A Tour of the Northeastern Forest Inventory Network (NEFIN)

December 15th, 2022

FEMC Annual Conference

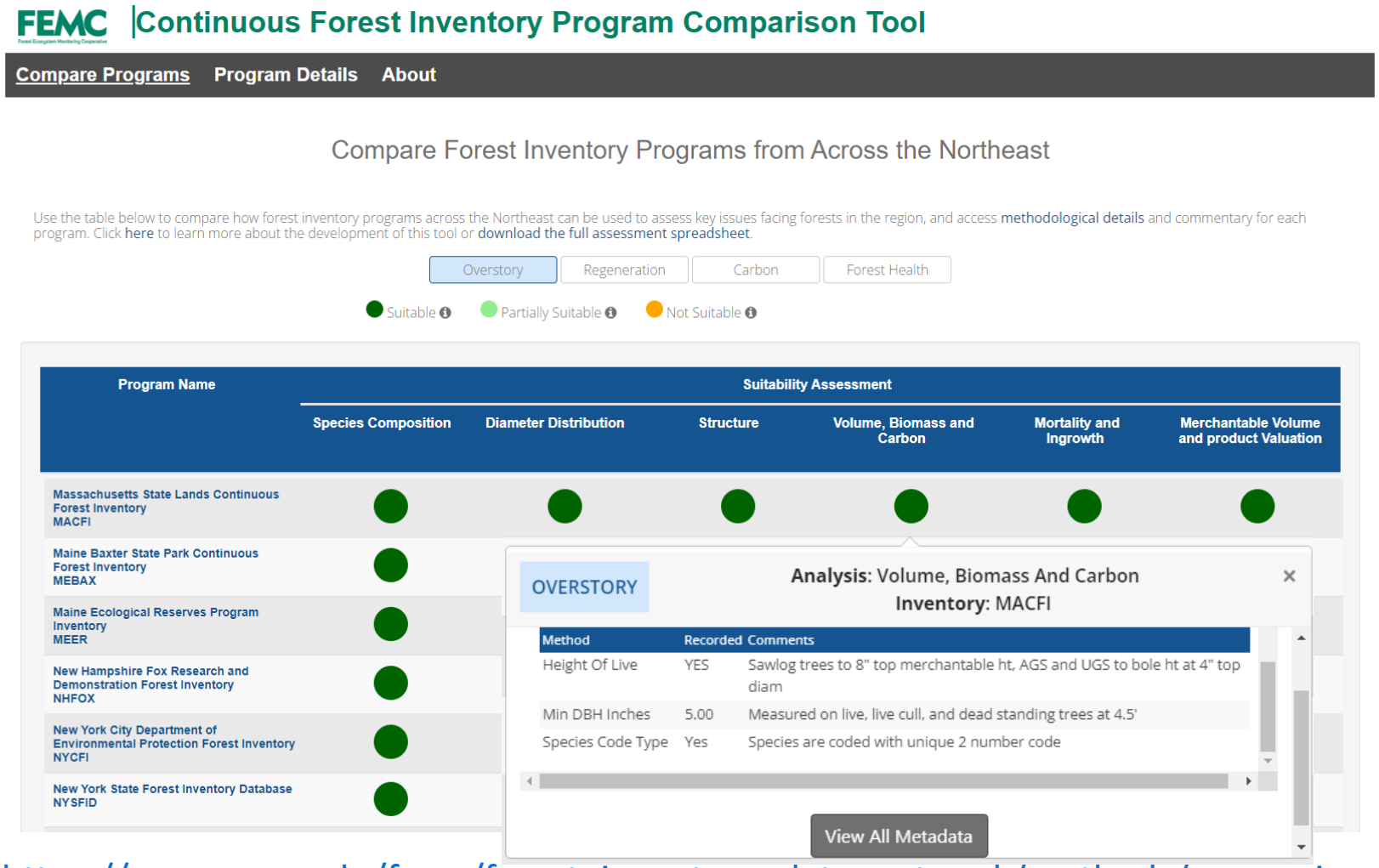
What is NEFIN?

- Searchable database for Continuous Forest Inventory (CFI) data from a variety of sources

Cadwell Memorial Forest Inventory	MA	1983 to present
Cape Cod National Seashore Forest Inventory	MA	2002 to present
FEMC Forest Health Monitoring	VT,NY,CT,RI,MA,ME,NH	1991 to present
Green Mountain and Finger Lakes National Forest Long Term Ecological Monitoring Program	VT,NY	2008 to present
Maine Baxter State Park Continuous Forest Inventory	ME	1964 to present
Maine Ecological Reserves Program	ME	2000 to present
Massachusetts Continuous Forest Inventory	MA	1960 to present
Massachusetts Hopkins Memorial Forest Inventory	MA	1977 to 2011
Massachusetts Quabbin Reservoir Continuous Forest Inventory	MA	unknown to present
New Hampshire Fox Research and Demonstration Forest Inventory	NH	unknown to present
New York City DEP Continuous Forest Inventory	NY	2008 to present
Northeast Temperate Network Biological Inventory	ME,VT,NH,NY,CT,MA	2006 to 2016
State University of New York Forest Properties Continuous Forest Inventory	NY	1970 to present
Vermont North American Maple Project	VT	1988 to present
Vermont State Lands Continuous Forest Inventory	VT	2015 to present

What is NEFIN?

- Precursor to NEFIN – Assessment of methodologies from various CFI programs



https://www.uvm.edu/femc/forest_inventory_data_network/methods/comparison

FEMC Continuous Forest Inventory Program Comparison Tool

Compare Programs | Program Details | About

View Detailed Inventory Methodology by Program

Select a program on the right to view detailed assessments of its methodology and comparability for certain types of analyses, or download the full assessment spreadsheet.

Massachusetts State Lands Continuous Forest Inventory

The MACFI program consists of a network of 1761 plots located on State Forest lands across Massachusetts. Established in the 1960s, these permanent fixed radius plots have been remeasured multiple times since they were established. This program is maintained by the Massachusetts Department of Conservation and Recreation.

Link to Program Page: https://www.mass.gov/files/documents/2016/08/pz/cfi-manual-2014-t.pdf

Attribute	Recorded	Comments	Related Analysis
General Information (14)			
BAF			None
Collection Period	1960-2016	Collected in 1960, 1965, 1980, 2000, 2013, 2015, 2016	None
Exp Factor	Yes	1/5th acre plot	Diameter Distribution; Standing Dead (Snag) Density
Plot Density Known	Yes	Aprox 1plot/200ac. Plots are layed out in a grid system.	None
Plot Layout	Circular	Circular plots include 4, 6' sub plots located at cardinal directions to sample regeneration and percent vegetation cover. Three coarse woody debris line transects are also located within the circular plot.	None
Plot Number	1761		None
Plot Size Square Feet	8725.11	Radius equals 52.7 feet	Diameter Distribution
Plot Type	Fixed		Diameter Distribution
Overstory (15)			
Crown Class	Yes	0-5 see manual. 0= Dead, cut, or missing, 1=Open grown, 2= DOM, 3=CD, 4=I, 5=O or S	None
Min DBH Inches	5.00	Measured on live, live cull, and dead standing trees at 4.5'	Diameter Distribution; Volume, Biomass and Carbon
Tree Status	Yes	1: New tree; 2: Repeat tree, 3: Dead sound standing; 4: Dead standing partially decayed; 5: Standing dead, decayed; 6: Dead, downed, sound; 7: Dead, downed, partially decayed; 8: Dead, downed, decayed; 9: Dead, missing	Insects/Diseases; Tree Health
Overstory Analysis (10)			
Sapling Analysis (3)			

Programs

- MACFI
- MEBAX
- MEER
- NHFOX
- NYCFI
- NYSFID
- NYSTANDS
- VTCFI
- VTSHAW
- NETN

https://www.uvm.edu/femc/forest_inventory_data_network/methods/analysis

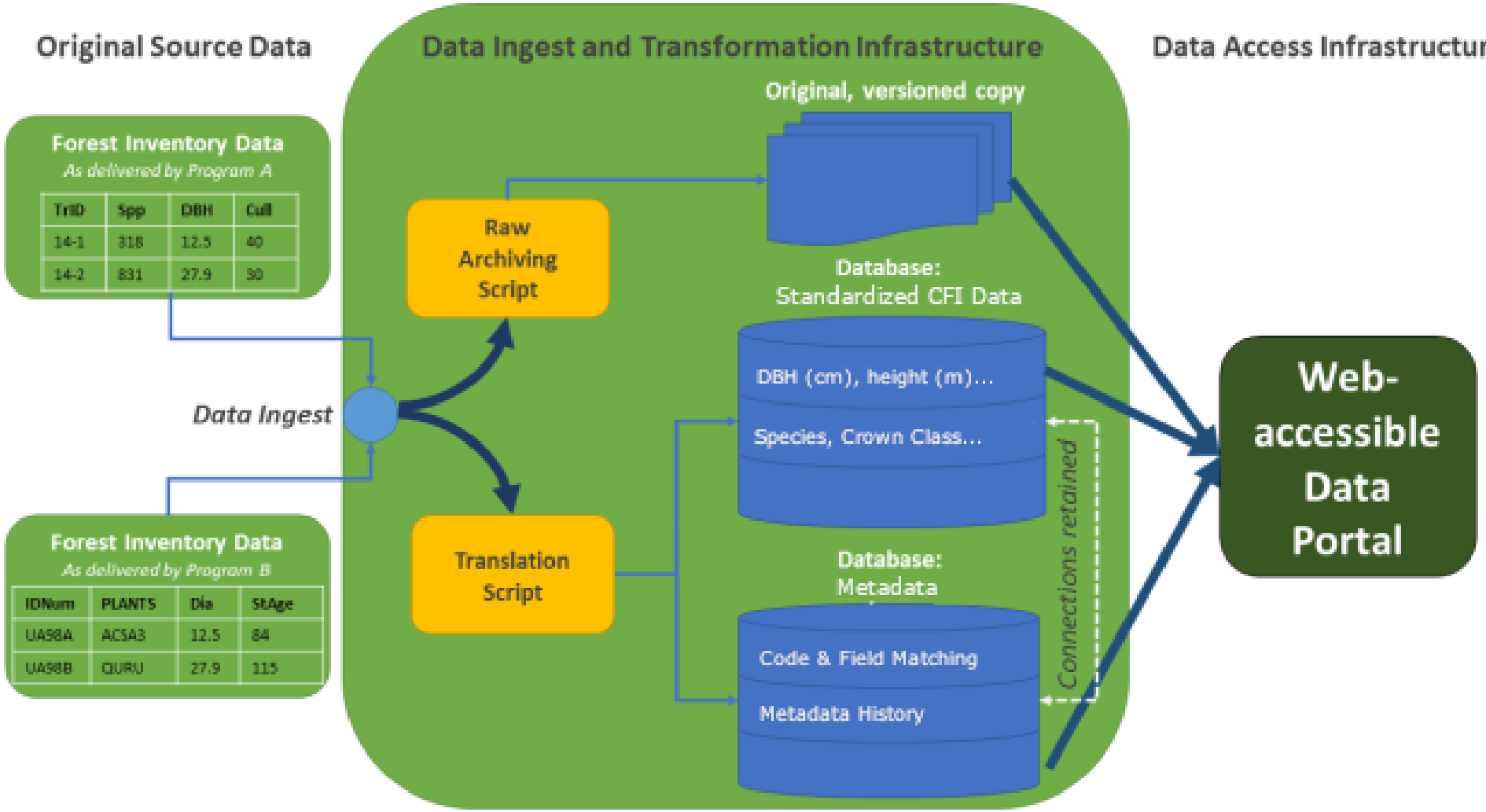
NEFIN St

- Which metrics

fldName	fldDatasetFieldName	fldCondition	fldThreshold	fldConditionJoin
Vermont North American Maple Project	DIEBACK	>	50	or
Vermont North American Maple Project	VIGOR	>	3	or
State University of New York Forest Properties Continuous Forest Inventory	VIGOR	>	2	and
Northeast Temperate Network Biological Inventory	Total_Foliage_Condition	>	2	and
Massachusetts Continuous Forest Inventory	BIOLOGICAL_LOSS_AGENTS	>	0	or
Massachusetts Continuous Forest Inventory	MECHANICAL_LOSS_AGENTS	in	1,2,3,4,5,6,50,51,75,76	or
Maine Ecological Reserves Program	DmgType	>	0	and
Green Mountain and Finger Lakes National Forest Long Term Ecological Monitoring Program	DamageType	in	1,2,3,4,5,11,12,13,20,21,22,23,24,25,31	and
FEMC Forest Health Monitoring	Vigor	in	3,4,5,8	or
FEMC Forest Health Monitoring	Dieback	>	55	or
FEMC Forest Health Monitoring	Defoliation	>	0	or
FEMC Forest Health Monitoring	Discoloration	>=	2	or
Cadwell Memorial Forest Inventory	VIGOR	<=	2	{null}

Metr			
DBH			
Height			
Plot Fuzz Lo			
Plot Fuzz La			
Tree Specie			
Tree Sample Y r	Year of measurement	tree	0
Tree ID	Tree identifier	tree	0
Forest Health Impacts	Fields indicating tree health concerns	tree	0
Plot Sample Year	year plot was sampled	plot	0
Plot ID	Plot identifier	plot	0
Sample Year	year sapling was sampled	sapling	0
Plot Type	Type of plot (fixed, etc..)	program	0
Plot Size	Size of plot	program	0
Plot Shape	Shape of plots (circle, square etc)	program	0
Plot Area	Area of plot	program	0
Basal Area Factor	Basal Area Factor if using prism	program	0
Tree Plot Expansion Factor	Tree Plot Expansion Factor (hectare)	program	0
Latitude	Latitude or Y or North/South value for plot location depending on coordinat	plot	0

NEFIN Data Processing



NEFIN Data Processing

1. Upload Files | 2. Match Fields | 3. Check Code Lists | 4. Quality Checks | 5. Ancillary Files | 6. Review and Submit

Upload Files

Program: 'FEMC Forest Health Monitoring'

Select files to be uploaded for the new version of your data. The files listed are specific to your program. If your file types or formats have changed, please contact FEMC.

Update Years

Years that will be updated by this data: * required

Choose years

☐ Please check this box to confirm these are the fields associated with IDs and dates/years in your uploaded files:

NEFIN Field	Dataset Field Name
Plot ID	Plot_SubplotID
Plot Sample Year	Year_YYYY
Tree ID	TreeID
Tree Sample Year	Year
Sapling ID	SaplingID
Sample Year	Year
Seedling Species	Species
Seedling Size Class	Size_Class
Seedling Sample Year	Year

*Contact FEMC if these are not correct and you are changing these fields with this upload.

Individual Files

Plot File: Choose File No file chosen

Last update: Z0017_Plot.csv

NEFIN Data Processing

Valid ranges for QC:

- Tree DBH: 10cm-300cm
- Sapling DBH: 2.54cm to 10cm
- Tree Height: 0cm – 5000 cm

*if a program has different definitions we will honor those