Chickahominy Indian Tribe Share-Out

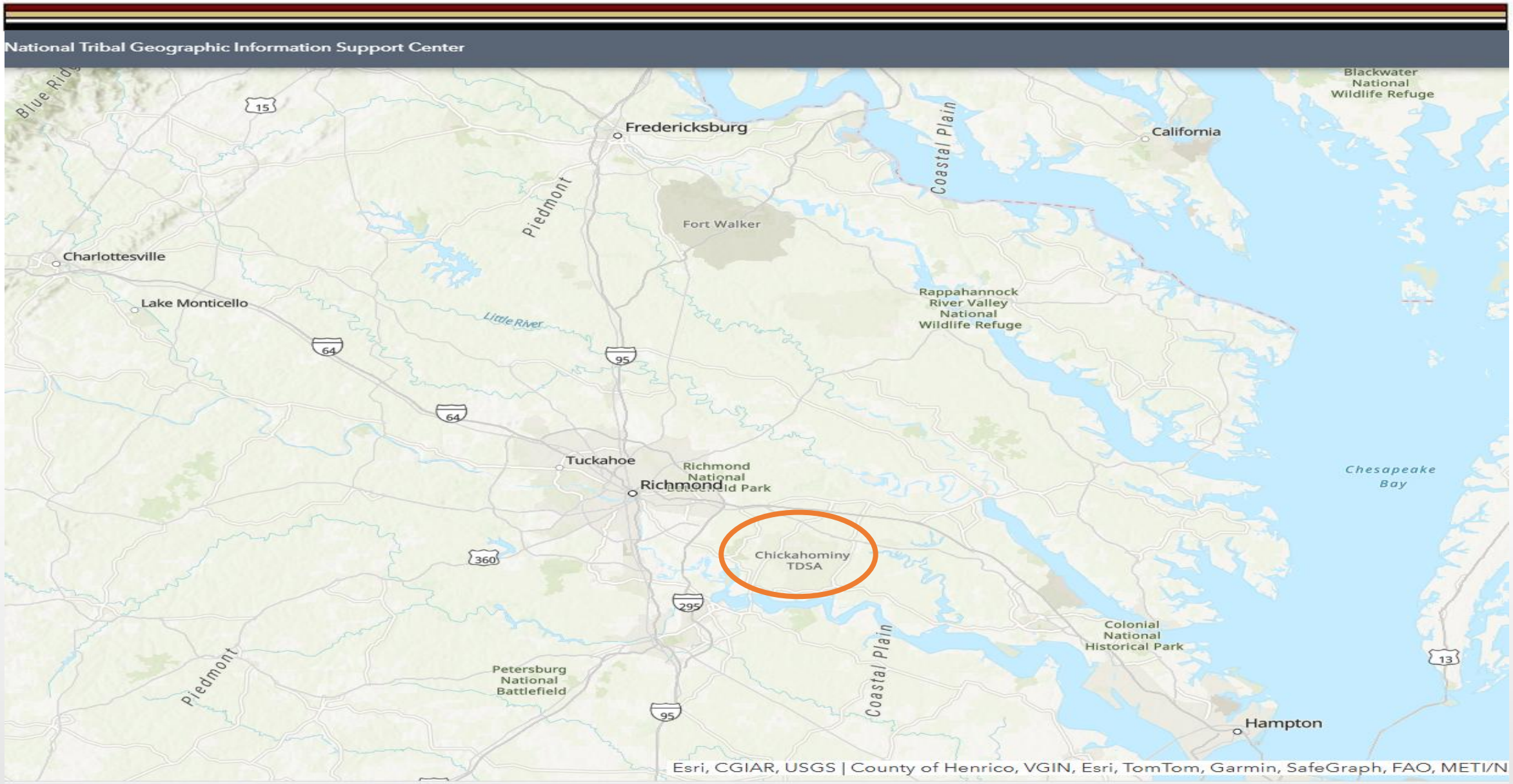
MAWWG Annual Conference 09/24/25

Agenda

- Brief History of the Chickahominy Indian Tribe
- Overview of the National Fish and Wildlife Foundation – National Coastal Resilience Fund
- Description of Chickahominy properties of concern and work accomplished to date
- Description of other Tribal Environmental Office projects

This project is made possible through a grant from the National Fish and Wildlife Foundation, with support from Virginia Institute of Marine Sciences.

Where We Are


National Tribal Geographic Information Support Center
Blackwater National Wildlife Refuge
Fredericksburg
California
Coastal Plain
Piedmont
Fort Walker
Charlottesville
Lake Monticello
Little River
Rappahannock River Valley National Wildlife Refuge
64
95
Tuckahoe
Richmond National
Richmond
Chesapeake Bay
Chickahominy TDSA
360
295
Colonial National Historical Park
Petersburg National Battlefield
13
Hampton
Esri, CGIAR, USGS | County of Henrico, VGIN, Esri, TomTom, Garmin, SafeGraph, FAO, METI/N

Modern History

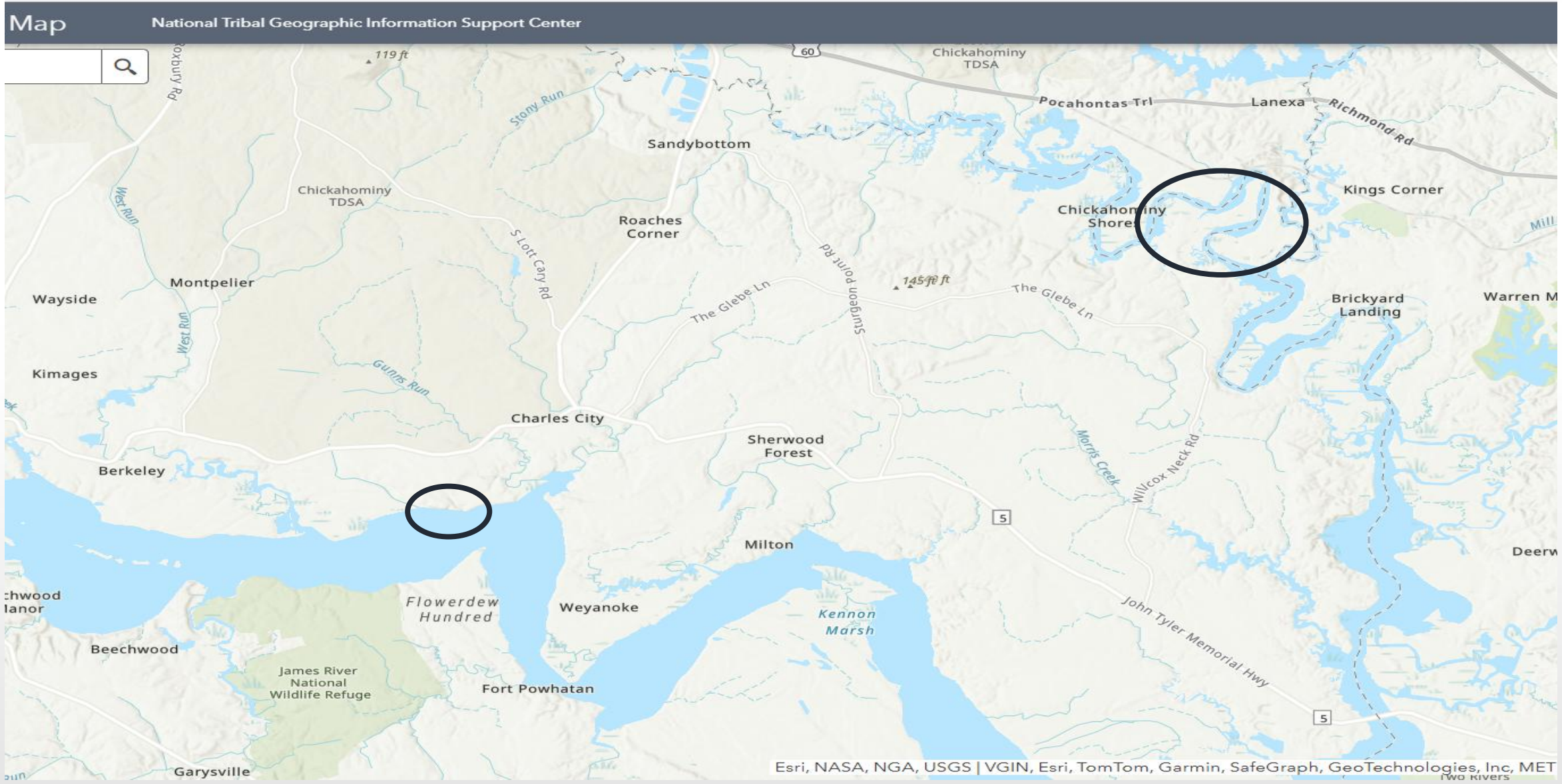
- The Chickahominy Indian Tribe reorganized around 1901, with Samaria Indian Baptist Church serving as an important focal point for the community
- State recognition in 1983; Federal recognition in 2018
- Today the majority of Chickahominy citizens are clustered in Charles City and New Kent Counties in the Commonwealth of Virginia between the James, Chickahominy, and Pamunkey Rivers
- The community has ~ 1000 enrolled citizens
- Riverine ecosystems constituted Chickahominy people's livelihood in the past and remain cultural and spiritual touchstones in the present

National Fish and Wildlife Foundation – National Coastal Resilience Fund

Goal: to enhance protection for coastal communities from the impacts of storms, floods, and other natural coastal hazards and to improve habitats for fish and wildlife.

- Focused on Nature-Based Solutions with Community Resilience and Fish & Wildlife benefits
- 4 Independent Pipelines:
  - Community Capacity Building and Planning
  - Site Assessment and Preliminary Design
  - Final Design and Permitting
  - Restoration Implementation

Properties Being Assessed



Properties Being Assessed

Mamanahunt

- The parcel on the Chickahominy River is 830 acres with approximately 5 miles of shoreline and approximately 380 acres of wetland
- Includes cropland (approx. 130 acres), woodland (approx. 427 acres), food plots, waterfowl impoundments, and approximately 383 acres of tidal creek and riparian river habitats, including tidal and non-tidal cypress swamps, that, together with other wetlands, comprise the marsh complex and connect the wetlands to open water reaches

Chickahominy on the Powhatan

- The James River parcel is 105 acres with approximately 0.5 miles of shoreline
- East and west boundaries comprised of freshwater tidal forested and emergent wetlands
- 20 – 30’ bluffs on some parts of the shoreline; with evidence of treefall risk throughout

Capacity Built So Far

- Tribal Environmental Office was 1 person from 2018 – August 2023: Environmental Director Dana Adkins
  - Now: Environmental Project Manager, Air Quality Specialist, and Land & Facilities Technician
- Project Manager has received FAA part 107 license to operate drone
- TEO staff licensed to operate boat
- GIS training provided to Chickahominy staff and community by Virginia Institute of Marine Sciences (VIMS) and Virginia Commonwealth University's Rice Rivers Center (VCU-RRC)

Shoreline/Property Assessments

- Aaron Wendt of the VA Department of Conservation and Recreation – Shoreline Assessment Advisory Service (DCR-SEAS) has visited the shorelines of Mamanahunt and Chickahominy on the Powhatan with the Project Manager and Land & Facilities Technician
  - Initial observations show relatively stable erosion rates at both properties; with some exceptions at certain areas
- Technicians Mike Mansolino and Todd Lutte of EPA Region 3's Field Services Branch of the Division of Lab Services and Applied Science performed a land assessment on both properties in April 2024
  - They assisted in the identification of aquatic resources, such as streams and wetlands that exist on the Tribe's property and provided an inventory of plants occurring on their lands, with a focus on invasive species, and made suggestions for control

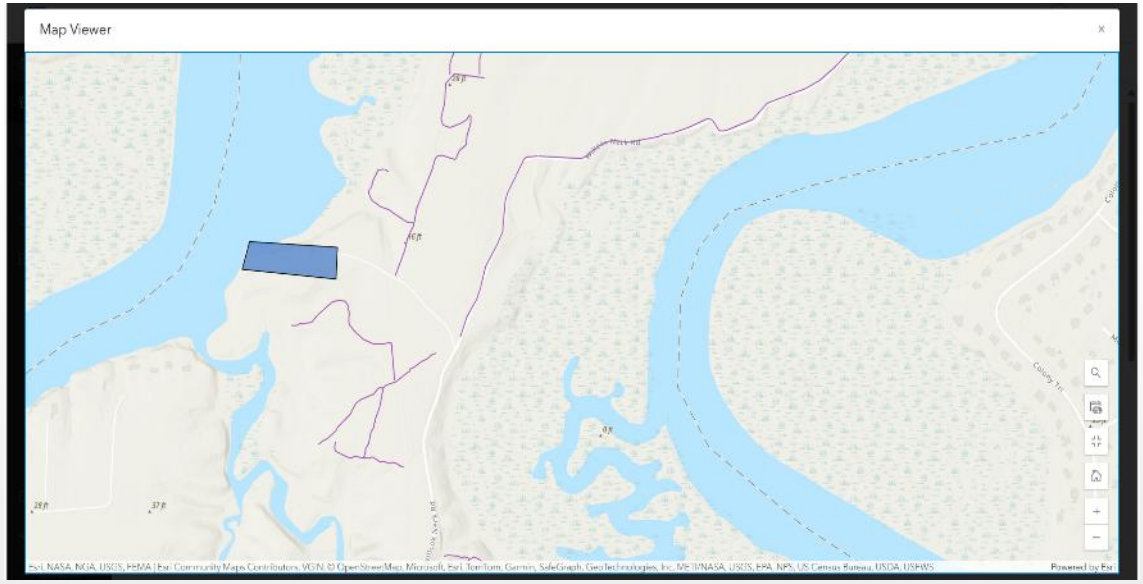
Other Baseline Measurements

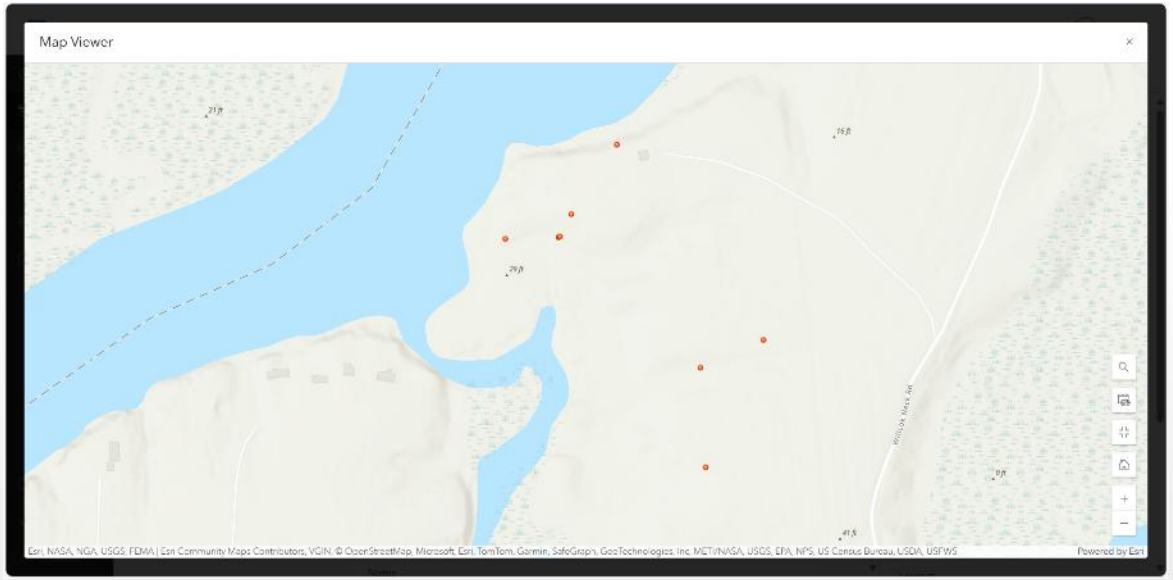
- Tide gauge installed at Mamanahunt pier
  - Virginia Institute of Marine Sciences (VIMS) installed gauge on 3/14/24
  - Information will provide current baseline of water levels at Mamanahunt
  - Gauge will track impact of sea level rise over next several years
  - Added to the VIMS TideWatch stations to further enhance the ability to forecast tide levels and storm surge 36hrs out for coastal communities; first one on Chickahominy River
- Bathymetry mapping
  - Installed an additional SONAR device on the Tribal boat to map the depth and contours of the riverbed along the shoreline of Chickahominy properties
  - This data will be sent to VIMS for processing and added to their SHOAL Project dataset

Other Baseline Measurements

Field Mapping

- Tribal GIS has provided a license for ArcGIS Online, which has enabled use of the Field Maps application
- Mapping areas of interest at Mamanahunt and Chickahominy on the Powhatan
  - These include invasive species, native species of concern, shoreline areas of concern, etc.





Land & Facilities Technician has focused on mapping trails on the properties (see purple lines on the left map); Project Manager has focused on mapping invasive and native plant species of concern (see red dots on the right map)

Invasive Species

- Tree of Heaven
- Chinese Privet
- Golden Bamboo
- Emerald Ash Borer
- Japanese Stiltgrass
- Asiatic Dayflower
- Bradford Pear

Native Species of Concern

- Wild rice
- Arrow arum (tuckahoe)
- Switch cane
- Bald cypress
- Bald eagle
- Osprey
- Atlantic sturgeon
- River herring
- Diamondback terrapin

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Site Assessment and Preliminary Design

- Continue to map species using Field Maps application and map bathymetry with boat
- Determine potential projects for each property and run cost-benefit analyses for each (living shorelines, thin layer placement, etc.)
- Present options to Tribal Council for decision making
- Work with a contractor to develop up to 30% of a design
- Make initial contact with the appropriate permitting agencies for the project

Native Marsh Grass Nursery

- In the past year, TEO and staff from the Virginia Institute of Marine Sciences (VIMS) and William and Mary met to discuss the viability of establishing a native plant nursery initially focusing on marsh grasses that are critical for coastal resilience projects occurring throughout the state
  - On 6/23/25 TEO hosted William & Mary's Virginia Coastal Resilience Collaboration (VCRC) at Mamanahunt to continue the nursery discussion and give a tour of the property
  - On 6/30/25 TEO and VCRC met at the Department of Forestry New Kent facility to tour possible infrastructure we can use for the nursery project

Fig 1: Greenhouse frame at New Kent Forestry site

Fig 2: Saltmarsh Cordgrass, often used in restoration projects

Native Marsh Grass Nursery

- In mid-August, VCRC completed their business plan and presented it to the Tribe with the following conclusions:
  - There is a demand for native marsh grasses as most organizations currently source from out-of-state nurseries
  - They recommend starting with a pilot nursery that caters to non-profits that implement shoreline restoration projects
  - Biggest costs include labor and securing a reliable water source
- TEO will work with Tribal leadership to determine if this is a project worth pursuing based on these proposals

Fig 1: Spartina alterniflora plugs ready for planting

Fig 2: Planting of grass plugs in progress at a living shoreline

Atlantic Sturgeon Research

- TEO is collaborating with the Virginia Institute of Marine Sciences (VIMS) to collect environmental DNA (eDNA) of Atlantic Sturgeon in the Chickahominy River
- eDNA is genetic material shed by organisms through mucous, skin cells, fecal matter, and decomposition and can be used to determine the presence of species in an environment
- So far VIMS and TEO have made monthly sampling trips that covers the Chickahominy River and parts of the James River; Sampling will continue monthly until Fall 2026
- Dr. Angelina Dichiera and VIMS student Kelly Gonzalez will analyze the samples to determine the relative presence of Atlantic Sturgeon in the samples

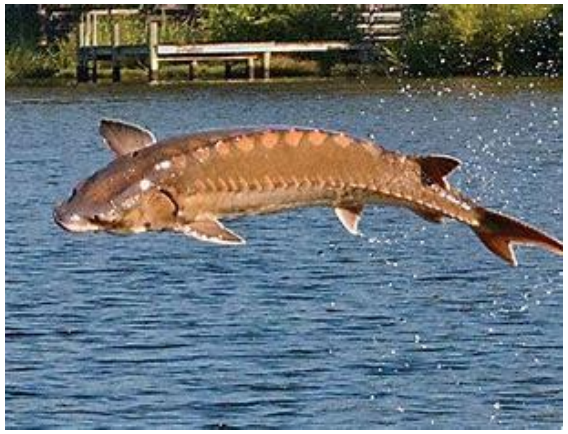

Fig 1: Atlantic sturgeon breaching.

Fig 2: Wesley Adkins taking a water sample at Chickahominy on the Powhatan.

Mamanahunt Mussel Release

- In August, TEO met with Jamie Brunkow of the James River Association and Brian Watson – Virginia's mussel expert at the Department of Wildlife Resources – at Mamanahunt to evaluate Barrow's Creek as a potential site for a freshwater mussel release
- Brian determined that Barrow's Creek is an appropriate environment and in September released about 1,000 Alewife Floaters that were raised at Harrison Lake Fish Hatchery
- Freshwater mussels are one of the most endangered/imperiled species in America and serve important ecosystem functions such as water filtering, providing a food source for many species, and creating a nesting site for small fish

Fig 1: Brian Watson searching for mussels in Barrow's Creek

Fig 2: Alewife floaters with etched tags

Chickahominy Food Forest

- TEO is working with Little Bluestem Nursery to establish a food forest at Chickahominy on the Powhatan
  - A Food Forest is a strategic planting of native, edible plants that can be foraged for nuts, berries, material, etc. when established
- The goal of the Chickahominy Food Forest is to create an area where the Tribe can grow native plants so the citizenry, particularly the Youth, can learn about traditional food and material sources for people and animals
  - Inclusion of Algonquian signage to introduce the language around the different plant species will be a key element

Dogbane found at the beach area. This plant was used as a source of cordage by Tribes.

A young maypop growing among bamboo mulch

Work to be Done

- Continue to work with Tribal Council, Administration, and the citizen led Natural Resources Management Working Group to finalize a 10-year strategic plan for the Tribal Environmental Office
- Wrap up NFWF-NCRF Pipeline 1 and continue with Pipeline 2 work
- Pursue funding to develop an EPA approved Wetland Program Plan

Kenah! (Thank You)

Thank you to all the partners on this project:

- *National Fish & Wildlife Foundation*
- *Virginia Institute of Marine Sciences*
- *VCU's Rice Rivers Center*
- *VA Department of Conservation and Recreation – Shoreline Erosion Advisory Service*
- *Kenah Consulting*
- *EPA Region 3*
- *James River Association*
- *VA Department of Wildlife Resources*
- *National Association of Wetland Managers*