NORTH CAROLINA
Department of Transportation









Project ATLAS

ECCOG Meeting

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Technical Services EAU

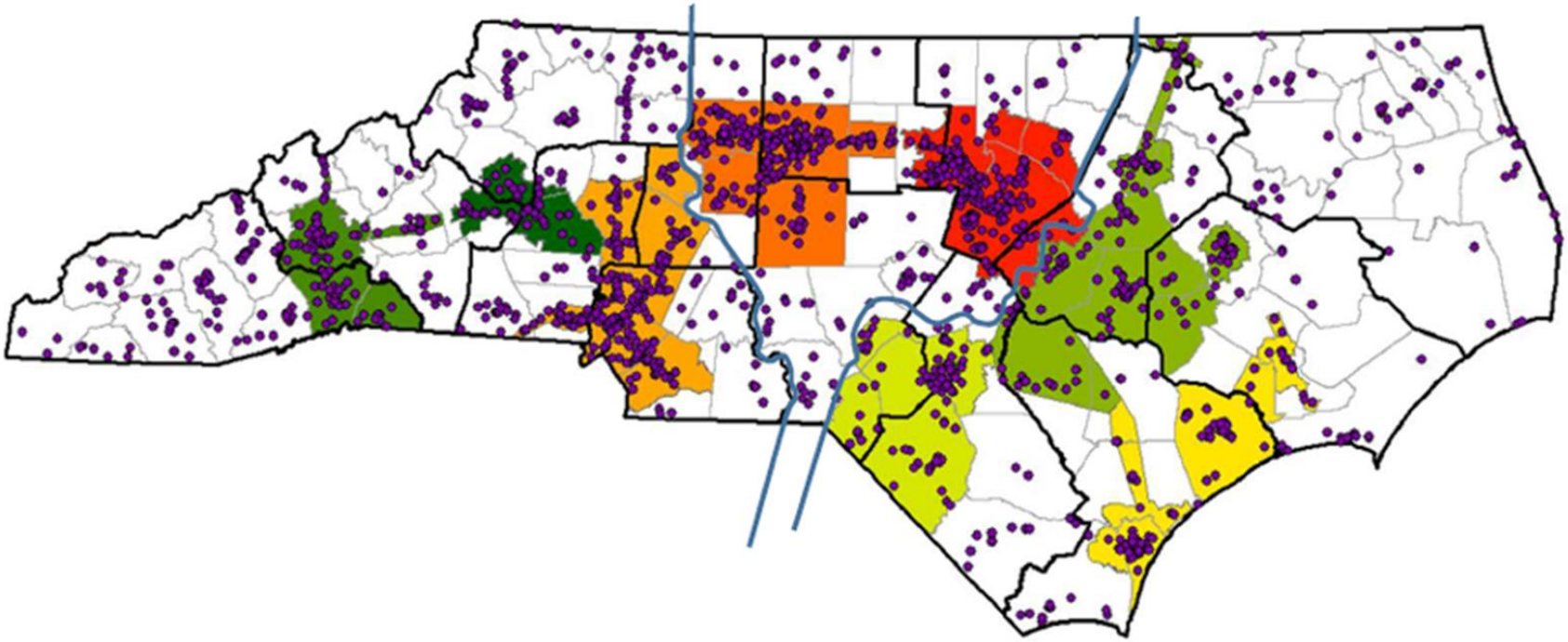
August 8, 2019

NCDOT Project ATLAS

- Advancing Transportation through Linkages, Automation, and Screening

Goal is to improve program delivery using GIS tools, applications, and data

2018 STIP projects



Prioritization

- urban loops and extensions, less bypasses
- more regionalized approach to project assessment.

NCDOT Project ATLAS

- Objectives
  - Regional evaluation using GIS
  - Early screening
  - Inform scope, schedule and budget
  - Automated reporting
  - One-stop-shop for a project tracking and data

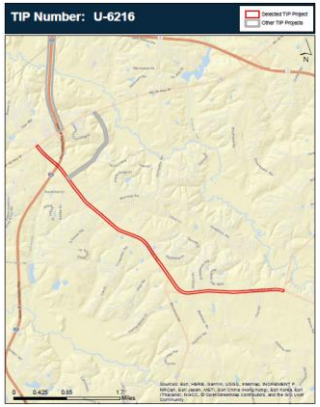
Workbench

Manage and upload project workflow, data and deliverables

Search

Search or download data related to project development

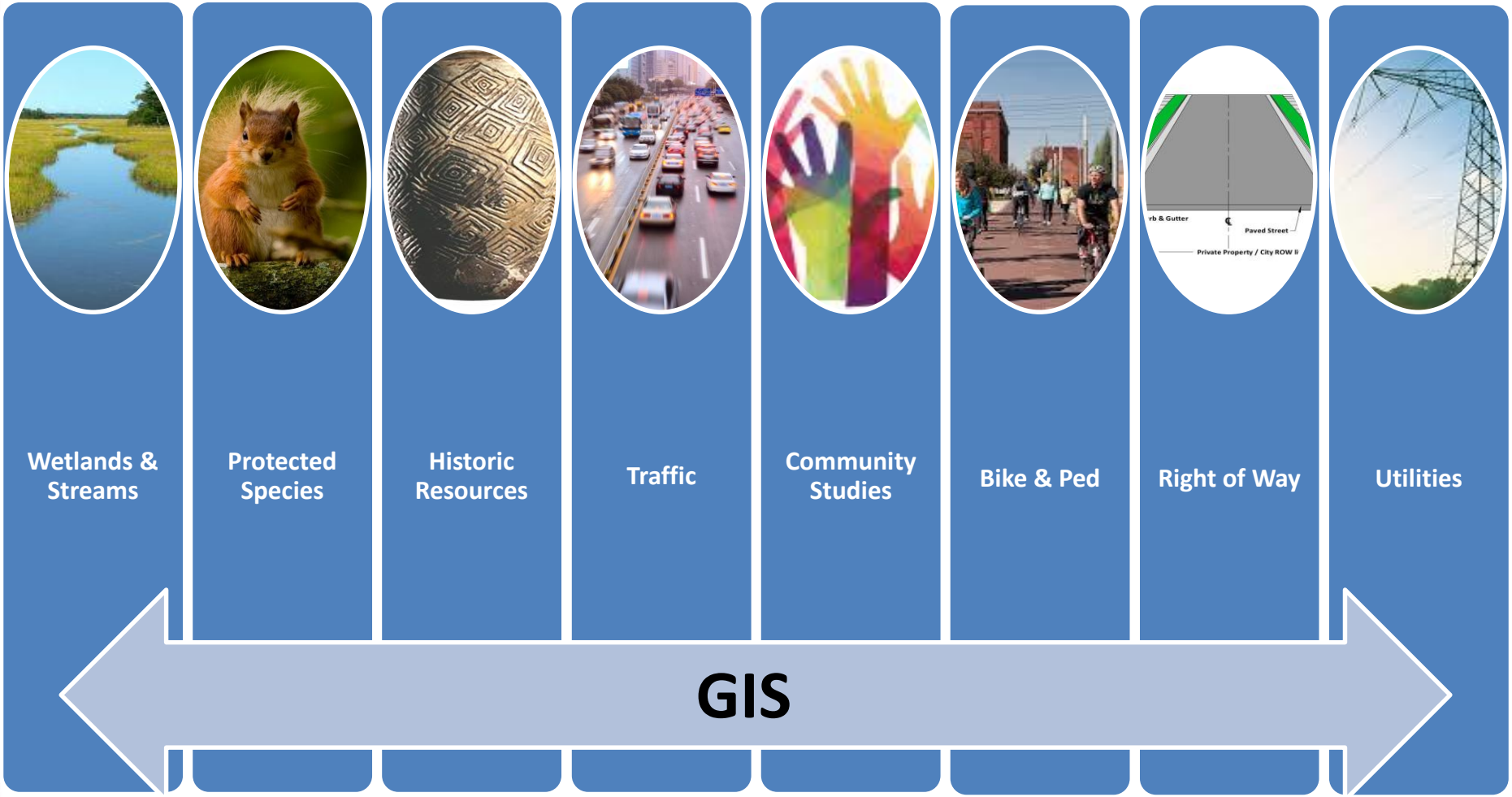
Your Project



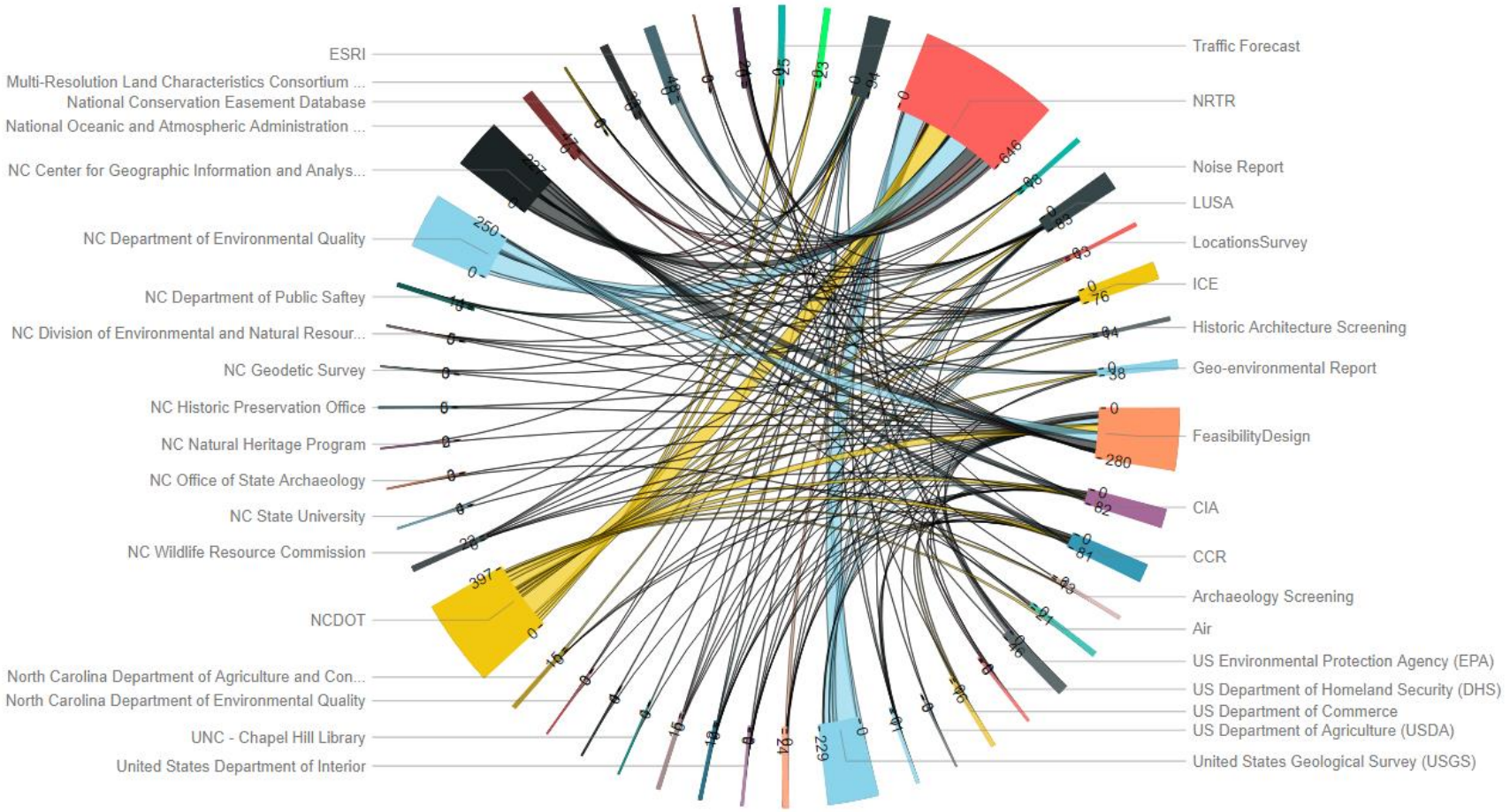
Screening

Screen projects for effects and create screening reports

ATLAS GIS Data



Data Sources and Users



ATLAS GIS Data: Connections and Ownership

- Pulling multiple data sources into a single location via web services

- NCDOT
- USGS
- NC CGIA
- NC DEQ
- NOAA
- NC DHHS
- US EPA
- NC SHPO
- USFWS
- USDA
- US Commerce
- ESRI
- NC Ag
- US DOT
- NC WRC
- Local Gov’ts
- Others…

New Data

- Examples of new reference layers:
  - NC IPaC
  - NC Mines
  - NC Childcare
  - NC Medical Facilities
  - NC Places of Worship
  - Hydrography with attributes
  - Wetlands
- Examples of new project data layers:
  - Archaeological Area of Potential Effect
  - Bat Bridges
  - CCR Direct Community Impact Area
  - Noise Monitoring Sites
  - Geo Environmental Phase 1 Sites of Concern
  - ICE Impervious Surface Mapping

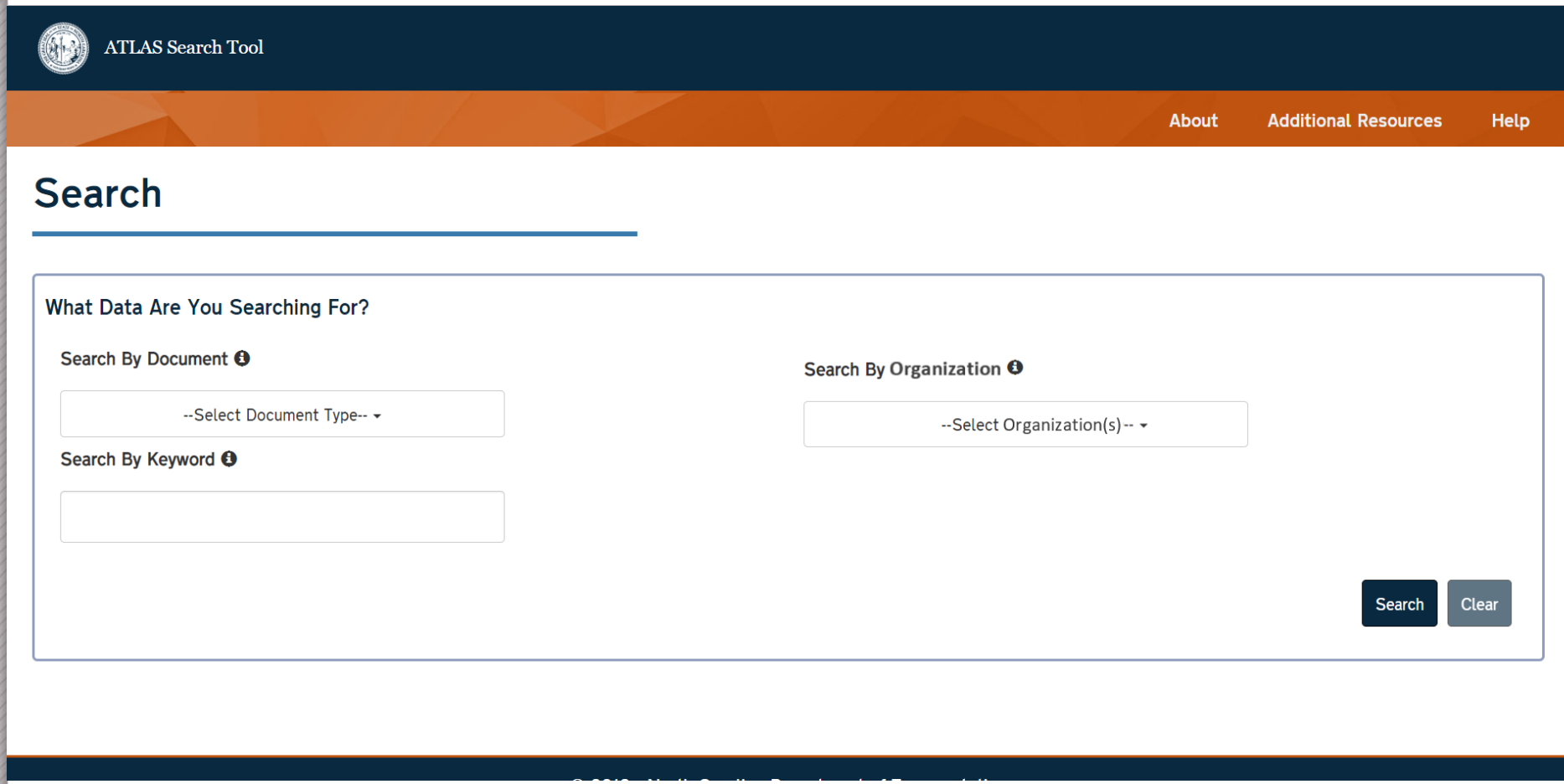
… many more will be available, with more coming soon!

ATLAS Search Tool

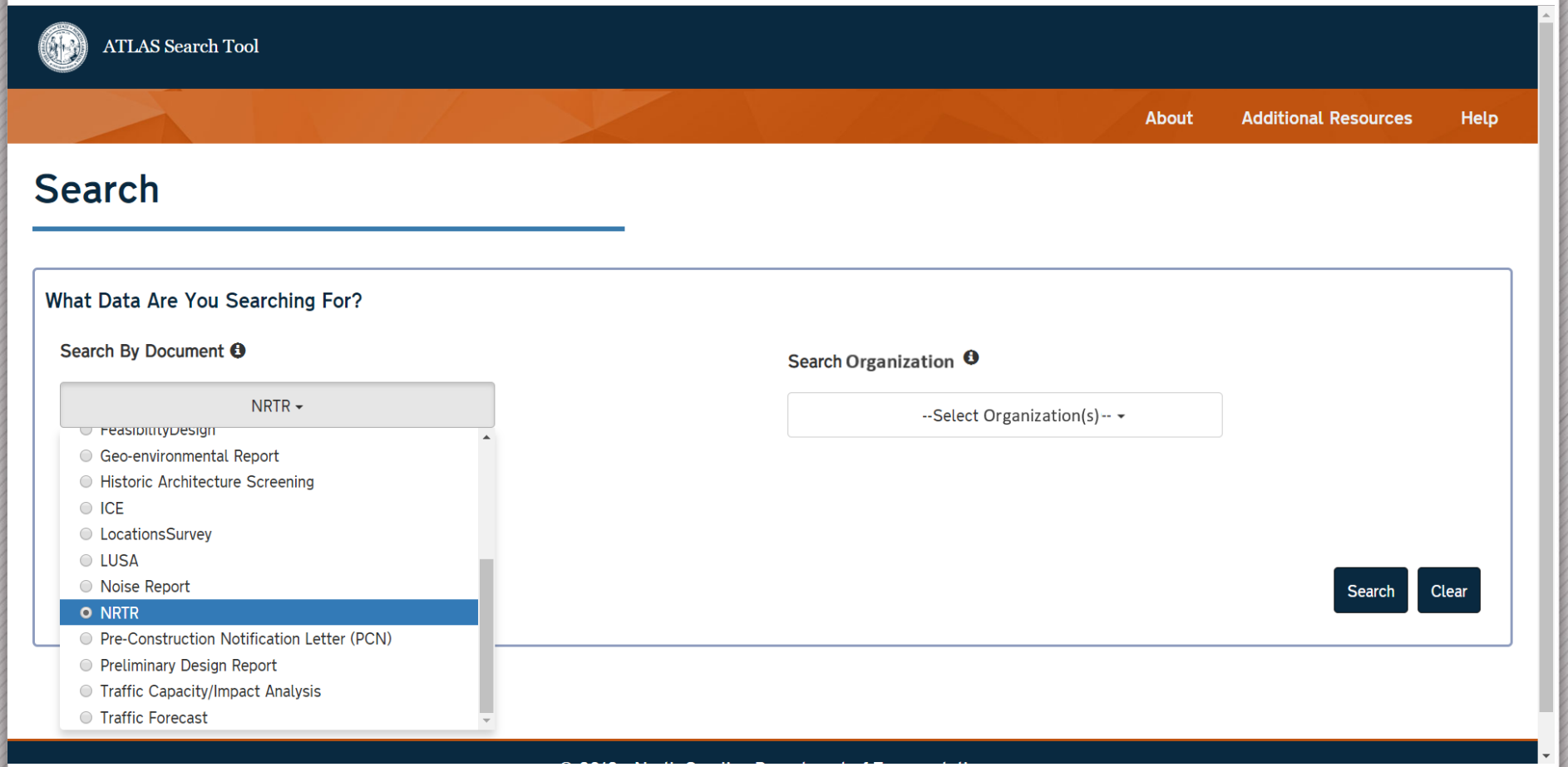
What the tool does for you:

- Review and download data from multiple sources at once
- Establish consistency on data sources being used across project teams for the same deliverables and decisions

ATLAS Search Tool



ATLAS Search Tool



ATLAS Search Tool

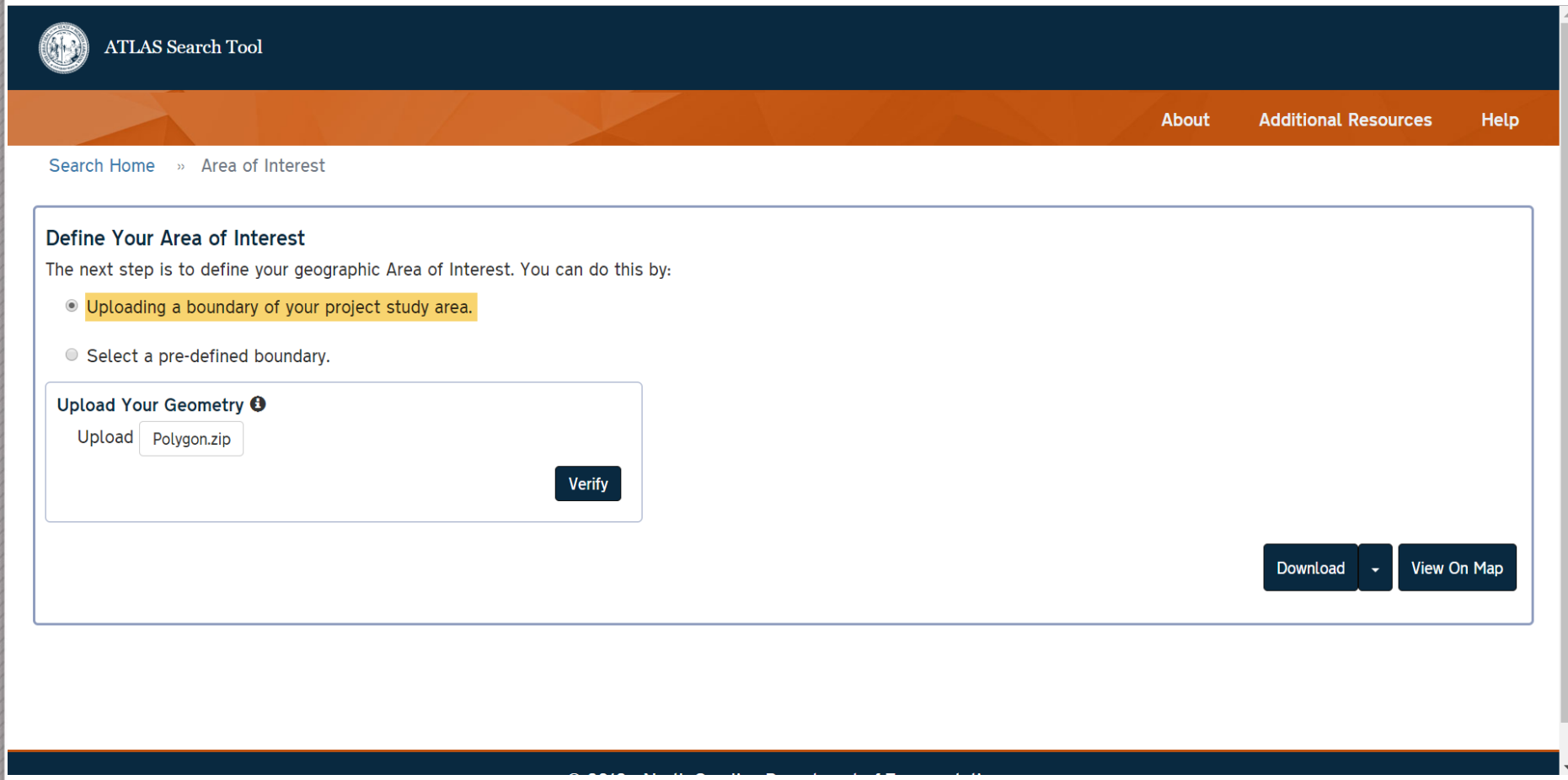
237 Layers Found.

Select	Layer Name	Description	Owner
☑	2012 Integrated Reporting Water Quality Assessments	This data set contains the detailed water quality assessment for the 3,381 waterbodies in North Carolina where assessment data or information were available. The data assessed were from over 5,000 monitoring stations with data and information mostly collected in calendar years 2006-2010. This data set includes parameters assessed and water quality rating.	NC Department of Environmental Quality, Division of Water Resources
☑	303d and 305b Streams (ESM Layer)	303d and 305b Streams for ESM application hosted by NCDOT.	NCDOT, GIS Engineering Transportation Systems, GIS Unit
☐	Albemarle - Pamlico National Estuary Partnership Map	AP map is an interactive mapping application designed to provide geographic information about the Albemarle-Pamlico (A-P) watershed and APNEP.	NC Department of Environmental Quality, Albemarle-Pamlico National Estuary Partnership
☑	Alluvial Fans	Location and attributes of alluvial fan studies. Only the 1-percent-annual-chance flood is mapped for alluvial fans. The alluvial fan could be mapped as: Zone AO areas with depths and velocities; Zone AO areas with just depths; or Zone A, AE, or X. This information is needed for the Summary of Alluvial Fan Analyses and Results of Alluvial Fan Analyses tables in the FIS report.	Department of Homeland Security, Federal Emergency Management Agency
☑	Anadromous Fish Spawning Areas	NC DEQ maps here: http://portal.ncdenr.org/web/mf/afsa-maps	NC Department of Environmental Quality, Division of Marine Fisheries

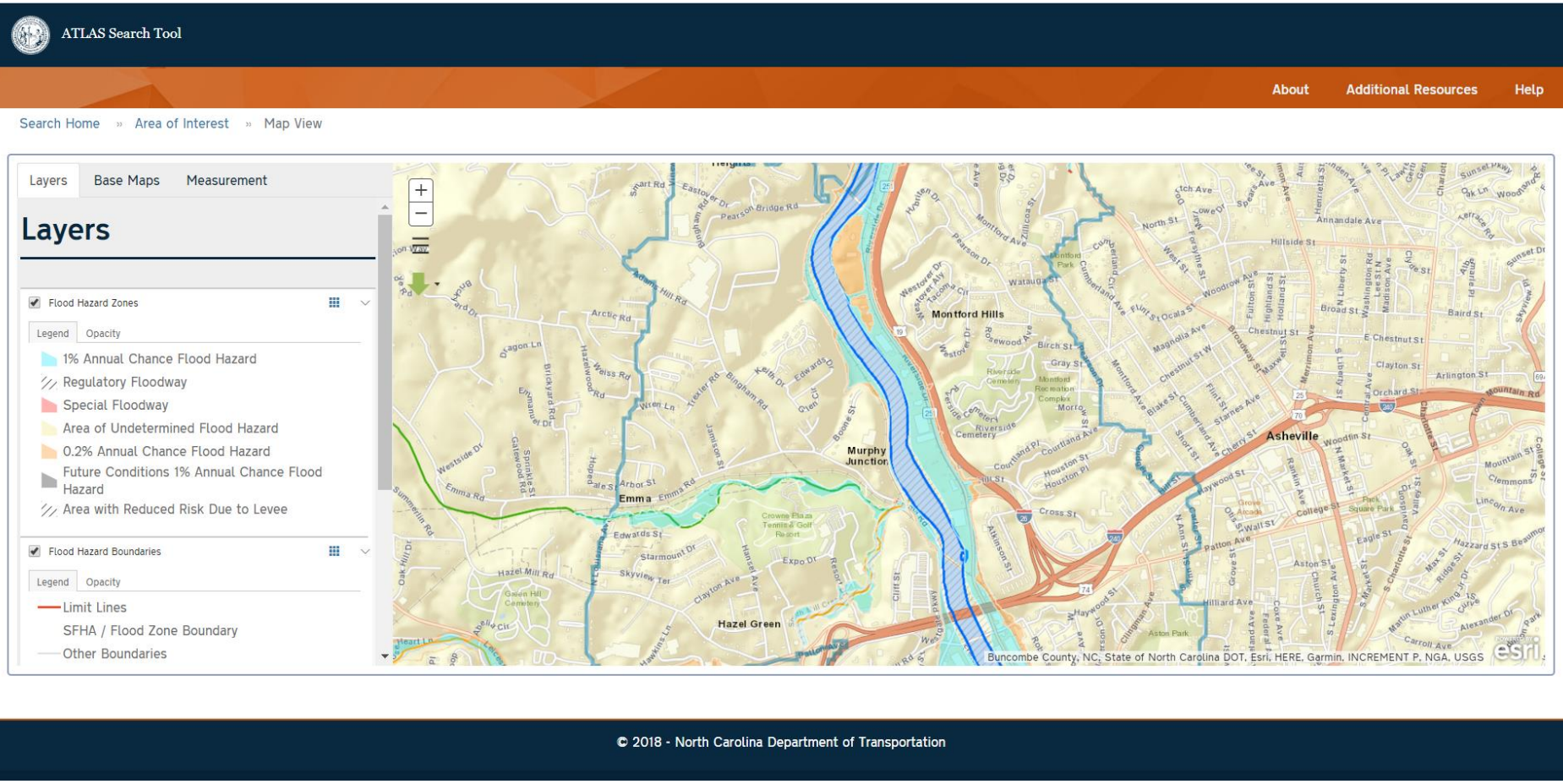
Use checkboxes to select data sets you would like to Download or View on Map, then hit Download or View on Map button. You will then be prompted to define your geographic area of interest.

Download or View On Map

ATLAS Search Tool



ATLAS Search Tool



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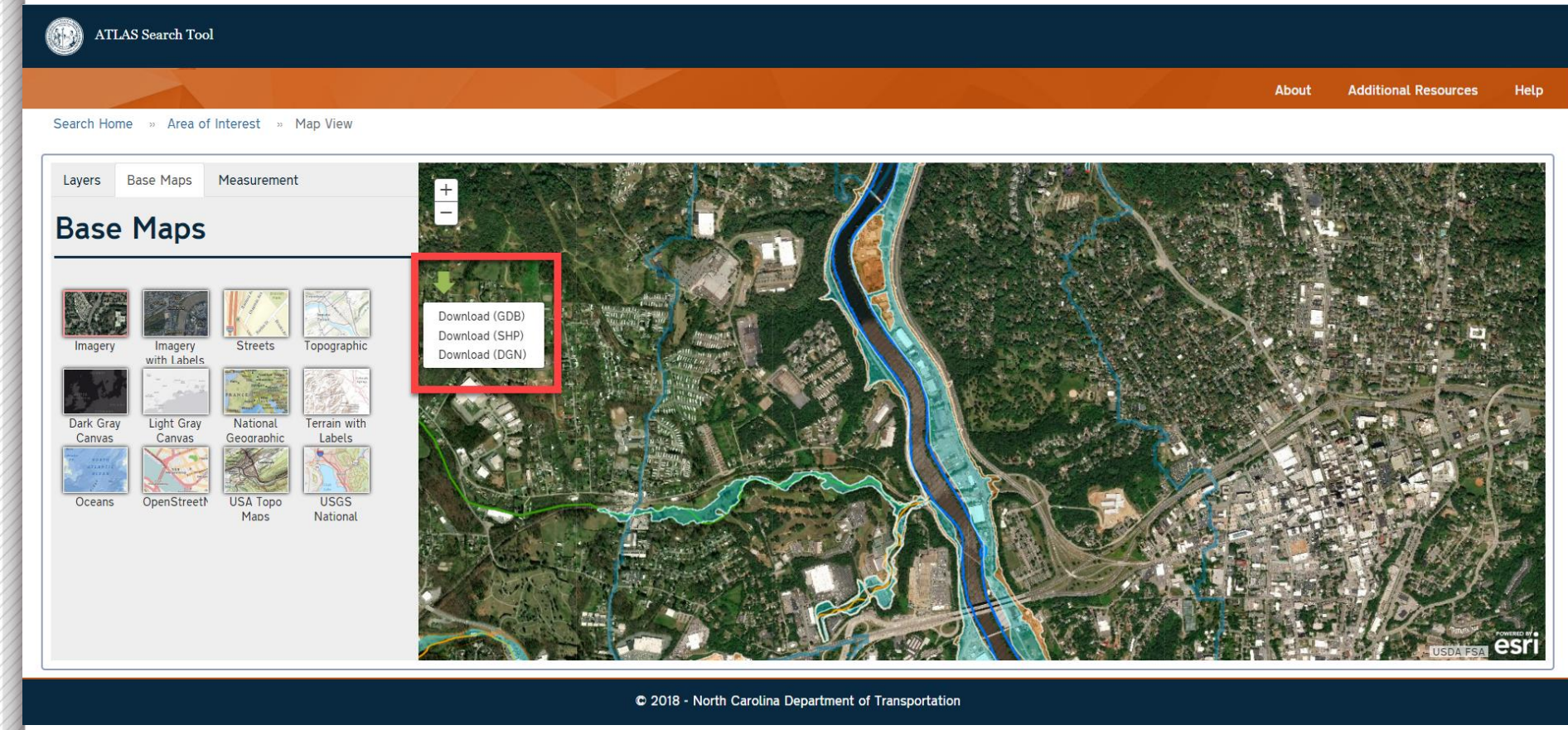
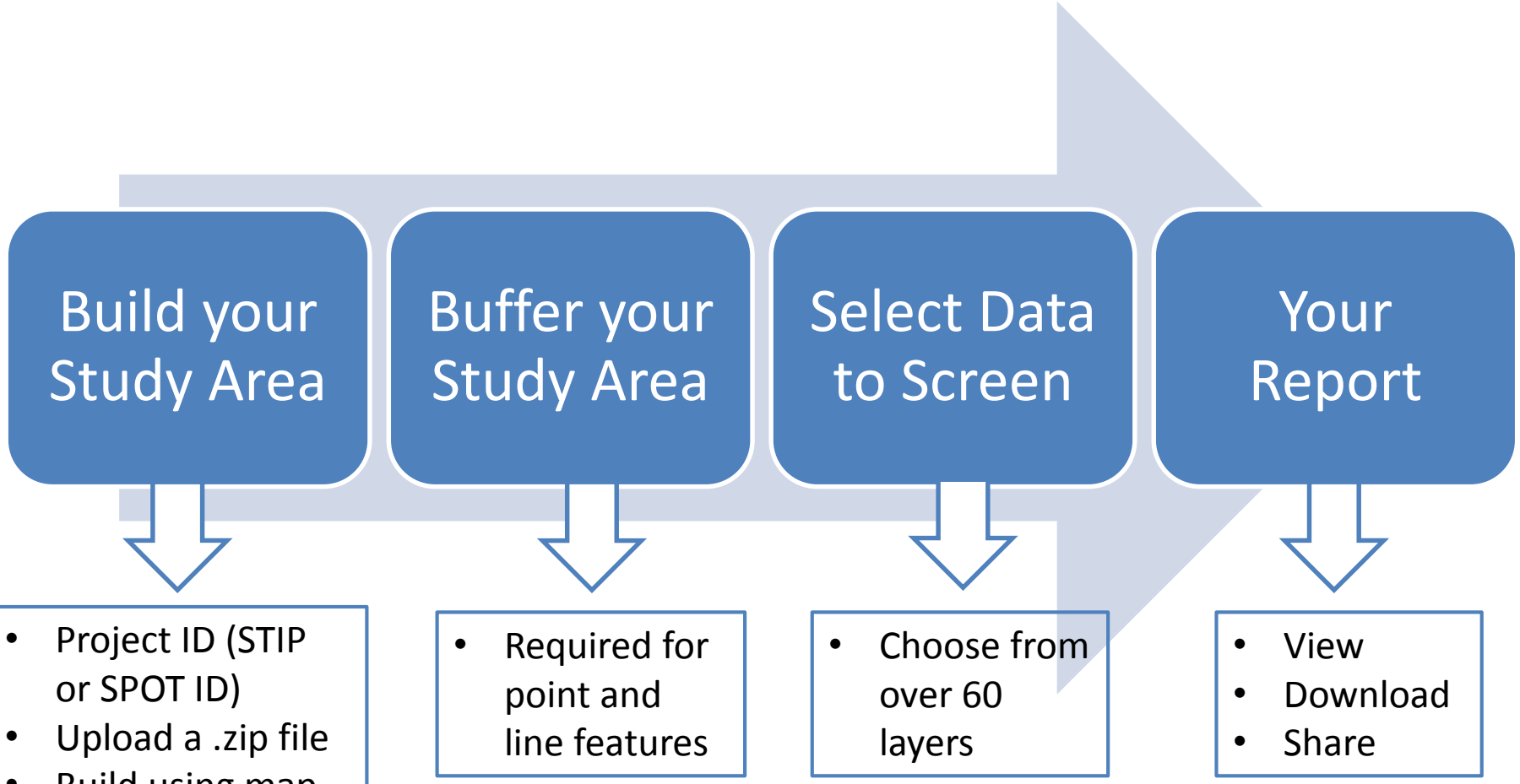


ATLAS Screening Tool

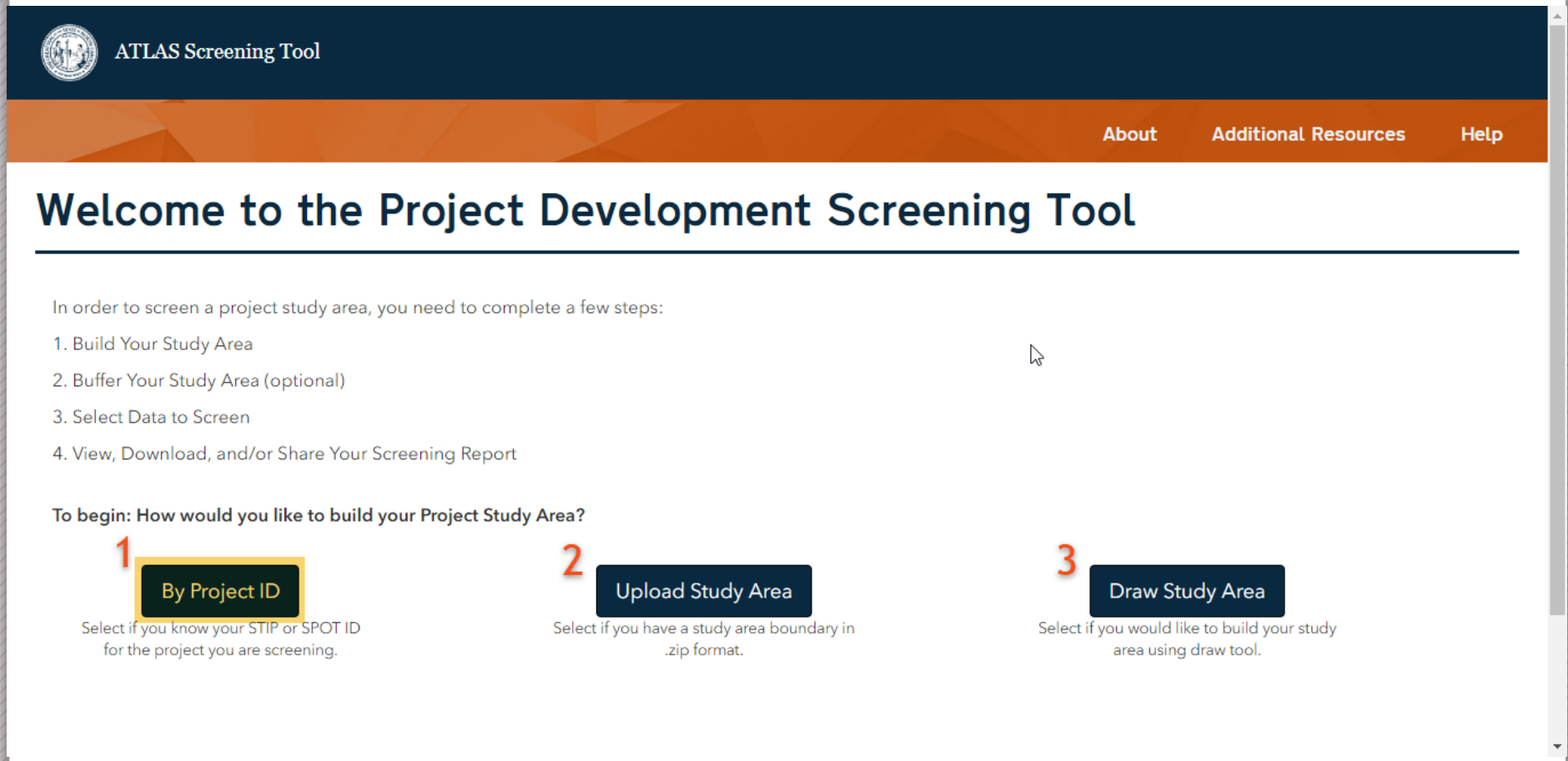
What the tool does for you:

- Provides high-level summary report on key environmental layers/features in your study area
- Downloads of GIS datasets with features in your study area

How to Build a Screening



ATLAS Screening Tool



ATLAS Screening Tool

About Additional Resources Help

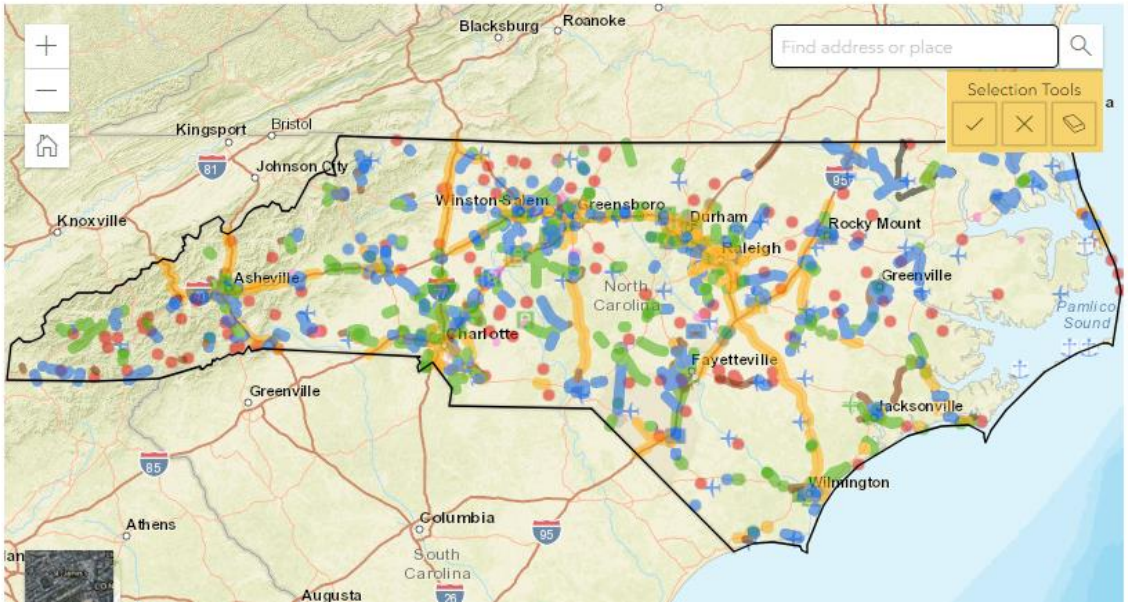
Screening Home » Screen By Project ID

Screen By Project ID

Utilize the Project ID Search and/or select your project from the map with the map Selection Tools. Only projects highlighted on the map will be included in your Study Area when you click Next.

Enter STIP or SPOT ID

Ex. STIP ID: I-0914, Ex. SPOT ID: H141398



ATLAS Screening Tool

Buffers are required to be:

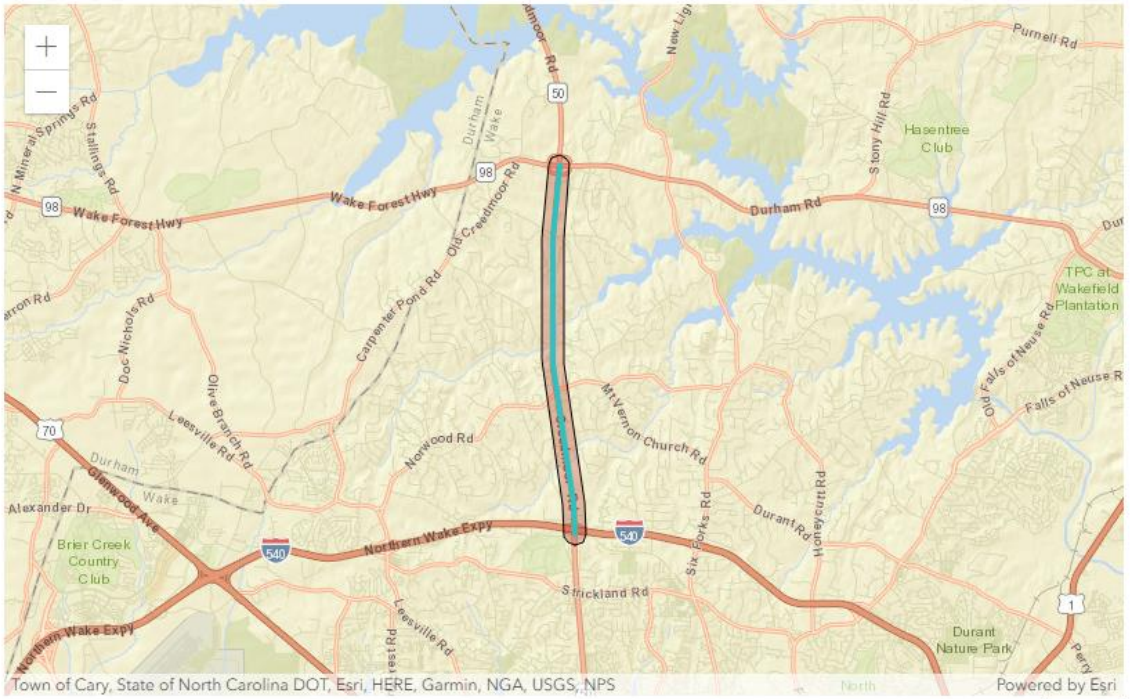
1. Applied for point and line features
2. No more than 2 miles

Buffers are optional for polygon features.

Distance 1000

Unit Feet

Buffer



Back

Next

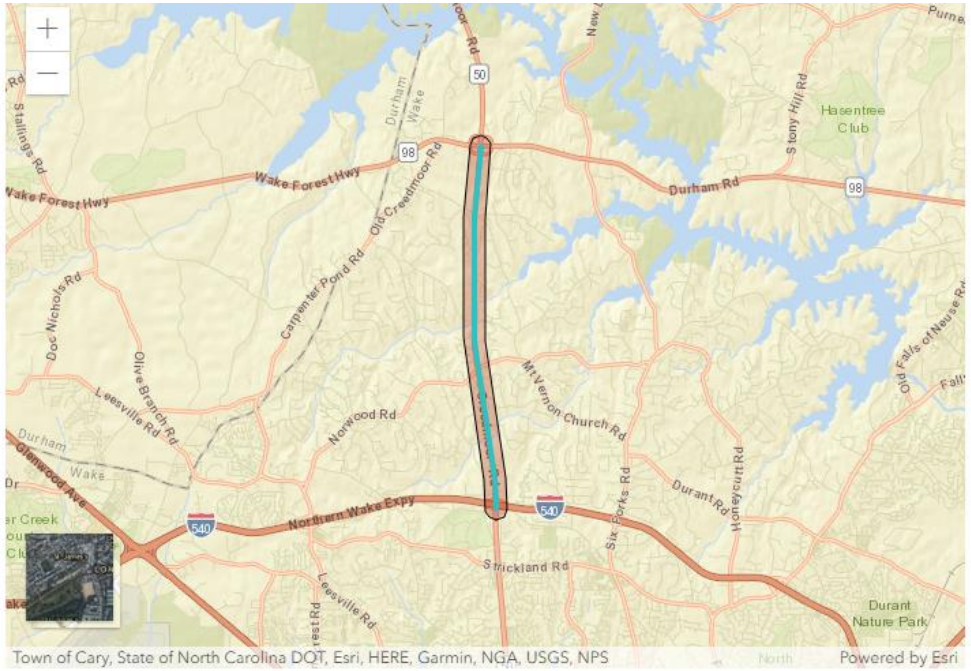
ATLAS Screening Tool

project. Use check boxes to add layers to your screening. Click the layer name to to preview the layer on the map, view layer information, or set sub-report fields for specific layers.

Layer Information | Set Field

Search by layer name

- Human Environment
- Natural Environment
  - Conservation Area
    - Critical Areas (ESM Layer)
    - National Conservation Easement Database
    - National Wildlife Refuges (>3M)
    - NC CAMA Counties (DCM List)
    - NC DEQ DCM Coastal Reserve Boundary



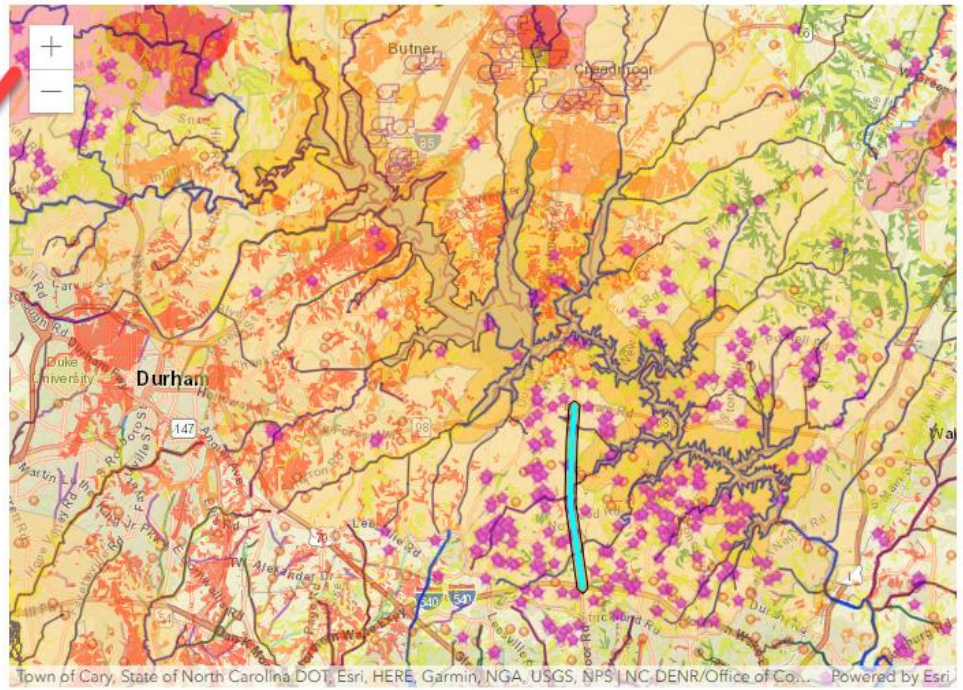
Back | Next

ATLAS Screening Tool

Number of potential impacts: **14**

Download Report | Download GDB | Download DGN | Show Layer Information

- Submerged Aquatic Vegetation
- NOAA Essential Fish Habitat
- Hydrography
- NC DEQ Draft 303d Category 5 Assessments
- FEMA Stream Study Type (ESM Layer)
- DWR Trout Waters 2014 (ESM Layer)
- 303d and 305b Streams (ESM Layer)
- NC DEQ Outstanding Resource Waters in North Carolina
- NC DEQ Water Supply Watershed III
- NC DEQ High Quality Waters in North Carolina



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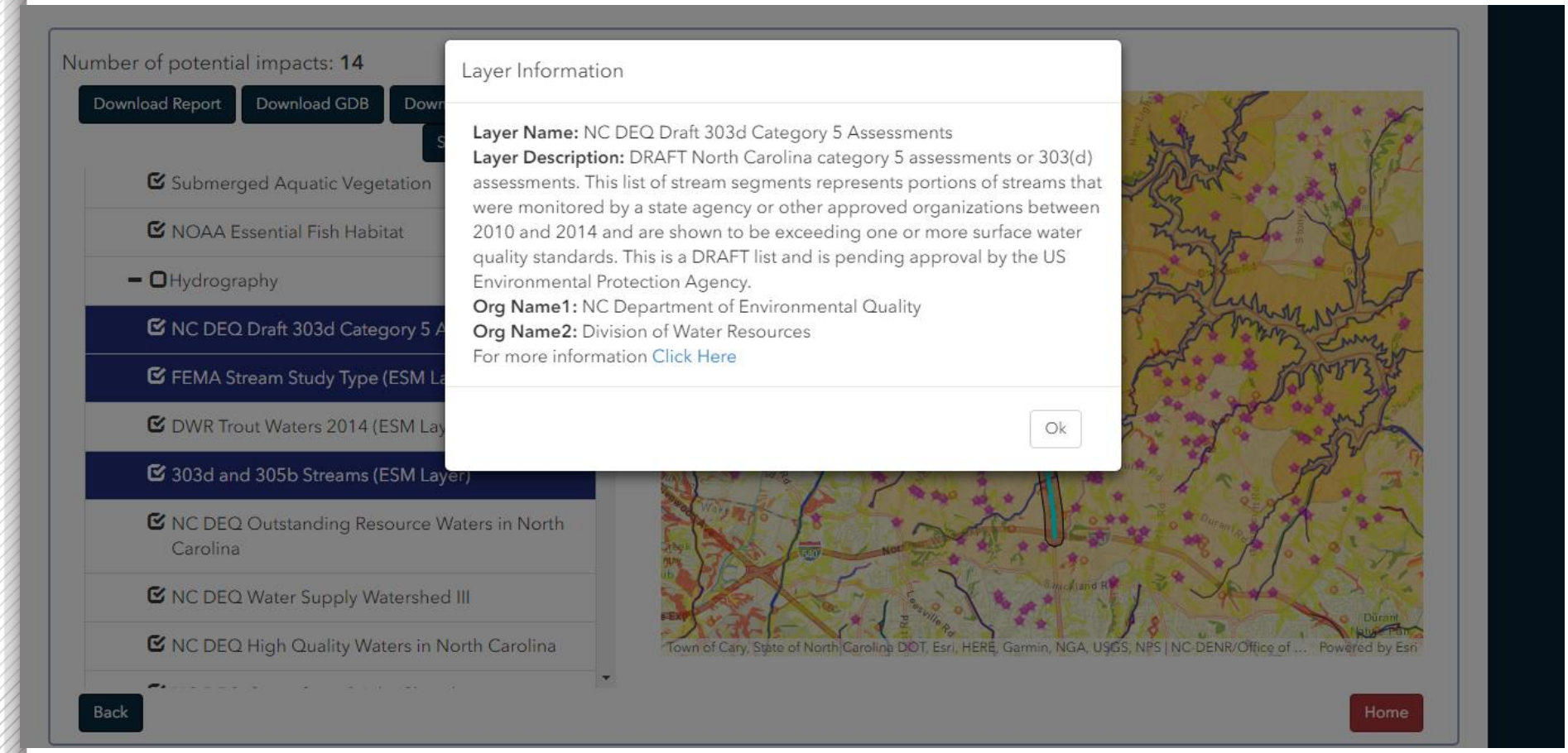

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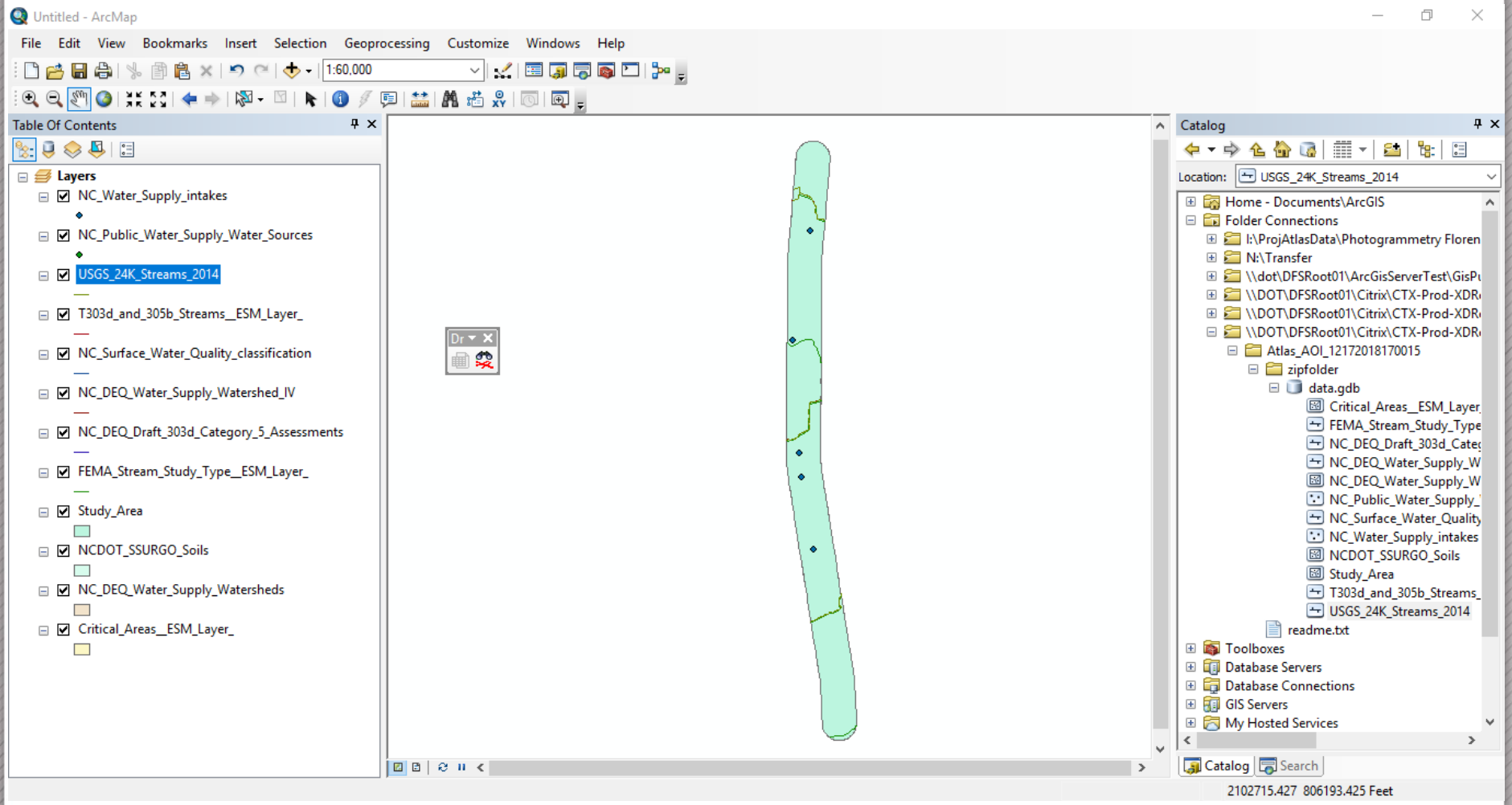


Screening Report

Project Development Screening Report

Report Date: 06/12/2019

Training Example

ATLAS Screening Report for Training

County: Forsyth

Division: 9

EPA Level III Ecoregion:

Piedmont

EPA Level IV Ecoregion:

Southern Outer Piedmont, Northern Inner Piedmont

HUC8: 03040101

CAMA: No

Riparian Buffer: N/A

Screening Report

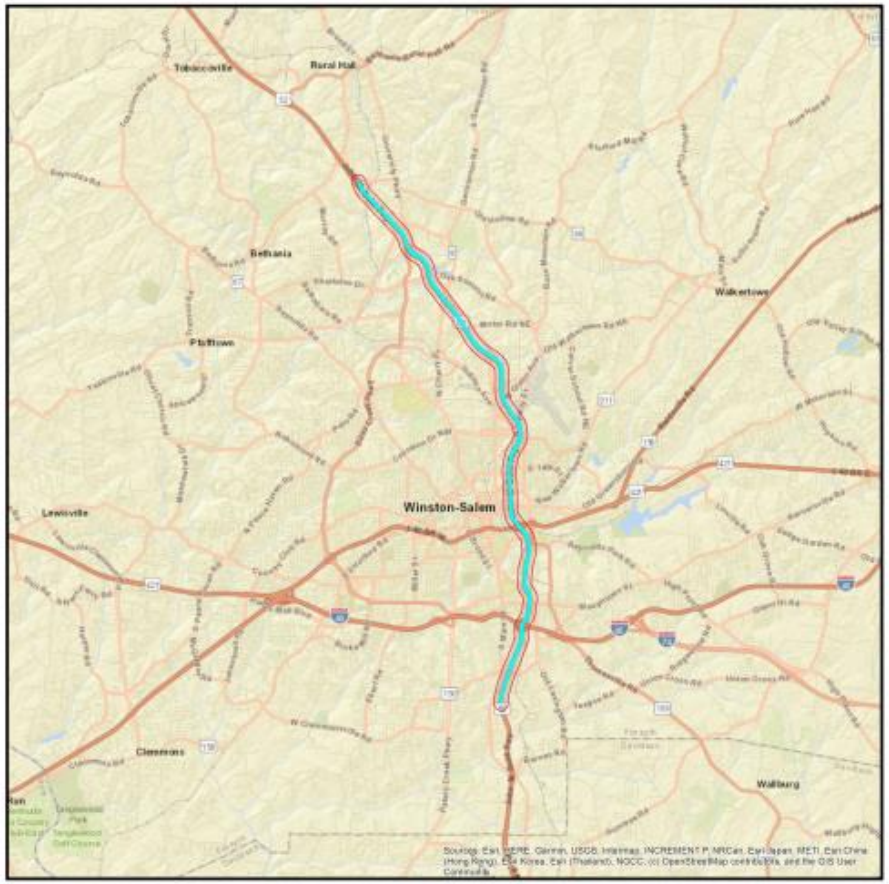
Study Area Size: 2595.3 Acres

Buffer Size: 1000 Feet

STIP/SPOT ID: U-2826, H090370

STIP/SPOT Description:

U-2826: SOUTH OF SR 2747 (CLEMMONSVILLE ROAD) TO FUTURE I-74 (WINSTON-SALEM NORTHERN BELTWAY). ADD LANES.



Screening Report

Summary of Results

Category	Result
Community	Yes
Conservation Area	Yes
Design Complexity	No

1 of 7

Fish and Aquatics	Yes
Geo Environmental	Yes
Historic Architecture and Archaeology	Yes
Hydrography	Yes
Mitigation	No
Physiography	Yes
Public Property	Yes
Threatened and Endangered	No
Transportation	Yes
Utilities	Yes
Water Quality	Yes
Wetlands	Yes

Screening Report

Human Environment			
Community	**Feature Count**	**Total Coverage**	**Nearest Feature**
US HUD Public Housing Building	50	N/A	11.7 ft
US DHS HIFLD Day Care Centers	3	N/A	112.3 ft
North Carolina Public Schools	2	N/A	10.9 ft
NC Colleges and Universities	1	N/A	736.9 ft
NC Public Libraries	1	N/A	8.9 ft
US DHS HIFLD Manufactured Home Parks	1	N/A	701.2 ft
NC DEQ DWR Animal Operation Permits	0	0	N/A
NC Hospitals	0	0	0
NC Multi Hazard Threat Database Community Colleges	0	0	0
NC Multi Hazard Threat Database Nuclear Power Plants	0	0	0
NC Multi Hazard Threat Database State Prisons	0	0	1461.4 ft
NC Non Public Schools	0	0	279.5 ft

Screening Report

Natural Environment			
Conservation Area	**Feature Count**	**Total Coverage**	**Nearest Feature**
NC Heritage Program Managed Areas	1	23.2 ac	990.1 ft
National Conservation Easement Database	0	0 ac	1505.0 ft
NC Critical Areas	0	0 ac	0
NC DEQ CAMA Counties (DCM List)	0	0 ac	N/A
NC DEQ DCM Coastal Reserve Boundary	0	0 ac	0
NC DEQ Oceanfront Setback Factors	0	0 ac	0
NC DEQ Outstanding Resource Water Management Zones	0	0 ac	0
NC DEQ Primary Fish Nursery Areas	0	0 ac	0
NC DEQ Unique Wetlands	0	0 ac	0
NOAA Marine Protected Area	0	0 ac	0
USFWS National Wildlife Refuges	0	0 ac	0

Screening Report

Report Metadata

Created by: AtlasUser1 **Date/Time Executed:** 06/12/2019 4:32 PM

Report Disclaimer:

While the N.C. Department of Transportation strives to provide complete and accurate information, the data provided in this screening report are reported "as is." This report does not replace field data collection and data verification conducted by licensed professionals. No warranty is expressed or implied regarding the accuracy of available data for general or scientific purposes. NCDOT shall under no circumstances be responsible for any errors or omissions which may occur in these records, nor liable for any actions taken as a result of reliance upon any information contained within this web site from whatever source, or any consequences from such reliance.

How to read this report:

User-defined Project Study Area = The final polygon that the user created in the Screening Tool. This study area includes any buffers the user added within the application.

Layer Name = Layer selected for Screening. You may click the hyperlink to access additional layer details.

Field Name = Calculated result for a specific field within a layer that was selected for Screening (using Set Field).

Feature Count = Number of unique features (points, lines, and/or polygons) from a particular GIS layer that are within or intersecting the user-defined project study area.

Total Coverage = Total number of linear feet (lines) or area (polygons) from a particular GIS layer that are contained within the user-defined project study area. N/A under Total Coverage refers to point layers as point layers cannot have coverage.

Nearest Feature = Distance from the boundary of the user-defined project study area to next closest feature (point, line, or polygon) for a particular GIS layer within the vicinity (1 mile) of the project study area boundary. Zero (0) under Nearest means there are no features in the project vicinity (1 mile buffer).

Screening Report

Availability of Web Services:

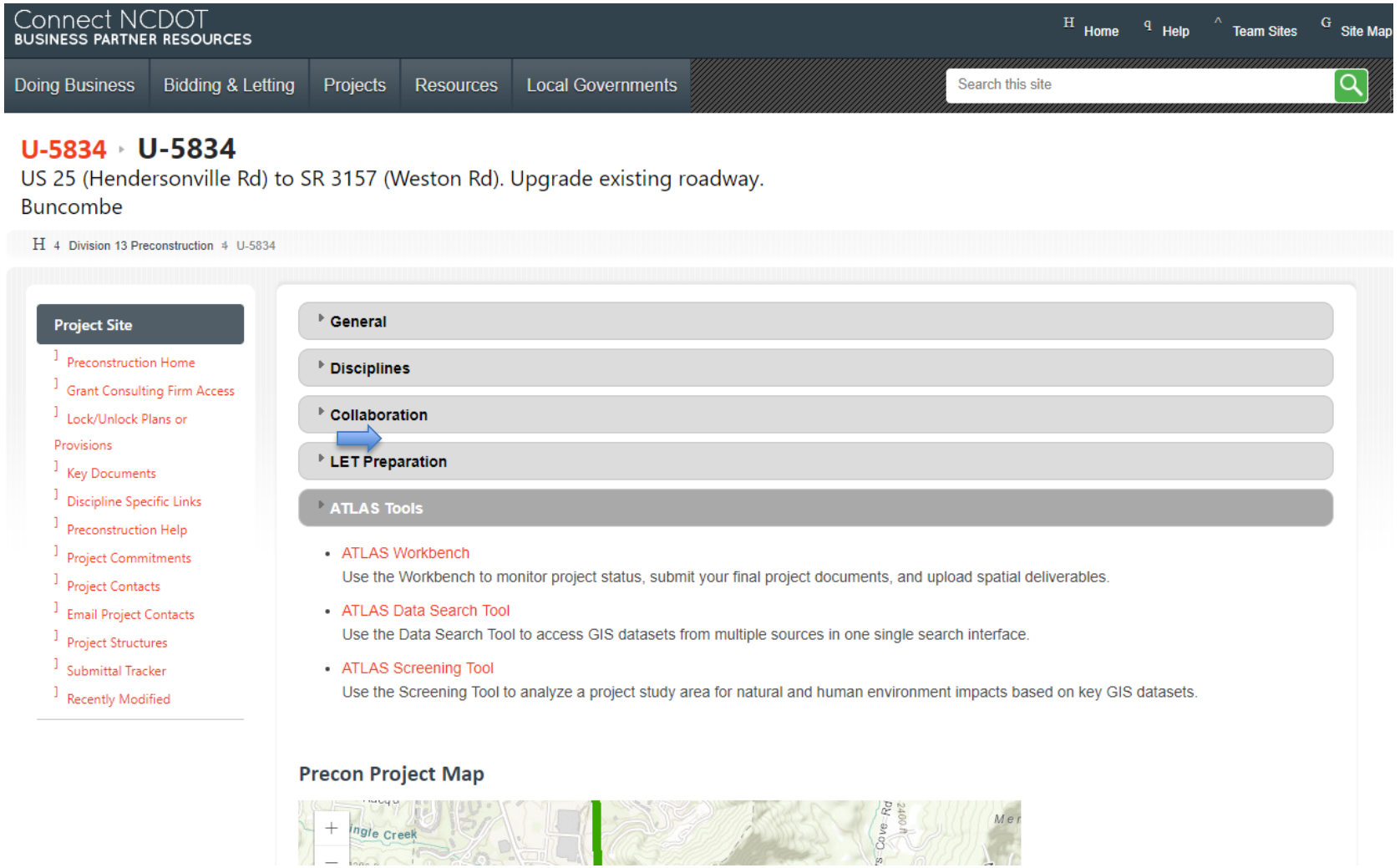
The layers referenced in this report utilize web services. If any web services were unavailable at the time of the report execution, related errors are noted in the following table:

Service Name	Service Url	Error Thrown
Blue Ridge Forever Appalachian Trail Centerline	https://services1.arcgis.com/PwLrOgCfU0cYShcG/ArcGIS/rest/services/Appalachian_Trail_centerline/FeatureServer/0	URLError: No connection could be made because the target machine actively refused it
NC Natural Heritage Natural Areas (NHNA)	https://services.nconemap.gov/secure/rest/services/NC1Map_Habitat/FeatureServer/2	Invalid Token
NC Shellfish Growing Area Classifications	https://services.nconemap.gov/secure/rest/services/NC1Map_Habitat/FeatureServer/3	Invalid or missing input parameters.
NOAA Marine/Estuarine Aquatic Bed, Rooted Vascular (Submersed Rooted Vasculars, SRV)	https://coast.noaa.gov/arcgis/rest/services/MarineCadastre/Seagrasses/MapServer/0	Error handling service request :0x80004005 - Unspecified error
TVA Land Plans (EGISMap)	https://egismaps.tva.gov/arcgis/rest/services/Land_Plans/MapServer/0	URLError: No connection could be made because the target machine actively refused it

ATLAS Workbench

- Key Functionality
  - Track project workflow
  - Ingestion of standard deliverable documents and spatial data
  - View your project within the context of surrounding projects and data for those projects
  - Automated report generation

ATLAS Workbench



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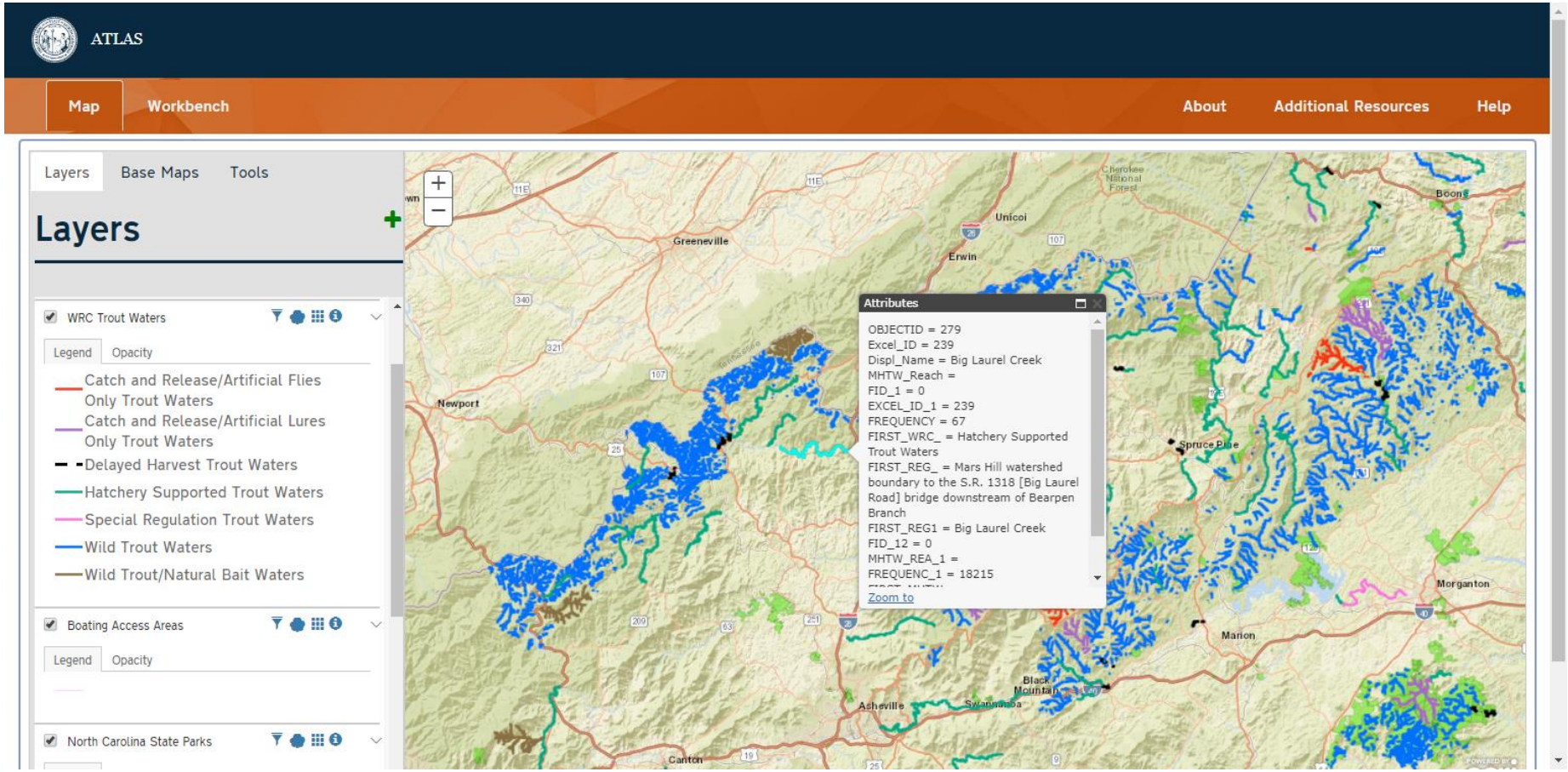

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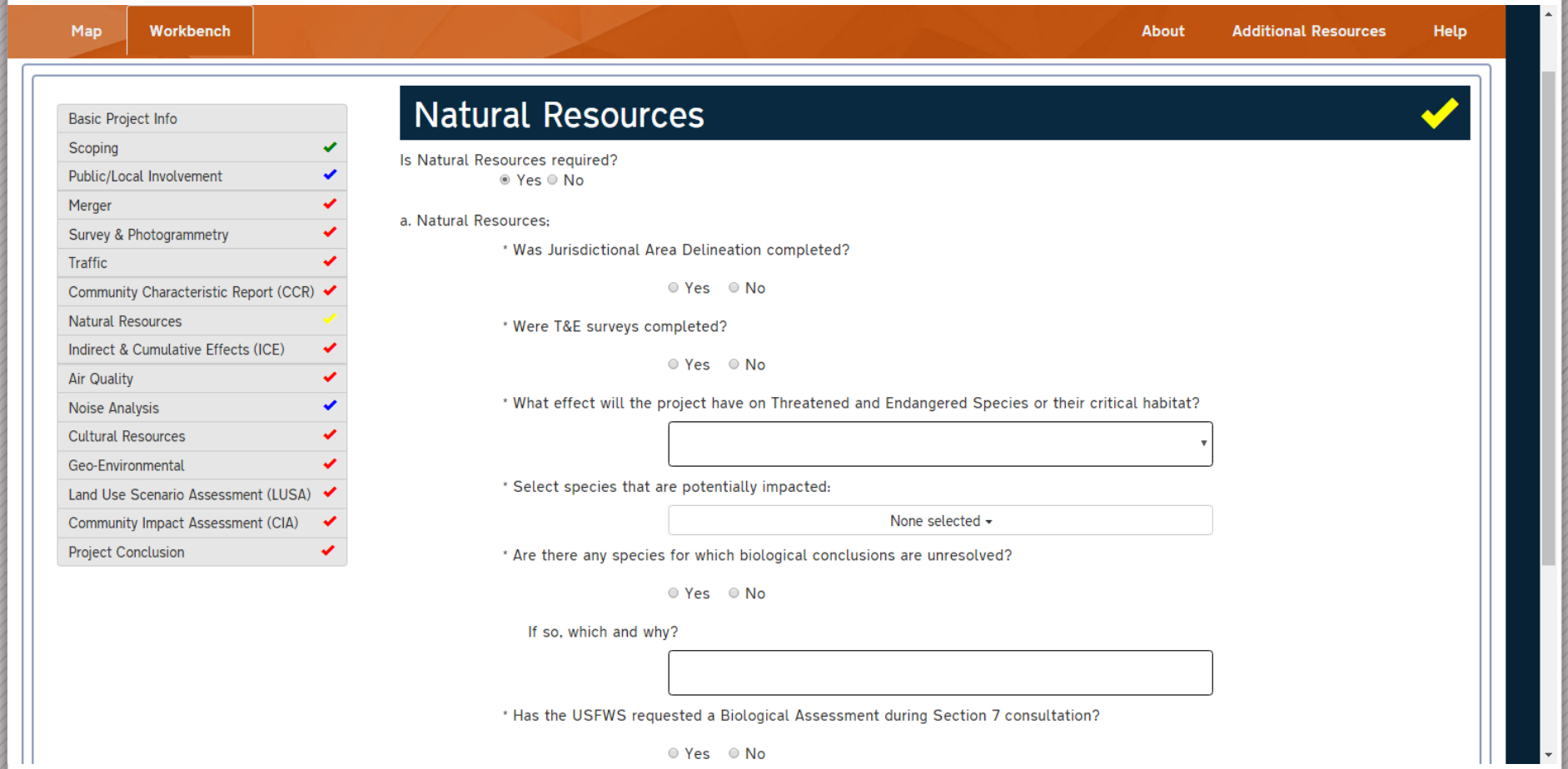
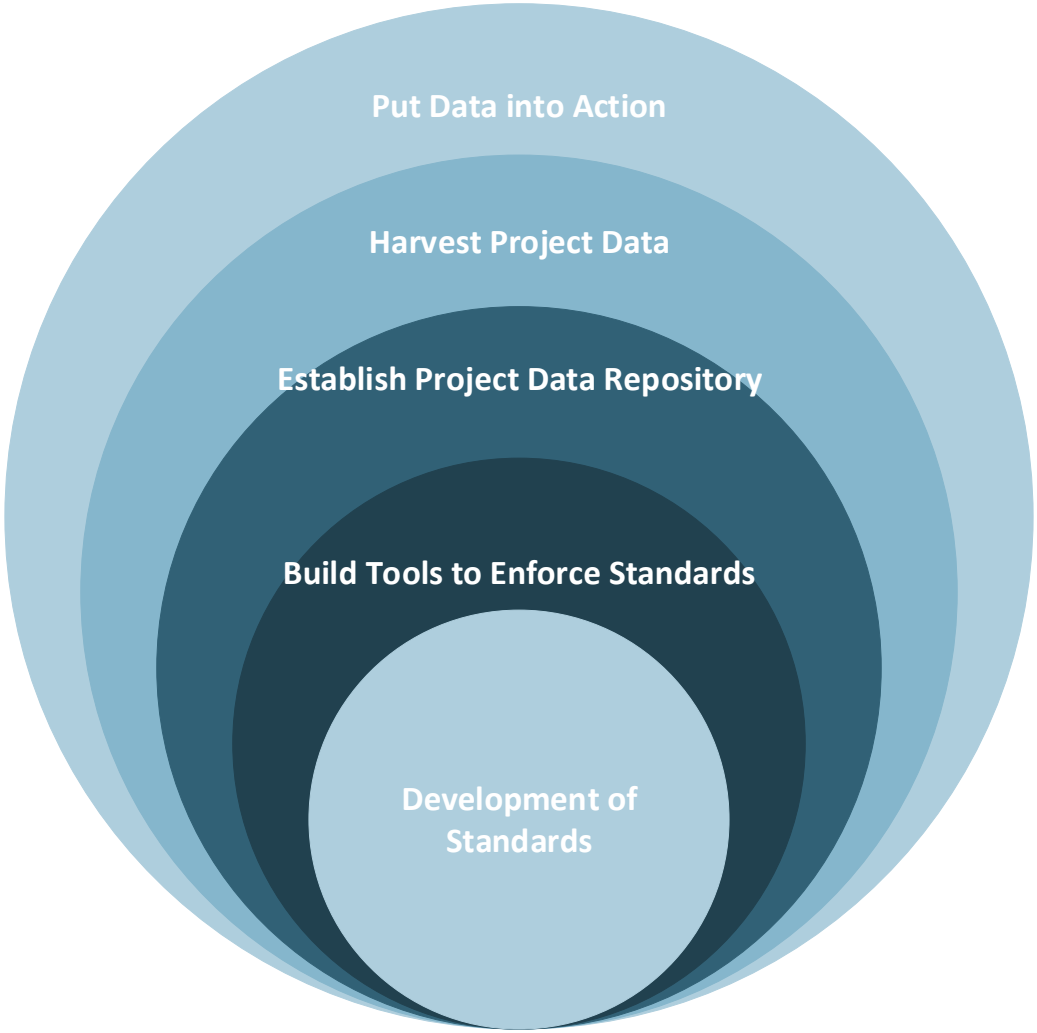


Workbench – Snowball Effect



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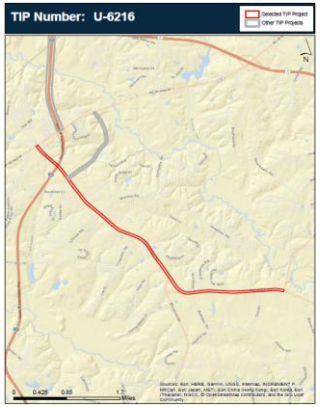

Screening

Screen projects for effects and create screening reports

NCDOT Project ATLAS

We are:

- Not eliminating field work or jobs
- Pushing more work earlier in the process to help scheduling, budgeting and scoping
- Helping to deliver better projects by:
  - Tracking workflow and deliverables
  - Improving GIS data and management
  - Improving processes
  - Providing Automation

NCDOT Project ATLAS

- Ongoing Work
  - Creating and compiling new data layers
  - Verifying modeled layers with field work
  - Engaging agencies in process improvements

- ATLAS 2.0
  - Incorporating other business users
  - Expanding data layers
  - Integrating multiple systems
  - Increasing automation

NCDOT Project ATLAS

NCDOT EAU CONNECT SITE

https://connect.ncdot.gov/resources/Environmental/Pages/NES-Procedures-Manual.aspx

QUESTIONS

ATLAS@ncdot.gov