



## Brook Trout Action Team (BTAT) Fall 2025 Meeting

November 20, 2025

9:00 - 11:45 AM

[Visit the meeting webpage for meeting materials and additional information.](#)

**Purpose:** The main purpose of this meeting is to

- a. review membership list and flag discrepancies,
- b. begin to identify long-term abundance monitoring sites and protocols,
- c. identify grant opportunities for habitat implementation,
- d. establish criteria for determining brook trout extirpation,
- e. review methodology and calculation document for the resiliency target,
- f. hear BTAT member updates, and
- g. set 2026 BTAT meeting dates.

### Attendance:

1. **Chad Landress** - USDA Forest Service  
Monongahela National Forest, WV
2. **Matt Kowalski** - Chesapeake Bay  
Foundation
3. **Brad Fink** - Virginia Dept of Wildlife  
Resources
4. **Coral Howe** - USGS
5. **Than Hitt** - WV Rivers Coalition
6. **Shawn Rummel** - Trout Unlimited
7. **Nat Gillespie** - USDA Forest Service,  
DC
8. **Karli Rogers** - USGS Eastern  
Ecological Science Center, WV
9. **Jenifer Christman**, Western PA  
Conservancy
10. **David Thorne** - West Virginia Division  
of Natural Resources
11. **Lori Maloney** - EBTJV
12. **Katie Ombalski** - Woods and Waters  
Consulting
13. **Matt Robinson** - EPA CBPO
14. **Keith Bollt** - EPA CBPO
15. **Jason Detar** - Pennsylvania Fish &  
Boat Commission
16. **Fred Henson** - New York State  
Department of Environmental  
Conservation
17. **David Kazyak** - USGS Eastern  
Ecological Science Center
18. **Dan Goetz** - MD DNR
19. **Nick Staten** - Chesapeake Research  
Consortium
20. **Samuel Vest** - Trout Unlimited
21. **Seth Coffman** - Trout Unlimited
22. **Jonathan Niles** - The Nature  
Conservancy
23. **Anna Kasko** - MDE

## NEW ACTION ITEMS:

1. Check that the following dates would work for the spring and fall 2026 BTAT meetings and let Nick know ([staten.nick@epa.gov](mailto:staten.nick@epa.gov)) **by December 24th** if you can't make the dates or if you have a preference:
  - a. Spring:
    - i. Thursday, May 21, 2026
  - b. Fall:
    - i. Thursday, November 12, 2026 OR
    - ii. Thursday, November 19, 2026
2. Members will review [membership list](#) and email edits to [staten.nick@epa.gov](mailto:staten.nick@epa.gov) **by Jan 30**
3. Members will review submit projects to the [habitat tracker](#) **by Jan 30** (data call coming in december)
4. BTAT leadership will make a one-pager with all the comments from today's meeting on methodology for determining extirpation that people can provide input on.
5. Nick will get the coordinates of the Forest Service's West Virginia Brook Trout Monitoring as well as updated coordinates for the Virginia monitoring stations.
6. Follow up with Virginia's long term temperature data analysis as a potential topic for the next meeting.
7. Consider using [flow explorer cameras](#) as a part of habitat monitoring.
8. Anyone that is monitoring brook trout habitat is asked to share their monitoring protocols with [staten.nick@epa.gov](mailto:staten.nick@epa.gov) **no later than March 30, 2026.**
9. Consider adding flow monitoring as a part of BTAT's new logic and action plan/management strategy. Could also add it to the [STAR science needs database](#) to increase visibility of the potential benefits this could have for partner monitoring programs.
10. Nick will revise the methodology and data calculation document with justifications and clarify some questions that came up in today's discussion.
11. Decide on 2 primary BTAMS and send methods for habitat surveys to [staten.nick@epa.gov](mailto:staten.nick@epa.gov) **by Mar 30.**

# Minutes

## I. Welcome, Roll Call & Introductions

### Actions:

1. Members will review [membership list](#) and email edits to [staten.nick@epa.gov](mailto:staten.nick@epa.gov) by Jan 30

## II. Updates and Announcements

### Actions:

1. Members will review submit projects to the [habitat tracker](#) by Jan 30 (data call coming in december)

### Discussion Notes:

- New outcome approved to be signed at December Executive Council Meeting:

#### **Revised Brook Trout Outcome (2025 - 2040):**

Protect and enhance brook trout within the Chesapeake Bay watershed by increasing occupancy, abundance and resilience to changing environmental conditions.

- o By 2040, increase brook trout occupancy by 1.5% (233 miles) in watersheds supporting healthy populations while achieving no net loss in other watersheds.
  - o By 2040, increase abundance at 10 long-term monitoring sites.
  - o By 2040, reduce identified threats by 15% to increase brook trout resilience in watersheds supporting healthy populations.
- Tracking BMPs and Reporting with Habitat Tracker
    - o Data call going out in December by Emily Young for all projects that haven't been submitted that were completed between 2023-2025.
      - Due Jan. 30th so we can have a report out during the spring meeting.
    - o Template available at [habitat tracker website](#).
    - o Purpose: to track our resiliency target.
  - STAC Workshops Update

### III. New Outcome Discussion Part 1: Occupancy

#### Actions:

- BTAT leadership will make a one-pager with all the comments from today's meeting on methodology for determining extirpation that people can provide input on.

#### Discussion Notes:

- Requested Action: Discuss criteria for determining brook trout extirpation.

Dan Goetz (BTAT Co-chair): Some ideas I have for determining extirpation are:

1. 3 to 5 sampling events where there are no detections from electrofishing with potentially a final confirmation using eDNA sampling.
2. Within a one or two year time frame having multiple sites within a patch as well as eDNA to confirm absence

I want to be cognisant of our states, federal and NGO partners who can't really spend 5 or 10 years in the same sites, seeing no brook trout but going back to check just to see if they're there. The goal of this would be to figure out how to determine the most efficiently when brook trout are extirpated.

Fred Henson (NY): Is this at brook trout long-term monitoring sites or more broadly?

Dan Goetz (BTAT Co-chair): More broadly. This isn't based on the next part of our outcome – the abundance target – this is about the occupancy target, where we need a mechanism to update our baseline when brook trout have been deemed extirpated from a patch. I reached out to two professors with background in stream ecology to see if they had any input as well – waiting on their response. Do states have any criteria for determining absence?

Brad Fink (VA): No detect by electrofishing in two samples then eDNA every 1 Kilometer

Matt Kowalski (CBF): I think that as long as you include the EDNA analysis, it makes sense

Dan Goetz (BTAT Co-chair): Does anyone not have access to eDNA sampling?

Fred Henson (NY): We don't currently.

David Thorne (WV): WV does not have a protocol. In light of 2024 and 2025 droughts in WV, a longer-term (3-5 yr) assessment is necessary. We can get eDNA.

Keith Bolt (EPA): Like the idea of reaching out to the professors.

Dan Goetz: I'm more comfortable with 3 electrofishing samples plus eDNA because in Maryland there have been times we sampled twice and didn't find them, but sampled a third time and found them. Maybe in Fred's case we could go with 4 or 5 negative samples before deeming extirpation.

**Shawn Rummel (TU):** Given the variety of sampling methods and capacity differences between states, would it be worth while to consider including qualitative confidence in your extirpation criteria? Ex. If a sample has only been done once through electrofishing and no brook trout are found, maybe that could be deemed suspected extirpation, whereas if there is a site that has multiple years of electrofishing data plus the eDNA it could be deemed as high level confidence of extirpation.

**Dan Goetz:** In Maryland we know that one electrofishing sample with no detection is about 75% likely there aren't brook trout, but still 25% chance they are there but we didn't find them. That's why we do the multiple samples because after 2 negative samples there is a 12.5% chance they are still there, 3 samples there is about a 6% chance, and anything more than 3 we are closing in on that 95% confidence interval. I am comfortable with 3 plus eDNA as a final check.

**Fred Henson (NY):** For us in NY the documenting extirpation is going to be difficult because under our 2020 trout stream management plan we have more intensively managed streams with required sampling are a lot of our headwater brook trout streams are not going to get sampled 3-5 times in this timeframe. We also are getting more involved in habitat restoration work collaborating with TU, we will be sampling those, but a broad scale monitoring effort to monitor a lot of patches is going to be challenging and lower priority in relation to other fieldwork in our management plans.

**Dan Goetz:** I am not concerned about hitting every patch like we did in our previous 5 year assessment, I am more concerned with the sites you do hit within the sites prioritized in your state. I think anything else is just assumed present until deemed not.

**Lori Maloney (EBTJV):** I am curious if there are any incentives that the bay program or the Delaware initiative could provide to incentivize your higher-ups to do more frequent sampling in some preselected areas?

**Fred Henson:** I think the key will be an association with habitat enhancement projects that will pump that priority. Fish population assessments will be done before and after project implementation.

**Jason Detar (PA):** Another consideration for deeming extirpation is that if during a sampling event we notice high temperatures we can pretty much guarantee that there will not be any trout there. Or if the forest cover percent is below 50% or if there is minimal ground water input, etc.

**Dan Goetz:** Good points. I will make a one-pager with all the comments today on determining extirpation that people can provide input on.

#### IV. New Outcome Discussion Part 2: Abundance

Lead: [Name(s) of facilitator(s) or presenter(s)]

##### **Actions:**

- Nick will get the coordinates of the Forest Service's West Virginia Brook Trout Monitoring as well as updated coordinates for the Virginia monitoring stations.
- Follow up with Virginia's long term temperature data analysis as a potential topic for the next meeting.
- Consider using [flow explorer cameras](#) as a part of habitat monitoring
- Send over habitat monitoring protocol to Nick ([staten.nick@epa.gov](mailto:staten.nick@epa.gov)) as soon as possible, **latest March 30th.**
- Consider adding flow monitoring as a part of BTAT's new logic and action plan/management strategy. Could also add it to the [STAR science needs database](#) to increase visibility of the potential benefits this could have for partner monitoring programs.

*Materials: [Locations of where different monitoring entities are counting brook trout](#)*

Abundance Target:

- o By 2040, increase abundance at 10 long-term monitoring sites.

Sites submitted to date: [Google Sheet Link](#)

##### **Desired Actions:**

Identify long-term monitoring sites in stronghold and persistent (elsewhere?) patches where restoration is or will be occurring.

- Minimum of two per state to monitor long-term abundance
  - o The term we will use:  
***BTAMS (Brook Trout Abundance Monitoring Sites)***
  - o BTAMS Repository - Administered by BTAT Chairs/staffer
- Do states/partners have additional sites to include?
  - o Are there control sites?
  - o Should there be additional sites in marginal populations?

**Dan Goetz:** Note - this target is for adult abundance. The idea for this target is that these 10 sites are the best of the best where frequent monitoring is happening, but these sites may be habitat limited. These sites ideally would have plenty of pre-data so after project implementation we can compare abundance data after a habitat improvement project. Each state would identify two of these monitoring streams to track this target for. I also wanted to ask if there is affinity to include more than two sites? Do we want to include a couple marginal sites or control sites so we are comparing baselines to streams that we aren't changing habitat to ones that we are?

**Katie Ombalski (BTAT Co-chair):** I also wanted to clarify that some states may be partnering with other organizations to complete monitoring in their sites (TU, Forest Service, etc.).

**Nick Staten (CRC):** I made a map with all the data I currently have for long-term brook trout monitoring locations which can be found [here](#). I am missing coordinates for the forest service monitoring in WV and need updated coordinates for the sites in VA.

Brad Fink: Should these sites be in only allopatric populations?

Dan Goetz: My initial thought is they should be so we can control for other drivers of abundance. If we only do allopatric populations we can have a cleaner dataset with the least amount of co-variates as possible.

David Kazyak: Given high interannual variability in BKT abundance, it's going to be very difficult to detect a change in abundance unless the effect size is really large. This goal may warrant some simulation modeling to assess if it is realistic to expect to be able to detect a change.

My concern is that the outcome here will be more related to recent weather patterns than actual meaningful long-term changes. (Bob Hilderbrand may be a good person to reach out to on this subject)

Karli Rogers: On that - it would be worth considering pairing long-term monitoring sites with flow and temperature monitoring if you want to tease out variables.

Dan Goetz: That is a good point David. I think that with enough pre-samples ie 3-5 we have a pretty good average with variance. I know in Maryland some of our best streams can vary 50-75% every other year or so, but I think if we are hitting our streams annually, we can track their mean baselines pre and post habitat improvements to determine if the projects have an effect.

Katie Ombalski (BTAT Co-chair): We are also not limited to two, we just didn't want to overshoot the obligation, so if any partners want to do more than two we certainly can.

Jason Detar: Some of the work we have done there has had a focus on improving adult habitat – there may be an opportunity to increase size/structure or the number of older adult fish.

Dan Goetz: We will revisit the allopatric discussion, but I think the best candidate is a long-term stable population that could benefit from some habitat additions. I think NY doesn't currently have long term monitoring sites, so I am wondering if this is something that partners such as TU or a state agency would be able to implement to help us reach this goal?

Fred Henson: Tracy Brown and I had an initial conversation about long term monitoring sites in NY. I will be circling back with her.

We have some candidates for good sites, but they aren't sampled annually and we don't have 10 years of pre-samples. We do have a lot of sites where we collaborated to do monitoring, but aren't allopatric. There are a few sites I have in mind, but we would also need to confirm their habitat improvement need as well as sample for trout which was the main reason for the delay in filling out the spreadsheet.

Dan Goetz: I think it's fine to also start from scratch because we have time, this

goal is for 2040, 15 years from now, so it could be okay to start now, monitor for 3-5 years, then partner on a grant for habitat improvement where hopefully by year 10 we would have enough data to demonstrate improvement in abundance.

**Dan Goetz:** Do we want to include sympatric populations?

**Brad Fink:** I think it's safer to stick to just allopatric to eliminate variables like you said.

**Jason Detar:** Our monitoring is a combination of both allopatric and sympatric sites.

**Fred Henson:** In a situation that is a stream that is primarily brook trout in the upper reaches but a mix of species down stream, not separated by a physical barrier, would the sampling in the upper portions that is brook trout only, would that count as allopatric?

**Dan Goetz:** I think that would be sufficient knowing the ecology of brown and brook trout interaction. The goal does say site not patch, so even if the patch is sympatric but the sample site is only brook trout I think it is sufficient.

**Katie Ombalski:** I want to reiterate that states can have more than two sites and each state will have a different story to tell. If we can have only allopatric that is great, but if that is not possible then we will work with what is.

**Dan Goetz:** Do we want to include marginal populations?

**Dan Goetz:** Hearing no opposition and seeing thumbs up.

- Monitoring protocol - Habitat, water quality and brook trout surveys
  - o Survey type (e.g. depletion or 1 pass)
  - o Water quality data
  - o Habitat data - submit what you are doing for habitat monitoring by mar 30th

**Dan Goetz:** The next thing I would like to talk about is that obviously we are going to be measuring trout and tracking adult abundance, but we also need a basic protocol for tracking habitat improvement that we are doing so everyone is collecting the same data.

Maryland Stream Biological Survey collects run-riffle-pool, woody debris, and basic water quality such as conductivity, pH and temperature. In Maryland we have 90 day continuous monitoring in June-August rather than just a point measurement when electrofishing. We use HOBO temperature loggers and deploy them for 90 days.

**Fred Henson:** We typically get HOBOS in place for the whole summer in areas we are looking to do some work in or utilizing them for post habitat monitoring.

**Brad Fink:** We also use HOBOS and have them out year round in our trout streams. It isn't 100% continuous data as sometimes a logger is knocked downstream during a storm. The data is looking pretty interesting and I plan on



giving an update on that maybe next meeting.

**David Thorne:** I have the capacity to do temp loggers. We do 60-80 every year anyway.

**Jason Detar:** We could do that for a handful of monitoring stations. Would we do this every year for said monitoring timeframe, or would the idea be to do just a couple data points pre and post project implementation?

**Dan Goetz:** I would say annual because we want to tease out confounding variables that could contribute to a lack of increased abundance we expect to be seeing if we aren't seeing improvement after our implementation.

**Chad Landress (Forest Service, WV):** All our monitoring sites on the Mon National Forest have fish, habitat, and stream temp monitoring

**Dan Goetz:** It sounds like we are all in agreement for 90 day temperature monitoring. As far as habitat does anyone have any ongoing protocols that they use that we can all utilize?

**Nick Staten (CRC):** Is flow not a metric we want to include?

**Dan Goetz:** It is, I saw Karli's message in the chat, the only issue is we do not have gauge stations at any headwater streams so we would be stuck trying to calculate rule curves for each site. The other option would be the drainage ratio model that USGS has but that has some limitations depending on where the nearest USGS gauge station is.

**Karli Rogers:** This could be a good opportunity to utilize flow photo explorer trail cameras ([Flow Photo Explorer | USGS](#)) to look at relative flow and perhaps look at discrete discharge measurements at those sites. I know it is difficult to implement in-stream gauges for some of these monitoring sites but take a look at the link. It is a pretty low cost method for cameras that could stay out year-round and require very little maintenance to maintain.

**Chad Landress:** We've also started adding Flow Photo Explorer to our long-term monitoring sites. Just a few so far, but growing.

**Dan Goetz:** Is that something everyone wants to participate in? Or is that something USGS could partner on?

**Shawn Rummel:** we are using the photo explorer at a number of sites in PA

**Karli Rogers:** Keeping the cameras out there can allow you to get relative discharge at each site, but collecting that discrete discharge at a site can allow you to create a rating curve to allow you to get continuous discharge. This is based on a machine learning algorithm that we have implemented where you basically go into the platform and annotate a number of photos and you can get your rating from there.

**David Kazyak:** Relative flow seems like it would tell the story. Camera-based

flow measurements could be a great way to address this data gap.

**Lori Maloney:** This is probably a good thing to include in your logic and action plans so that as long as USGS through the bay program continues to get funded, we could gain some partner support on this initiative.

**Dan Goetz:** It sounds like there are enough folks who are interested in it that we could include it as an optional element to include in this target.

**Nick Staten:** I do not know how involved toxic contaminant monitoring is, but with the Bay Program's Toxic Contaminant Workgroup and the emergence of 6ppdq as a toxic potentially threatening brook trout, what would it look like to include that as a metric in the abundance sites?

**Dan Goetz:** My gut says if we are focusing on the best of the best then it probably is not necessary but if we include marginal populations closer to urban settings or adjacent to highway corridors, then we could consider that, but it would be another level of protocol, cost, effort. I feel like other partners such as USGS are already doing work to address this and unless the 10 sites have road inputs it's probably not a concern unless we expand to include other marginal habitats.

**Fred Henson:** In New York we are starting to do some monitoring of 6ppdq in brook trout streams in Long Island where it is becoming a big concern, however I don't know it will be worth the resource cost to implement this kind of monitoring to all of the abundance monitoring sites.

**Keith Bolt (EPA):** Toxic Contaminants Workgroup coordinator here. We don't have a budget right now, so wouldn't be able to support. I think highlighting these as needs in management strategies increases but does not guarantee the odds that the federal and state signatories can support the actions

**Dan Goetz:** Back to habitat, MBSS has a protocol we utilize to monitor brook trout in Maryland. We get qualitative woody debris assessment, run-riffle-pool, wetted width to give us a rough idea of a baseline so if we drop trees or add root wads we can show the increase in woody debris through that. Does anyone do anything more advanced or similar?

**Chad Landress:** I can share our documents so as to not go into too much detail right now, but basically we have two approaches: a rapid habitat assessment and aquatic ecological unit inventory. Rapid assessment allows you to cover miles a day getting the basic variables that Dan mentioned, and the aquatic ecological unit inventory which is a semi standardized protocol over national forests where each national forest tailors it to their needs. Generally it is a more intensive and detailed version of the rapid assessment with some additional metrics.

**Fred Henson:** We use what we call "sight characteristics assessment" that is along the same lines as the rapid assessment. Scoring habitat by percentages of habitat types, but we are interested in doing more in-depth assessments in areas we would be doing habitat work such as strategic wood additions. We are developing this more in-depth protocol as a part of our habitat enhancement sub-plan so the timing of this is good.

**Shawn Rummel (TU):** We use a combination of EPA EMAP protocols and PFBC's Physical Habitat and Fish Cover Monitoring Protocols for Habitat Enhancement Projects on Wadeable Streams for more detailed assessment, and for rapid assessment - PA DEP's Water Quality Network Habitat Assessment form

**Dan Goetz:** I think an action item for everyone is to send their protocol over so we can find the similarities and go from there to make it as easy as possible. We would want this ASAP, March 30th at the latest.

Quick question on survey type: do people use depletions or 1 pass? My preference is depletion because of the confidence intervals, does anyone disagree with that?

**Fred Henson:** We would do depletions.

**Dan Goetz:** I don't hear anything from anyone else so we will agree on depletions for this outcome. The last thing is water quality, we have already decided on temperature and a lot of folks are interested in flow monitoring, otherwise I think conductivity and pH are probably the other two major water quality variables we should all have access to. Am I missing anything?

**Fred Henson:** It may be good to standardize or at least have a way of flagging water quality data in relation to recent rainfall. In New York we have a checkbox for whether it rained in the past 48 hours. You may get different results after a flushing rain event.

**Dan Goetz:** Do we want to decide on a length of time after a half inch of rain or so, so we are being consistent? Maybe 3 days?

**Fred Henson:** I'd prefer not to go over 48 hours because scheduling can be difficult in a rainy season.

**Dan Goetz:** Okay we can make note if there is a rain event within 48 hours of sampling.

**Matt Kowalski:** Does everyone sample DO?

**Dan Goetz:** DO could be a good one to include because of the possibility habitat improvement projects affect DO. ex. Increasing resident time in pools. I think we should include DO as well.

- Discuss grant funding for habitat projects where work is not ongoing
  - Identify subrecipients/partners

**Dan Goetz:** If there are sites where there isn't work ongoing, is there interest in applying for a grant that would cover all the states and projects that way it is all packaged together over the next 10-15 years. We would have to identify a PI, someone would have to write the grant, and then we would have sub recipients so it may get a bit challenging. If cost is a factor for anyone, is a grant a preferred

option over just doing the work yourself?

**Fred Hension:** Probably not something I am interested in because we are concerned about administrative burden.

**Shawn Rummel:** From our perspective a grant could be worthwhile. Our long term monitoring is grant funded but since they are only 2-3 years we have to piece multiple grants together. If we could solidify something with the states, we could potentially take the lead on that and potentially distribute it to the states to get 10 years of monitoring in place, that is something we can talk about down the road if people are interested.

**Dan Goetz:** I think it would be ideal if someone like TU took the lead and maybe the states could use monitoring as a match or something.

**Jason Detar:** A thought that came to mind is that if there would be an effort to do more monitoring with a goal of determining extirpation, I could think that there could be an important role that could be filled there.

**Lori Maloney:** to fund monitoring, could consider a multi-state conservation grant, especially if you add one more state (NJ/ expand to two watersheds) to get over 50% of the NE region states to qualify .

## V. New Outcome Discussion Part 3: Resilience

### Actions:

- Nick will revise the methodology and data calculation document with justifications and clarify some questions that came up in today's discussion.

*Requested Action:* Review [methodology and data calculation document](#).

*Lead:* Workgroup Co-Chairs Katie Ombalski (Woods and Waters Consulting) and Dan Goetz (MD DNR)

*Materials:* [methodology and data calculation document](#)

### Resilience Target:

- By 2040, reduce identified threats by 15% to increase brook trout resilience in watersheds supporting healthy populations.

**Dan Goetz:** This target is meant to address the concerns of our last outcome where we were only focusing on occupancy and not doing habitat work to make our strong populations stronger and more resilient to stressors. In this context we are defining resilience as the ability to withstand changes and since we can't measure resilience directly we have identified the 5 most prominent stressors to brook trout populations and the target is meant to reduce the extent of those stressors by implementing habitat BMPs.

The threats and associated mitigating BMPs are:

1. Acid mine drainage (AMD) - treat AMD
2. Unforested land cover - plant riparian buffers

3. Sediment runoff from dirt and gravel roads - improve unpaved roads
4. Fragmented habitat - improve culverts
5. Urbanization - permanently protect lands

You can read more about the methodology for calculating our current baselines for the extent of each threat in [this document](#), and we will be using the habitat tracker tool to measure our progress towards the defined goals for each category.

**Nick Staten:**

The document is a little confusing in a couple places and needs to be revised.

Note that the riparian forest buffer goal was based on the “Healthy Forests and Trees” Outcome’s Draft “Forest Buffers” Target of 75,000 acres by 2035. Applying the percentage of land area of watersheds supporting healthy brook trout populations to total Chesapeake Bay Watershed land area (~13%), to the 75,000 acres showed that 9750 acres by 2035 would be realistic – assuming the same resources applied to the whole watershed were applied to watersheds supporting healthy brook. Using professional judgement it was decided to use 15% as the restoration goal on the 2,376.6 miles or 33,498.4 acres brook trout stream miles & acres without intact buffer (35ft buffer) to get to a numeric goal of 360 miles / 5000 acres by 2040.

Additionally the fragmented habitat goal was based on wanting to set a realistic and achievable goal and an understanding of how many culvert projects are done annually by BTAT partners. With those considerations in mind 2 culverts per state per year would get us 10 improved culverts per year and 150 culverts by 2040. This would be 30% reduction in the amount of currently assessed culverts.

**Jason Detar:** Is the plan to use existing programs to achieve these goals?

**Dan Goetz:** Yes, this target is meant for us to work with partners and others in our states who are already doing these kinds of BMPs to direct where some of this work should be done to directly benefit brook trout. Some states have more public land which would probably make it an easier lift to do so, but in some places with residential or private land it will come down to soil and conservation districts as well as entities like NRCS.

**David Kazyak:** Is the reduction of unpaved roads primarily due to paving or decommissioning of those roads? How does the metric reflect those improvements, if they are still unpaved?

**Chad Landress:** Really depends on the proximity of the road to the stream in terms of treatment method as well as baseline condition of the road geometry and floodplain. Miles of road improved is beneficial, but also need supplementary info such as % fine sediment or embeddedness

**Dan Goetz:** A lot of it is better infrastructure not necessarily paving. One of the things you can do is raising the be of the road to reduce runoff. There are drainage improvements you can do to reduce sediment. Paving is probably the least thing they do because we don’t really want impervious surfaces near brook trout and also a lot of these places aren’t accessible to get heavy equipment in to pave.

**Nick Staten:** To David's question about the metric reflecting those improvements: the idea is that if a project was done on unpaved roads that decreased the runoff potential on a brook trout habitat, that project would be submitted into the habitat tracker and the mileage would be added to our progress in meeting our 2040 goal.

**Nick Staten:** As for the land protection part of the target, it wasn't based on past protection rates because we do not have that data. Rather, understanding the target that was proposed by the protected lands workgroup (1.5-2 million by 2040) for their watershed-wide protected lands target, and wanting to stay conservative, we chose 30,000 acres, or 1.5% of the unprotected lands in healthy brook trout watersheds.

**Coral Howe:** The Protected Lands dataset currently lacks complete 'date of protection' attributes, which prevents us from accurately determining protection rates. We are actively working on improving data quality and aim to populate this attribute in the near future. or you can shoot me an email: [chowe@usgs.gov](mailto:chowe@usgs.gov)

## VI. Member Updates

- **MD (5 minutes)**

- **Brook trout monitoring - Coldwater Fisheries Program only. Regional data still being compiled**

- 1. 78 brook trout surveys
      - a. 32 depletion surveys for population estimates
      - b. 46 single pass surveys
    - 2. Deployed/retrieved 86 temperature recorders
    - 3. Collected fin clips from 17 brook trout patches for genomics analysis

- **Continued brook trout translocations to three receiving streams**

- 1. Young-of-year observed in all three receiving streams in 2025 following initial translocation efforts in fall 2024
    - 2. 100 fish released to each stream in 2024. 50 fish released to each stream in 2025
    - 3. Two new sites were planned for 2025 but had to be postponed
      - a. Source population crashed for one site. Alternative sources will be considered but are limited
      - b. Land managers did not support the project for the second site. Upstream land owners may be interested and will be contacted. This stream will likely receive fish in 2026

- **Initiated brook trout propagation project. This is based on WV/Brandon Kepplinger's work**

- 1. Field stripped and fertilized brook trout eggs
      - a. 186 collected in the initial effort
      - b. brought to an isolation hatchery that was constructed at Bear Creek Hatchery by hatchery staff
      - c. Currently waiting to see if fertilization effort was successful - hoping for eyed eggs by the end of November
      - d. If successful, will raise the fish to fingerling size
        - i. Fingerlings may be used for fish health testing or may be released to one of the streams that has coldwater potential

- **PA (5 minutes) - Jason Detar**



■ ***Experienced heavy flow in the beginning of the summer in June and super dry in July, August, and September.***

1. Consider moving trout to a stream where there is a fish passage barrier at the mouth. Lots of brook trout in surrounding streams so we think that area used to be colonized and then was lost and the other populations couldn't recolonize because of the barrier.
2. Given the low flows in September we have decided to postpone that

■ ***Average to about average class of brook trout this year which was good to see with the variable flows.***

■ ***Fish Passage and culvert improvements***

1. Game Commission is embracing fish passage
2. Department of Conservation Natural Resources is also doing great at improving culverts

■ ***A shift towards using large woody materials or strategic wood addition***

1. Low cost and low disturbance
2. Community of practice forming with DCNR, Forest Service, Western PA Conservancy, TU and the Fish and Boat Commission.

○ ***VA (5 minutes) - Brad Fink***

■ ***Typical sampling at random 100+ sites***

1. one past random sites, one pass annual sites and some of the three past depletions
2. Some sites such as St. Mary's we have data going back all the way to 1990 with annual 3 passes
3. Other sites we've been doing 3 pass every other year since like '95 or '96

■ ***Trout Unlimited Volunteers have been doing a great job on AOP assessments***

1. Trained via SARP to assess culverts
2. Have a nice repository, just need the funds to do some replacements.

■ ***Stream temperature data***

1. Started analyzing the data this year and have only gotten through a couple streams but there is definitely a warming trend even in the winter
  - a. Concerns about wood turtle hibernacula
  - b. Will continue to analyze the data through the winter and can report out next meeting.

■ ***Brook trout data***

1. Have 5-6 sample points for almost all streams in the state.
2. Have enough data to look at our marginal populations too and see which way things are trending.
  - a. Long dataset going back to the 70s
3. Wild trout management plan update coming in 2028

○ ***WV (5 minutes) - David Thorne and Chad Landress***

■ ***Short term trends: Consecutive droughts in 2024 and 2025***

1. Not as widespread this year but did hit a few core brook trout areas.
2. Two years in a row where the droughts did impact the brook trout population numbers and our ability to sample them.
3. Did get a decent sampling amount this year
  - a. Samples toward the end of the season as recent as last week we sampled locations where we sampled as recently as 2023 and those numbers were pretty scary.

- i. Previously getting 70-80 young of the year we are now getting single digit young of the year.
- ii. Recruiting class from 2023 did produce adults this year but we are still tremendously down in adults as well.

- **Long term trends: Decade trend is declining**
- **Potomac drainage streams are more resilient**
- **Temperature loggers were put in and need to be analyzed**
- **Started a monitoring plan this year**
  - 1. 4 year rotation on several streams.
  - 2. Many look poor because we started after last year's drought.
- **Been doing intensive restoration for the past 10-12 years**
  - 1. Beginning to see built up resiliency from this work

○ **NY (5 minutes) - Fred Henson**

- **Process of writing a trout stream restoration subplan as a part of our implementation of our 2020 New York Trout Stream Plan**
  - 1. Brought on a Biologist I last year which will allow us more capacity to get work done with partners.
  - 2. 10 in 10 initiative - trying to get 10 streams with a total trout population abundance over the 40 lbs per acre benchmark which constitutes the wild quality management category in NY.
    - a. 3 are within the Chesapeake drainage: Skenevis Creek, the Cohocton River and the East Branch of Oregon Creek.
      - i. These sites are not necessarily allopatric yet the brook trout tend to be in the upper reaches.

○ **Trout Unlimited (5 minutes) - Shawn Rummel, speaking mostly about TU-PA**

- **Habitat crews doing strategic wood addition:**
  - 1. About 6.5 miles in the Chesapeake watershed
  - 2. Begun to implement long term monitoring plans with 3 pass depletions, air and water loggers, flow, some measurements of groundwater, etc.
- **Culverts**
  - 1. Habitat crews pulled out one culvert opening up about 5 miles of habitat and two more are slated to come out in 2026.
- **AMD**
  - 1. AMD Coordinator Brian Cooper working primarily within the beech creek watershed which is a tremendous amount of potential since there are many source populations waiting for the main stem to be cleaned up.
- **Conservation planning**
  - 1. Developed Watershed Implementation Plan with DEP and EPA for Fishing Creek Watershed in central PA.
  - 2. Beginning to engage landowners in the watershed to identify projects to begin implementation hopefully in '26 or '27.
  - 3. Long term restoration plan developed to guide work in pine and kettle creeks in some allopatric areas.
  - 4. Working on another restoration plan with western pa conservancy for the Upper Clarion and Tionesta Creek watersheds (both are in the Ohio River Watershed).
    - a. Looking at brook trout, freshwater mussels and hellbenders.



■ **Monitoring**

1. Field crew did about 200 culvert assessments primarily in the Clarion river drainage
2. Continue to work with PA Fish and Boat Commission on the Unassessed Waters Initiative

■ **Currently working to update the Brook Trout Conservation Portfolio.**

1. Early phases of this
2. Will be range wide in the US

○ **Eastern Brook Trout Joint Venture (5 minutes) - Lori Maloney**

■ **Assessment (data through 2023)**

1. Assessment is live at [assessment.ebtjv.de](https://assessment.ebtjv.de)
2. Geodatabase is available by request (form is linked at <https://easternbrooktrout.org/science-data/update-to-the-ebtjv-assessment>)
3. Data use disclaimer
4. Roll out and fact sheet (need to draft!), next meeting December 5

■ **Collaborations**

1. Kanno Lab (Yoichiro Kanno, Justin Van E)
  - a. integrated distribution model that utilizes count and presence-absence data
  - b. Will give an update at the Dec 5 EBTJV SDC meeting
2. Fraser Lab (Dylan Fraser, Snigdohdeb Dutta)
  - a. Long-term brook trout population dynamics, large area.
  - b. Synchronous population declines across spatial and temporal scales.
  - c. Groundwater for hydrological refugia, buffering climate extremes and desynchronizing declines compared to rainfall-dependent systems.
  - d. Data requests out now, please consider responding
3. Link to Lori's (somewhat messy) notes from the call with Fraser and Dutta

■ **Delaware River Watershed Initiative**

1. 2 grants, \$500K for capacity, \$4.5M for implementation through AERI
2. PA, NY, NJ, WMI, TU, EBTJV, FWS
3. Hired a habitat project manager Maddie Feaster
4. Still need to hire a coordinator
5. Will be re-starting the Technical Team soon – if you'd like to participate contact Lori
6. Could leverage some of the goal setting of the Chesapeake Bay BTAT
7. Allowed EBTJV to move to sponsorship by Wildlife Management Institute

■ **Funding – EBTJV RFP changes**

1. No RFP out right now.
2. Will be announced in summer 2026
3. Condensed timeline = easier to plan work/proposals/funding
4. May include a Helene recovery focus in collaboration with other FHPs - convening the review team to discuss

■ **Brook trout storymap**

1. Consider suggesting a quote, factoid, or photo for inclusion, by Dec 10

■ **Appalachian People and Places Collaborative**

The APP Conservation Collaborative will efficiently coordinate federal investment to promote innovation and better leverage partner capacity. The Collaborative's priorities include:

- Increase landscape and community resilience to improve the health of water and lands for the benefit of communities.
- Improve the health and diversity of fish and wildlife through enhanced ecological connectivity and habitat diversity.
- Restore and reclaim legacy pollution sites to improve environmental and human health and connect conservation to local economic opportunities such as outdoor recreation.
- Inspire large-landscape approaches, multi-organization coordination and efficiency, and enhancement of partnerships.



### White paper link

1. *Coordinate federal investment to leverage partner capacity.*
2. *Create a collaborative Appalachian Conservation Strategy and Investment Plan*
3. *Builds off and knits together internal and external conservation plans*

### ■ **Upcoming EBTJV meetings:**

Date	Meeting name	Location	Notes
Dec 5, 2025	EBTJV SDC	virtual	Primarily for state/federal data stewards but also those interested in the update from Kanno lab
Dec 16, 2025	EBTJV quarterly SC meeting	virtual	CT DEEP update, also storymap and EBTJV assessment
March 5-8, 2026	SDAFS	New Orleans, LA	Includes a symposium on disaster response
April 7-9, 2026	NEAFWA	The Greenbrier, WV	
Aug/Set 2026	AFS	Columbus, OH	WNTI-EBTJV co-hosting a trout symposium as part of a NFHP focus
Sept 13-16 2026	AFWA	Lancaster PA	fish focus
Oct 12-15 2026	Wild Trout	West Yellowstone, WY	

- **Western PA Conservancy (5 minutes)**  
N/a