



## Learning About Restoring Habitat

By Leif Owens

*Editor's Note: In addition to acquiring open space in our community, The Essex Land Trust has an obligation to care for the land it acquires as part of its stewardship responsibility. Our properties encompass a variety of habitats ranging from forests to wetlands to meadows. Ensuring their long-term vitality is critical to preserving their conservation values. As a result, we are always looking for ways to protect, preserve and promote the biodiversity found on our preserves.*

A small group of Essex Land Trust Stewards and Board Members visited Audubon Connecticut's Bent of the River Preserve in Southbury, CT. Our host was Leslie Kane, Audubon Director and Essex Land Trust's Science and Technical Advisory Committee member and we were guided by Glen Somogie, Land/Facility Manager. ELT attendees were Bob Nussbaum, Jeff Croyle, Scott McCoid, Mark Carozza, and Leif Owens.

The purpose of the trip was to learn methods, approaches, and techniques for developing open spaces to propagate native plant species and create bird and animal habitat. We were looking to learn what might be applicable to Essex Land Trust preserves, particularly Cross Lots and Johnson Farm.

Bent of the River consists of approximately 700 acres of waterways, woodland, meadow and shrubland. During our visit, we focused on the property's meadows and shrubland. Glen defined the two habitats as follows: Meadows are open spaces filled with native grasses, wildflowers, low growing shrubs, small trees. Shrubland is a young regenerative forest of native plants and immature specimen trees. As an Audubon preserve, Glen mentioned that birds like the structured complexity" of this property.

The trip provided significant learning in several areas. Following is a summary.

### Meadows

The meadows at the Bent were filled with native grasses, wildflowers, gray and red-osier dogwood (native, low growing shrub/tree) and small saplings of black cherry

which the birds really like. The meadow also contains various invasives, like what we have in Essex. Developing and maintaining meadows requires a number of approaches. Since the meadow was previously an open farm field and grass land, it already contained a variety of the grasses which were enhanced with native wildflowers. such as bee balm, an excellent plant that is not only beneficial for pollinators but also spreads aggressively. The field also has poison

ivy, but since it is a native species which supports birds, it should only be cut back from walkways and fence lines, so visitors are not exposed.

Finally, growth is managed by mowing every other year: cutting ½ of the meadow every year and using a somewhat random cutting pattern referred to as "drunken mowing."



**L to R: Bob Nussbaum, Glenn Somogie, Mark Carroza, Jeff Croyle, Scott McCoid, Leif Owens, Leslie Kane**



**Meadow habitat at Bent of the River**

Shrubs and saplings should be cut back when they become clustered or too large. To avoid impacting ground nesting birds (such as Field Sparrows), mowing is never done between April and the end of August. Mowing in the late Fall can help spread the seeds from native flowering plants to improve propagation. Since only half the meadow is cut, it still leaves plenty of food/seed for late season feeding.

There are occasions when mowing is required during the nesting season (for invasives control primarily) in which case the area should be walked through prior to mowing to flush out or find nesting birds. Other common situations which may require more frequent mowing, pulling flower heads or cutting are to control native plants that are overly aggressive such as soapwort, or to control field edges and pathways. For meadows directly bordering forests, it's important to continually cut back the forest/meadow edge.



**Shrubland habitat at Bent of the River**

## Shrubland

The purpose of creating shrubland is to open the canopy of dense woodland to draw more species of birds and animals into the “woods.” These open spaces, created by past clear cutting of the surrounding forest are maintained in a manner to mimic a 4-year-old “new growth” forest. The open spaces provide a variety of bird species with different foods (berries, fruits, seeds, insects) and protection by and from the surrounding woods. These spaces are maintained by cutting the area with a brush hog every 4 years (cutting roughly ¼ of the area each year). Preserving selected “specimen” trees creates biodiversity of species which can attract a diverse population of birds. Examples included paper bark birch, crabapple, cedar, oak, and hickory to name a few.

## Invasives

For new/young meadows and shrublands, one must manage the invasives. Getting rid of invasives requires frequent deviations from the general approach for developing meadows. The key is to selectively cut out the impacted areas, even if you can only address a smaller section at a time. Pulling invasives is often impractical due to the acreage, but it can also encourage further propagation the following year (in many but not all invasives.) In larger meadows, the best approach is to manage the spread by cutting it down, low to the ground so that that other more desirable species (which typically start later in the spring/summer) can begin to overtake the invasives.

Some invasives such as mugwort require frequent cutting, sometimes as often as once per month. Invasives which fruit or flower also need to be cut or pulled prior to bloom to avoid propagation. After flowering/going to seed, the flowers/seeds can be hand harvested and bagged. “Solarizing” the collected invasives by placing them in black trash bags and leaving them in the sun for several weeks to allow decomposition prior to taking to the landfill. For woody species such as barberry and multiflora rose, these must be removed by the roots or treated with herbicide or burned.

The land trust is looking to apply the learning from this trip to Bent of the River to various preserves. The most readily visible and immediate example can be seen by visiting the Cross Lots Preserve on West Avenue. The following article illustrates the progress being made there.

# Cross Lots' Meadows

By Leif Owens and Al Macgregor

As most visitors would agree, the meadows in Cross Lots benefited greatly from the abundance of rain this summer. Late summer blooms of Joe-Pyeweed, Elm leaf Goldenrod, Orange Jewelweed and other plants was spectacular. At the same time, the ample moisture benefitted an invasive not seen before at Cross Lots called swamp dodder or scaldweed. While we can't



always rely on perfect growing conditions, we are taking steps to learn more about improving our meadow management practices to further enhance our preserve regardless of weather patterns and unexpected invasives.

As mentioned in the adjoining article, there are several key practices that the Audubon Society uses to enhance their meadow habitat. For the past dozen or more years, we at Cross Lots have been conducting regular tractor mowing of the meadows, once in the late fall and again

in early spring to control woody species and overgrowth. This has worked particularly well in keeping the meadows free of undesired trees as well as maintaining a nice aesthetic of the remaining plants.

Starting this fall we are going to begin using some of the practices we learned from our Bent of the River trip. Since we do not know exactly how the existing meadows will respond, visitors may notice changes in our mowing patterns. We will continue to control wood species/saplings and complete selective mowing to control invasives (such as the swamp dodder.) Our goal is to work towards an even greater diversity of meadow plants and wildlife within the Cross Lots Preserve. It won't be completed overnight, but we expect to find continued enhancements year after year.



# Climate Change and Connecticut: What is happening and what does it mean for us?

By Juliana Barrett, PhD. & Jim Denham  
Connecticut Sea Grant, UConn Extension, Essex Land Trust

Notes from a presentation to the Essex Land Trust

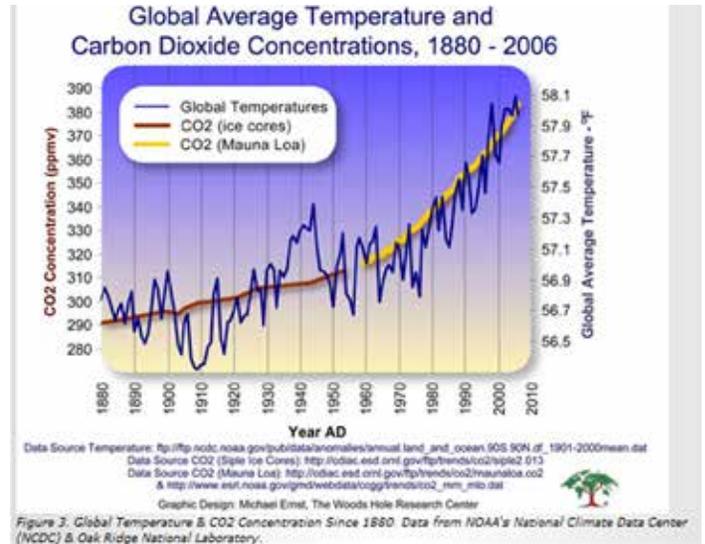
Changes in climate are impacting plant and animal ranges, migrations on land and water systems, disrupting food webs, increasing pathogens, parasites, and diseases as well as changing extinction risks. All the latter affect ecosystems and ecosystem services.

In the US, spring now arrives 10 to 14 days earlier than it did 20 years ago. Obvious changes related to the timing of the seasons: when plants bud in spring, when birds and other animals migrate. There is evidence of shifts in tree species on mountains in New England (largely in the transition zones), and as rivers warm with warmer air temperatures, shifts in fish populations.

## The known knows

Let's begin with what we know. Following are some of the knowns which are affecting our world.

- For 650,000 years atmospheric CO<sub>2</sub> has remained below 300 parts per million (ppm). It surpassed this level around 1950 and is currently over 400 ppm with no signs of slowing down
- Global surface temperature show that the Earth has warmed since 1880
- Most of this warming has occurred since the 1970s
- Warming ocean temperatures: From 1901 through 2015, sea surface temperature rose at an average rate of 0.13°F per decade
- Sea level rise: global sea level rose about 17 cm (6.7 in) in the last century. The rate in the last decade, however, is nearly double that of the last century. Sea level rise for Long Island Sound is projected to be approximately 20 inches in by 2050
- Since 1979, more than 20% of the Polar Ice Cap has melted away
- Annual average temperature in US has increased by 2°F with winter temperatures rising twice this much in the northeast over the last century. As we have all experienced, there are more frequent days with temperatures above 90°F
- Water temperature of Long Island Sound has



increased 1°C (1.8° F) since 1900

## The impact of warmer water and changes in habitat

Climate change is having significant and multiple effects on our environment. Warmer air temperatures lead to warmer water temperatures which in turn create changes in habitat. According to Peter Auster and Penny Howell, in a study on fish trawls in Long Island Sound, they found a shift in fish species within the Sound. "This is a cycle that is not going back to original conditions. Things are changing. The diversity is changing. For an estuary where the animals are notoriously well adapted to variable environments, to see this kind of shift in such a short period of time, that really says something about what's happening. (Howell)" "It is a reminder that climate change effects are not just being seen on coral reefs in the tropics and polar bears in the Arctic, but also in areas with more moderate climates like the Sound." (Auster) from *The Day*, article by Judy Benson 09/12/12.

One impact that many are not aware of is increasing ocean acidification. Since the beginning of the Industrial Revolution, the acidity of surface ocean waters has increased by about 30%. Excess acidity blocks growth of corals and shellfish. In the future, some species in the food web will benefit while others will decline.

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Other impacts caused by climate change include increased coastal erosion, loss of tax base (through destruction of coastline homes), increased heavy precipitation events, runoff from heavy rains, and reduced water quality. During heavy rains (often the result of tropical storms), many waste water treatment plants are incapable of handling excess water flows resulting in untreated sewage flowing into the Sound. High water levels may flood agricultural fields, generating crop losses.

## Other less obvious but likely impacts

The Connecticut River's salt wedge may move further upriver with sea level rise. Some of the freshwater wetlands may transition to brackish, and brackish wetlands to salt marshes. Changes in the timing of the spring freshet will also impact wetlands.

Vernal pools may decrease in size or dry up; others may increase. Wetland types may change such as from marsh to forest. Associated flora and fauna may change as wetlands

Less winter precipitation is falling as snow and more as rain. With reduced snowpack and earlier breakup of winter ice on lakes and rivers, spring snowmelt will lead to earlier peak river flows.

Poor air quality and heat related illnesses: As temperature increases, the air becomes more stagnant creating health problems particularly for the elderly and young children.

Increasingly, there are serious health effects of vector-borne diseases such as Lyme Disease, Malaria, Zika virus and West Nile virus. As air temperature rises, the range of ticks carrying Lyme disease will expand. Incidence of Lyme disease in the US has doubled from 1991 to 2014. There have been 42,000 cases of West Nile virus in US since 1999, and more than 17,000 people have died.

## What is to be done?

It is clear that conflicts can arise in balancing public use, private property rights and the protection of natural resources.

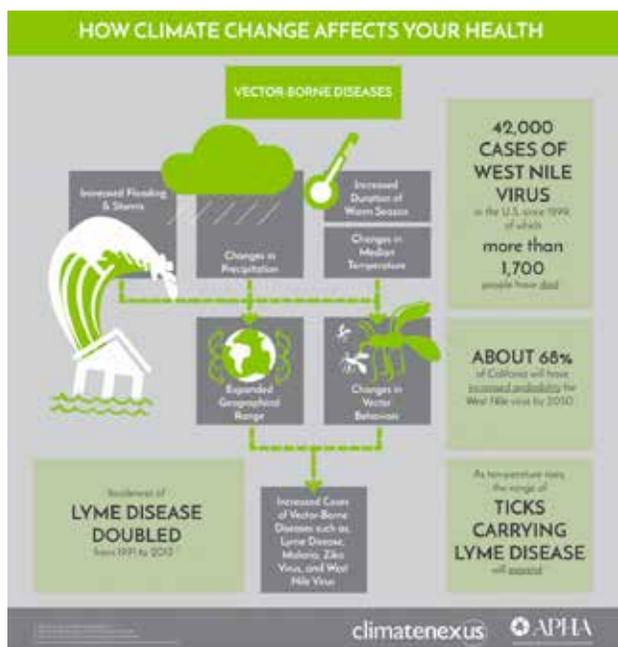
Municipalities need data, recommendations for models/policies, understanding of costs, how to phase in adaptation, and money. There will be costs associated with adaptation and recommendations for a phase in of adaptation measures.

The University of Connecticut has several programs aiming to inform, educate and promote action. Adapt CT, is an outreach program of Connecticut Sea Grant and CLEAR, the Center for Land Use Education and Research. It provides information, tools, training, and workshop opportunities to assist communities, businesses, and residents of Connecticut in their efforts to prepare and adapt to the impacts of a changing climate.

Climate Corps: students will have the knowledge and skills to work with Connecticut communities on climate vulnerability assessments and adaptation planning and policy.

After all this, what can we look forward to? A longer growing season (but watch for spring/fall frosts!), New plants for southern New England (think about pollinators), be prepared for droughts with water conservation, and watch out for new invasive plants and new insect pests

In nature, timing is everything. It can influence recreation, agriculture—even economics. Whether people come to see the fall colors, watch migrating whales or catch a glimpse of rare birds, visitors to the Northeast impact the economy. What everyone can do is to learn more and stay informed, reduce your own climate emissions, become a citizen climate scientist, and ultimately take political action.



# Volunteer Spotlight – Everybody’s Steward: Al Macgregor

Today we are honoring a guy that pitches in. He does it quietly and constantly. He can lead a team or follow. He can make a plan or implement someone else’s. He seldom raises his hand; he just shows up. And he tends to go to work while everyone else is talking about it.

Al Macgregor was the first steward of Canfield Meadows Woods and a founding steward of Cross Lots. Canfield was acquired in 1985, the first new property for the land trust in 16 years, and it was huge. The 15 acres at Cross Lots happened 3 years later. It was a jungle at the time, overgrown and cluttered with relics of an old farm. Al organized and led the building of these two centerpiece properties for the land trust.

One of the older and somewhat frail members of the land trust from those days wrote this on a tablet found in a small crypt near a decaying oak tree “much work needed to be done and Al instituted Thursday evening work parties. Al, Brian Willis, David Kelsey and occasionally Dana Hill and Barbara Macgregor would work for a few hours pruning, clearing invasives and removing the detritus left by nature and man.

When we were done, we would sit on the tailgate of Al’s Dodge pickup, have a beer, some pretzels, and swap lies. The bag of pretzels often times lasted several weeks, and we would joke comparing our simple fare and all the fuss the Garden Club went through with their meetings, refreshments, pomp, and so forth. Our pickup and bag of pretzels was good enough for us.

One time Al raked together a small pile of twigs together and declared “that was our Centerpiece!” We all laughed. Those were the good old days. Too bad nobody took any before pictures of what that property looked like. People today would have a hard time recognizing it.

Over the years Al has constructed osprey platforms with Paul Greenburg on Thatchbed Island and he set the early trails at Platt Preserve with Ron Nelson. He cleared fields at Johnson Farm with Dana Hill and mowed out the Millrace when the invasive jungle was getting the best of Geoff Furtney. He cut trails and pulled barberry with Jeff Croyle at Windswept and never misses Glenn Jacobsen’s clean-up day at Osage. And then there was his day job as co-steward of Cross Lots currently with Leif Owens.

If the land trust gave out medals Al Macgregor would hold the record for most awarded. His medal collection would have started in 1979 with his term as President of the Essex Land Trust and continued with his work on every property acquired in the ensuing 40+ years.

The word integrity is a noun. It means upright, perfect condition, sound moral principle. With Al integrity is a verb—it is how he leads his life, how he makes commitments to himself, and others and he keeps them. He is self-sufficient and dependable. He is a good friend and helpful guiding hand.

Early in the 1900’s, a young army colonel was asked if he would like to have another young officer-- George C. Marshall, the eventual commander of the US Army during WWII, to serve under him. He replied, “Yes but I would prefer to serve under his command”. ‘Nuff said.

Except maybe this. Barbara Macgregor. The Macgregors have been land trust members for decades. And Barbara has been a steady hand for the land trust for all that time. Thanks for pitching in Barbara and being an understanding friend—just like your husband.



# Green Space Can Almost Be Spiritual

By Matt Winkler

*Editor's Note: The Essex Land Trust mission is "to protect the environment and small-town character of the villages of Centerbrook, Essex, and Ivoryton for current and future generations and to provide our community with recreational and educational opportunities." Implicit in this mission are benefits such as are those described below in this contribution from land trust member, Matt Winkler.*

**T**he land, trees, ponds, birds, and animals in Essex Land Trust (ELT) preserves can be very soothing, relaxing, and almost spiritual, if you let them! Let me explain if you are not in too much of a hurry.

In Connecticut, in the 1700's, about 40 % of the families lived an agrarian life. Today, that 40 % has fallen to under 2 %. We are losing our connection with green spaces, with nature. The woods and waters we have lost come at a cost to our mental and physical health.

Visiting a green open space, even for a brief 30 minutes, will show us that natural settings, have a way of rejuvenating and relaxing us. The absence of busy sounds, of our noisy mechanized lifestyle, the smells of clean, fresh air, the feel of a gentle breeze, and the comfort of the warm sun on one's face, in a green space, all work to remind us that we have truly escaped from the daily grind, even for a few brief minutes. You will feel anxiety slowly melting away while your mood and quality of life begins to improve. And as you peacefully walk along, you are beginning to get exercise, in a most enjoyable way. Your brain will begin to receive the internal "feel good chemicals" flowing & calming your whole body.

Many of us secretly wish for a simpler time, less stress, and a more natural life, surrounded by nature, with its beautiful green spaces.

Many of us lead a stressful lifestyle. Whether it is balancing careers, or a challenging auto commute, or a growing young family, or a difficult medical condition, many look for a way to reduce life's tensions that isn't too demanding of our time. Green space is one of nature's great de-stressors! And one of the simplest ways to engulf yourself in nature is simply to take a short walk on an ELT Preserve trail. There are many trails to select from right here in Essex. To begin, just select one and start by turning off your cell phone. Another secret is not to be in a hurry, so start walking at a comfortable pace. This should be an experience, not a race to the finish. Then take notice that you are surrounded by "green," unless it's winter. Look at the

trees; some close by, and some in the distance. Do the same with the birds, and any animals that you may see. If you come upon something of interest, stop briefly, and "savor the moment." Focus your mind on that one object. That alone can activate your *vagus* nerve which can calm your anxious mind. You may feel a peacefulness slowly come over you. Natural settings have a way of relaxing us.

The Japanese have a practice called "forest bathing!" It is like visiting green spaces with woods and waters, where we can savor nature in every way, surrounded by trees. In a like manner, where water surrounds you while bathing, the forests, woods, and trees surround you while you savor your time in nature's preserve. Then, start walking on, once again. Try to "see," or "hear," other things along your walk that you can stop and savor. Remember, this is your walk. You are 100% in charge of whatever you want to do on your walk. But try not to rush. Focus on savoring, as opposed to rushing on.

This spring, a neuroscientist, Dr. Sanjay Gupta, wrote a new book *Keep Sharp* (Build a better brain at any age) based on his worldwide research into brain function and brain health. Most of us are aware of the terrible brain dementias that steal our memories and our ability to conduct basic functional activities. I have condensed some of Dr. Gupta's advice about maintaining and improving brain health! He reminds us that the brain is the only bodily organ that can be improved with age; by maintaining brain activities, by following heart and brain healthy diets, and by exercising regularly. Simply put, "Go for a Walk", not on the side of a narrow, dangerous road, but on a beautiful nature trail in one of many Essex Land Trust preserves. It is much more enjoyable, much safer, and you can re-connect with nature in a beautiful green space. You can even "forest bathe" if you like! A regular walk will improve your heart health, your neuroprotective brain health, your state of contentment and happiness. It is completely safe to do, does not require an appointment, has plenty of parking, and is FREE.



# Coming Events – Mark Your Calendar!

November is property cleanup month for the Essex Land Trust. Three preserves will be looking for volunteers to put them to bed for the winter. Please join us on the following dates and locations. Bring rakes, blowers, and tarps. Dress warmly. Families welcome.

- **Saturday, November 6, 9 AM Cross Lots, 40 West Avenue, Essex.**  
**Rain Date: Sunday November 7.**
- **Saturday, November 13, 9 AM: Osage Trails, Foxboro Road, Essex.**  
**Rain Date: Sunday, November 14.**
- **Saturday, November 20, 9 AM - Falls River Landing, Falls River Drive, Ivoryton.**  
**Rain Date: Sunday November 21**



## **Saturday December 4, 10 am – A Geology Hike with Bob Wintsch. Meet at Canfield Woods Preserve, Book Hill Woods Road entrance, Essex**

Bob Wintsch taught geology at Indiana University for 43 years but conducted much of his research in the New England Appalachians. Now after retiring he moved to Haddam where he continues his research in the bedrock geology of Connecticut. He is now affiliated with Wesleyan University and the Geological Survey of Connecticut.

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