

NERRS Science Collaborative Progress Report

Reporting Period: September 1, 2012 – February 28, 2013

Project Title: Green Infrastructure for Sustainable Coastal Communities

Principal Investigator(s): James J. Houle

Project start date: September 1, 2012

Report compiled by: James J. Houle

Contributing team members and their role in the project:

- Project Coordination and Fiscal Agent: James J. Houle; University of New Hampshire Stormwater Center (UNHSC).
- Collaboration Lead: Julie LaBranche, Rockingham Planning Commission with James Gruber, Antioch University as the collaborative expert.
- Applied Science Investigator: Robert Roseen; Geosyntec Consultants
- End-user Representative: Alison Watts; Southeast Watershed Alliance
- Additional project team members:
 - Tom Ballestero and Tim Puls; UNHSC
 - Paul Stacy, Steve Miller and Chris Keeley; Great Bay NERR

A. Progress overview:

The goal of this project is to build municipal capacity in coastal watershed communities for Green Infrastructure by engaging local and regional stakeholders in a planning and implementation process that is supported by technical resources and current relevant information. The project integrates the collaborative process to build trust, legitimacy and relevance for the intended-users. The goal of creating a collaborative process is to build community resilience and improve capacity for managing water resources and related ecosystem services.

Planned activities during this reporting period include: proper administration of the grant, meetings and coordination with the project team, development of foundational project materials and the establishment and commissioning of the project advisory board (AB).

The UNHSC entered into contracts with Geosyntec Consultants, Rockingham Planning Commission, NH Fish and Game, Great Bay Stewards and Jim Gruber in order to complete essential deliverables of the project.

B. Working with Intended Users:

During this six month period the project team established a schedule of regular meetings and conference calls. The advisory board that will guide project implementation has been commissioned and two meetings have been held.

The meetings have gone very well and are summarized briefly here, but for more detail, please see the complete meeting summaries posted on basecamp. Likewise on basecamp is the complete advisory board membership.

Attendance at the AB meetings was strong and the members quickly grasp the overall project concepts and their role in vetting the assumptions the project team weighed in the original proposal. AB participation has directly led to changes in the approach the project team will use moving forward. The AB advocated for a more focused approach working in 3-5 municipalities within the coastal watershed, as opposed to more broadly in 12 communities. The goal is to focus efforts and implement more in targeted communities which are motivated and prepared. Also the concept of a “complete community approach” was coined and defined by the AB membership. Moving forward we will continue to work closely with the AB to define the solutions that the project will soon begin implementing. This appears to have led to an increased empowerment and leadership in the AB membership. The realization that collaborative determination of the problem definition and the solutions clearly extends ownership of the project to the advisory board who will likely play a critical role in translating project objectives to the municipalities in the region.

C. Progress on project objectives for this reporting period:

Applied Science Objectives (ASO):

Task 1: Watershed Analysis: Land Use, Impervious Cover, and Pollutant Loading

These analyses will allow decision makers to visualize and assess a range of development scenarios so as to be able to adapt and plan for areas ranked and prioritized based on load per unit area and cumulative load to have the greatest impact. No action has begun while the AB weighs implementation options. Major discussion points to address include: Do we perform the analyses for the entire community, or do we introduce a method and approach that they will use in the future?

Subtasks include:

- a. Watershed wide pollutant load analyses: not started
 - i. Identification of target hot spot locations for retrofit
 - ii. Nitrogen loading will be examined where data overlap exists for a related nitrogen sources studies.
- b. Impervious area and land use classification
- c. Development of a Stormwater Assessment Report and Fact Sheet to support proposed municipal MS4 permit requirements for tracking IC.

Task 2: Collaborative Planning and Demonstration Project Implementation

Numerous high-impact high-visibility demonstration locations will be targeted with LID systems that will have direct water quality and adaptation benefits. Other strategies from the GI Toolbox will be considered. The demonstration phase will incorporate collaborative planning and construction of LID retrofits in 3-5 select implementation communities. This task has been modified from direct input from the AB.

Some progress has been made. The AB is currently weighing implementation options. Major discussion points to address include: Verification and rationale behind the selection of communities. Community selection process, appointed by AB vs application process. Working with communities in close proximity to the bay vs communities in the headwaters. Working with communities more willing to partner vs communities that show little interest in partnerships.

Additional subtasks include:

- a. Potential host communities contacted and planning sessions conducted
- b. Identification of GI Strategies to be incorporated
- c. Implementation plan developed and executed
- d. Educational signage

Task 3: Performance Monitoring

Verification of success will include assessment of volume reduction and monitoring for pollutant load reduction (N and P) and calculation of decreased IC for a total of 3-5 installations. No action has been completed to date. It is expected that the AB will provide implementation feedback within the next reporting period.

Task 4: Web Resource Framework Development

A web resource will be developed to communicate information and transfer resources for GI planning and design to installation. A concept is currently in development with feedback from the project AB.

Task 5: Green Infrastructure Training and Municipal Capacity Building

Technical assistance will be provided to communities in the watershed from existing products including Stormwater Basics, Stormwater Standards for the Coastal Watershed, Regulatory Options for Stormwater Management, Green Infrastructure 101 Basics, MS4 Permit and Stormwater in Your Community, Practices and Tools for Adapting to Climate Change, Maintenance of Low Impact Development Systems, Design and Construction of Low Impact Development Systems, Economics of Green Infrastructure and LID. No action has been completed to date. It is expected that the AB will provide implementation feedback within the next reporting period.

Collaborative Science Objectives (CSO):

Task 1: Project Team kickoff. Set schedule and invite Advisory Board (AB) participants, invitations will go to 42 municipalities and 7 Rivers Advisory Committees – (Salmon Falls/Piscataqua, Cocheco, Isinglass, Oyster/Bellamy, Lamprey, Exeter/Squamscott, Winnicut). The AB has been established through e-mail solicitation. No kick-off meeting has been held. A draft of the meeting agenda has been developed. The project AB is currently considering outreach options.

Task 2: Initial meeting with Project Team and Advisory Board. Introduce project team and goals. Finalize plan for initial stakeholder workshop, review and initiate assessment plan. The AB has been commissioned and to date 2 meetings have been held. It is expected that the AB will provide implementation feedback within the next reporting period.

Task 3: Focused Sub-watershed Methods Workshops. Hold a workshop in each of the coastal sub-watersheds (four or five) to introduce GI concepts in more detail, get watershed specific feedback on requested tools, type of information. A draft of the meeting agenda has been developed. It is expected that the AB will provide implementation feedback within the next reporting period.

Additional sub-tasks include:

- Fact sheet development (examples include: development of local case studies from a local community identifying the situation, action taken, outcomes, and lessons learned; barriers to implementation in individual communities; power point slides; general overview information; specific information on technical areas of interest).

Task 4: Project Team and Advisory Board meet and discuss results from workshops, finalize priorities for selecting communities, craft the invitation to participate, design of training or working sessions, and discuss communications methods. Demonstration communities will be required to offer some form of in-kind match, understanding that some towns have greater resources and/or more experience than others. Possible match could include construction time (from municipal public works staff and equipment), planning board time (for regulatory and planning approaches), or documentation of project for publicity to Town and watershed. It is expected that the AB will provide implementation feedback within the next reporting period.

Task 5: Identify and start collaborations with selected implementation communities. This task overlaps with ASO task 2.

Task 6: Individual community applied science implementation. Meet with selected individual demonstration communities to develop scope of work. Project team and community agree on scope of work, budget, implementation timeline, etc. There has been no progress on this task to date. It is expected that communities will be selected and work on this task will ensue over the next reporting period.

Task 7: Ongoing Assistance and Training. Workshops and training/field trips will be offered as identified by Advisory Board and in detailed in the Applied Science Methods. This ongoing contact provides opportunities for both demonstration and stakeholder communities to increase capacity and raise awareness through participation in watershed-based training events with other communities. There has been no progress on this task to date. It is expected that communities will be selected and work on this task will ensue over the next reporting period.

Task 8: Ongoing communication. Electronic and printed newsletter, webpages photo-logs, project management website etc. There has been some progress on this task these concepts are currently being discussed by the project AB.

Task 9: Final Workshop. Format of the workshop will be based on feedback throughout the project, but a suggested model is a full Saturday, with a morning session of information and lectures, including presentations by demonstration communities; lunch for networking and discussion of the most effective ways to further the institutionalizing

GI, an afternoon site tour of demonstration projects; and final evaluation/assessment of collaborative component. No progress on this task has occurred to date.

Task 10: Collaboration Assessment

A draft of the collaborative assessment methods has been created and is being refined by the CSO team. Once finalized the assessment methodology will be reviewed and commented on by the AB.

D. Benefit to NERRS and NOAA

Preliminary discussions have taken place with at least two other reserves and NSC projects regarding regularities associated with implementation of green infrastructure. Discussions will continue laying the groundwork for future collaborations or information sharing between the projects and the larger NERRs community that may be interested in similar stormwater implementation projects.

E. Additional activities, products, accomplishments, or obstacles

Due to personnel changes and additional necessary administrative tasks the project is only just underway. The slow start out of the gate has created some challenges or at least some initial anxiety within the project team with respect to project implementation timeframes. It is important to allow the advisory board the time necessary to fully interact with the project objectives and weigh the proposed implementation strategies. I trust that taking the necessary time in the initial stages of the project will ultimately facilitate project implementation, outputs, and outcomes in the long run.