

# Results of 2005 Monitoring for Adaptive Management of the Tallapoosa River below R.L. Harris Dam

Elise Irwin

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USGS

Kathryn Mickett Kennedy

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Alabama Cooperative Fish and Wildlife Research Unit


# Timeline


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- 29 April – 1 May 2003: Workshop
- 21 May 2003:
  - Proposal of Heflin flow target
- 1 December 2004:
  - Proposal of Heflin target via pulses
- 20 January 2005: Proposal accepted
- 1 March 2005:
  - “Green” flow plan implemented
- 20 June 2005: 2005 monitoring began



**Key**

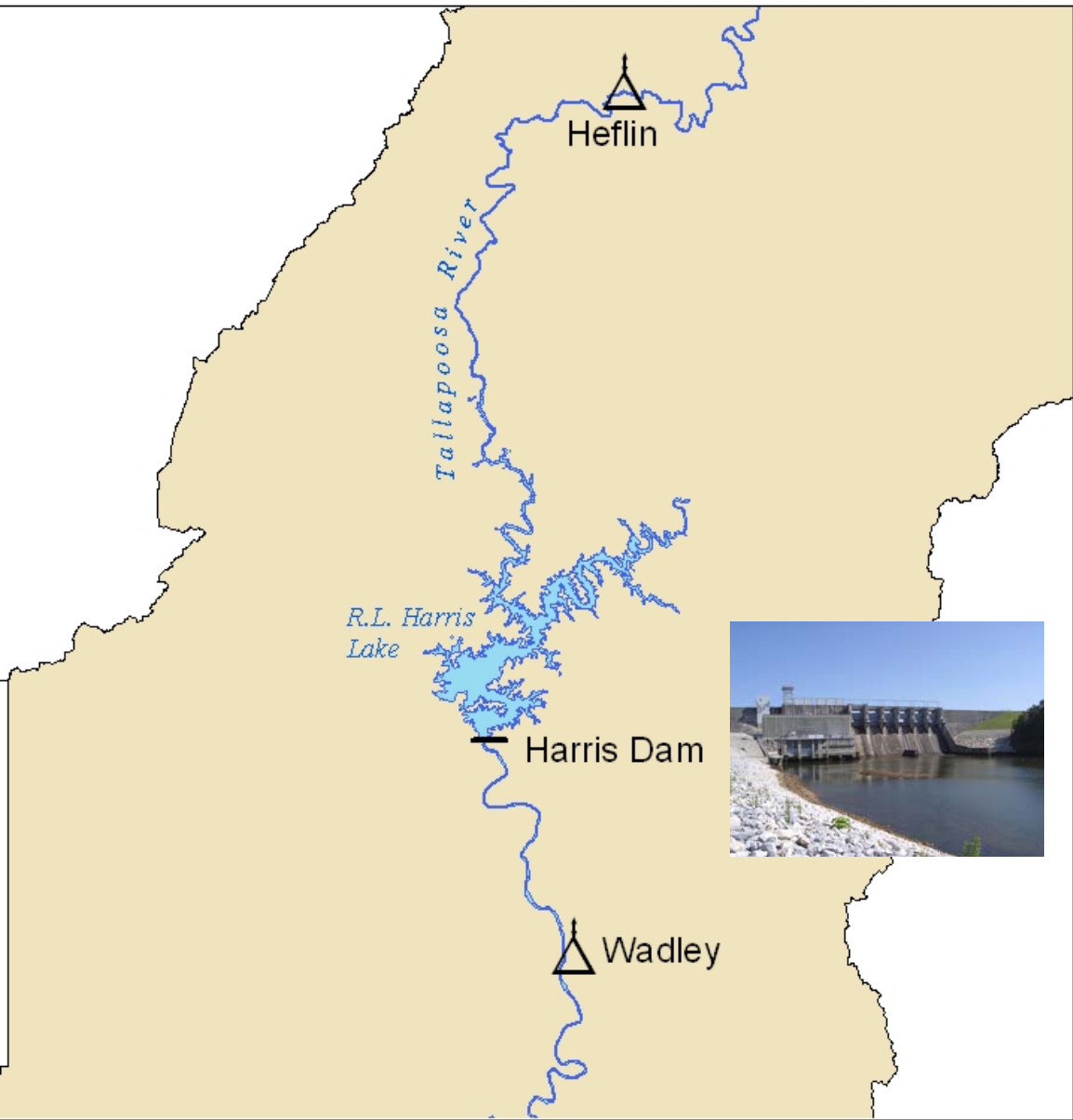
 USGS gage

 Dam



0 3 6 12  
Kilometers

The key section is enclosed in a black-bordered box. It contains a title "Key" in bold. Below the title are two entries: "USGS gage" with a black triangle symbol and "Dam" with a black horizontal line symbol. At the bottom of the key is a north arrow pointing upwards and a scale bar labeled "Kilometers" with markings at 0, 3, 6, and 12.



# Analysis

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1. Identified collected specimens
2. Create capture histories for each shoal; ex:

```
0010110101
0000011000
0110111111
1000111111
0000111111
```

3. Find patterns in the data: AIC

Group (Regulated/Unregulated)

Depth, Velocity, Vegetation, Distance from dam

# Top Species

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- Upper Tallapoosa
  1. Bullhead minnow *Pimephales vigilax*
  2. Speckled darter *Etheostoma stigmaeum*
  3. Alabama shiner *Cyprinella callistia*
- Hillabee, Griffin/Peters, Malone to Wadley:
  1. Alabama shiner *Cyprinella callistia*
  2. Lipstick darter *Etheostoma chuckwachatte*
  3. Bronze darter *Percina palmaris*
- Harris to Malone
  1. Bronze darter *Percina palmaris*
  2. Alabama shiner *Cyprinella callistia*
  3. Redbreast sunfish *Lepomis auritus*

# Potential “Indicators”

- Silverstripe shiner *Notropis stilbius*
- Bullhead minnow *Pimephales vigilax*
- Black redhorse *Moxoxtoma duquesnei*
- Speckled madtom *Noturus leptacanthus*
- Lipstick darter *Etheostoma chuckwachatte*
- Muscadine darter *Percina smithvanizi*

# Minnows

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## Silverstripe shiner *Notropis stilbius*

- Depth, Distance, Velocity, Vegetation
- Upper Tallapoosa: 30 Hillabee: 50  
Dam to Malone: 0 Malone to Wadley: 17  
Griffin/Peters: 30

## Bullhead minnow *Pimephales vigilax*

- Distance, Velocity, Depth, Vegetation
- Upper Tallapoosa: 1098 Hillabee: 146  
Griffin/Peters: 11

# Suckers

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## Black redbhorse *Moxostoma duquesnei*

- Group, Vegetation, Depth, Velocity
- Regulated: 0.07%    Unregulated: 39%
- Upper Tallapoosa: 6    Hillabee: 17



# Catfish

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## Speckled madtom *Noturus leptacanthus*

- Velocity, Distance, Depth, Group
- Regulated: 5.5% Unregulated: 62%
- Upper: 23 Hillabee: 10  
Peters: 6 Malone to Wadley: 1

# Darters

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## Lipstick darter *Etheostoma chuckwachatte*

- Velocity, Depth, Group, Distance, Vegetation
- Dam to Malone: 37 Malone to Wadley: 265

## Tallapoosa darter *Etheostoma tallapoosae*

- Vegetation, Velocity
- Regulated: 99% Unregulated: 99%

## Muscadine darter *Percina smithvanizi*

- Vegetation, Distance
- Dam to Malone: 29 Malone to Wadley: 100



# Topminnow

## Stippled studfish *Fundulus bifax*

- Depth, Vegetation, Group?
- Regulated: 0.2%    Unregulated: 2.5%
- Upper Tallapoosa: 1    Hillabee: 5

# Sculpin

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## Tallapoosa sculpin *Cottus* sp. cf. *bairdii*

- Velocity
- Regulated: 92%    Unregulated: 99%
- Upper: 18    Hillabee: 1    Griffin Shoals: 1  
Wadley to Malone: 1    Dam to Wadley: 3



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# Conclusions

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- Template successful
  - Professional facilitators
  - Decision support model
  - Long-term commitment



# Acknowledgements

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Gareth Turner  
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Ben Martin  
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Jeff Holder

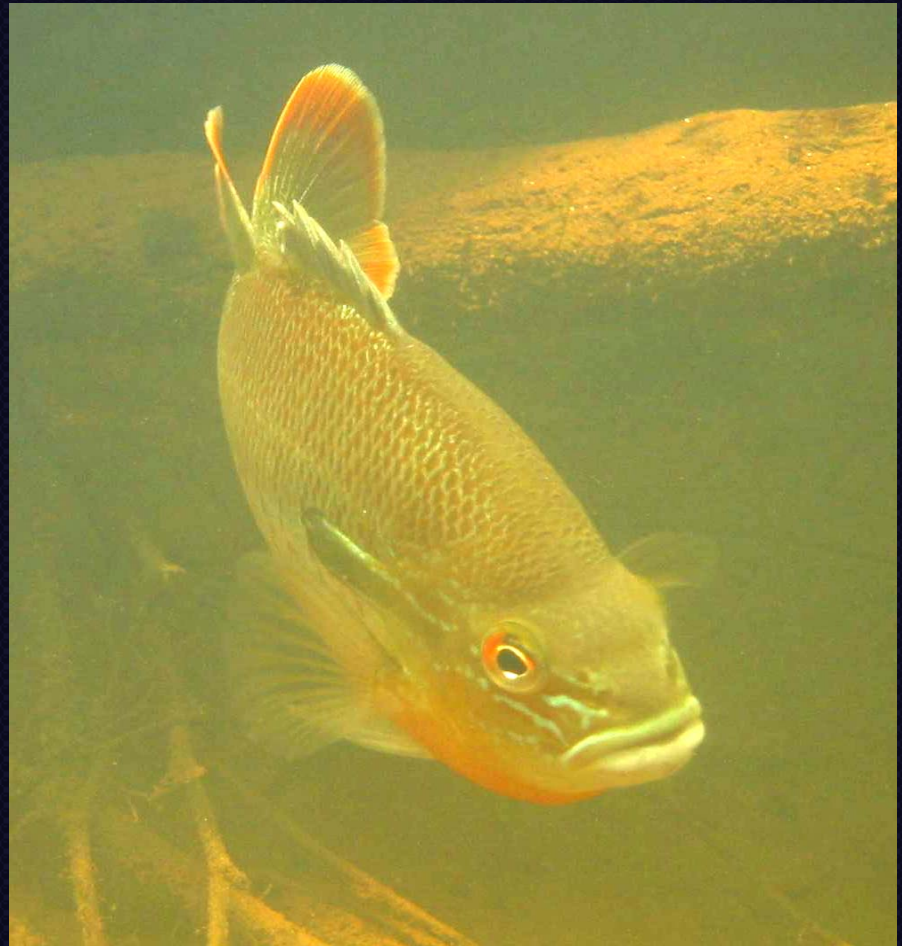


Photo: A. Nicholls