

FINGER LAKES INSTITUTE



Leveraging Academic Institutions for Sustainable Community Development

April 2012



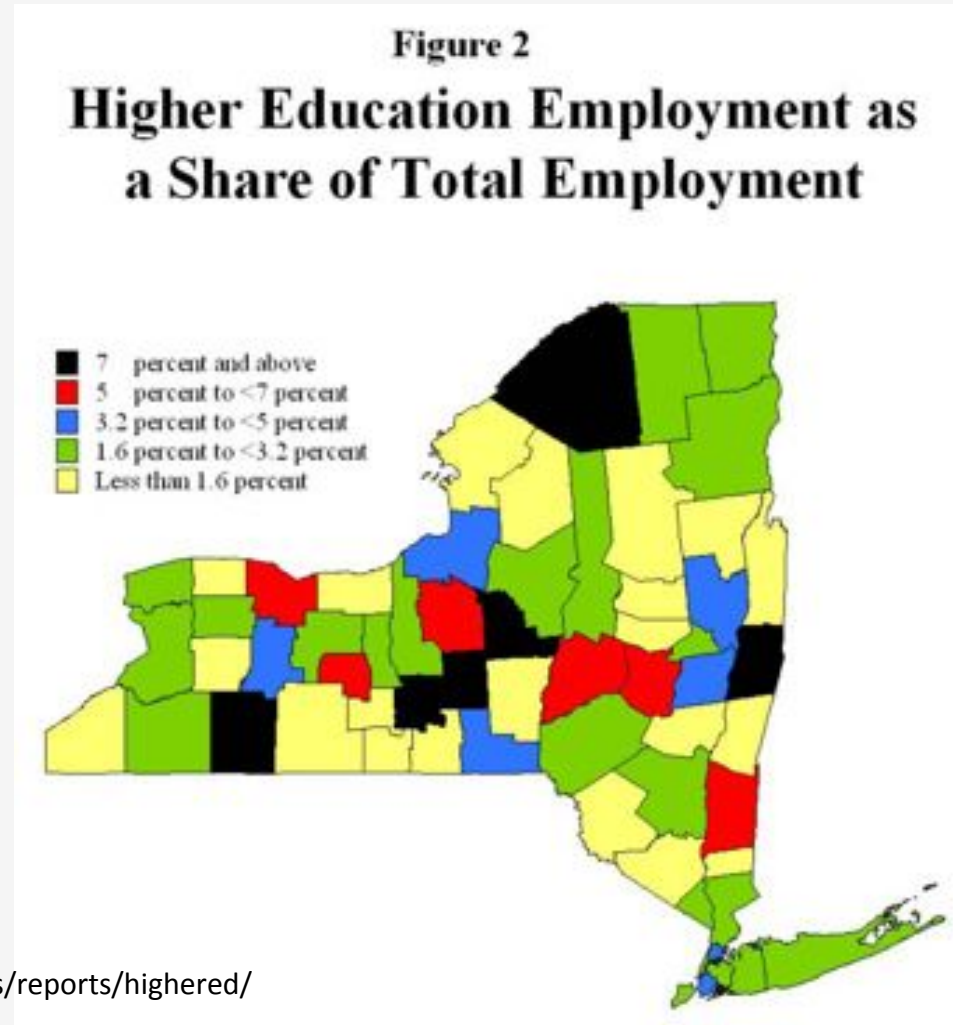
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Outline

- Higher education in NY
- Introduction to Finger Lakes Institute
 - Research, Education, Outreach programs
- Economic development and sustainability in Finger Lakes
- New initiative in sustainable community development at HWS
- Opportunities



Academic Institutions in NY



[http://www.osc.state.ny.us/reports/highered/
highered7-2011.pdf](http://www.osc.state.ny.us/reports/highered/highered7-2011.pdf)



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NY Academic Institutions

- New York has the largest private higher education sector in the nation, with 167,450 jobs in 2009—more than 40 percent larger than second-ranked California. New York accounts for 14.4 percent of all private higher education jobs in the nation.

<http://www.osc.state.ny.us/reports/highered/highered7-2011.pdf>



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NY Academic Institutions

- The State Comptroller estimates that in 2009, college and student spending directly and indirectly provided 495,100 jobs and generated \$62.2 billion of economic activity in the State.
- The Princeton Review recently found that New York had 37 of the nation's 286 colleges (nearly 13 percent) with above-average commitments to environmental responsibility.

<http://www.osc.state.ny.us/reports/highered/highered7-2011.pdf>



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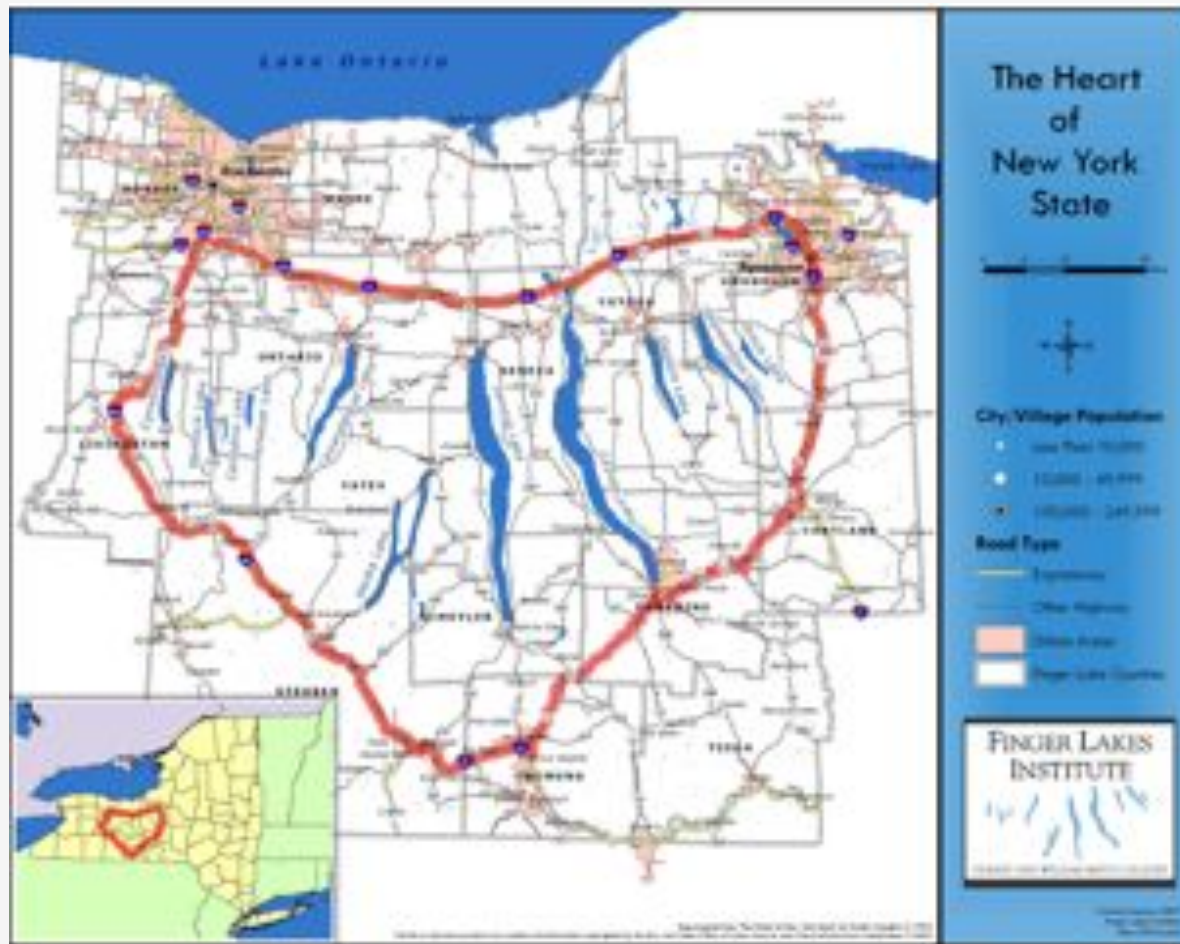
Finger Lakes Institute Mission

We promote environmental research and education about the Finger Lakes and surrounding environments. In collaboration with regional partners and state and local government offices, the FLI fosters environmentally-sound development practices throughout the region and disseminates knowledge to the public.



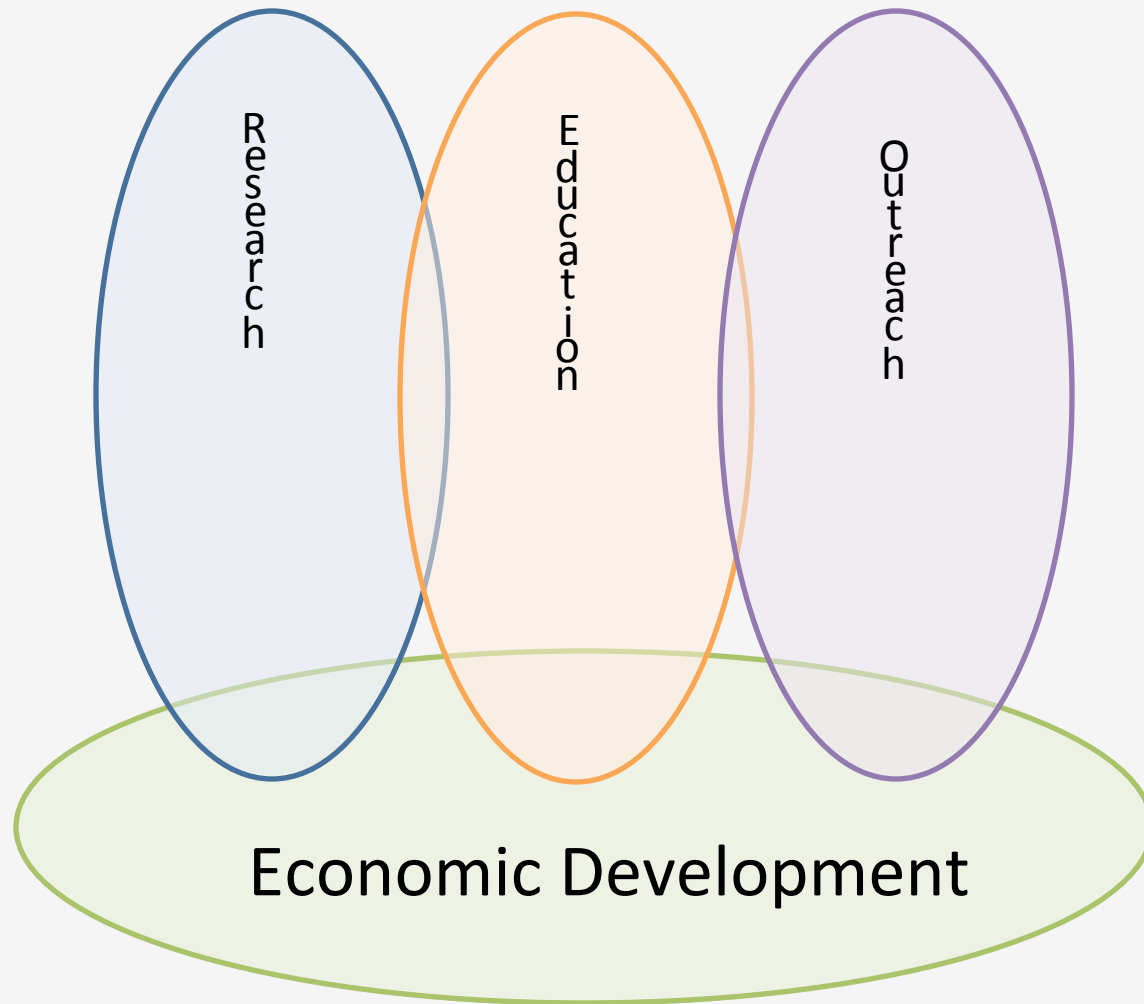
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Where are the Finger Lakes?



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Finger Lakes Institute Focus Areas



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Research



- Local water issues (pollution, invasive species) addressed in partnership with local municipal officials and watershed groups
- HWS student engagement and research assets are key
- Finger Lakes are drinking water source for > 1.5M people with many threats

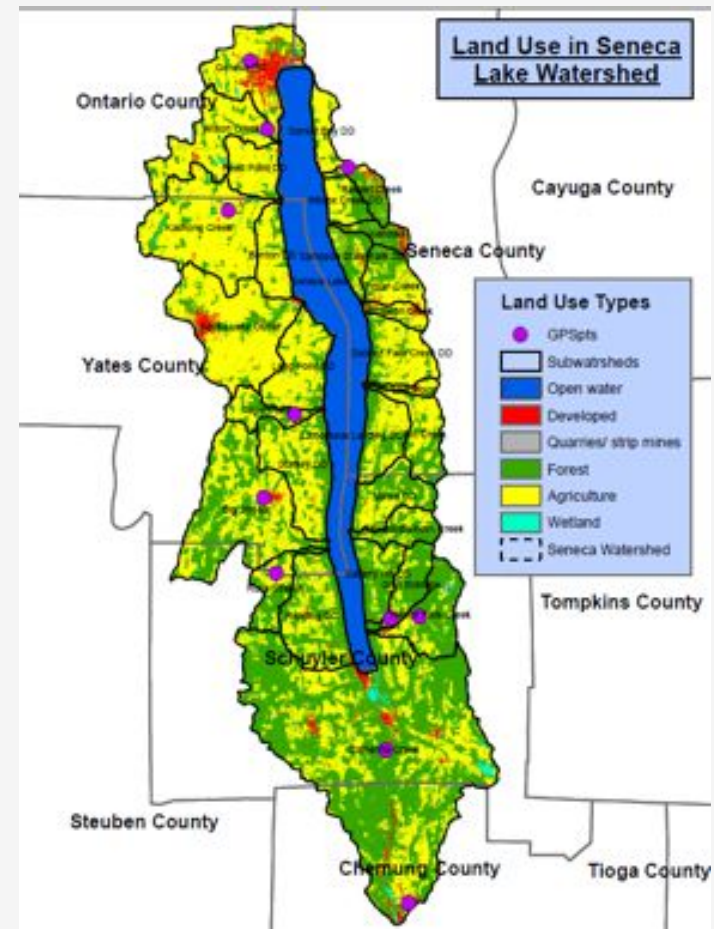


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Research Spotlight:

Seneca Lake Watershed Characterization

- Profs. Halfman, Curtin, Cushman, Brown, Cleckner and others assessing biological, chemical, and physical conditions
 - Addition of trace metals including mercury
- Funding from Seneca Lake Pure Waters Association and Tripp Foundation in addition to NY Department of State



Cushman Work - Fish



- Visited streams in mid-June
- 10 stream sites
 - 10 drainage basins around Seneca Lake
 - Electrofished 75 m sampling reaches
- Water quality parameters and habitat



Common Fish Found in Small Streams



Blacknose Dace*

White Sucker



Creek Chub



Less Common Fish Found in Small Streams

Fantail Darter



Brown Trout



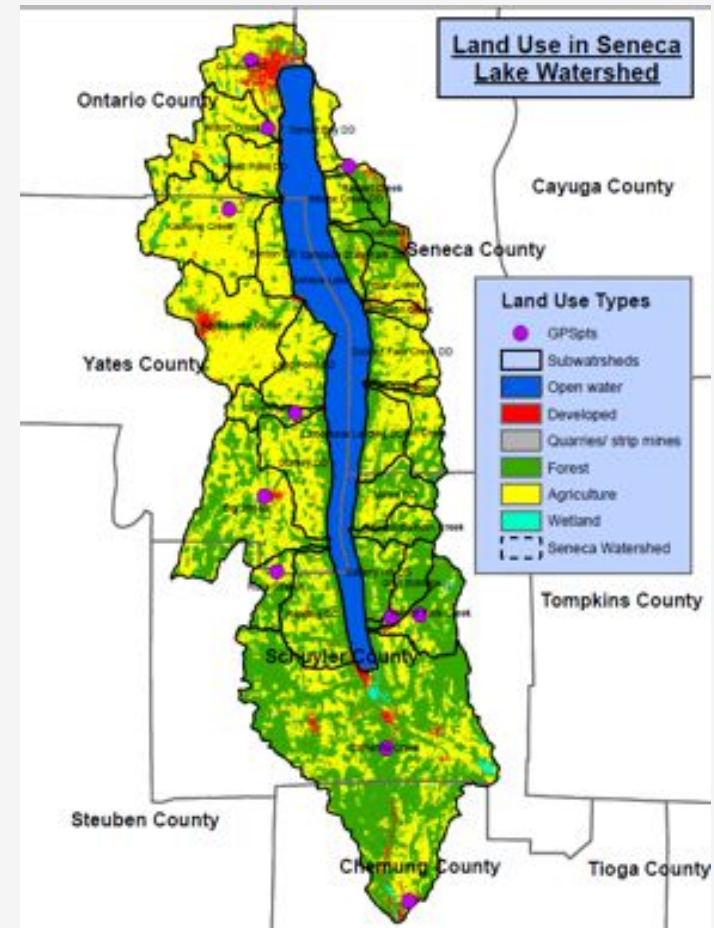
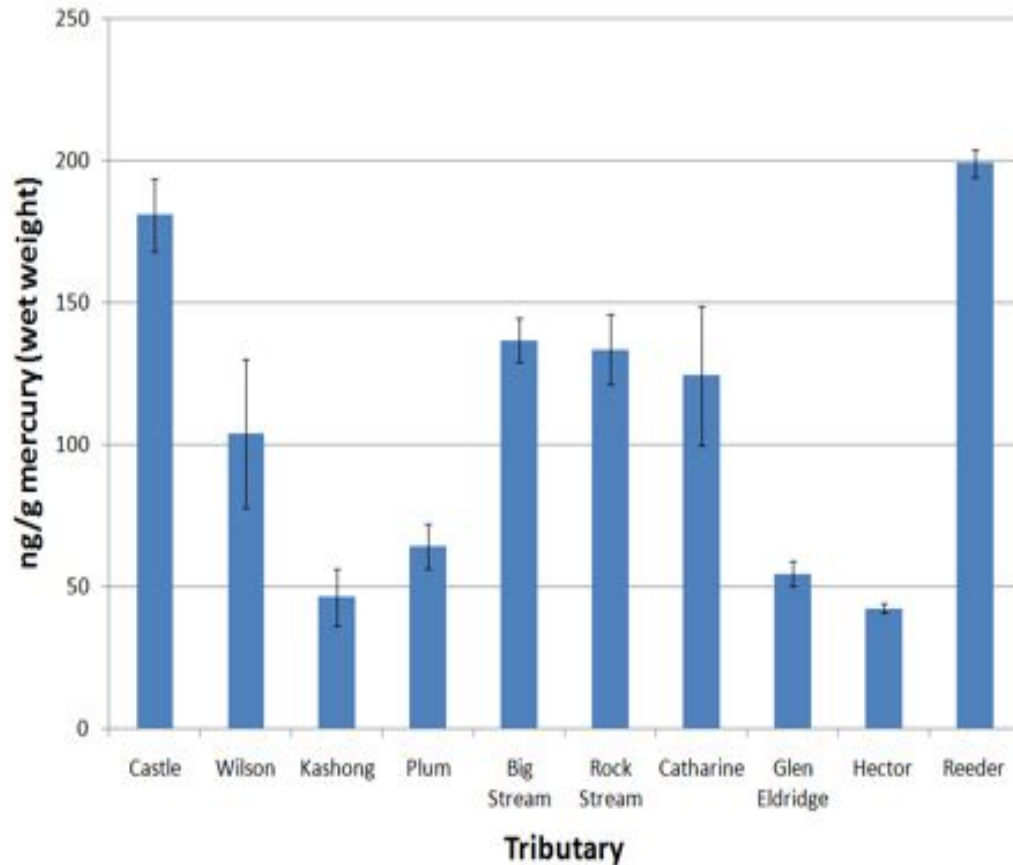
Brown Bullhead



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Mercury Analysis – Blacknose dace

Small, ubiquitous fish as indicators



Research Spotlight:

Aquatic Invasive Species



- Prof. Brown
 - Building on extensive work with zooplankton invasives in Finger Lakes and Great Lakes
 - Tracking movement of *Hemimysis anomala* from Seneca L -> Seneca-Cayuga Canal -> FL, GL, EC, etc?
 - Trophic effects
- Watercraft stewards at FL and GL boat launches
 - Surveys, education
 - Citizen science



Aquatic Invasive Species

- Hiring 12 stewards for Finger Lakes and Southern Lake Ontario boat launches
 - 7 eastern FL and 3 bays on LO
- NY partners
 - Lake Champlain, Lake George, Lake Ontario and headwaters, Catskills, State Parks, DEC, ...
- *Hydrilla* has garnered much attention...
 - \$800K in NY Budget



**STOP AQUATIC
HITCHHIKERS!™**

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net



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Education



- Inquiry-based learning
- Students connect with natural environment in Finger Lakes and at home
- Acute need for STEM education
- Citizen science

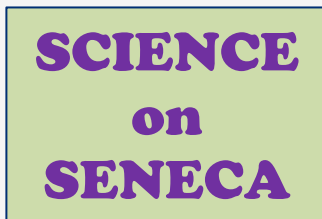


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Education Spotlight:

Land Use and Water Quality in the Finger Lakes

- Three-day institute – July 2011
- Middle school and high school teachers
- Teachers part of curriculum development team
- Field work – streams, Seneca Lake
- Hypothesis and data collection as part of inquiry-based approach
- Geospatial technologies



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Community Outreach

- Primary interface with public
- Education, information, and service on wide variety of environmentally-related topics
- Over 4,000 attendees

Happenings



The Importance of Watershed Management Planning for the Finger Lakes

Posted on June 20, 2011 by Finger Lakes Institute

by David Zorn and Brian Slack, Genesee-Finger Lakes Regional Planning Council

A watershed is all the land that drains into a common point (water body). Watershed management is a balancing act between the chemical and biological characteristics of local waterbodies, the beneficial uses of the resource, and the preservation of the watershed's natural habitat. Examples of beneficial uses include fishing, boating, drinking water, irrigation, aesthetics, agriculture, industrial uses, swimming, and a variety of other forms.



FLI Happenings
• July 2011: Seneca Lake Management Plan II
• June 2011: Seneca Lake and Hydrology II



FINGER LAKES
— REGIONAL —
WATERSHED ALLIANCE



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Community Outreach Spotlight: Marcellus Shale Conference



The poster for the 2011 Finger Lakes Environment and Development Conference features a scenic image of a lake at sunset. The left sidebar contains links to the Finger Lakes Institute website, a list of speakers, a mailing list sign-up, and social media icons for Facebook and Twitter. The main text area provides details about the conference's focus on Marcellus shale development, the dates (Thursday, July 21 to Friday, July 22), and the location (Hobart and William Smith Colleges in Geneva, NY). It also identifies John H. Quigley as the keynote speaker and includes a portrait of him.

FINGER LAKES INSTITUTE
Environment and Development Conference

2011
Finger Lakes Environment and Development Conference

Proactive Approaches to Managing Impacts of Marcellus Shale Development

Thursday, July 21 - Friday, July, 22
at Hobart and William Smith Colleges
Geneva, NY

Keynote Speaker
John H. Quigley
Principal of John H. Quigley LLC,
Strategic Advisor to Citizens for
Pennsylvania's Future (PennFuture),
and former Acting Secretary of the
Pennsylvania Department of
Conservation and Natural Resources

Specific sessions of this conference will focus on:

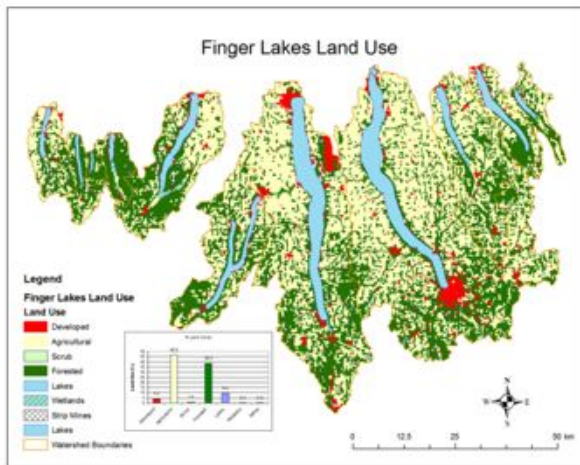
About the Conference
This 2-day conference will provide education, information resources and practical knowledge regarding potential costs and benefits of shale gas development in NY, for the purpose of facilitating informed

- 137 attendees across many sectors
- 4 states including PA
- Practical information that can be used to encourage and/or discourage various aspects of development
 - Planners, municipal officials, private businesses, citizens
- Watershed and community focus
- Legal, health, environmental arenas were emphasized



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Economic Development



<http://wiemer.com/winery/>



<http://www.fingerlakessustainablefarming.org/>

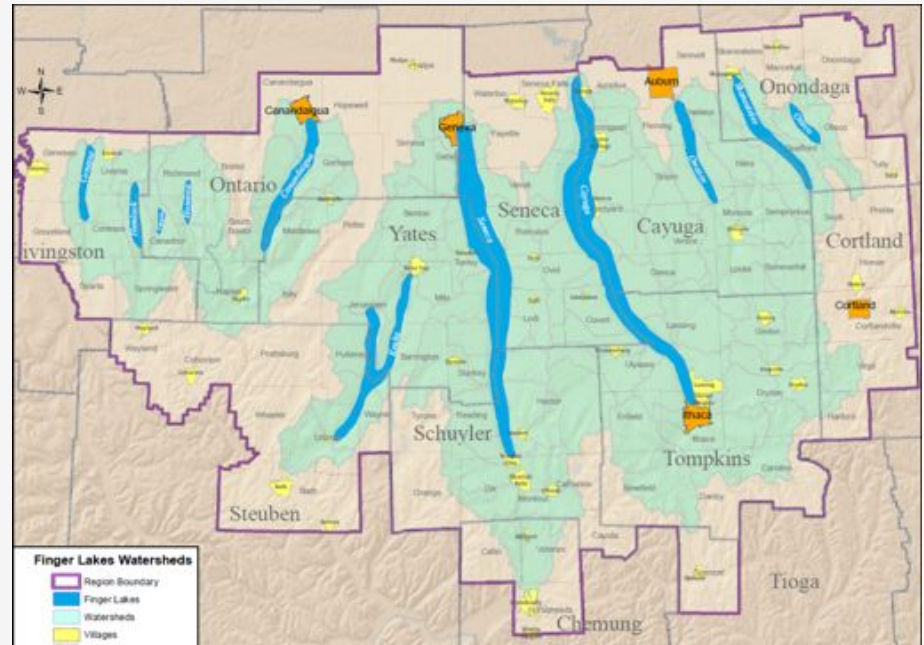
- Land-use and planning
- Rural sustainability
 - Local food, energy/water, tourism, agriculture
- Translational role between HWS expertise and public needs



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Economic Development Spotlight: Finger Lakes Rural Revitalization Project

- In partnership with FL County administrators, planners, Cornell, Extension Network, etc.
- 3,735 square miles
- 463,10 people (2009)
- Land Cover:
 - 47% agriculture
 - 38% forest
 - 10% surface water, wetlands
 - 5% developed
- Economy is based on agriculture, tourism, education, technology



Source: Tompkins County Planning



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Finger Lakes Rural Revitalization Project



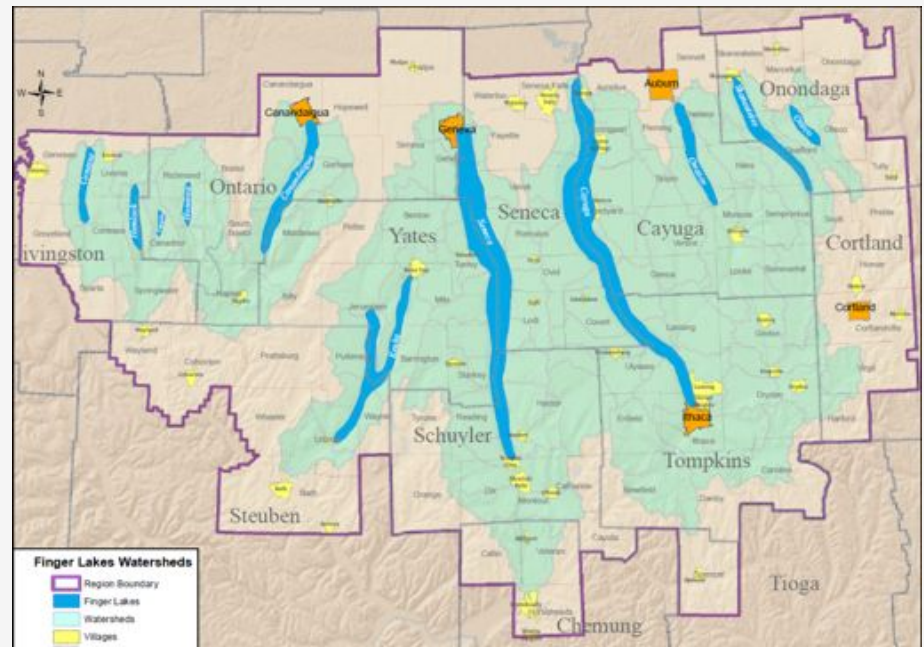
Source: Tompkins County Planning



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Economic Development Spotlight: Finger Lakes Rural Revitalization Project

- Local food and diversified, sustainable agriculture
- Water supply protection and watershed management
- Biodiversity, land conservation and sustainable forest management
- Renewable energy and energy efficiency
- Tourism and outdoor recreation
- Healthy communities and sustainable community development



Source: Tompkins County Planning



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Economic Development Spotlight:

HWS Sustainable Community Development



- Interdisciplinary program with HWS faculty and staff; community, municipal leaders; private enterprise
 - Significant growth in student interest in architectural studies, environmental studies, sustainability
 - Geneva Initiative



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Economic Development Spotlight:

HWS Sustainable Community Development

- Exploring certificate program options
 - New courses
- Tangible “real world” add-ons to liberal arts education
 - e.g., finance, real estate development, design, planning, project management, lifecycle assessment
- Tap regional and national experts
- Internships
- Post-baccalaureate programming?
- Funding provided by the Isabel Foundation



Sustainable Community Development

- Class topics
 - Built environment
 - Waste, energy
 - Food, water
 - Science and technology
 - Sustainable Community Development in Practice
- Panels and venue
- Engagement with region



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Sustainable Community Development

- Internships planned for summer '12
 - Materials management
 - Diversion of C&D materials from landfills
 - Environmental and economic indicators for FL
 - Integration
 - Sustainable agriculture
 - Supply chain for sourcing local food
 - Campus and region
 - Green infrastructure
 - Rain barrels, rain gardens and campus plan



Summary:

Research/Monitoring/Tech Transfer

- Using Finger Lakes as example, much understanding about state of ecosystem is from college and university efforts
 - HWS, FLCC, Keuka, Wells, CCC, SU, Cornell, ESF, etc.
 - Necessary in light of DEC capacity
 - \$\$ support from many places including NYS, federal sources
- CoEs, NYSTAR, CATs, TDOs, SUNY, and other NYS investments



Summary:

Services and Academic Liaisons

- Save the Rain education and outreach
- AVA – Finger Lakes Wine Alliance
 - GIS
- Roles
 - Facilitator/Convener
 - Grants and funding
 - Design ideas and experts
 - Creekwalk in Syracuse, Shoppingtown re-purpose
 - Business incubators
 - Doers!



Summary:

Direct Town/Gown

- Housing
 - Adaptive re-use
- Energy
- Infrastructure
- Business development and entrepreneurship



Opportunities

- Issues that organizations want to tackle but are always on wish list
- Scale
- Non-traditional funding sources
- Internships
- Capstones, semester-long projects
- Professional staff and faculty
- Networked academic institutions
 - E.g., SU, RIT, Cornell, etc. with HWS



Summary:

Finger Lakes Sustainability Initiatives

- Finger Lakes are a regional asset to be protected and promoted
 - FLI purpose with research, education, outreach as base
- Partnerships with other institutions and entities are essential for successful identification, implementation, and assessment of sustainability initiatives
 - Capacity, expertise, experiences



Summary:

Finger Lakes Sustainability Initiatives

- Undergraduate liberal arts institution role
 - Communication
 - Big picture
 - Nuance when confronted with complex decisions
 - Professional management roles
 - Decision making without complete information



Acknowledgments: FLI Staff

Plus students and interns!



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Acknowledgments: FLI-Affiliated Faculty

And, many more plus staff...



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