Outreach and Informal Conversations with Regulators & Permit Staff:

A Report for the Hudson River Sustainable Shorelines Project

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OVERVIEW

On behalf of the Hudson River Sustainable Shorelines Project Coordinating Team, Eric J. Roberts of the Consensus Building Institute (CBI) conducted eight interviews with ten permitting or regulatory staff from the New York State Department of Environmental Conservation (NYSDEC), and Department of State (NYSDOS) and the U.S. Army Corps of Engineers (USACE) in March and April 2015. Members of the Sustainable Shorelines Coordinating Team anticipated that these individuals could provide insight on the trends in shoreline stabilization permit applications and current thinking about regulations and permit requirements for sustainable shoreline designs.[1] A list of the interviewees is available in the Appendix.

The objectives of the interviews were to:

- Learn about the types of permit applications that are being submitted to the regulatory agencies for review and consideration of permitting;
- Identify any trends in shoreline applications (types, specific locations or regions in the Hudson, particular land uses, or particular groups of applicants);
- Learn about prevailing notions in the agency in regards to ecologically enhanced or sustainable shorelines regulations and permit requirements;
- Learn what, if anything, may dissuade regulators from approving proposed ecologically enhanced shorelines, and what additional information, if any, would make it easier to permit sustainable shoreline designs; and
- Learn whether or not and how regulators or permit staff might be using existing products from the Hudson River Sustainable Shorelines Project;

This report captures themes from the interviews without attribution to the interviewee, who were provided a draft of the report and their suggestions for revision incorporated. It was produced by Eric J. Roberts for use by the Hudson River Sustainable Shorelines Project and others working to advance the adoption of ecologically enhanced shorelines along the Hudson River where and when appropriate.

FINDINGS

1. Shoreline stabilization applications and associated trends

Interviewees provided insight on the quantity of permit applications they receive for shoreline treatments in the Hudson River, the trends in applicants, and the type of shoreline treatments most frequently proposed:

[1] Sustainable shoreline designs refers to the use of ecologically enhanced shoreline protection methods or treatments to protect the shore zone's wildlife habitat, ecological benefits, outdoor recreation, community quality of life, and water-dependent businesses for future generations. Ecologically enhanced shoreline protection treatments incorporate measures to attract and support both terrestrial and aquatic biota and desirable ecological functions.

Figure 1: Map of NYSDEC regions

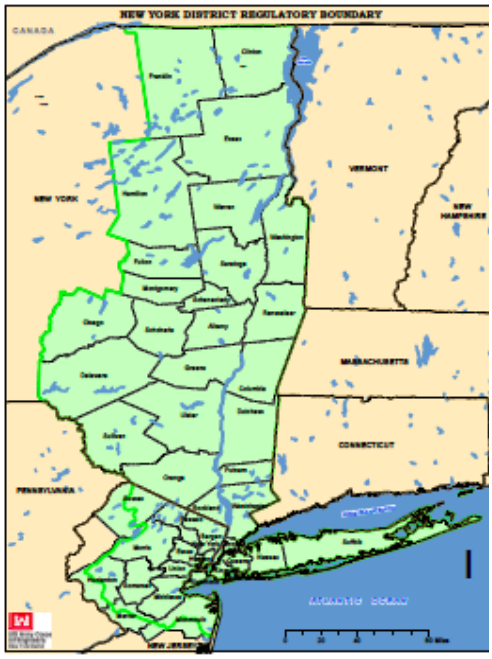

Figure 2: Map of USACE New York District

The characteristics of the region and reach of the Hudson River influences the quantity of applications for shoreline stabilization that the regulators receive. Figure one illustrates the NYSDEC regions. Figure two illustrates the USACE New York District of the North Atlantic Division. In order from the fewest to the greatest quantity of applications received for shoreline stabilization on the Hudson River, the USACE office with jurisdiction extending from the Troy Dam to the bottom of Columbia County receives approximately five applications for shoreline stabilization on the Hudson per year; NYSDEC Region 2 receives approximately six applications per year for the river reach flowing through the Bronx and Manhattan; NYSDEC Region 4 receives approximately 10-15 applications per year; and NYSDEC Region 3 receives about 15 applications for shoreline stabilization per year.

Small homeowners/landowners, municipalities, or large commercial or industrial shoreline owners are the typical applicants for shorelines projects; however, the river reach or region also influences the distribution of these applicant groups. Generally, small homeowner/landowner applicants are found throughout the Hudson, while municipal and commercial/industrial applicants are more common in some regions than others. For example, in NYSDEC Region 2, New York City (NYC) departments, economic development agencies, port authorities, and developers are common applicants. In NSYDEC Region 3, several municipalities recently submitted applications for large shoreline projects that would connect walking trails between the communities along the river. In NYSDEC Region 4, many commercial/industrial applicants own or operate wharfs, docks, and ports, and fewer applications are received from small landowners along this stretch of the Hudson.

Two consistent and related themes emerged regarding the types of projects proposed in these applications. First, nearly all regulators said they are not receiving many applications proposing ecologically enhanced shoreline treatments as part of the proposed shoreline protection method. Second, applicants most commonly propose hard structures including the replacement of existing bulkheads or installation of new bulkheads, or the installation of rip-rap. Rip-rap, in particular, seems to be a commonly proposed shoreline treatment throughout all regions. Most regulators said that

applicants proposing bulkheads usually request in-kind replacement of existing bulkheads; fewer applicants propose new bulkheads. Industrial or commercial applicants typically propose to replace existing or build new bulkheads, though municipalities and homeowners occasionally propose these treatments as well. Unless there is a clear need to protect infrastructure, most interviewees indicated that the replacement of failing bulkheads are not approved and that new bulkheads are not frequently permitted.

Regulators also commented on trends regarding applicant preferences for shoreline protection treatments and knowledge of sustainable shoreline treatment options. Industrial/commercial site applicants tend to prefer bulkheads that allow them to provide ships with easily access to the shoreline. Municipal preferences depend on the land use. For example, if the area is a park, the applicant might prefer rip-rap shorelines, but if it is a marina, then they may prefer vertical structures. Small landowner applicants seem to prefer traditional treatments such as bulkheads, revetments, crib walls, and rip-rap that would make the shoreline uniform and tidy and provide access to the river. Several interviewees indicated that municipal applicants, especially those from parks departments and planning departments, are generally more familiar with sustainable shoreline treatment options than industry/commercial and small landowner applicants.

2. Regulator perspective on applications for shoreline stabilization permits

The regulators indicated that applications incorporating sustainable shoreline designs undergo the same review process as applications proposing traditional shoreline treatments. This review covers specific standards including, but not limited to, the determination of whether the proposed action is reasonable and necessary, whether the proposal would endanger the health and safety of others, and whether the proposal would cause unreasonable, uncontrolled or unnecessary damage to natural resources. Since the proposed shoreline treatment could impact shorelines upstream and downstream of the treatment, regulators must consider the context in which the proposed treatment would exist. If sustainable shorelines approaches meet the standards that must be enforced, regulators said they are comfortable granting permits for their construction.

Regulators said they encourage the use of sustainable shoreline designs when and where appropriate based on the context of the shoreline, the project, and adherence to the standards. For example, sometimes homeowners submit applications for hard structures under the guise of erosion control. Although some shoreline stabilization treatments may be warranted in select locations in these cases, the landowner may, on occasion, actually be proposing a uniform hard structure where none is needed because their goal is simply to 'tidy-up' the shoreline and make it more aesthetically pleasing and/or to gain better access to the water. In these situations, the regulator may suggest the applicant revise the proposal to include only spot treatments to address problematic erosion or restore natural vegetation or other natural protective features.

A couple of interviewees indicated that they are more likely to suggest sustainable shoreline designs for larger scale projects completed by municipalities or

industry/commercial applicants than for residential-scale projects. Their rationale for promoting these designs for larger projects is that the municipal and commercial/industrial applicants may have the funds and physical space available for sustainable shoreline approaches while small landowners may not. Additionally, small landowners are frequently trying to protect infrastructure immediately behind the proposed shoreline treatment.

Several interviewees said it is easiest to encourage the use of sustainable shoreline approaches during pre-application meetings rather than during later reviews of proposed designs. Rip-rap with plantings (sometimes referred to as live revetments by some respondents) seems to be one of the most common alternatives suggested by regulators in place of the hardened approaches proposed by the applicants. Some interviewees tacitly, and in at one case explicitly, indicated that rip-rap with plantings is only a marginal improvement over rip-rap.

3. Barriers and opportunities to increase the frequency of sustainable shoreline designs in permit applications

Interviewees provided insight on the barriers they think commonly prevent applicants from proposing sustainable shoreline designs and suggested several specific ideas that could help to increase the number of proposals incorporating sustainable shoreline treatments.

a. *Barrier:* Shoreline owners (industrial, municipal, and small landowners) and people in the design community (engineers and landscape architects) may not be aware of sustainable shoreline treatments or they may not consider them because they are accustomed to proposing hardened approaches.

   Opportunities: Focus on engagement with the design community to build knowledge of and raise support for sustainable shoreline designs; provide example design plans that could be adapted for future projects; develop an extension program (similar to the streams program used in the Catskills) to transfer shoreline management knowledge to local level shoreline owners and managers.

   Several interviewees commented that applicants may not propose sustainable shoreline approaches because those in the design community are accustomed to proposing hardened approaches or they may not be aware of sustainable shoreline treatment options. The interviewees suggested more targeted outreach and engagement is necessary to build awareness and understanding of sustainable shoreline management approaches and to enable the design community to suggest more ecologically appropriate alternatives to clients who request that they design 'something that will pass muster (be permitted and meet project objectives) and not cost too much.' Example schematic designs would also give engineers and landscape architects a sense of what is possible and how the design might be customized to their clients' properties. Similarly, an extension program would provide uninformed shoreline owners, managers, or

design crews at the local level (e.g., representatives of Soil and Water Conservation Districts, municipalities, construction teams, or others) with information about sustainable shoreline treatment options and how to properly design and construct them.

Since this barrier is also linked to the barrier in section 2b, the opportunities to overcome this barrier could be enhanced by simultaneously completing the opportunities listed in 2b.

b. *Barrier:* Engineers and others in the design community who are aware of the sustainable shoreline approaches question their long-term survivability/durability and think they are more expensive than traditional approaches.

   Opportunity: Develop more demonstration sites and case studies; establish a long-term demonstration site monitoring program; and, when conducting outreach with the design community, highlight existing cost comparison information or provide user-friendly cost comparison fact sheets.

   Interviewees commented that engineers often think that sustainable shoreline treatment options will not be durable enough to meet the project objectives or provide the long-term solution desired by the client. Additionally, the prevailing perception is that sustainable shoreline approaches will exceed the client's cost criteria. Additional demonstration sites, case studies, and long-term site monitoring could show whether or not sustainable shoreline approaches achieve the same desired outcome as traditional approaches. Highlighting existing cost comparison information or producing brief, user-friendly cost comparison fact sheets could shift the perception that sustainable shoreline treatments are more expensive than traditional approaches and could provide data that would support the design community when recommending that clients consider sustainable shoreline treatments.

c. *Barrier:* Lack of space to build sustainable shorelines that require gentle slopes.

   Opportunity: Produce example schematic designs for small-scale sustainable shoreline treatments.

   Several interviewees suggested that the lack of space needed to construct a sloping shoreline and the inability to place fill in state waters or on state owned underwater lands is a barrier to proposing sustainable shoreline designs. In many instances, and especially in densely developed areas where properties are small, applicants are unlikely to convert a portion of their limited land area into a sloping shoreline. Instead, they would prefer to build the shoreline into the water. But regulations prevent the placement of fill in state waters. The same challenge arises when replacing failing bulkheads that protect infrastructure. If replacement of the bulkhead is warranted, regulators often encourage applicants to construct a new bulkhead behind the failing bulkhead or to replace the

bulkhead in the exact location as the existing bulkhead to avoid building new structures or placing fill in the river. A common outcome of these situations, which is deemed a middle ground between the regulator and landowner interests, is to install sheet piling in front of the existing bulkhead. Example schematic designs for small-scale sustainable shoreline treatments could provide landowners with ideas about how to enhance the ecological function of the shoreline while avoiding the placement of fill in the river or the dramatic reduction of their land area.

d. *Barrier:* Lack of information about ecological tradeoffs.

   Opportunities: Develop pilot projects or demonstration sites that are permitted to place fill in the water and conduct monitoring to better understand and quantify ecological tradeoffs; conduct research to quantify the negative impact of unfavorable shoreline treatments.

   Several interviewees indicated that the current state regulations, which generally do not permit the placement of fill in the river due to ecological concerns, limit the opportunity to better understand the tradeoffs between potential habitat displacement, creation of new habitat, and gains in climate resiliency (e.g., flood resiliency) due to sustainable shoreline treatments. They suggested that carefully designed pilot projects could generate meaningful data that would help permit analysts to calculate the cost and benefit tradeoffs between existing ecological characteristics and those that would be created by the proposed sustainable shoreline treatments. Some also suggested the slightly different but complementary approach of investigating, quantifying, and communicating the negative ecological impacts of a hardened shoreline.

   A related challenge to producing this information through the aforementioned pilot projects is that some regulators want to maintain tight protections on in-water habitat and would advocate that the demonstration projects prove their climate resiliency benefits without impacting existing habitat. An interviewee suggested that regulators must keep an open mind to be able to better understand the costs and benefits of habitat displacement.

e. *Barrier:* Applicants think that an aesthetically pleasing shoreline is one that is uniform, neat, and tidy and provides easy access to the water.

   Opportunities: Encourage a shift in perspective resulting in sustainable shoreline designs being the desired shoreline treatment.

   Several interviewees commented that a significant barrier to the adoption of ecologically enhanced shorelines is the perspective that 'wild' shorelines are of limited desirability because the vegetation is perceived as aesthetically unappealing and blocks access to the river. Accordingly, a rip-rap with plantings treatment could be viewed negatively by shoreline owners.

Most interviewees did not suggest methods to encourage this shift in perspective; however one interviewee provided several suggestions. The interviewee suggested educating property owners about the benefits of 'wild' shorelines or ecologically enhanced shorelines, since people are more likely to preserve natural shorelines or install ecologically enhanced shorelines if they understand the benefits they provide. Another suggested strategy was to impose fees for causing negative impacts to shoreline resources.

Barrier: Lack of information about sustainable shoreline treatment options in existing permit application guidance documents makes it challenging for applicants to know which types of sustainable shoreline treatment options might be approved.

Opportunity: Update or provide supplements for the New York State Protection of Waters Program Guide for Applicants 2004 and the NYSDEC Protection of Waters Program webpages for shoreline stabilization permits[2]; work with the U.S. Army Corps of Engineers to include guidance for sustainable shoreline treatments in nationwide permits and regional supplements during the next five-year review in 2017.

Some interviewees said the Protection of Waters Program Guide for Applicants 2004, which is a document to help applicants understand what is permittable or not, currently includes information, including schematic designs, for traditional treatment options but does not include similar information about sustainable shoreline treatment options. Inclusion of sustainable shoreline information in the guide or as a supplement to the guide, and on the Protection of Waters program webpages could provide applicants with more information about these approaches and encourage applicants to propose them.

Similarly, the USACE updates general permits and regional supplements every five years, and the next update could include information about sustainable shoreline treatments that would encourage applicants to consider their use. If completed according to schedule, the next update will begin with a public notice and request for comments on the general permit in January 2016. The request for comment on the regional supplements will occur shortly thereafter. The final general permit and regional supplements would be proposed in early 2017.

Other barriers: interviewees also identified the following barriers, which were not mentioned frequently enough to be listed above as themes:

- There are few incentives for applicants to construct more ecologically sensitive approaches because they are not held responsible for the negative environmental impacts created by hard shoreline treatments.
- The high-energy environment of the Hudson River, including ice scour, leads people, including those at state agencies, to prefer robust structures to ensure they will not fail.

[2] NYSDEC Protection of Waters Program shoreline stabilization websites: http://www.dec.ny.gov/permits/50534.html, and http://www.dec.ny.gov/permits/67096.html

- It is challenging to know which sustainable shoreline design is appropriate to construct in any particular location since appropriate stabilization approaches are context dependent.

Other opportunities: interviewees also suggested the following actions to encourage the use of sustainable shoreline designs:

- Focus future efforts in areas where shoreline stabilization may be planned or on locations where existing shoreline protection is in need of maintenance. These areas could include shoreline projects completed by economic development corporations, NYS Department of Transportation esplanade projects, shorelines that contain outfalls managed by NYSDEC, and shoreline restoration projects including those in dredge spoil areas with deteriorating bulkheads.
- Provide guidance on how to determine which sustainable shoreline treatments could be used in particular locations or under general physical forces parameters.
- Incorporate sustainable shoreline design guidance into local level/municipal waterfront programs, watershed management plans, or harbor management plans that often include preferred management options.
- Build relationships with parks departments and user groups who can advocate for municipal and state parks to use ecologically enhanced shoreline treatments.
- Include text in the Hudson River Sustainable Shorelines Project literature that encourages applicants to contact regulators for pre-application meetings.
- To form a comprehensive management approach along the Hudson River and to take advantage of opportunities that may arise as a result of emergencies, engage in local and regional planning processes to delineate locations where sustainable shorelines approaches might be appropriate in the future.

4. Awareness and use of Hudson River Sustainable Shorelines Project website and tools

The interviewees' awareness of the Hudson River Sustainable Shorelines Project website and the tools and literature created by the project varied. Some interviewees were members of the project's Advisory Committee and had used the information, others had heard of the project and used the information on the website, others had heard of the project but never visited the website, and still others were not aware of the project, website, or tools and information.

Some of those who are aware of the project reported drawing on the information when reviewing permits or when talking to permit applicants. Some provided information from the project to applicants for review. A couple mentioned that the website provides them with information that supports their requests for more ecologically sensitive approaches when the applicant proposes hard shoreline treatments.

Appendix: Interviewees

Kristen Cady-Poulin, Environmental Analyst, New York State Department of Environmental Conservation Region 4

Bill Clarke, Regional Permits Administrator, New York State Department of Environmental Conservation Region 4

Andrew Dangler, Project Manager and Biologist, United States Army Corps of Engineers

Heather Gierloff, Biologist I (Ecology), New York State Department of Environmental Conservation Region 3

Amy Gitchell, Section Chief, United States Army Corps of Engineers

Venetia Lannon, Regional Director, New York State Department of Environmental Conservation Region 2

Susan Maresca, Regional Marine Habitat Manager, New York State Department of Environmental Conservation Region 2

Barry Pendergrass, Coastal Resources Specialist, New York State Department of State

Steve Swenson, Biologist I (Ecology), New York State Department of Environmental Conservation Region 4

Jeff Zappieri, Chief, Regulatory Review, New York State Department of State