Habitat GIT Fall Meeting
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Brook Trout

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Completed Projects

2022 GIT Funded Project: Facilitating Brook Trout Outcome Attainability through Coordination with CBP Jurisdictions and Partners

Project Goals

1. Identify opportunities for cross-GIT collaborations with other CBP teams (Healthy Watersheds, Fish Passage, Riparian Buffers, Stream Health) on connected actions, e.g., reforestation, aquatic connectivity, land conservation.
2. Strengthen communication and coordination with other stakeholders (e.g., non-DNR state agencies, other NGOs).
3. Collect and compile existing data from stakeholders and analyze monitoring and implementation data necessary to adequately track progress.
4. Work with the CBP EPA Data Center Team to develop a tracking/reporting application.

Completed Projects

- Trout Unlimited (Shawn Rummel)-Eastern Brook Trout Joint Venture (Lori Maloney) provided final draft of report.

- **Results**: 0.5% gain in brook trout occupied habitat
- 5,419 Implementation Projects identified:
  - Abandoned mine drainage restoration,
  - Aquatic organism passage,
  - Brook trout reintroduction,
  - Dirt and gravel road improvements,
  - Instream habitat enhancements,
  - Land protection,
  - Riparian restorations

2022 GIT Funded Project

Table 13: Total number of projects by 2016 and 2024 species composition from EBTJV data.

2016 Species Composition	2024 Species Composition								
	NA	BKT Allopatric	BKT Sympatric	BRN Allopatric and Sympatric RBT	None	Not Classified	RBT	Stocked BKT Predicted	Grand Total
NA	18								18
BKT Allopatric		655	30	6	27				718
BKT Sympatric		74	390	33	17	3			517
BRN Allopatric and Sympatric RBT		28	36	640	72	19			795
None		83	91	126	2269	702			3271
RBT		10		6	6	2	37		61
Stocked BKT		6			3		6	24	39
Grand Total	**18**	**856**	**547**	**811**	**2394**	**726**	**43**	**24**	**5419**

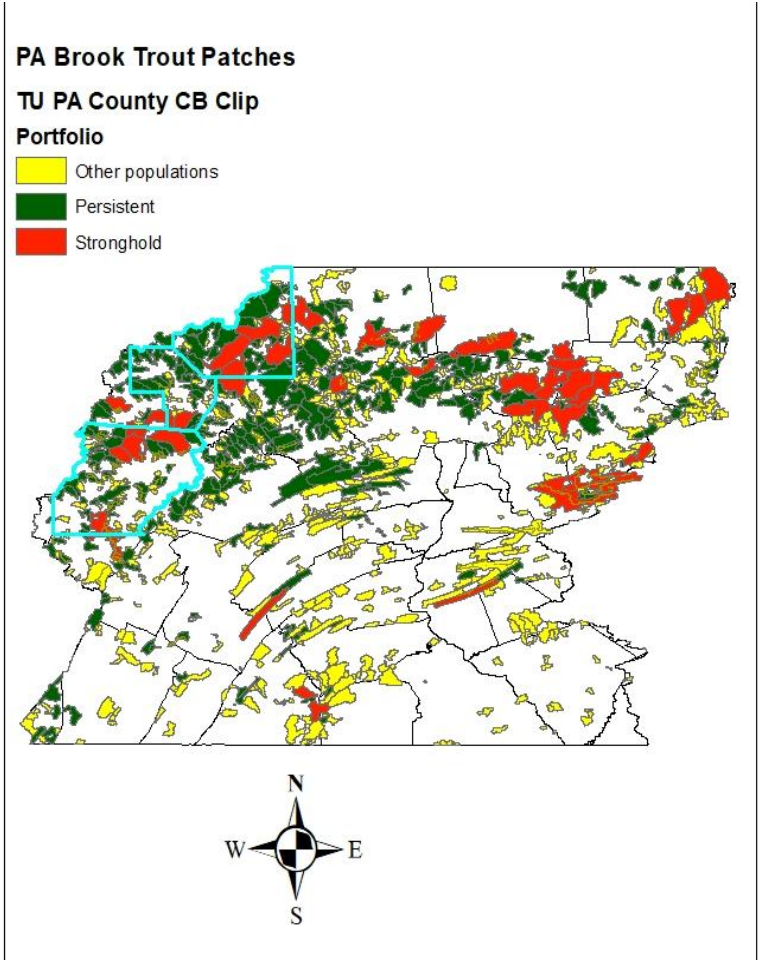
Implementation Recommendations

- The Brook Trout Workgroup should send an annual request to submit data to the Habitat Tracker.
- Data requests should be made of higher-level agencies and funders who are already tasked with compiling grant progress reports and metrics.
- The Brook Trout Workgroup should request Habitat Tracker reports annually to acquire needed information to track the current or future outcome.
- Avoid mandates and for the Brook Trout Workgroup to proactively and collaboratively work with the higher-level organizations.

BTWG will discuss GIT report recommendations at fall meeting

STAC Workshop Awarded

- *Blueprint for building partnerships and recommendations for scaling brook trout restoration in stronghold and persistent patches.*
- Engaging local jurisdictions and partners to increase brook trout conservation efforts in stronghold areas
- Strongholds located in MD (proposed: Garrett and Baltimore Counties) and PA (TBD)



Priority Practices for Outcome Attainment

- Threats assessment completed for identified counties. Will work with partners to draft restoration plan to address 2022 GIT Implementation priorities:
- Increase Habitat Occupancy (i.e., net gain)
    - Restore streams polluted by Acid Mine Drainage (AMD)
    - Treat priority AMD sites that can quickly be repatriated by nearby Brook Trout populations
        - Often in Environmental Justice Areas
- Improve Aquatic Organism Passage (AOP) - ulvert replacements and dam removals
- Protect and Increase Resiliency of Existing Populations (i.e., no net loss)
    - Conserve stronghold and persistent Brook Trout patches
    - Conservation easements and land acquisitions Local zoning ordinances
- Increase forested cover in stronghold and persistent Brook Trout patches (≥75% forested threshold)

Management Strategy

Management Strategy- Update will be Completed by 10/29/24

Publications

- Kessler, K., K.M. Rogers, C. Marsh, and N.P. Hitt. In press. Karst terrain promotes thermal resiliency in headwater streams. Proceedings of the West Virginia Academy of Science

- Hitt, N. P., Rogers, K. M., Kessler, K. G., Briggs, M. A., & Fair, J. H. (2023). Stabilising effects of karstic groundwater on stream fish communities. Ecology of Freshwater Fish, 00, 1–14. https://doi.org/10.1111/eff.12705

Publications

- White, S. L., Rash, J. M., & Kazyak, D. C. (2023). Is now the time? Review of genetic rescue as a conservation tool for brook trout. Ecology and Evolution, 13(5), e10142.

- White, S. L., Rash, J. M., & Kazyak, D. C. (2023). Is now the time? Review of genetic rescue as a conservation tool for brook trout. Ecology and Evolution, 13(5), e10142.

- Smith, R. J., Kazyak, D. C., Kulp, M. A., Lubinski, L. A., & Fitzpatrick, B. M. (2024) Genetic structure of restored Brook Trout populations in the Southern Appalachian Mountains indicates successful reintroductions. Conservation Genetics. https://doi.org/10.1007/s10592-024-01620-y

Publications

- Data Releases
  - Hitt, N.P. 2023. Brook trout abundance in streams across southern Appalachia from 1958-2021. U.S. Geological Survey data release
  - Hitt, N.P. 2023, Conductivity and temperature data for selected springs in the Potomac River headwaters from 2021-2023: U.S. Geological Survey data release


Questions?