Status and Trends of Predator Populations in Lookout Point Reservoir

Principal Investigators:

Fred R. Monzyk
Jeremy D. Romer
Ryan Emig
Thomas A. Friesen

Oregon Department of Fish and Wildlife
Corvallis Research Lab
Corvallis, Oregon

Objectives

- Provide baseline (pre-drawdown) information on relative abundance, size, and distribution of predators in LOP
  - Standardized sampling with boat electrofishing and gill nets
  - May-June (2013-2015)

- *Monitor movement, habitat, and spawning activities of Northern Pikeminnow*
  - Radio-telemetry (2015)
  - Tags donated from OHRC

The Four Target Species in LOP

Largemouth Bass

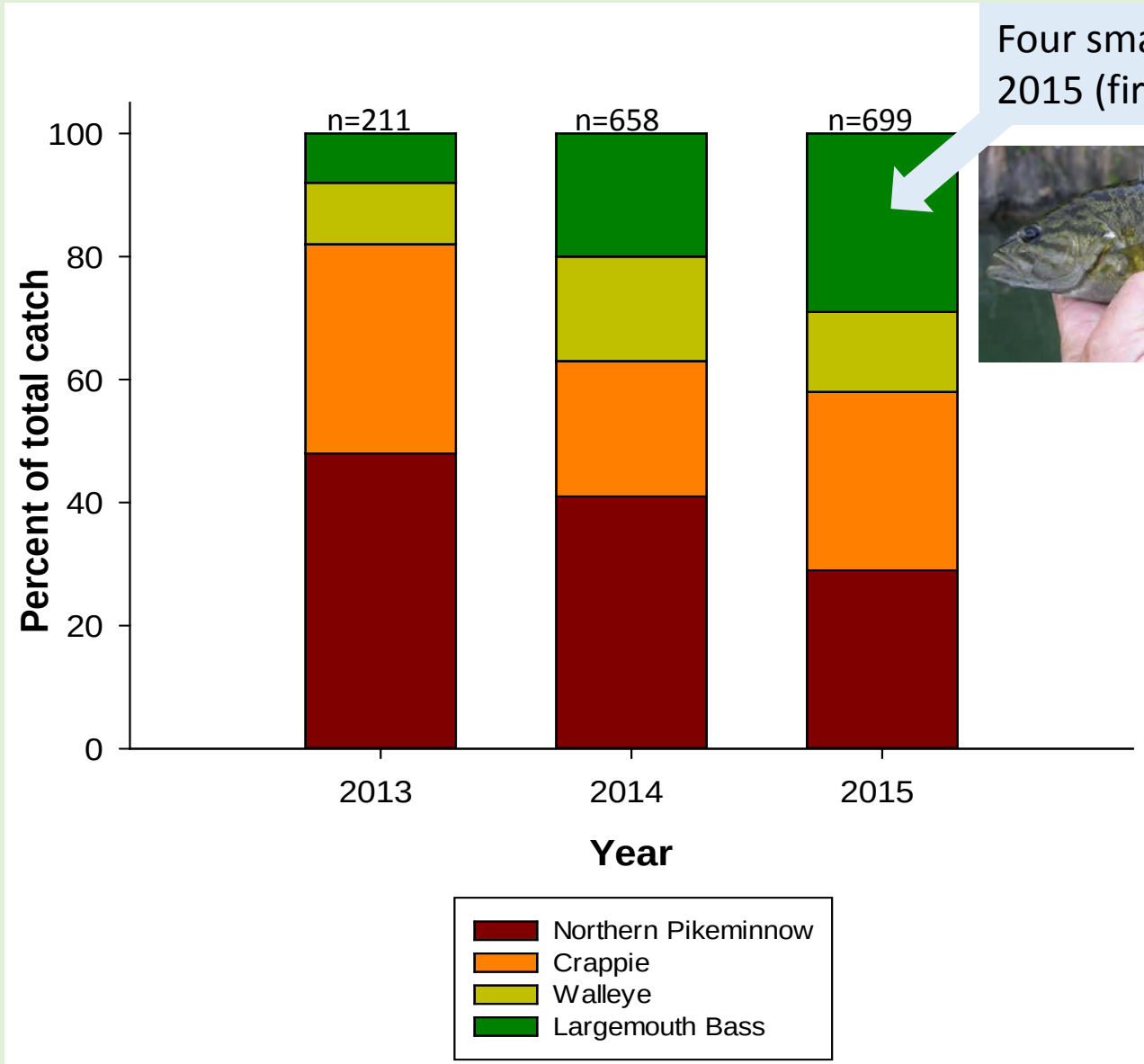
Northern Pikeminnow

Walleye

Crappie

Results

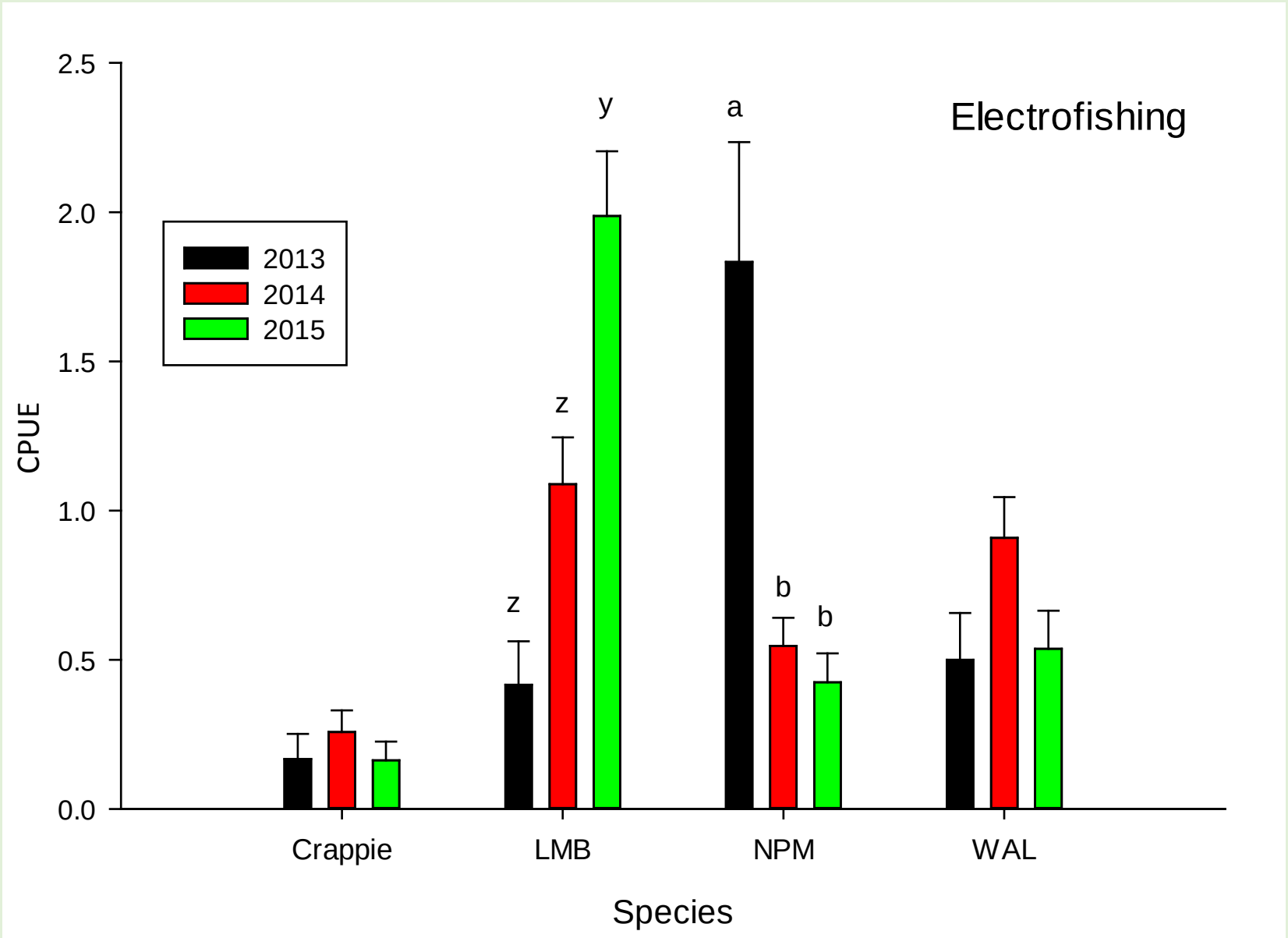
Relative Abundance



Four smallmouth bass in 2015 (first occurrence)

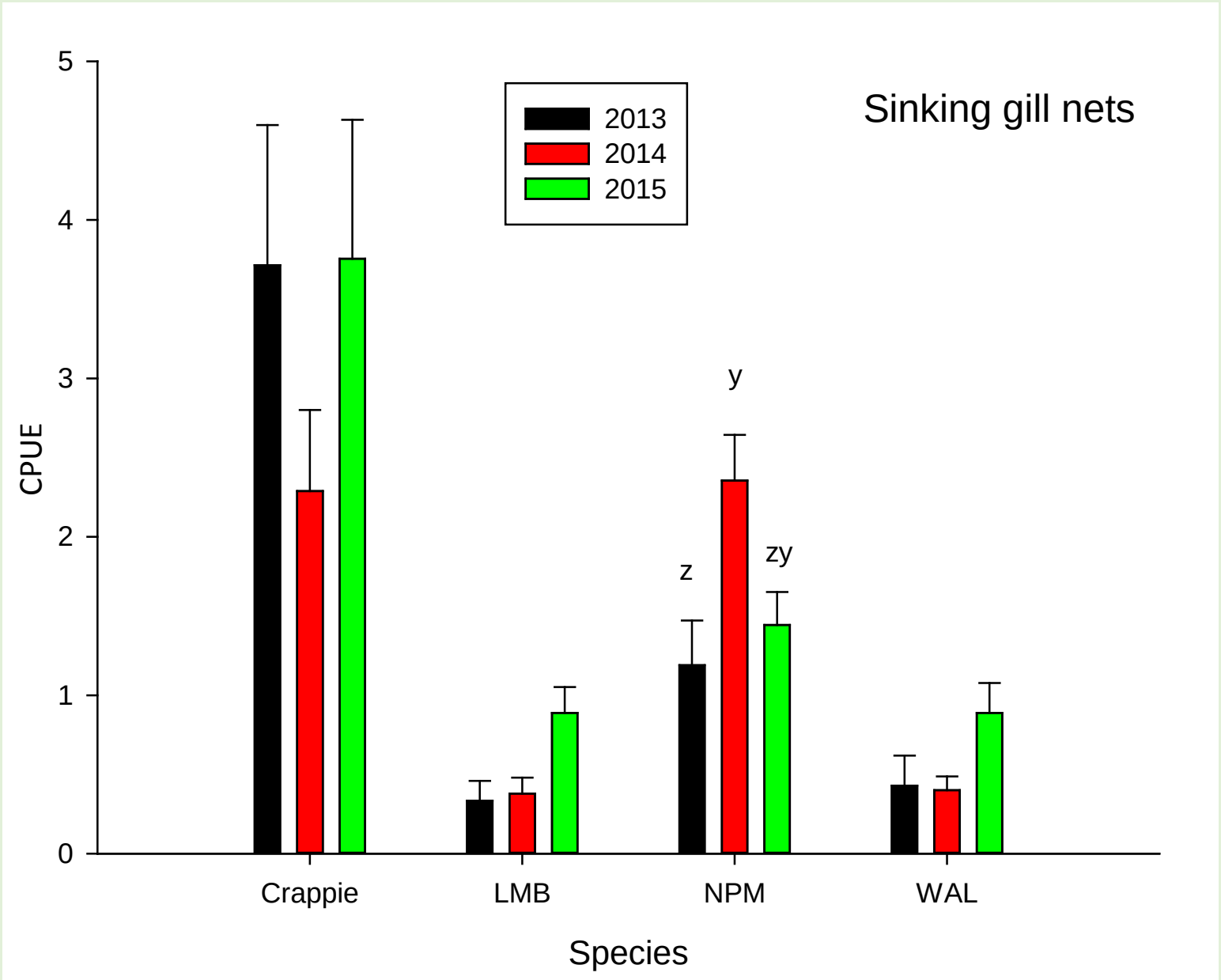
Results

Relative Abundance



Results

Relative Abundance

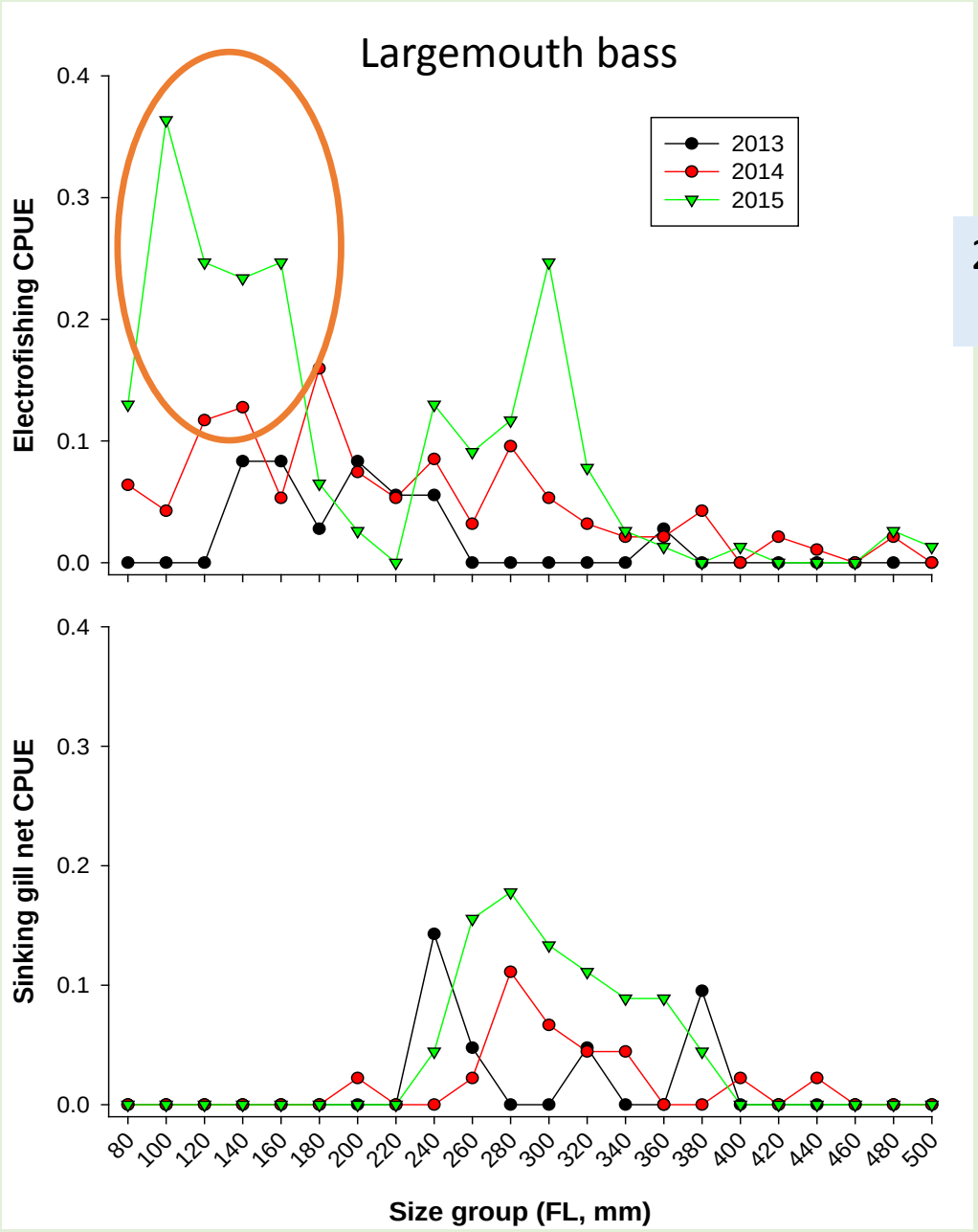


Why so variable?

Variation in CPUE among years possibly due to interplay of:

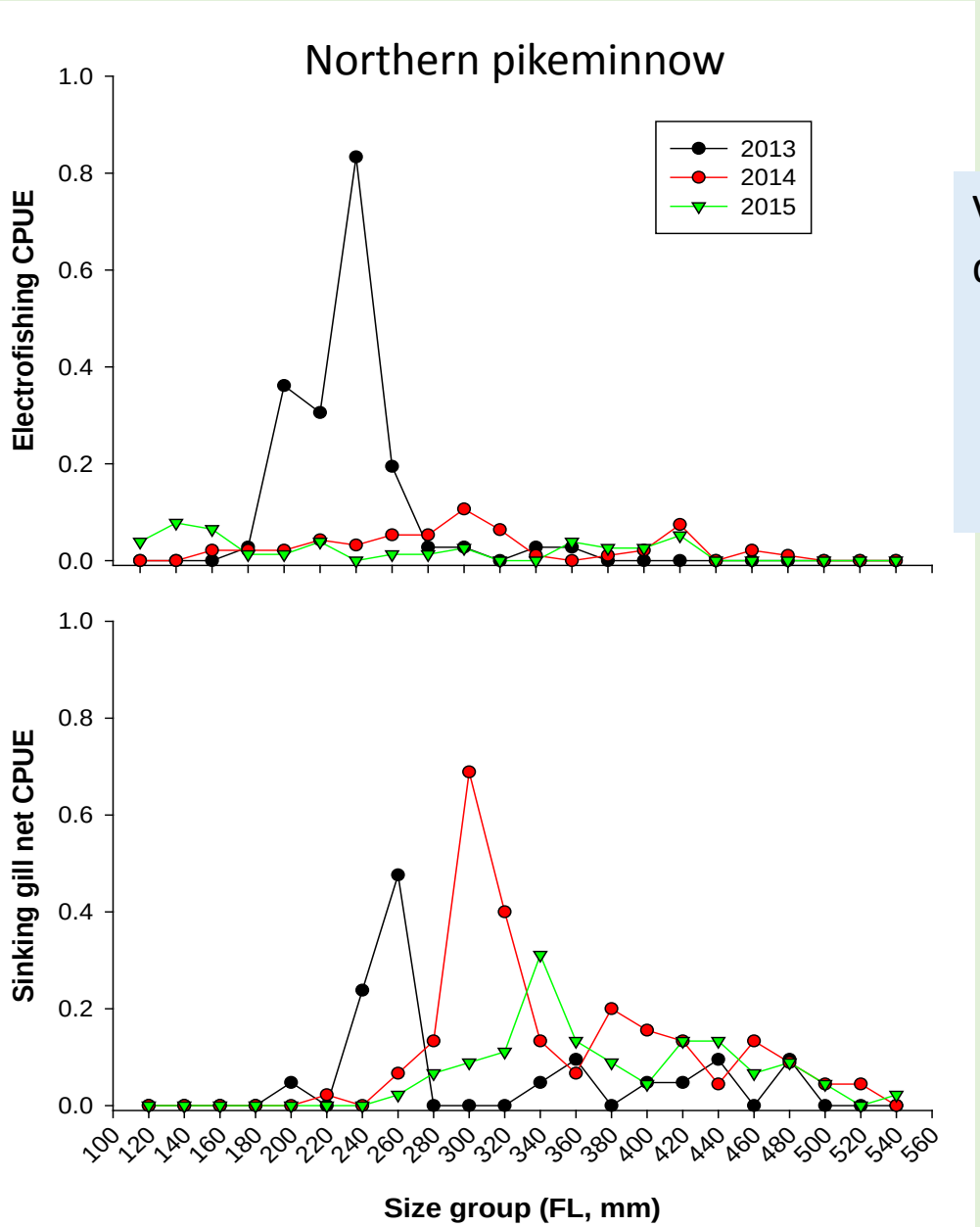
- Size selectivity of gear type
- Increasing fish size as a year-class grows
- Variation in year-class recruitment of a species

CPUE by Size Group



2015 recruitment of LMB 100-180 mm FL
-Age 1 (2014 year-class)

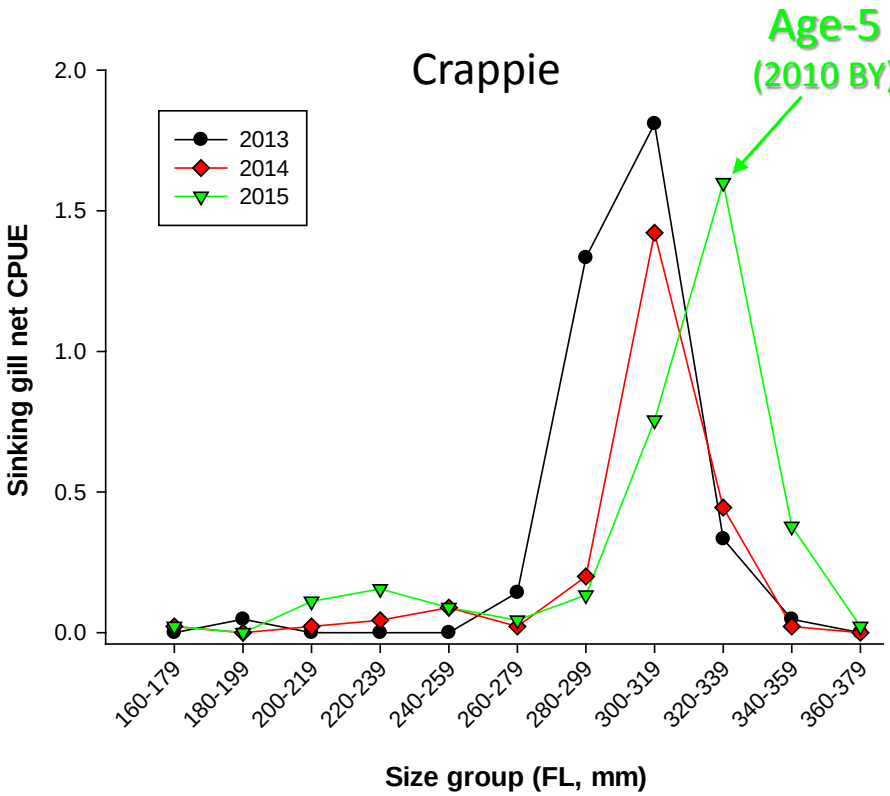
CPUE by Size Group

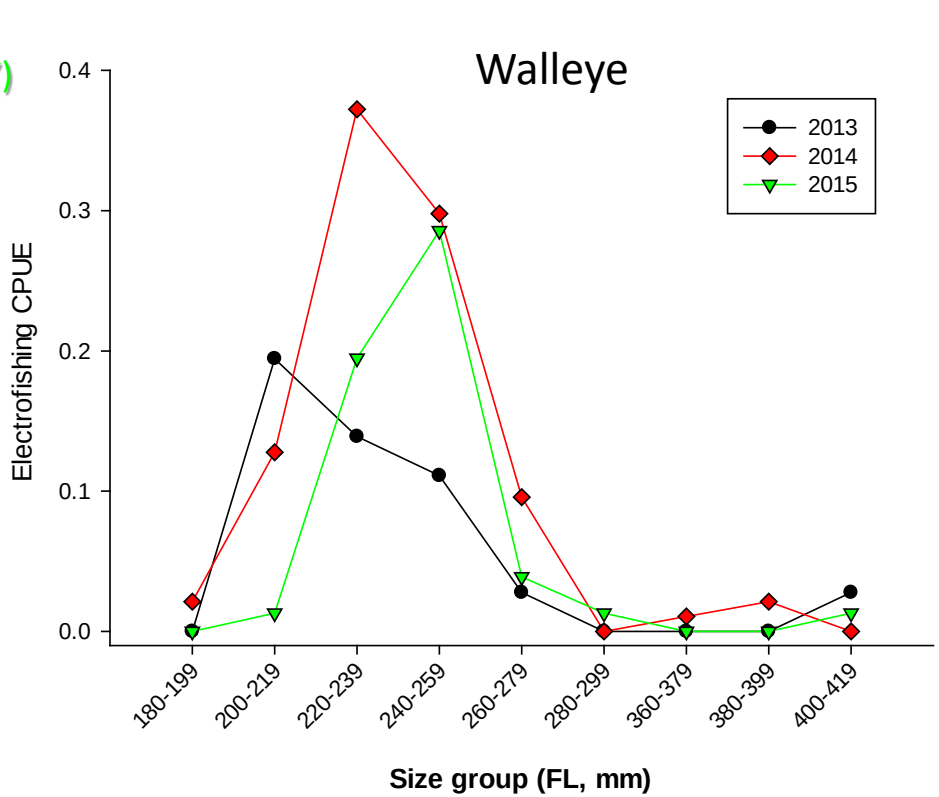


Variation in CPUE among years possibly due to:

- Size selectivity of gear type
- Changes in age structure (size) within a species
- Shifts in habitat (RT study)

CPUE by Size Group

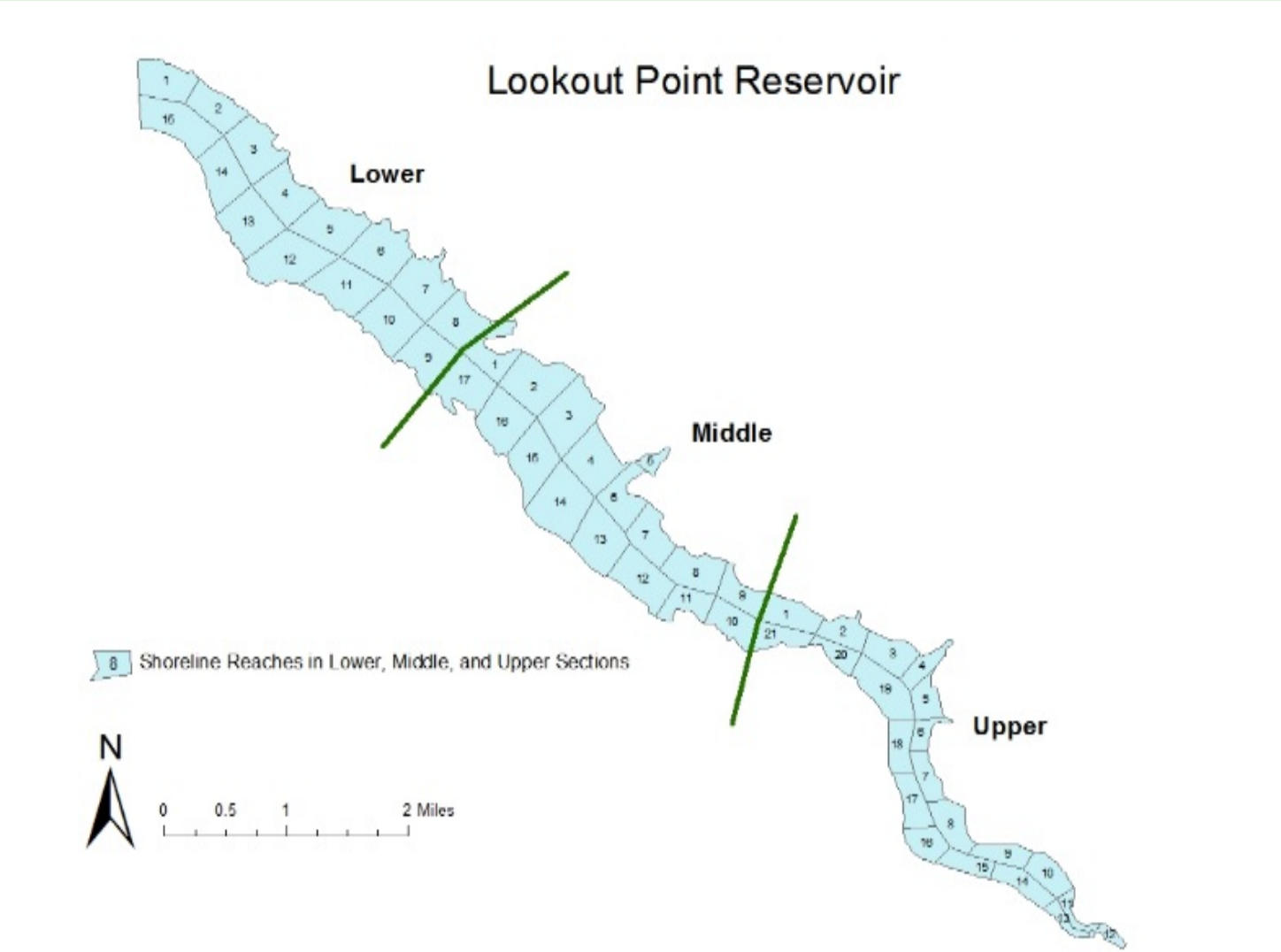




Mean Fork Length (mm)		
Year	**Crappie**	**Walleye**
2013	300.4	236.1
2014	305.1	240.7
2015	311.4	247.2

Results

Distribution



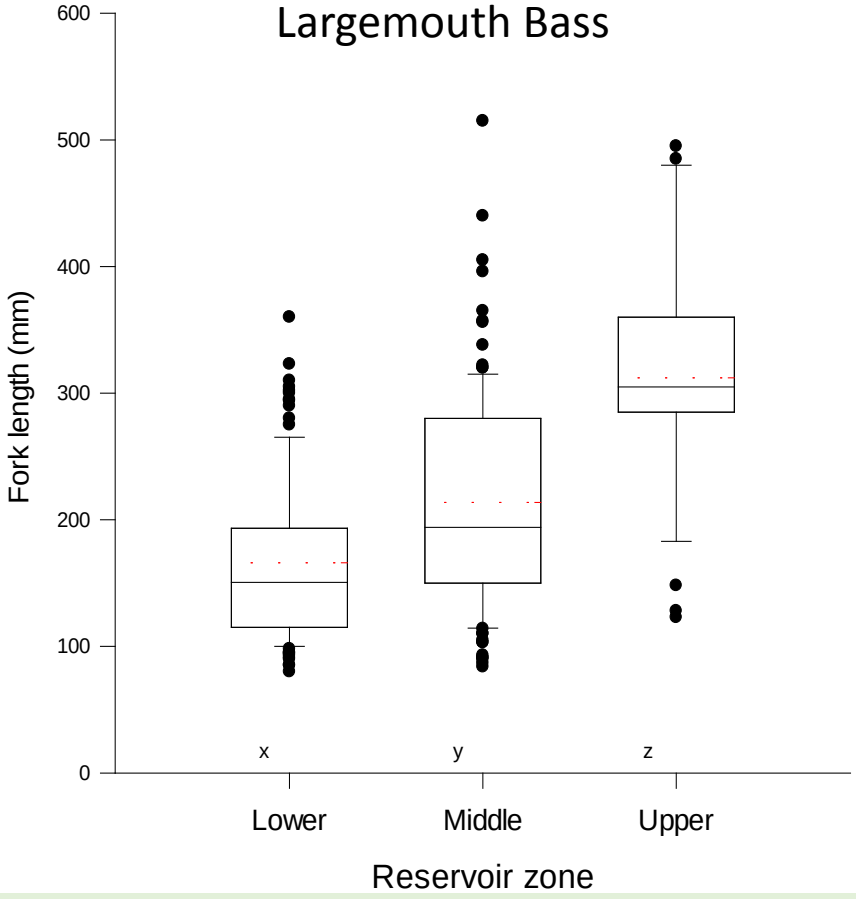
Results
Distribution

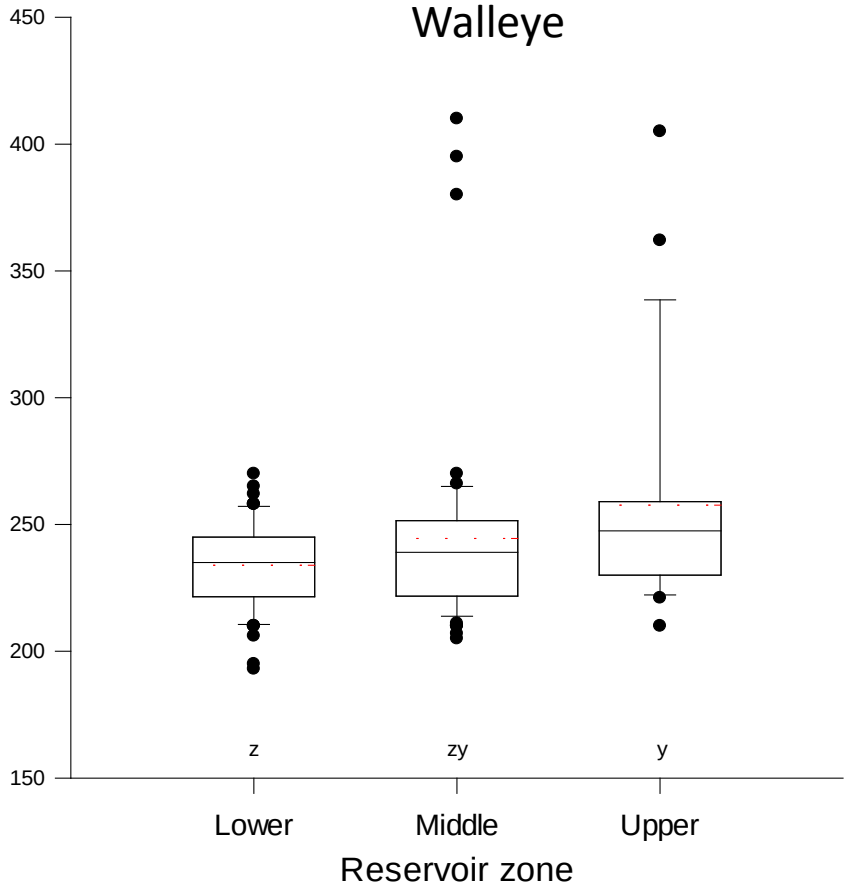
- In all years Crappie had a lower CPUE in the Lower 1/3 of the reservoir compared to the Middle and Upper zones.
- Northern Pikeminnow CPUE was significantly greater in the Upper zone.
- Largemouth bass and Walleye CPUE was similar among reservoir zones (but larger fish were more often in upper zone)

Results

Distribution

Size by Reservoir Zone





Northern Pikeminnow RT Study

12 fish tagged in May (tracked 10)

374-463 mm FL

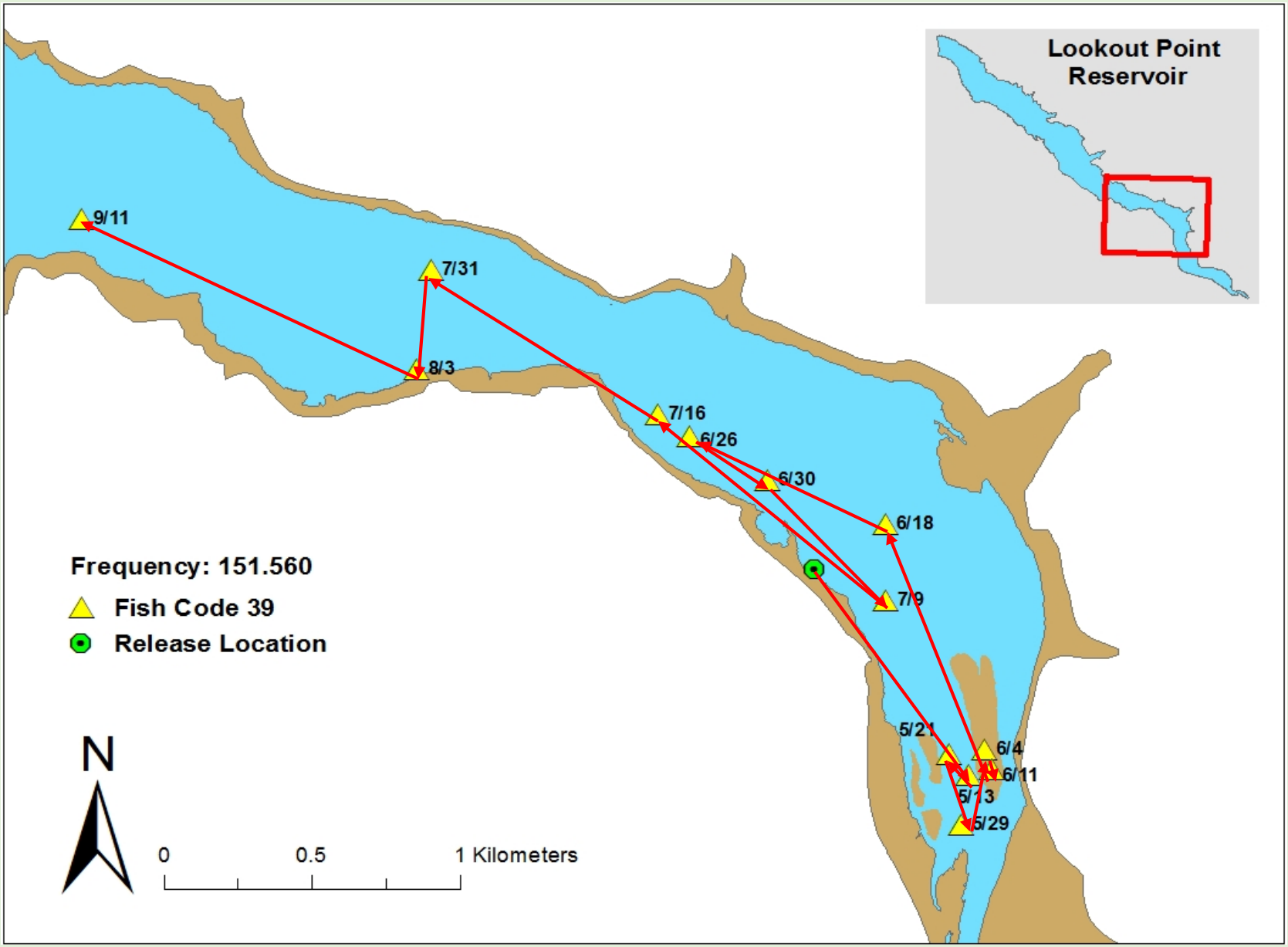
Tracked through mid-September

Results

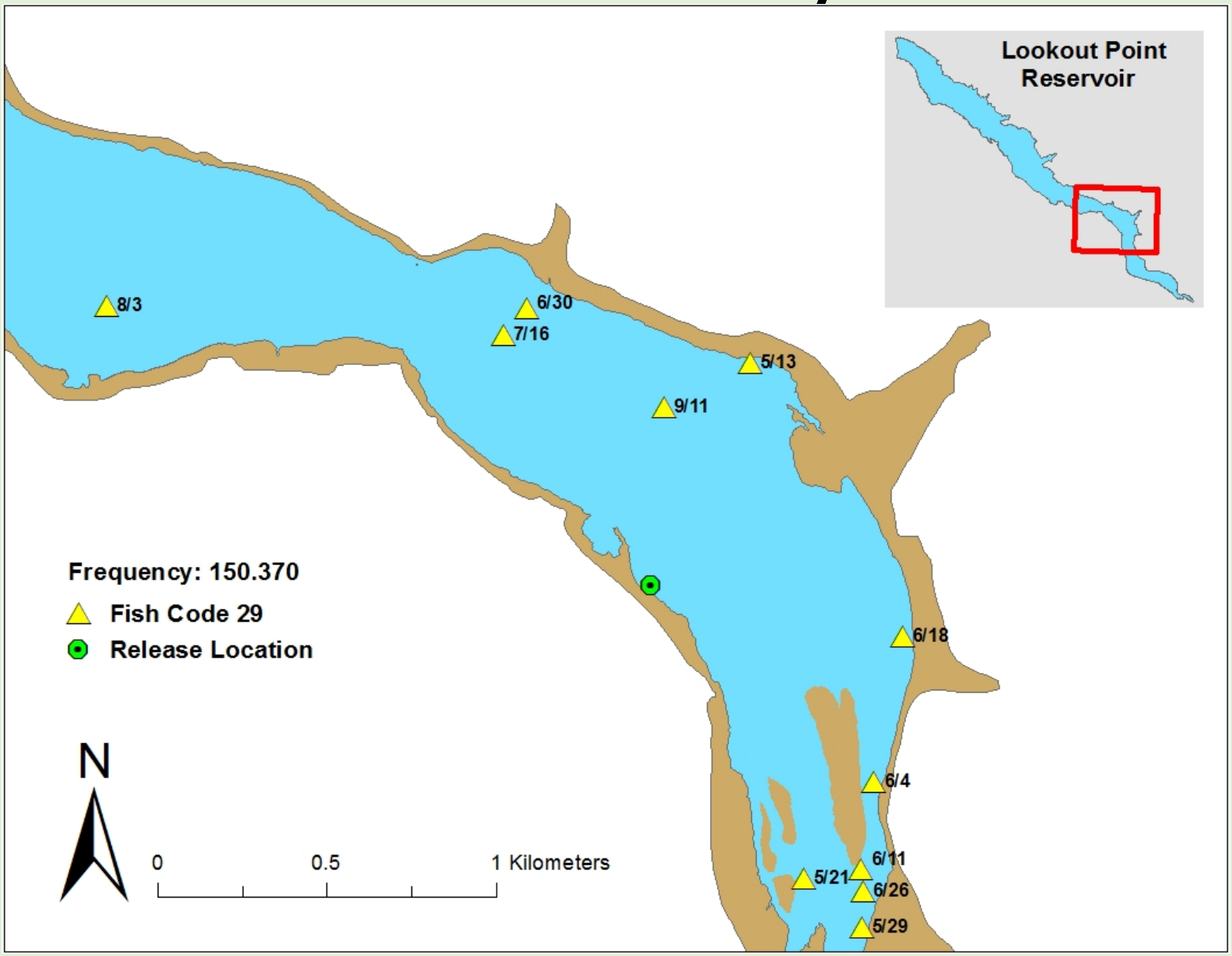
Northern Pikeminnow

- Reservoir ‘stayers’ (n=6)
- River ‘spawners’ (n=4)

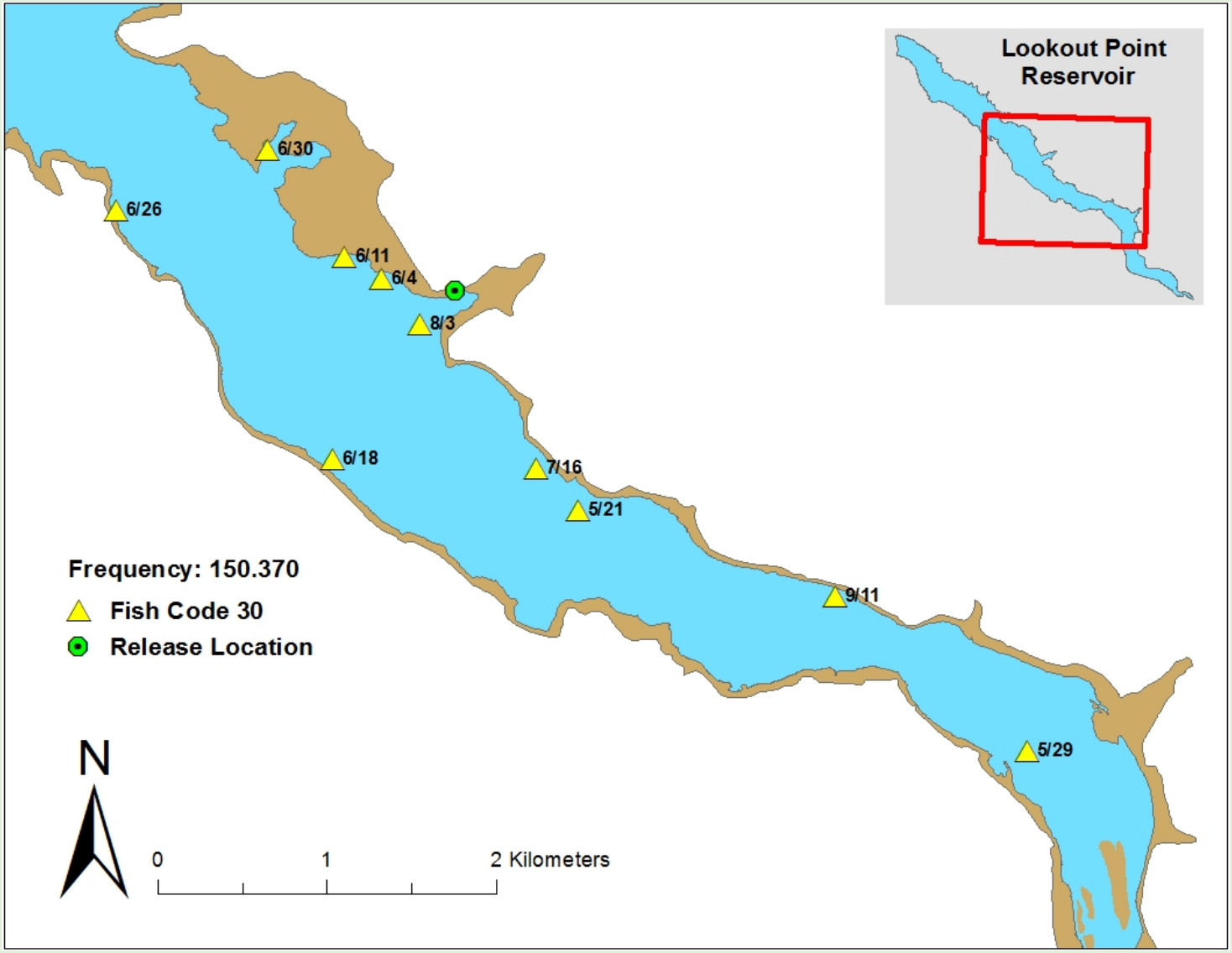
Reservoir Stayer



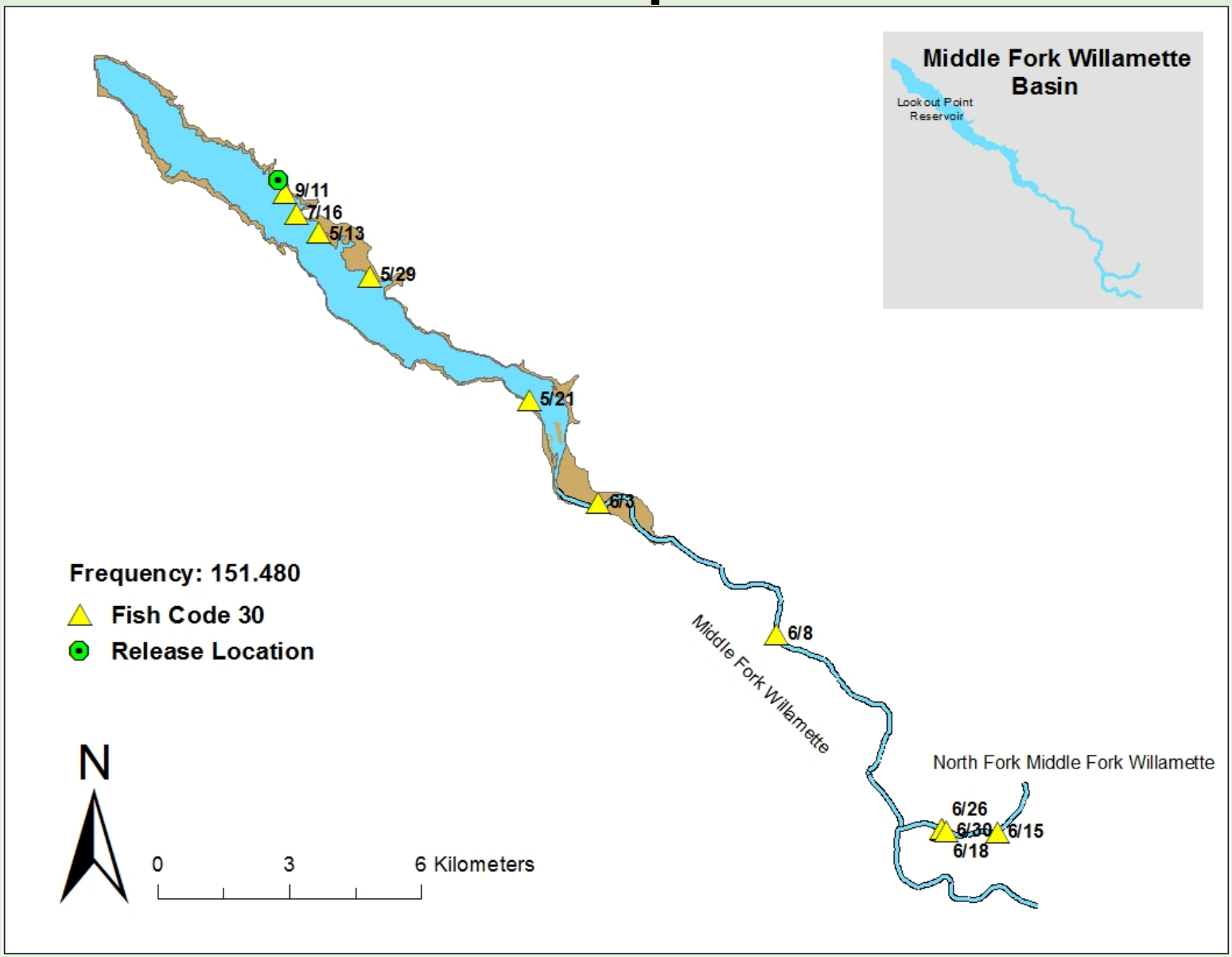
Reservoir Stayer



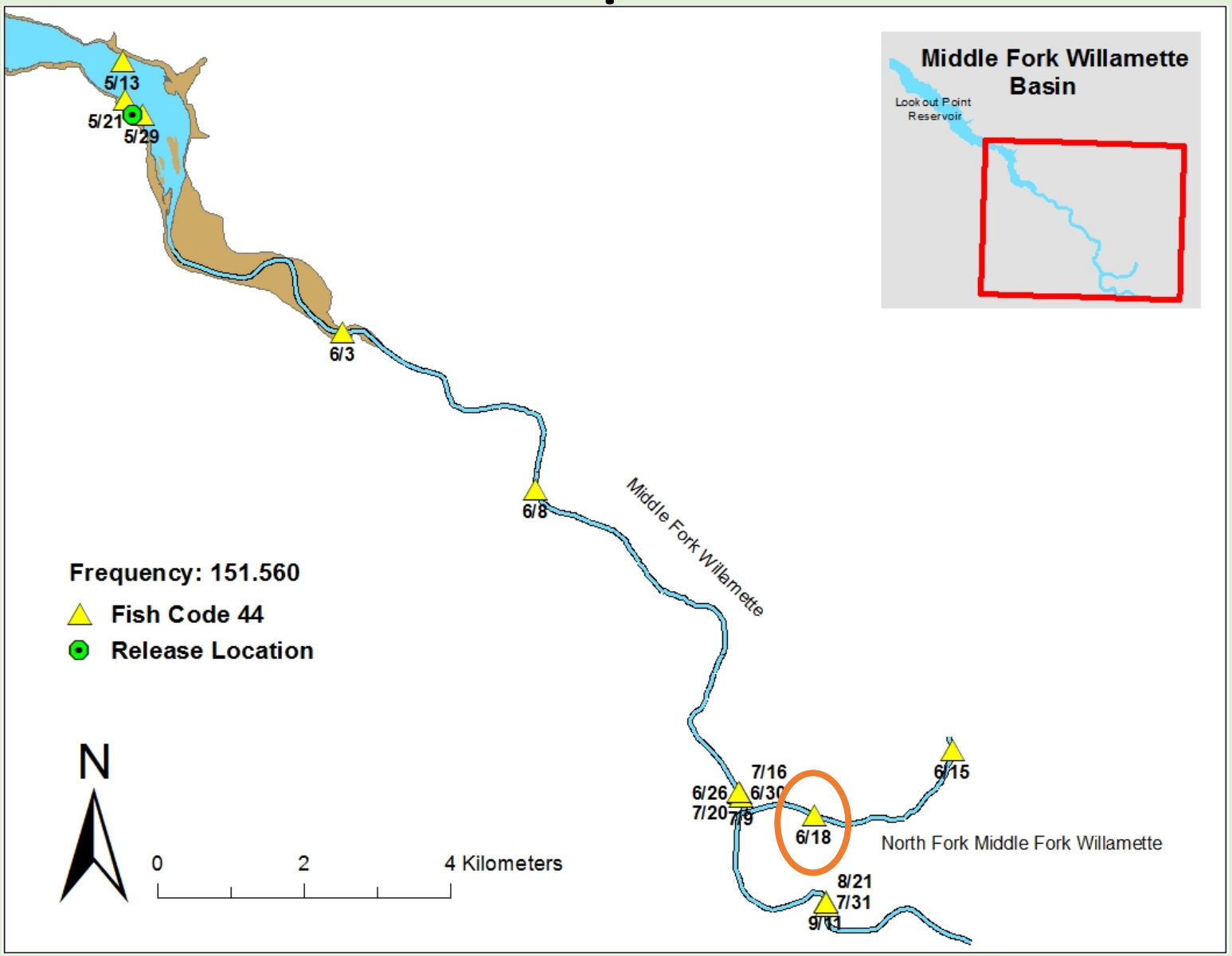
Reservoir Stayer



River Spawner



River Spawner



Spawning Aggregation

Conclusion

- Relative abundance of predator species can be highly variable among years
  - Strong recruitment classes of some species
  - Assessment would need to occur just prior to a drawdown
- Predators tended to be more abundant in the middle and upper reservoir
- NPM stayed in upper reservoir (May-Sep)
- NPM spawn in river above reservoir

Acknowledgments

Greg Taylor
Rich Piaskowski
Fenton Khan
Doug Garletts
Chad Helms

Jeff Ziller
Kelly Reis
Nik Zymonas
OHRC

<u>The 'Reservoir Dogs'</u>
Khoury Hickman
Chris Abbes
Andrew Nordick
Greg Gilham
Meghan Horne-Brine
Kevin Stertz
Ryan Flaherty
Matthew Price

Questions?