Partnering for a Green and Growing Connecticut

The following are the slide presentations from a workshop for local chief elected officials and land use officials held by the Connecticut Department of Environmental Protection on December 3, 2008.

The next slide contains the agenda of the workshop and contents of the slide show. The “slide #” links will take you to the specified slide. Selecting the underlined topics will take you to related web pages.

Contents

Office of Responsible Development

Department of Economic and Community Development

Responsible Growth/Development

November 2008

What is Responsible Growth?

Transit Oriented Development (TOD)

Providing Transportation Options

Reducing Traffic Congestion

Mixed Use Development

Downtown Revitalization

Preserving Our Quality of Life

Definitions

- **Responsible Growth (RG)** is economic, social and environmental development that incorporates land use and resources in ways that enhance the long-term quality of life for current and future generations of Connecticut residents. Responsible growth supports a vibrant and resilient economy, preserves natural resources, and maximizes previous investments in existing infrastructure while preserving distinctive landscapes, historic structures, landmarks, and villages. (Task Force Definition)
- **Responsible Development (RD)** is the implementation of responsible growth policies.

DECD

Responsible Growth

- BLUF: responsible growth is a balance between our growth and development needs and conservation of our state's resources and open space
- The "nutshell"
  - Focus efforts where previous investment has occurred
  - Brownfield reuse
  - In-fill development (allow higher densities land use)
  - Integrated Transportation: improve public transit
  - Mixed use development
  - Regional Collaboration
  - Energy Conservation (alternate energy, LEED, etc)
- Maintain the State's Quality of Life

DECD

Responsible Growth Enabling Orders

Governor Rell's Executive Order # 15

Creates an Interagency Steering Council comprised of state agencies to coordinate policy and capital planning

- Regional Roundtables
- Green Plan Update
- Reviewing Transportation policies: TOD, public transportation, "walkability"
- Expanding Housing Opportunities
- Targeting State funding to support responsible growth strategies

General Assembly's Public Act 07-239

- Model municipal zoning regulations based on responsible growth principles.
- Regional coordination of planning consistency at all governmental levels, and promote local unified development codes.
- Means for review, coordination and encouragement of regionally significant projects advancing responsible growth.

DECD

The State C & D Plan & Growth Management Principles

General

- C & D Plan = The State's Plan governing investment and development
- State Investment >$200,000 = C & D Plan compliance

Growth Management Principles

- Redevelop and revitalize regional centers and areas
- Expand housing opportunities
- Concentrate development transportation nodes and along major transportation corridors: support the viability of transportation options
- Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands
- Protect the integrity of environmental assets critical to public health and safety
- Promote integrated planning

DECD

DECD Baseline Parameters for Responsible Development

1. Project activities should be in conformance with the Conservation and Development Policies Plan for Connecticut
2. Locate projects within existing developed areas
3. Locate projects within existing public utilities service area (water, sewer, etc.)
4. Projects outside of public utility services areas should be scaled to use on-site systems, where practicable, to manage unplanned development of adjacent land.
5. Transit-oriented development
   - Access to rail and public transportation
   - Limit demand for highway expansions – reduce automotive dependency
6. Balance natural resources, open space and recreation with development
7. Mixed-use development
   - Commercial, Office, Housing
   - “Smart codes” or use-based codes
   - Walkable communities

DECD

DECD's Way Ahead

- Updating DECD programs, reports and plans; including Responsible Growth strategies
- Updating the Municipal Development Project Program: Regional Projects
- Integrated Planning, i.e. transportation, site development, conservation, housing, etc
- Shovel Ready Sites
- Engaging EDA, HUD and other federal development partners

DECD

505 Hudson Street
Hartford, CT 06106
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Responsible Growth Roles: Municipalities and DEP

- Municipalities:
  - Frontline Land Use Decision Makers
  - Leaders in Responsible Growth and Other Environmental Initiatives
  - Permittee for DEP-regulated Activities
- DEP:
  - Technical Assistance
  - Permitting

DEP's Role in Responsible Growth is Multi-faceted:

- Brownfields Revitalization
- Land Use Permitting
- Open Space Protection
- Climate Change Adaptation

DEP's Role in Responsible Growth: Brownfields

- Sets Standards for Remediation
- Runs the LEP Program
- Encourages the Redevelopment of Brownfields

DEP's Role in Responsible Growth: Brownfields

Contact for technical assistance and guidance on the Brownfield Cleanup Program or other brownfield issues:

Graham Stevens

DEP's Brownfields Coordinator
email - graham.stevens@ct.gov
phone - 860.444.3705

DEP's Role in Responsible Growth:
Land Use Permitting

- Stormwater (Construction)
- Water Diversion / 401 Water Quality Certification
- Inland Wetlands (for state projects)
- Structures and Dredging and Tidal Wetlands (required for all activities in regulated area)
- Flood Plain Issues

DEP's Role in Responsible Growth:

Land Use Permitting

- Municipalities May Be Permit Applicants
- Permit Notices for Both Public Private Projects Are Generally Sent and to Chief Elected Officials and City/Town Clerks
- Municipal Comments on All Permit Notices Are Welcome

DEP's Role in Responsible Growth:
Land Use Permitting / Hot Topics

- Municipal Wastewater Facilities
  - Facility Sizing and Capacity
  - Sewer Service Area Plans
- Large Scale Subsurface Wastewater Disposal
  - Community Systems
  - Alternative Treatment Technology

DEP's Role in Responsible Growth:
Land Use Outreach

- DEP Encourages Environmental Leadership on Local Level
- Provides Technical Assistance

DEP's Role in Responsible Growth:

Open Space

- A Key Component of Responsible Growth
- Can Protect Sensitive Habitat and Species of Special Concern
- Contributes to Quality of Life
- DEP Updated the Green Plan

DEP's Role in Responsible Growth:
Climate Change Adaptation

Extreme Weather Conditions Will Affect

- Stormwater Systems
- Floodplain and Coastal Development
- Flood Management
- Emergency Preparedness and Response

DEP's Role in Responsible Growth:

Climate Change Adaptation

- AAC Connecticut Global Warming Solutions (P.A. 08-98) Requires Assessment of the Impacts of Climate Change on:
  - State and Local Infrastructure
  - Public Health
  - Natural Resources and Ecological Habitats
  - Agriculture

DEP's Role in Responsible Growth:
Climate Change Adaptation

Under P.A. 08-98

- Climate Change Subcommittee Is Being Formed
  - State and Local Officials and Academics
  - Kick Off Meeting December 19, 2008
- Report Due to Governor and Legislature July 2010
  - Focus on Mitigating Impacts

DEP's Role in Responsible Growth:
Climate Change Adaptation

- DEP Is Conducting Internal Analyses Regarding Climate Impacts of Actions
- Results Will Inform the Work of the Climate Change Adaptation Subcommittee

Development of A Water Pollution Control Plan and A Sewer Service Area Map

William R. Hogan
Bureau of Water Protection and Land Reuse
Connecticut DEP

Statutory Authority

- Chapter 103 “Municipal Sewerage Systems”.
- CGS section 7-246(b).
- Authorizes water pollution control authority (WPCA) to prepare and periodically update a water pollution control plan.
- Such plan shall designate and delineate boundaries of
  - Areas served by sewers
  - Areas to be served by sewers
  - Areas where sewers are to be avoided

What is a Water Pollution Control Plan?

- Coordinated compilation of municipal policies and objectives for control of water pollution.
- Delineation of existing and future sewer service areas.
- Identification of sewer avoidance areas.
- Identification and allocation of treatment and conveyance capacity.
- An executive document: 5 to 10 pages long.

Who develops the Water Pollution Control Plan?

- Responsibility rests solely with the WPCA.
- No other board or commission is granted this authority under the statutes.

Who's Involved?
Developing the SSA map

- WPCA is the only board or commission authorized to develop the sewer service area (SSA) map, however….
- The map should not be developed without input from other municipal boards and commissions !
- Input should be sought from local health officials, planning & zoning, economic development, conservation, wetlands, and town planner.
- The goal is to develop a map that all boards can support when making land use decisions.

What's Involved?
Developing the SSA map (part 1)

- What is the difference between a sewer system map and a sewer service area map?
- As a starting point, compile a map of the existing sewers and properties actually served.
- Identify any proposed future sewer service areas based on need for off-site solutions to existing or anticipated wastewater disposal problems.
- Add future service areas needed for economic growth or to serve town needs.

What's Involved?
Developing the SSA map (part 2)

- Compare draft SSA map to municipal plan of conservation and development.
- Compare draft SSA map to current Conservation and Development Policies Plan for Connecticut.
- If inconsistencies exist, either adjust future service areas to be consistent with planning documents, justify exceptions, or modify plans.

The State C&D Plan
Why is consistency important?

- CGS Section 16a-31(a) "The following actions when undertaken by any state agency, with state or federal funds, shall be consistent with the plan:

  (1) The acquisition of real property when the acquisition costs are in excess of two hundred thousand dollars;

  (2) The development or improvement of real property when the development costs are in excess of two hundred thousand dollars;"

- DEP is obligated by this statute to determine if projects are consistent prior to awarding Clean Water Funds or STEAP grants.
- This obligation often puts DEP at the forefront of discussions with municipal officials about C&D Plan.
- The SSA is a key document to determine consistency.

The Final Step

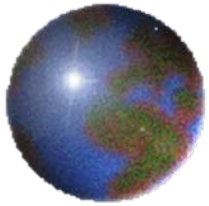
- The SSA Map should be included in the municipality's plan of conservation and development.
- The infrastructure section of the municipality's plan of conservation and development should discuss capacity and service area.
- Reference should be made to municipal water pollution control plan in POCD.

The Goal

- A consistent message concerning wastewater infrastructure should be sent regardless of the municipal “messenger”.
- All local boards should understand the strengths and limitations of wastewater disposal throughout the town, and its effect on their actions.
- The decisions of all local boards should be consistent with the sewer service area map and the water pollution control plan of the town.

Contact Information

- Phone: 860-424-3753
- Email: william.hogan@ct.gov



Wastewater – Decentralized and Alternative Sewage Treatment Systems

Connecticut Department of Environmental Protection

December 3, 2008

Regulatory Jurisdiction

- Connecticut General Statutes (C.G.S.) Section 22a-430
- Regulations of Connecticut State Agencies Section (R.C.S.A.) Sections 22a-430-1 through 22a-430-8
- Federal Safe Drinking Water Act – Regulated as Class V injection wells pursuant to the Underground Injection Control program (UIC)

- Subsurface sewage disposal system
  - “a system consisting of a house sewer, a septic tank followed by a leaching system, any necessary pumps or siphons, and any groundwater control system on which the operation of the leaching system is dependent”. (R.C.S.A. 22a-430-1(a))
- Alternative sewage treatment system
  - “a system serving one or more buildings on one property which utilizes a method of treatment other than a subsurface sewage disposal system and which involves a discharge to the ground waters of the state”. (C.G.S. 7-245(2))
- Community sewerage system
  - “any sewerage system serving two or more residences in separate structures which is not connected to a municipal sewerage system or which is connected to a municipal sewerage system as a distinct and separately managed district or segment of such system”. (C.G.S. 7-245 (3))

Subsurface Disposal System Regulatory Jurisdiction

	Subsurface Sewage Disposal System (conventional)	Alternative Sewage Treatment System (AT)	Community Sewerage system (may be either conventional or AT)
≥5,000 gallons per day	DEP	DEP	DEP
>2,000 gallons per day and <5,000 gallons per day	DPH reviews and approves Local Dept of Health issues permits to construct and discharge	DEP (June S.S., P.A. 07-01, Sec. 155, allows DPH jurisdiction for AT)	DEP (June S.S., P.A. 07-01, Sec. 155, allows DPH jurisdiction for AT)
< 2,000 gallons per day with trained staff	Local Dept of Health reviews, approves, and issues permits to construct and discharge	DEP (P.A. 07-01, Sec. 155, allows DPH jurisdiction for AT)	DEP (P.A. 07-01, Sec. 155, allows DPH jurisdiction for AT)

DEP Administrative Process

- Pre-application - scope of project, site resources, design flows, and treatment system
- Site Evaluation - test pits, borings, groundwater monitoring, modeling, load tests
- Application - conceptual design of treatment system
- Public process - tentative determination, public comment/hearing and final determination
- Approval of plans and specifications for construction
- Permit issuance - operation, monitoring and maintenance requirements for term of permit

Comparison between DEP and DPH processes

	DEP	**DPH**
Technical requirements	Site specific analysis	Prescriptive Code
Fees	$4,725 application fee $885 annual fee	$500 review fee
Public Process	Minimum 30-day public notice with possibility of public hearing	Exempt
Timeframe	Minimum of 9 months to a year	20 days
Operation, maintenance and monitoring requirements	Monitor system performance Groundwater testing Submission of quarterly reports	None

DEP's Principles for Evaluating Onsite Wastewater Treatment

- Hydraulics
  - Site hydraulics – ability to accept design flow
  - System Sizing- flow through mature biological mat
- Pollutant Renovation
  - Bacteria – travel time in groundwater
  - Virus – vertical depth of unsaturated zone
  - Phosphorous – soil sorption
  - Nitrogen – dilution in groundwater
- Water quality standards met at property line, water course, water supply well or other sensitive receptor

Use of AT Systems in CT

- Of approximately 300 to 350 systems permitted or in various stages of review, about 58 are AT systems
  - 22 installed for repair/ upgrade of existing failing or malfunctioning systems
  - 34 proposed or installed for new development
  - 2 installed for municipal use
- 3 towns investigating use of “decentralized wastewater management districts” which may include AT systems for household and small commercial use
- AT systems prohibited in public water supply watersheds, except for municipal or school projects and repairs (C.G.S. 22a-430(b))

How these systems treat wastewater:

Pollutant	**“Conventional septic system”**	**Alternative sewage treatment system**
Solids and organics	• {grease trap} • septic tank(s) • leaching system	• {grease trap} • septic tank or other primary settling tank • technology for additional mechanical, chemical and/or biological treatment • leaching system
Nitrogen Phosphorus	• some removal in septic tank and leaching field • some treatment in soil and dilution from rainfall • some removal in septic tank and leaching field • Treatment in soil	• technology may remove up to 80% of nitrogen if properly designed, operated and maintained • {technology may remove up to 90% of phosphorus if properly designed, operated and maintained}
Bacteria and viruses	• leaching system •soil •detention time in soil and groundwater	• {disinfection may be provided} • soil • detention time in soil and groundwater

Types of Land Uses with AT systems

- Residential communities
- Schools
- Restaurants
- Shopping plazas/malls
- Office buildings
- Marinas
- Grocery stores
- Hospitals
- Convalescent homes
- Assisted living
- Hotels
- Recreational facilities

Performance and Reliability

- Current data reveals AT systems are capable of high levels of treatment with proper design, installation, operation and maintenance
- AT systems are permitted in conjunction with soil absorption systems designed for additional treatment for nutrients and pathogens
- Ground water monitoring results indicate water quality standards are achieved

Compliance Assurance Efforts

- Design Manual for Large-Scale Onsite Wastewater Renovation Systems available on website and on CD in DEP bookstore
- Changes to permit language to address AT performance issues
  - Compliance schedule for installation and start-up
  - Compliance audits at set intervals
  - Additional reporting requirements
  - Clarification of operator certification requirements

Compliance Assurance Efforts

- New Regulations
  - Administrative Process & Fees
  - Technical Standards (Site evaluation, Design, O & M, Reporting)
  - Repairs, Upgrades & Unpermitted Discharges
- Enhanced Coordination
  - Municipality's Role – Ensuring effective management
  - DPH's Role – Public Water Supply Watersheds
- Electronic Compliance Monitoring

Community Pollution Problems: Community Solutions

- A community solution is one where the municipality takes responsibility for the implementation of the solution, either through contract or through management:

Community Pollution Problems: Community Solutions

- A community solution can be one of two general types:
  - Centralized community sewerage system:
    - Conveys the wastewater from multiple lots to a common point for treatment and discharge.
  - Decentralized management district:
    - Requires the upgrade of individual systems to a pre-determined standard, through a combination of conventional septic systems and alternative technology, with continuing management by the municipality.

Decentralized Wastewater Management

- Section 7-245 of the Connecticut General Statutes defines “decentralized wastewater management district” as:
  - areas of a municipality designated by the municipality through a municipal ordinance
  - when an engineering report has determined that the existing subsurface sewage disposal systems may be detrimental to public health or the environment and that decentralized systems are required and
  - such report is approved by the Commissioner of Environmental Protection with concurring approval by the Commissioner of Public Health, after consultation with the local director of health.

When is decentralized an appropriate solution?

- A viable decentralized solution must:
  - Be the most cost-effective solution, as determined by an engineering report,
  - Be approved by both CT DEP and CT DPH, with local health department consultation,
  - Be adopted by local ordinance,
  - Include a long-term commitment to maintenance and monitoring by both the municipality and the citizens.

Decentralized Wastewater Management District - Benefits

- Provides new tools for improved management of new and existing onsite sewage systems.
- Allows use of alternative technologies for remediation of existing onsite problems.
- Avoids large-scale infrastructure (sewers and treatment plants).

Decentralized Management: The Bottom Line - Cautions

- Requires DEP and DPH approvals, and concurrence of local Director of Health.
- Requires a substantial local maintenance and management component in order to be properly implemented.
- Requires a coordinated effort between local health department and WPCA.
- Creation, installation and operation of a decentralized wastewater management district can be as costly as a sewer system.

The Changing Landscape: A New Paradigm Emerges

- EXISTING:

  Sewers ⇒ Growth and Development

- NEW:

  Sewers ⇒ Growth and Development

  and

  AT Systems ⇒ Growth and Development

Land Use Considerations

- AT can open up currently unsewered areas to more significant development pressure
- Some lands better suited to protection or preservation
- Wastewater management and water supply are functionally linked and should be considered together in local plans

What's a Town To Do?

- Proactively plan for the variety of onsite wastewater management systems
  - Allow where State Plan of C&D growth principles support development
  - Discourage where State Plan of C&D growth principles encourage conservation and protection
  - Consider exception for AT to abate an existing pollution problem if other solutions infeasible
  - Consider allowing AT in town/village centers where municipal sewers are unavailable if sites are suitable

Plan Coordination

- The DEP vision and the State C&D Plan growth management principles should be factored into local plans as they are developed
- Encourage moving towards stronger vertical integration of local, regional and State plans of C&D

Plan Coordination

- Effective local planning involves all interested parties in planning process
  - Water Pollution Control Authority
  - Planning and Zoning
  - Economic Development
  - Inland Wetlands
  - Historic Districts

Contact Information – Alternative Treatment Technology

- Jennifer Perry Zmijewski
  Water Permitting & Enforcement Division
  Bureau of Materials Management & Compliance Assurance
  (860) 424-3802
  jennifer.perry@po.state.ct.us

  Guidance Manual at: www.ct.gov/dep
  Look under publications, guidance materials

Contact Information – Decentralization

- Dennis Greci
  Planning & Standards Division
  Bureau of Water Protection and Land Reuse
  (860) 424-3751
  dennis.greci@po.state.ct.us

  Guidance on municipal wastewater planning, financing and operation at: www.ct.gov/dep

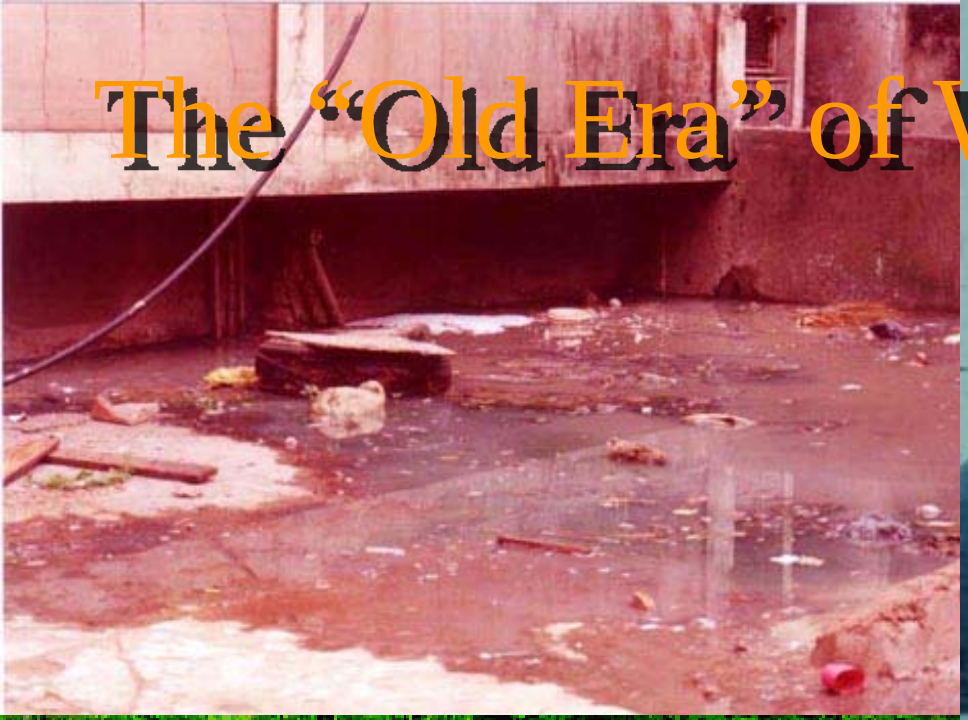
Contact Information – Landscape Stewardship

- Margaret Welch
  Landscape Stewardship Coordinator
  Planning and Program Development
  (860) 424-3618
  margaret.welch@po.state.ct.us

  Landscape Stewardship web pages:
  www.ct.gov/dep/landscapestewardship

  The Municipal Primer:
  www.ct.gov/dep/municipalprimer

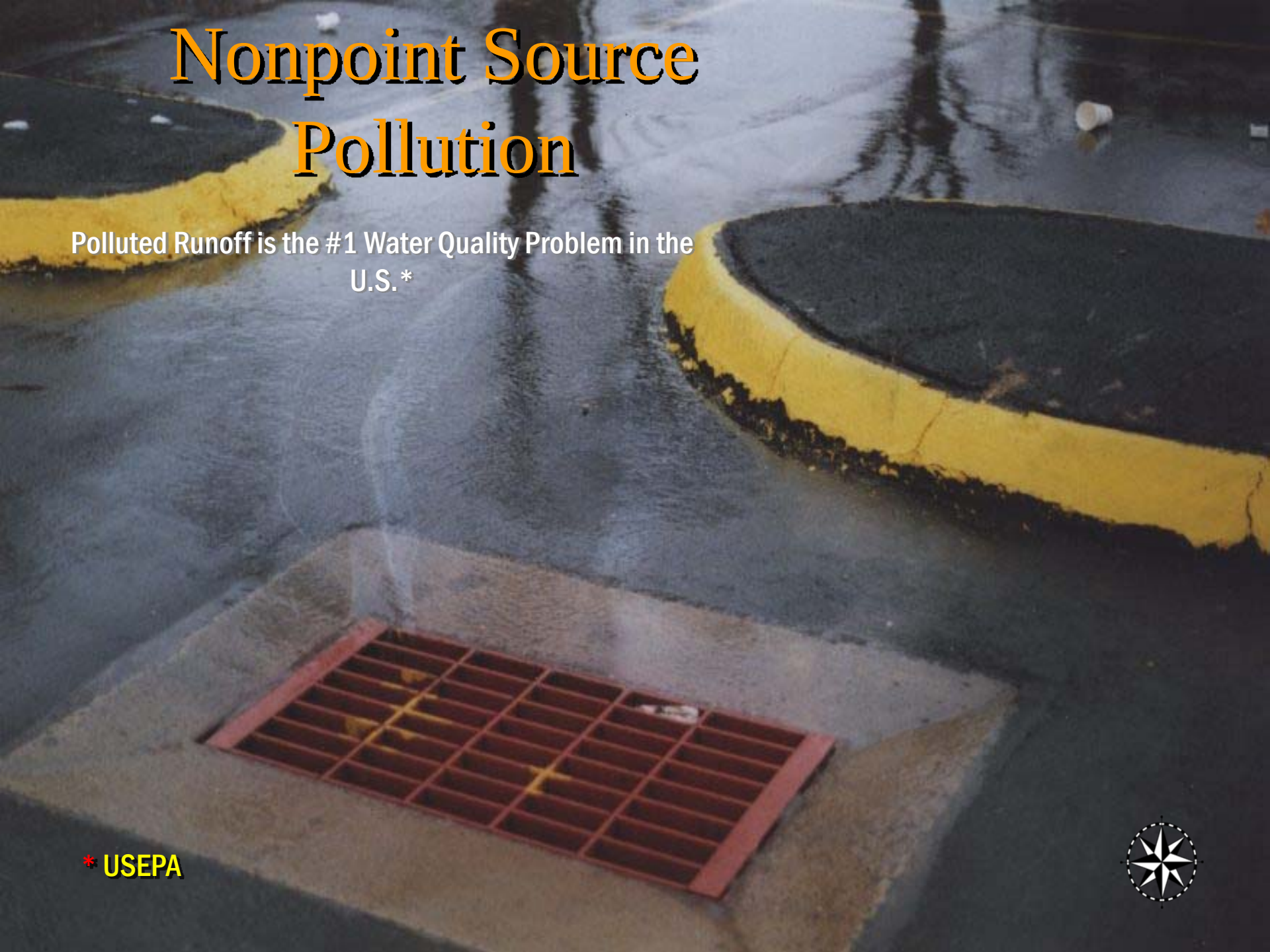
The "Old Era" of Water Pollution



Point Source Pollution

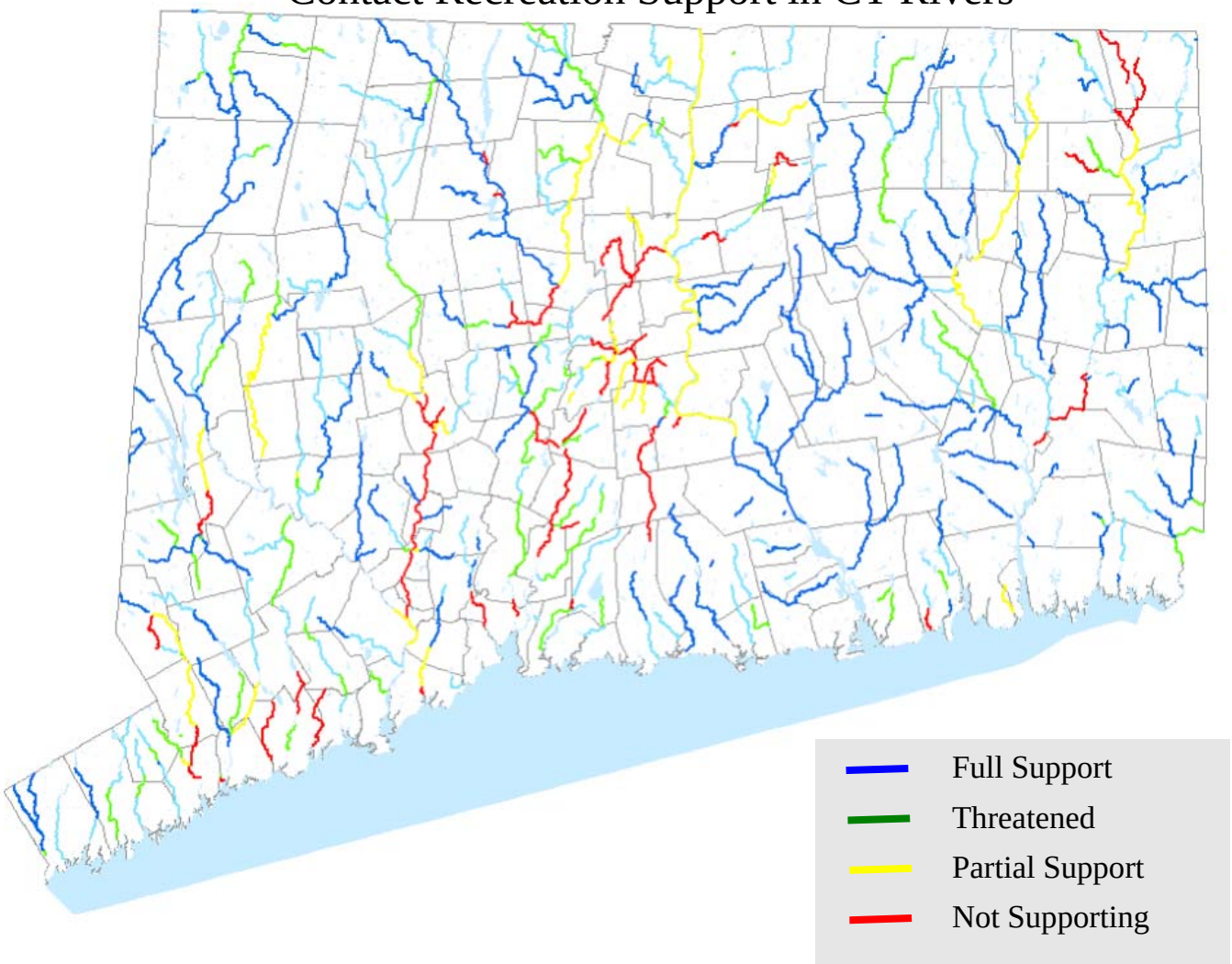
Nonpoint Source Pollution

Polluted Runoff is the #1 Water Quality Problem in the U.S.*



* USEPA

CT Stormwater Program



Source: 2004 Water Quality Report to Congress

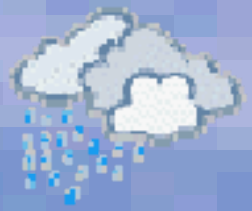
CT Stormwater Program

Municipal Separate Storm Sewer Systems (MS4)

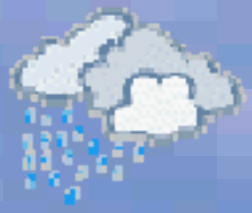
- Phase I MS4 Permit – Stamford
- Phase II MS4 Permit – 113 Towns

CT Stormwater Program

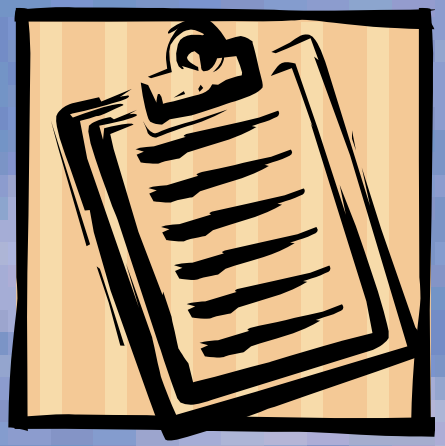
Small MS4 Permit Requirements



Must develop program to reduce discharge of pollutants and protect water quality

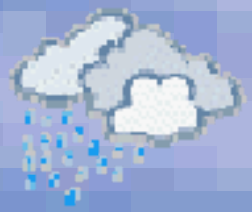


Program *Must* include Six Minimum Control Measures



CT Stormwater Program

Small MS4 Permit Requirements



Must submit a registration and identify for each minimum control measure:

- Best management practices
- Measurable goals
- Timeframe for implementation
  (all 6 measures by 1/9/09)
- Responsible person(s)

CT Stormwater Program

Small MS4 Permit Requirements

Six Minimum Control Measures:

1. **Public education and outreach**
   - citizens
   - businesses/chamber
   - industries
2. **Public participation**
   - civic organizations
   - environmental groups

CT Stormwater Program

Small MS4 Permit Requirements

Six Minimum Control Measures:

Illicit discharge detect/eliminate

- map outfalls >15” (12” in UA)
- screen outfalls
- illicit discharge ordinance

Construction site runoff control

- existing E&S regs & Guidelines

CT Stormwater Program

Small MS4 Permit Requirements

Six Minimum Control Measures:

5 **Post-construction SW mgmt**

- must develop ordinance
- low impact development
- ensure O&M

6 Pollution prev./good hskeeping

- sweeping/CB cleaning
- employee training
- evaluate for upgrade/repair

CT Stormwater Program

Small MS4 Permit Requirements

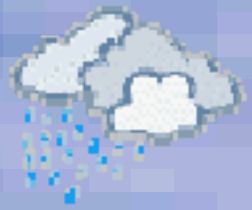
Annual Report

- Due January 1 each year
- "Progress report" on SMP
- Alterations to SMP
- Fee of $187.50

Sampling

CT Stormwater Program

Sampling Requirements



Illicit Discharge (Min. Meas. #3)

- Dry weather outfall detection
  - take sample if discharging
  - follow-up if evidence but no discharge
- Tracking illicit discharges
  - check upstream locations
  - sample as needed

CT Stormwater Program

Sampling Requirements

Wet Weather Outfall Sampling

- Sample 6 outfalls (min)
- Residential, Commercial & Industrial areas (or alternate)
- Sample within first 6 hours
- 12 parameters plus rainfall pH

CT Stormwater Program

Sampling Requirements

- Alternative Sampling Plans
- Sample 6 alternate outfalls
- Target an area of town
- In-stream sampling
  - upstream/downstream
- Additional parameters

CT Stormwater Program

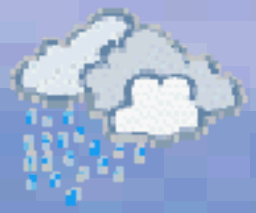
Sampling Requirements

Other Sampling Info

- Can sample any time of year
  - can't sample snowmelt
- Results are submitted with AR
- Can propose alternate in any year

CT Stormwater Program

What's next for MS4?



- Re-Issuance of MS4 General Permit

- Compliance Assurance & Enforcement

CT Stormwater Program

Construction Permit – Prop. Modifications

- Low Impact Development Requirements
  - Post development = pre-development flows
  - Minimize site disturbance & impervious areas
  - Maintain natural, non-invasive vegetation
- CT Conservation District partnership
- Require "qualified inspector" to conduct inspections
- Track compliance w/ inspection reports
- Turbidity monitoring requirements

CT Stormwater Program

DEP contacts:

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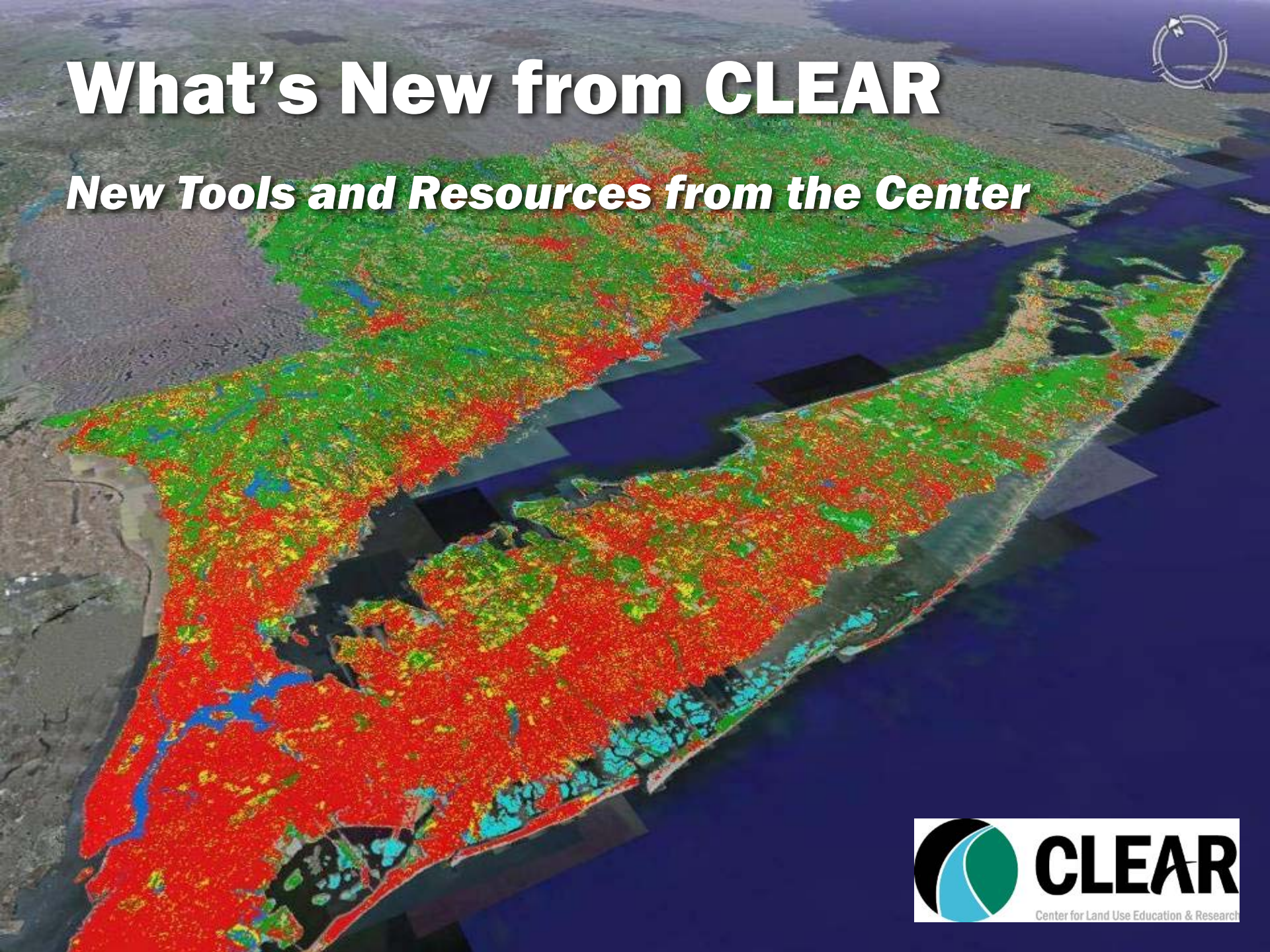
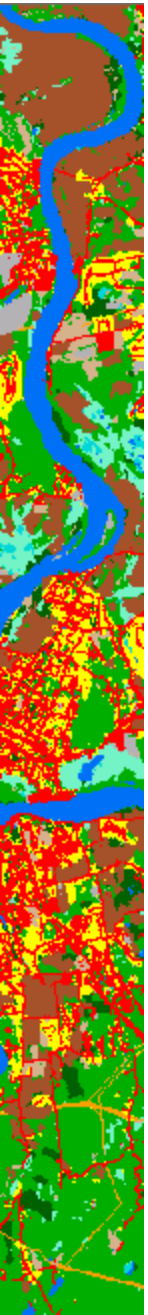
What's New from CLEAR

New Tools and Resources from the Center



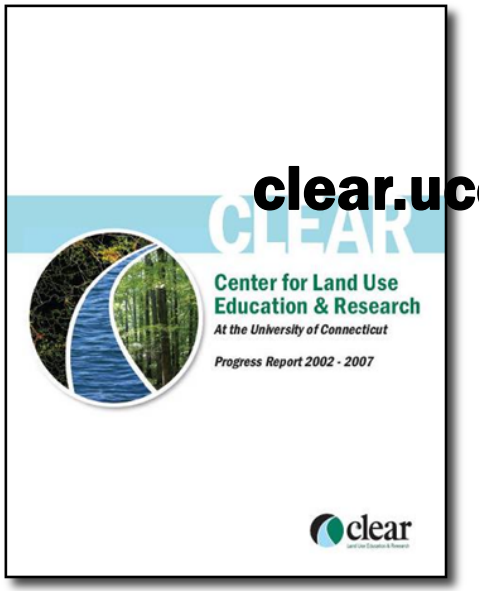
CLEAR
Center for Land Use Education & Research



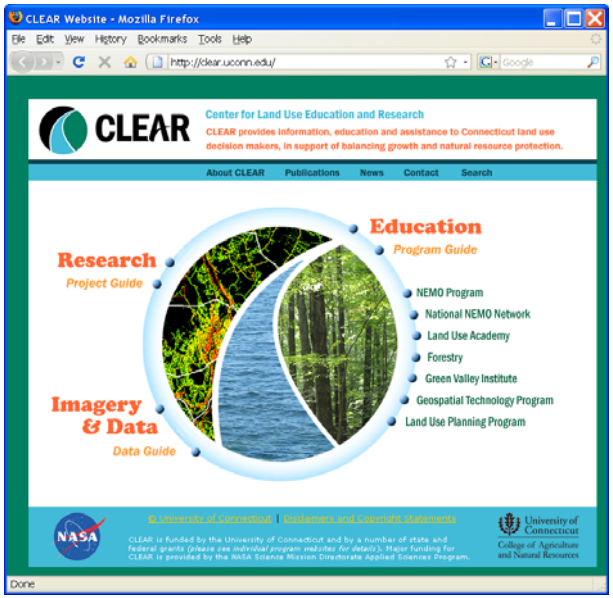
The Center for Land Use Education and Research

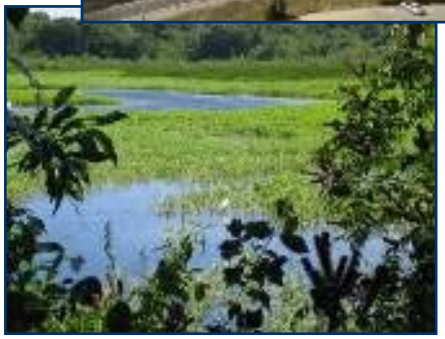
at the University of Connecticut

Connecting people who make land use decisions with research-based information, technical tools, and outreach education



clear.uconn.edu





CLEAR

Center for Land Use Education & Research

Research, Tools & Training, Outreach

- Lab for Earth Resource Information Systems
- Geospatial Technology Extension Program
- Connecticut NEMO Program
- National NEMO Network
- Green Valley Institute
- Land Use Planning Program
- Land Use Academy
- Extension Forestry Program

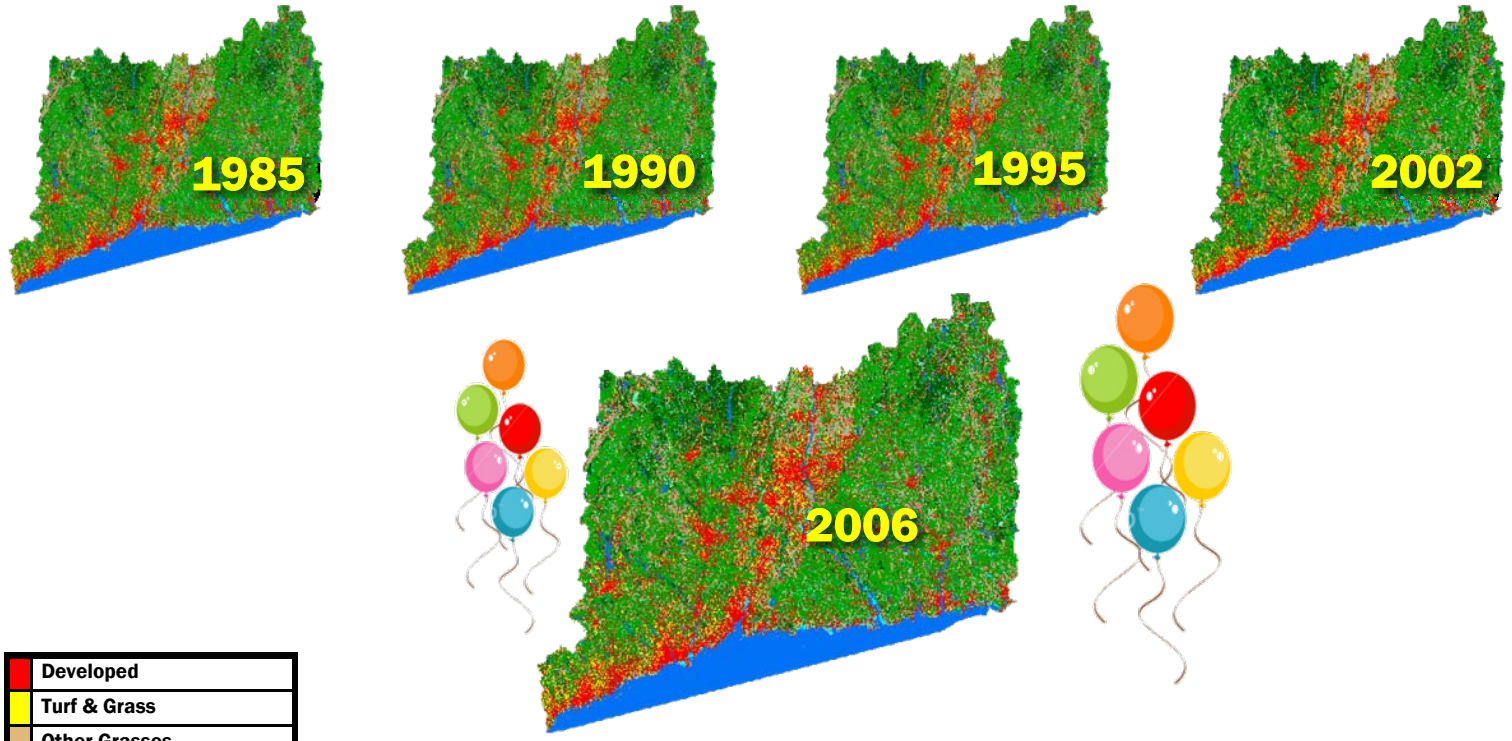
University of Connecticut
College of Agriculture and Natural Resources

RESEARCH

A focus on characterizing Connecticut landscapes and how they change over time.

- Lab for Earth Resource Information Systems
- Geospatial Technology Extension Program
- Connecticut NEMO Program
- National NEMO Network
- Green Valley Institute
- Land Use Planning Program
- Land Use Academy
- Extension Forestry Program

Connecticut's Changing Landscape

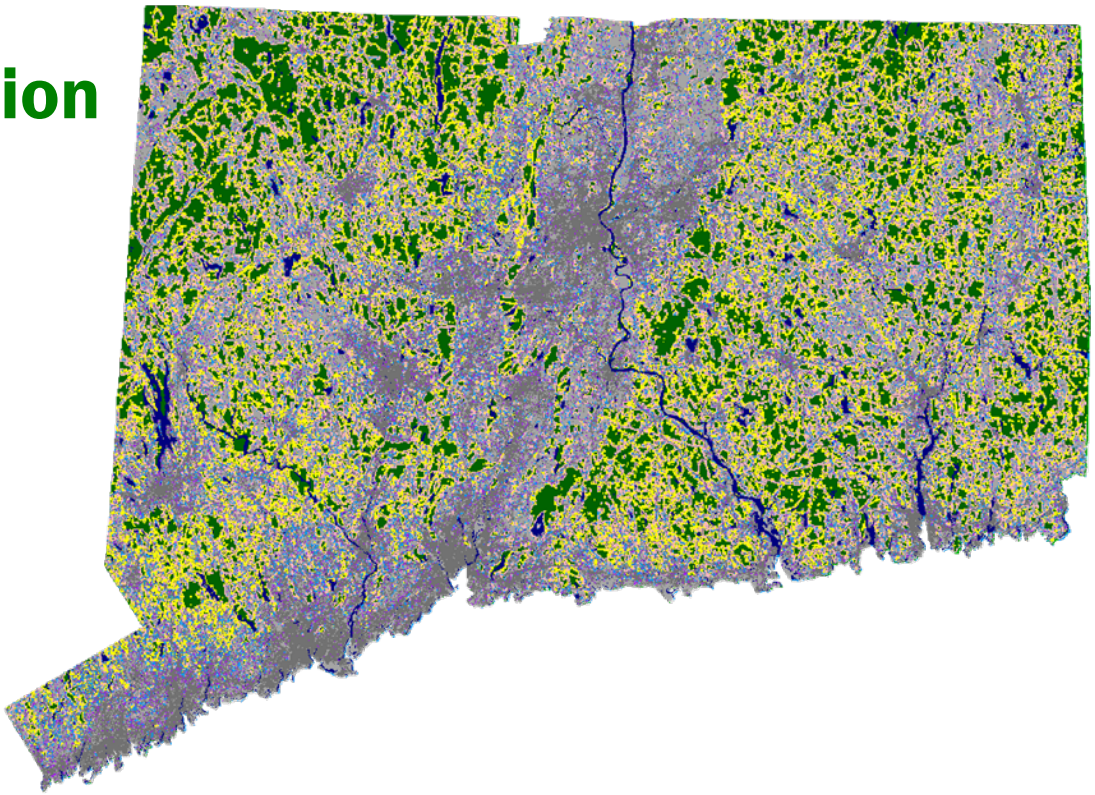


Developed
Turf & Grass
Other Grasses
Agricultural Field
Deciduous Forest
Coniferous Forest
Water
Forest Wetland
Non-forested Wetland
Tidal Wetland
Barren
Utility Right-of-way

- 11 (now 12) classes with an emphasis on Deve
- Created for change assessment

Additional Analyses

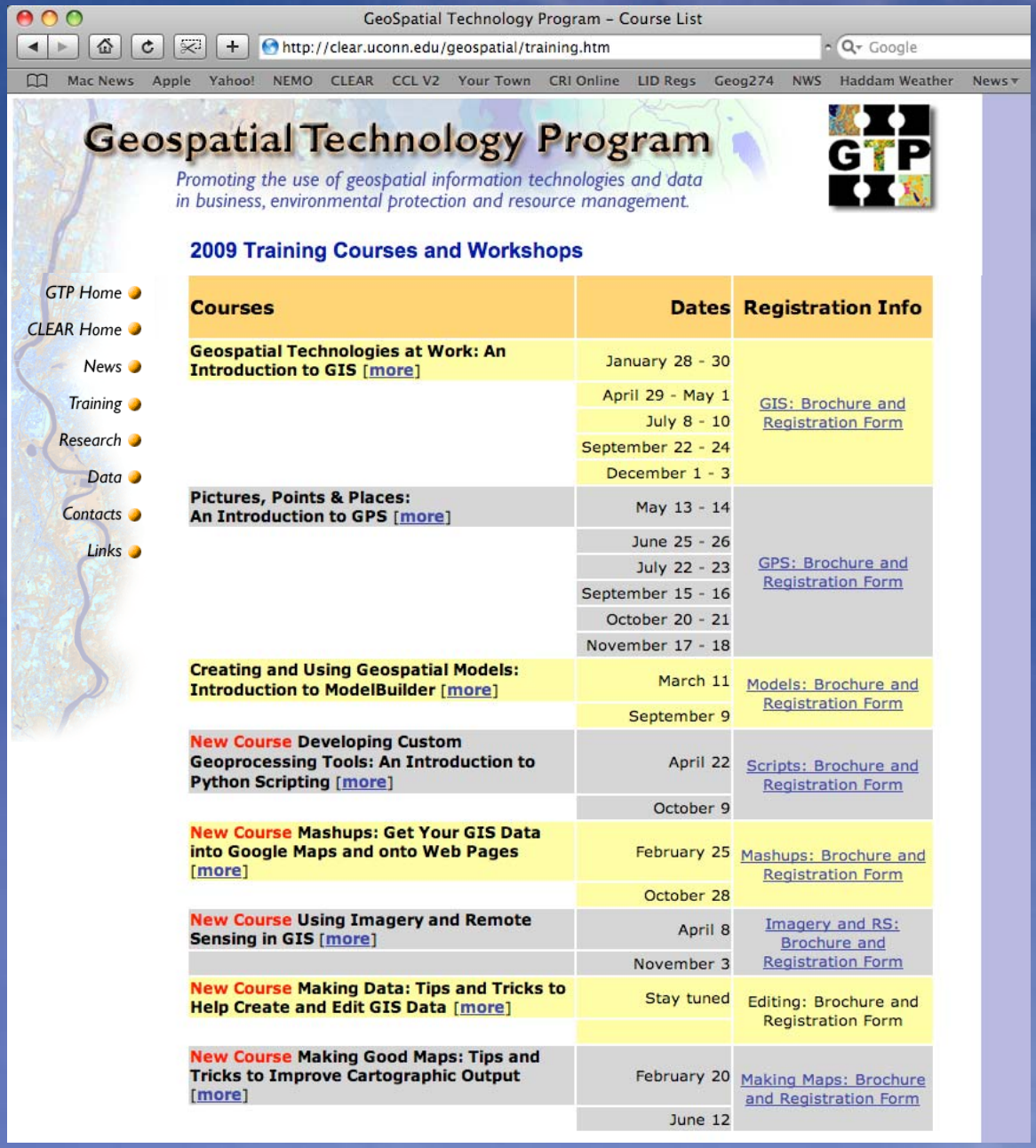
- Forest fragmentation
- Urban growth
- Stream buffers



TOOLS & TRAINING

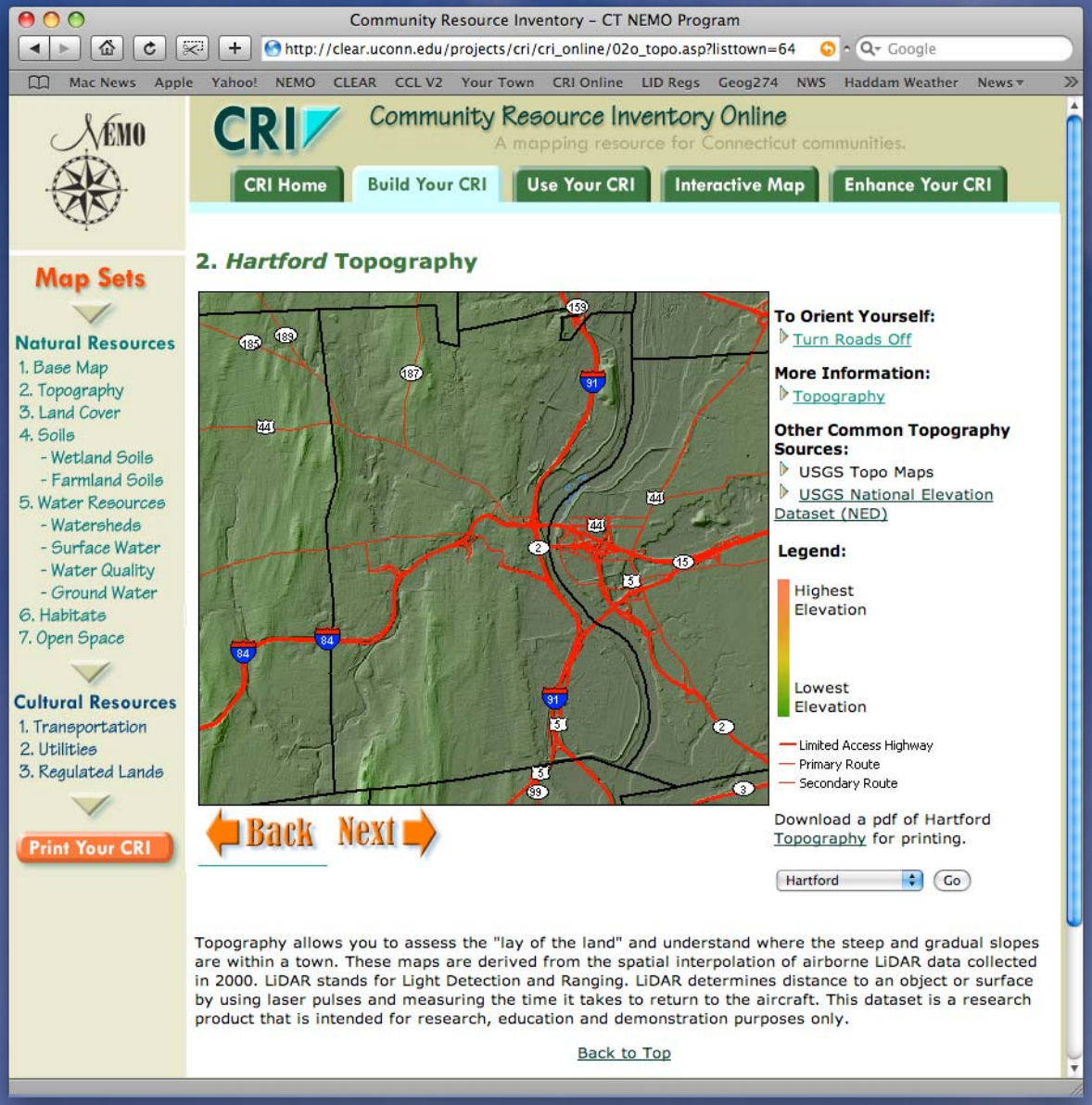
Assisting decision makers with technical planning and analysis tools, and training on geospatial technologies.

- Lab for Earth Resource Information Systems
- Geospatial Technology Extension Program
- Connecticut NEMO Program
- National NEMO Network
- Green Valley Institute
- Land Use Planning Program
- Land Use Academy
- Extension Forestry Program


GeoSpatial Technology Program – Course List
http://clear.uconn.edu/geospatial/training.htm
Google
Mac News
Apple
Yahoo!
NEMO
CLEAR
CCL V2
Your Town
CRI Online
LID Regs
Geog274
NWS
Haddam Weather
News
Geospatial Technology Program
Promoting the use of geospatial information technologies and data in business, environmental protection and resource management.
GTP
GTP Home
CLEAR Home
News
Training
Research
Data
Contacts
Links
2009 Training Courses and Workshops
Courses
Dates
Registration Info
Geospatial Technologies at Work: An Introduction to GIS [more]
January 28 - 30
April 29 - May 1
July 8 - 10
September 22 - 24
December 1 - 3
GIS: Brochure and Registration Form
Pictures, Points & Places: An Introduction to GPS [more]
May 13 - 14
June 25 - 26
July 22 - 23
September 15 - 16
October 20 - 21
November 17 - 18
GPS: Brochure and Registration Form
Creating and Using Geospatial Models: Introduction to ModelBuilder [more]
March 11
September 9
Models: Brochure and Registration Form
New Course Developing Custom Geoprocessing Tools: An Introduction to Python Scripting [more]
April 22
October 9
Scripts: Brochure and Registration Form
New Course Mashups: Get Your GIS Data into Google Maps and onto Web Pages [more]
February 25
October 28
Mashups: Brochure and Registration Form
New Course Using Imagery and Remote Sensing in GIS [more]
April 8
November 3
Imagery and RS: Brochure and Registration Form
New Course Making Data: Tips and Tricks to Help Create and Edit GIS Data [more]
Stay tuned
Editing: Brochure and Registration Form
New Course Making Good Maps: Tips and Tricks to Improve Cartographic Output [more]
February 20
June 12
Making Maps: Brochure and Registration Form

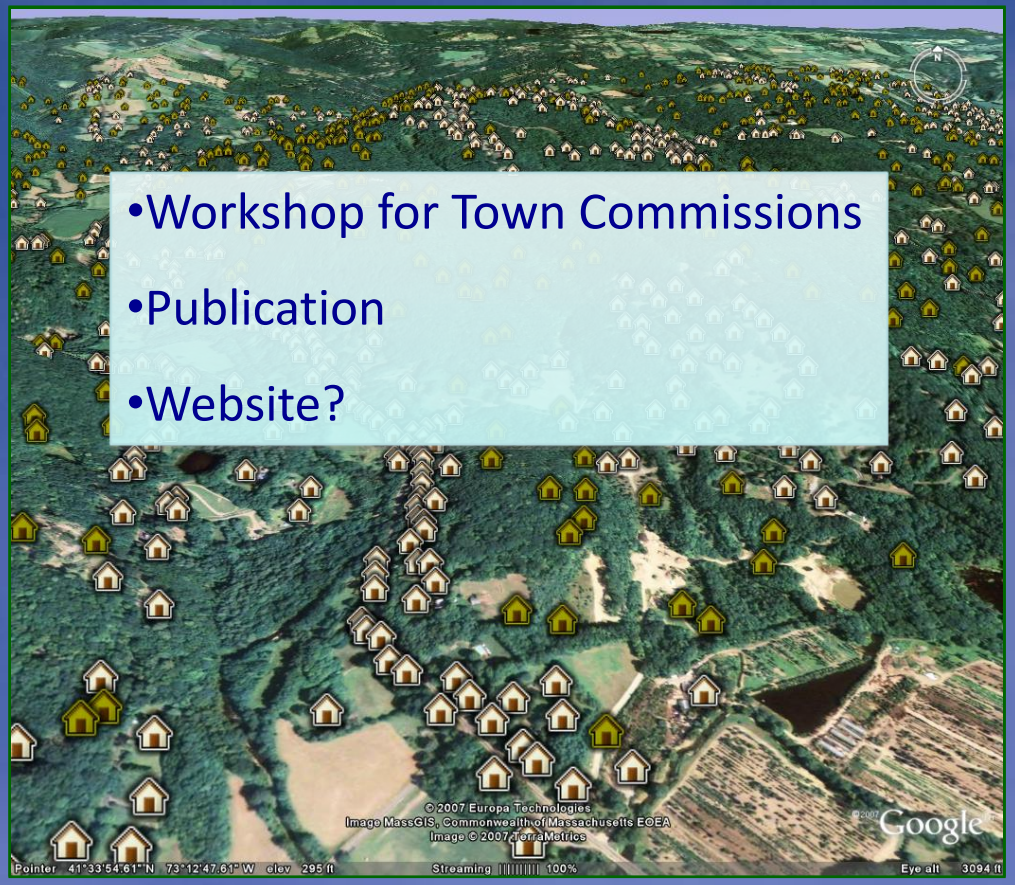
CLEAR

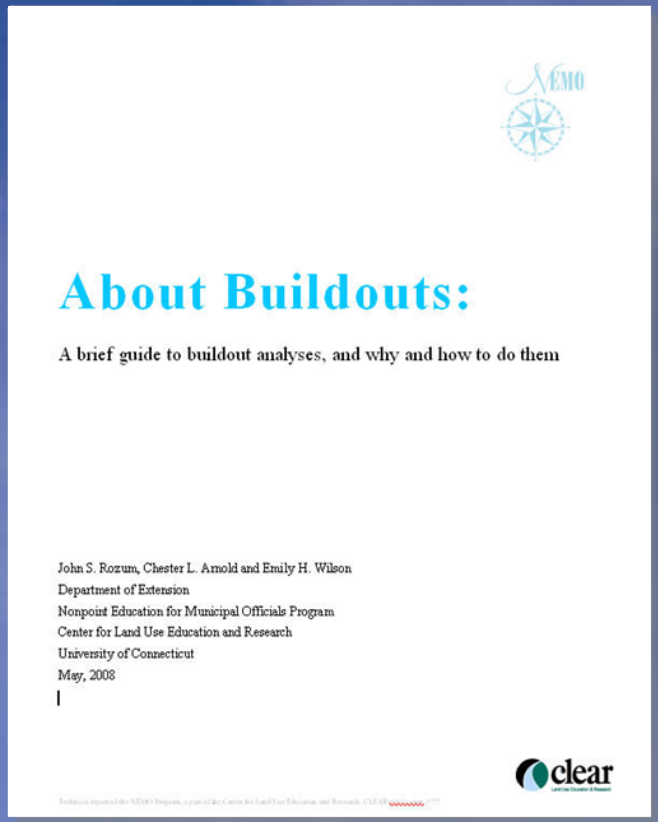
Community Resource Inventory



CLEAR

Buildout Analyses





NEMO

About Buildouts:

A brief guide to buildout analyses, and why and how to do them

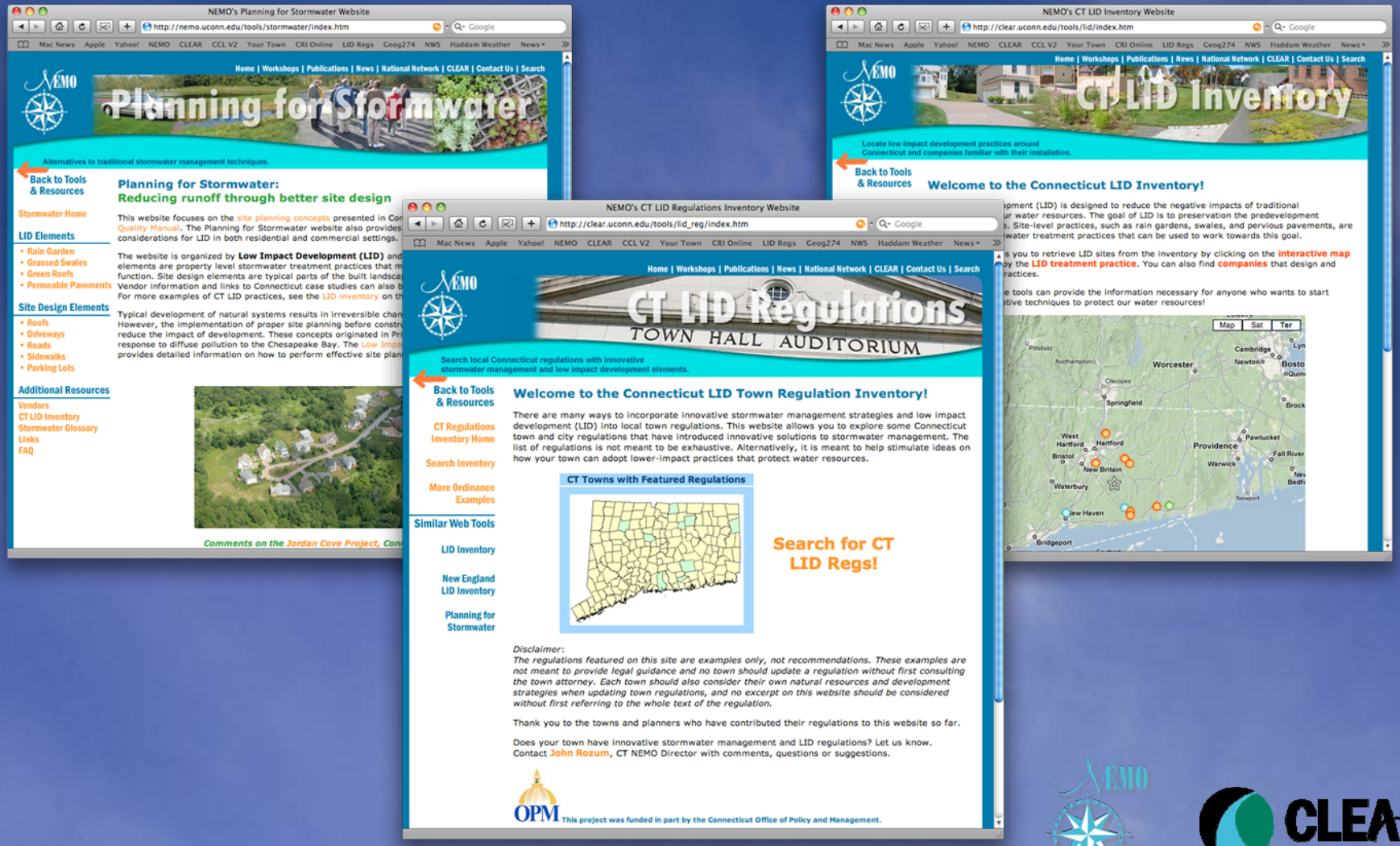
John S. Rozum, Chester L. Arnold and Emily H. Wilson
Department of Extension
Nonpoint Education for Municipal Officials Program
Center for Land Use Education and Research
University of Connecticut
May, 2008

clear

NEMO

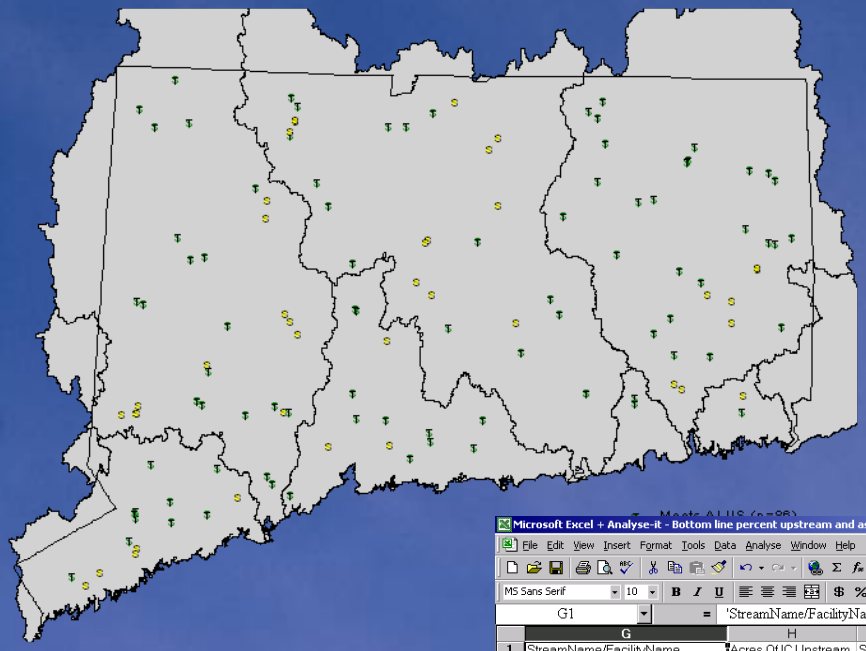
CLEAR

NEMO's Stormwater Trifecta!



Eagleville Brook IC-TMDL

Linking “bug” data to Impervious Surfaces



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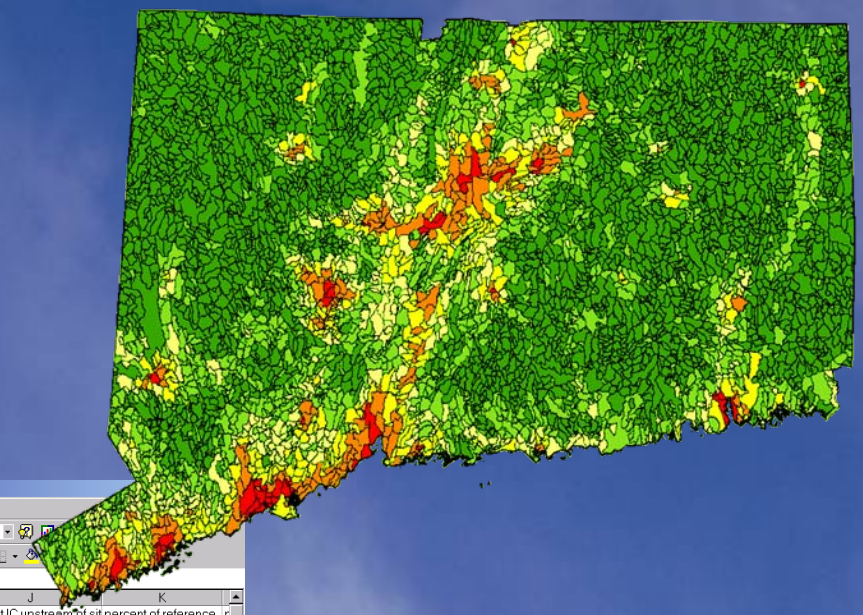


Microsoft Excel + Analyse-it - Bottom line percent upstream and assessment_no Potws

File Edit View Insert Format Tools Data Analyse Window Help

MS Sans Serif 10

G1 = 'StreamName/FacilityName

	G	H	I	J	K
1	StreamName/FacilityName	Acres Of IC Upstream	SumOf total acres	Percent IC upstream of sit	percent of reference
2	Myron Kinney Brook	90.7136	3893.3376	2.33	53
3	Shepaug River	184.2992	7554.59004	2.44	90
4	Hollenbeck River	278.1107	11235.58464	2.48	105
5	Bigelow Brook	409.6167	16117.63716	2.54	95
6	Sandy Brook	441.7072	17171.54712	2.57	100
7	Sandy Brook	399.208	15479.68992	2.58	100
8	Eightmile River	417.835	15630.7404	2.67	95
9	Stony Brook	99.4679	3659.87508	2.72	52
10	Broad Brook	277.4453	9729.44148	2.85	32
11	Bungee Brook	264.6705	9083.00052	2.91	74
12	Ekonk Brook	100.4138	3410.80248	2.94	67
13	West River	136.5084	4626.32268	2.95	94
14	West River	136.5084	4626.32268	2.95	100
15	Quanduck Brook	244.2564	8238.9084	2.96	68
16	Roaring Brook	428.3141	14087.86764	3.04	100
17	Still River	310.9829	10217.48604	3.04	74
18	Merrick Brook	253.3281	8309.15376	3.05	74
19	Mount Hope River	553.9483	17969.26812	3.08	68
20	West Branch Salmon Brook	524.7803	17016.82368	3.08	90
21	Little River	734.6365	23478.249	3.13	63
22	Little River	840.3848	26793.78408	3.14	38

Table 2 | file descriptor | Bottom_line_percent_upstream_an | barchart | pivot | Sheet1 | meet vs dont n

Draw AutoShapes

Ready NUM

Start | Clear I... | Group... | Micros... | ArcVie... | Micros... | 10:50 AM

- Evaluation
- Recommendations
- Training
- Outreach

CONNECTICUT DEPARTMENT ENVIRONMENTAL PROTECTION

CLEAR

OUTREACH

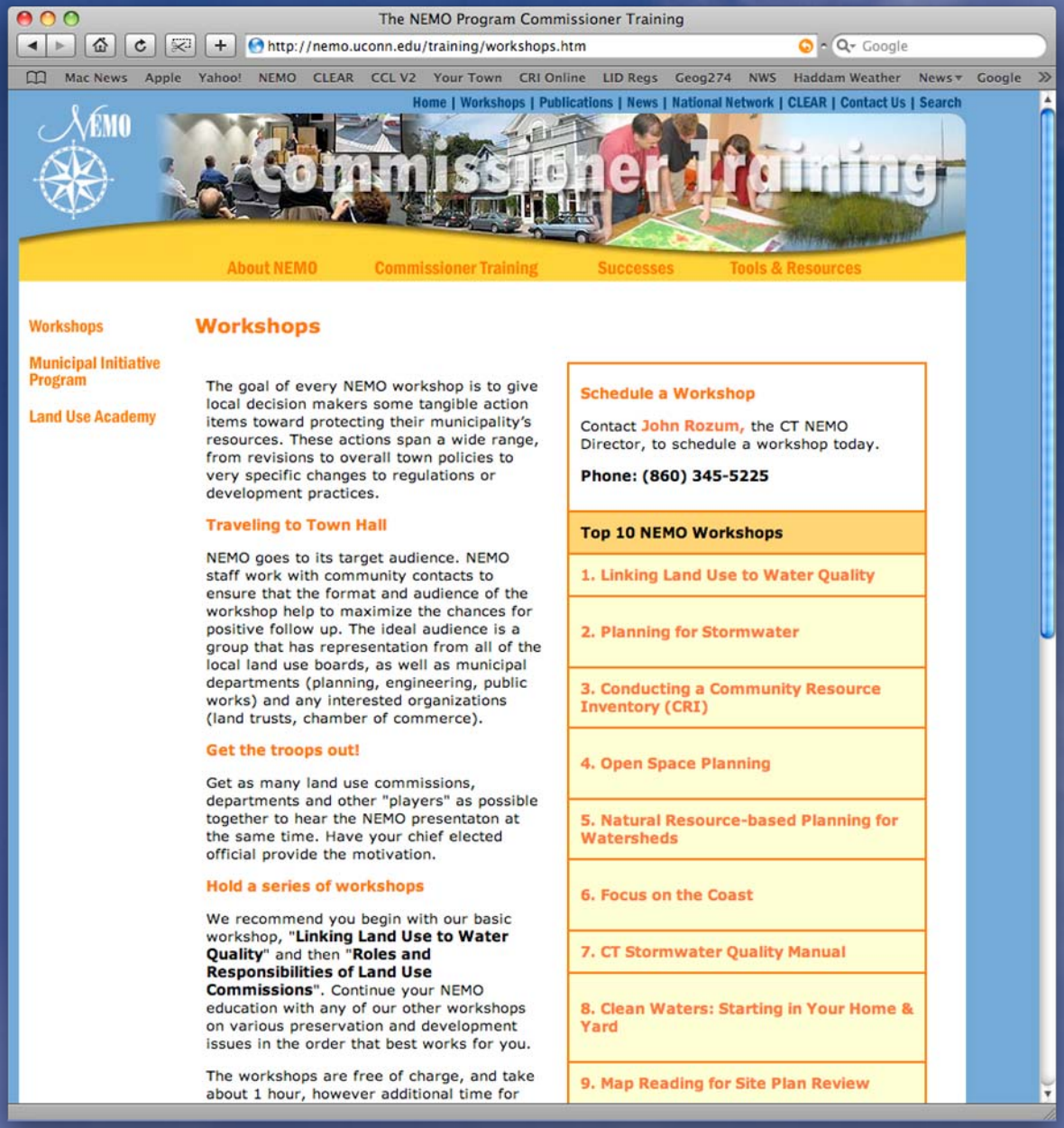
Helping communities to conduct natural resource-based land use planning and design.

- Lab for Earth Resource Information Systems
- Geospatial Technology Extension Program
- Connecticut NEMO Program
- National NEMO Network
- Green Valley Institute
- Land Use Planning Program
- Land Use Academy
- Extension Forestry Program

Land Use Academy

- Basic training for new land use commissioners
- Offered 4 times per year at various venues
- “Hot Topics” Conference every other year
- New On-line training

Other CLEAR Outreach…

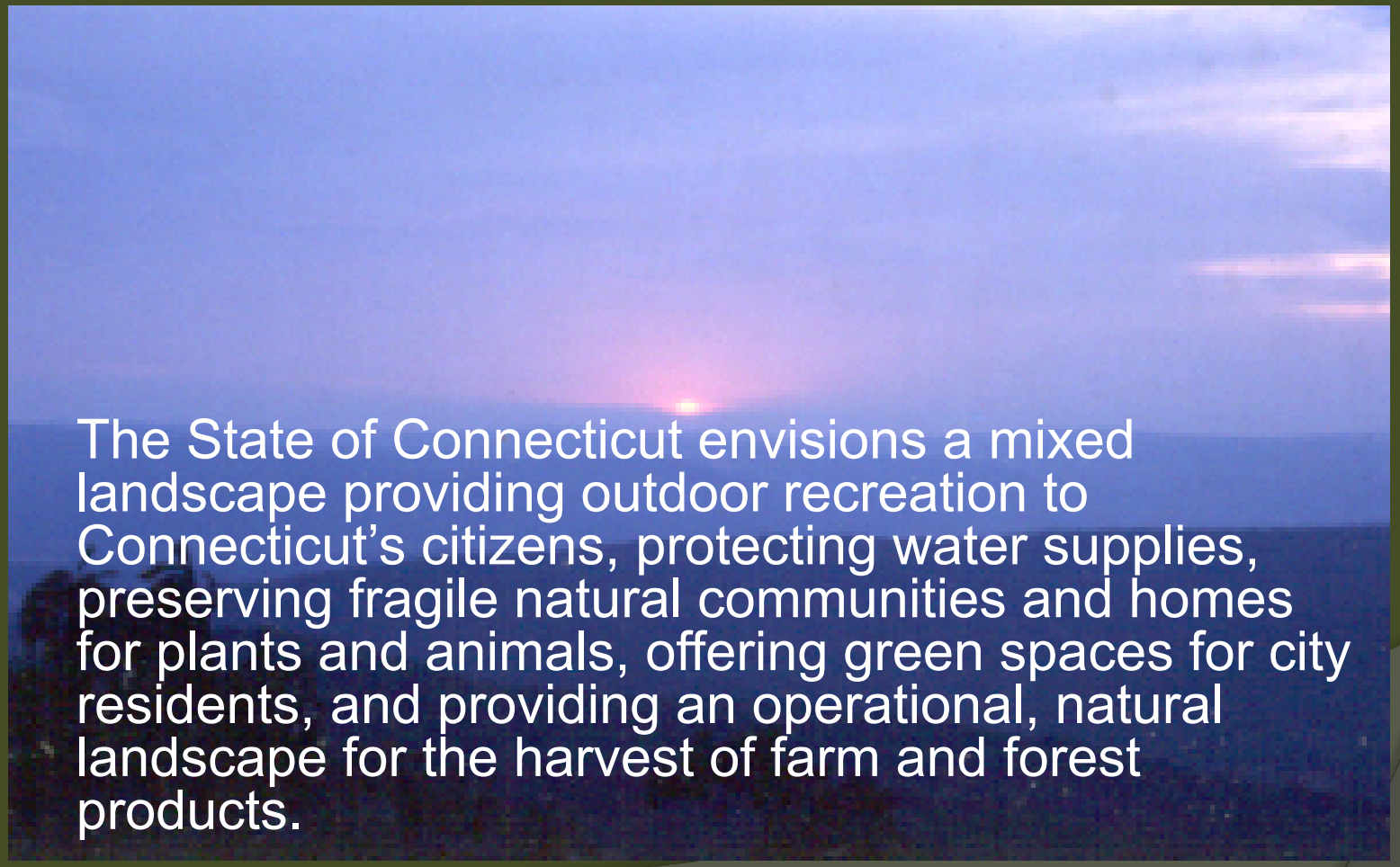


http://clear.uconn.edu

CLEAR

Department of Environmental Protection Open Space Acquisition Programs

Why Preserve Open Space?



The State of Connecticut envisions a mixed landscape providing outdoor recreation to Connecticut's citizens, protecting water supplies, preserving fragile natural communities and homes for plants and animals, offering green spaces for city residents, and providing an operational, natural landscape for the harvest of farm and forest products.

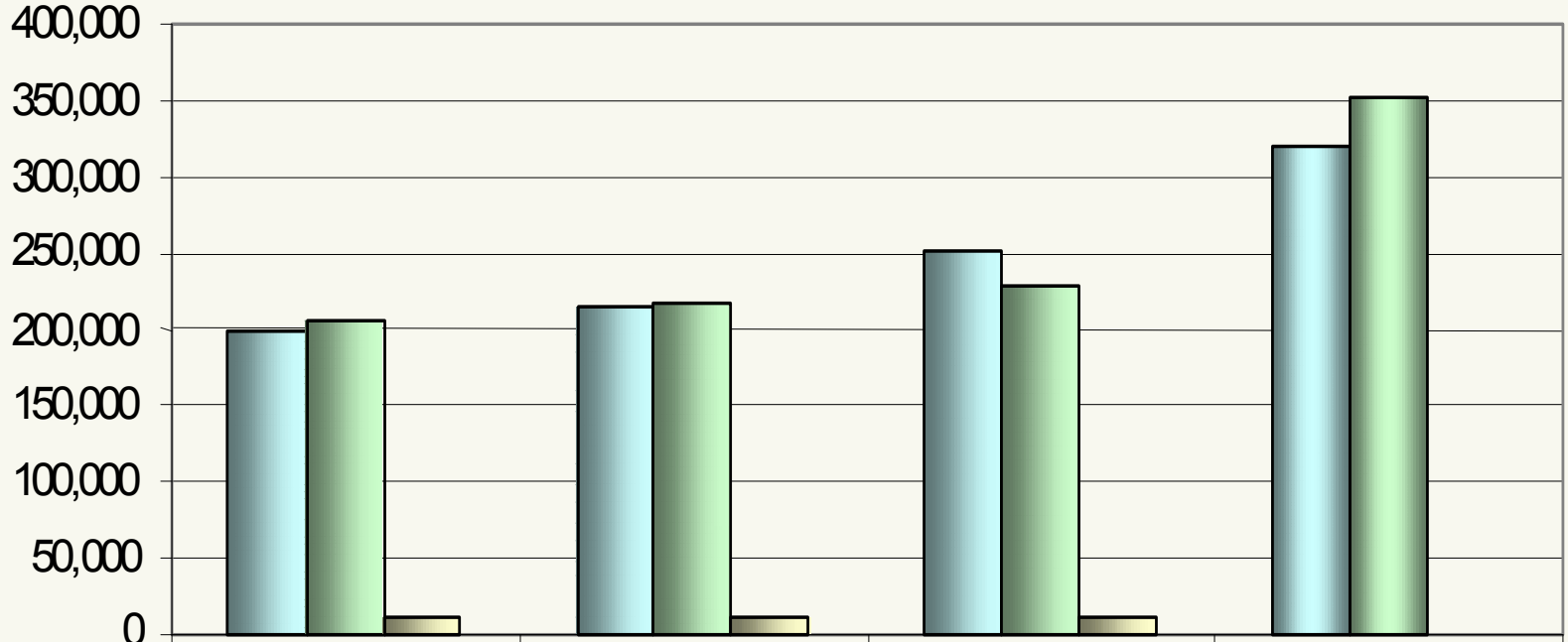
State Open Space Goals

The State's overall goal is to preserve 21% of Connecticut's land as open space by the year 2023, a total of 673,210 acres.

The initiative includes 10% of open space to be state owned as additions to the State's system of parks, forests, wildlife, fisheries and natural resource management areas, with the remaining 11% owned by municipalities, private nonprofit land conservation organizations, water companies and the federal government.

As of November, 2008, 72% of this goal has been achieved through the direct purchase of open space by the state and through state grant support for local acquisitions.

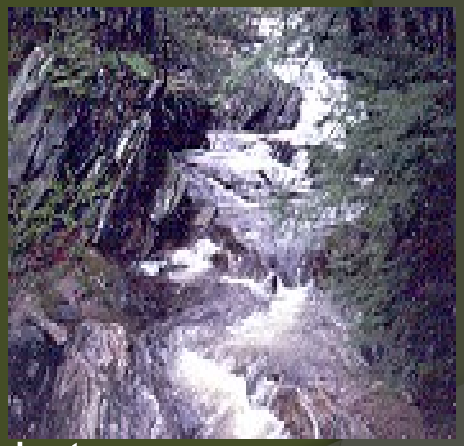
Protected Lands in Connecticut



	Starting Acreage	Total Protected Acreage Through FY99	Total Protected Acreage Through FY08	2023 Goals
State	197,803	214,680	251,296	320,576
Partners	205,756	218,053	231,583	352,634
Federal*	10,000	10,000	10,000	

DEP – Open Space Programs

- Recreation and Natural Heritage Trust
  - Bond Funds to purchase lands to be held by the state as additions to State Parks and Forest system



- Open Space and Watershed Land Acquisition Grant Program
  - Bond Funds and Community Investment Act Funds to provide grants to Municipalities and others for them to purchase and own open space in their communities.

Open Space and Watershed Land Acquisition Grant Program

Authorized by Connecticut General Statutes Sections 7-131d to 7-131k

The Open Space and Watershed Land Acquisition Grant Program provides financial assistance to municipalities and nonprofit land conservation organizations to acquire land for open space and to water companies to acquire land to be classified as Class I or Class II water supply property.

Grants may be for the purchase of land that is:

1) valuable for recreation, forestry, fishing, conservation of wildlife or natural resources;

2) a prime natural feature of the state's landscape;

3) habitat for native plant or animal species listed as threatened, endangered or of special concern;

4) a relatively undisturbed outstanding example of a native ecological community which is uncommon;

5) important for enhancing and conserving water quality;

6) valuable for preserving local agricultural heritage; or

7) eligible to be classified as Class I or Class II watershed land.

Grants may be made available:

.....to a	.....for.....	...in an amount not to exceed *....
Municipality	Open space	65% of fair market value
Municipality	Class I & Class II Water supply property	65% of fair market value
Distressed municipality or targeted investment community	Open space	75% of fair market value
Distressed municipality or targeted investment community	Resource enhancement or protection (Community Gardens)	50% of cost of such work
Nonprofit land conservation Organization	Open space or watershed protection	65% of fair market value or 75% if in a Distressed or targeted community
Water company	Class I & Class II water supply	65% of fair market value

* Please note that the percentages shown represent the maximum statutory grant award and that grant awards may be provided at a lower percentage.

Land acquired shall be preserved in perpetuity, and a permanent conservation easement shall be provided to the State to ensure that the property remains in a natural and open condition for the conservation, open space, agriculture or water supply purpose for which it was acquired. The easement shall include a requirement that the property be made available to the general public for appropriate recreational purposes.

Open Space Grant Program “Do’s and Don’ts”

Priority for Grants will be given for :

1) protection of land adjacent to and complementary to existing open space, preserved agricultural land or Class I or Class II water company land;
2) proximity to urban areas;
3) land vulnerable to development;
4) consistency with the state's Green Plan and Plan of Conservation and Development; and
5) lands with multiple values such as water supply protection and recreation, or forest preservation and fishing access. Linkages between open spaces are an important consideration as are multi-town projects such as greenways. Cooperative efforts should be fostered between towns, land conservation organizations and local community groups. Emphasis will be given to open space acquisitions that comply with local and regional open space or conservation and development plans.

No grant may be made for:

1) land to be used for commercial purposes or for recreational purposes requiring intensive development except for forest management or agricultural use;
2) land with environmental contamination;
3) land which has already been committed for public use;
4) development costs;
5) land to be acquired by eminent domain;
6) reimbursement of in-kind services or incidental expenses; or
7) for property acquired by the grant applicant prior to the grant application deadline.

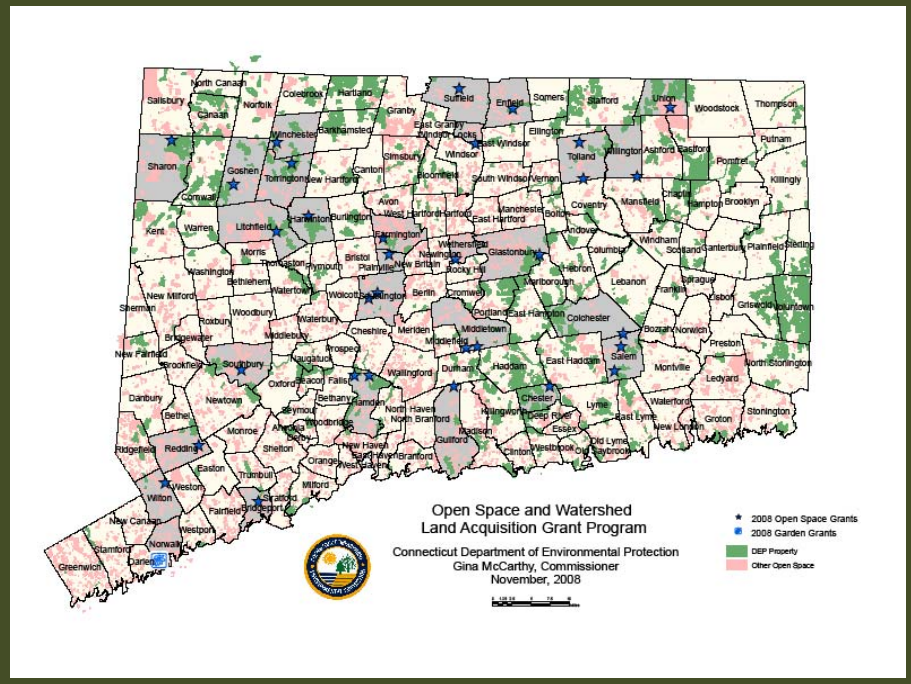
14th Open Space Grant Round – November, 2008

$10.2 Million in Grants to 29 Communities

Grants to Assist with 33 Purchases Preserving 2,440 Acres

Funding for this year's grants includes:
$5.7 million in bond funds and $4.5 million from the Community Investment Act.

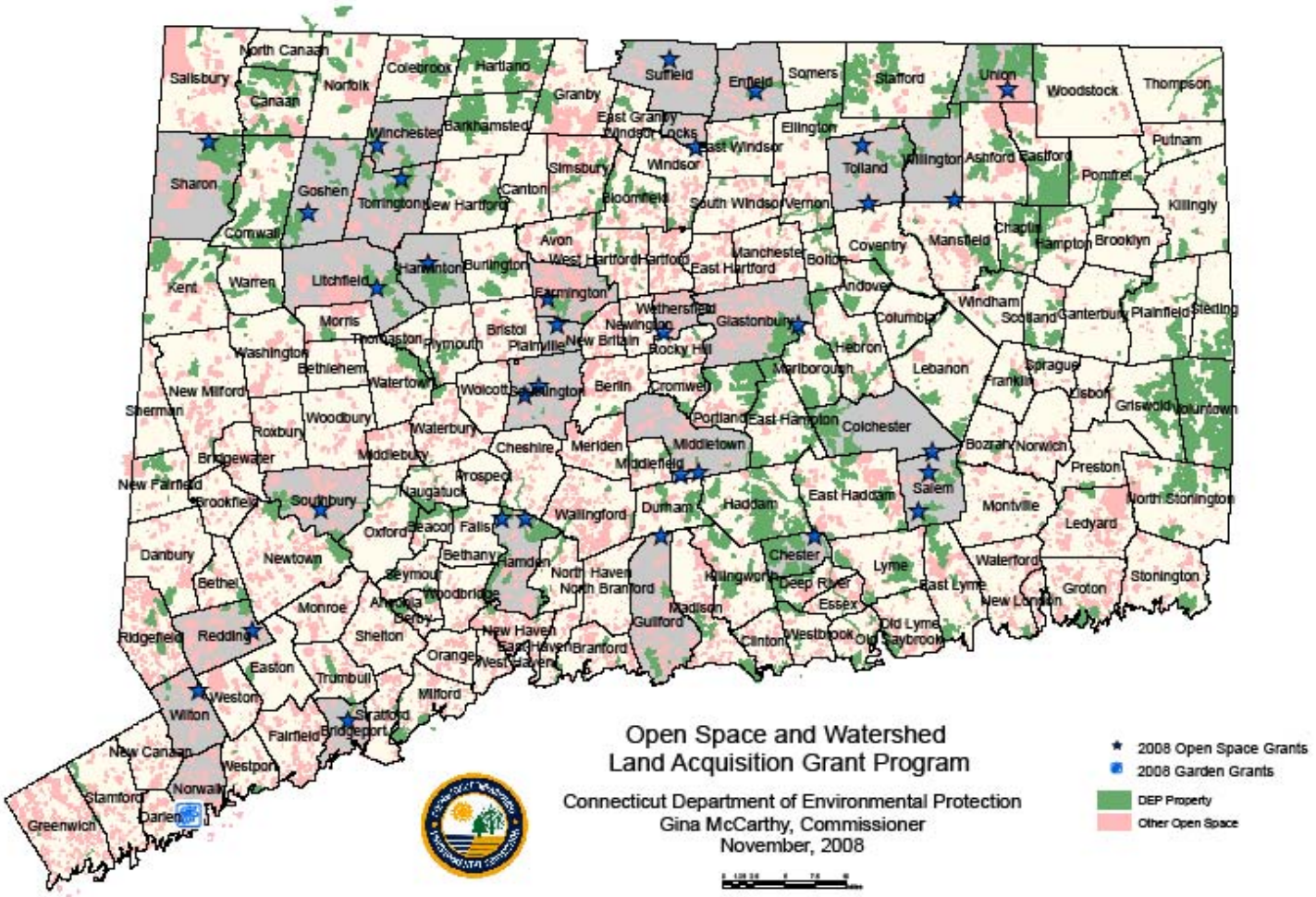
There have now been 14 rounds of funding for the Open Space and Watershed Land Acquisition Grant Program since 1998. In this time the state has provided more than $94.1 million to assist with the purchase of about 21,624 acres.



Contact us:

David D. Stygar, Environmental Analyst
Department of Environmental Protection,
Land Acquisition and Management
79 Elm Street, Hartford, Connecticut 06106
(860) 424-3081
David.Stygar@ct.gov

Tom Tyler
Department of Environmental Protection,
Planning and Program Development Division
79 Elm Street, Hartford, Connecticut 06106
(860) 424-3099
Tom.Tyler@ct.gov


Open Space and Watershed
Land Acquisition Grant Program
Connecticut Department of Environmental Protection
Gina McCarthy, Commissioner
November, 2008
2008 Open Space Grants
2008 Garden Grants
DEP Property
Other Open Space
North Canaan
Salisbury
Canaan
Norfolk
Colebrook
Hartland
Granby
Suffield
Enfield
Somers
Stafford
Union
Woodstock
Thompson
Winchester
Barkhamsted
East Granby
Windsor Locks
East Windsor
Ellington
Putnam
Sharon
Goshen
Torrington
New Hartford
Simsbury
Canton
Windsor
Bloomfield
South Windsor
Vernon
Tolland
Willington
Ashford
Eastford
Pomfret
Killingly
Cornwall
Avon
West Hartford
Hartford
Manchester
Bolton
Coverntry
Mansfield
Chaplin
Hampton
Brooklyn
Kent
Warren
Litchfield
Harwinton
Burlington
Farmington
East Hartford
Andover
Windham
Scotland
Canterbury
Plainfield
Sterling
Morris
Thomaston
Bristol
Plymouth
Plainville
Wethersfield
Newington
New Britain
Glastonbury
Columbia
Washington
Bethlehem
Watertown
Wolcott
Barkington
Berlin
Rocky Hill
Cromwell
Hebron
Marlborough
Lebanon
Sprague
Franklin
Lisbon
Griswold
Voluntown
New Milford
Sherman
Woodbury
Roxbury
Waterbury
Portland
East Hampton
Colchester
Middlebury
Cheshire
Meriden
Middletown
Middlefield
Bozrah
Norwich
Preston
Bridgewater
New Fairfield
Brookfield
Southbury
Prospect
Naugatuck
Wallingford
Durham
Haddam
East Haddam
Salem
Montville
North Stonington
Ledyard
Oxford
Beacon Falls
Danbury
Newtown
Bethany
Hamden
North Haven
North Branford
Seymour
Woodbridge
Chester
Killingworth
Deep River
Lyme
Waterford
Stonington
Groton
East Lyme
New London
Bethel
Monroe
Ansonia
Derby
Madison
Guilford
Essex
Old Lyme
Old Saybrook
Ridgefield
Redding
Shelton
New Haven
East Haven
Branford
Clinton
Westbrook
Orange
West Haven
Easton
Trumbull
Weston
Milford
Wilton
Stratford
Bridgeport
Fairfield
New Canaan
Westport
Norwalk
Stamford
Darien
Greenwich

Department of Agriculture

Farmland Preservation Program

Joseph J. Dippel, Director

860-713-2511

Program Purposes:

Farmland Preservation:

- To Maintain and Preserve Productive Agricultural Land for Farming and Food & Fiber Production Purposes.

Farmland Preservation Program Status

- 248 Farms Preserved
- 34,500 Acres
- 70 Municipalities

- Pending Negotiations
  - 30 Farms
  - 2,995 Acres
  - 2007 Summary – 11 farms, 1,186 acres

“

“DEVELOPMENT RIGHTS” – defined in C.G.S. section 22-26bb

- Means “the rights of the fee simple owner of agricultural land to develop, construct on, sell, lease or otherwise improve the agricultural land for uses that result in rendering such land no longer agricultural land.”

PROGRAM PROCESS:

- **Voluntary Application to Program**
- **Application Evaluated – Objective Scoring Criteria**
  - **» Acres of Cropland**
  - **» Amount of Prime and Statewide Important Farmland Soils**
  - **» Amount of Agriculture in Area**
  - **» Local Cost – Sharing Funds**

Configuration, Appraisals & Offer

- Application Configuration Negotiated
- Appraisals Requested
    - Market Value – ‘before’
    - Agricultural Value – ‘after’
- Offer Presented

Reviews and Approvals

- State Properties Review Board
- Funding - State Bond Commission or CIAct
- Attorney General’s Office


State Properties Review Board

Next Steps

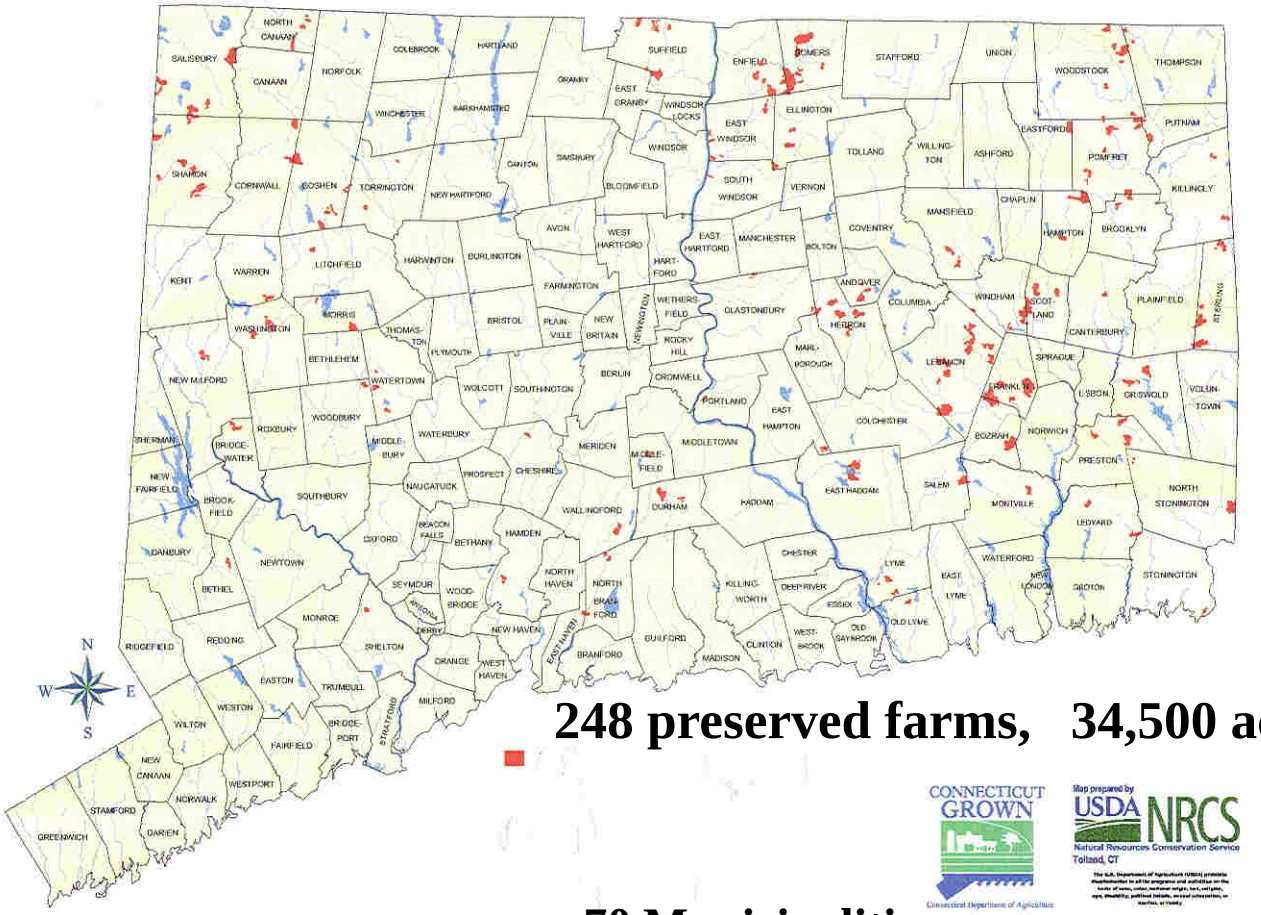
- ***A-2 Boundary Survey Completed***
- ***Title Search Completed***
- ***Check Requested and Issued***
- ***Documents Recorded***
- ***Development Rights Purchased***

Conveyance Deed Recorded

- Deed Prohibits Subdivision
- Prohibits Non-agricultural Use
- Deed Covenant is in Perpetuity
- Farm Remains in Private Ownership

PDR Farm Map

Connecticut Farmland Preservation Program



248 preserved farms, 34,500 acres

70 Municipalities

CONNECTICUT GROWN
Connecticut Department of Agriculture

Map prepared by USDA NRCS
Natural Resources Conservation Service
Tolland, CT

Municipal Requirements for Town/State Acquisitions

- A policy statement in Plan of C&D that supports FLP
- Plan designating farmlands for preservation
- A designated funding source
- A qualifying farm application

HOW ARE THE PROGRAMS FUNDED?

State Bonding and Community Investment Act funds

Bonding – Lump Sum

December 2007 - $5,000,000.00

March 2008 - $5,000,000.00

“Community Investment Act”

Investing in our Home, Heritage and Land

$30 fee on each document recorded on municipal land records, of which the town gets $4 and the State receives $26.

Community Investment Act State Share Distribution

25% for affordable housing (Ct Housing Finance Authority)

25% for historic preservation (Culture & Tourism)

25% for municipal acquisition of open space (DEP)

25% for Department of Agriculture

Dept of Agriculture CIAct 25% Annual Program Funding

•Agriculture Viability Program for Municipalities	$ 500,000
•Farm Transition Program	$ 500,000
•Farm Link Program	$ 75,000
•Agriculture Promotion Program	$ 100,000
•Farmland Preservation (estimate)	$ 4,000,000

Other DAG Programs - Grants

- Municipal Agricultural Viability Programs
- Farm Reinvestment Program
- Environmental Assistance Program

Agricultural Viability Program For Municipalities

- **Local Capital Projects that foster agricultural viability (farm buildings, processing facilities and farmers markets)**
- **Development and implementation of agricultural land use regulations and local farmland protection strategies that sustain and promote local agriculture**

Agricultural Viability Grants

November 2009 deadline

- 29 municipal grants (2007)
- Funds awarded: $ 826,738
- Grant Range: $5,000 to $50,000
- Average Grant: $28,500

C.G.S. Section 47-42d

- "No person shall file a permit application with a state or local land use agency or a local building official or director of health…relating to property that is subject to a conservation restriction or a preservation restriction unless":
  - the applicant provides written proof that notice of such application was provided to the party holding the restriction not later than 60 days prior to the filing of the application; or
  - the applicant provides a letter from the holder of such restriction that the application is in compliance with the terms of the restriction.

Program Contacts

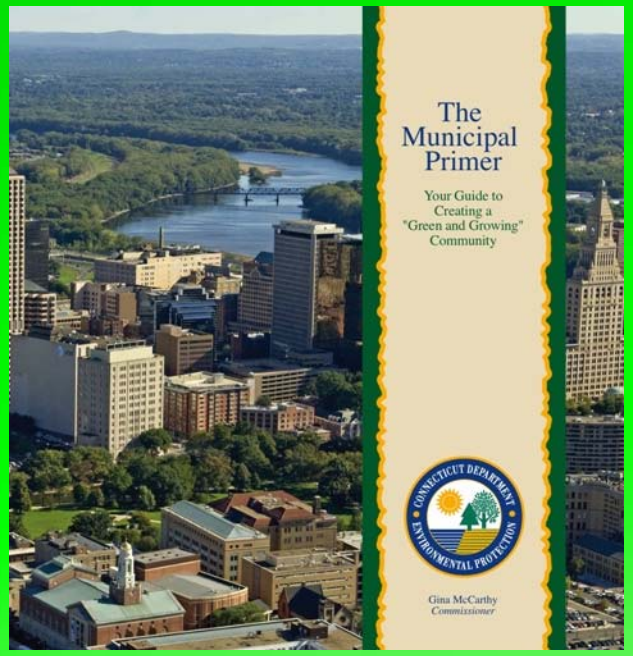
- Agricultural Viability Grants: 860-713-2550
- Farmland Preservation: 860-713-2511

Landscape Stewardship

Major goals:

- Develop closer working relationships with municipalities
  - Outreach
  - Technical assistance
  - Training
- Improve internal coordination
  - Enhanced dexterity
  - Decisions that support Responsible Growth

The Municipal Primer



- Our newest outreach tool
- Distribution underway
  - Two hard copies to each city and town
  - A CD to each workshop attendee
  - Online at www.ct.gov/dep/municipalprimer

Questions?

What's Next?

What other workshop topics would be helpful to you?