CLEARSCAPES

CLEAR

A Newsletter of the Center for Land Use Education and Research at the University of Connecticut.
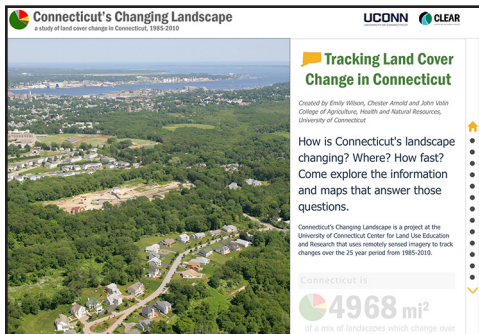
Technology

Using a Story Map to Tell Connecticut's Landscape Story

CLEAR has published a "story map" focused on *Connecticut's Changing Landscape*, the Center's ongoing project that charts changes to the landscape over time. The story map format created by Esri, the GIS industry leader, combines interactive online maps with text, video, images and other multimedia features in a way that guides the reader through the story providing far more context than a simple map.

The Changing Landscape Story Map was recently named the Best Science/Technology/Education Story Map in the 2015 Esri Storytelling with Maps contest—one of only five first place winners from over 400 entries. Congrats are especially due to Emily Wilson, the site's chief architect.

Connecticut's Changing Landscape now

Connecticut's Changing Landscape
a study of land cover change in Connecticut, 1985-2010

Tracking Land Cover Change in Connecticut

Created by Emily Wilson, Chester Arnold and John Volin College of Agriculture, Health and Natural Resources, University of Connecticut.

How is Connecticut's landscape changing? Where? How fast? Come explore the information and maps that answer those questions.

Connecticut's Changing Landscape is a project at the University of Connecticut Center for Land Use Education and Research that uses remotely sensed imagery to track changes over the 25 year period from 1985-2010.

Connecticut is
4968 mi²

Research

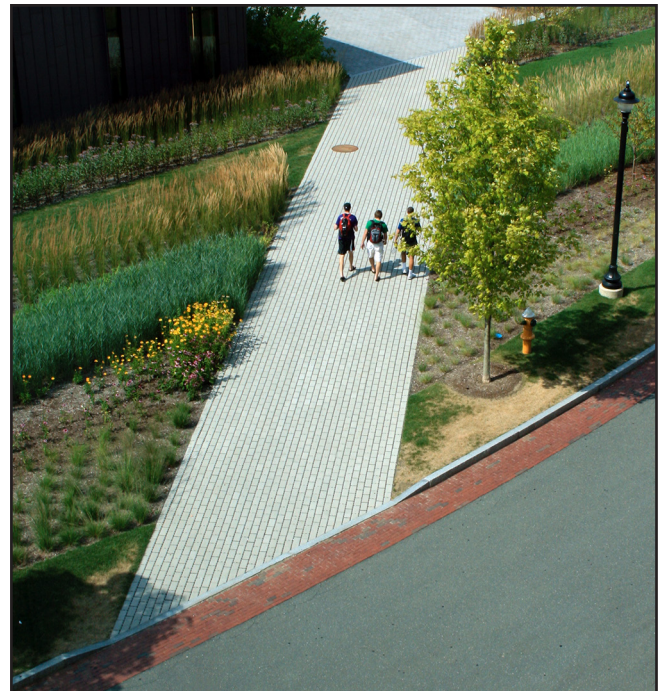## Status of LID Policy in Connecticut Towns

Most towns in Connecticut have at least some language supportive of low impact development (LID) in their plans and regulations, largely due to the work of dedicated local proponents. However, not all of this support leads to specific regulations requiring or encouraging the use of LID practices. Additional resources are needed to take these practices to the next level, with incentive funding and education leading the list of needs.

These are some of the findings of a CLEAR study conducted over the past nine months that focused on "taking the pulse" of LID in Connecticut. LID, often called "green infrastructure" these days (but not yet in town regs!), is a broad strategy involving a number of stormwater practices designed to reduce flooding, erosion, and water pollution problems by reducing impervious surfaces and infiltrating

stormwater back into the ground.

The CLEAR study had two phases. In Phase One, CLEAR research assistant Manon Lefèvre (pg 2) conducted exhaustive (and exhausting) internet research on the land use plans and regulations of 85 towns (the number of towns was dictated by available

Research continued...

Low Impact Development in Connecticut continued from pg 1...

resources and is not a scientifically random sample). Towns were "scored" for the number of LID strategies that appeared in these documents, based on the 14 specific policies suggested in the 2009 CLEAR guide *Developing a Sustainable Community. A Guide to Help Connecticut Communities Craft Plans and Regulations that Protect Water Quality*.

In Phase Two, follow-up phone interviews were conducted for the vast majority (78) of these towns by Manon and Kerrin Kinnear, a UConn Extension summer intern (below) now entering her senior year in the UConn Environmental Studies program. Kerrin and Manon doggedly pursued town planners and other municipal staff to ascertain the reasons why their town did or did not pursue LID, the greatest barriers towns face related to these practices, and any recommendations for overcoming those barriers. Some
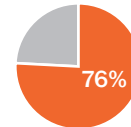
key findings are presented below in graphic format.

The results provide some useful information to help guide the future municipal assistance efforts of CLEAR and others like CT DEEP. To help visualize the study's findings, the data was added to a new "Story Map" that combines interactive maps, text, graphics, photos and other media to tell the story. The story map summarizes the data by the number of towns implementing different LID policies and provides links to relevant documents and page numbers, making it a great resource for others towns interested in pursuing LID policies.
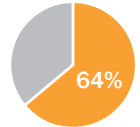
V**isit the Story Map online at** http://s.uconn.edu/stateoflid. And for the left-brained, a CLEAR Technical Paper will soon be forthcoming summarizing the study and its results. •

The study examined the plans and regulations of **85** towns with regard to broad language on LID, and on how many specific policies they had adopted.

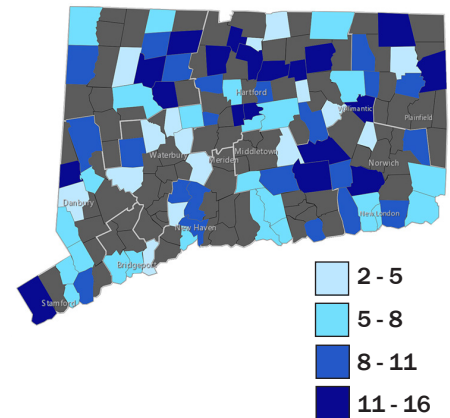### Percent of Towns Mentioning LID/GSI in Their Regulations

76%
Impervious Surface Reduction

64%
Low Impact Development (LID)

Number of LID Policies Adopted
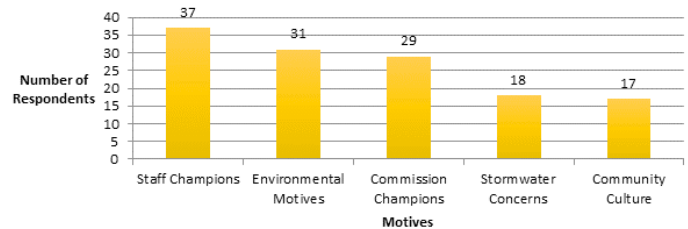

- 2 - 5
- 5 - 8
- 8 - 11
- 11 - 16

Phone interviews were conducted by Manon Lefèvre, a CLEAR research assistant, and Kerrin Kinnear, a UConn Extension summer intern. A huge thanks to both!
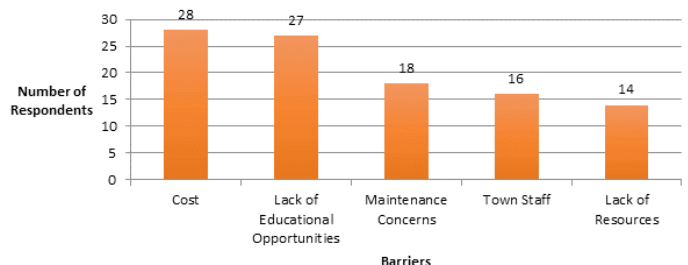
3 We Asked Town Planners Questions

1. Does your community encourage/require the use of low impact development or green infrastructure to manage stormwater? If so, in what ways?
2. What are the factors driving your community to encourage or not encourage LID?
3. What are the biggest obstacles to implementing LID regulations or practices in your town?

Top 5 Motives for Implementing LID

Motives	Number of Respondents
Staff Champions	37
Environmental Motives	31
Commission Champions	29
Stormwater Concerns	18
Community Culture	17

Top 5 Barriers to Implementing LID

Barriers	Number of Respondents
Cost	28
Lack of Educational Opportunities	27
Maintenance Concerns	18
Town Staff	16
Lack of Resources	14

Program Updates

Land & Climate Programs

▶ The Climate Adaptation Academy, a partnership of CLEAR and the CT Sea Grant Program, has scheduled their **next session for November 6 on Legal Issues in the Age of Climate Adaptation**. clear.uconn.edu/climate.

▶ **CLEAR hosted a webinar on** *Planning and Zoning in an Aging Connecticut.* The webinar was presented by Alyssa Norwood, project manager of the state's livable communities initiative at the Legislative Commission on Aging. clear.uconn.edu/webinars.

▶ Board of Trustees Distinguished Professor Mark Boyer and doctoral student Melanie Meinzer **conducted a CLEAR webinar on** *The Big Picture of Climate Adaptation* **in Connecticut,** an overview of their findings from a study that looked at climate adaptation initiatives, or lack thereof, in virtually every town in Connecticut. clear.uconn.edu/webinars.

▶ **CLEAR has received a grant from NOAA to study "Blue Carbon,"** or carbon that is sequestered by coastal plant species. This builds on earlier work by CLEAR collaborator Linda Tomasso on carbon sequestration in CT's forests, for which she used CLEAR's land cover data (see Fall 2014 issue).

Water Programs

▶ CT DEEP and CLEAR's NEMO program are collaborating on a project in the West River watershed, focusing on low impact development (LID), otherwise known as green stormwater infrastructure (GSI). **The CLEAR team is working closely with the watershed towns in an effort to assist them in "upping the ante" on LID policies in their communities**.

▶ **The NEMO program hosted a small but potent group of LID experts from our sister Land Grant/Sea Grant universities in the Northeast**. LID researchers and outreach specialists from the Universities of Vermont, New Hampshire, Rhode Island, and Rutgers University came to the UConn campus for two days of information sharing and discussion on potential regional projects. The group has decided to make the meeting an annual event.

▶ **CLEAR's Mike Dietz is conducting research on the transport of salt through pervious pavements typically used in LID**. Mike, Professor Gary Robbins and graduate student Derek Angel worked on a field study located on a pervious asphalt lot on campus, while Mike and Professor Jack Clausen are wrapping up a laboratory study. Results soon!
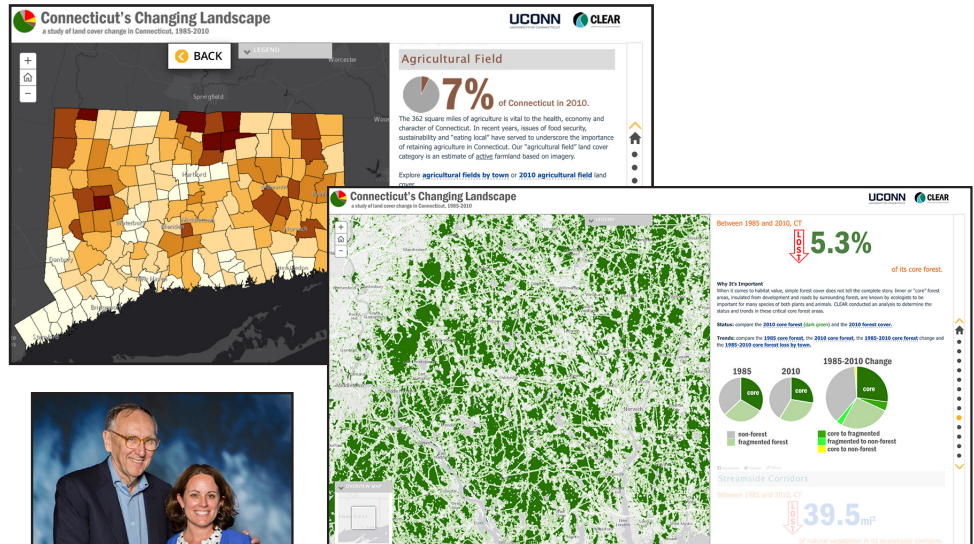
Geospatial Training & Technology Programs

▶ **CLEAR's Geospatial Training Program (GTP) has developed a new course**, *Can You Map Me Now?: Creating Online Maps Using Smartphone GPS*. In collaboration with the CT Land Conservation Council, the course is being tailored to land trusts in two workshops this fall.

▶ **CLEAR and University of Rhode Island colleagues went to EPA in late June to present a progress report on their "N-Sink" tool**, an online decision support system that helps to track nitrogen (N) movement within a watershed. N is known to be a primary cause of ecosystem stress in coastal waterbodies. A three-year collaboration with EPA Region 1 to refine and expand the tool is in the works.

▶ **CLEAR's Rain Garden smart phone application (app) is now available for iPhone and Android devices and covers 13 states, and counting**! As part of a grant from USDA, CLEAR's Dave Dickson and Mike Dietz are working with colleagues in a number of states to collect localized plant lists and rain garden design specs that can be plugged in to the app. We hope to add at least 5 more states in the coming year. Learn more at s.uconn.edu/rgapp.

Technology continued...

Using a Story Map to Tell Connecticut's Landscape Story continued from pg 1...

has 25 years of land cover change information collected on six separate dates from 1985 - 2010. Thanks to support from CT Department of Energy and Environmental Protection (DEEP), a 2015 update is now underway and will expand the study to 30 years. The CCL story map is an accessible, informative and, dare we say, even fun new way to look at the data. There's information on changes to development, forest, turf, and agricultural fields. The site also displays the results of CLEAR subsidiary studies such as forest fragmentation, riparian corridors and agricultural soils.

The Story Map can be found online at http://s.uconn.edu/ctstory. •

(Left) Emily Wilson receiving the story map award from Jack Dangermond, founder and president of Esri. (Above) Screenshots of the agricultural and forest data pages on the CCL story map.

Outreach Land Use Academy Wins Award

At a ceremony in the Capitol Building last May, CLEAR's Land Use Academy was honored with the 2015 Education Award from the Connecticut Chapter of the American Planning Association. The Land Use Academy, created in 2007, provides training for municipal land use commissioners on roles and responsibilities, legal requirements, site plan reading, and emerging planning topics. The Academy is a partnership between UConn CLEAR, the Connecticut Bar Association, the state's Regional Planning Organizations, and the Connecticut Office of Policy and Management (CT OPM).

CLEAR Land Use Planning Educator Bruce Hyde oversees the Academy and does everything from lecturing to agenda planning to ordering the lunch and taking registration. Bruce

Rich Roberts (left) and Mark Branse (right) flank Bruce Hyde as he displays the award.

is a veteran of over 30 years of professional planning work in both Vermont and Connecticut, but that doesn't mean that the LUA is "old school." Most Academy lectures, for instance, include audience response interludes using "clickers," allowing Bruce and our incredible stable of Bar Association lecturers to poll the audience on certain topics and quiz them on what they've learned.

Despite operating on very modest resources, the LUA has had a broad reach: the Academy has trained over 1300 commissioners in 156 of Connecticut's 169 municipalities (over 92%). So, CONGRATS to Bruce and to our barrister co-conspirators, most especially Ken Slater and Rich Roberts of Halloran and Sage, and Mark Branse of Branse, Willis and Knapp. •

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