

Summary of **Kiamichi** Group

Team Members:

Ron Miller

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Postdoc

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Integrative Research Question(s)

1. What is the impact of climate change, water transfer, and/or landuse changes on streamflow and water availability?
2. What is the impact of climate change, water transfer, and/or landuse changes on stream thermal habitat quality?

Identified Data Needs

- Aquatic species critical temperature threshold
- Climate data
- Existing surface water permitted withdrawals
- Typical styles of timber management
- Potential annual water export volume
- Reservoir release timing

Identified Actors/Influencers

Simplest Model

- Private timber management
 - Low intensity
 - Moderate intensity
 - High intensity

Complex Model

- Private timber management
 - Low intensity
 - Moderate intensity
 - High intensity
- Ranching/Hay
- Timber Industry Mngmt.
- Reservoir Mngr.

Identified Policies/Scenarios

- No change (static climate/landuse/water export)
- Climate change
- Water export
- Environmental release from reservoir

Identified Process-Based Models

- Hydrologic (FLOW) model
- Reservoir release
- Stream temperature
- Timber harvest (market focus)
- Economic value of reservoir
- Timber growth (Dynamic veg)

Identified Evaluative ~~Models~~ Metrics

- Volume of exported water
- Lake level/lake visitors
- Days of critical stream temperature

Identified Stakeholders

- Water extractor(s)
- Local Chambers of Commerce
- US Army Corps of Engineers
- OWRB
- ORWP
- ODWC/USFWS
- Weyerhaeuser & affiliates
- Residents
- Tourists

Data/Personnel Gaps

Data/model gaps

- Reservoir release/lake level model
- Lake visitation/travel time model
- Stream temperature regression model
- Climate scenarios
- Industrial timber management model
- Hydrologic model
- M-SISNet land management survey