

Eastern Brook Trout Joint Venture Science and Research Focus Areas

Fish-habitat relationships, including human impacts and their variation at different scales (focus on trout biology)

- Factors that influence brook trout spawning survival
- Brook trout response to changes in the annual flow cycle in streams and rivers
- Interactions between brook trout and exotic salmonids fish species
- Determination of persistent population size
- Movements of brook trout in large lakes and rivers
- Interactions between brook trout and exotic non-salmonid fish species
- Limiting factors on large-river brook trout populations
- Determination of effective population size from a genetic perspective

Identifying baselines and their current range, trajectories and gaps in knowledge (focus on baseline / existing data)

- Groundtruth assessment (i.e. test models)
- Update baseline assessment of populations in HUCs
- Evaluate baseline assessment approach

Appropriate standardization of sample design, methodology, and monitoring for data analysis

- Scale of assessment vs. sample scale vs. project scale
- Identification of suitable accountability measures, robust measures of success
- Pure strain vs. mixed strain (base level genetics – what is the management unit?)

Identifying and predicting impacts and their cumulative effects, and determining thresholds above which fish populations recover

- Identification of factor and elements of successful and unsuccessful restoration techniques
- Impacts of projected changes in land use / water use on restoration potential (e.g. Marcellus Shale development)
- Incorporation of climate change into restoration potential at small scales

Evaluation of management activities and socioeconomic values

- Effectiveness of regulations for brook trout management
- Relationship between brook trout and socioeconomic benefits
- Restoration potential for brook trout fisheries
- Cost-effectiveness of restoration techniques
- How do we improve the management of fishable populations
- Relationship between brook trout and production of ecosystem services
- Biological control of bass and other invasive fish species

Range-wide genetic inventories

Brook trout intrinsic value and value of brook trout fisheries

Economic impact assessment of brook trout throughout their historic range