



MARCH 7, 2022

SALISBURY, CONNECTICUT
NATURAL RESOURCE INVENTORY, UPDATE 2022

TOWN OF SALISBURY
CONSERVATION COMMISSION
NRI Task Force



Preface

The Salisbury Conservation Commission is pleased to present this 2019 Natural Resource Inventory to the Town of Salisbury. Every 10 years our towns are required to create a Plan of Conservation and Development (POCD). The document is sponsored by the Planning and Zoning Commission and used to guide development and conservation activities in the town. An important part of the POCD is a Natural Resource Inventory (NRI), which is usually developed by a town's Conservation Commission.

The Salisbury Conservation Commission was formed in 1973 to oversee the conservation of the town's natural resources. The Commission has official jurisdiction over the town's inland wetlands, but it works on non-regulatory conservation efforts as well. For example, the Commission has worked with private landowners to find the best solutions for the long-term preservation of their lands, and it also has an active role in seeking ways to preserve Salisbury's water quality, which is among the best in Southern New England. The last decade has seen many updates as will be cited in the 2019 NRI, not the least of which is the name change to Salisbury Conservation and Inland Wetlands Commission.

The most noteworthy feature of this important NRI document is that it has been conceived and created by local citizens, using scientific and ecological knowledge of our town's natural resources gathered from many sources. The 2019 NRI is based on the extensive 2009 NRI, with updated sections and new links to the many conservation updates during the last decade.

While the Conservation Commission may be the official public entity to present this report, credit must also go to the members of the Salisbury Association, the Town of Salisbury, and others who volunteered to oversee this project from start to finish. Elaine Hecht was the team leader in 2009 and she has graciously returned in 2019 to assist with the updates. Maria Grace has worked to create the 2019 document and she is the team leader for outreach to organizations and individuals who bring new information to the NRI. Once again, this Natural Resource Inventory will serve as a template for all future inventories of Salisbury's ecological assets; we consider it a "working document", and can be reviewed annually to bring updated conservation documents without waiting for 10 years.

We are also grateful to the numerous writers and researchers of the various chapters who catalogued and described our lakes and streams, farmlands, historic sites, forests, wildlife, and other features of our natural landscape. We are fortunate to have so much working knowledge from sources within or near Salisbury. In addition, many volunteer hours have been spent by members of our Conservation Commission and zoning boards in an effort to manage development and preserve our natural resources.

The Conservation Commission meets regularly throughout the year and all residents are encouraged to participate. Copies of their regulations, minutes and agendas are available on the town website www.salisburyct.us.

Larry Burcroff
Chairman, Salisbury Conservation and Inland Wetlands Commission

John Landon
The Salisbury Association

Curtis Rand
First Selectman, Town of Salisbury

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Geology and Topography

Salisbury's topography has influenced the development of the town and will impact future growth. Development along the extensive ridgeline landscape should be limited in order to preserve the scenic character of the town and ensure rare habitats such as rock outcrops and calcareous wetlands are protected. As climate change continues to have a bigger impact, the Town of Salisbury should take steps to protect upland habitats that can serve as wildlife corridors as well as help to mitigate habitat changes. Large tracts of forested landscapes will help to ameliorate the effects of climate change, preserving microhabitats that will serve as refuges for wildlife.

New Resources, 2019:

The CT Office of Legislative Research published a memo concerning Ridgeline Protection (9/8/1994):

<https://www.cga.ct.gov/PS94/rpt/olr/htm/94-R-0328.htm>

Who regulates Land Use in Connecticut:

https://www.ct.gov/deep/cwp/view.asp?a=2703&q=433388&deepNav_GID=1634

Pennsylvania Land Trust Association has a wealth of resources regarding protection of steep slopes:

<https://conservationtools.org/guides/59-steep-slope-ordinance>

To be Added:

Updated map that outlines the 4 physiographic subdivisions: Western Uplands, Central Lowlands, Eastern Uplands, and Eastern Lowlands. (This is map 2 in the 2009 NRI.) While the Highlands are not of a major part of Salisbury geology and topography, they are worth noting on the updated map.

Consider adding a map that highlights upland areas in town that are sensitive to development and that are important for mitigating climate change. Encourage protection of these areas. (TNC resiliency mapping may be useful, here.)

Find a model steep slope ordinance or at least some verbiage to describe the importance of conserving steep slopes, ridgelines and scenic views and vistas. (Note: Town of Kent, CT has language in their zoning regulations (5200) associated with their conservation overlay development district – primary (Steep slopes 25% and greater) and secondary conservation areas (ridgelines, scenic views and vistas)

Recommendations

- Consider adopting a steep slope ordinance and ridgeline development ordinance. Research what other towns have done to curb development along ridgelines and recommend best practices to protect these sensitive ecosystems.
- Encourage conservation groups to permanently protect ridgeline properties through purchase of the lands or through conservation easements.

Water Resources

With the abundance of lakes and ponds, wetland areas, and the Housatonic River and its tributaries, the Town of Salisbury is rich in water resources, supporting local recreation, important ecosystem services such as adequate water supply, flood control, and habitats for an abundance of wildlife.

Rivers and Streams

Housatonic Valley Association (HVA) has completed road-stream crossing inventories for all towns in Northwest Connecticut, including the Town of Salisbury. This document assesses each culvert in the town and ranks them on their flood resiliency and their ability to allow fish and wildlife passage.

Include a brief narrative about inventory and analysis of major points for Salisbury. Culverts in need of replacement, a discussion about flood resiliency and perhaps a mention of climate change preparedness.

Trout Unlimited (TU) has done much research on the Salmon Kill Watershed comprised of Ball Brook, Moore Brook, Spruce Swamp Creek, and the Salmon Kill. This includes temperature data, presence/absence of brook trout populations, fish surveys, as well as detailed data, maps, and photos of their xx restorations sites within the watershed.

In 2016, the Housatonic River Commission proposed that the Housatonic River from the Massachusetts border to Boardman Bridge in New Milford, be considered for Wild and Scenic River designation. This was a locally initiated process and the Town of Salisbury is in full support of this designation. It was approved by the CT State Legislature and Governor Malloy. Governor Malloy sent to Federal Secretary of the Interior but it is still pending federal approval and signature.

CT DEEP has fish data that has been completed over the years by biologist Mike Humphreys. Tracy Brown (of TU and a resident of Salisbury) has agreed to help analyze the fish data.

Main Experts: Tracy Brown (TU), Staff at HVA, Maria Grace

Lakes and Ponds

Updated water quality info for all lakes/ponds and analysis and comparison to 2009 data.

Updated Land Use/Land Cover data - analysis of land use around key lakes/ponds - (map with brief narrative)

Updated info about Lake Keeper program (Lakeville Lake)

Update on Invasive species, plant (milfoil, curly leaved pondweed, water chestnut, etc.) and animal (zebra mussels, gleetrichia plankton, etc.)

Main Experts:

2019 Natural Resource Inventory - Update

Riga Lake - George Knocklein, Ann Williams

Lake Wononscopomuc - Bill Littauer, Hotchkiss Faculty - Chris Oostenink, Josh Haan, Don Mayland

Twin Lakes - Carey Fiertz, Peter Neely

Drinking Water

where does water supply come from? Surface or wells? % of town on private vs. public supply. Quality of public drinking water - from Aquarion. Downloaded 2018 Water Quality Report for Lakeville/Salisbury

Main Expert: Aquarion – George Logan – Emailed on 12/27/19 for contact/info

Groundwater Aquifers

Capacity of aquifer, stressors, septic systems (maintenance and effect of GW supplies)

Main Expert: Need a contact

New Resources, 2019:

HVA Road-Stream Crossing Inventory: <https://hvatoday.org/road-stream-crossing-inventories/> (Scroll down the page for the Town of Salisbury reports)

Links to Trout Unlimited information:

<https://www.tu.org/project/salmon-creek-project/>

<https://www.tu.org/blog/finding-trout-as-salmon-kill-restoration-gets-under-way/>

<https://www.tu.org/blog/students-participate-in-planting-day-on-salmon-creek/>

<https://www.tu.org/blog/amicorps-team-moose-4-helps-out-trout/>

CT DEEP Fish Data: <https://cteco.uconn.edu/projects/fish/viewer/index.html>

CT Invasive Aquatic Plant, Clam, and Mussel Identification Guide by CT Agricultural Experiment Station, 3rd edition, by Gregory J. Bugbee, Martha E. Barton, Jordan A. Gibbons, and Summer E. Stebbins.

Wild & Scenic River Fact Sheet. Housatonic River Commission. February 2016.

CT Department of Public Health, Drinking Water Section -

<https://portal.ct.gov/DPH/Drinking-Water/DWS/Drinking-Water-Section>

2018 Water Quality Report from Aquarion for Lakeville/Salisbury –

http://www.aquarion.com/files/pdfs/wqr/2018/lakevillesalisbury_2018.pdf

Look into the Western Water Utility Coordinating Committee to see if it is a useful and education committee to participate.

Recommendations

Rivers and Streams

- Protect and restore riparian buffers along water courses.
- Replace or repair culverts to improve flood resiliency and improve fish and wildlife passage.
- Consider ordinances to protect headwater streams and riparian areas.

Lakes and Ponds

- Improve outreach to residents and businesses who live along lakes and ponds including education about proper septic system maintenance and design and erosion control.
- Encourage the establishment of vegetative buffers – the bigger the better but preferably 100 feet along waterbodies.
- Improve zoning to discourage development along waterbodies to minimize pollution, both aesthetic as well as chemical and biological.
- Improve outreach to lake and pond recreationists to decrease pollution (noise, chemical, biological) as well as prevention of invasive species introductions.

Aquifers/Groundwater

- Improve stormwater runoff controls and encourage innovative storm water biofiltration and bioengineering management practices.

Wetlands

- Encourage protection of upland wetlands. Avoid unnecessary disturbance and prohibit filling of wetlands.
- Monitor all development near wetlands and ensure proper erosion and sedimentation controls are followed.
- Improve invasive species eradication and management to better control the spread of invasive plant species within and along wetland areas and riparian corridors.

Drinking Water

- Protect public drinking water sources, both groundwater as well as reservoirs.
- Educate residents about wellhead protection and encourage testing of private household wells to ensure safety.

Forest Resources

The recent decade has seen various changes to the Salisbury forests, both positive and more challenging. Several additions since 2009 include:

- Significant additions to the areas of permanently protected forest areas, including fee donations and bargain sales of conservation easements to the State of Connecticut and the Salisbury Land Trust. These areas include important headwater forests on Ball Brook as well as a planned sale on Burton and Pettee brooks in 2020.
- Invasive species have maintained a negative presence in Salisbury's forests, with new additions including Emerald Ash Borer and increased impacts from Hemlock Woolly Adelgid and Elongate Scale.
- On the positive side, the deer herd is lower than 2009 by most observations, and the balance between predators such as bobcats, bears and coyotes has been maintained, which lessens the impacts of tick-borne pathogens such as Lyme disease and also allows natural forest regeneration to improve due to less browsing by deer.
- The past decade has seen innovative programs such as Forests for the Birds and other efforts at improving habitat connectivity.
- There is increasing knowledge about the positive impacts of forests as a carbon "sink" to alleviate climate warming.

As new information is received it will be added to the links in the 2019 NRI and this will be a "living" document for reference in the next decade.

New Resources, 2019:

Audubon Forest for the Birds Initiative - Eileen Fielding

Basic info is at <https://ct.audubon.org/working-lands/forest-for-birds>

HVA's Follow the Forest Initiative – followtheforest.org

TNC Resiliency mapping project: <http://maps.tnc.org/resilientland/>

TNC Connected Landscapes viewer: (Focused on climate change and resilient landscapes (i.e. Landscapes that can support microclimates and thus are better able to adapt to a changing climate):

<https://tnc.maps.arcgis.com/apps/MapSeries/index.html?appid=73c99463525a4d74957463cbe110f09c>

TNC terrestrial habitat: <http://maps.tnc.org/nehabitatmap/>.

To be Added:

Update interior forest section with more natural history information to include HVA's Follow the Forest initiative and Audubon's Forest for the Birds Initiative. Include acreage in Salisbury that has been assessed by Audubon and outcomes if any.

Add some info about Follow the Forest and perhaps highlight some key areas in town that are significant.

Update Forest Resources Map (Map 5 in 2009 NRI).

Updated numbers needed for the amount of interior forest in Salisbury.

Add a section about new forest threats including insect pests such as the woolly adelgid and Asian long-horned beetle as well as invasive plant species such as oriental bittersweet, barberry, multi-flora rose, and others.

Utilize the Follow the Forest as well as TNC resilience habitat mapping to summarize Salisbury's place in habitat protection/connectivity/etc. across a regional scale.

Summarize Salisbury's important forest habitats as it relates to a changing climate.

NEED Resources from CT Ag Experiment Station

Main Experts: Curtis Rand, Carol Cheah & Jeff Ward (Ag Experiment Station), Tim Abbott

Recommendations:

- Protection of large tracts of forests to protect habitats, act as carbon sinks, and ensure resilience against a changing climate
- Improve invasive plant species controls so they don't become a dominant presence in Salisbury forests.
- Educate private owners of forests about conserving forest landscapes through innovative programs such as use of conservation easements, Forest Legacy or Audubon's Forest for the Birds Program or the Old Growth Forest Network.
- Work with the Salisbury Land Trust and other conservation organizations, to identify critical forest patches in need of protection.

Agricultural Resources

To Be added:

updated numbers of farmland in Salisbury (increased/decreased)

updated ag resources map needed

update about large farms

update about ag businesses not involved in food production (equestrian, plant nurseries, flower farms, etc.)

was a farmland preservation committee established?

update recommendations for next 10 years

Main Experts: Alan Cockerline, Josh Haan

New Resources, 2019:

Need to get new resources. Reach out to Allen Cockerline (emailed 12.9.19) and Josh Haan (Did email Josh Haan)

Look into CT Farm Alliance, working lands alliance, American Farmland Trust, Does a program such as Hudson Valley Farmlink Network exist in CT?

Recommendations

Critical Habitats and Wildlife

Add wildlife info to key habitat sections such as rattlesnakes to rock outcrops/talus slopes; bog turtle info to shrub inland wetlands, vernal pools herps to forested inland wetlands, bats to caves, etc.; bird info to all sections; keystone species, return of large mammals - black bear, moose, fisher, bobcat, rare, endangered/threatened species - timber rattlesnake, bog turtle, etc.

- Update habitats of interest including fens/bogs, vernal pools, rock outcrops, intact interior forests, etc.
- Look at CT Wildlife Conservation Strategy - has this been updated recently?
- update critical habitats map
- pitch pine/scrub oak communities - has research been done to determine if they reproduce without fire? or is proper management (with fire) needed for these communities to continue
- Need to update vernal pool info using the study completed – groundtruthing is necessary
- freshwater aquatic - add info about road-stream crossing survey
- any updates about largest cave complex? - update on WNS in those caves and with bat population
- updates on grassland habitat
- add section about control of invasive plant species - implement a strong town wide strategy to deal with them

Add info about the importance of protecting these habitats - vernal pools, wetlands, grassland, interior forest, etc.

Vernal Pools

In the spring of 2017, the Town retained Davison Environmental to electronically map its confirmed and potential vernal pools. These areas are now being visited by trained volunteers to evaluate the biota in an effort to “ground-truth” them.

Info needed about control of invasive species

How protecting intact habitats can help to mitigate climate change

Main Experts: Michael Klemens, Tim Abbott, Jason Tesauro (herps), Tom Schaefer (Birds), CT DEEP wildlife division (Mike Humphreys, Paul Rego), Eric Davison

New Resources, 2019:

Updated species lists - perhaps more interactive if going online (like an online field guide or perhaps links to online field guides such as Cornell’s bird field guide)

Utilize CT Natural Diversity Database – Salisbury map updated in June 2019

CT Wildlife Conservation Plan – completed and approved in 2015:

https://www.ct.gov/deep/cwp/view.asp?a=2723&q=329520&deepNav_GID=1719#Review

The Nature Conservancy has several mapping projects regarding resilient land, connectivity, and important habitats:

TNC Resiliency: <http://maps.tnc.org/resilientland/>

Connected Landscapes viewer: (Focused on climate change and resilient landscapes (i.e. Landscapes that can support microclimates and thus are better able to adapt to a changing climate):

<https://tnc.maps.arcgis.com/apps/MapSeries/index.html?appid=73c99463525a4d74957463cbe110f09c>

HVA's Follow the Forest initiative visually shows important connected forests. Salisbury's landscape plays heavily in the regional conservation of connected forested habitats.

Town of Salisbury's Vernal Pool Study:

Need wildlife data from DEEP – bear, bobcat, fisher, moose, etc.

Birding Hot Spots in Salisbury

Recommendations

- Improve zoning regulations to protect rare and critical habitats
- establish a volunteer vernal pool monitoring program
- Educate residents about the incredible natural diversity of the town.
- Work with conservation organizations to protect critical habitats in town through Conservation easements or outright land acquisition.
- Create and implement a strong invasive species control strategy.

Open Space

Update protected open space map (map 8 in 2009 NRI)

Update on PA490?

Has a land protection fund been established in town?

New Resources, 2019:

The Salisbury Association Land Trust – updated list of protected properties.

Does the land trust have an acquisitions checklist that can be described in the NRI? OR perhaps is there a list of priority projects (this may be proprietary?)

Do any other conservation organizations protect land in town? (Weantinoge, TNC, ATC, etc.) – HVA will update map...

Statement about large landowners like Mt. Riga?

<https://www.esri.com/about/newsroom/arcuser/identifying-the-most-valuable-parcels-to-protect/>

Recommendations

Identify key areas in town to focus open space protection

Scenic Roads

Salisbury is blessed with an abundance of scenic and rural roads. In 2009, based on general laws of the State of Connecticut ([CT Gen Stat § 7-149a](#)), the Salisbury Association led an effort to identify local town roads that could be designated as "scenic roads." Please see the 2009 report, for a list of qualified rural scenic roads.

New Resources, 2019:

No new resources

Recommendations:

- Create and adopt an ordinance to designate roads in town as scenic under CT general statute 7-149a. Refer to the 2009 NRI report for a list of qualified rural scenic roads.
- Designate the Salisbury portion of Route 7 as a scenic highway under CT General Statute Sec. 13b-31c. The town of Sharon as well as the state of CT have already designated Route 7 as a state scenic highway. **(I don't believe this has happened but confirm).**

Recreational Resources

Any notable new parks or programs that are worth mentioning here?

New Resources, 2019:

To stay up to date on Recreational Programs available, please visit the [Salisbury Recreation Commission](https://salisburyct.us/recreation) website - <https://salisburyct.us/recreation>

The Northwest Hills Council of Governments has created an [interactive regional hiking trails map](https://northwesthillscog.org/nhcogtrails/) that the viewer can use to find to find hiking trails based on location, distance, difficulty, and allowed use (e.g. horses, mountain biking, snow mobile, cross-country skiing, etc.). Do a search for Salisbury, CT to find hiking locations in the town.

<https://northwesthillscog.org/nhcogtrails/>

To be added:

Info on Pope property? – would this be included here? What are the intentions of the Pope Property? Is it recreation or residential development?

Add a map of all town owned recreational properties (or private open to the public like SLT's Dark Hollow Preserve

Recommendations

- What are some wishes of the recreation commission or the town to improve/expand recreational opportunities?

Historic Landmarks

Have any new landmarks been dedicated since 2009?

Are there any new landmarks in need of preservation?

Updates regarding recommendations?

Were markers or an interpretive brochure created? The Historical Society had plans to produce markers and a brochure

Expansion of educational programs for exhibits and school programs? Was a website created?

New Resources, 2019:

Recommendations