

# Conservation Focus Areas and Adaptable Parcel Prioritization In the MassConn Sustainable Forest Regional Conservation Partnership

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and Coordinator for the MassConn RCP

And

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And Consulting G.I.S. Specialist



A project made possible by the support of:

- The Jessie B. Cox Charitable Trust
- The Norcross Wildlife Foundation

And in partnership with:

- The New England Forestry Foundation
- The American Forest Foundation



### The MassConn RCP:

- 38 Towns in Ct. and Ma.
- 760,000 acres
- 76% of the region, 581,000 acres, is forested
- 23% is currently protected (177,000 acres)

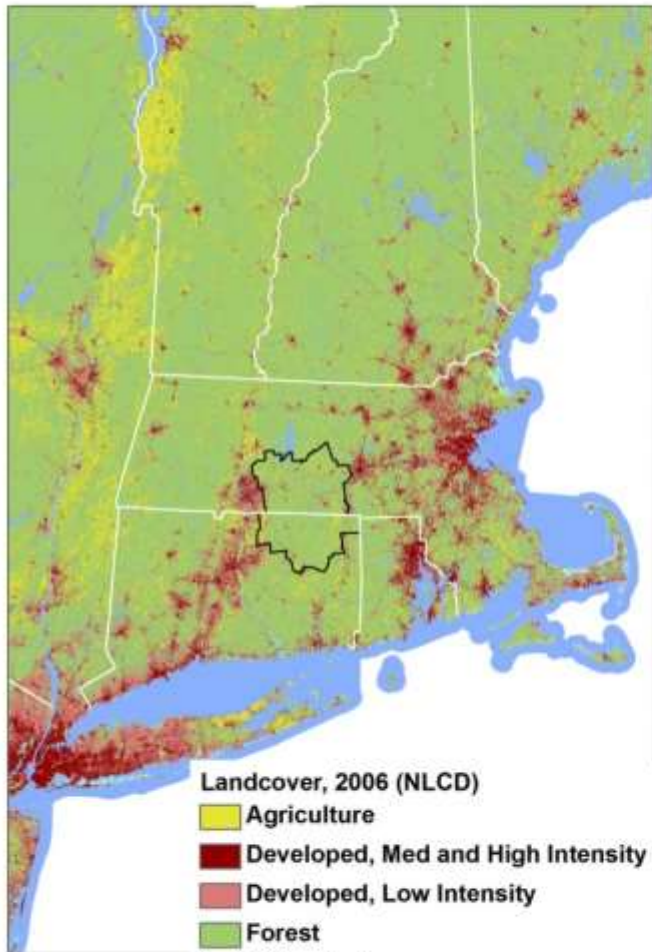
### 2012 Conservation Goals:

- 80,000 acres of new conservation land – which with current conservation land, would be 256,000 acres, or 33% of the region.

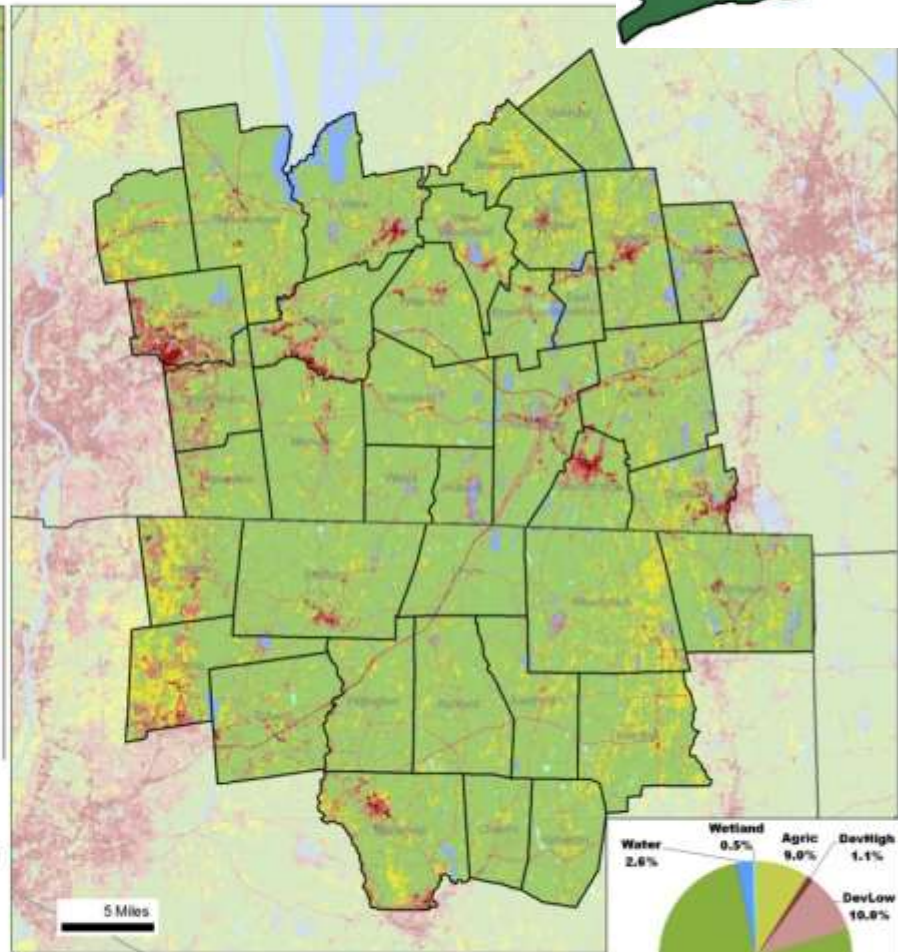


Map information courtesy of Highstead and the Harvard Forest. 4/12/2010

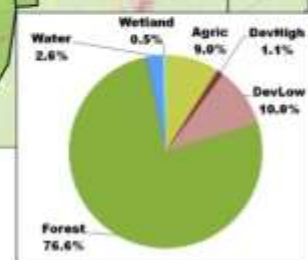
# Mass-Conn Regional Conservation Partnership Land Cover Types, 2006



- Landcover, 2006 (NLCD)**
- Agriculture
  - Developed, Med and High Intensity
  - Developed, Low Intensity
  - Forest
  - Other, Unknown
  - Water
  - Wetland



Drain Hall, Harvard Forest, dmhall@fas.harvard.edu, 878-756-6154, Date Saved: 10/1/2012; NLCD LULC.mxd

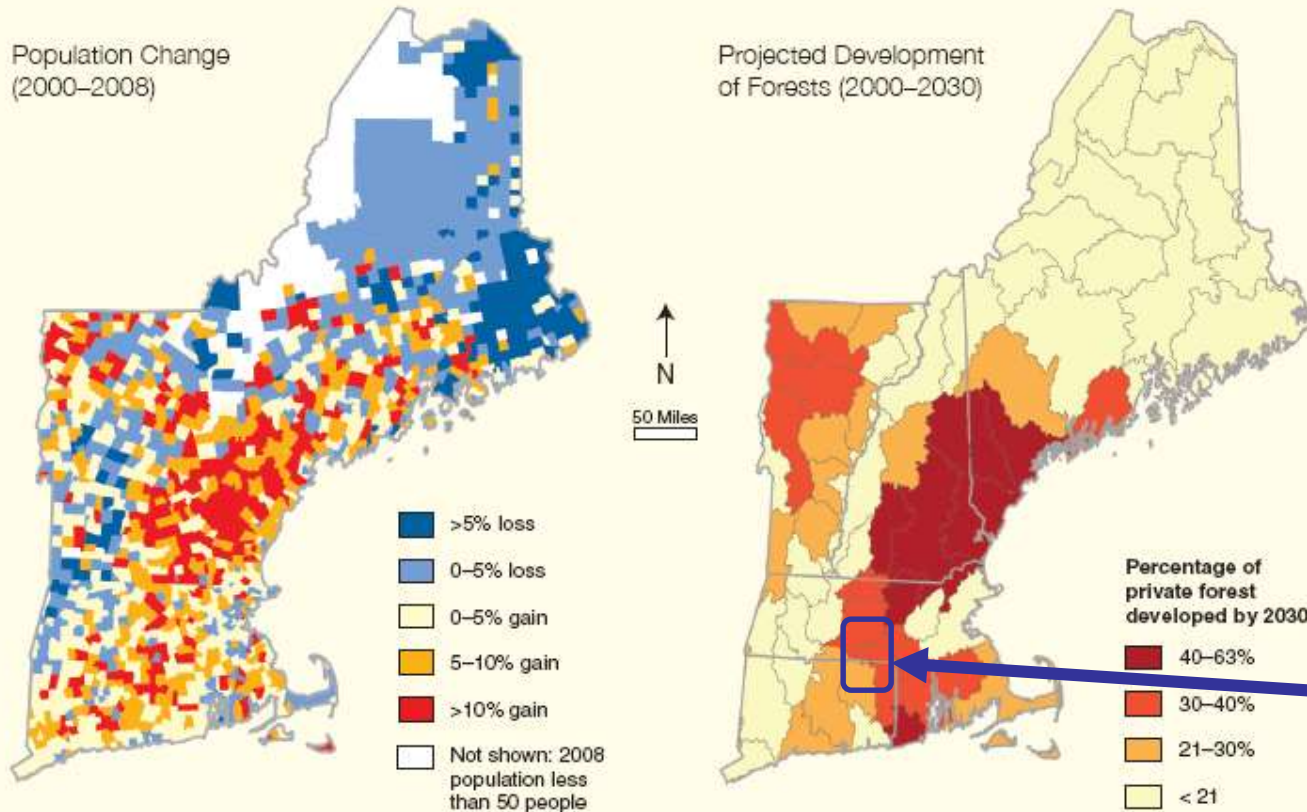




# Wildlands and Woodlands

## Projected Forest Loss to Development

Recent Population Change and Future Development of Forest Land



*By 2030, 40 to 63% of forests in highly populated areas will be lost to development.*

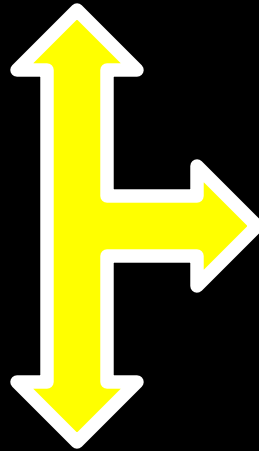


# MassConn Parcel Prioritization Project

1) Land Owner Database (LODB)

2) GIS Parcel Layer Conservation Criteria

3) Regional Partnership Focus Areas



## Project-Level:

- Prioritization (People and Parcel)
- Land Owner contact mgmt.
- Grant-specific support for RCP.
- Grant-specific support for individual partners.

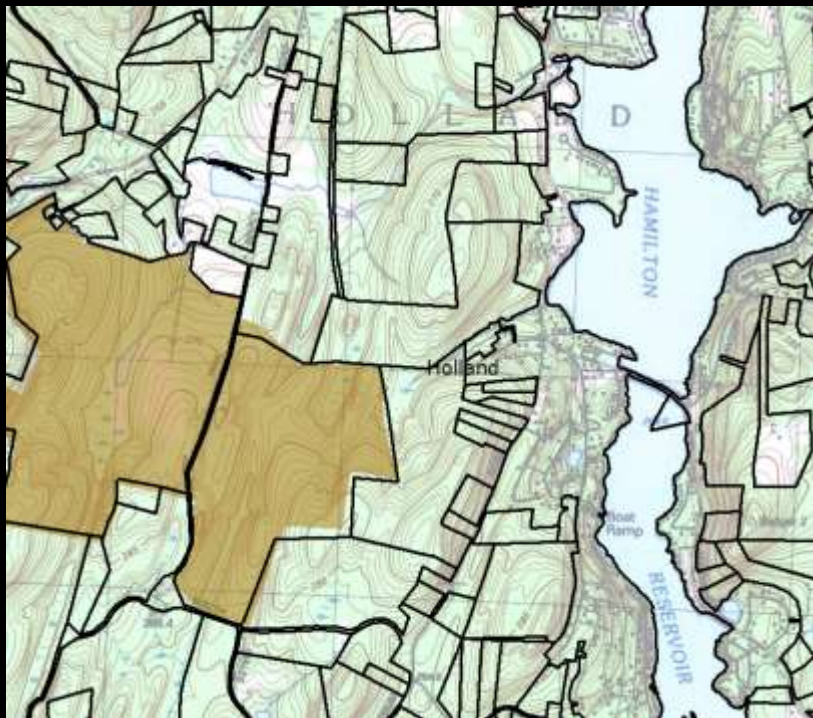
## MassConn Region-Level:

- Conservation value rankings and priorities across the whole partnership.
- Regional case for conservation need.

# What Information Will Be In The GIS Parcel Layer:

## 2) GIS Parcel Layer Conservation Criteria

1. Owner Name
2. Mail Address
3. Parcel Address
4. Map, Block, Lot
5. Index of Ecological Integrity
6. Terrestrial TNC Resilience
7. NHESP/Rare Species Habitat
8. Regional Flow Score
9. BioMap2 Acres
10. Regional Flow Yes/No
11. Acres of Water or Wetlands
12. Length of Streams and Rivers
13. Forest-Block Size
14. Agricultural Soils
15. Distance to Protected Open Space (POS)
16. Adjacent to POS
17. Trails (Linear Length in the Parcel)
18. In Long Island Sound Watershed?
19. Coldwater Habitat
20. IEI, Aquatic
21. State Wildlife Action Program (SWAP)
22. Forest Stewardship Plan Enrollment



# What does the parcel layer look like?

Draft, Conceptual graphic –

- Tables can be exported to Excel:

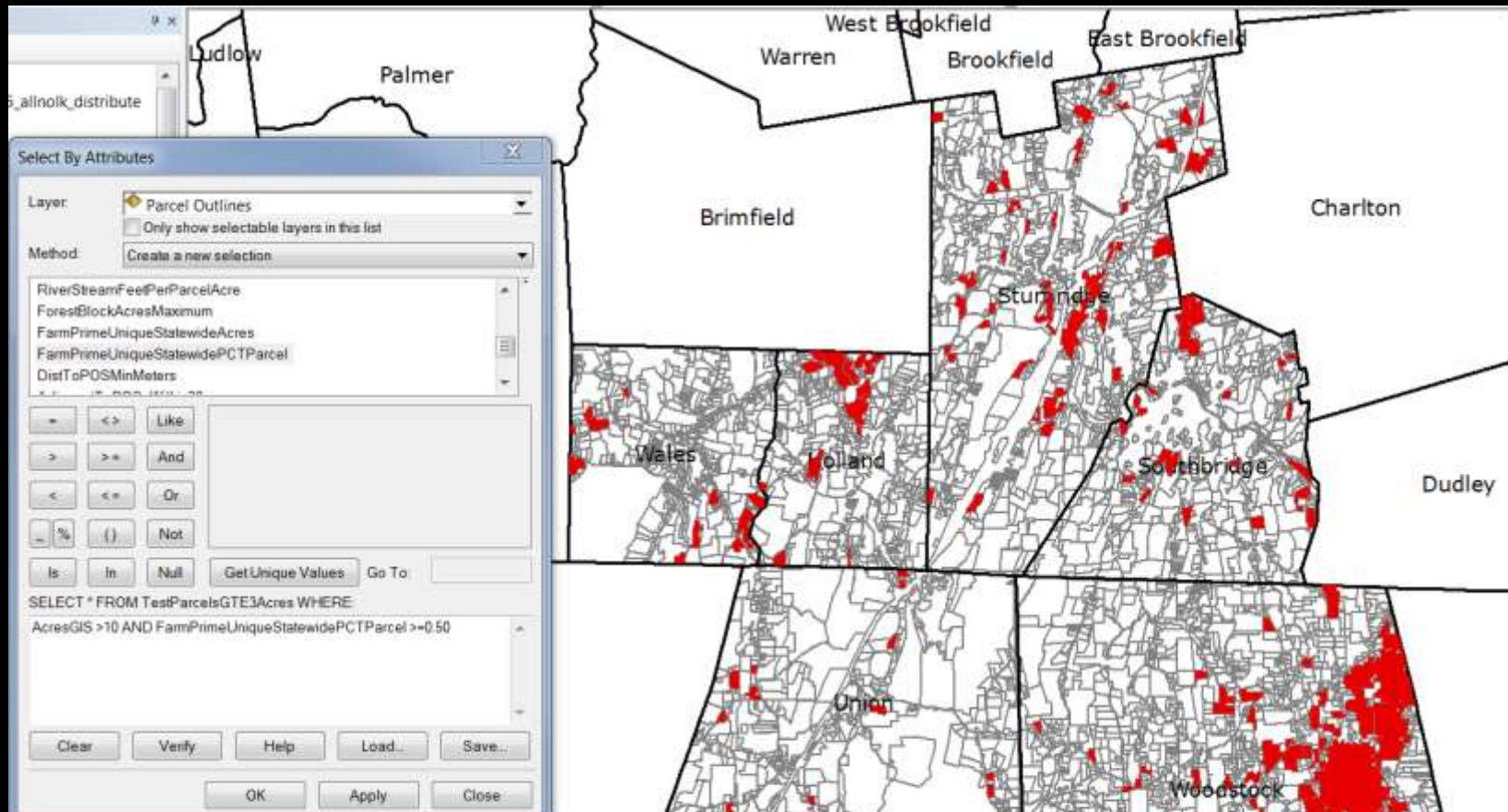
State	MassConnID	AcresGIS	IEIMeanScoreEcos	TNCResilienceMeanScore	Rare SppAcres	Rare SppPCTParcel	RegFlowMean	BM2CoreAcres	BM2CorePCTParcel	BM2CNLAcres	BM2CNLPCTParcel
MA	10_A_1	78.94	59.310458	0.92125	<Null>	<Null>	0.564634	10.146106	0.128533	50.712199	0.642431
MA	10_A_2	13.38	51.75	0.803333	<Null>	<Null>	0.2386	2.365588	0.176807	6.319061	0.472332
MA	10_A_3	85.79	62.825055	0.412167	<Null>	<Null>	0.294352	7.502662	0.087452	47.668378	0.555627
MA	12_A_8	84.37	40.467422	-0.263674	<Null>	<Null>	0.58685	5.218908	0.061854	18.499218	0.219252
MA	20_A_5	9.24	63.02439	0.96775	<Null>	<Null>	1.303634	<Null>	<Null>	<Null>	<Null>
MA	20_A_6	24.91	54.544643	-0.230083	<Null>	<Null>	0.678929	<Null>	<Null>	<Null>	<Null>
MA	20_B_1	3.74	31.545455	-3.7875	<Null>	<Null>	0.126875	<Null>	<Null>	<Null>	<Null>
MA	20_B_2	4.21	39.175471	-8	<Null>	<Null>	-0.20945	<Null>	<Null>	<Null>	<Null>
MA	20_B_4	35.21	39.126866	-1.362526	<Null>	<Null>	-0.165582	<Null>	<Null>	<Null>	<Null>
MA	20_C_18_1	3.42	32.0625	-0.056	<Null>	<Null>	0.51	<Null>	<Null>	<Null>	<Null>
MA	20_C_20	3.1	30.818182	-0.068	<Null>	<Null>	0.215	<Null>	<Null>	<Null>	<Null>
MA	22_A_1_3	4.86	36.904762	0.5975	<Null>	<Null>	1.362524	<Null>	<Null>	<Null>	<Null>
MA	22_B_2	25.61	49.010309	0.351727	<Null>	<Null>	-0.530593	<Null>	<Null>	<Null>	<Null>

WaterBodyWetla	StreamRiverFeet	RiverStreamFeetPerParcelAcres	ForestBlockAcresMaximum	FarmPrimeUniqueStatewideAcres	FarmPrimeUniqueStatewidePCTParcel	DistToPOSMinMeters	AdjacentToPOS_Within30m
<Null>	5201	65.887142	1405.090613	16.582146	0.210065	0	Adjacent (within 30m)
<Null>	548	40.958213	1405.090613	<Null>	<Null>	685.419556	No
<Null>	1687	19.66383	1405.090613	1.546623	0.018028	295.468729	No
<Null>	1589	18.832775	1405.090613	10.858667	0.128697	636.396118	No
<Null>	<Null>	<Null>	843.766033	<Null>	<Null>	713.091856	No
<Null>	<Null>	<Null>	843.766033	<Null>	<Null>	474.341644	No
<Null>	509	136.159967	43.589389	<Null>	<Null>	228.47319	No
<Null>	3	0.711977	43.589389	<Null>	<Null>	323.109894	No
0.05779	554	15.735419	43.589389	26.262539	0.745942	371.079498	No
<Null>	<Null>	<Null>	20.682716	<Null>	<Null>	766.615967	No
0.084531	190	61.27746	20.682716	<Null>	<Null>	891.964111	No
<Null>	179	36.840432	1405.090613	<Null>	<Null>	234.307495	No
0.216642	1691	66.04175	43.589389	13.312834	0.519931	67.062039	No



# Which parcels meet the criteria of a new grant RFP? Which landowners should we talk to?

A simple query example for high quality agricultural land:

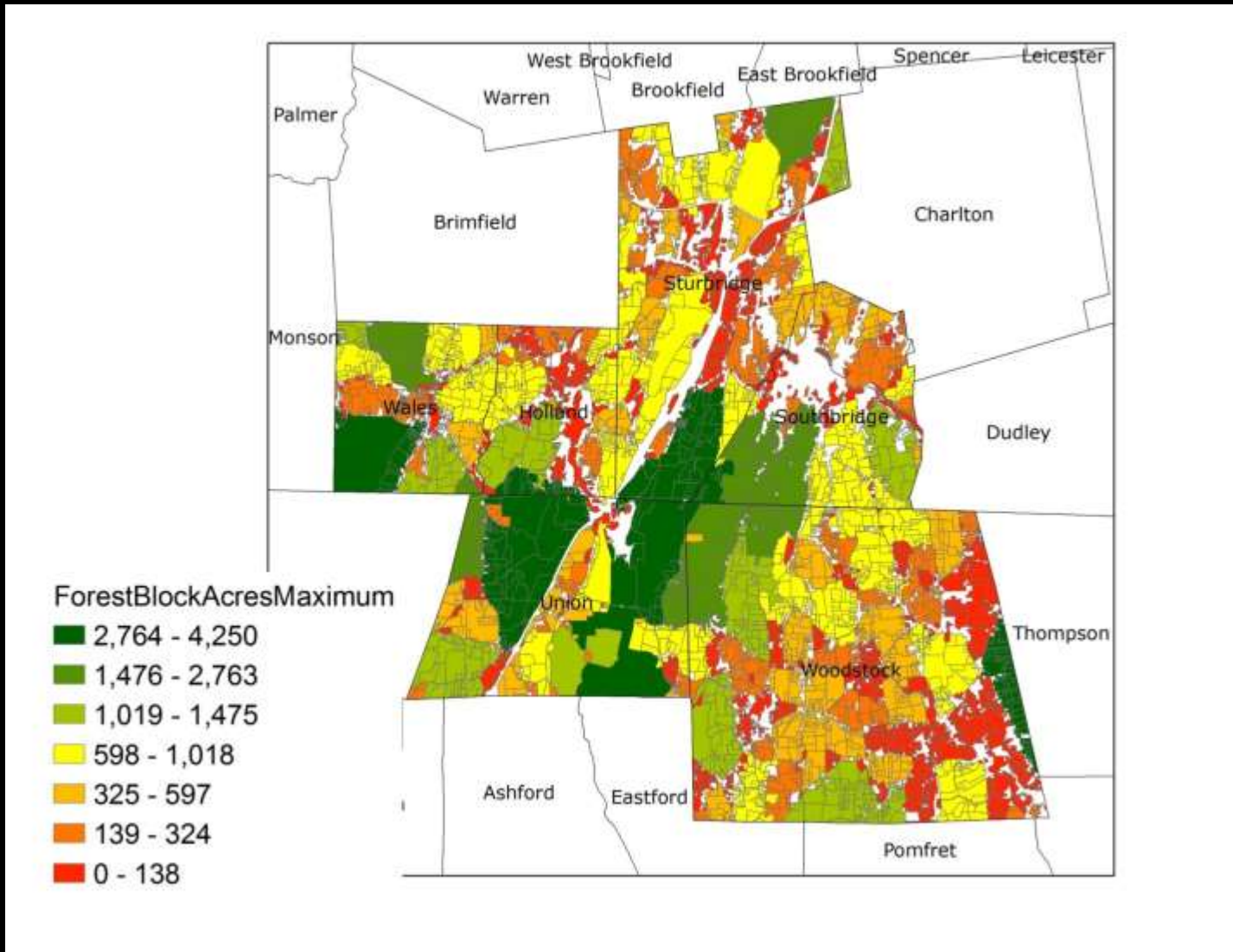


State	MassConnID	AcresGIS	IEIMeanScoreEcos	TNCResilienceMeanScore	RareSppAcres	RareSppPCTParcel	RegFlowMean	BM2CoreAcres	BM2CorePCTParcel	BM2CNLAcres	BM2CNLPCTParcel
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MA	10_A_2	13.38	91.75	0.853333	<null>	<null>	0.2386	2.365288	0.176907	6.318061	0.472332
MA	10_A_3	85.79	62.625065	0.412167	<null>	<null>	0.294392	7.582662	0.087492	47.668378	0.555627
MA	12_A_8	84.37	40.467422	-0.263674	<null>	<null>	0.58685	5.218608	0.061854	16.499218	0.219222
MA	20_A_5	9.24	63.02439	0.95776	<null>	<null>	1.303634	<null>	<null>	<null>	<null>
MA	20_A_6	24.91	54.544543	-0.230083	<null>	<null>	0.678929	<null>	<null>	<null>	<null>
MA	20_B_1	3.74	31.545455	-3.7876	<null>	<null>	0.126875	<null>	<null>	<null>	<null>
MA	20_B_2	4.21	39.176471	-0.4	<null>	<null>	-0.20945	<null>	<null>	<null>	<null>
MA	20_B_4	35.21	39.126896	-1.362526	<null>	<null>	-0.165582	<null>	<null>	<null>	<null>
MA	20_C_18_1	3.42	32.0825	-0.056	<null>	<null>	0.51	<null>	<null>	<null>	<null>
MA	20_C_20	3.1	30.818162	-0.068	<null>	<null>	0.215	<null>	<null>	<null>	<null>
MA	22_A_1_3	4.86	36.904762	0.5975	<null>	<null>	1.362524	<null>	<null>	<null>	<null>
MA	22_B_2	25.61	49.010309	0.351727	<null>	<null>	-0.530593	<null>	<null>	<null>	<null>



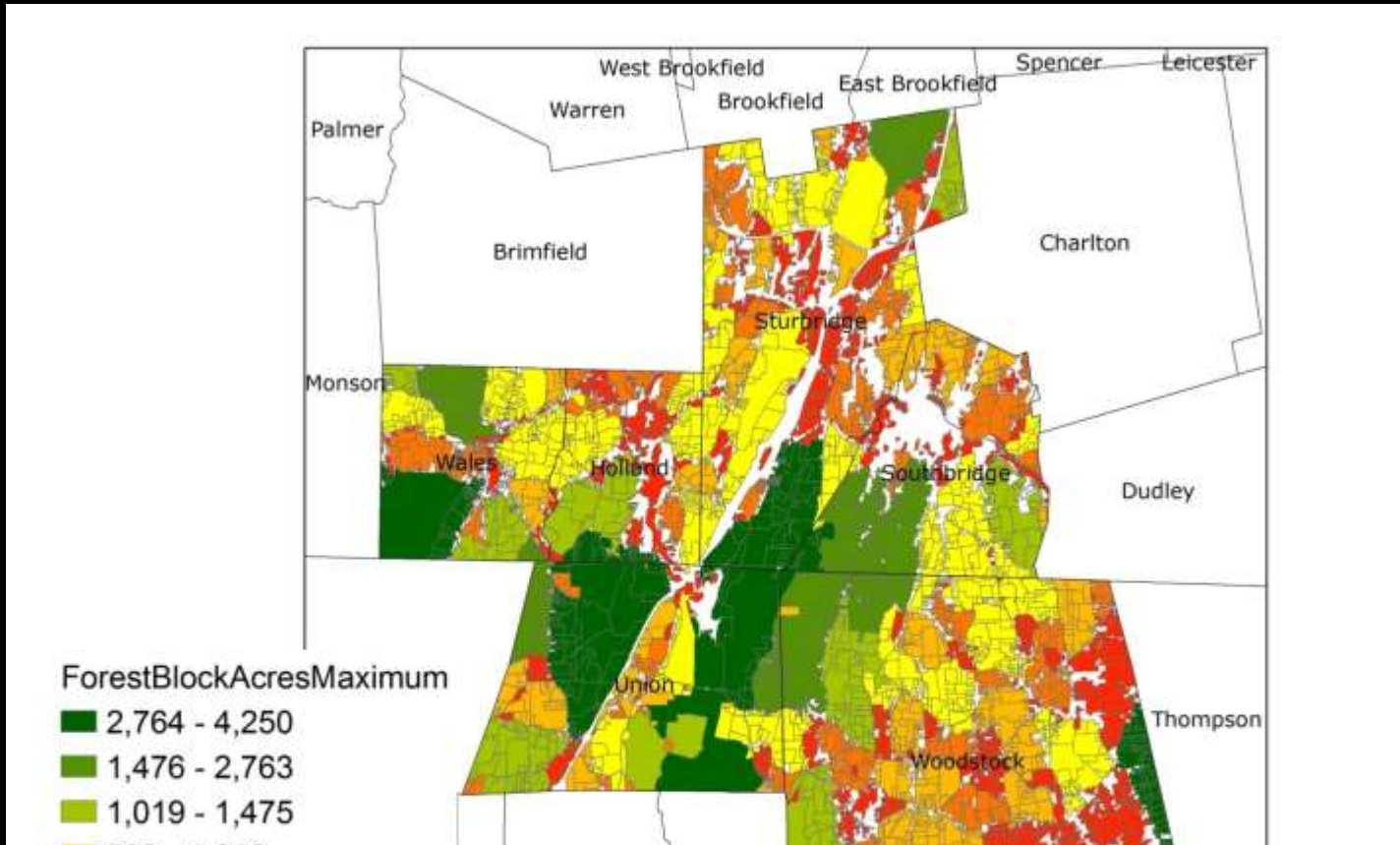
# Create thematic maps from one of 18 conservation data sets:

Forest Block size for a potential Forest Legacy application:



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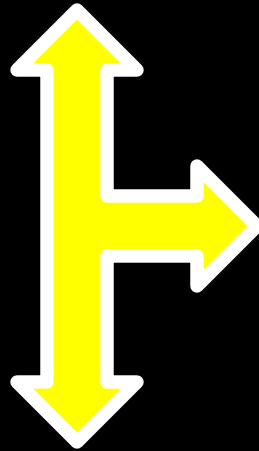


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MA	20_A_6	24.91	54.544643	-0.230093	<Null>	<Null>	0.678029	<Null>	<Null>	<Null>	<Null>
MA	20_B_1	3.74	31.545455	-3.7875	<Null>	<Null>	0.126875	<Null>	<Null>	<Null>	<Null>
MA	20_B_2	4.21	39.176471	-8	<Null>	<Null>	-0.20945	<Null>	<Null>	<Null>	<Null>
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MA	20_C_18_1	3.42	32.0625	-0.056	<Null>	<Null>	0.51	<Null>	<Null>	<Null>	<Null>
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## MassConn Parcel Prioritization Project

1) Land Owner  
Database (LODB)

2) GIS Parcel Layer  
Conservation  
Criteria



### Project-Level:

- Prioritization (People and Parcel)
- Land Owner contact mgmt.
- Grant-specific support for RCP.
- Grant-specific support for individual partners.



### 3) Regional Partnership Focus Areas

## MassConn Region:

- Unit is 30m cell
- Predefined Conservation-Value

## Rankings and Focus Areas

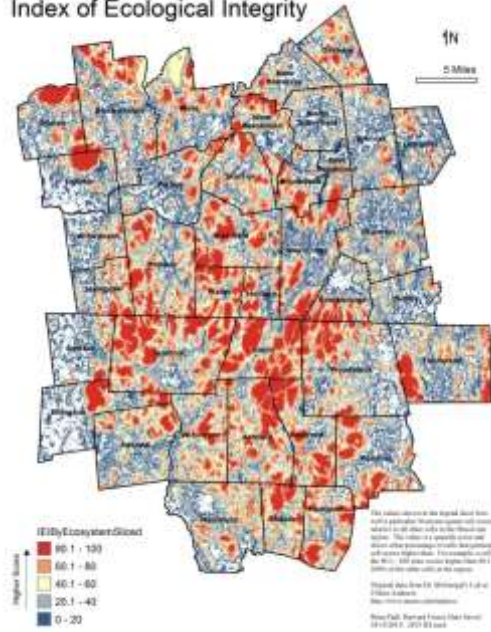
- PARTNERSHIP – defined Focus Areas
- Does not preclude Land Trust Focus

Areas or Projects!

# Why Have Regional Focus Areas?

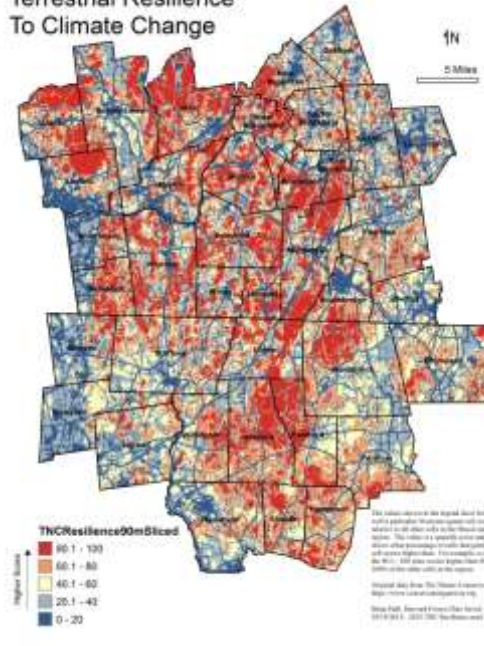
1. To be strategic – to conserve the most important land.
2. Allocate limited funding to regionally identified highest priority needs.
3. Provide mechanism to equitably prioritize distribution and use of any shared RCP conservation funding.
4. Provides tool for local strategic conservation planning (e.g., individual partner Land Trusts.)
5. Puts local parcels in landscape/regional context.

### Index of Ecological Integrity



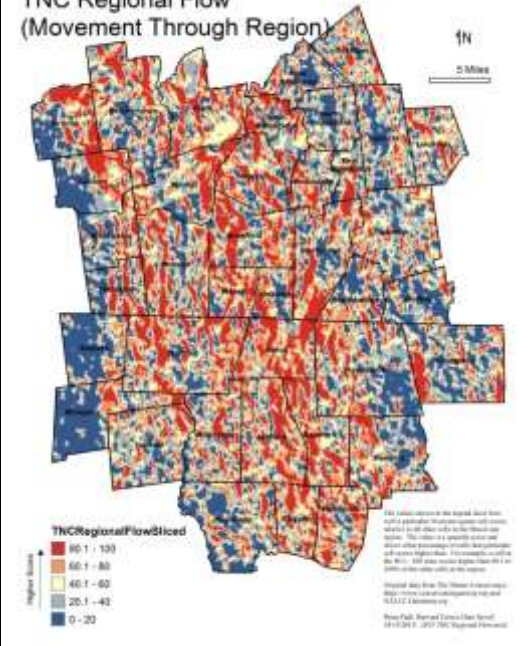
+

### Terrestrial Resilience To Climate Change



+

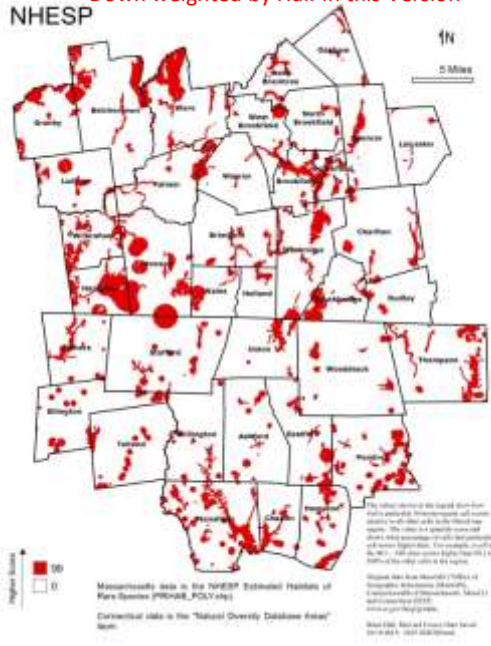
### TNC Regional Flow (Movement Through Region)



+

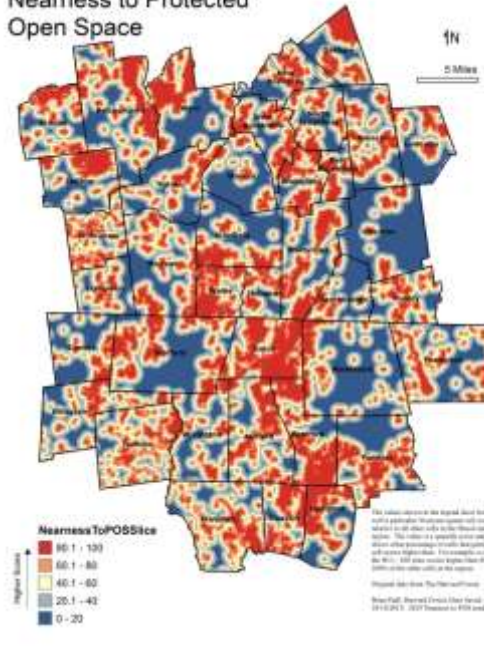
### NHESP

Down weighted by Half In this Version



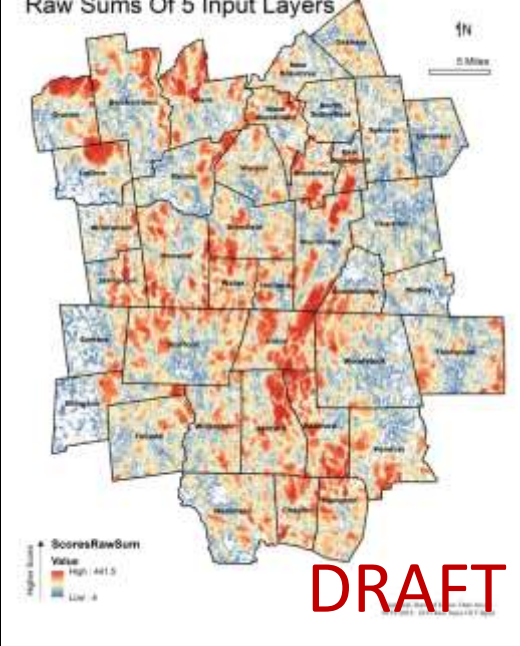
+

### Nearness to Protected Open Space



=

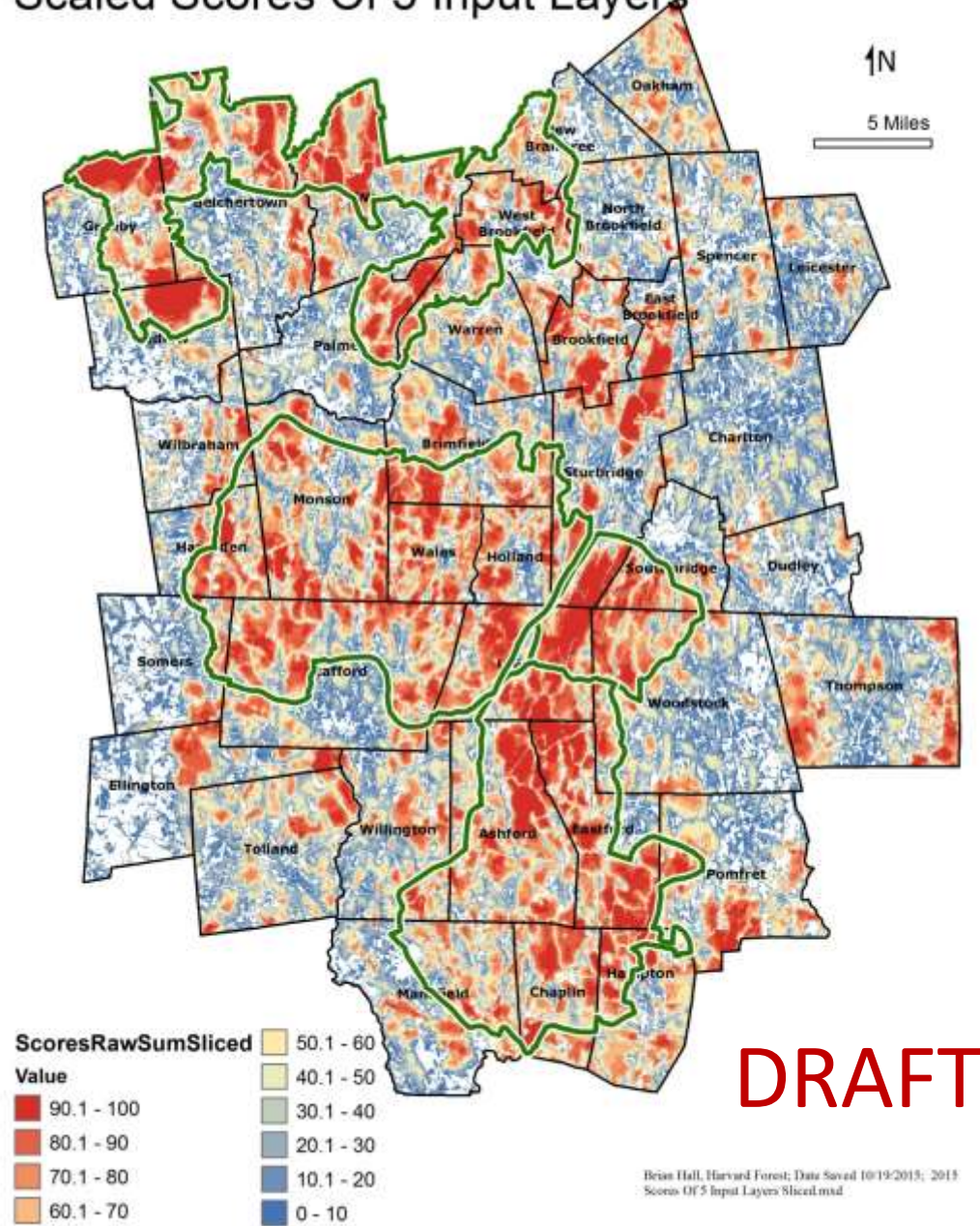
### Raw Sums Of 5 Input Layers



DRAFT



# Scaled Scores Of 5 Input Layers

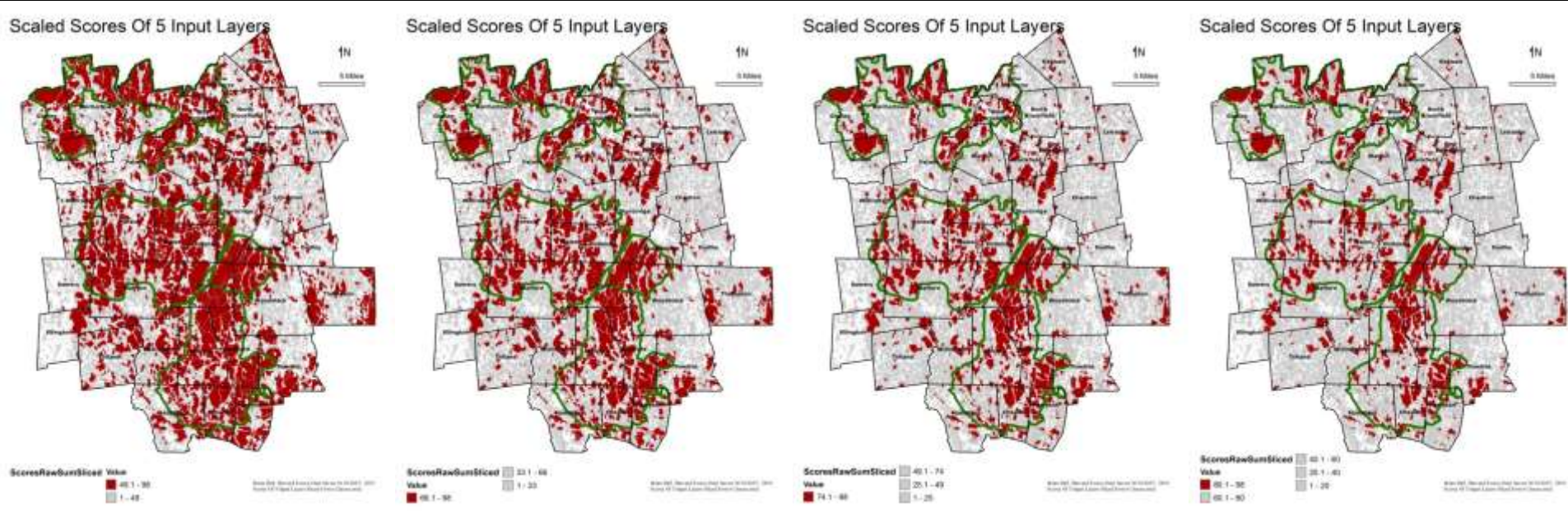


Top 50% of natural land

Top 33%

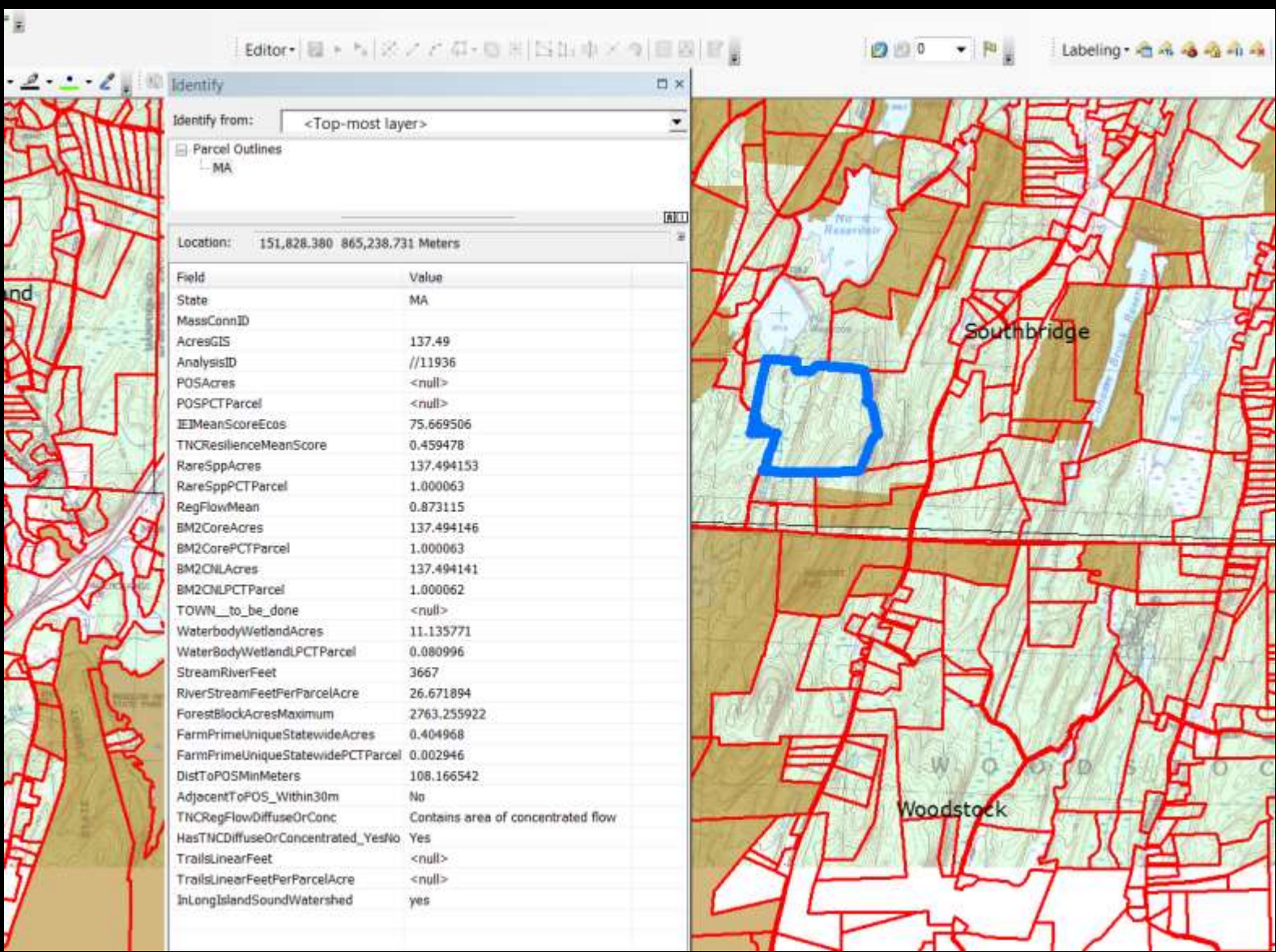
Top 25%

Top 20%





# Scroll-down from regional priority conservation focus area to Individual parcels: What conservation values do they have and how are they ranked in regional priority?



Draft, Conceptual graphic – does not show focus area layer



1) Land Owner  
Database (LODB)

Phase I:

- Who owns a specific parcel?
- Who owns the parcels of specific conservation priority or value?

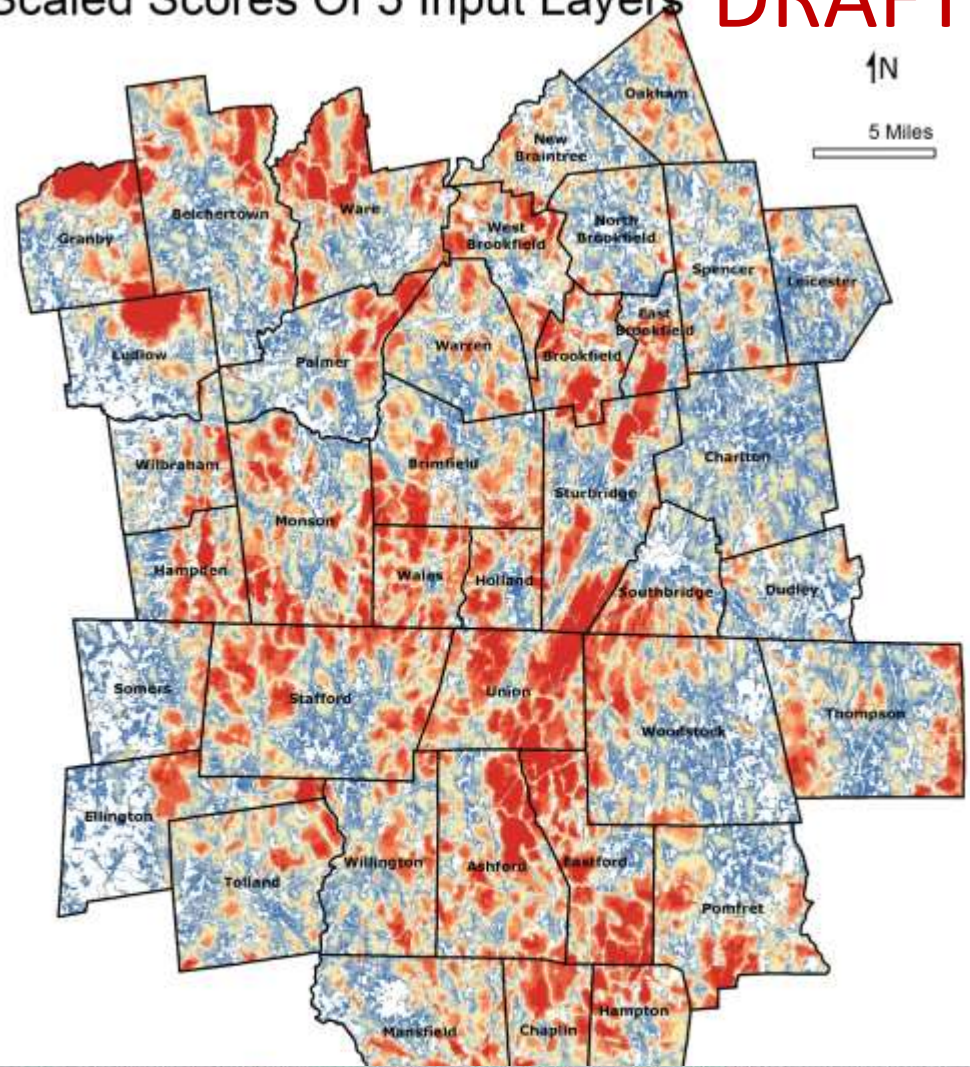
Phase II:

- What conservation actions / contacts has a Land Owner made or had?
- Who is managing LO?

1) Land Owner Database (LODB)

Phase I:

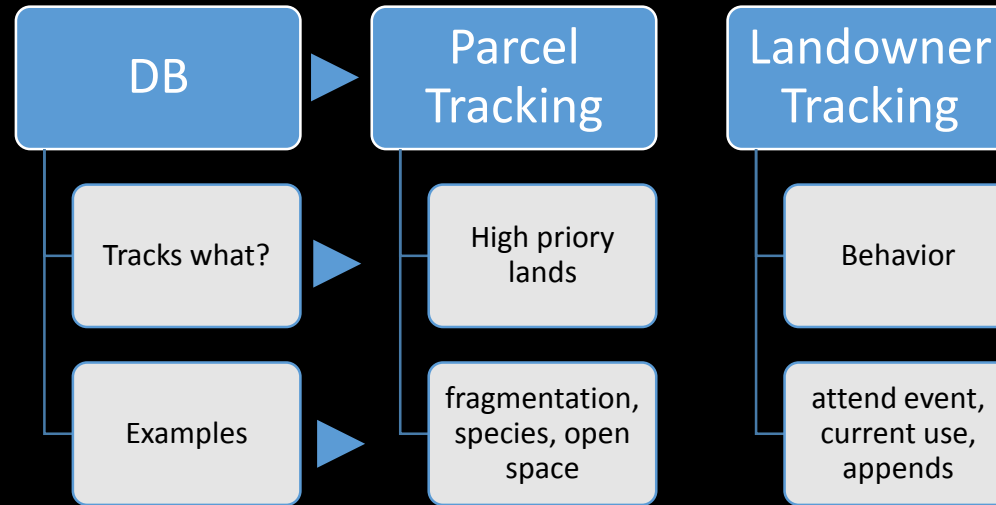
Scaled Scores Of 5 Input Layers **DRAFT**



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MA	22_B_2	25.61	49.010309	0.351727	<Null>	<Null>	-0.530593	<Null>	<Null>



## Phase II:



1<sup>st</sup> Integration: Query parcel DB for high priority parcels and then insert the rank associated with the parcel into the landowner DB for prime prospect/segmented direct mail campaigns

2<sup>nd</sup> Integration: Using landowner DB, track landowner actions conducted on a certain parcel (i.e. conducted habitat improvement harvest on 20 acres)

3<sup>rd</sup> Integration: Using landowner DB, report outcome and impact results associated with parcel based on landowner actions (i.e. 20 acres conserved improves ecological integrity)





### Landowner DB improvements based on Parcel DB discussion:

Create an “Old Ownership” tab so that we can track landowner actions taken on previous parcels (i.e. sell land and move)

Add **environmental parcel ranks** (i.e. high, med, low) to the end of this table per category: ecological integrity, endangered species, TNC resilience, protected open space, TNC flow

Ownership Actions Attributes Campaigns

### Ownership Information

The table below lists the parcels owned by the landowner. The Site Address field refers to the parcel address not to the mailing address. The mailing address can be found above on the main profile page. The Site Address field can be and should be updated directly in the table below if the landowner provides the address of the parcel and it differs from the mailing address above.

Total Lot Size

TOWN	Use Code	Use Description	LOT_SIZE	Site Address	City	Zipcode	State	Integrity	Species	Resilience
Eastford	1010 SINGLE FAMILY		61.10	68 KENNERSON RESV RD			CT	High	Med	Med

On the “Ownership” tab, create a “Parcel Action” table similar to the landowner action table and partner action table under “Actions” tab



American Forest Foundation



New England  
Forestry Foundation

