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Living Shoreline Design Charette: A New Twist on the Charette Technique

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Abstract

Design charettes are a common outreach technique that planners and landscape architects use to obtain input on planning issues. The desired outcome is a design solution that takes into account participant feedback. Because design charettes bring people of diverse backgrounds together to work toward a goal, exploring uses of this technique for purposes beyond the traditional is valuable. At a living shoreline design charette, we used the technique not to devise design solutions but to engage interested parties in an activity that provided them with improved awareness and understanding of what regulators permit regarding living shoreline designs. Here we describe our process and its results.

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Introduction

Living shorelines are a suite of erosion control techniques that enhance or create coastal or riparian habitat using natural materials. They are considered part of the green infrastructure tool kit in climate adaptation and are promoted as part of the systems approach to geomorphic engineering—a national approach to coastal resilience (<http://sagecoast.org/index.html>).

In Connecticut, living shoreline techniques, such as coir logs, have long been used for erosion control along stream banks. Living shorelines received much wider attention as a technique for controlling coastal erosion in 2012 after passage of An Act Concerning the Coastal Management Act and Shoreline Flood and Erosion Control Structures (2012). This act states, "Structural solutions are permissible when necessary and unavoidable . . . where there is no feasible, less environmentally damaging alternative . . . For the purposes of this section, 'feasible, less environmentally damaging alternative' includes, but is not limited to, . . . living shorelines techniques . . ." (p. 10). So living shorelines must be considered in permit applications to control coastal erosion, but when the act was passed, little was known about this concept in Connecticut.

Numerous requests for more information on living shorelines came to Extension faculty from municipal

officials, consultants, coastal engineers, and resource managers. To address this burgeoning need, we developed a series of programs on living shorelines. Held in 2015, the first two workshops provided information on living shorelines in a traditional workshop format. According to evaluations and feedback from those workshops, there still existed confusion on exactly what designs or design elements would or would not be permitted by federal, state, and local authorities. To address this more specific need, we held a 1-day living shoreline design charette in 2016 at a coastal state park.

Background

A traditional charette is an event in which a large group works on a solution to a design problem in a collaborative fashion. Planners, architects, and landscape architects often use the charette technique to engage stakeholders in municipal and urban planning. Gamon (1991) described the use of charettes in Extension as formats for assisting stakeholders in developing mission statements and as needs assessment tools. Thering (2007) used design charettes and other outreach techniques to engage experts and professionals with community members to raise awareness and buy-in for redevelopment and actions to improve water quality in a Pennsylvania community dealing with mine spoils. Another application of charettes was with a long-term learning community related to sustainable agriculture for small-acreage landowners (Etter, Laughlin, Jensen, & Frusti, 2010). Our plan was to use the charette technique as an outreach tool to allow participants to gain a better understanding of what regulators are looking for in living shoreline permit applications.

Approach

Participants from past living shoreline workshops as well as other interested individuals were invited to attend the charette. These participants were invited through the state planners LISTSERV, other email lists, and website announcements. The diverse group of participants included federal, state, and municipal officials; landscape architects; coastal engineers; and resource managers (such as from land trusts and other nongovernmental organizations).

At the living shoreline design charette, participants with different areas of expertise were assigned to one of nine teams. Teams were tasked with developing a living shoreline design for one of three different coastal scenarios using the park's shoreline habitats as the site design focus. We provided each team with a notebook of relevant materials. The notebooks contained site-specific information, including data on topography, soils, geology, bathymetry, and rare species; historic aerial imagery; and a guide to living shoreline design criteria, which included information on wave height, tidal range, wakes, and currents. Teams developed creative and innovative designs; presented the designs to a panel of federal, state, and municipal officials; and received feedback from the panel members.

It is critical to note that this charette was different from a traditional charette in that the purpose was not to design a living shoreline for installation at the park. Rather, we used the charette technique as a vehicle for teams to develop designs that could be used to gain a better understanding of design elements that would or would not be permitted and why.

Evaluation

We collected data from three sources to evaluate the effectiveness of the workshop. First, we gathered participant observation data throughout the workshop, taking detailed notes about group interaction, workshop structure, and the designs participants developed and presented. Second, we randomly selected two or three

individuals from each of the nine work groups and contacted them for phone interviews ($n = 16$). Our questions were designed to assess how effective the workshop was in improving participant understanding of living shoreline design options and the permitting process. We were interested in learning what participants thought about the regulatory authorities' reactions to their proposals and inquired about any thoughts or advice they had for permitting authorities at different levels of government. We wanted to assess the relational aspect of the event as well and asked for feedback about how to improve future events and build on the event with other similar programs. Lastly, to round out our evaluation approach, we requested similar feedback from our panel of professionals and from the workshop committee, a tactic that yielded eight responses.

We identified a number of key findings as a result of our evaluation efforts. First, we found that almost all interview respondents (15 out of 16) learned more about living shoreline design options. Second, we found that the feedback groups received in situ from regulatory authority representatives was reasonable and helped participants better understand the nuances of the permitting process and considerations in permitting decisions. However, only half of the interview respondents (nine out of 16) reported being more knowledgeable about the permitting process (work flow) as a result of the workshop. Lastly, we found that participants enjoyed the structure of the workshop. For many, the concept of a charette was new and unexpected. Participants found it to be a unique type of networking opportunity and very much enjoyed designing a living shoreline based on the unique criteria they were provided. Several participants commented about how great it was to work with their fellow group members, and all of our interview respondents (16 out of 16) believed the event supported relationship building among colleagues.

Conclusions

We hope others might consider using this approach for working with stakeholders on climate resilience techniques. The design charette proved to be an effective way to engage a variety of stakeholders in a highly interactive way around a complex topic—not to develop a site solution, but to better understand a climate adaptation concept. The event was successful in getting participants involved in meaningful dialogue, it called on them to physically interact with the environment, and it provided a platform for gaining real-time feedback that could be used to inform real-world projects before valuable resources are expended. We encourage others to explore the ways they can use this unique outreach technique to engage stakeholders on current issues.

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