

COMMUNITY ENGAGEMENT

FOR NATURAL AND NATURE BASED FEATURES PROJECTS





Maria Dillard, PhD
National Institute of Standards and Technology
Engineering Laboratory, Community Resilience Program

KEY TERMS

- Natural and Nature Based Features
- Community Engagement

Table 1. Examples of NNBF relevant to coastal systems (USACE 2013).

NATURAL AND NATURE-BASED FEATURES AT A GLANCE				
				
Dunes and Beaches	Vegetated Features (e.g., Marshes)	Oyster and Coral Reefs	Barrier Islands	Maritime Forests/Shrub Communities
Benefits/Processes Breaking of offshore waves Attenuation of wave energy Slow inland water transport	Benefits/Processes Breaking of offshore waves Attenuation of wave energy Slow inland water transport Increased infiltration	Benefits/Processes Breaking of offshore waves Attenuation of wave energy Slow inland water transport	Benefits/Processes Wave attenuation and/or dissipation Sediment stabilization	Benefits/Processes Wave attenuation and/or dissipation Shoreline erosion stabilization Soil retention
Performance Factors Berm height and width Beach slope Sediment grain size and supply Dune height, crest, and width Presence of vegetation	Performance Factors Marsh, wetland, or SAV elevation and continuity Vegetation type and density Spatial extent	Performance Factors Reef width, elevation, and roughness	Performance Factors Island elevation, length, and width Land cover Breach susceptibility Proximity to mainland shore	Performance Factors Vegetation height and density Forest dimension Sediment composition Platform elevation
General coastal risk reduction performance factors include: Storm surge and wave height/period, and water levels				

Natural and Nature Based Features (NNBF)

Landscape features that are developed to provide engineering functions for flood risk management benefits while producing additional benefits (e.g., economic, social, environmental)

KEY TERMS

- Natural and Nature Based Features
- Community Engagement

Community Engagement

- ...the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the wellbeing of those people
- ...a powerful vehicle for bringing about environmental and behavioral changes
- ...often involves partnerships and coalitions (CDC)
-to engage the community to achieve long-term and sustainable outcomes, processes, relationships, discourse, decision-making, or implementation (The Pennsylvania State University)

ORIENTATION



- Begin with a broad perspective
 - Community engagement is often part of public projects
 - There is a long history of work in this area that we can borrow for NNBF
- Focus on the specifics for NNBF
 - What are the goals of NNBF projects?
 - What are social impacts and/or values associated with NNBF projects?
 - What social institutions (e.g., government, economy, education) have a role in NNBF projects?
 - What are the non-economic considerations that may be part of the business case for NNBF?



NEEDS AND GAPS

SEE RESULTS FROM CLASS ACTIVITY



WHY SHOULD YOU ENGAGE?

- Enhances the positive
 - Builds support for the project
 - Understanding the needs and values of stakeholders may improve design, as well as provide unique opportunities during implementation and maintenance
- Avoids the negative
 - Exposes conflict, which can then be addressed
 - Helps avoid delays and future conflicts



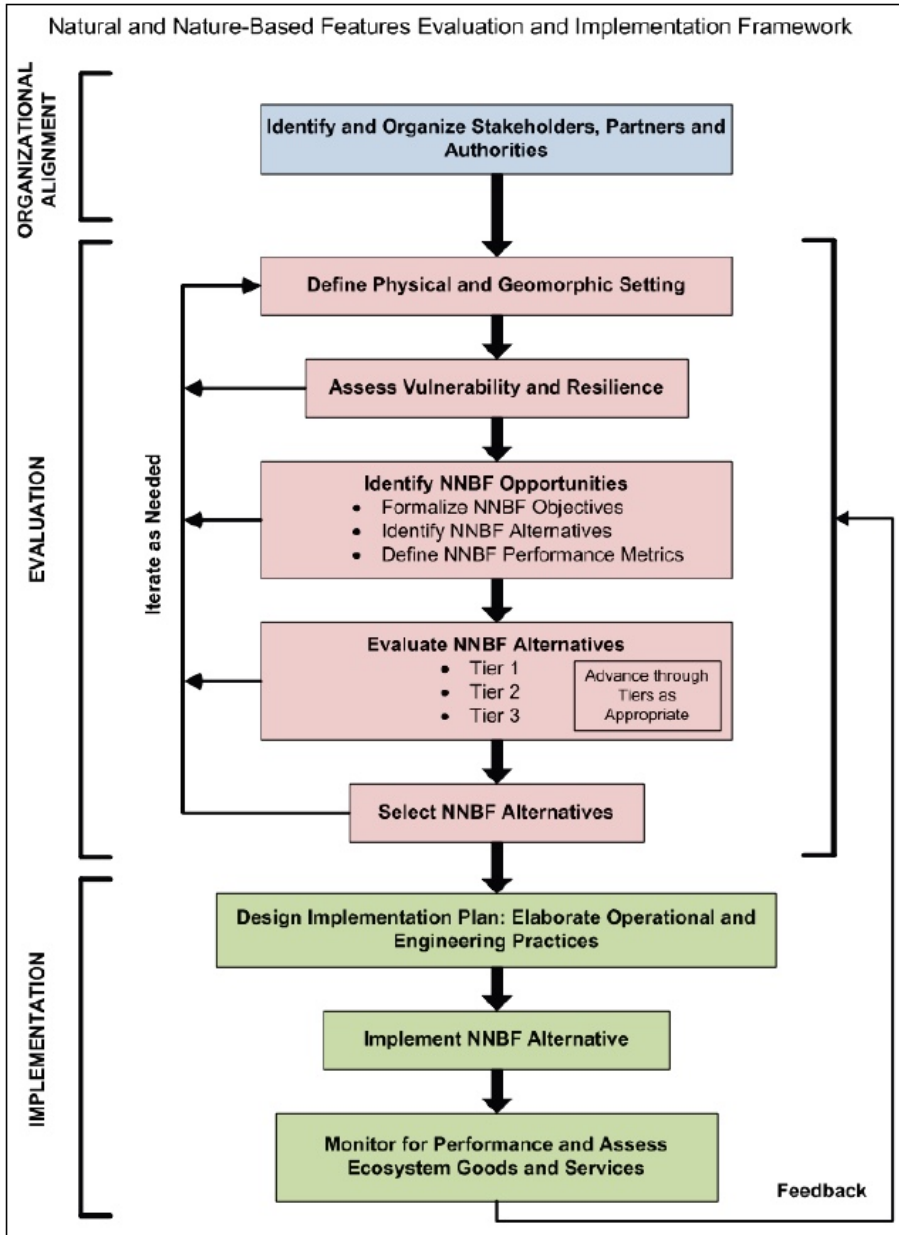


HOW DO YOU ENGAGE?

PRACTICES OF COMMUNITY ENGAGEMENT



Figure 1. NNBF evaluation implementation framework.



TIMING OF ENGAGEMENT

- Consider community engagement at each phase of the NNBF project:
 - Design
 - Implementation
 - Monitoring, and Evaluation
- It is a process!

PRINCIPLES FOR COMMUNITY ENGAGEMENT (A SELECTION)

Consider these questions:

- What is the goal of community engagement?
- How should the community be engaged (e.g., meetings, public input solicitation)?
- What is the anticipated role of the community (e.g., advisors, co-decision makers)?
- Who is to be engaged? Define the boundaries specifically.
- How flexible is the focus of the engagement efforts?



PRINCIPLES FOR COMMUNITY ENGAGEMENT (A SELECTION)



- Be clear about goals
- Know the community and past experience with engagement efforts
- Establish relationships, build trust, work with key leaders and organizations
- Communities have the right to collective self-determination
- Partnering with the community is essential
- Operate with awareness and respect for diversity, cultural and otherwise
- For success, identify and mobilize community assets, develop capacity and resources for decisions and actions

(CDC 2011)

PRINCIPLES FOR COMMUNITY ENGAGEMENT (A SELECTION)



- Increase knowledge about the issue you are seeking to address
- Encourage co-creation of knowledge
- Understand and apply this knowledge to address the identified issue
- Create future opportunities for citizens to engage each other
- Ensure that these opportunities and effective communications are regular and on-going

(Bassler et al. 2008)

Increasing level of community involvement



		Inform	Consult	Involve	Collaborate	Empower
Public Participation Goal		To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions	To obtain public feedback on analysis, alternatives and/or decision	To work directly with the public throughout the process to ensure that public issues and concerns are consistently understood and considered	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution	To place final decision-making in the hands of the public
Promise to the Public		We will keep you informed	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision	We will work with you to ensure that your concerns and issues are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible	We will implement what you decide
Example Tools		<ul style="list-style-type: none"> - Factsheets - Websites - Open Houses 	<ul style="list-style-type: none"> - Public comment - Focus groups - Surveys - Public Meetings 	<ul style="list-style-type: none"> - Workshops - Deliberate polling 	<ul style="list-style-type: none"> - Citizen Advisory Committees - Consensus-building - Participatory decision-making 	<ul style="list-style-type: none"> - Citizen Juries - Ballots - Delegating decisions

Source: International Association of Public Participation (IAP2)

WHO SHOULD BE ENGAGED?

- Society (most broadly)
- Impacted Community
- Specific stakeholder groups
 - Engineers
 - Environmental scientists (ecologists/biologists)
 - Commercial (contractors)
 - Decision makers (at multiple levels of governance)
- Government Agencies
- Non-governmental organizations
- Businesses
- Property owners
- Constituents
- Development banks
- Regional development authorities
- Port authorities





SOCIAL SCIENCE & COMMUNITY ENGAGEMENT

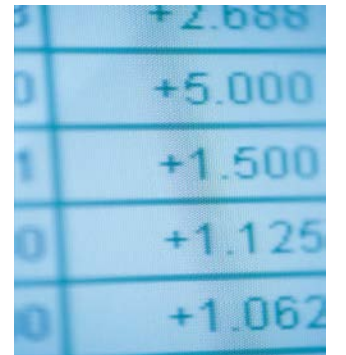
WHAT METHODS CAN BE APPLIED?



SOCIAL SCIENCE RESEARCH

- Aims to:
 - Identify general patterns and relationships
 - Test and refine theories
 - Make predictions
 - Interpret culturally and historically significant phenomena
 - Explore diversity
 - Give voice
 - Advance new theories

(Ragin and Amoroso 2011)

A close-up photograph of a digital display, likely a screen or a large calculator, showing a list of numerical values. The values are positive and include decimal points, such as +2.688, +5.000, +1.500, +1.125, and +1.062. The display has a blue background with white text.

WHAT SOCIAL SCIENCE METHODS SUPPORT COMMUNITY ENGAGEMENT?



- Application of social science techniques in community engagement is valuable
- Science based methods, tools, techniques are available and can strengthen community engagement and help stakeholders understand all elements of the project
- Types of information collected through social science include: population characteristics, attitudes and perceptions, networks between social organizations
- There are many tools in the toolkit... so, what are the options?

METHOD - OBSERVATION



- What? → information gathering through direct observation of human behavior
- When is it used? → to identify user behavior and associated impacts, types of use, use patterns
- Why? → most direct measure (validation is not needed!), good for behaviors that people will not voluntarily report

METHOD - SURVEYS



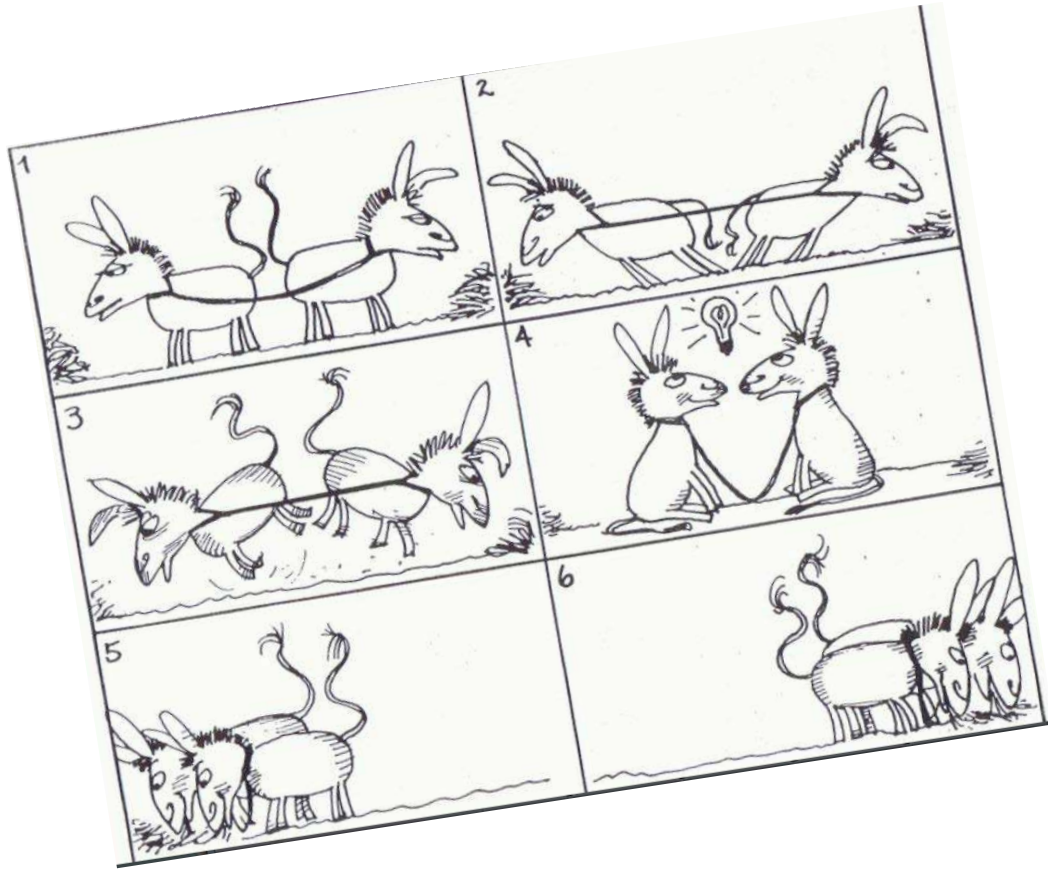
- What? → data collection by mail, phone, web or face to face using a standardized list of questions
- When is it used? → to obtain information on specific issues from a representative sample of individuals or organizations
- Why? → direct measure, tailored to specific information needs, informs you about a larger population without collecting information from everyone

METHOD – COST BENEFIT ANALYSIS



- What? → comparing costs and benefits to identify net benefits
- When is it used? → to understand social costs and benefits of project outcomes for stakeholders or to identify the most cost-effective alternatives
- Why? → contributes to informed, balanced decision-making; systematic approach helps minimize bias

NNBF SPECIFIC ISSUES WITH COMMUNITY ENGAGEMENT



- Catalysts driving interest in NNBF project(s)
 - Disaster events
 - Climate Change
 - Funded Competitions
 - Policy/insurance incentives
- Where and how participants get involved
 - Advocacy
 - Cost share
 - Co-applicant
 - Design/build
 - Monitoring



CASE STUDIES

CASES THAT HIGHLIGHT CHALLENGES/OPPORTUNITIES OF COMMUNITY ENGAGEMENT WITH NNBF



CASE: HONDSBOSSCHE DUNES, NETHERLANDS



Before



After

WHAT DID IT TAKE?

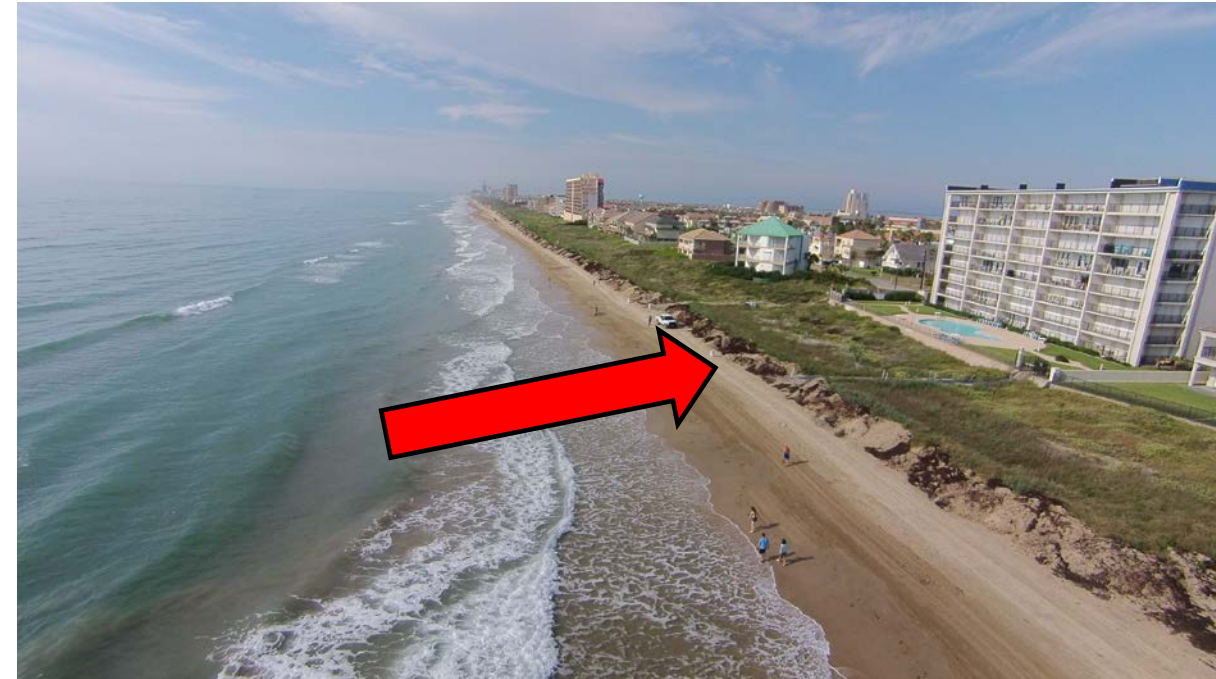
- Cooperation of many parties
- Managerial courage
- Identification of diverse benefits
- Involvement of stakeholders



Interactive work session with stakeholders

CASE: SOUTH PADRE ISLAND DUNE VOLUNTEER RESTORATION PROGRAM, UNITED STATES

Before (Winter 2008)



After (Spring 2014)



WHAT DID IT TAKE?

- City Council support
- Continuous dune line efforts
 - Solidify dune line for storm protection
 - Reservoir of sand to replenish eroded beaches
- Great partners
 - Local Universities and Schools, Surfrider Foundation, Naturalist organizations
- Educating the public
 - Public meetings, handouts



KEY TAKEAWAYS

- Community engagement is of particular importance because of the increased likelihood of multiple benefits and therefore, multiple beneficiaries, with NNBF projects. Navigating complex stakeholder interests may equate to increased conflict, but also increased opportunity.
- NNBF provides unique opportunities for community engagement including, but not limited to participation in project design, maintenance, and monitoring.
- Key questions to answer early on in a project and throughout the project phases are: “which groups and individuals do I need to engage?” And “at what level do these groups and individuals need to be engaged?”
- Social science methodologies can support and strengthen community engagement efforts.

FOR MORE INFORMATION

- To be involved or to offer feedback on the guidelines chapter for community engagement, please contact:

Maria Dillard

E: maria.dillard@nist.gov

P: 301-975-4953

