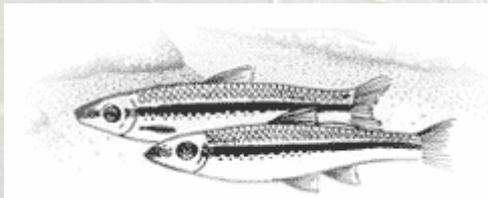




# A Vision for the Rocky River

USFWS's conservation strategies in the Rocky River watershed, Chatham County, NC

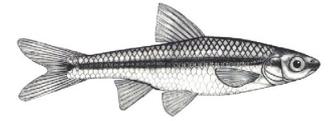


Sarah McRae, Aquatic Endangered Species Biologist  
Presentation to the  
Rocky River Heritage Foundation/Friends of the Rocky River  
30 May 2013



# Overarching Goal:

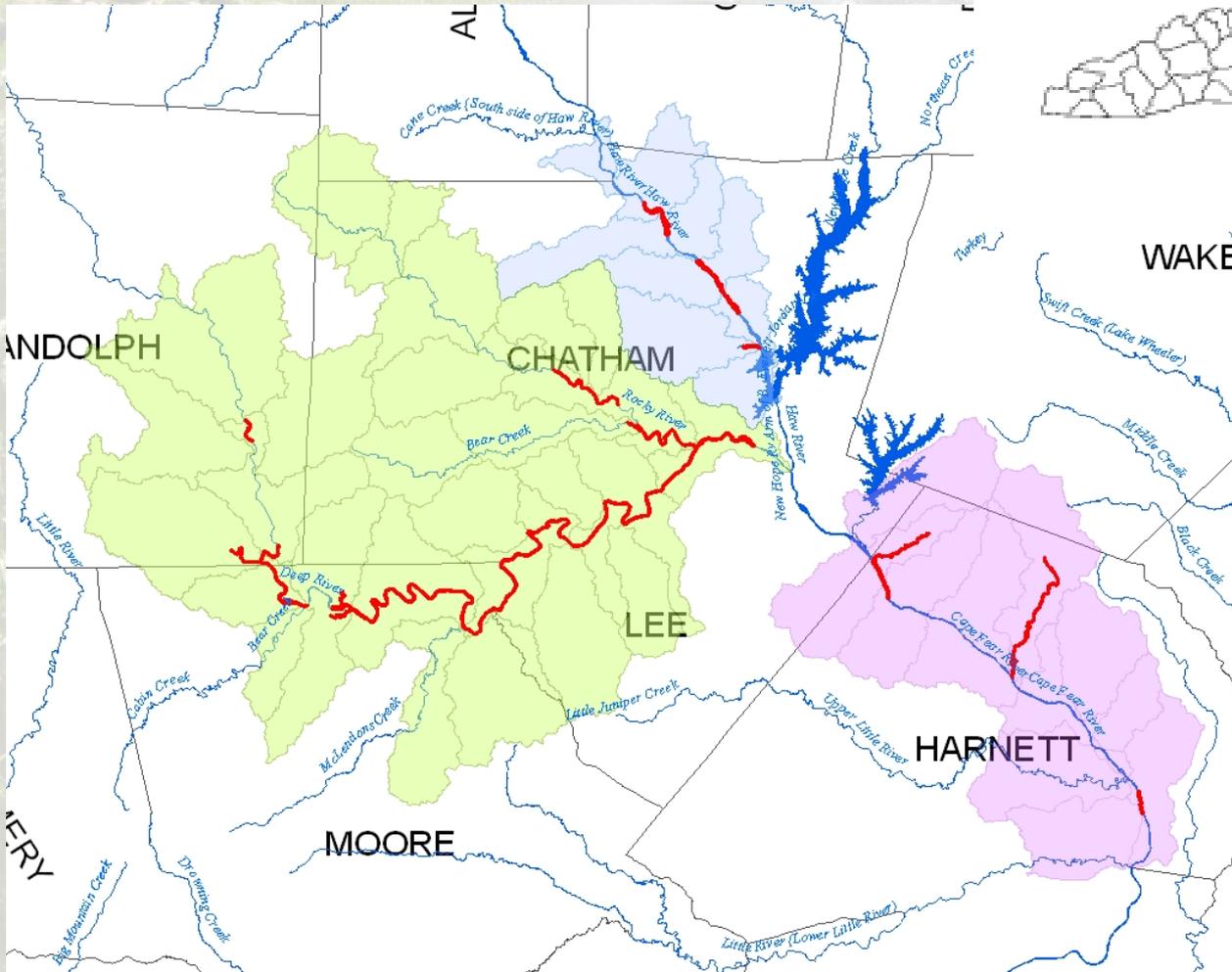
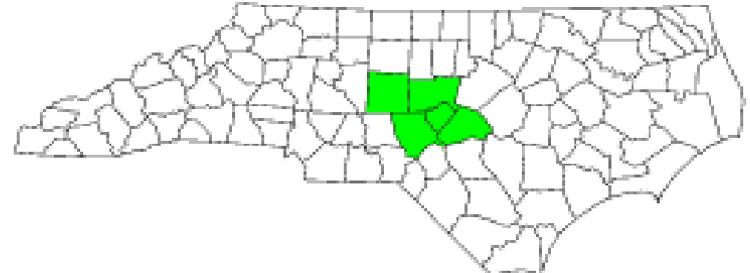
## Recover Cape Fear shiner



- Deliver conservation tools
- Utilize conservation programs
- Foster partnerships
- Stimulate research
- Provide technical assistance
- Encourage education and outreach



# Recovering the Cape Fear shiner



# Recovering the Cape Fear shiner

## Recovery Objectives:

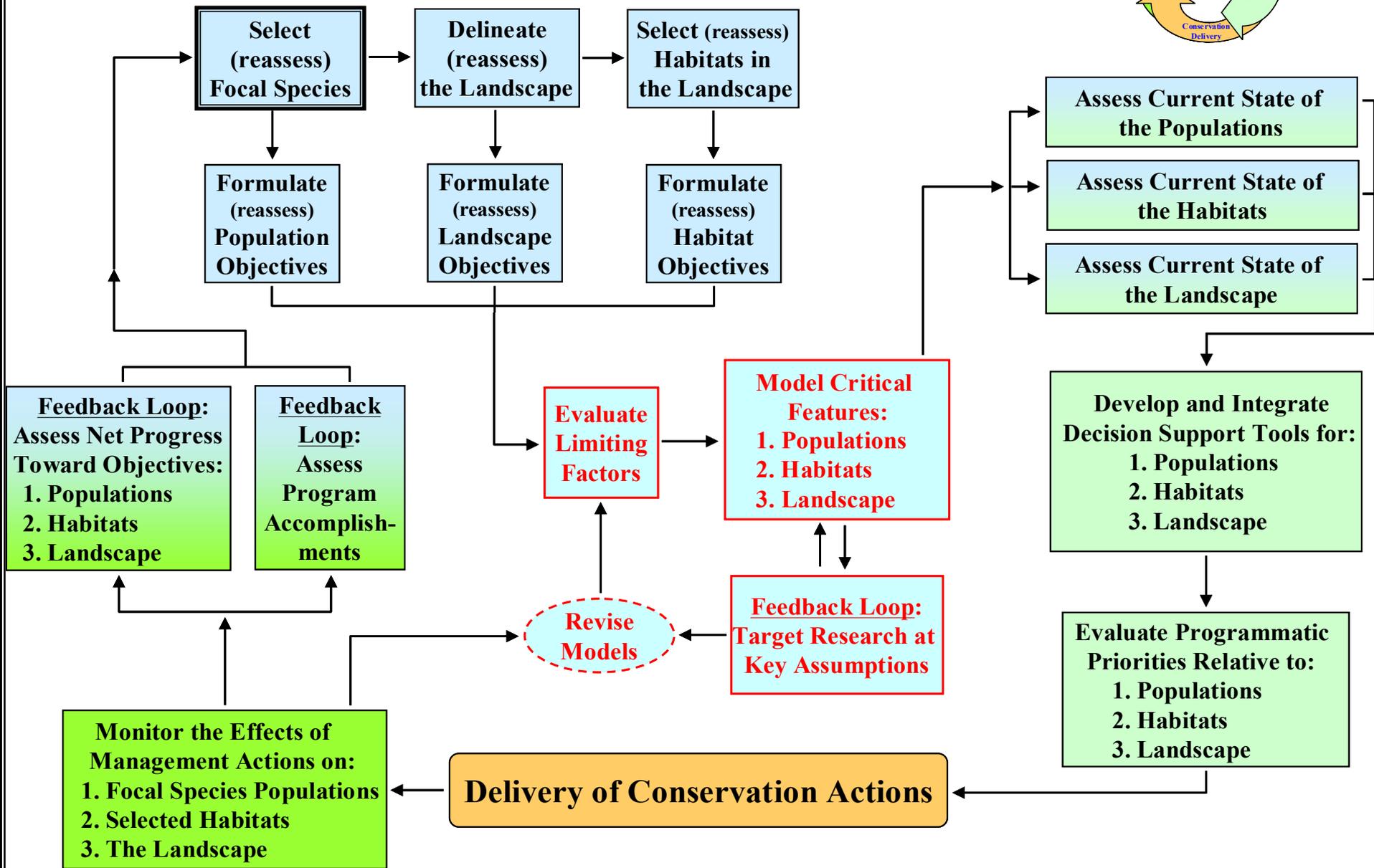
- Utilize existing legislation and regulations
  
- Solicit help in protecting species:
  - Meet with local government officials and regional/local planners
  - Meet with local business and/or industry interests
  - Develop an educational program
  
- Determine threats to species:
  - Life History research
  - Characterize species' habitat
  - Determine present and foreseeable threats
  - Investigate need for management
  - Determine the number of individuals to maintain a viable population

# Recovering the Cape Fear shiner

## Recovery Objectives (cont):

- Search for additional populations and/or suitable habitat
- Determine feasibility of reestablishing CFS back into historic habitat and reintroduce where feasible
  - Develop successful technique
  - Identify unoccupied habitat
  - Reintroduce species back into historic range
  - Implement protective measures
- Biennially monitor population and habitat
- Annually assess overall success of recovery program

# SHC for populations: SHC<sup>Populations</sup>



# First Task: Identify Threats/Opportunities

- Algal blooms
- Nutrient Issues
  - WWTP
  - Cattle in stream
- Flows
- Barriers to dispersal
- Stormwater
- Riparian buffer integrity issues
- Invasive species



# Deliver Conservation Tools

## Endangered Species Act Tools:

- Section 4
  - Candidate Conservation Agreements (with assurances)
  - Safe Harbor Program
  - Conservation Banks
- Section 6
  - Working with the States
- Section 7
  - Federal Agency Cooperation (Consultation)
- Section 10
  - Habitat Conservation Plans



# Utilize Conservation Programs

- FWS Partners for Fish and Wildlife



- WRC Green Growth Toolbox



NCWRC



NCWRC

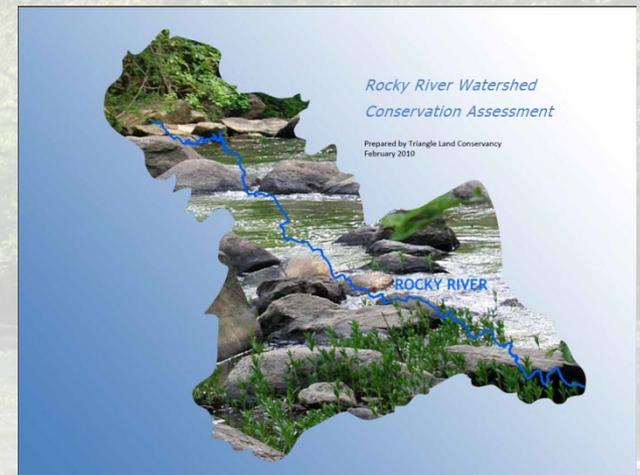
# Foster Partnerships

- Chatham Conservation Partnership



- Rocky River Management Team
- Friends of Rocky River/Rocky River Heritage Foundation

# Stimulate Research: Build on what we know...



- Previous CFS Research
  - [http://www.fws.gov/raleigh/species/es\\_cape\\_fear\\_shiner.html](http://www.fws.gov/raleigh/species/es_cape_fear_shiner.html)
- EEP Local Watershed Plan (2005)
- CCP Comprehensive Conservation Plan (2009)
- AES Aquatic Taxa Surveys in RR (2010) and Tick Creek (2009)
- TLC Watershed Conservation Assessment (2010)
- WECO Situation Assessment (2012)
- DWQ RR Groundwater Assessment (2012)
- CFS Augmentation Project (2013)

# Stimulate Research: Future Research Priorities

- Water Quality tests on all CFS life cycle stages
- Establish techniques to assess CFS reintroduction/augmentation success
- Quantify water willow distribution and habitat needs
- Comparison of Rocky/Deep River habitats vs Haw River habitats and species associates: What are the limiting factors in the Haw?
- Emerging threats:
  - Shale Gas
  - “Invasive” species interactions (e.g., wild rice)

# Provide Technical Assistance

- DWR/DWQ Flow Studies
- Dam Removal Projects – American Rivers; Wildlands Engineering
- Developing Conservation Corridors – NHP Registries



# Encourage Education and Outreach

- Inform the Public

- CFS Augmentation Project Open House

- Social Media

- Facebook, Twitter
- WRC's Conserve & Protect blog:

<http://www.ncwildlife.org/News/Blogs/NCWRCBlog/tabid/715/catid/2/Fishing.aspx>

- Rocky River Science Festival



# CFS-Expert Defined Conservation Actions

## CATEGORIES OF ACTION:

- Education
- Write SHC Plan/Re-write Recovery Plan
- Augmentation/Reintroduction
- Dam Removals
- Instream Flows
- Habitat Restoration and Protection
- Surveys and Mapping
- Policy
- Water Quality
- Research



# Questions?

U.S. Fish and Wildlife Service

[www.fws.gov](http://www.fws.gov)



Cape Fear shiner info:

<https://www.fws.gov/southeast/wildlife/fishes/cape-fear-shiner>

Sarah McRae

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