Eastern Brook Trout Joint Venture Science and Research Focus List

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