My thanks to the Warren Land Trust for inviting me here to talk about the "economic benefits of land conservation."

This is a "hot topic" these days as rural communities are increasingly thinking about how to adjust to modern pressures and maintain economic viability in a rapidly changing world.

However, just to say "the economic benefits of land conservation" seems like an oversimplification: like somehow there may or may not be economic benefits. Or that knowing "the economic benefits" of conservation will be enough— as opposed to an inquiry about the benefits of conserving any given piece of land balanced against the benefits which might accrue if the land is developed.

You don't really need me to identify the economic benefits at stake. Why do you live here? (audience participation):

Beautiful
The lake
Country feeling, restful
Nature
Recreation

...All of these and more. Warren is a lovely place to live because of its natural features that are woven into its culture and history – it's farming traditions, for example. Features generally thought of in terms of their ecological benefit – but which have also been monetized in studies across the nation.

Often this is done analyzing the cost of community services: municipal services (schools, ambulance, roads) needed due to increased development can exceed the added tax revenue provided by such development. The analysis is specific to the community being studied and is often influenced by the potential for commercial development. Studies find as a national average the cost of community services goes up by about \$1.16 for every \$1 returned in tax revenues.

Economic benefits of conservation are also measured by assigning value to ecological and ecosystems benefits received by people using protected land:

Recreation – by studying employment created by or compatible with public recreation opportunities – visitor spending in or near recreational areas, increased demand for locally produced goods and services. Studies NY state have concluded that each \$1 invested in conservation returns \$7 in natural goods/services. Overall recreation in New England has been estimated to provide 432,000 jobs and \$52 Billion per year.

Health benefits due to exercise, air, water (\$1200/yr for adults, double that for seniors)— this is hard to wrap one's mind around in Warren, as most of us probably have not experienced living in conditions of highly-polluted air or water. It was not so hard for the family of the Naugatuck businessman who once had a family retreat on the site of what is now East Kent Hamlet Nature Preserve.

A new study (2018, accepted for publication 2019): Amherst College, Harvard Forest, Highstead Foundation, and Boston Univ. looked at 1501 New England towns and cities' data spanning 5 intervals between 1990 and 2015

- Positive and statistically significant impact of land protection on # people employed and in labor force (growth in both # of jobs and #people seeking work) including in rural areas. Which they

conclude is a function of both amenity-related growth (enhanced quality of life attracting residents, and replacement of resource-intensive jobs with recreation-based and local-ag jobs. Some related to farming including forestry (timber harvest, maple syrup, fishing, hunting, trails-based recreation).

- Additional studies point to 5-35% higher property sale prices, and 13-14% parcel appreciation rates than regional averages for property located near to conserved land.

Warren knows this: A quote from the recently-adopted (May 2019) POCD: "When residents were asked to identify the areas of the town about which they are proudest, the location receiving the most votes was Lake Waramaug. Residents expressed appreciation for Lake Waramaug's scenic beauty and the Town beach and water-related recreational activities. Several noted the importance of Lake Waramaug to the Town's history and identity." (ecological benefits)

But, They also made the leap of connecting LW's water quality to the high quality of life, deterioration of which would detract from Warren's economic viability. "More recently, it has also become clear how vital a healthy Lake Waramaug is to the Town's economic well-being. Homes in the South Zone, and directly around the lake in particular, contribute greatly to the tax base of the Town. New homes and/or redeveloped properties surrounding the lake provide a great deal of work to the Town's resident craftsmen, landscapers, and tradespeople...If the water quality of Lake Waramaug deteriorates, these economic benefits would as well." So while we may not have the hard metrics for Warren in specific, the town has assigned priority to economic benefits related to open space.

We'll come back to that but first, a little bit of perspective on land trusts, what the land conservation movement is doing more regionally, backing way up to look at the Northeast and national trends...and then drilling down once more to think about why the Warren Land Trust is an important player in this inquiry about Warren's economic future.

I started working with our area's local land trusts in 2008. Before that I have to confess I did not know a lot about land conservation: I didn't even know what a conservation easement was.

Turns out that the birthplace of the land conservation movement was right here in New England – in 1890 with Massachussetts' Trustees of Reservations. Thus sparked a worldwide movement to set aside places of beauty and nature for public benefit. By the 1970s and 80s throughout Massachusetts and Connecticut countless community-based groups came together around the special aspects of their towns (around a kitchen table) – until in Connecticut, we had as many as 135 land trusts! The pros: localized, personal knowledge of the landscape and community priorities, engagement of passionate volunteers with a personal stake in outcomes, a feeling of camaraderie and shared goals...The cons: inefficiencies, isolation and inconsistency in practice.

It seems to me that up until the first part of the new millennium, CT's land trusts were focused on building their individual organizations, learning how to do land transactions, and responding to a sense of urgency back when it seemed so many of those lands were being lost or at serious risk of being lost to development. When community land trusts came up for breath as the market slowed, they were able to look around at the scope of their activities – which now included a full plate of taking care of the lands they had succeeded in protecting.

And, Simultaneously, three things were going on:

- 1. The Land Trust Alliance (our national umbrella organization providing support through advocacy, education and technical resources, helped formulate Standards & Practices in the aspects of land trust operations. The Alliance also created an accrediting program to help land trusts achieve excellence through adoption of these practices I hope you are all aware of the Warren Land Trust's recognition as one of the nation's 437 accredited land trusts no mean feat and one that significantly raises them up as a model of how small organizations are just as well equipped (and in some ways even better so) to embody high ethics and professionality of practice.
 - Accreditation and the Standards & Practices provided a common language for land trusts to communicate together about what they do. It enabled us to connect with and trust our peers.
- 2. The escalation of communications (email still a very recent development, Facebook), and the rise of a more regionalized social network. We had a common language, but we also, importantly, had contacts with others doing the same thing in neighboring communities. At public gatherings, in the grocery, on the trails and at the beach it was increasingly common to meet people involved in land conservation. There was cross-pollination people on the board of one land trust joined boards or committees of others.
- 3. Other tech developments the emergence of rich data, and GIS. Increasingly we were able to visualize complex and layered data sets and see how characteristics of the land relate to what was going on in the communities of neighboring towns.
- 4. Beginning in 2008 partnerships like the Litchfield Hills Greenprint Collaborative started springing up all over New England. A movement known as the Regional Conservation Partnership (or RCP) usually loosely organized around a focal landscape or key environmental feature as in the Litchfield Hills, and with a broadly stated goal of doing more together than one local organization could on its own, including pursuing impactful conservation initiatives that transcend town boundaries. Today there are 44 RCPs stretching from Maryland to Canada. The Greenprint includes 33 partners working together including Warren Land Trust and the Lake Waramaug Task Force.

But what does all of this have to do with the economic benefits of conservation? Everything.

Because modern land conservation is selective, strategic, and works in tandem with planful development. A key aspect for RCPs is the inclusion of municipal partners. Our Regional Council of Governments is also a partner in the Greenprint. Together, we take a systems approach towards community Plans of Conservation and Development to help develop the mapping and text for these plans.

The question, remember, is not really whether there are economic benefits to conservation – it's whether and in what places such economic benefits tip the balance on lost economic activity from an alternative use. You'll never have all one, or the other: POCD's are plans of conservation AND development, not OR.

Warren gets this...the POCD references a fundamental belief that implementation of a land conservation goal "would foster economic and social prosperity, and that carefully executed land conservation and natural resource protection can co-exist with, and be beneficial to, thoughtful, well-planned development." Bring on Warren General!

Here are the Goals stated in the May 2019 POCD:

Goal 1: Work to Attract and Retain Young Adults & Young Families (how? "promote quality of life" "have the amenities young families expect" "expand recreational opportunities and programming") ecological services with economic impact of bringing more residents.

Goal 2: Protect Farmland from Development, Support Farm Businesses, Support Sustainable Farming Practices, & Attract Young Farmers ("The community believes that thriving farms and farmland preservation are not only fundamental to Warren's rural character, scenic beauty, and environmental health but also the Town's ability to foster economic and social prosperity.") – promote agritourism-friendly practices/regs, ref: project WLT, WHLT, LWTF, Town.

Goal 3: Support Warren's Town Center & Small Businesses (supporting existing, home-based businesses = WarrenWorks) not a call for new commercial development

Goal 4: Protect the Natural and Water Resources At Lake Waramaug & Its Town-Wide Watershed:

Goal 5: Protect Town-Wide Natural Resources and Ecosystems;

Goal 6: Meet the Needs of Our Older Adult Residents (focus on Town-owned land as resource opportunities, need for transportation and appropriate down-sized housing close to major routes)

Goal 7: Invest in Community Facilities and Recreation: including trails and trail-map publications

So let's go to the maps. and here I'm going to introduce one last concept that I'm really excited about: Follow the Forest

The forests of the eastern United States cover 926,000 square miles: an area far greater than those of the American West. Scientists consider this the most intact temperate deciduous and mixed forest region on Earth.

Follow the Forest seeks to protect and connect the largest intact woodland areas, unfragmented by human development including roads and homes. These "core forests" of 250 acres or more filter air and water while also providing important habitat for wildlife.

Follow the Forest is a mapping initiative that prioritizes preservation of land within core forest blocks, and seeks to maintain and actively steward connections between core forests to secure a resilient landscape stretching from New Jersey to Canada.

The goal is to preserve 50,000 additional acres of core forest (approx. 78 square miles) in the 2000 square mile Housatonic River Watershed. The mapping helps steer us towards the places of highest priority by looking at core blocks that are over/under 50% protected, and the connections inbetween core forests providing opportunities for free movement between core forest.

[show how it works using links]

Here in Warren it's demonstrating to us that this area containing Wyantenock State Forest, WLT's Podlaseck-Bryant conservation easement, KLT's Tobin Preserve, Kent Falls State Park, etc. is pretty well protected – over 50%. Where wildlife would go from there and particularly south of that block is an important question – core forest here is less than 50% protected and existing roads like Rtes 45 and 341 create pinch points that could impede movement. You'll notice however that the map leaves places of existing commercial or denser development alone, as well as large tracts of farmland.

This is consistent with the current POCD's objectives of supporting development in the commercial center, and supporting farms and agritourism, while continuing to protect and invest in ecological services and recreation.

[Quickly show two more tools] You can access and use these tools yourselves anytime. In fact it's really fun to zoom around and toggle layers off and on. One of my favorite layers is 1930's aerial imagery, which allows us to peek in on what was going on here 80 years ago.

And the LIDAR layer, which looks like a moonscape and is particularly good at calling out charcoal mounds, wells, and other man-made (nonorganic) alterations to the land.

The Greenprint Collaborative is proud to be leading this effort to conceptualize strategic conservation across the East Coast, and to be coordinating with partners, including other RCPs, in New York, Massachusetts, New Hampshire, Maine and Vermont. It's a big vision, but it can't happen without the collective efforts of localized focused efforts. Thanks to the Warren Land Trust for helping to share this call to planful action in response to a changing landscape. I see this as one important way to ensure a better and sustainable future for all of us living here in NW CT.

Warren, settled in 1737 and incorporated in 1786. POCD: 1400 residents, 603 households. Total area 27.6 miles, 4.5% water. Unlike neighboring towns some of which are predicted to decline in population, Warren's population is projected to stay relatively flat....but it's aging. And 25% of housing is "seasonal, recreational, occasional" use.

Economic Conditions & Trends: • There are 150 jobs in Warren and approximately 800 working-aged residents. • 95% of residents commute out of Warren to work • 23% of workers in Warren are "self-employed", and 9% of Warren workers "work from home" • All of Warren's top four employers as of the date of this publication are in the hospitality industry and home-based contractors. • Warren's annual median household income in 2015 was \$90,865. This is almost 30% higher than the State household median income of \$70,331. At the same time, 141 individuals in Warren are estimated to be living under the poverty level. 120 households earn less than \$50,000.

Housing Conditions & Trends: • There is very little rental housing available in Warren. Rental options are often desired by young adults and young families before they commit to homeownership. There are approximately 60 renter-occupied homes in Warren. • 77 households in Warren earn less than \$50,000/year and pay more than 30% of their income on housing costs (this is considered "unaffordable"). • Most of the housing units in Warren are single family homes on large lots which does not serve the market of people interested in "downsizing". There is no senior housing in Warren as there is in neighboring towns such as Kent and Cornwall

3,088 acres of land in Warren are permanently protected from development (Sept. 2018 HVA), this represents 18% of all land in Warren. • 1102.34 acres of land in Warren is being used for agriculture (was 1,734 acres in 2008)