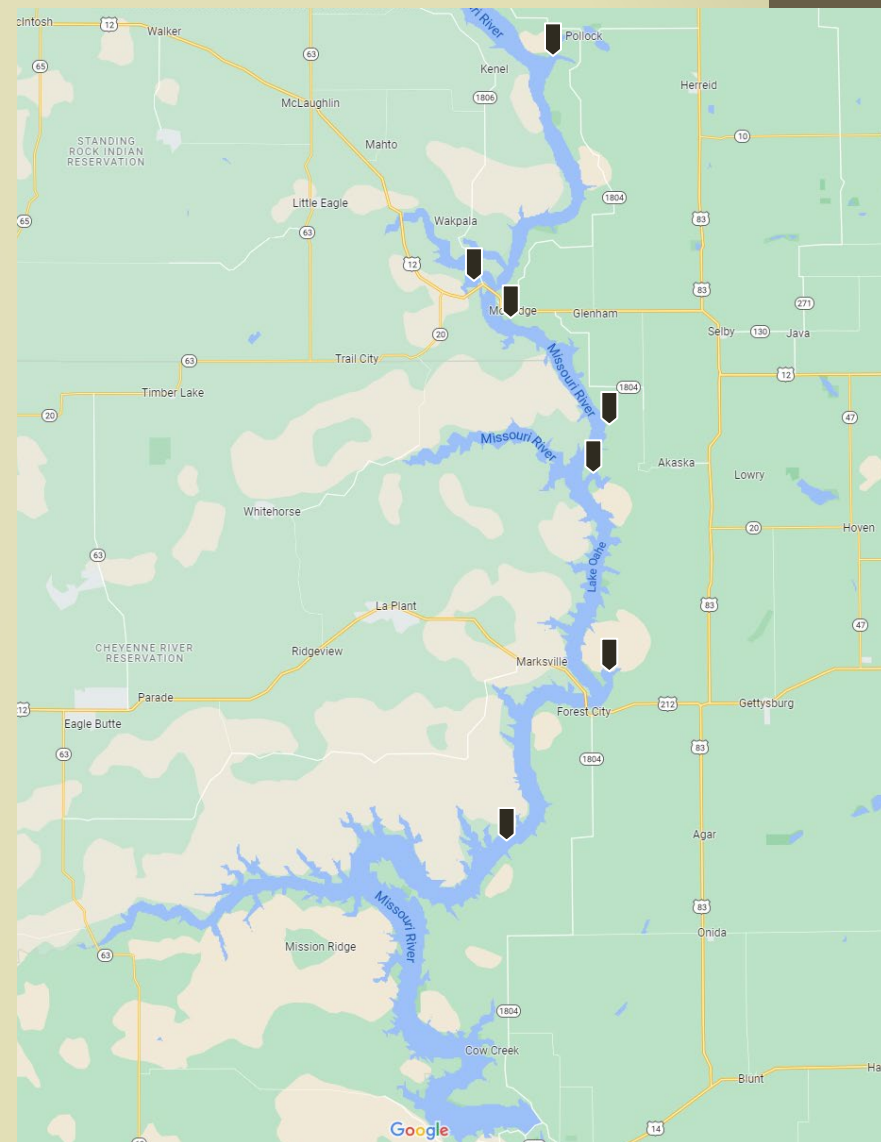
- Since 2017
 - Walleye abundance improving on lower Oahe following stocking
 - Continuing to decline on upper Oahe
 - Walleye condition good, growth improving
- What are SDGFP plans going forward?





Walleye stocking request 2023

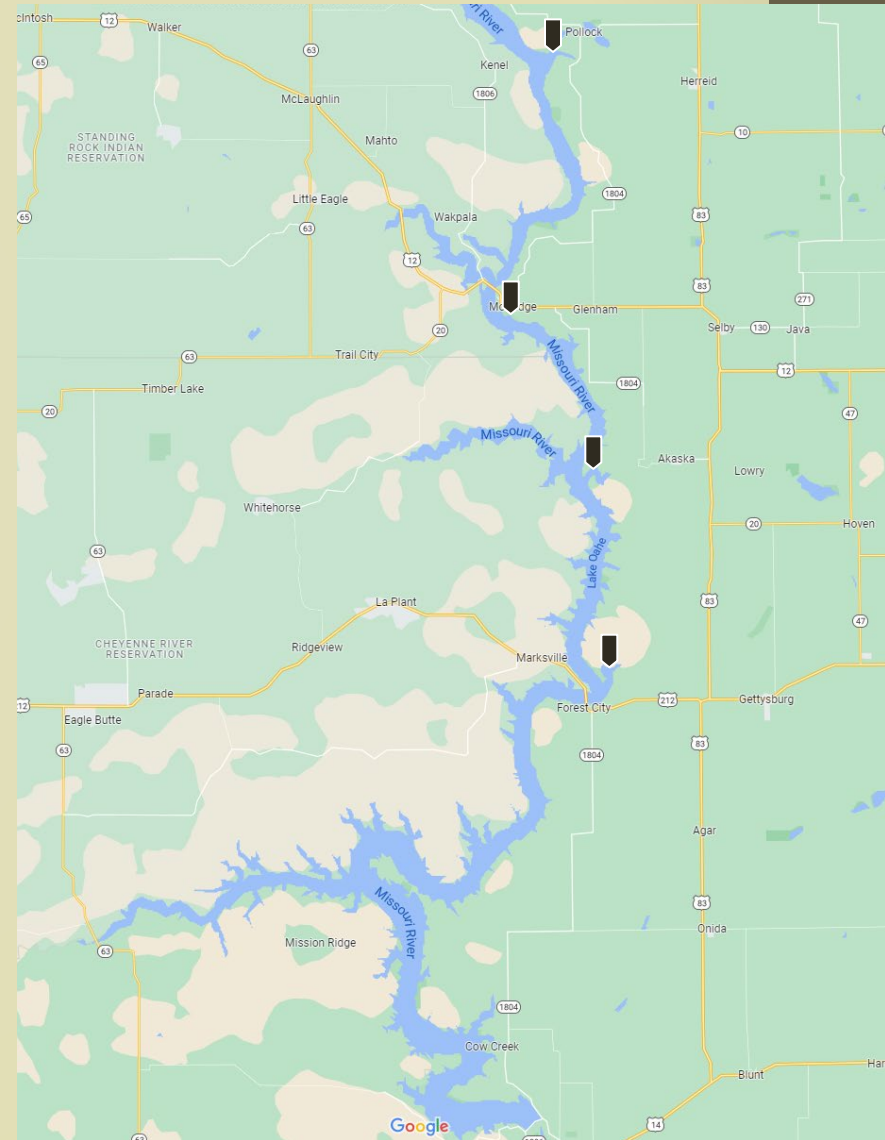
- 7 different stocking locations
- 400,000 fingerling per location
- 2,800,000 total Walleye fingerlings
 - West Pollock
 - Indian Creek
 - Indian Memorial
 - Swan Creek
 - Walth Bay
 - Sutton Bay
 - East Whitlock



Gizzard Shad stocking request 2023 (internal)



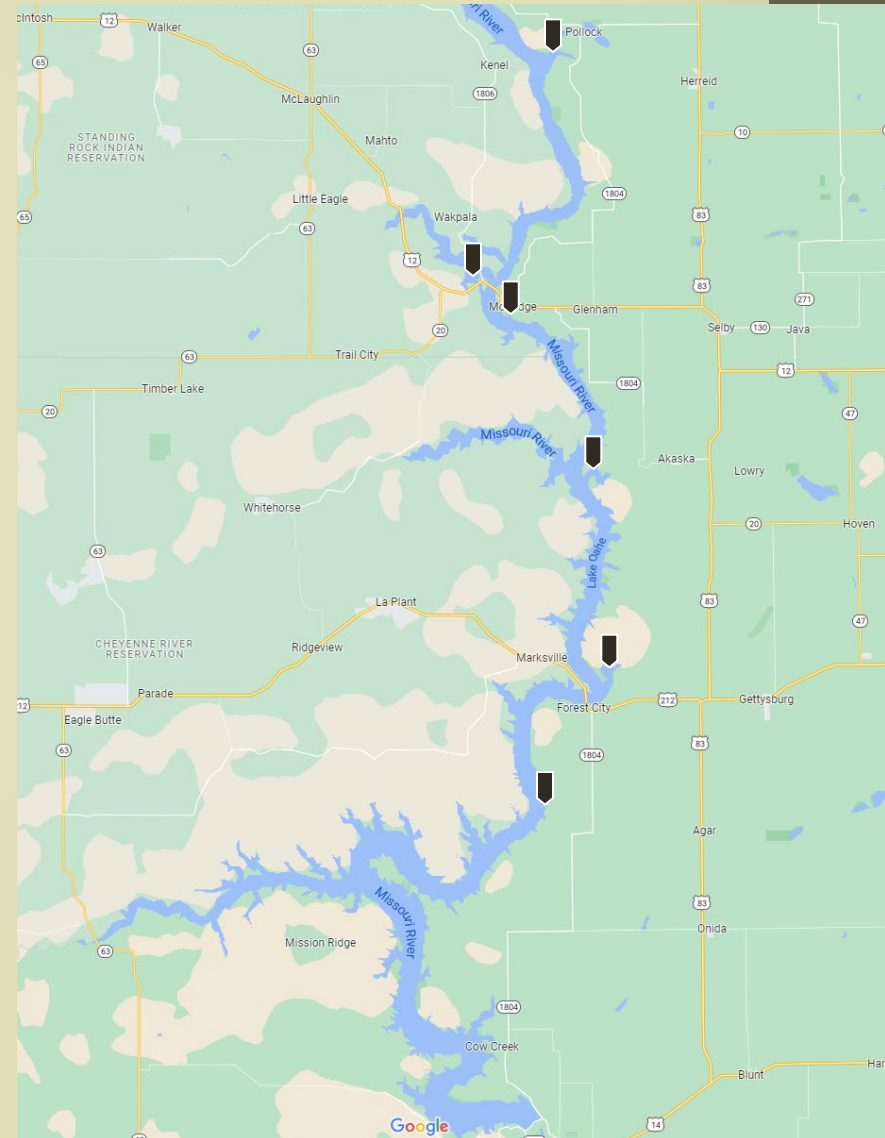
- 4 different stocking locations
- 300 adults per location
- 1,200 total adult Gizzard Shad
 - West Pollock
 - Indian Creek
 - Swan Creek
 - East Whitlock



Gizzard Shad stocking request 2023 (external [Kansas])



- 6 different stocking locations
 - West Pollock
 - Indian Memorial
 - Indian Creek
 - Swan Creek
 - East Whitlock
 - Sutton Bay
- 3x the number we have stocked in past



Lake Oahe – Summary

- Still recovering from 2011 flood
 - Walleye abundance still low
 - Improving on lower Oahe, continued decline on upper
 - Walleye condition good, growth improving
- SDGFP 2023 plan
 - Continue to stock
 - Walleye = 2.8 million fingerlings (upper Oahe)
 - Gizzard Shad = 1,200 prespawn adults (upper Oahe [internal])
 - 4,500 pre-spawn adults (upper Oahe [external])
- Questions?

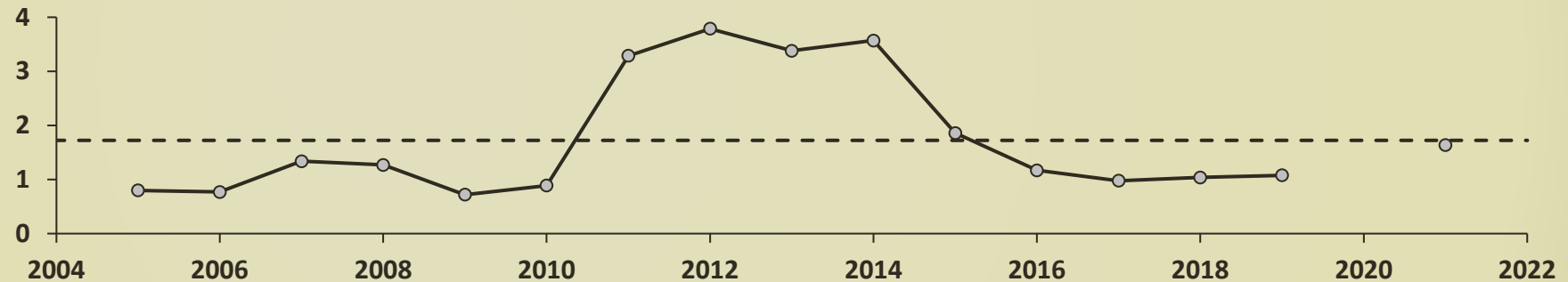




Lake Oahe – Catch and Harvest

- Walleye catch and harvest

Lake Oahe Walleye Catch Rate (fish/hour)



Lake Oahe Walleye Harvest Rate (fish/hour)

