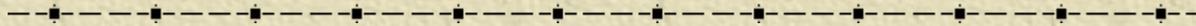


Oklahoma Comprehensive Wildlife Conservation Strategy

Conservation Issues With Ozark Streams in Oklahoma



Chris Whisenhunt: *Fisheries Biologist*

James Vincent: *Senior Fisheries Biologist, Streams Emphasis*

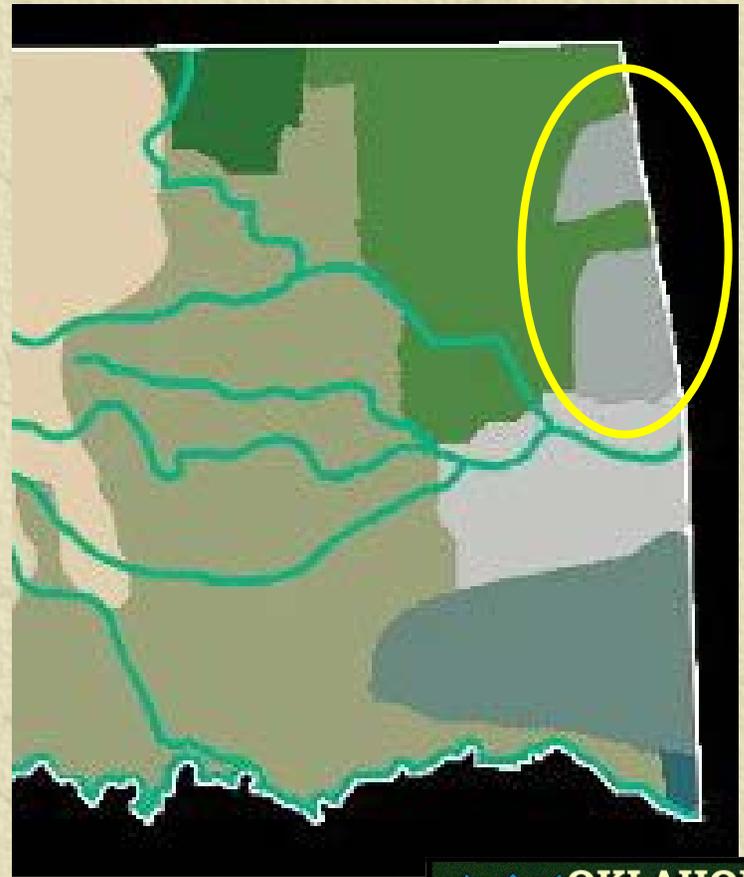
Mark Howery: *Wildlife Diversity Biologist*



Ozark Ecoregion in Oklahoma

✦ Six Counties

1. Ottawa
2. Delaware
3. Mayes
4. Cherokee
5. Adair
6. Sequoyah



Highest Priority Habitat Types

- ✦ Small River and Bottomland Forest Habitat
- ✦ Gravel Bottom Stream and Riparian Habitat
- ✦ Caves / Springs / Shallow Aquifer Habitat

Conservation Issues: General Categories

1. Incomplete data on most species of greatest conservation need
2. Riparian and in-stream habitat loss
 - a) channel alteration
 - b) land use practices
 - c) recreational activities
3. Altered flow regimes
4. Impairment of surface and ground water quality
5. Changes (reduction) in water quantity
6. Invasive aquatic plants and animals
7. Commercial harvest of freshwater mussels

Topics of Discussion

- ✦ Aquatic Species Migration
- ✦ Riparian Habitat/Restoration
- ✦ Recreational Fisheries
- ✦ Water Quality
- ✦ Water Quantity

Aquatic Species Migration

Conservation Issues

- Data on distribution, ecology, and habitat needs of species of concern
- Fish Passage Barriers (e.g. dams, culverts, and bridge designs)

Recommended Action

- Remove obsolete or unnecessary dams, culverts, and crossings
- Rehabilitate existing structures
- Establish minimum in-stream flow levels

Riparian Habitat / Restoration

Conservation Issues

- Removed, reduced, or degraded riparian habitat
 - sedimentation
 - pollution
 - bank instability
 - increases in water temperatures

Recommended Action

- Cost share programs with landowners to repair riparian habitat
- Discourage development in floodplains
- Restore and enhance wetlands
- Stabilize banks with fluvial geomorphology principles

Recreational Fisheries

“The Oklahoma Comprehensive Wildlife Conservation Strategy does not identify conservation issues associated with these.”



Water Quality

Conservation issues

- Anthropogenic sources (animal operations, septic systems, fertilizer or pesticides from crop fields, golf courses, etc.)
- Livestock activity
- Municipal and industrial discharge
- Increased sediment from erosion
- Polluted groundwater

Water Quality

Recommended Action

- Promote and implement *Best Management Practices* and conservation cost share programs dealing with surface and storm water runoff
- Cost share funding for alternative water sources
- Purchase conservation easements
- Discourage developments in floodplains
- Restrict or prohibit channel modification, in-stream gravel mining and channel dredging

Water Quantity

✦ Conservation issues

- Groundwater used for irrigation and residential use
- Impoundments reducing surface flow to streams
- Water diversion from impoundments on major stems

Water Quantity

Recommended Action

- Study flow needs of species of concern and make recommendations to water managers
- Establish minimum in-stream flow requirements for biologically important streams
- Restore and enhance wetlands
- Study relationship between groundwater and streams
- Support the development of state water plan

Questions?

