RGGI

REGIONAL
GREENHOUSE
GAS INITIATIVE

NATURAL CLIMATE SOLUTIONS GRANTS

BLUE AND GREEN CARBON PROJECTS

Housekeeping

- This meeting is being recorded, by being here you agree to be recorded.
- This meeting will be available on our website.
- If you have a question, please enter it into the Q&A.
- Questions will be taken after each portion of the presentation.

Team

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Helaine Barr
Chief | Bureau of Climate Change and Clean Energy

Metthea Yepsen
Research Scientist | Division of Science and Research

Todd Wyckoff
Chief | Bureau of Forest Management

Bill Zipse
Supervising Forester | Bureau of Forest Management

Lauren Gazerwitz
Forester | Bureau of Forest Management

Mike Martini
Assistant Regional Forester | Assistant Director of State Forestry Service

Matthew Rivas
Environmental Specialist | Bureau of Climate Change and Clean Energy

Doug Benton
Consultant | Bureau of Climate Change and Clean Energy

Administrative Lead

Bureau of Climate Change and Clean Energy

Technical Leads

Bureau of Forest Management

Division of Science & Research

Agenda

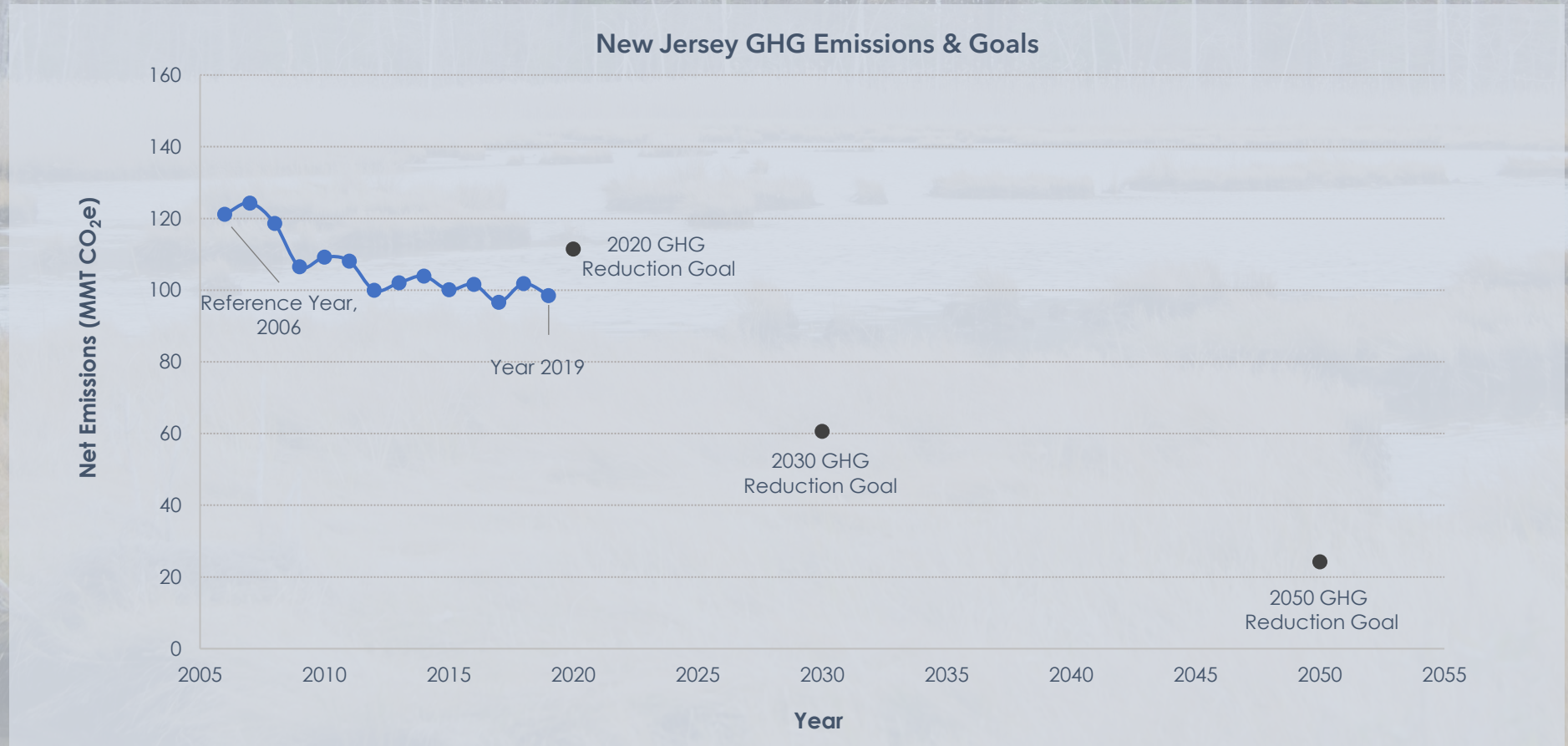
- **RFP Overview**
  - Purpose of Funding
  - Funding Priorities
  - Project Types & Eligibility Requirements
- **Request for Proposal Application**
  - Selection Criteria
  - Grant Process Timeline
  - Baseline Data Required
  - Grantee Responsibilities
- **NJDEP SAGE**

Funding Availability

Project Type	Funding Available	Project Scope Duration	Funding Minimum Per Project	Funding Cap Per Project
Blue and Green Carbon Projects	$15,000,000	3-5 Years	$250,000	$5,000,000
Total Available Funding	**$15,000,000**			

Purpose

- Natural resources that sequester carbon play a critical role in meeting the State's 2050 goal of an 80% reduction in greenhouse gases below 2006 levels.
- New Jersey will need to sequester **6 to 10.8 million metric tons** of carbon dioxide to reach its 2050 goal.



Source of Funding

- This funding made available due to New Jersey's participation in the **Regional Greenhouse Gas Initiative (RGGI)**

1

SETS A DECLINING LIMIT ON CARBON POLLUTION FROM POWER PLANTS

2

PUTS A PRICE ON CARBON

3

INVESTS IN COMMUNITIES

Eligible Project Types | Blue Carbon

1. Living Shorelines

Living shorelines are a shoreline management practice that addresses the loss of vegetated shorelines, beaches, and habitat in the littoral zone by providing for the protection, restoration, or enhancement of these habitats. Eligible projects will focus on protecting the erosion of carbon rich soils in tidal wetlands

2. Restoring Tidal Flows in Tidal Wetlands

Projects restoring tidal flow to wetlands have many benefits. Eligible projects will focus on increasing salinity to decrease methane (a powerful greenhouse gas) production. In some cases, restoring tidal flow may also target increased sedimentation and vegetation cover.

3. Tidal Salt Marsh Vegetation Restoration

Eligible projects will increase the cover of native salt marsh vegetation in brackish and salt water tidal wetlands to increase the carbon sequestration.

4. Submerged Aquatic Vegetation Restoration

Eligible projects will increase the cover of native submerged aquatic vegetation in waters with salinity over 18 parts per thousand to increase carbon sequestration.

Eligible Project Types | Green Carbon

1. Forest and Woodland Restoration

Eligible projects will establish or reestablish forest communities and reset carbon sequestration trajectories with resilient native vegetation. Such projects may occur in existing degraded forests or former agricultural fields or other deforested areas. Generally, a degraded forest is a forest that has lost its capacity to provide important functions and values to people and nature.

2. Urban Forest Canopy and Water Quality Enhancement

Eligible projects will establish and maintain trees and reduce impervious cover and stormwater runoff, while promoting ground water recharge, in urban areas. Urban land includes land with houses, buildings and pavement, and other areas that are essentially impervious to infiltration of rainfall.

Funding Restrictions

Blue and Green Carbon Grant **funds may not be used for** any of the following purposes:

- To purchase land or major capital improvements;
- Purchase of promotional items, such as key chains, mugs, flying discs, etc;
- Purchase and planting of invasive species or species that are listed as rare or endangered by the New Jersey Natural Heritage Program.

Eligibility Requirements

Applicants **eligible** to apply for funding under this RFP include:

- State, county and local government units within New Jersey, including State government agencies or school boards;
- New Jersey universities and colleges;
- Interstate agencies of which New Jersey is a member;
- Private landowners owning property in New Jersey;
  - Must provide at least 25% matching funds
- Nonprofit organizations recognized by the Internal Revenue Service under Section 501(c)(3) of the Internal Revenue Code authorized to operate in the State of New Jersey.

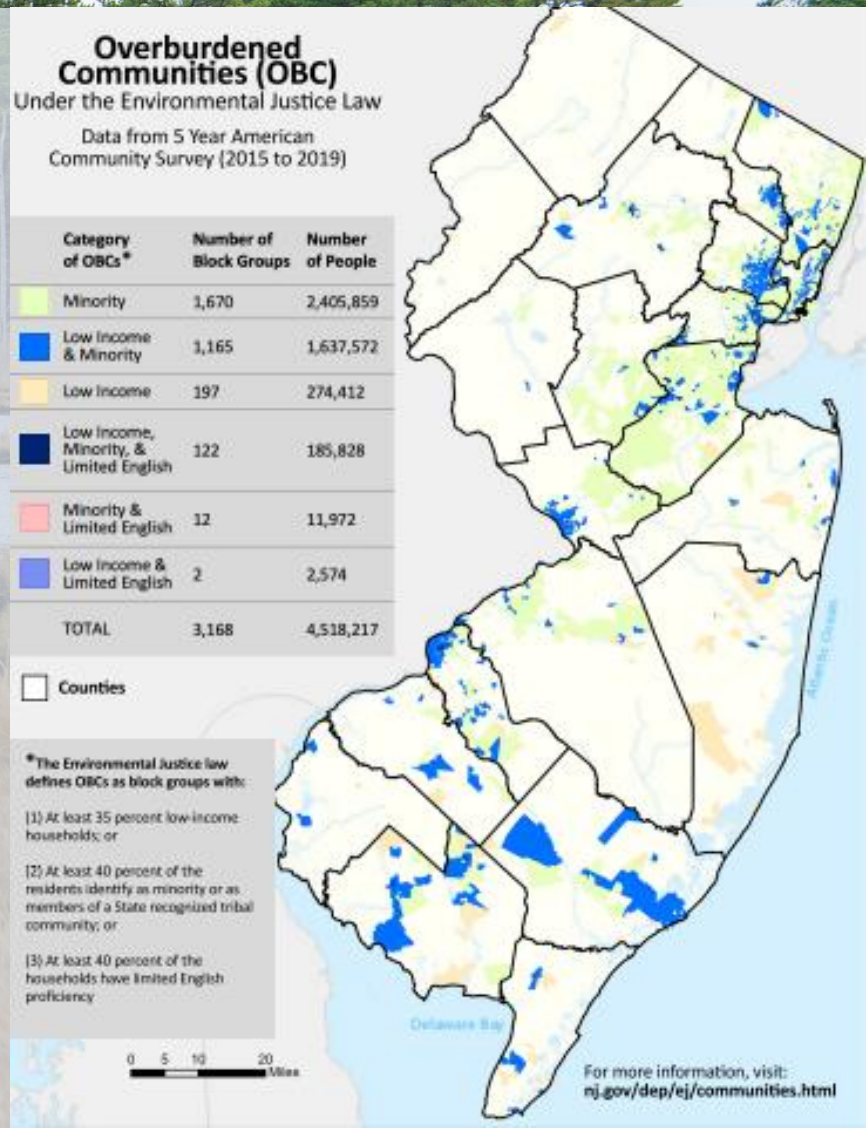
Selection Criteria

- **Project Applicability** (10 points)
- **Carbon Sequestration Potential** (15 points)
- **Project is in, or benefits, an Overburdened Community(ies)** (15 points)
- **Project Readiness/Constructability** (10 points)
- **Capability** (10 points)
- **Budget** (10 points)
- **Cost Effectiveness** (15 points)
- **Leverage** (8 points)
- **Schedule** (10 points)
- **Co-benefits** (15 points)

List of Overburdened Communities

Consult the list and map of NJ OBC:

https://www.nj.gov/dep/ej/communities.html



Co-benefits & Co-benefit Tools

- Benefits an Overburdened Community*
- Restores/Enhances Priority Community Green Space*
- Creates New Outdoor Recreation Space*
- Creates an aesthetic benefit (through viewshed protection or restoration, restoration of a blighted or barren area)*
- Increases public safety (through restoration of a nuisance area) and/or increases Resilience (through erosion control, shore protection, flood reduction or storage, energy dissipation, runoff reduction)*
- Improves opportunities for swimmable and drinkable water*
- Provides or retains historical and cultural value*
- Enhances habitat connectivity*
- Reduces urban heat island effect (reduction of impervious surface, increase in shade)*
- Promotes Tree Equity*
- Addresses priorities in the Forest Action Plan or Wildlife Action Plan
- Other

*Links to Mapping tools provided

Grant Processing Timeline

Grantee Responsibilities

Data & Reports:

- Quarterly Progress and Financial Reports
- Adaptive Management and Monitoring Reports
- Ownership/Proprietary Rights; Data and Geographical Information System (GIS) Requirements
- Construction Completion Report
- Final Reports

Other Requirements of Grantees:

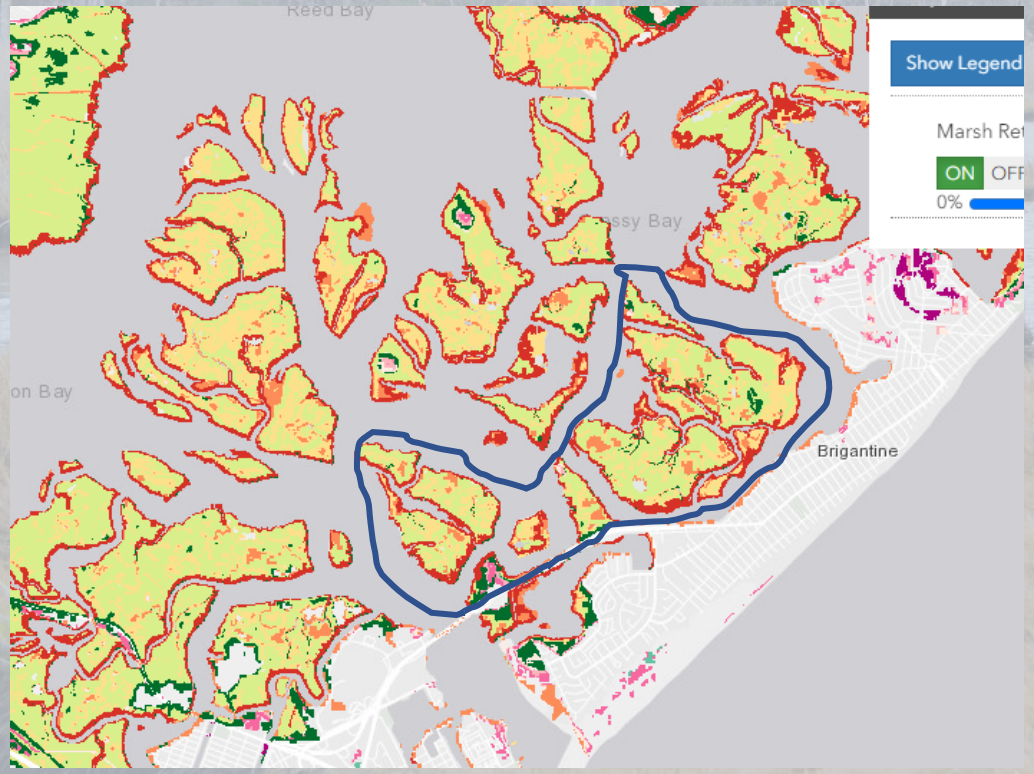
- Adaptive Management and Monitoring Plan
- Maintenance Agreement
- Landowner Agreement/Conservation Easement/Deed Restriction


Questions?

Baseline Data Required for Proposals

Baseline Data Submission – Blue Carbon

1. Submit a map of your site showing the "Marsh Retreat (Combined)" classification of the predicted effects of sea level rise.



NJ Flood Mapper Tool
https://www.njfloodmapper.org/

Layer project boundary on top.

Baseline Data Submission – Blue Carbon

2. Fill out all the baseline data tables that apply to your project types

Living Shorelines

Tidal Salt Marsh Vegetation Restoration

Restoring Tidal Flows

Submerged Aquatic Vegetation Restoration

Baseline Data Submission – Blue Carbon

Living Shorelines projects:

Living Shorelines	Value	Data Source
Salinity (ppt) [1]		
Length of shoreline to be restored/protected (ft) [2]		
Historic rate of erosion (ft/year) [3]		
Acres of marsh lost per year (historic erosion rate in ft *length in ft/43560)		
Target plant species		
Acres of vegetated marsh that will be added by the project		

[1] Ideally measured several times in nearest tidal water body using a refractometer or digital handheld meter. An estimate can also be found in the Living Shoreline app of the Coastal Resilience Mapper: https://maps.coastalresilience.org/newjersey/

[2] Can be measured in GIS (ESRI or Google Earth)

[3] Ideally measured in GIS (ESRI or Google Earth) comparing historic to current aerial photos or shoreline change rate estimates can be found in the regional planning layers of the Coastal Resilience Mapper: https://maps.coastalresilience.org/newjersey/

Baseline Data Submission – Blue Carbon

Restoring Tidal Flows projects

Restoring Tidal Flows	Value	Data Source
Current salinity of site (ppt) [1]		
Proposed salinity as a result of restoration (ppt)		
Acres of marsh that will have this increased salinity as a result of the project		
Acres of vegetated marsh that will be added by the project		

[1] Needs to be measured at the site several times using a refractometer or handheld meter.

Baseline Data Submission – Blue Carbon

Tidal Salt Marsh Vegetation Restoration projects

Tidal Salt Marsh Vegetation Restoration	Value	Data Source
Acres of vegetated marsh that will be added by the project		
Salinity (ppt) [1]		
Target plant species		

[1] Ideally measured several times in nearest tidal water body using a refractometer or digital handheld meter. An estimate can also be found in the Living Shoreline app of the Coastal Resilience Mapper: https://maps.coastalresilience.org/newjersey/

Baseline Data Submission – Blue Carbon

Submerged Aquatic Vegetation Restoration projects

SAV	Value	Data Source
Salinity (ppt)[1]		
Acres of SAV to be added by the project. (Note, must plant areas; If increasing density of vegetation, increased SAV cover)		
Plant species being planted		

[1] Ideally measured several times in nearest tidal water body using a refractometer or digital handheld meter. An estimate can also be found in the Living Shoreline app of the Coastal Resilience Mapper: https://maps.coastalresilience.org/newjersey/

Baseline Data Submission – Blue Carbon

3. (Optional) If carbon densities, sequestration rates, or methane emissions have been measured at the site:

Carbon Sequestration	Value	Data Source
Metric Tons (tonnes) of Carbon Sequestered per cubic meter/year		
Metric Tons (tonnes) of Carbon stored in the top cubic meter		
Methane emission rate (MT CH4/ meter/ year)		


Questions?

Baseline Data Submission – Green Carbon

Forest and Woodland Restoration Projects

Urban Forest Canopy and Water Quality Enhancement Projects

Baseline Data Submission – Green Carbon

Forest and Woodland Restoration Projects

1) **Complete a full forest or stand inventory**;

2) **Run the U.S. Forest Service Forest Vegetation Simulator (FVS) model for three scenarios***
   - a “no management” run,
   - a “management” run specific to your proposed project,
   - and a “forest carbon risk” run; and

3) **Write a synopsis of the carbon benefits** of your proposed project using numbers from the FVS outputs resulting from the proposed management activities.

***Attach a database file** that includes each FVS management run and the associated tables.
https://www.fs.fed.us/fvs/

Baseline Data Submission – Green Carbon

Notes on completing a full forest or stand inventory:

Forest inventories should include overstory, advanced regeneration, and understory data. Ensure that there are enough inventory plots to provide 15% sampling error at 68% confidence for stand basal area to adequately support carbon allometries.

Overstory Inventory Data to Include (Trees are >4" DBH):

- Tree ID
- Tree Species
- Tree Diameter at Breast Height
- Tree Height
- Tree Age
- Tree Growth in the past 10 years

Advanced Regeneration Data to Include (1/50th acre plots - "Advanced Regen" are tree species <4" DBH):

- Species
- Number of stems per species

Understory Data to Include (1/500th ac plots):

- Tree Seedling Species
- A count of tree seedlings, by species

Baseline Data Submission – Green Carbon

Notes on Forest Vegetation Simulator Models:

We are looking for 3 distinct projected management runs:

- No Management Run – this should be the baseline for evaluating the forest project area assuming forest growth continues out to the year 2050 uninterrupted with no management prescribed
- Management Run – this should represent the specific management activities proposed for this project including forest carbon growth projected out to year 2050
- Forest Carbon Risk Run – this should include a worst-case scenario of perceived risk to forest carbon including potential damage, recovery, and growth projected out to the year 2050

Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

1) **Have or conduct an urban inventory and run an ecological services analysis utilizing i-Tree eco**; and

2) Proposals must include i-Tree Eco reports on:

a. Annual Carbon Sequestration by Stratum
b. Carbon Storage of Trees by Stratum, and;
c. I-Tree Planting Report *only IF* your proposed project includes a street tree planting or park planting (not for reforestation projects)

***See Appendix A in RFP** for details on what data should be in these reports

Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

1) **Have or conduct an urban inventory and run an ecological services analysis utilizing i-Tree eco**;

   - Minimum data require for Eco analysis for carbon values:
     - Species
     - GPS Location
     - Diameter at Breast Height (DBH)

- I-Tree Eco can accept previously completed inventories in Excel format to be uploaded (See i-Tree Eco Manual v6)

- I-Tree Eco is a free software that can be downloaded from https://www.itreetools.org

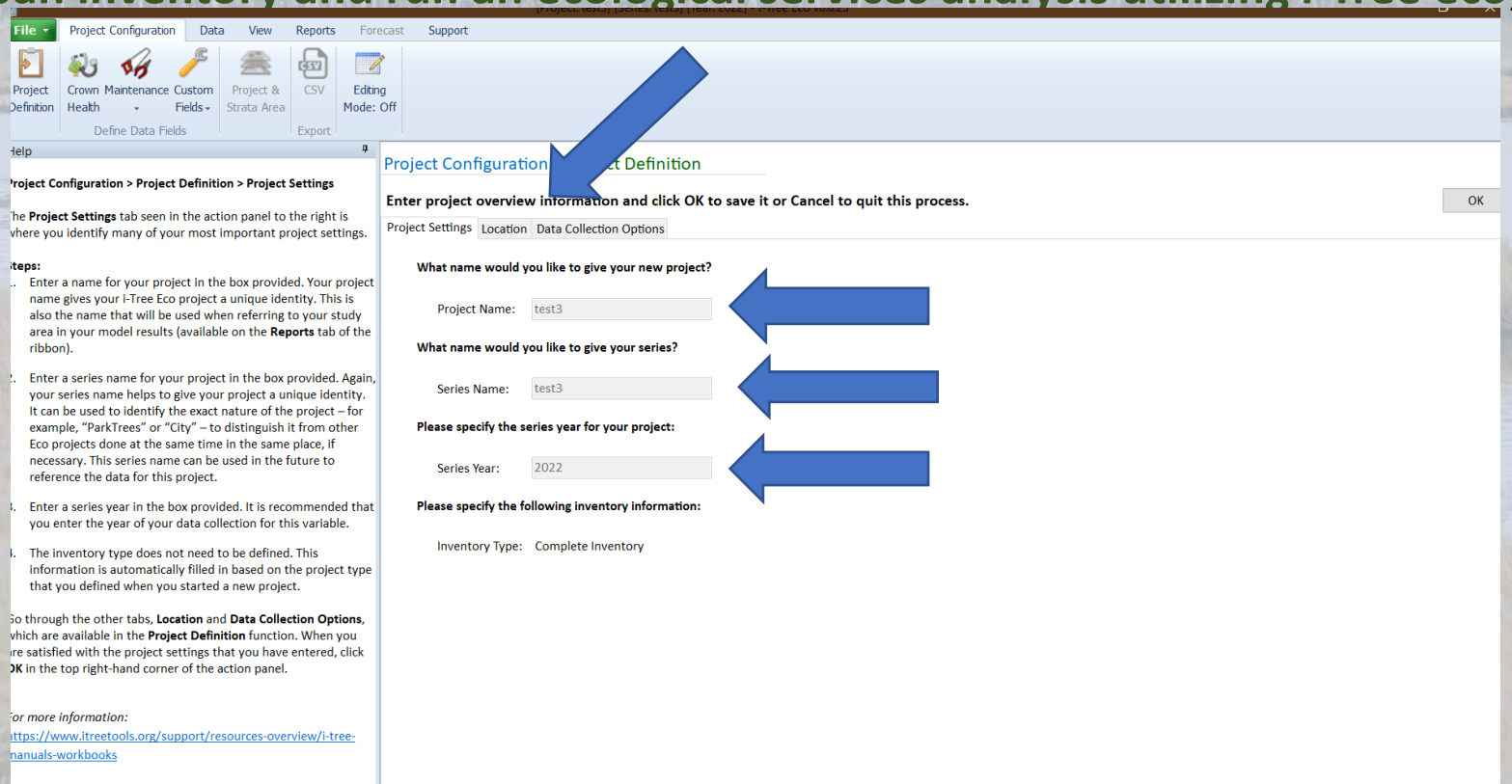
Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

1) Have or conduct an urban inventory and run an ecological services analysis utilizing i-Tree eco;

Setting up I-Tree Eco:

- After downloading the i-Tree software open and start a new project using the green file menu top left corner
- Save it and Name it so you can remember where and what the file is



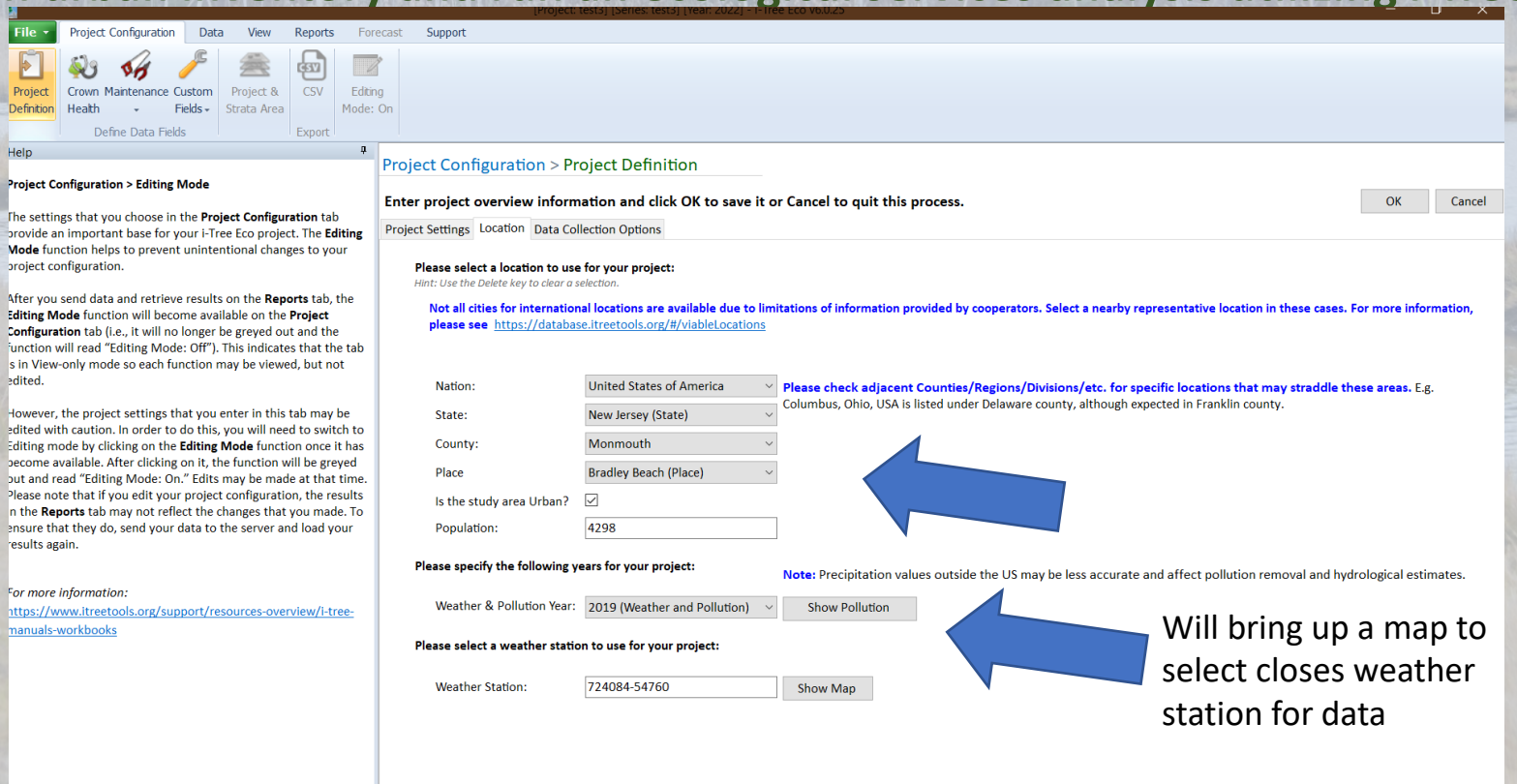
Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

1) Have or conduct an urban inventory and run an ecological services analysis utilizing i-Tree eco;

Setting up I-Tree Eco:

Fill out your municipal information following the prompts and select the weather station for modeling pollution data



Will bring up a map to select closes weather station for data

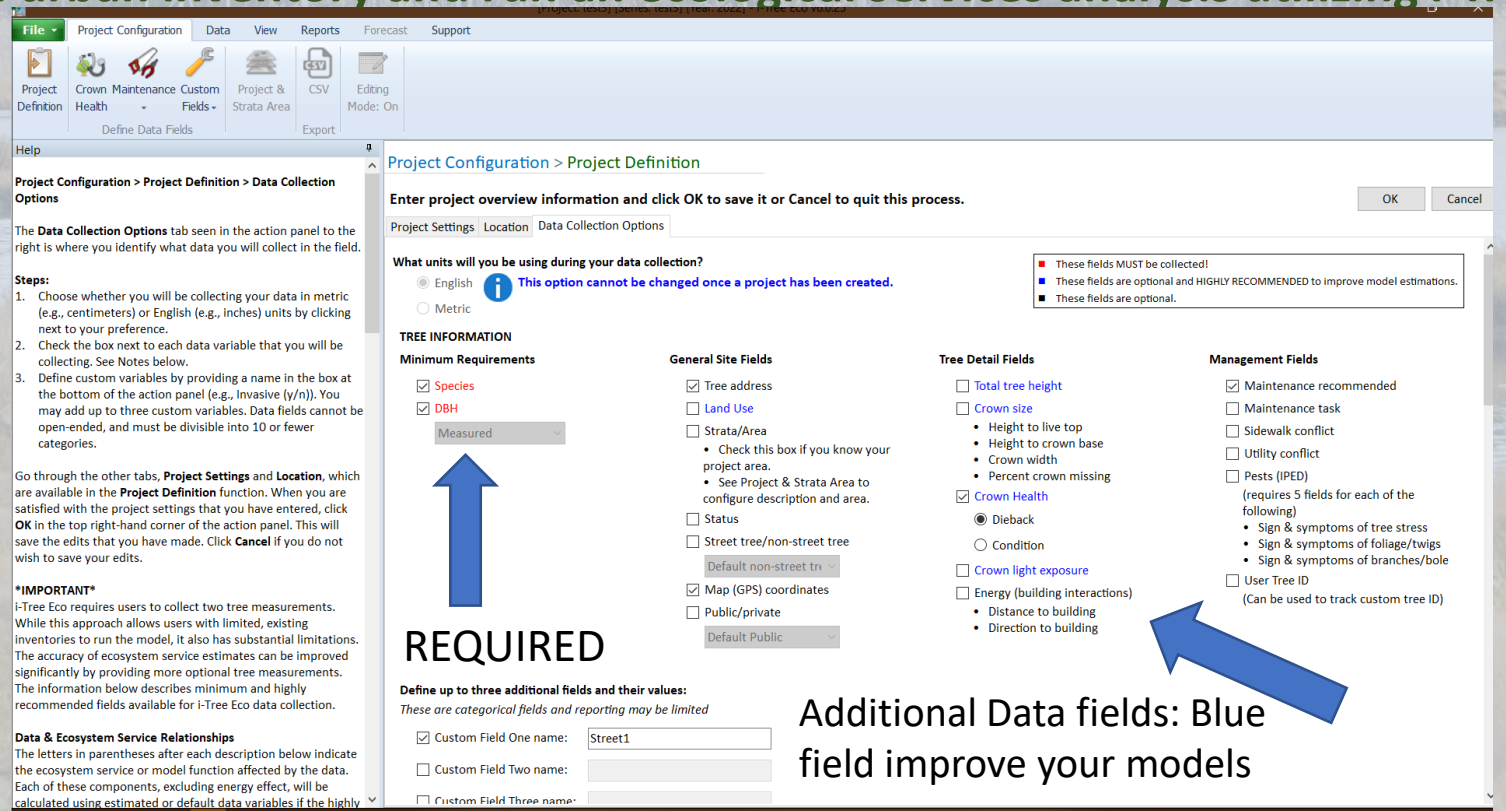
Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

1) Have or conduct an urban inventory and run an ecological services analysis utilizing i-Tree eco;

Setting up I-Tree Eco:

- Select the data field that are going to be collected: remember the minimum being location, species and DBH
- Click Ok to Save and follow prompts to get collection link



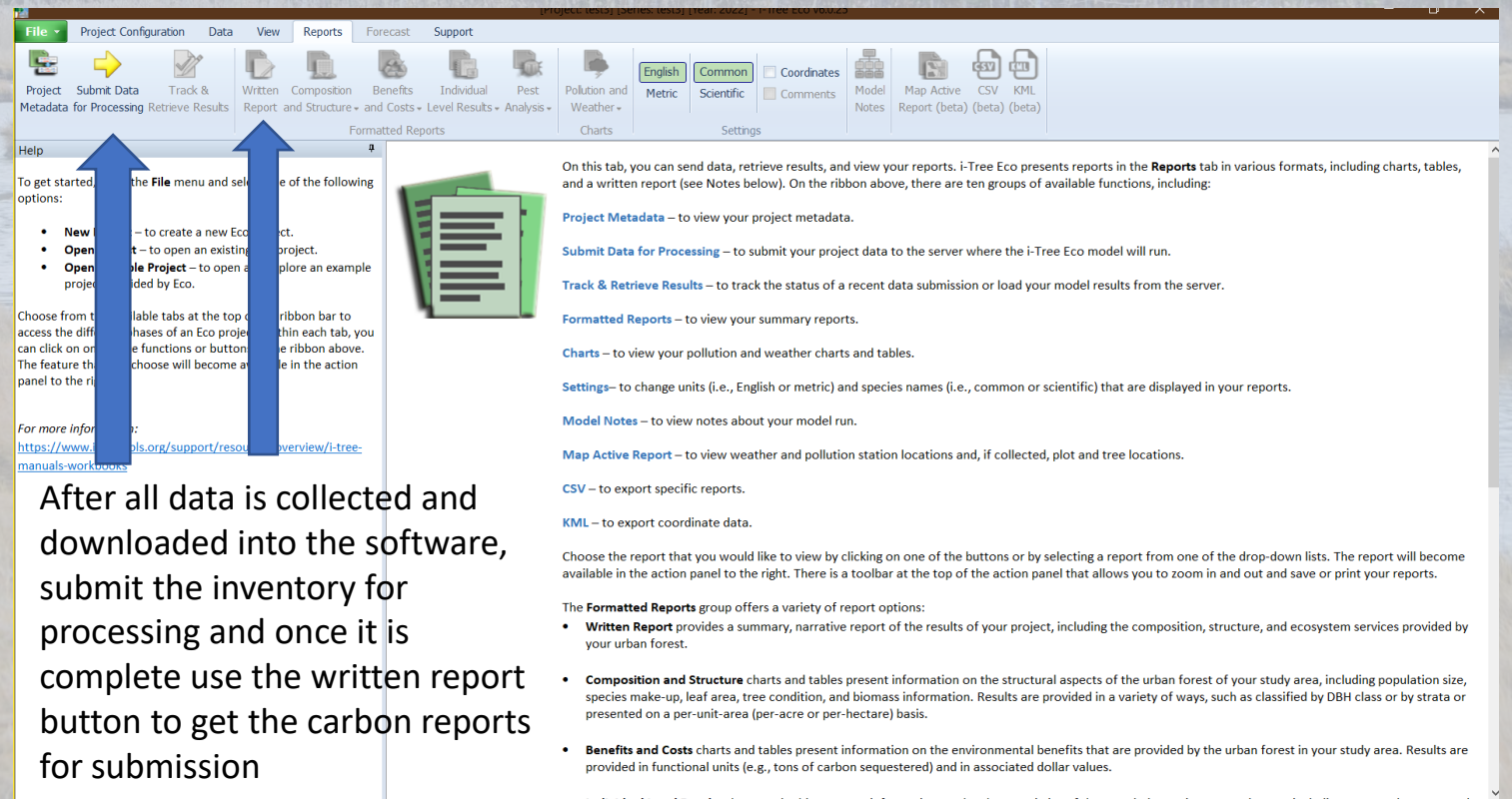
Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

2) Proposals must include i-Tree Eco reports on:

1. Annual Carbon Sequestration by Stratum

2. Carbon Storage of Trees by Stratum

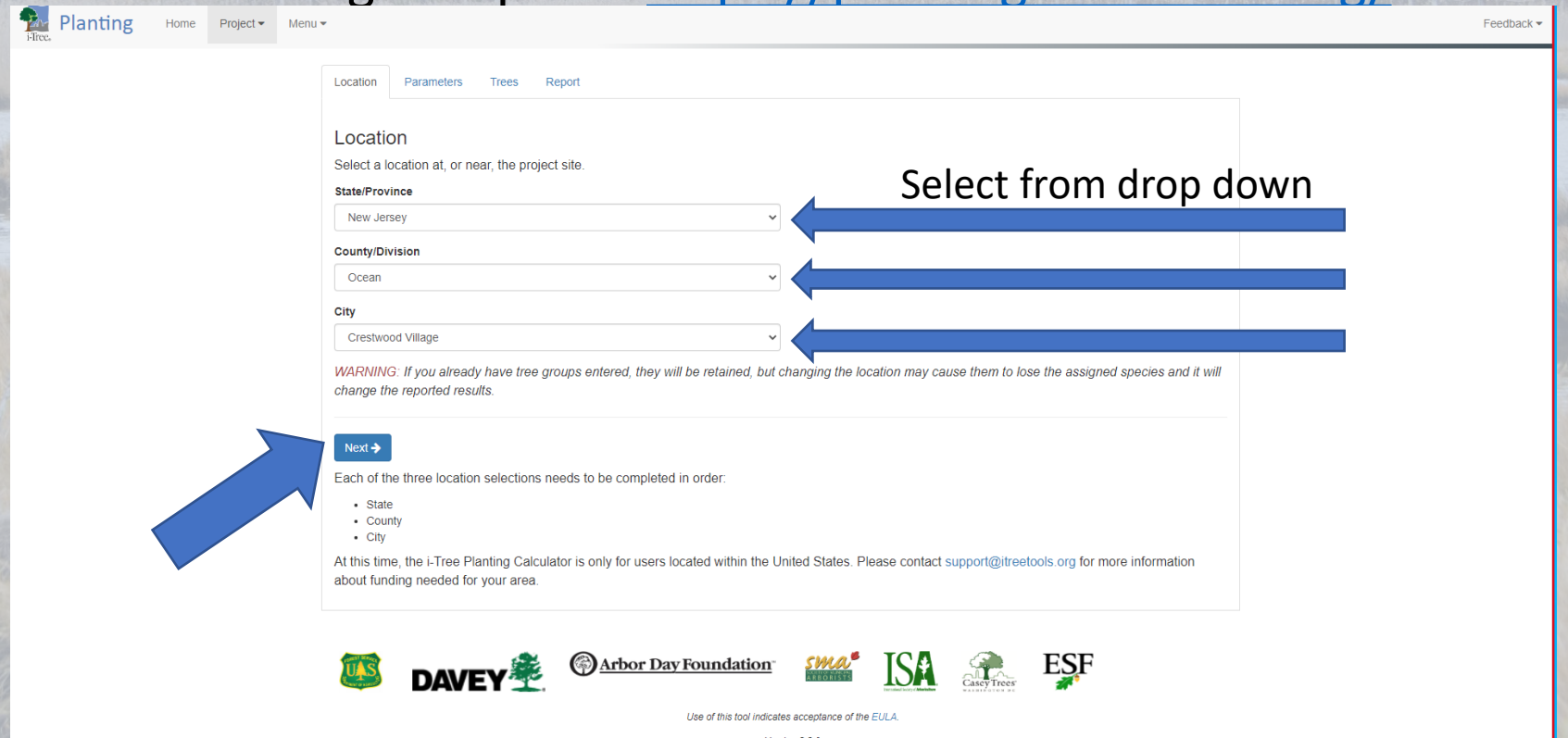


After all data is collected and downloaded into the software, submit the inventory for processing and once it is complete use the written report button to get the carbon reports for submission

Baseline Data Submission – Green Carbon

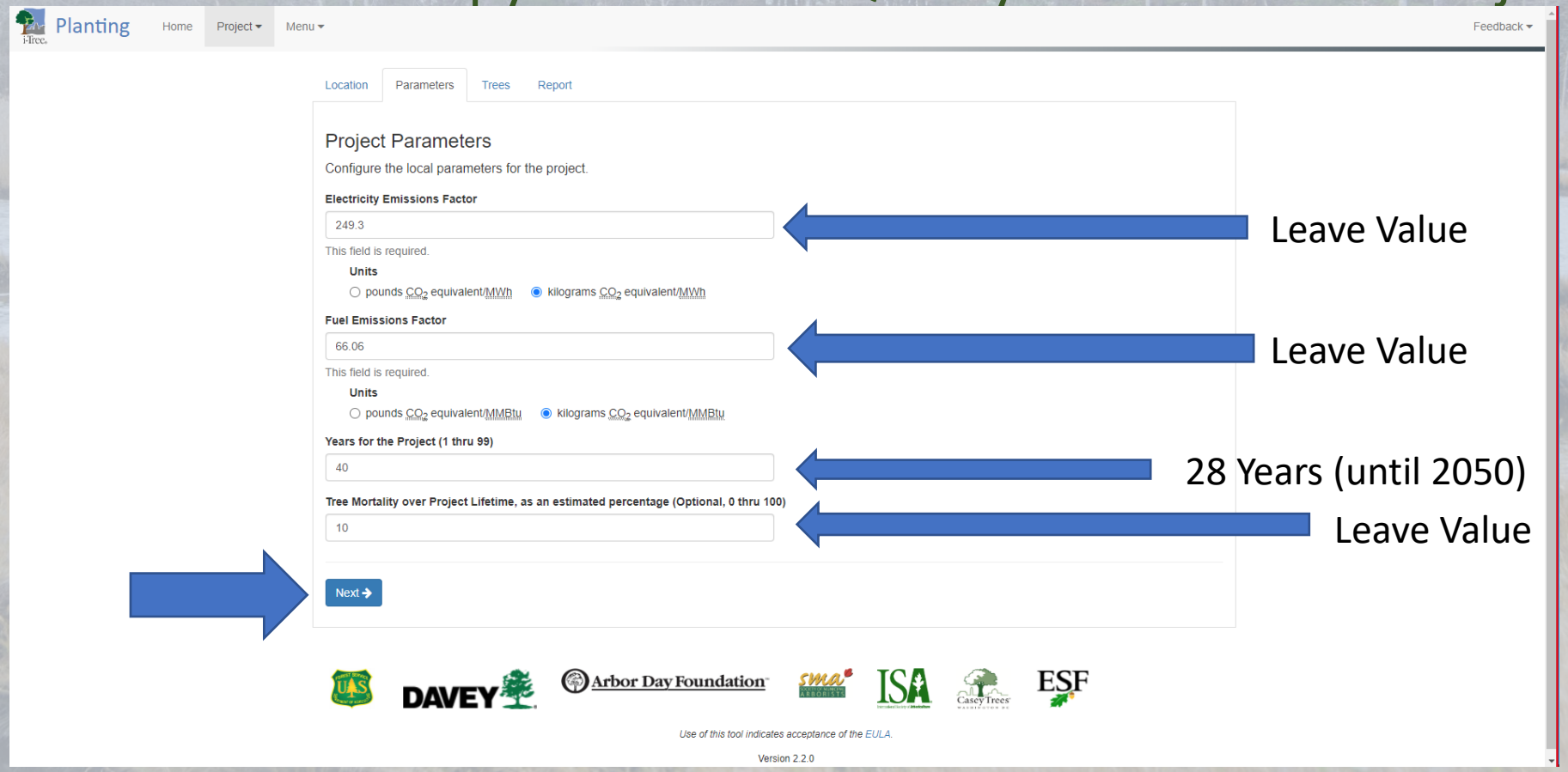
Urban Forest Canopy and Water Quality Enhancement Projects

- I-Tree Planting Setup https://planting.itreetools.org/



Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

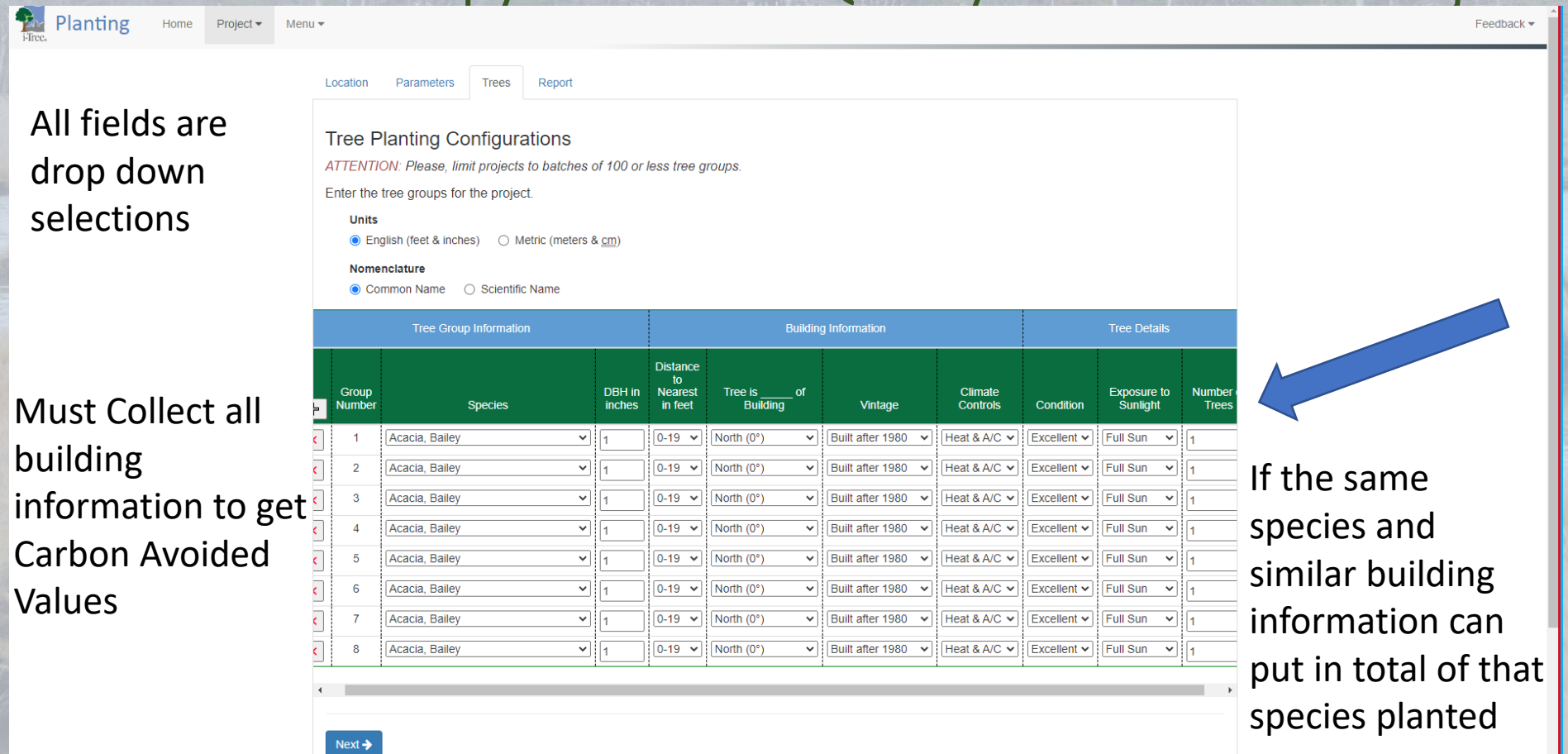


Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

All fields are drop down selections

Must Collect all building information to get Carbon Avoided Values



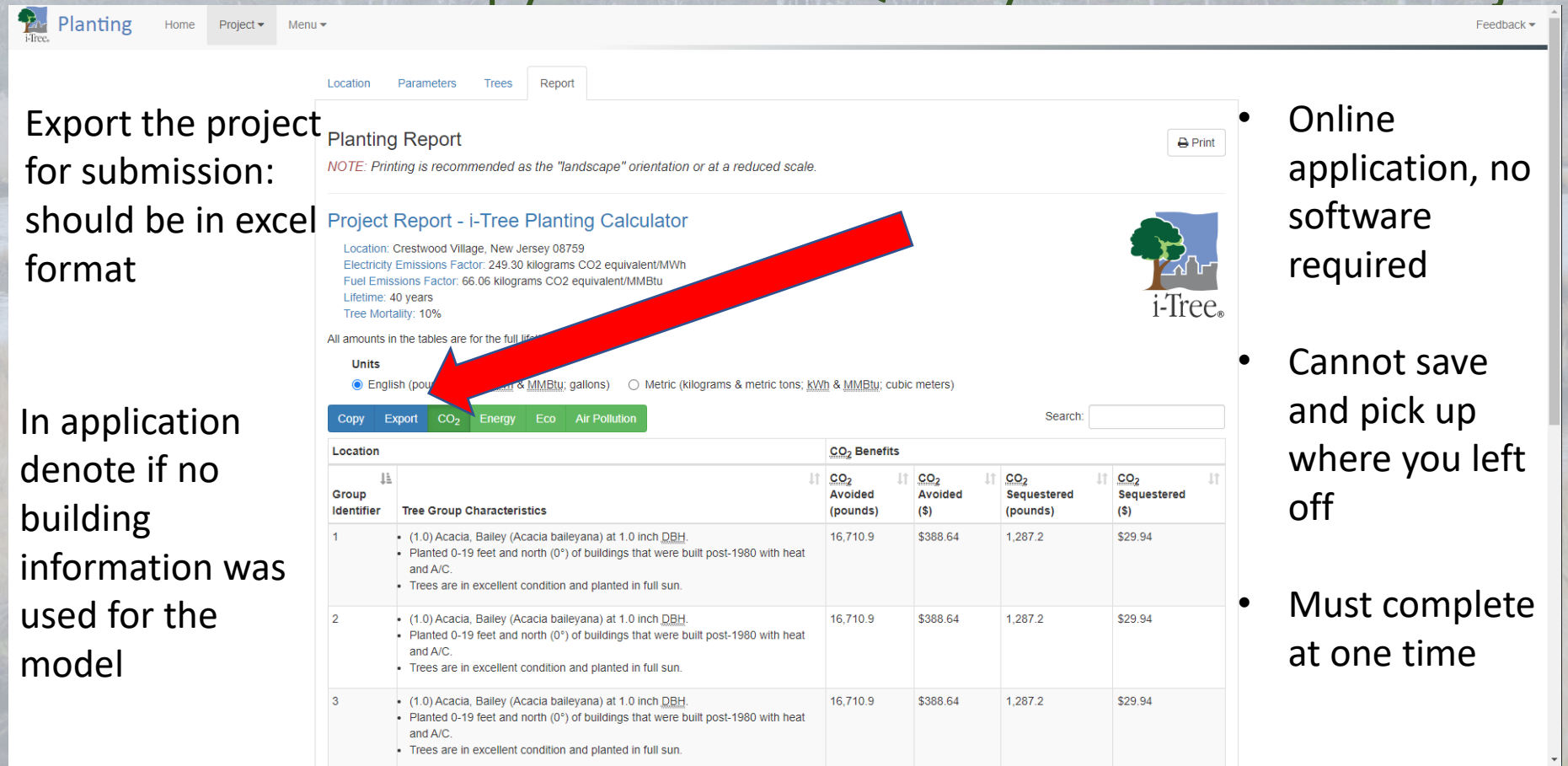
If the same species and similar building information can put in total of that species planted

Baseline Data Submission – Green Carbon

Urban Forest Canopy and Water Quality Enhancement Projects

Export the project for submission: should be in excel format

In application denote if no building information was used for the model

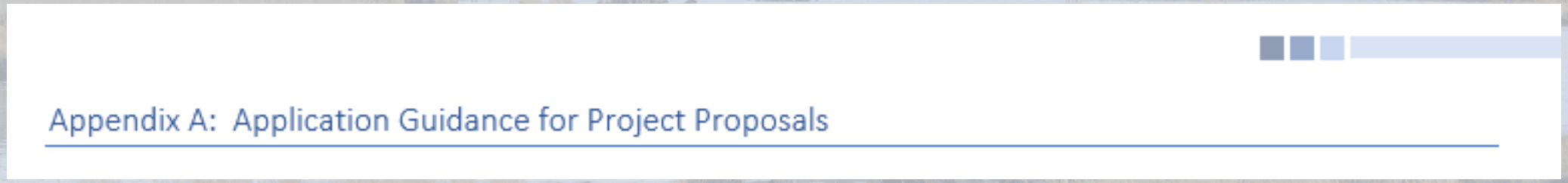


- Online application, no software required
- Cannot save and pick up where you left off
- Must complete at one time


Questions?

Application Guidance for Proposals

See Appendix A in RFP for detailed guidance on how to complete all required submissions for project proposals in NJDEP SAGE.



Questions, Comments or Issues

NJRGGI@dep.nj.gov