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A Five-Step Stakeholder Communication Plan for More Effective Natural Resource Management

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Cover Page Footnote

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A Five-Step Stakeholder Communication Plan for More Effective Natural Resource Management

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Abstract. Effectively communicating with diverse groups involved in environmental management is critical to facilitating successful projects. This five-step communication plan is designed to enable resource managers and extension professionals to successfully engage their stakeholders. This plan, which uses oyster reef management as an example, was informed by two primary sources: an expert meeting with stakeholder leaders and coastal residents and a review of relevant literature. By incorporating stakeholder input throughout the planning and implementation of natural resource management projects, new and innovative ideas emerge, and relationships between stakeholders, managers, and extension agents are strengthened.

INTRODUCTION

The interactions, synergy, and feedback among biological and social factors make environmental management an inherently complex endeavor. Effectively communicating with diverse groups involved in natural resource management reflects this complexity (Lauber et al., 2012). The presence of inclusive and consistent communication is a major predictor of program success (Jacobson, 2009). Although extension professionals and managers are tasked with organizing and educating people about important public issues (Peters, 2002), it is only through engaging all relevant stakeholders—people that impact or will be impacted by a management decision—that they can impact the ways communities interact with natural resources long-term (Stern & Coleman, 2015; Leong et al., 2009).

Conventional management efforts sometimes exclude stakeholders who are not considered “experts” (Bown et al., 2013), which limit opportunities for trust-building (Davenport et al., 2007) and coordination (Berkes, 2009). The benefits of effective communication with diverse stakeholder groups include building relationships, increasing stakeholder participation, and facilitating ownership of project outcomes (Lauber et al., 2012; Jacobson, 2009). Consistent communication with diverse stakeholder groups can also reveal unknown environmental trends and innovative approaches (Krasny & Tidball, 2010).

An effective stakeholder communication plan is needed for all types of resource management. This is particularly evident in the case of oyster reef management. Oyster reefs are declining globally and are one of the most at-risk ecosystems in the world (Beck et al., 2011). However, in the Gulf of Mexico there is potential for oyster reef recovery through restoration, conservation, and management (Beck et al., 2011). Management of oyster reefs relies on not only devising a plan for the reefs themselves but also working with the communities that rely on wild reefs for their livelihood, cultural identity, and recreation.

Many people have a stake in the future of this important natural resource, including oyster harvesters, seafood distributors, consumers, and coastal residents. While management projects in the Gulf of Mexico have begun to involve stakeholders, a range of barriers still hinder these management activities. For example, differing communication styles and preferences can keep messages from reaching important stakeholder groups (La Peyre et al., 2012; Jacobson, 2009). Perhaps more critically, the goals, interests, and values of stakeholder groups may differ (Scyphers et al., 2014; Acheson, 2006). To address these barriers, which are characteristic of many challenges tackled by extension professionals, we present a five-step plan to guide communication with diverse stakeholder groups.

METHODS

Data for this plan came from two main sources. The first was an expert meeting held in April 2019 with stakeholder leaders and coastal residents from a Northeast Florida coastal community facilitated by the University of Florida Institute for Food and Agricultural Sciences (UF/IFAS) Natural Resource Leadership Institute. Thirty stakeholders—including scientists, managers, and oyster harvesters—participated in the meeting, providing recommendations on how to best engage coastal residents in oyster management projects. Experts were organized into small groups and presented a series of questions, including “How have you participated in oyster management?” and “How can oyster management projects better engage local residents?” Questions and prompts were determined through a review of relevant literature. An open discussion was held within each group, and then a ranking activity was used to prioritize points discussed. Data was analyzed via Dedoose, a mixed-methods analysis software. Second, we reviewed literature from communications, psychology, and sociology, as well as research on oyster management, such as a survey of stakeholders by Brown (2019). This was synthesized with the expert group results to develop the stakeholder communication plan.

RESULTS AND DISCUSSION: THE FIVE-STEP COMMUNICATION PLAN

Effective communication with diverse stakeholder groups results in myriad benefits (Gray et al., 2012; Leong et al., 2009; Klein et al., 2008; Lauber et al., 2012). The five-step plan in Figure 1 outlines the key communication elements to consider while planning management projects.

STEP 1: GETTING TO KNOW YOUR AUDIENCE

Identifying and involving the correct stakeholders—anyone that can impact or will be impacted by a management decision—is crucial for project success. Working with research-

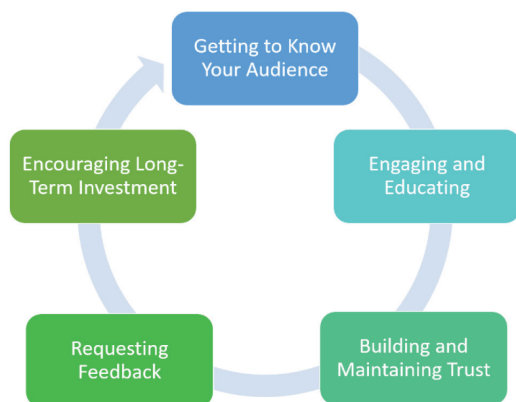


Figure 1. A five-step communication plan to guide participatory and inclusive management.

ers or local resource users to make key decisions is a great start, but it is also important to consider who is not included in management discussions. Stop and think: Who is represented in discussions? Who is missing? Who could be more represented? Understanding that you have a role in deciding whose voices are represented is an important step toward building a more complete stakeholder network.

Understanding Positions and Interests

Once you have identified your stakeholder groups, it is important to understand their specific *positions* and *interests*. Recognizing the differences in the positions and interests across stakeholder groups is crucial to developing a communication plan that works toward engaging as many people as possible. Stakeholder *positions* represent what stakeholders want to happen, such as strengthening regulations on oyster harvesting or closing an area to wild harvest. *Interests* are the reasons why stakeholders have decided to take their respective positions, such as to ensure economic stability, maintain cultural identity, or to keep their families safe (Fisher et al., 2011).

Valuing Local Knowledge

Engaging stakeholders in management can help encourage support from local communities, but it can also serve to inform management by offering new and creative solutions. The knowledge and experiences of resource users in your region—many of whom are part of families who have been present for generations—can prove to be extremely valuable. Generational and anecdotal information, called traditional or local ecological knowledge (Huntington, 2000), has informed some of the most significant and effective actions in natural resource management. For example, prescribed fire was originally used by Native American communities to manage forests while colonizing Europeans saw the practice as destructive. Over time, controlled burns became an accepted ecosystem management tool used to maintain diverse forests, stimulate new growth, and improve habitat for wildlife (Rinkevich et al., 2011).

STEP 2: ENGAGING AND EDUCATING

Oyster stakeholders demonstrate varying communication patterns, including preferences for sharing information mainly within their own stakeholder groups (Brown, 2019). Understanding such differences across groups of stakeholders for any natural resource management project can make outreach activities more effective and help reach groups that have not been included in the past.

Educating through Social Interaction

Previous research has found that engaging in active behaviors alongside others promotes a communication exchange and, potentially, the emergence of innovative ideas (Krasny &

A Five-Step Stakeholder Communication Plan

Tidball, 2010; Muro & Jeffrey, 2008). Through activities such as field trips, hands-on experiences, and data parties (Franz, 2013), participants are more likely to learn key information while forging new relationships. To increase the likelihood of long-term stakeholder investment, it is important to meet stakeholders where they are most comfortable. A weekday meeting may not lead to much participation from individuals who work during business hours. If your goal is to engage fishers, for example, hold a meeting at a local marina to make the event more accessible and familiar (see Appendix for engagement ideas).

Getting Creative

When we spoke to oyster stakeholders about the best ways to engage residents, they offered a range of creative ideas. By organizing events that prioritize relationships and celebrate local oyster traditions, the typical stakeholder meeting can transform into a much-anticipated social happening. For example, managers could invite residents to participate in a storytelling event and oyster roast. Emphasizing local stories, celebrating local traditions, and relying on residents to pass on their experiences and knowledge to tourists and other residents were all described during the expert meeting as examples of creative stakeholder outreach.

STEP 3: BUILDING AND MAINTAINING TRUST

As uncertainty increases in natural resource management, trust often decreases (Molm et al., 2009). An oyster stakeholder survey revealed that mistrust between groups is common in the Gulf of Mexico (Brown, 2019). Commercial harvesters and seafood distributors reported a high level of trust in one another. Scientists and natural resource managers also trusted information from one another. But trust between other groups was low. By providing clear messages and regularly including stakeholders in discussions of management projects, a more trusting relationship can be cultivated between resource users and resource managers. Building and maintaining trust is important throughout the entire communication process.

Anticipating the Logistical Needs of Participants

Heavy workloads and time limitations are common barriers that make continued participation difficult for some stakeholders (Diaz et al., 2014). In order to make participating in management achievable and desirable for a variety of individuals from diverse backgrounds, it is important to consider what logistical needs stakeholders may have and address them. Consider the following:

- Accessible location.
- Convenient time of the event.
- Childcare for working parents.

- Phone or web-based participation platform for those who can't attend in person.
- Food and drinks.
- Time in the agenda for breaks.
- Time in the agenda for public comments.
- Name tags and a place at the table for everyone.

Managing Conflict

Conflict happens, especially when diverse groups of people come together to talk about controversial issues. When you are dealing with difficult discussions, it's helpful to try to manage conflict instead of trying to resolve it. Understanding that conflict is a productive part of collaboration can help you feel more confident when situations feel tense. To better manage conflict in your management activities, first ask why the conflict exists. Thinking through the reasons why a conflict has emerged can help you understand a person's interests—the reasons behind their decisions and opinions. Facing conflict can be exhausting, and even scary, but in many cases the process of working through conflict can lead to stronger relationships and innovative solutions to complex issues (Monaghan et al., 2006).

STEP 4: REQUESTING FEEDBACK

Stakeholders often have different ideas of what makes a management project successful, which are influenced by the way stakeholders understand the issues related to natural resources (Robinson, 2013). Participants from the expert meeting suggested a range of goals for oyster management projects, including increasing communication with harvesters, influencing local politics, establishing community ambassadors, and securing stable funding sources.

One way to ensure that you are aware of the goals and opinions of different groups is to request feedback. Consider these tips, based on previous research (Israel et al., 2009), for evaluating your collaborative management activities:

- Plan for evaluation from the beginning, reserving 10-15% of a program's budget for evaluation activities.
- Use pre- and post-process evaluations (tests, assessments, or surveys) to measure how participant behavior, attitudes, and goals have changed over time.
- Develop evaluation instruments with reliable and valid measures.
- Collaborate with diverse partners to create better measurement instruments for your evaluation.
- Don't fear the negative response. Though it may be hard to swallow, criticism can often provide more insight into how to best update your program.

STEP 5: ENCOURAGING LONG-TERM INVESTMENT

Facilitating a collaborative management process is a long-term commitment that is likely to change as the project goals, needs, and participants shift. The expert group that informed this plan meets regularly to discuss relevant science and management topics, which keeps the relationships between group members active. To maintain the relationships that you have built, consider the following:

- Keep communication lines open by updating the public on the progress of your project and offering opportunities for public comment.
- Create an email listserv or host regular meetings to easily communicate with participants from past projects.
- Provide volunteer opportunities to help with monitoring, outreach, and long-term aspects of the project.
- Include representatives from stakeholder groups on advisory boards and in decision-making meetings.
- Attend community meetings and events outside of the ones you host.
- Keep it local. Hire local companies and contractors for future management needs.

CONCLUSION

This five-step stakeholder communication plan is designed to help guide extension professionals and managers from the early stages to the post-implementation phases of their program. By incorporating stakeholder input throughout the planning and implementation of management projects, capacity increases to produce innovative ideas and to strengthen relationships between stakeholders, managers, extension agents, and communicators. While oyster reefs in the Gulf of Mexico are used as an illustrative example in this article, these techniques should be useful to consider for any resource management initiative.

REFERENCES

- Acheson, J. M. (2006). Institutional failure in resource management. *Annual Review of Anthropology*, 35, 117–134. <https://doi.org/10.1146/annurev.anthro.35.081705.123238>
- Beck, M. W., Brumbaugh, R. D., Airoidi, L., Carranza, A., Coen, L. D., Crawford, C., & Lenihan, H. S. (2011). Oyster reefs at risk and recommendations for conservation, restoration, and management. *Bioscience*, 61(2), 107–116. <https://doi.org/10.1525/bio.2011.61.2.5>
- Berkes, F. (2009). Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, 90(5), 1692–1702. <https://doi.org/10.1016/j.jenvman.2008.12.001>
- Bown, N., Gray, T., & Stead, S. M. (2013). *Contested forms of governance in marine protected areas: A study of co-management and adaptive co-management*. New York: Routledge.
- Brown, H. O. (2019). *Collaborating for oyster sustainability: A mixed-methods analysis of stakeholder communication and preference for future management outcomes on the gulf coast* (Unpublished doctoral dissertation). University of Florida, Gainesville, Florida.
- Davenport, M. A., Leahy, J. E., Anderson, D. H., & Jakes, P. J. (2007). Building trust in natural resource management within local communities: A case study of the Midewin National Tallgrass Prairie. *Environmental Management*, 39(3), 353–368. www.doi.org/10.1007/s00267-006-0016-1
- Diaz, J. M., Jayaratne, K. S. U., Bardon, R. E., & Hazel, D. (2014). A framework for integrating and managing expectations of multiple stakeholder groups in a collaborative partnership. *Journal of Extension*, 52(3). <https://archives.joe.org/joe/2014june/iw6.php>
- Fisher, R., Ury, W. L., & Patton, B. (2011). *Getting to yes: Negotiating agreement without giving in*. Houghton Mifflin.
- Franz, N. K. (2013). The data party: Involving stakeholders in meaningful data analysis. *Journal of Extension*, 51(10). <https://archives.joe.org/joe/2013february/iw2.php>
- Gray, S., Shwom, R., & Jordan, R. (2012). Understanding factors that influence stakeholder trust of natural resource science and institutions. *Environmental Management*, 49(3), 663–674. www.doi.org/10.1007/s00267-011-9800-7
- Huntington, H. P. (2000). Using traditional ecological knowledge in science: Methods and applications. *Ecological Applications*, 10(5), 1270–1274. [https://doi.org/10.1890/1051-0761\(2000\)010\[1270:UTEKIS\]2.0.CO;2](https://doi.org/10.1890/1051-0761(2000)010[1270:UTEKIS]2.0.CO;2)
- Israel, G., Diehl, D., and Galindo-Gonzalez, S. (2009). *Evaluation situations, stakeholders & strategies* (Document WC090). University of Florida, IFAS Extension. Retrieved from <http://edis.ifas.ufl.edu/pdffiles/WC/WC09000.pdf>
- Jacobson, S. K. (2009). *Communication skills for conservation professionals* (2nd ed.). Island Press.
- Klein, C. J., Chan, A., Kircher, L., Cundiff, A. J., Gardner, N., Hrovat, Y., Scholz, A., Kendall, B. E., & Airame, S. (2008). Striking a balance between biodiversity conservation and socioeconomic viability in the design of marine protected areas. *Conservation Biology*, 22(3), 691–700. www.doi.org/10.1111/j.1523-1739.2008.00896.x
- Krasny, M. E., & Tidball, K. G. (2010). Civic ecology: Linking social and ecological approaches in extension.

A Five-Step Stakeholder Communication Plan

- Journal of Extension*, 48(1). https://archives.joe.org/joe/2010february/pdf/JOE_v48_1iw1.pdf
- La Peyre, M. K., Nix, A., Laborde, L., & Piazza, B. P. (2012). Gauging state-level and user group views of oyster reef restoration activities in the northern Gulf of Mexico. *Ocean*, 67, 1–8. <https://doi.org/10.1016/j.ocecoaman.2012.06.001>
- Lauber, T. B., Decker, D. J., Leong, K. M., Chase, L. C., & Schusler, T. M. (2012). Stakeholder engagement in wildlife management. In D. J. Decker, S. J. Riley, & W. F. Siemer, (Eds.) *Human dimensions of wildlife management*. The Johns Hopkins University Press.
- Leong, K. M., Decker, D. J., Lauber, T. B., Raik, D. B., & Siemer, W. F. (2009). Overcoming jurisdictional boundaries through stakeholder engagement and collaborative governance: Lessons learned from white-tailed deer management in the U.S. In K. Anderson, E. Eklund, M. Lehtola, & P. Salmi (eds.), *Beyond the rural-urban divide: Cross-continental perspectives on the differentiated countryside and its regulation* (pp. 221–247). Emerald Group.
- Molm, L. D., Schaefer, D. R., & Collett, J. L. (2009). Fragile and resilient trust: Risk and uncertainty in negotiated and reciprocal exchange. *Sociological Theory*, 27(1), 1–32. <https://doi.org/10.1111/j.1467-9558.2009.00336.x>
- Monaghan, P., Ott, E., Lippincott, C., Wells, O., Ireland, J., Dain, J., Delaney, B., & Carriker, R. R. (2006). *The Florida Natural Resources Leadership Institute*. University of Florida, IFAS Extension. <https://edis.ifas.ufl.edu/publication/FE667>
- Muro, M., & Jeffrey, P. (2008). A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of Environmental Planning and Management*, 51(3), 325–344. <https://doi.org/10.1080/09640560801977190>
- Rinkevich, S., Greenwood, K., & Leonetti, C. (2011). Traditional ecological knowledge for application by Service scientists. *US Fish and Wildlife Service*. <https://www.fws.gov/nativeamerican/pdf/tek-fact-sheet.pdf>
- Robinson, P. (2013). Effectively communicating science to extension audiences. *Journal of Extension*, 51(2). <https://archives.joe.org/joe/2013april/iw1.php>
- Scyphers, S. B., Picou, J. S., Brumbaugh, R. D., & Powers, S. P. (2014). Integrating societal perspectives and values for improved stewardship of a coastal ecosystem engineer. *Ecology and Society*, 19(3), 38. <https://doi.org/10.5751/ES-06835-190338>
- Stern, M. J., & Coleman, K. J. (2015). The multidimensionality of trust: Applications in collaborative natural resource management. *Society & Natural Resources*, 28(2), 117–132. <https://doi.org/10.1080/08941920.2014.945062>

APPENDIX. STAKEHOLDER ENGAGEMENT & FACILITATION ACTIVITIES

The following table provides examples of facilitation and engagement activities that can be used during each of the five steps presented in this paper. Activities are based on suggestions made during the expert meeting and activities used by the UF/IFAS Natural Resource Leadership Institute (Monaghan et al., 2016).

Communications Goal	Activity Idea	Description	Potential Challenges	Materials Needed	Min. # of Facilitators
Step 1: Getting to Know Your Audience	Timeline	Create a historical timeline around a specific event or topic (e.g., restoration of a local reef). Everyone participates to add items to a large timeline, which can be posted on a wall or table.	Participants may disagree about the time when specific events occurred. Multiple histories can be included on the same timeline, aiding in comparison between perspectives.	Long sheet of paper, tape, enough markers for all participants	2
Step 2: Engaging and Educating	Pair walk	Organize participants in groups of two. The pairs can walk together in a nearby space (outside is a bonus) and discuss a specific topic.	This can be used as a break when discussions with the entire group are getting heated. Be careful to make sure people come back in a timely fashion.	A quiet space where participants are free to wander	1
Step 3: Building and Maintaining Trust	Develop Group Norms	Guide a discussion on group norms to be used during meetings (e.g., raise hand to speak, silence phone)	This activity is time intensive. Disagreements may arise, allowing the group to practice resolving conflicts.	Flip pad & markers	2
Step 4: Requesting Feedback	Picture of Success	Ask participants to draw a depiction of what a successful outcome of a specific project could look like. Keep these drawings and after some time has passed and progress has been made on the project, revisit the drawings. Ask participants how their ideas of success have changed or stayed the same.	If you have many new people at the later meeting, you can examine the drawings done by others and ask general questions about participant markers of success.	Paper, drawing materials, flip chart, markers	2
Step 5: Encouraging Long-Term Investment	Shuck and Tell	Invite participants to a gathering to share stories, cultural traditions, and eat oysters. This could be used to build rapport with local harvesters or to educate tourists with harvesters serving the role of community ambassadors.	It may be difficult to find a time and place that is convenient for many different groups. Try focusing on a few key stakeholders to ensure attendance.	A festive, outdoor location, materials to roast and shuck oysters, a sound system, sign-in sheet, etc.	3