Green Infrastructure
Codes and Ordinances

Emily Vail
Hudson River Estuary Program
NYS Department of Environmental Conservation
New York State Water Resources Institute at Cornell University

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Presentation Outline

- Hudson River Estuary Program
- Why are codes/ordinances important?
- Case studies
  - Wappinger and Clinton
  - Albany County
  - Nyack and Orangetown
- What you can do
- Resources

Rain Garden at Vassar College, Poughkeepsie
Hudson River Estuary Program

Six Benefits:

- Clean water
- Resilient communities
- Vital estuary ecosystem
- Estuary fish, wildlife, and their habitats
- Scenic river landscape
- Education, river access, recreation, and inspiration
Why codes and ordinances?

- Land use -> stormwater
- Municipalities can regulate land use
- Certain regulations required for MS4s
- Can incentivize/require green infrastructure
  - Smaller projects may not require a full SWPPP/post-construction stormwater (1 acre = 43,450 ft\(^2\))
  - Village of Nyack threshold = 10,000 ft\(^2\)
  - In Croton watershed, threshold = 5,000 ft\(^2\)
Why codes and ordinances?

- Can be a barrier to some green infrastructure practices
- For example:
  - Parking lot or street width standards can make it hard to reduce impervious surfaces
  - Curb requirements can limit green infrastructure in parking lots
  - Prohibiting flat roofs can limit green roofs

Ulster County Department of the Environment Bioretention
Why codes and ordinances?

- Local laws can protect streams, wetlands, aquifers, or reservoirs – natural green infrastructure
- What water quality or natural resource issues matter most to your community?
- What are the regulations or standards in your code that relate to stormwater?

City of Newburgh Zoning – Proposed waterbody protection overlay
Code and Ordinance Case Studies

- Better Site Design Roundtables Clinton and Wappinger (Dutchess County) – 2006
- Green Infrastructure Model Local Law Project Albany County – 2013
- Green Infrastructure Code Review Project Nyack and Orangetown (Rockland County) – 2014

Green Roof at Marist College, Poughkeepsie
Better Site Design Roundtables

- Towns of Clinton and Wappinger
- Code review with NYS Code & Ordinance Worksheet (COW) 2004-2005
- Consensus-based roundtables 2005-2006
  - Local government, non-profit, environmental, business, and community professionals
- Hudson River Estuary Program grant
  - Center for Watershed Protection
  - Wappinger Creek Watershed Intermunicipal Council
  - Cornell Cooperative Extension Dutchess County/ Dutchess County EMC

Rain barrel workshop, Town of Wappinger
Better Site Design Roundtables

- Both in Wappinger Creek watershed
  - Clinton: rural
  - Wappinger: suburban
- Received scores based on code review
- Final reports include:
  - Recommendations for specific Better Site Design Principles to adopt
  - Code and ordinance revisions
- In 2007, Wappinger adopted 22 out of the 36 recommended code changes
Albany County Green Infrastructure

- NYS DEC Water Quality Improvement Project grant
- Stormwater Coalition of Albany County – MS4
  - 3 cities, 4 towns, 4 villages, Albany County, SUNY Albany
- Project Advisory Committee
  - Barton and Loguidice
  - Legal support from Young/Sommer
  - Albany County staff
Albany County Green Infrastructure

- Green Infrastructure Model Local Law Project – 2013
  - Inventory existing comprehensive plans and local laws by using a Water Quality Scorecard
  - Identify local law “gaps”
  - Research other local laws, and develop models
  - Present to municipalities and get feedback
Albany County Green Infrastructure

- Encourage green infrastructure beyond Construction Permits
- Identified potential gaps, prioritized the top 8 for draft local laws
  - Noted standard municipal policies or practices that aren’t in code
  - Certain issues best addressed through education/outreach
Nyack and Orangetown

- Hudson River Watershed Alliance
- Grant from Hudson River Estuary Program (in cooperation with NEIWPCC)
- Barbara Kendall, then Marcy Denker coordinating project
Green Infrastructure Planning: Nyack

- Formed green infrastructure committee in 2011
- Concerned about water quality, flooding, and new development in dense village
- Code review roundtable with village officials, board members, staff, residents (2012-2013; faster than Dutchess roundtables)
- Didn’t use scoring – seemed to work better for rural/suburban community
Green Infrastructure Planning: Nyack

- Identified tasks for Village Planner, an expanded Green Infrastructure Committee, a new Tree Commission, and the Village Board for phased code changes
  - Ranged from mapping stormwater infrastructure to street tree management plan
- Developed new Sustainability chapter in code
Green Infrastructure Planning: Orangetown

- Code review without roundtable – limited opportunities for discussion
- Less than 6 month timeframe
- Worked with town staff on first draft, then feedback from local environmental groups
- Used adapted scorecards from Albany County, EPA, Nyack without scores
- Focused on regulation – code revisions
- Found gaps in existing natural resource protection
Green Infrastructure Planning: Orangetown

- Feedback from a professional planner not affiliated with the town
  - Value of developing design guidelines
  - Provide guidance for planning boards and applicants in the short term
  - Could evolve to standard practice or codes
- Orange County Water Authority Watershed Design Guide could be useful reference
Summary of Code/Ordinance Projects

- Motivation: water quality, compliance with MS4 regs, flooding
- Examples of projects and laws in rural/suburban towns, villages, & cities
- Value to scorecards/worksheets, roundtable process, design standards
- Even if code was recently updated, GI focus can help show gaps
- ID opportunities outside of local laws – plans, maps, outreach/education
- List of actions, follow through

Green infrastructure tour – University of Albany green roof (Photo: John Purcell, Bethlehem Spotlight)
What you can do

- What water quality or natural resource issues matter most to your community?
- What are the regulations or standards in your code that relate to stormwater?
- Review codes/ordinances/policies
- Educate yourself and others on green infrastructure and its benefits
- Set a good example with municipal property/policies
- Use green infrastructure guide to facilitate stormwater review
Resources

- Code review worksheets & case studies
- Hudson River Estuary Program Guide to Creating a Natural Resources Inventory
  - Appendix H: Checklist for assessing sites
- Pace Green Infrastructure Guide for CACs
- Orange County Watershed Design Guide
- EPA Enhancing Sustainable Communities with Green Infrastructure
- NRDC The Green Edge: How Commercial Property Investment in Green Infrastructure Creates Value
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- Emily Vail
- Watershed Outreach Specialist
- Hudson River Estuary Program
- emily.vail@dec.ny.gov
- (845) 256-3145

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