



# NEW YORK STATE WATER RESOURCES INSTITUTE

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## CRP 3072/5072

### Land Use/Environmental Planning Field Workshop Activities, Fall 2017 Semester Activities

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#### Abstract

The CRP 3072/5072 Land Use & Environmental Planning field workshop in the Fall of 2017 developed draft scenic resources protection strategies for the Town of Cornwall, Orange County, and the cities of Beacon and Poughkeepsie in Dutchess County. The objectives of the field workshop were to:

- Provide each client community with a framework for identifying and protection scenic resources within their boundaries, including the river, river shoreline and adjacent uplands, and important scenic landmarks beyond, but contributing to the scenic character of the river and region;
- Provide students with the opportunity for engaged learning and research, and to provide local government with technical support in developing local strategies to protect their scenic resources;
- Promote intermunicipal cooperation in preservation of the scenic resources along the Hudson River.

### **Three Summary Points of Interest**

1. Student teams built upon the work of previous field workshop teams in the towns of Esopus and Hyde Park, by testing methodologies for identifying and prioritizing scenic resources.
2. Students working in Beacon and Poughkeepsie developed methodologies tailored to urbanized areas, where the built environment strongly influences scenic character.
3. Protection of scenic resources in the Hudson River region is becoming a higher priority for residents and municipal officials.

### **Keywords**

Scenic resources, Beacon, Cornwall, Poughkeepsie, Cornell University

### **Introduction**

The Hudson River and its surrounding region are well known for their scenic beauty, as well as the 100,000-plus acres of open space that today are protected for the use and enjoyment of the public. While the effort of the past 125 years also resulted in the preservation of notable scenic resources, the primary objective has been protection of open space, cultural and ecological resources. The objective of the CRP 3072/5072 Land Use & Environmental Planning field workshop is to provide communities with the tools to identify and prioritize the protection of scenic resources.

Students in the Fall 2017 Land Use & Environmental Planning field workshop developed draft scenic resources protection strategies for the Town of Cornwall, Orange County, and the cities of Beacon and Poughkeepsie in Dutchess County. The 3 student teams were charged with creating a framework for identifying and protection scenic resources within their client community, including the river, river shoreline and adjacent uplands, and important scenic landmarks beyond, but contributing to the scenic character of the river and region. They built upon the work of previous field workshop teams in the towns of Esopus and Hyde Park, by testing methodologies for identifying and prioritizing scenic resources. The two teams working in Beacon and Poughkeepsie expanded upon the generally accepted definition of scenic resources by developing methodologies tailored to urbanized areas, where the built environment strongly influences scenic character.

### **Results and Discussion**

Each of the three teams was responsible for compiling a historic and demographic profile of the client community, documenting previous planning initiatives, collecting and analyzing existing municipal land use regulations and creating GIS-based maps showing important infrastructure, cultural and open space features within the community. They also reviewed previous open space and scenic resource protection initiatives, and methodologies for application locally.

The teams each spent two days in their client community in October documenting it, holding community forums and conducting resident surveys. With the information they gained through the site visits, and through literature review, the teams then developed their methodologies for identifying and prioritizing scenic resources. Using the methodologies, they created a prioritized list of identified scenic resources, and prepared a report with recommendations to their client. The teams also returned in December to their respective client community and presented their findings in a public presentation.

### **Policy Implications**

The objective of the CRP 3072/5072 Land Use & Environmental Planning field workshop in the fall of 2017 was to provide communities with the tools to identify and prioritize the protection of scenic resources, in an objective and cost effective way. The student work also raised the profile of scenic resources within the communities, and stimulated discussions about what constitutes a scenic resource, and how it might be protected.

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The final report of each of the teams was purposely designated "DRAFT," in order to encourage additional community input and discussion, and if appropriate, revision. This approach will encourage community buy-in for the concept of scenic resource protection, and ultimately community support for future investments in the acquisition of conservation easements on key parcels, implementation of new growth management tools to better protect scenic resources, and in some instances land acquisition.

**Public Outreach and Partnerships**

Teaching participatory planning practices is an integral part of the curriculum in the Department of City and Regional Planning, and one of the objectives of the field workshop program. Each student team designed a program for encouraging public input into their projects. In Cornwall and Poughkeepsie, public outreach included in-person surveys of residents participating in weekend community festivals in those communities. In Beacon students surveyed local residents and visitors to the Beacon Institute for Rivers and Estuaries on Main Street. In Cornwall the resident surveys were augmented by an afternoon community forum held at the Cornwall Library.

In Cornwall and Beacon the local client groups were the Cornwall Conservation Advisory Council and City of Beacon Conservation Advisory Committee. In Poughkeepsie the students worked with the citizens' committee overseeing a natural resources inventory for that city.

Each student team made a public presentation to their respective client groups in December.

Faculty are continuing to work with the community clients to further modify the methodologies in order to better reflect community priorities, and gain local consensus.

**Student Training**

Eighteen students were enrolled in the field workshop for the Fall 2017 semester. Six were graduate students, majoring in City & Regional Planning. Eight of the 12 undergraduate students were Urban and Regional Studies majors, 2 students were Environmental and Sustainability Studies majors, 1 was a Landscape Architecture major and 1 from Arts and Sciences.

The workshop was organized in two segments. The first 6-7 weeks consisted of lectures on land use planning and open space protection policy and practice in the USA. The second half of the semester consisted of studio-like working sessions in which the teams meet, organize, and work on the team deliverables. The workshop is designed as an interdisciplinary educational experience, in which individual students contribute their specific skills to the project team as they learn new skills from their teammates.

**Publications/ Other Presentations**

"Student-Led Scenic Viewshed Protection in the Hudson Valley," presented by George Frantz at the North East Natural History Association annual conference, Burlington, VT, April 15, 2018

"Cornwall Scenic Resource Inventory," presented to Town of Cornwall Conservation Advisory Council, Cornwall, NY, December 6, 2017.

"Scenic Resource Inventory, City of Beacon, NY" presented to City of Beacon Conservation Advisory Committee, Beacon NY, December 5, 2017.

"Poughkeepsie Scenic Resource Preservation," Presented to the Natural Resource Inventory advisory committee, Poughkeepsie, NY, December 1, 2017.



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## CRP 3072/5072

### Land Use/Environmental Planning Field Workshop Activities, Spring 2018 Semester Activities

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#### **Abstract**

The CRP 3072/5072 Land Use & Environmental Planning field workshop in the Spring of 2018 conducted studies of drainage and stormwater runoff and stormwater management systems in the Patton Brook and Silver Stream watersheds that supply the City of Newburgh's public water supply reservoir at Lake Washington. The studies are part of a larger response to the contamination of Lake Washington with the chemical PFOS. The goal of the studies was to develop a more holistic approach to stormwater management from all sources, in order to better protect the water supply for Newburgh.

Course objectives included providing students with a working knowledge of stormwater runoff calculations, New York State design standards for managing stormwater, and the innovative uses of green stormwater infrastructure in runoff management.

### **Three Summary Points of Interest**

1. The project involved a whole watershed approach to stormwater management in the two watersheds supplying the Lake Washington reservoir.
2. Student teams compiled data on stormwater management practices in the Town of New Windsor and Town of Newburgh, and identified specific issue areas within the study areas.
3. Students developed a working knowledge of NYS stormwater systems design standards as well as innovative Green Stormwater Infrastructure practices from around the world.

### **Keywords**

stormwater, green stormwater infrastructure, Newburgh, Cornell University

### **Introduction**

The CRP 3072/5072 Land Use/Environmental Planning/Urban Design field workshop is an opportunity for upperclass undergraduates and graduate majors in planning, design and public policy to engage in experiential learning. The course is designed to provide technical assistance to communities in Upstate New York, and to give students the opportunity to work with a community in resolving critical planning issues. Students in the Spring 2018 field workshop provided support to the NYS Department of Environmental Conservation in addressing the issue of urban stormwater runoff and pollution in the watersheds that supply the City of Newburgh NY public water supply in the towns of New Windsor and Newburgh. Newburgh and many other cities surrounded by suburban development are faced with a general threat to their water supplies from urban run-off pollutants. These come from numerous sources, including streets and highways, parking lots, lawn chemicals, agricultural runoff and soil erosion and sedimentation.

The students in the field workshop:

1. Compiled available mapping for the watershed areas, including land use and land cover, topography, hydrology, including roadside drainage structures and drainageways, mapped point and non-point pollution sources, and sources of stormwater runoff.
2. Supplemented the available mapping with additional mapping utilizing GIS information resources and site surveys.
3. Investigated best practice approaches to stormwater management in New York based on existing DEC regulations, as well as stormwater management approaches elsewhere, including use of bio-retention systems on both public and private property.
4. Developed a plan for better managing and treating stormwater runoff for urban runoff pollutants within their assigned watershed, integrating both public and private investment.
5. Developed educational materials to residents within the watershed to raise awareness of their presences in the watershed and how they can contribute to protecting water quality within local streams and ultimately the Hudson River.

### **Results and Discussion**

The student teams spent two days in March 2018 in the study area to collect data and to verify existing information. As part of their survey work they also conducted measurements on several culverts on Silver Stream and Patton Brook as part of the larger North Atlantic Aquatic Connectivity Collaborative study. With the information they gained through the site visits, and through literature review, the teams then developed stormwater management plans and potential approaches to better managing stormwater runoff within the two watersheds, to better protect the public water supply downstream.

### **Policy Implications**

The objective of the CRP 3072/5072 Land Use & Environmental Planning field workshop in the Spring semester of 2018 was to provide the client communities with concepts that they can use in the future to improve upon existing

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stormwater management practices within their respective jurisdictions. Implementation of the concepts can better protect water quality in not only Lake Washington, but also Quassaick Creek, Moodna Creek, and ultimately the Hudson River itself. In some instances, it may be a matter of improving upon existing infrastructure through retrofitting of green stormwater infrastructure, in other locations where no stormwater infrastructure currently exists, opportunities where new infrastructure can be developed were identified.

The final report by each of the teams is considered a draft report in order to encourage additional community input and discussion, and if appropriate, revision. This approach will encourage community buy-in for the concept of improved stormwater management and water quality protection.

### **Public Outreach and Partnerships**

The CRP 3072/5072 Land Use & Environmental Planning field workshop students joined an existing partnership between the Hudson River Estuary Program, Department of Environmental Conservation and local municipal officials that are currently addressing the PFOS contamination issue, and the larger long-term issue of stormwater management and urban runoff pollution in the region.

The student teams made a presentation via the internet to DEC staff and other participants in the region on May 17, 2018.

Course faculty will continue to work with other partners to finalize the reports and recommendations.

### **Student Training**

Thirteen students were enrolled in the field workshop for the Spring 2018 semester. Eight were graduate students, with 7 majoring in City & Regional Planning and one in the CIPA master of public administration program. Five of the students were undergraduate students, with 4 enrolled in Urban and Regional Studies, and one in architecture.

The workshop was organized in two segments. The first 6-7 weeks consisted of lectures on land use planning and stormwater management policy and practice in the USA and other countries. A two-day field trip to Newburgh provided the students with opportunity for field data collection and analysis, and to familiarize themselves with the study area.

The second half of the semester consisted of studio-like working sessions in which the teams met, organized themselves, and worked on their team deliverables. The workshop is designed as an interdisciplinary educational experience, in which individual students contribute their specific skills to the project team as they learn new skills from their teammates.

### **Publications/Other Presentations**

“Patton Brook Stormwater Infrastructure,” May 2018. Ardakh Butai, Yuan Dong, Lingxi Xiong, Lama Shehadeh, Yingge Shen, Grant Thompson, Shiyao Wang.

“Newburgh/New Windsor Watersheds Project,” May 2018. Ada Chan, Aundrea Cruz, Sage Magee, Lilah Rosenfield, Chris Tae Seo Lee, Yuncheng Wang.