CATT

Fiscal Year 2018 Report

USDA Forest Service
Southern Research Station
Center for Aquatic Technology Transfer (CATT)

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Frequently Asked Questions

What is CATT?

The Center for Aquatic Technology Transfer (CATT) is a science delivery program. CATT biologists and technicians are Southern Research Station (SRS) employees funded by the National Forest System (NFS) and other partners. Guided by core values of communication, partnership, inclusion, accountability, and safety, we collaborate with the Forest Service science community and others to develop custom solutions for our project partners.

When was CATT created, and why?

The CATT was created in 1995 in response to the growing need for research technologies to be applied directly to management challenges. The number of research personnel was, and still is, too small relative to the number of fisheries and aquatics resource managers to satisfy specific needs. Our mission is to increase the capacity of our partners through delivery of science-based support.

Where does CATT work?

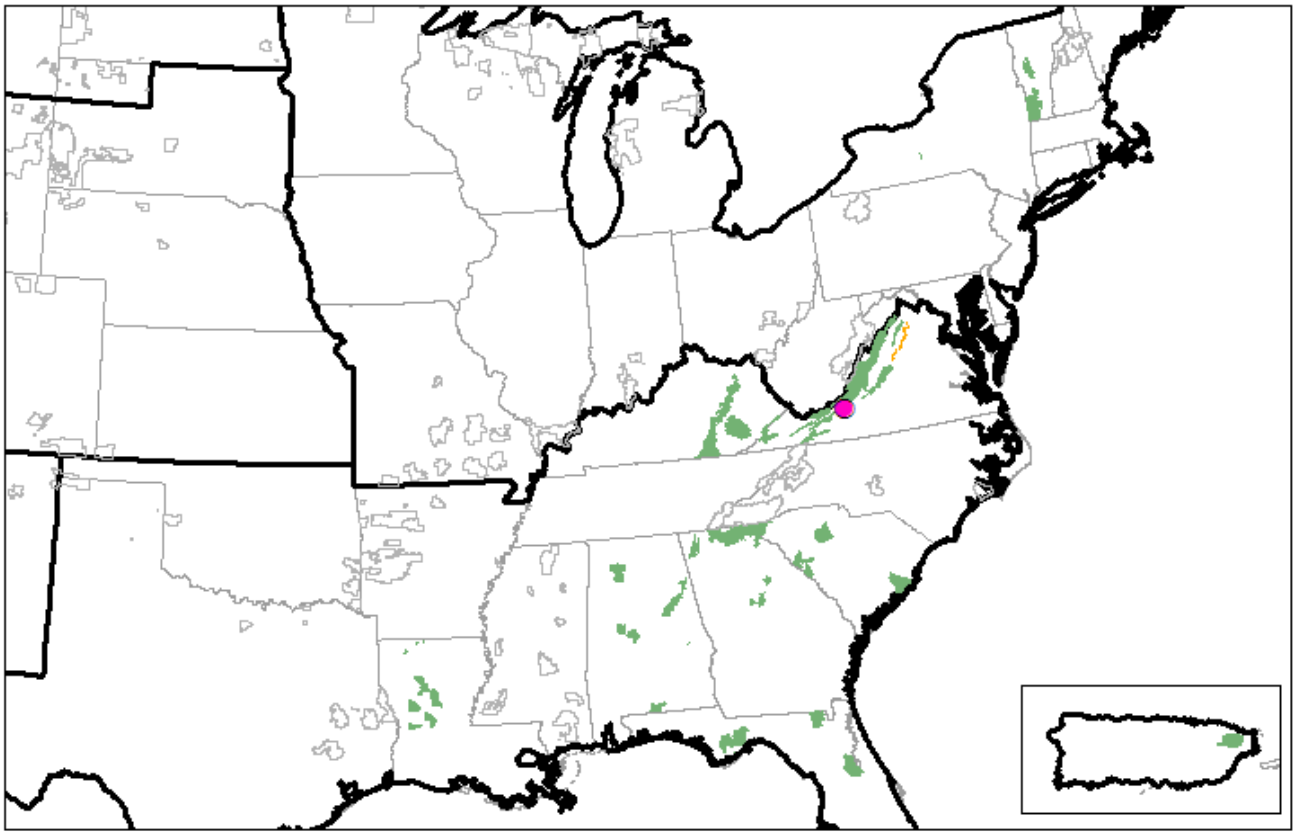
Full-time CATT personnel are stationed in Blacksburg, VA and we provide services to partners throughout the eastern U.S.

What services does CATT provide?

Our focus is on aquatics related management challenges. Our flexible organizational structure allows us to rapidly develop and apply custom solutions to both short and long term projects. Past projects range from providing a field technician for an afternoon of fish sampling, to region-wide, multi-year efforts, including sampling design, personnel management, data analysis, and reporting.

How can I learn more about CATT?

Contact Craig Roghair 540 230-8126 (croghair@fs.fed.us), or visit our website: http://www.srs.fs.usda.gov/catt.



Several National Forests (green) and a National Park (orange) partnered with the CATT in fiscal year 2018. The USDA-FS, SRS CATT is headquartered in Blacksburg, VA (magenta circle).

CATT partners and projects in fiscal year 2018:

Partner	Project Type
Chattahoochee-Oconee National Forest	Road-stream crossing inventory
Daniel Boone National Forest	Forest-wide stream monitoring
El Yunque National Forest	Post-hurricane stream inventory
Francis Marion & Sumter National Forests	Stream fish and habitat inventory
Francis Marion & Sumter National Forests	Road-stream crossing inventory
George Washington & Jefferson National Forests	Stream channel buffer classification
Green Mountain & Finger Lakes National Forests	Freshwater snorkeling education program
Kisatchie National Forest	Forest-wide stream monitoring
National Forests in Alabama	Freshwater snorkeling education program
National Forests in Alabama	Stream fish inventories
National Forests in Florida	Crossdrain and road-stream crossing inventory
National Forests in Florida	Freshwater snorkeling education program
Shenandoah National Park	Brook Trout population estimates
Southern Region (R8) Regional Office	Provide base funding and support for the CATT
Southern Research Station	American Eel growth and movement
Southern Research Station	Movement of wood in streams

Chattahoochee-Oconee National Forest
Blue Ridge and Chattooga River Ranger Districts

Project Type
Road-stream crossing inventory

Goal
Provide information needed for prioritization of road-stream crossing improvement projects in the Foothills Landscape Project area

Objectives
Complete road-stream crossing inventory in high-priority watersheds in February 2018

Approach
Forest selects high-priority watersheds for inventory
The CATT hires, trains, and deploys field teams to complete standardized crossing assessments
The Forest, partners, and CATT apply decision support tools to prioritize crossings for replacement

Accomplishments
Assessed 116 crossings; 53 on the Blue Ridge and 63 on the Chattooga River district
Entered field data into project database
Worked with national forest staff and partners to apply decision support tools

Partners and Contacts
Partner: Southeast Aquatic Resources Partnership (SARP); Forest Contact: Taylor Beard, Soil Scientist


Assessing a crossing with multiple pipes


Measuring crossing height

Project Summary
The Foothills Landscape Project seeks to maintain or improve watershed and ecological conditions by enhancing biologic integrity, increasing the ecosystem's resilience to disturbance, restoring connectivity, and supporting high water quality and soil productivity. Road-stream crossings that maximize benefits for aquatic and riparian species, provide resilience to a changing climate, and provide for a safe and efficient transportation system are a key component in reaching these goals. The information collected by CATT field teams will allow resource managers on the Chattahoochee-Oconee National Forest and their partners to identify problematic crossings and prioritize among potential remediation projects.

Daniel Boone National Forest
Stearns Ranger District

Project Type
Annual Forest-wide stream monitoring

Goal
Provide information needed for project-level and forest-level planning

Objective
Use established monitoring protocols to complete stream fish and habitat samples in summer 2018

Approach
Forest staff, CATT, and R&D personnel established sampling design and methods in 2005
Forest selects sample sites annually
CATT hires, trains, and deploys field teams to complete annual sampling
CATT provides annual data summary and report

Accomplishments
Completed sampling at 10 sites
Entered data into project database
Completed FY17 report; FY18 report in progress

Partners and Contacts
Forest Contacts: Jon Walker, Forest Hydrologist; Pam Martin, Forest Fish Biologist


Measuring pool depth


Collecting aquatic insects

Project Summary
Monitoring allows national forests to detect and respond to trends in forest health. Each year the Daniel Boone National Forest collects information on stream habitat, fish, and aquatic insects in support of its stream monitoring program. Samples are collected using standardized techniques at randomly selected locations on medium-sized streams throughout the Daniel Boone National Forest. Since 2005, the Daniel Boone National Forest has partnered with the CATT to collect its stream samples. We collect fish and aquatic insects, measure substrate particles, record stream characteristics, enter data into a project database, and summarize the results in an annual report. The Daniel Boone National Forest uses the information to assess forest plan objectives as well as for project-level environmental analysis and effectiveness monitoring.

El Yunque National Forest

Project Type
Post-hurricane stream inventory

Goal
Gather information needed to assess the status of stream biota in the wake of 2017 hurricanes

Objectives
Complete stream biota inventories within each El Yunque watershed by November 2018
Compare post-hurricane results with pre-hurricane information

Approach
Forest, partners, and CATT identify location of previous sample sites
CATT and partners hire, train, and deploy field team to complete inventories
CATT prepares report comparing pre- and post-hurricane results

Accomplishments
Completed 19 habitat samples on 17 streams and 22 fish samples on 20 streams
Data analysis and report writing will take place in FY19

Partners and Contacts
Partners: North Carolina Cooperative Fish & Wildlife Research Unit, NC State University, Student Conservation Association; Forest Contacts: Jessica Ilse, Forest Biologist; Pedro Rios, Natural Resources Staff Officer


Assessing post-hurricane fish communities


Measuring stream habitat

Project Summary
Hurricane Maria made landfall on Puerto Rico as a powerful category 4 hurricane in September 2017, bringing catastrophic damage to much of the island. The mountainous terrain of El Yunque National Forest was not spared from Maria's destructive winds and rains. Roads and facilities were damaged, power was lost, and many water supply intakes located on the forest were damaged by flood waters and landslides. While restoring water intakes and safe access to the national forest and its facilities remain top priorities, in August 2018 we began to assess ecological impacts of the hurricane. Many streams experienced record flooding and multiple landslides with unknown impacts on the shrimp, crabs, fish and other aquatic species that occupy its streams and rivers. We are using existing methods and emerging tools to provide El Yunque with a post-hurricane assessment of aquatic resources.

Francis Marion & Sumter National Forests
Enoree Ranger District

Project Type
Stream fish and habitat inventory

Goal
Provide stream biota and habitat information needed for project-level and forest-level planning

Objective
Complete stream fish and habitat inventory in summer 2018

Approach
Forest identifies streams with lack of recent fish or habitat information
The CATT trains and deploys field teams to complete inventories
The CATT provides project database for incorporation into forest datasets

Accomplishments
Completed 28.8 miles of inventory on 54 streams
Sampled fish in 5 streams
Project database under development

Partners and Contacts
Forest Contact: Keith Whalen, Forest Fish Biologist


Inventorying stream habitat


Stream fish sampling

Project Summary
Periodic aquatic resource assessments provide the information national forest managers need to effectively identify current status and trends, management options and impacts, and threats and impacts of fire, insects, disease, and other natural processes on aquatic resources. In 2018, Sumter National Forest partnered with the CATT to assess stream habitat and fish in high-priority management areas, the latest effort in a long history of inventory and monitoring partnerships on the forest. Our current effort is intended to fill data gaps and update aquatic resource information needed for forest- and project-level analyses. We will return to the Sumter in 2019 to continue stream assessments in high priority watersheds identified by the Sumter National Forest.

Francis Marion & Sumter National Forests
Andrew Pickens, Enoree, and Long Cane Ranger Districts

Project Type
Road-stream crossing inventory

Goal
Provide information needed for prioritization of road-stream crossing improvement projects

Objectives
Complete road-stream crossing inventory in high-priority watersheds in February 2018

Approach
Forest selects high-priority watersheds for inventory
CATT hires, trains, and deploys field teams to complete standardized crossing assessments
Forest, partners, and CATT apply decision support tools to prioritize crossings for replacement

Accomplishments
Assessed 40 crossings
Entered field data into project database
Worked with national forest staff and partners to apply decision support tools

Partners and Contacts
Forest Contact: Keith Whalen, Forest Fish Biologist

Assessing erosion at a crossing


Checking fish passage at a box culvert

Project Summary
A safe and efficient transportation system that is resilient to extreme weather events and provides benefits for aquatic species simultaneously addresses several Forest Service strategic objectives. In 2018, the Sumter National Forest partnered with the CATT to begin a targeted assessment of road crossings (e.g. bridges, culverts, fords) within high priority watersheds adjacent to the Foothills restoration project in GA. CATT teams inventoried crossings, assessed structures, and completed fish passage surveys and assessments at all crossing with the potential to block fish movement. Project results will be used by the Sumter National Forest to prioritize crossing improvement projects in partnership with state and local landowners and the adjacent Chattahoochee-Oconee National Forest.

George Washington & Jefferson National Forests
Eastern Divide and Clinch Ranger Districts

Project Type
Stream channel classification

Goal
Provide information needed to properly identify stream channel types as prescribed in the forest plan

Objective
Classify stream channels in timber management units in summer and fall 2018

Approach
Forest provides list of timber units with pending harvest
CATT works with forest and districts staffs to develop standardized classification system
CATT deploys field teams to classify stream channel
CATT supplies project GIS to forest

Accomplishments
Classified stream channels in 46 timber stand sale units within 9 sale areas across 2 districts
Submitted maps of classifications to district and forest personnel

Partners and Contacts
Forest Contacts: Dawn Kirk, Forest Fish Biologist; Pauline Adams, Forest Hydrologist; Jesse Overcash, District Biologist; Chuck Lane, District Biologist


Assessing riparian characteristics


Classifying a headwater channel

Project Summary
Functioning riparian areas are important in all aquatic habitats. The George Washington and Jefferson National Forest seeks to retain, restore, or enhance ecological and physical processes and functions of riparian areas along all perennial, intermittent, and ephemeral streams and wetlands by identifying, classifying, and delineating all stream channels within the project areas of timber management units. Central to this goal is the ability to accurately and efficiently identify perennial, intermittent, and channeled ephemeral streams. The forest has partnered with the CATT to develop and apply a standardized approach for stream channel classification. We developed a field guide to channel classification and then hired, trained, and deployed field teams to classify channels in timber management units across the George Washington and Jefferson National Forests.

Green Mountain & Finger Lakes National Forests
Rochester Ranger District

Project Type
Freshwater snorkeling education program

Goal
Connect participants to nature by immersing them in streams and rivers

Objective
Support continued development of snorkeling program in 2018 after successful 2017 pilot program
Study effectiveness of snorkeling program in connecting youth to the outdoors

Approach
The CATT and NorthBay work with forest to implement pilot program in 2017
Following pilot program the forest identifies external partner to co-host program in 2018
CATT provides snorkel team member to provide on-site guidance during 2018 program
Virginia Tech and Clemson University study program effectiveness

Accomplishments
Connected over 200 participants to the outdoors during 7 days of snorkeling events

Partners and Contacts
Partners: NorthBay Foundation, White River Partnership, Virginia Tech, Clemson University; Forest Service Contacts: Kim Winter, WO NatureWatch Program Leader; Nat Gillespie, Assistant National Fish Program Leader; Jeremy Mears, District Fish Biologist; Dan McKinley, Forest Fish Biologist; Sarah Willis, Public Affairs Specialist; Sue Staats, Biological Technician


Snorkeling in a trout stream


Exploring aquatic insects

Project Summary
Connecting people to the outdoors is an increasingly important and challenging part of the Forest Service mission. Snorkeling education programs are an innovative and effective way to connect people to the outdoors and rural communities, engage partners in creative outreach programs, and deliver conservation messages through a real-life nature immersion experience. In 2017, GMNF partnered with the CATT to pilot a freshwater snorkeling program. The successful program generated considerable attention and in 2018 an external partner emerged to co-host snorkeling events. An experienced CATT snorkeling team member worked with the partner and GMNF to complete another successful program in 2018.

Kisatchie National Forest
Catahoula, Calcasieu, Kisatchie, and Winn Ranger Districts

Project Type
Forest-wide stream monitoring

Goal
Provide information needed for project-level and forest-level planning

Objective
Complete stream fish and habitat samples following established monitoring protocols in spring 2018

Approach
Forest, CATT, and partners document standardized methods for collecting monitoring data
Forest selects monitoring locations distributed across entire forest
CATT deploys field teams to collect fish and habitat data
CATT supplies project database to partner at Louisiana State University (LSU) for data analysis

Accomplishments
Produced a document with updated monitoring methods
Collected monitoring data at 22 sites across 6 districts
Sent project database to LSU for data analysis

Partners and Contacts
Partner: Louisiana State University; Forest Contacts: Ted Soileau, Natural Resource Specialist; David Byrd, Staff Officer


Collecting fish at long-term monitoring site


Seining to collect additional fish

Project Summary
The Kisatchie National Forest has a need to assess long-term status and trends in aquatic species and to determine the effectiveness of land management actions in maintaining or restoring aquatic habitats and resources. In 2016, the Kisatchie National Forest requested a review of their long-term stream monitoring program; CATT biologists worked with forest staff and partners at LSU to evaluate and update stream monitoring methods and plan a 4-year effort to collect data at all existing long-term monitoring sites. This long-term, forest-wide monitoring project compares current conditions with those observed over previous decades of monitoring. The latest round of monitoring data collection will be completed in 2020 and will provide the national forest with information needed to determine impacts of current land management practices on aquatic biota.

National Forests in Alabama
Talladega Ranger District

Project Type
Freshwater snorkeling education program

Goal
Connect participants to nature by immersing them in streams and rivers

Objective
Support continued development of snorkeling program in 2018 after successful 2017 pilot program
Study effectiveness of snorkeling program in connecting youth to the outdoors

Approach
The CATT and NorthBay worked with the Forest to implement pilot program in 2017
CATT provided snorkel team member to lead additional programs during 2018
Virginia Tech and Clemson University study program effectiveness
The Forest identifies partners to take program lead in 2019 and beyond

Accomplishments
Connected over 200 participants to the outdoors during 7 days of snorkeling events

Partners and Contacts
Partners: NorthBay Foundation, Virginia Tech, Clemson University; Forest Service Contacts: Kim Winter, WO NatureWatch Program Leader; Nat Gillespie, Assistant National Fish Program Leader; Kelly Balcarczyk, R8 Nature-Based Tourism and Economic Development Specialist; John Moran, Forest Fish Biologist; Art Henderson, Acting District Ranger


Students ready to snorkel


Learning to put on mask and snorkel

Project Summary
Connecting people to the outdoors is an increasingly important and challenging part of the Forest Service mission. Snorkeling education programs are an innovative and effective way to connect people to the outdoors and rural communities, engage partners in creative outreach programs, and deliver conservation messages through a real-life nature immersion experience. In 2017, the NF in AL partnered with the CATT to pilot a freshwater snorkeling program. The successful program generated considerable interest for hosting a second round of snorkeling programs in 2018. The CATT deployed a full snorkeling team to implement the second snorkeling program in 2018 and will continue to work with NF in AL to identify partners to take the lead on similar programs in 2019 and beyond.

National Forests in Alabama
Bankhead, Conecuh, Oakmulgee, Shoal Creek, and Talladega Ranger Districts

Project Type
Stream fish inventories

Goal
Provide stream biota and habitat information needed for project-level and forest-level planning

Objective
Complete stream fish and habitat inventory in summer 2018

Approach
Forest identifies streams with lack of recent fish or habitat information
CATT trains and deploys field teams to complete inventories
CATT provides project database for incorporation into forest datasets

Accomplishments
Completed 1.9 miles of inventory on 9 streams
Sampled fish in 9 streams
Project database under development

Partners and Contacts
Forest Contact: John Moran, Forest Fish Biologist


Collecting fish from large wood habitat


Measuring stream habitat

Project Summary
Since the 1990's, state agencies in Alabama have use rapid biological assessments based on fish communities to assess stream health. Although some sampling occurred on the NF in AL, a coordinated and systematic approach to assessing National Forest streams was lacking. The NF in AL has taken steps in recent years towards establishing Forest-wide stream health monitoring program modeled on the established protocols used by state agencies. In 2018, the NF in AL partnered with the CATT to sample fish from several streams in support of the monitoring program. Results of the monitoring program will be used to assess effects of Forest management practices on stream health.

National Forests in Florida
Apalachicola Ranger District

Project Type
Crossdrain and road-stream crossing inventory

Goal
Identify potential pathways for water flow in an extremely low gradient landscape within the Apalachicola Regional Restoration Initiative area

Objective
Complete inventory and assessment of drainage structures beneath forest roads in 2018

Approach
Forest identifies roads within the Apalachicola Regional Restoration Initiative area in need of assessment
CATT and forest work together to develop drainage structure inventory methods
CATT field team collects and submits data for forest
Forest uses data to identify areas in need of restoration or maintenance

Accomplishments
Completed 840 miles of road assessments; Identified and assessed 659 crossdrain structures, 1,201 waterbody crossing structures, and 1,771 miscellaneous features

Partners and Contacts
Forest Contacts: Jason Drake, Forest Ecologist; Paul Medley, GIS Program Manager; Jorge Guevara, Hydrologist; Jordan Nickle, GIS Analyst; John Dunlap, Forest Wildlife Biologist


Searching for drainage structures


Assessing fish passage potential

Project Summary
Determining the direction of water flow across extremely flat landscapes such as coastal plains can be very difficult. The Apalachicola NF has a need to delineate and map watersheds across the Apalachicola Regional Restoration Initiative area but is impeded by a lack of accurate drainage and flow network information. A critical component in the mapping effort is locating where water flow is impeded or modified by roads and trails; the only way to identify these 'crossdrains' is through an intensive search and mapping effort on the 800+ miles of roads in the project area. In 2018, the Apalachicola NF partnered with the CATT to deploy field crews to inventory crossdrain structure (pipes, etc.) and assess aquatic organism passage at road crossings. Project results will be used to complete watershed drainage maps, locate stream and wetland diversions, identify maintenance problems, and opportunities for remediation projects.

National Forests in Florida
Ocala Ranger District

Project Type
Freshwater snorkeling education program

Goal
Connect participants to nature by immersing them in a freshwater spring

Objective
Conduct a pilot snorkeling program at Alexander Spring in 2018

Approach
Washington Office develops program toolkit and curriculum with partners at NorthBay education
CATT obtains grants from Washington Office and R8 Regional Office to support programs
NorthBay and CATT work with interested national forests to implement programs

Accomplishments
Connected over 60 participants to the outdoors during 3 days of snorkeling events at Alexander Spring

Partners and Contacts
Partners: NorthBay Foundation, Virginia Tech, Clemson University; Forest Service Contacts: Kim Winter, WO NatureWatch Program Leader; Nat Gillespie, Assistant National Fish Program Leader; Kelly Balcarczyk, R8 Nature-Based Tourism and Economic Development Specialist; Tonee Davis, Natural Resource Specialist; Clay Coates Biological Technician


Exploring beneath the surface


Discussing connection between land use and fish

Project Summary
Connecting people to the outdoors is an increasingly important and challenging part of the Forest Service mission. Snorkeling education programs are an innovative and effective way to connect people to the outdoors and rural communities, engage partners in creative outreach programs, and deliver conservation messages through a real-life nature immersion experience. In 2018, the CATT partnered with the ANF to host a pilot program on the forest. The Alexander Springs Recreation Area on the Ocala National Forest provides the opportunity to view fish, turtles, insects and other aquatic animals in the crystal clear waters of one of the largest springs on public lands in the U.S. The unique and engaging setting provides the basis for discussions of connections between land use in the 'springshed' and water quality in the spring. Participants discussed how they could become better stewards of aquatic resources in their communities.

Shenandoah National Park
National Park Service

Project Type
Brook Trout population monitoring

Goal
Use long-term population monitoring to better inform Brook Trout management

Objective
Complete annual population estimates on 2 long-term study streams in 2018
Monitor annual growth and movement on 1 long-term study stream in 2018
Incorporate results into 25-year dataset

Approach
Southern Research Station establishes long-term monitoring study in 1993
Shenandoah National Park supplies research and sampling permits
CATT provides personnel and organizes volunteers to support annual sampling efforts
Southern Research Station produces presentations, reports, papers based on results

Accomplishments
Completed population estimates on 2 long-term study streams
Completed growth and movement sampling on 1 long-term study stream
Data are incorporated into project database

Partners
Partner: Shenandoah National Park; Forest Service Contact: Dr. Andy Dolloff, Southern Research Station


Snorkeling to count fish


Measuring a Brook Trout

Project Summary
Long term studies allow researchers to describe trends that may not be evident from shorter studies. Since 1993, the Southern Research Station has conducted annual surveys using a combination of diver counts, backpack electrofishing, and fish tagging to estimate the distribution, abundance, and growth of Brook Trout and other coldwater fishes in two Shenandoah National Park streams. The CATT has provided field support for the project since 1995 and maintains the project database. We are examining the role that environmental factors such as acid precipitation, floods, droughts, water temperature, and invasive species may have on Brook Trout populations. Understanding such effects allows resource specialists to more effectively manage Brook Trout and other coldwater fish populations.

USFS Southern Region (R8) Regional Office (RO)

Project Type
Base funding, coordination, and support for the CATT

Goal
Provide science-based support to national forests in the Southern Region to address aquatic-related management challenges

Objective
Support 2 CATT biologists to work on projects throughout R8 in 2018

Approach
Regional Office provides support for 2 full-time CATT biologists
Southern Research Station provides CATT facility and administrative support
National forests, RO, or other partners request CATT services
CATT works with partners to develop and implement custom solutions

Accomplishments
Partnered with 9 national forests on 12 field projects
Partnered with Virginia Tech to hire, train, and deploy 6 field technicians
Shared project information through reports, webinars and at local, state, and national meetings

Partners and Contacts
Partner: Virginia Tech; Forest Service Contacts: Leigh McDougal, Regional Fish Program Manager (retired); Kevin Leftwich, Regional Aquatic Ecologist; Gretta Boley, Director, R8 Biological and Physical Resources; Andy Dolloff, Southern Research Station

Planning a stream inventory with NFS personnel

Presenting project results to forest staff

Project Summary
Managing for abundant clean water and resilient watersheds on National Forests in the Southern Region is an increasingly complex and important goal. To meet this challenge National Forests require science-based solutions delivered in a timely manner. The base funding provided for the CATT program through the Southern Region Regional Office allows us to address this need. Base funds are used to support a small workforce that provides a direct connection between the National Forest System and Forest Service Research & Development. From this base we leverage funding from other partners to build a flexible workforce that provides a variety of on-demand services throughout the Region. Our partnership with the Regional Office ensures that we will be well positioned to meet the needs of National Forests in Region 8.

Southern Research Station
Research Work Unit 4353, Blacksburg, VA

Project Type
American Eel growth and movement

Goal
Use long-term monitoring to better inform American Eel conservation and management efforts

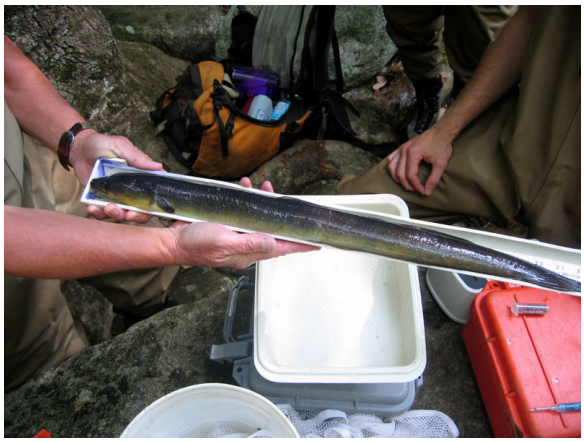
Objective
Complete annual eel sample at long-term study site in 2017
Incorporate results into 17-year dataset

Approach
Southern Research Station establishes long-term monitoring study on Tye River in 2000
George Washington and Jefferson National Forest and State supply research and sampling permits
CATT provides personnel and organizes volunteers to support annual sampling efforts
Southern Research Station produces presentation, reports, and papers based on results

Accomplishments
Completed annual eel sampling on 1.2 mile study section of Tye River
Incorporated data into long-term dataset

Partners and Contacts
Partner: Virginia Department of Game and Inland Fisheries; Forest Service Contacts: Dr. Andy Dolloff, Southern Research Station; Dawn Kirk, Forest Fish Biologist


Collecting eels on South Fork Tye River


Measuring an American Eel

Project Summary
American Eels may live for 20 – 30 years in freshwater streams before swimming out to the Sargasso Sea to reproduce and die, yet little is known of their biology or behavior in headwater mountain streams. The Southern Research Station began a long-term study in 1999 to monitor the growth, movement, and longevity of eels in several George Washington & Jefferson NF streams. The CATT has worked with Southern Research Station scientists annually since 2000 to collect and tag eels in 2 streams. We are still collecting American Eels that were originally tagged in 2000 demonstrating that adult eels reside for long periods of time in short reaches of mountain streams. In addition to providing information needed for the management of eels in headwater mountain streams, the project also often attracts the attention of local residents and media, providing the opportunity to for outreach about eels and forest management.

Southern Research Station
Research Work Unit 4353, Blacksburg, VA

Project Type
Movement of wood in streams

Goal
Monitor long-term movement of wood in small trout streams to better inform watershed management

Objective
Locate marked logs in 2 long-term study stream reaches in 2018
Incorporate location information into 25-year dataset

Approach
Southern Research Station designs and implements log movement study in 1993
Jefferson National Forest provides personnel to place logs into streams in 1993
CATT provides personnel annually to document changes in log location
CATT updates long-term dataset

Accomplishments
Located 150 study logs in 2 long-term study stream reaches
Incorporated data into long-term dataset

Partners and Contacts
Forest Service Contacts: Andy Dolloff, Southern Research Station; Dawn Kirk, Forest Fish Biologist


Documenting movement of wood


Searching for a marked piece of wood

Project Summary
Trees that fall in streams increase the amount of food and shelter available to animals living in and near the water, but also can cause damage to roads and other structures if they move during floods. Resource managers may be asked to remove wood from streams as a preemptive measure against property damage. A better understanding of the mobility of wood in mountain streams is needed to inform managers faced with the decision between retaining wood to improve stream quality, or removing wood from streams to protect nearby infrastructure. In 1993, the Southern Research Station began to study wood movement in two mountain streams. Large logs were purposely added to streams and their location was recorded. The CATT has surveyed the logs for movement each year since 1994 and maintains the project database. Log movement information is updated annually is incorporated into presentations to resource managers tasked with managing wood in streams.