

Colorado River Aquatic Biologists 2015

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- Utah Division of Wildlife Resources



Lake Level

| • Year | High | Low |
|--------|------|------|
| • 2010 | 3638 | 3618 |
| • 2011 | 3660 | 3609 |
| • 2012 | 3639 | 3609 |
| • 2013 | 3609 | 3584 |
| • 2014 | 3609 | 3574 |
| • 2015 | 3614 | 3590 |
| • 2016 | 3601 | |

Shad Caught in Trawl

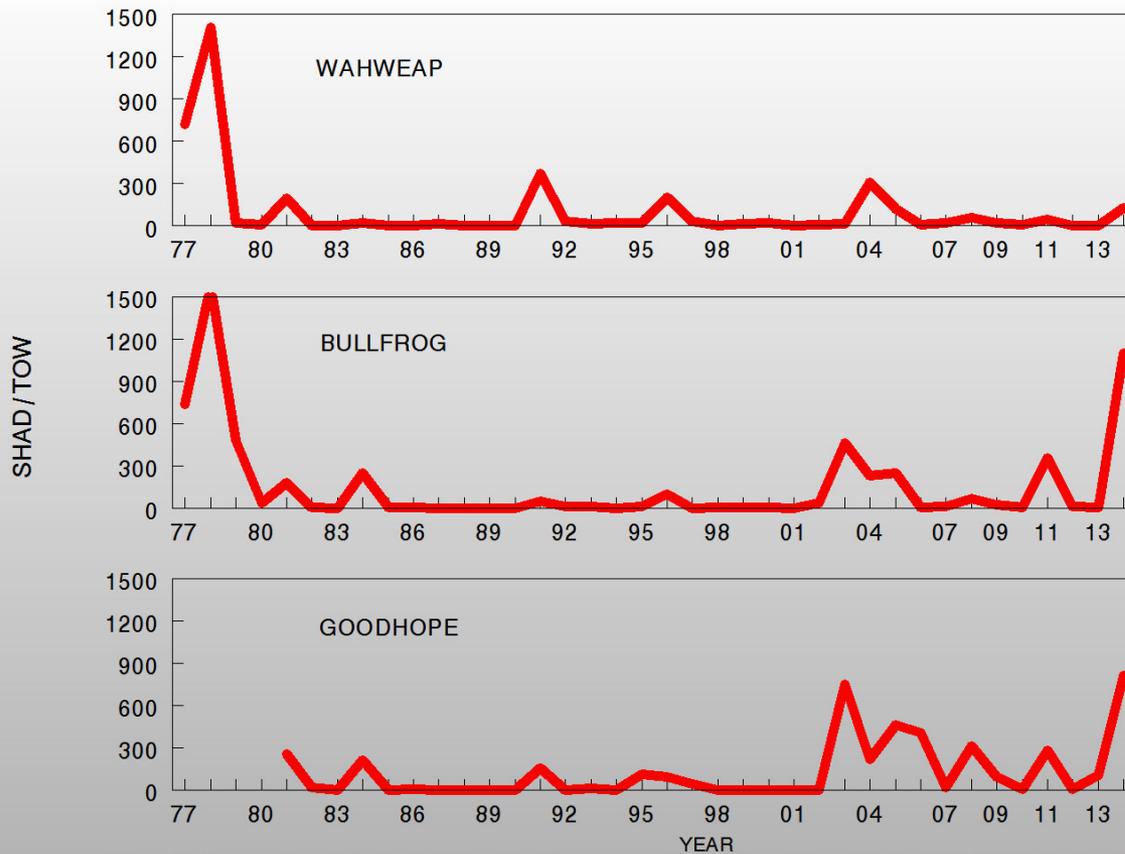


Figure 4. Mean number of shad collected per trawl tow, averaged from July and August trawls, 1977-2014, Lake Powell.

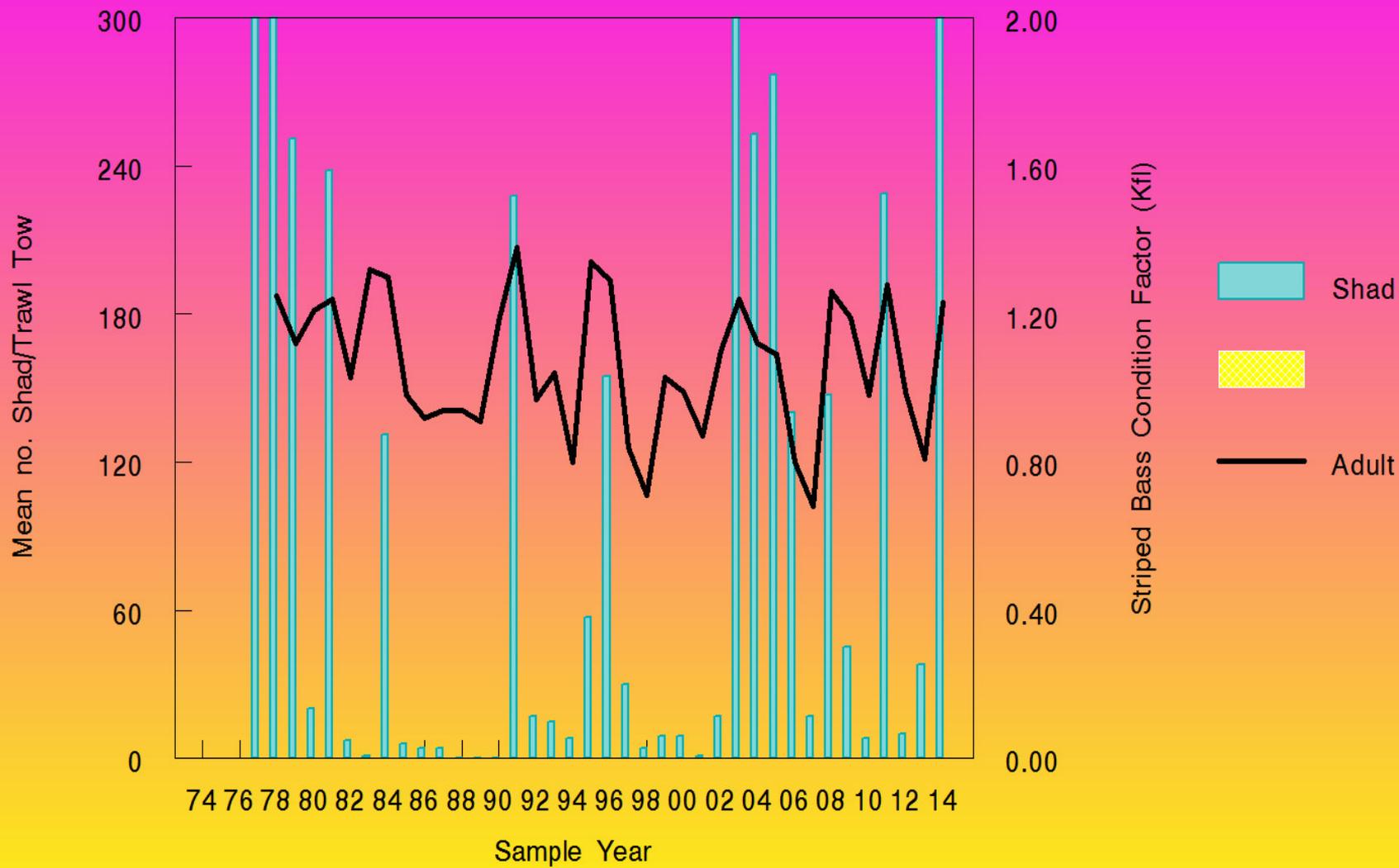


Figure 2. Pelagic shad abundance compared to juvenile and adult Striped Bass condition, $K(f)$, 1976-2014, Lake Powell.

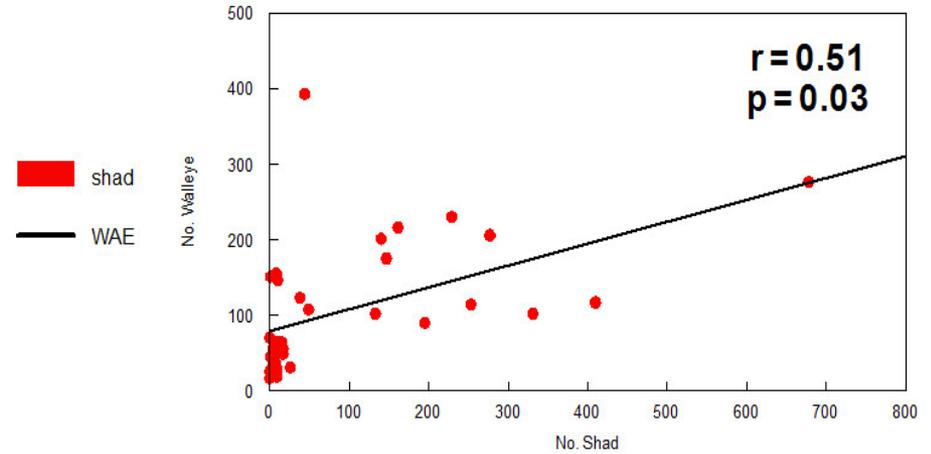
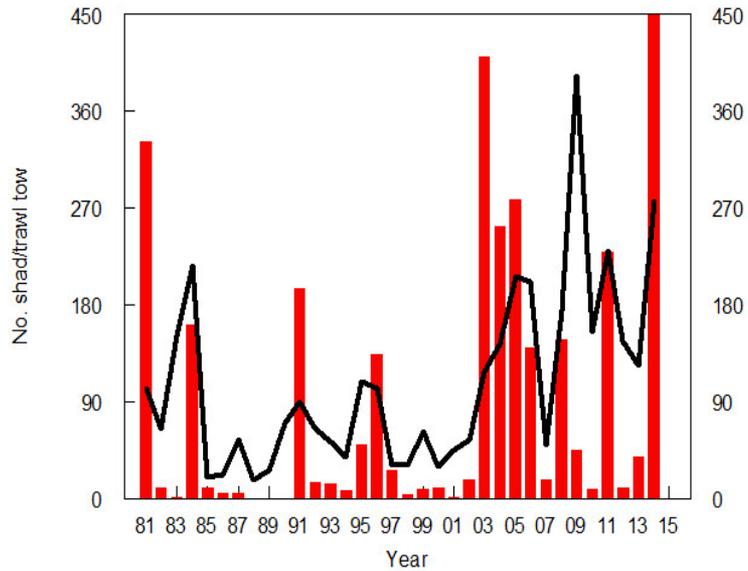


Figure 9. Relationship between the catch of Walleye in the annual fall gill-net survey and the abundance of shad as measured from the July/August mid-water trawl survey, 1981-2014.

Fishery Remains Strong in 2016

Due to 2nd Forage Peak

- Threadfin Shad peak – Why?
- Gizzard shad constant
- Striped bass maturing
- Largemouth bass recovering
- Walleye - strong
- Smallmouth bass - strong



Future of Lake Powell Fisheries?

- QM veligers found in 2012
- Adult mussels found in 2013
- Invasion extends to Dangling Rope
- Mussels found at Bullfrog
- Infestation covers less than half of lake
- QM Expansion continues

Recent Food Web Alterations -Lake Huron's Main Basin-



Zebra mussels



Round gobies



Quagga mussels



1990

1995

2000

2005

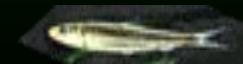
Diporeia
collapse
begins



Zooplankton
decline



Alewife
collapse



Chinook
decline



Angler
use declines



Lake Powell Food Web Alterations



Quagga mussels



Forage Fish??



Walleye, Bass

2010

2015

2020

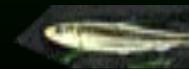
2025

Zooplankton decline



TFSHAD collapse

Striped bass decline



Angler use declines

Forage and Plankton Collapse

- Mead, Mohave and Havasu – 2018
- Powell - 2023

Lake Havasu

- Report by Russ Engel



Lake Mohave

- Report by Greg Cummins
- Brandon Senger

Lake Mead

- Report By Deborah Herndon

Conclusion

- Lake Powell sport and native fishery will follow same course as downlake reservoirs.
- 5-7 year grace period. Both Sport and Natives.
- Have mussels impacted pelagic fish?
- Will shad and striper populations decline?
- Results from Havasu, Mohave and Mead will determine future management direction at Lake Powell.
- What actions will be best for Lake Powell?

Questions - Answers



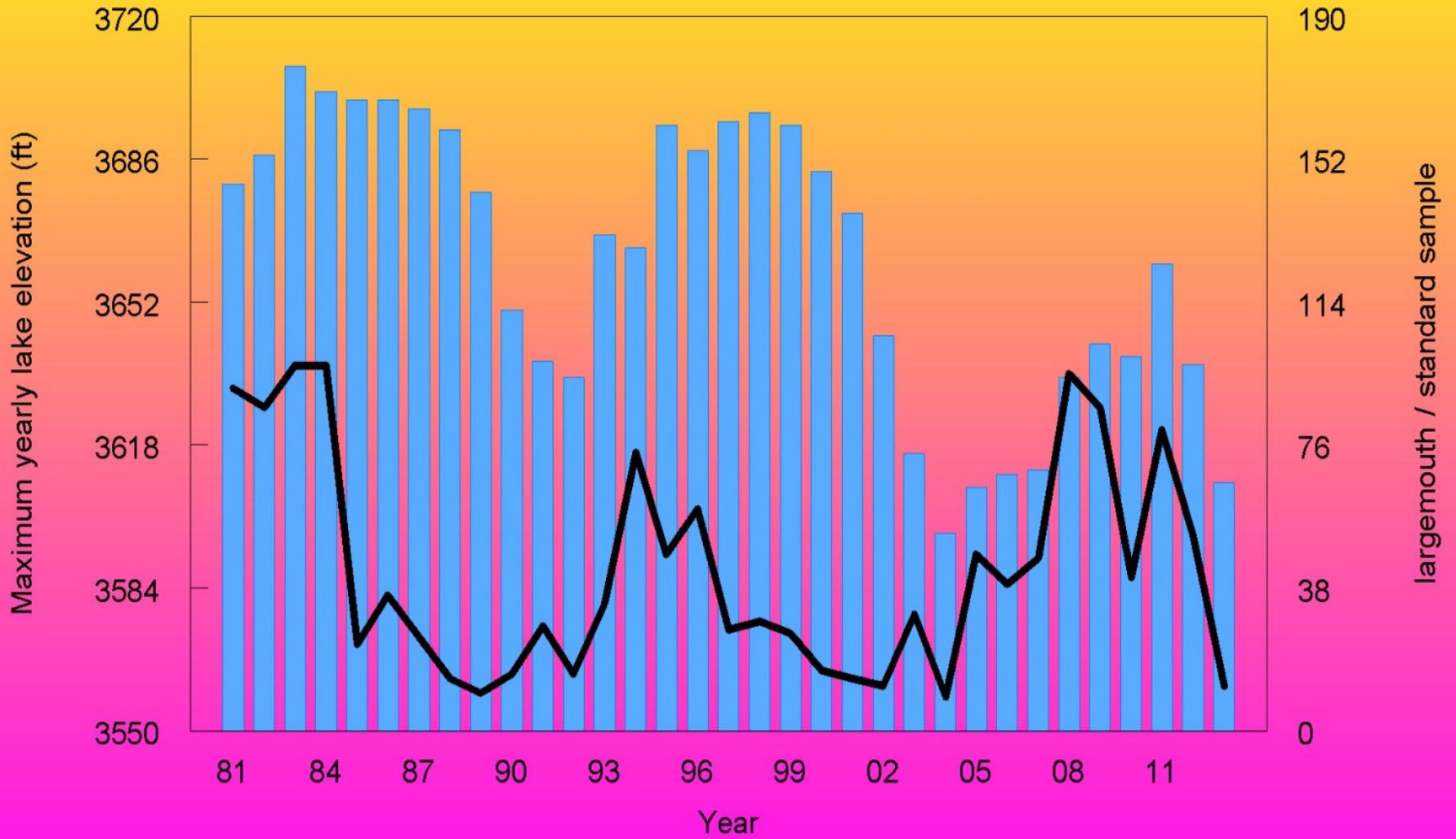


Figure 1. Relationship between maximum yearly water elevation (bar) and number of Largemouth Bass collected from annual fall gill-net survey (line), Lake Powell, UT, 1981 - 2012.