

*Sharing Oil Spill Science with Non-Scientists:
Effectively Communicating Complex Research Results
through Outreach and Education Programs*

**Gulf of Mexico Oil Spill and Ecosystem Science Pre-Conference Outreach Workshop
Monday, February 1, 2016
Tampa, FL**

Workshop Report



Sharing Oil Spill Science with Non-Scientists: Effectively Communicating Complex Research Results through Outreach and Education Programs

Marriott Tampa Waterside

Monday, February 1, 2016

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12:30	Welcome and Pre-Workshop Survey Results <ul style="list-style-type: none">• Steve Sempier (Mississippi-Alabama Sea Grant Consortium)• Leigh Zimmermann and Katie Fillingham (Consortium for Ocean Leadership)	
12:45	Helping Scientists Effectively Share Their Science <ul style="list-style-type: none">• Laura Diederick (COSEE Florida and Smithsonian Marine Station)	Page 8
1:45	Panel 1: Use of Outreach Tools and Technology in Extension, Outreach, and Education (EOE) Programming <ul style="list-style-type: none">• Creation of Documentaries: Rebecca Howland (Screenscope, Inc.)• Development and Use of Video on Websites: Dan DiNicola (RECOVER)<ul style="list-style-type: none">• <i>RECOVER Website Link:</i> www.miami.edu/recover• Facilitating Effective Webinars: Heidi Stiller (NOAA)<ul style="list-style-type: none">• <i>A Conference Call in Real Life:</i> https://vimeo.com/86426629• How to Facilitate Virtual Meetings• Advice, Tips, and Lessons Learned on Facilitating Virtual Meetings• Avoiding Awkwardness When No One Asks Questions• Successful Use of Social Media: Becca Burton (Florida Sea Grant)	Page 9 Page 11 Page 18 Page 20 Page 21
2:45	Break	
3:00	Panel 2: Evaluation and Assessment Techniques for EOE Programming <p>Discussion about incorporating evaluation into extension, outreach and education programs and brief overview of different evaluation and assessment approaches</p> <ul style="list-style-type: none">• Beth Day-Miller (BridgeWater Education Consulting, LLC)<ul style="list-style-type: none">• <i>Designing Education Projects: A Comprehensive Approach to Needs Assessment, Project Planning and Implementation, and Evaluation:</i> http://www.oesd.noaa.gov/leadership/DEP_Manual_2ndEdt_Final.pdf• Chris Ellis (NOAA)	Page 25 Page 37

Section B: Breakout Session Summaries

4:00 Breakout Sessions

Workshop participants were asked to identify which target audience they would like to discuss in one of four breakout sessions. The top four categories based on their responses were the general public, K-12 education, the fishing community, and the media. The breakout sessions were then asked to answer the following questions:

1. How do you prepare scientists to present to this audience?
2. What tips for the scientists have you found most effective?
3. What tools or technology works best with sharing with this audience?
4. What are your goals and objectives with working with this audience?
5. What are differences between sharing science with this audience versus other audiences? (if time allows)

4:45 Breakout Session Report Out and Wrap-Up

- Breakout Sessions Summaries

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5:15 Adjourn!

ACKNOWLEDGEMENTS

The workshop organizers, Steve Sempier, Leigh Zimmermann, and Katie Fillingham, would like to acknowledge the following people, whose dedicated efforts made this workshop possible.

The organizers would like to thank the members of the advisory committee, Jessie Kastler and Laura Bracken, for their time and effort in helping to plan the workshop agenda.

They would also like to thank the speakers and panelists, Laura Diederick, Rebecca Howland, Dan DiNicola, Heidi Stiller, Becca Burton, Beth Day-Miller, and Chris Ellis, for their time and willingness to participate in this workshop.

The organizers also thank the oil spill outreach coordinators from the Gulf Sea Grant programs, Larissa Graham, Chris Hale, Monica Wilson, and Emily Maung-Douglass, who participated as breakout session facilitators and provided the breakout session summaries found at the end of this report.

Finally, the workshop organizers would like to thank the Gulf of Mexico Research Initiative for supporting this workshop.

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Speaker Biographies

Helping Scientists Effectively Share Their Science

- *Laura Diederick (COSEE Florida and Smithsonian Marine Station)*

Laura Diederick is the Public Programs Specialist for the Smithsonian Marine Station in Fort Pierce, Florida. Since joining the Smithsonian in 2005, she has served in a variety of roles and has been involved in teaching and program development, marketing and communications, community outreach, large-scale event planning, development of strategic partnerships, grant writing and administration, long-term organizational planning, and more. Since 2010, Laura has also served as the Informal Education Manager for COSEE Florida, working to build a statewide Ocean Science Learning Network by brokering relationships between ocean scientists and informal science centers and practitioners. Facilitating meaningful dialogue between scientists and non-scientific audiences has long been a focus for Laura, and she works to create and support such opportunities through both traditional and novel platforms.

Panel 1: Use of Outreach Tools and Technology in Extension, Outreach, and Education (EOE) Programming

- *Creation of Documentaries: Rebecca Howland (Screenscope, Inc.)*

Rebecca Howland is a producer on the award-winning documentary series Journey to Planet Earth, hosted and narrated by Matt Damon. The latest episode, "*Dispatches from the Gulf*" follows a team of scientists as they work to understand the environmental impact of the Deepwater Horizon Oil Spill (<http://dispatchesfromthegulf.com>). Rebecca holds an MFA in Film & Electronic Media from American University. She won an Emmy® Award for Outstanding Achievement for a Student Production for her film "*EcoViews: The Chesapeake Bay*."

- *Development and Use of Video on Websites: Dan DiNicola (RECOVER)*

Dan graduated with a Master of Science degree in Marine Affairs and Policy in 2014 from the University of Miami. He is now the Outreach Coordinator for RECOVER (www.miami.edu/recover), a Gulf of Mexico Research Initiative Consortium based at the University of Miami Rosenstiel School of Marine and Atmospheric Science, dedicated to understanding how oil spills effect fish and their potential for recovery. He utilizes video as a means of science communication to bridge the gap between scientists and the general public. Previously he worked for the fisheries conservation group, The Billfish Foundation, producing a variety of multimedia projects to increase membership and participation for citizen science projects.

- *Facilitating Effective Webinars: Heidi Stiller (NOAA)*

With a background in public policy, coastal management, and sociology, Ms. Stiller has been with NOAA since 2001. She is part of the Office for Coastal Management's Training and

Engagement Program, and since 2006 has been part of the Gulf Coast staff. Ms. Stiller brings extensive experience with meeting facilitation and has helped partners design and conduct effective meetings on a wide range of coastal management topics. Ms. Stiller helps NOAA's customers and partners identify and promote activities that enhance the resilience of the built, natural, and social environments of coastal communities.

- *Successful Use of Social Media: Becca Burton (Florida Sea Grant)*

Becca Burton is the communications coordinator at Florida Sea Grant where she creates and produces editorial and multimedia content for the Florida Sea Grant digital presence, including the website and social media channels. She has given social media presentations at conferences and workshops throughout Florida. Before starting at Sea Grant two years ago, she earned her Master's degree in science communication at the University of Florida.

Panel 2: Evaluation and Assessment Techniques for EOE Programming

Discussion about incorporating evaluation into extension, outreach and education programs and brief overview of different evaluation and assessment approaches

- *Beth Day-Miller (BridgeWater Education Consulting, LLC)*

Elizabeth A. Day-Miller, PhD, Sr. Consultant and owner of BridgeWater Education Consulting, LLC (www.bridgewaterrec.com) has experience conducting professional development for teachers and other professionals, developing secondary and adult curricula, developing and conducting assessment and evaluation for grant and contract funded projects, and writing grant and contract proposals for funding. Her education background includes degrees in marine science (B.S. from the University of South Carolina and M.S. from SUNY at Stony Brook) and marine science education (Ph.D. from the University of South Carolina). She has conducted marine science research on the relationship between mud crab substrate preferences and predation rates, and marine education research focused on testing instructional models in undergraduate marine science education courses with the intent of improving instruction. Professionally, Dr. Day-Miller has worked for more than 29 years designing and conducting professional development workshops for adult audiences and informal education for student-aged audiences. In addition, she has over 19 years of experience conducting evaluation of local, state, and national level science and mathematics education projects. NSF and NOAA funded the most recent of these projects. Early this century, Dr. Day-Miller worked as a federal program officer with both NSF and NOAA. During this time she was responsible for setting federal marine science education policy, developing new funding programs, leading the ocean literacy initiative, conducting peer-reviews of science education grant proposals, reviewing grant proposals and serving on numerous federal and state grant proposal review panels.

- *Chris Ellis (NOAA)*

Chris is a social scientist with NOAA's National Ocean Service, based in Charleston, S.C. His training is in environmental sociology, survey design and implementation, recreation and tourism choice behavior, organizational behavioral networks, and social-psychological interaction with the coast. He has a growing portfolio of projects that lend technical assistance to the National Weather Service to build social science capacity within the Office. He is also an adjunct faculty member at the College of Charleston, where he works with students on an array of human dimensions-based research topics.

SECTION A:
Workshop Presentations and Materials

Helping Scientists Effectively Share Their Research

Keynote Presentation Summary

Laura Diederick, Smithsonian Marine Station and COSEE Florida

Laura Diederick from Smithsonian Marine Station and COSEE Florida gave the workshop's keynote presentation. Her presentation provided an excellent overview of techniques to help outreach coordinators help the scientists they work with effectively share their research with broader audiences. She also shared helpful tips to consider when planning a presentation, including considering your audience, focusing on the message you want to convey, contrasting the delivery, thinking like a designer, and "completing the triad." Considering your audience includes knowing how to find common ground with the audience you are addressing; all audiences are not created equal. Contrasting the delivery means sharing the information you want to convey in a variety of ways, alternating between facts and storytelling to keep the presentation engaging. Thinking like a designer means simplifying and focusing your message, amplifying the signal, and reducing the cognitive load. And completing the triad means perfecting your presentation by training, practicing, and getting feedback. A breakout session also engaged the audience in thinking about addressing different audiences, how to convey your message, and what the best delivery method might be. Participants were asked to write post-it notes with questions or obstacles and possible suggestions or solutions to accompany those obstacles for various audiences or delivery methods placed on easels throughout the room. The breakout session was a very effective way to get the participants thinking about these concerns, which helped set the stage for the panels and breakout sessions that followed.

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Panel 1: Use Outreach Tools & Technology:
Creation of Documentaries

Introduction

There are many communication avenues for your science, so the **first question** is why choose **video** versus a different method? For example:

- Print only
- Print with photos/diagrams
- Audio only via podcast

Video is a popular choice because it's easily digestible and easily accessed via web and social media channels. Note that a lack of "action" or a lack of "interesting" locations does not preclude using video (e.g., *TED Talks, The Great Courses, etc.*).

Planning

If you decide video is right for your science, you need to set your **goals** for the video and determine your **primary/target audience**. If metrics are needed to measure the success of the video project, decide those at this stage.

Write a goal statement. For example:

- I want the whole world to see my great experiment.
- I want my work to be documented for posterity.
- I want my students to see the great experiment they could not witness in the lab.

Who is your primary/target audience? For example:

- Students – secondary school or college-level?
- Academic peers who are non-scientists.
- The general public – and to what education level (e.g., 8th grade)?

Do you need metrics to measure the success of the video? For example:

- A minimum of xxxxx number of views on YouTube
- Students who viewed the video were all able to explain xxxxx on the exam

Answering these questions will drive your the scope, planning, and execution of your video project.

Pre-Production Phase

Writing

At a minimum outline what you want to capture (e.g., Scientist Jane splits an atom in the lab; interview Scientist Jane for explanation/remarks). Approaches include:

- Capture unrehearsed (aka vérité) events and interviews
- Prepare formal, scripted remarks and deliver on camera

Remember that even the shortest of stories are best served by a three-act structure – beginning, middle, and end.

Scope

- x days
- x locations
- x budget

Crew

- In-house (your immediate team)
- Your institution's dedicated video services department
- Outside professional team
- Key personnel
 - producer/director
 - cameraperson
 - audio
 - editor/post-production coordinator

Equipment

- consumer grade
- prosumer grade
- professional grade

Production Phase (aka Principal Photography)

Go and actually shoot it!!!

Post-Production Phase

- Ingest raw video and store on a server or external drives
- Transcribe interviews
- Additional writing – select the best takes, hone story, and produce final script
- Using the final script, edit raw video into finished cut
- Add music, effects, titles, etc.

A note about editing: there are countless software options to execute the editing phase and this is a highly skilled job. If your budget allows, outsource this function. It is almost always cheaper in the long run. And the results will be better too.

Dissemination (aka Distribution)

How are you delivering the video? You can use multiple methods. For example:

- Web-based platforms
- Theater
- Television broadcast
- Physical medium (e.g., DVD, Blu-ray).



Techniques for Facilitating Virtual Meetings

Planning a virtual meeting? This document will walk you through strategies that work well and help you attain your meeting objectives. Leading an effective meeting is both an art and a science. A comprehensive guide, *Introduction to Planning and Facilitating Effective Meetings*, is available at www.csc.noaa.gov/digitalcoast/publications/effective-meetings. While many techniques apply to both virtual and in-person meetings, a virtual meeting presents special challenges, with phone or computer-based participants more apt to become distracted. In addition to the meeting design and delivery techniques found in the online publication, the following practices are helpful when planning virtual meetings.

BEFORE THE MEETING

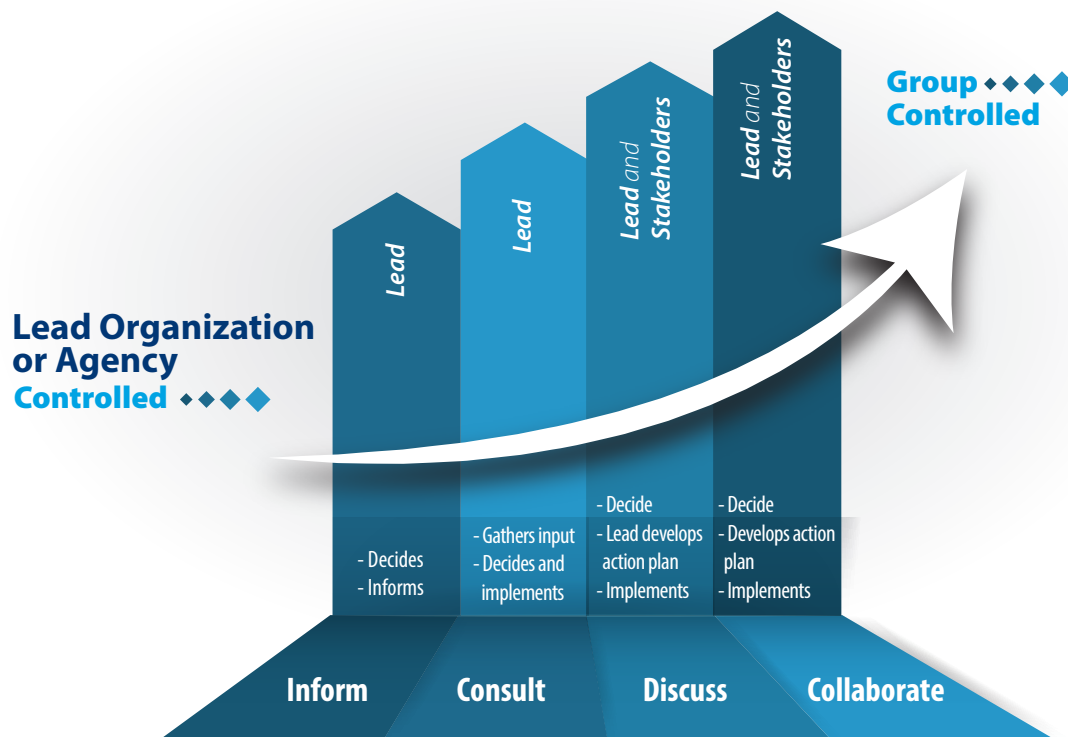
- Determine why the meeting is necessary and who needs to participate.
 - Establish objectives and develop an agenda with opportunities for participants to engage.
 - Work with the presenters to prepare materials and conduct planning-team dry runs.
 - Share objectives and the agenda with participants before the meeting.
 - Keep meetings less than an hour if possible; several short meetings are generally better than one long one.
 - Develop engaging materials. Sneak in some surprises to keep audience interested.
 - Use pictures or slides (maybe even music!) for breaks.
 - Have a timer or clock to post for breaks and small-group work.
 - Place ground rules in a chat box for all to see.
 - Send connection information and reading materials a week in advance and presentations or agendas 1-2 days in advance, and again just before the meeting.
 - Keep time zones in mind.
 - Choose technology based on meeting objectives and participant needs (see details below).
 - To minimize phone call interruptions, set up the profile of your teleconference account so that the phone beeps, or is silent, when callers join or leave instead of making an announcement.
 - Mute all the lines using your teleconference profile.
 - Consider audio technology to help participants hear clearly (e.g., a high quality head set, microphone, or speaker).
 - Choose the appropriate Web-based software to assist with the meeting objectives.
- Consider these questions:
1. Do you need the meeting recorded?
 2. Do you want the audience to interact primarily by phone/VOIP or chat function?
 3. Will you have multiple presenters in various locations?

To determine the best program for your purposes see these comparisons:

- www.socialbrite.org/2011/01/19/comparison-top-web-conferencing-services
- <http://webconferencing-test.com>
- <http://web-conferencing-services.toptenreviews.com>
- http://en.wikipedia.org/wiki/Comparison_of_web_conferencing_software

CUSTOMIZE THE VIRTUAL MEETING TO MEET OBJECTIVES

Different meeting objectives require different approaches. Some meetings require a good deal of engagement and collaboration, while others require none. In addition to using the general techniques listed above, select others to customize the meeting to meet specific objectives. The chart below can be used to determine the objective, and inform how involved the participants need to be in the meeting.



Inform: Participants will be informed about a policy, decision, issue, product, tool, or service. Communication is primarily one way. One or more speakers will be informing the audience about a topic.

Consult: Meeting conveners will consult with selected participants about a modification, resolution, policy, issue, product, tool, or service. The conveners may or may not use the input from participants.

Discuss: Meeting conveners will discuss options for resolution or development with participants and modify approaches accordingly.

Collaborate: Meeting conveners will facilitate a discussion with a group of selected participants to provide an opportunity for them to collaborate and make resolutions, modifications, or developments together. All participants agree to forgo their positions for a decision that advances the common good.



TECHNIQUES BY MEETING OBJECTIVE

INFORM

Meeting Objective: Participants will be informed about a policy, decision, issue, product, tool, or service. Communication is primarily one way. One or more speakers will be informing the audience about a topic.

Ideal Number of Participants:

- 5 to 100s
- Expect approximately 40% of registrants to actually call in unless it is a hot issue with limited opportunities to hear the information.

Techniques that work to “Inform” (In addition to the common techniques):

- If possible, develop a video that gives all the information, and share it widely with the audience members to watch at their leisure.
- If a meeting is necessary, share documents and presentations with a video call.
- Use a webcam for the speakers to help participants stay engaged throughout the presentation.
- Use chat boxes or polls to ask questions and engage participants. Several boxes and questions can be functional at once, which compels people to read and stay caught up.
- Ask people to voluntarily chat their names and affiliations as an introduction.



CONSULT

Meeting Objective: Meeting conveners will consult with selected participants about a modification, resolution, policy, issue, product, tool, or service. The conveners may or may not use the input from participants.

Ideal Number of Participants:

- 5 to 100s
- Expect that only 40% of registered participants will actually call in to the meeting.

Techniques to “Consult” (In addition to the common practices and “Inform” techniques):

- Show the layout of the website, particularly the mute and “raise hand” functions.
- Use polling to obtain participant input.
- Use a virtual whiteboard to capture key points, much like flip charts.
- If there is verbal feedback, type live notes so participants can see their feedback being captured.



DISCUSS

Meeting Objective: Meeting conveners will discuss options for resolution or development with participants and modify approaches accordingly.

Ideal Number of Participants:

Up to 25

Techniques that work for “Discuss” (In addition to previous techniques):

- Introduce everyone on the call, or ask them to chat their affiliation.
- Use a timer to keep discussion on time and focused; some websites can make this visible.
- Post participant photos (if no webcams) during introductions.
- Type live notes that one or more people can add to during the event.
- Conduct shared, real-time document collaboration.
- Use polling at decision points to move the discussion along.



COLLABORATE

Meeting Objective: Meeting conveners will facilitate a discussion with a group of selected participants to provide an opportunity for them to collaborate and make resolutions, modifications, or developments together. All participants agree to forgo their positions for a decision that advances the common good.

Ideal Number of Participants: 8 to 12

(Group will meet several times to collaborate, so building relationships is important to the process.)

Techniques to “Collaborate” (In addition to the previous techniques):

- Employ video calling for engagement and to see body language.
- Conduct shared, real-time document collaboration.
- Use a virtual whiteboard for note taking and group documentation.
- Use a timer before starting, during breaks, and during question and answer time.
- If appropriate, incorporate music or a video.
- Employ “chat” as a way to get discussion started, and then focus on points that come up multiple times.
- Use a round-robin to answer questions and ensure everyone has an opportunity to give input.
- Type live notes that one or more people can add to during the event.
- Use the attendee list for a round-robin so participants know when their turn is coming.



DURING THE MEETING

- Speakers should post a photo or use a webcam.
- When requesting audience feedback, ask participants to virtually raise their hands or use the chat function to respond to avoid several responses at once.
- Call on participants using an organizing approach such as a round-robin or by region, program, project, division, etc.
- Use polls to ask participants questions about content and process.
- If the meeting room has several participants and additional participants are on the phone, all speakers in the room should use a microphone so phone participants can hear everyone.
- Work with a co-facilitator in each gathering place to monitor technology, move the microphones, scribe notes, etc.

SUGGESTED GROUND RULES FOR ALL PARTICIPANTS

- Turn away from email for the short duration of the meeting.
- Say your name before you speak.
- Remember to use your mute/unmute button.
- Do not put your call on hold; it will broadcast your phone system's background music.
- Do not conduct side conversations or make inside jokes.
- Speak loudly and clearly.



Advice, Tips, and Lessons re: Webinars and Virtual Meetings

I. Overall advice

- A. Start with needs! Everyone says they want webinars, but researching what exact content is of interest, and identifying information or skill gaps, is key to designing good webinars.
- B. Focus on engaging your attendees and think about how to do this ahead of time.
 - i. Addressing needs is the #1 way to engage – provide content people need!
 - ii. Dynamic presenters will capture attendees' attention and keep them engaged
 - iii. Good visuals (even more important when can't see speakers)
 - 1. Having photos of your speaker(s) at the beginning or at the start of each presentation is a nice touch – helps attendees connect
 - iv. Opportunities for participation/interaction. Multiple ways to do this with today's technology (chat boxes, polls, conference call line)
- C. Best practices for in-person meetings still apply!
 - i. Have an agenda with objectives even if brief/informal
 - ii. Review agenda at the beginning and let attendees know up front how they can engage (set expectations)
 - iii. Introductions are a good idea if possible. May not be feasible if huge group, but if smaller group worth the time. Can have people chat their name and affiliation – this lets everyone know who's on the line *and* lets people practice using chat. If you have a really big group you can use a poll question to ask about attendees' affiliations/sectors.
 - iv. Provide breaks if it's a long webinar!
 - v. Let people know up front how content or results will be shared after the webinar/meeting. People always want to know if they can get a copy of the presentations, and if there's discussion may be interested in notes as well.
 - vi. Evaluate! Some conference technology allows you to ask a few questions at the end, or with Adobe Connect you can set it up so when the attendee closes the webinar window a survey monkey survey automatically opens. You can email afterwards too, but response rate likely to be much lower.

II. Technology

- A. See handout – bottom 2nd page has links for comparing different technology
- B. Best technology depends on how interactive and capabilities of your office (e.g. I use Adobe Connect for a training webinar because can have a chat panel and a notes panel alongside the slides, but for a standard presentation with Q&A Webex is fine.)
- C. Quality microphones and headsets can improve sound quality. (If have a room full of people participating will need microphones around the room.)
- D. Think about the *people* needed to run the technology! Always need someone who knows the web conferencing technology, but may want multiple people if have multiple tasks (e.g. intro presenters and advance slides, watch for questions / moderate, take notes in a notes panel, administering polls)

III. Lessons and Tips

- A. Many more people sign up than actually attend free webinars; consider this when setting registration caps.

- B.** Best to use a technology where you can mute all the lines. But if you need lines open for discussion, be sure to ask people to mute and tell them *not* to put the call on hold! (We've all experienced terrible hold music on con calls!)
- C.** Practice with the technology. And if possible have your presenter(s) practice too!
- D.** Preload slides if possible
- E.** Make sure you have adequate lines for your conference call, and consider if want silent entry or beeps or intros (when many attendees recommend silent entry)
- F.** Some people love webcams and feel more engaged when they're used, but others really don't like them. Consider if it's appropriate / desired by your group. It's one more technology to worry about, so you may not want to add it to the mix.
- G.** Prepare some questions for your presenters to break the ice when you get to the Q&A period (attendees are often shy about going first!)

Does anyone have ideas of approaches we as facilitators or moderators can use to avoid that awkward period after a webinar presenter finishes and no one asks a question?

Barriers

- Audience member forgets their question by the end
- The question seems minor, too detailed, or applicable to only a few people in the room
- Audience member needs time to process the information and make connections
- Multi-tasking gets in the way

Advance Planning


- Think of it as a radio call in show with slides
- Turn a 'talk' into a 'dialogue'
- Prep the audience with questions before the meeting
- Ask the presenter to place questions within their talk where they see collaboration points/points of interest/questions that the audience could answer. If the presenter is comfortable with little "interruptions" during the talk, make the Q/A more interactive at the end
- Before the meeting let everyone know that you'll be asking for a response so they can pay a little more attention (and less multi-tasking)
- Ask presenters to give shorter more interactive presentations
- More prep = more interactive and appears less scripted

During the Meeting

- Moderator should introduce the speakers and questions as well as field questions
- Ask the audience to jot their questions down during the talk to ask later
- Provide a note screen for questions that can be entered during the presentation
- Bait the audience at the beginning by presenting discussion questions, or post them on screen
- Start the presentation with a preview of the discussion questions, and then end with them as well.
- Put 3 or 4 questions in a notes pod, for people to answer throughout the presentation
- End the talk with a few questions for the audience
- Poll the audience using instant polling tech and build off of that to enter into a dialogue
- Call on specific people. When asked, folks usually have something to say, they just need the opportunity.
- Plant/stage a question with a trusted person ahead of time to get the conversation going
- Explain how questions will be handled,
- Encourage them to enter them in the chat real-time so that they don't have to try to remember them. Moderator should make a note of the slide # or title or topic for reference during Q/A
- Consider the audience while framing the presentation
- Conversations between the moderator and the speaker can engage the audience through that conversation.
- Encourage participants to grab a screenshot of slides they have questions about
- Have some open-ended questions ready, see this google doc for ideas
https://docs.google.com/document/d/1e57BiM_kZT3_NKYGho1QclMjIMD8sa6DxfxrlEwB08k/edit


As a participant

- Screenshot the slide when you think of a question
- Don't be afraid of asking a "dumb" question. Chances are if we missed something, someone else did too. And a dumb question is much better than crickets.



Increasing your reach when you're a one-person shop

Becca Burton
Communications Coordinator
Florida Sea Grant

Florida Sea Grant College Program 

It all starts with content:

- Posts with photos/videos get more reach.
- Know your audience. Pay attention to the insights page to see what type of content they prefer.
- Post consistently.
- Don't be overly-promotional
- Post with a purpose/goal in mind.

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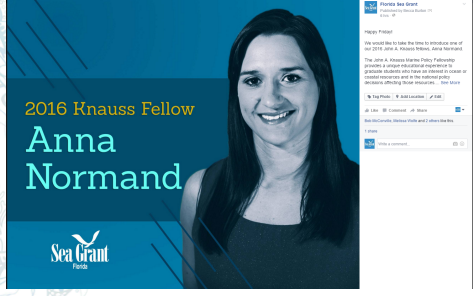
Our most popular weekly post


- Wednesday Weekly job/ internship roundup
 - Every week on the same day—gives people something to expect
 - Gives something useful to our particular audience



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Showcasing students



Florida Sea Grant College Program 

How we increase our reach traditionally

- Email
- Photo contests
- Social media postcards
- Public events
- Advertising via other social media channels (Twitter, Instagram)



Florida Sea Grant College Program



Our Facebook Ad Campaign

- Budget: \$10/day for 2 weeks (\$140 total)
- Target audience: High school/college students in the southeast (Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, North Carolina, South Carolina).
- Goal: To increase our reach and the amount of page "likes" from our target audience

Florida Sea Grant College Program



Which ad do you prefer?

Florida Sea Grant
Sponsored

Looking for a career in the marine sciences? Check here for info about jobs & internships.



Florida Sea Grant
College & University
4,519 people like this.

Like Page

Florida Sea Grant College Program



Florida Sea Grant
Sponsored

Looking for a career in the marine sciences? Check here for info about jobs & internships.

MARINE SCIENCE

*Jobs
Internships
Scholarships
Career advice*



Florida Sea Grant
College & University
4,519 people like this.

Like Page

Florida Sea Grant College Program



Week 1 Results (Region)

- Total page likes: 374
- Texas: 112
- Florida: 72
- Unknown: 63
- Alabama: 24
- North Carolina: 23
- Louisiana: 20
- South Carolina: 13
- Mississippi: 12
- Georgia: 1
- Remainder of likes: from Georgia (country)
 - When we put in our preferred geographic data we put the country of Georgia instead of the state on accident.
 - We saw this and immediately fixed our geographic preferences.

Florida Sea Grant College Program



Week 2 Results (Region)

- Total page likes: 251
- Texas: 94
- Florida: 85
- North Carolina: 26
- Alabama: 19
- South Carolina: 13
- Mississippi: 9
- Louisiana: 5

Florida Sea Grant College Program



Results compared (Likes & Reach)

- Week 1
 - 374 likes
 - 8,762 people reached*
- Week 2
 - 219 likes
 - 5,401 people reached*
- Reach: The number of unique people our ad was shown to.

Florida Sea Grant College Program



Likes and Reach overall

- 606 page likes
- 13,376 people reached
- \$0.24 per page like
- 16,054 impressions (number of times our ad was displayed).



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Engagement

- While our post clicks and post likes (as a result of the ad) were low, we think this comes with time and people exploring our page more.
- We will be monitoring our engagement over the next few weeks to see if there is any increase.

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Findings

- We increased our page likes—by people who might actually be interested in our content.
- We expanded our reach to more than just Florida.
- It seemed the ad with the person in it worked better, but this would need to be better tested.
- Be sure to monitor your ad and change as needed.

Florida Sea Grant College Program



Facebook “Relevance Score”

- A rating of 1 to 10 based on how your audience is responding to your ad. This score is calculated after your ad receives more than 500 impressions.
- We got a 6!
- We think we reached our goal of getting more page likes
 - Our next goal is to increase engagement.

Florida Sea Grant College Program



The end

Additional questions can be sent to
Becca Burton at rlburton@ufl.edu

Florida Sea Grant College Program



Program Evaluation

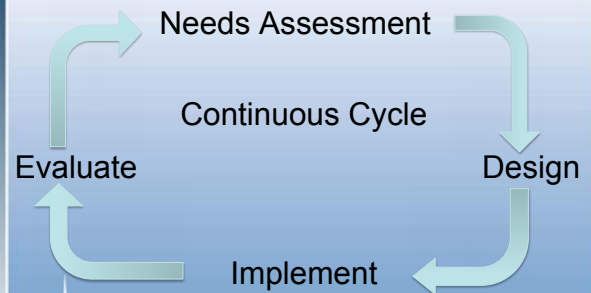
An Overview



Elizabeth A. Day-Miller



Project Development Cycle



Assessment vs. Evaluation

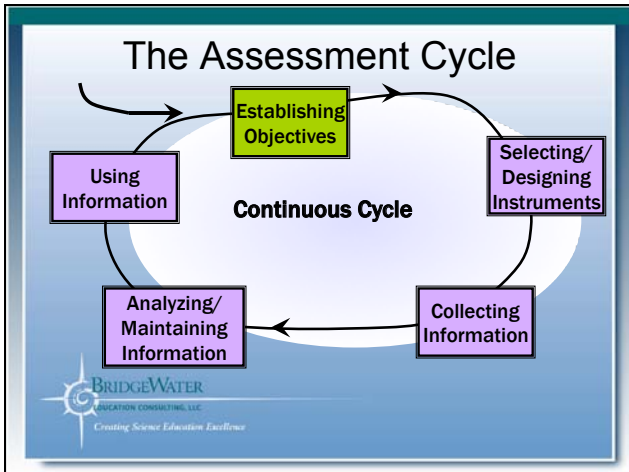
- **Assessment:** methods or tools used to measure and document what people think (attitudes & aspirations), know (knowledge), or can do (skill); KASA.
vs.
- **Evaluation:** making a judgment about the value of something. Results from accumulation of assessment results.



Why Assess?

- Answers “How do you know...?”
- Provides data (evidence) to convince others.
- Provides feedback on successes.
- Provides feedback on what isn't working.
- Provides ideas for how to improve.





Establishing Learning Objectives

What are learning objectives?

- **Objectives** that refer to specific and observable learning and/or developmental outcomes.
 - knowledge, skills, behaviors, or attitudes that students are expected to achieve as a function of your program
 - “Student performance outcome”

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Objectives not tied to the mission?

Impossible!

- Program objectives should always agree with the program’s mission and philosophy
- Objectives are the vehicle for measuring the different components of the mission and philosophy

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From Mission to Assessment



Goals vs. Objectives

- **Goals** are the broad, general expectations for the program
- **Objectives** are the specific means by which those goals are met
- **PROBLEM:** Sometimes objectives are written using broad terms and therefore are not measurable



Goals vs. Objectives

- | | |
|---|--|
| <ul style="list-style-type: none"> • <u>General</u> expectations of outcomes • Should be broad and vague <ul style="list-style-type: none"> – Provides the very big picture – Not time bound | <ul style="list-style-type: none"> • <u>Specific</u> statement of what participants should be able to do, or how they should change, <u>as a result of program</u> • <u>Specific = Measurable</u> <ul style="list-style-type: none"> – Identify Outcomes – Time bound – Audience focused – Relevant |
|---|--|



Trice (2000) pp. 21-22

GoMRI Goal

Improve society's ability to understand, respond to, and mitigate the impacts of petroleum pollution and related stressors of the marine and coastal ecosystems, with an emphasis on conditions found in the Gulf of Mexico.



Characteristics of 'Good' (SMART*) Objectives

- Specific Defined Success
- Measurable
- Audience-focused
- Reasonable
- Time-bound



* Other methods, i.e. ABCD, etc.



GoMRI Objectives:

By the end of the GoMRI program, GoMRI will:

1. Significantly advance scientific understanding of the Gulf of Mexico, including its interactions with oil, dispersant, and dispersed oil,
2. Engender improved understanding, confidence, and trust of the public and other stakeholders and inform best science-based policy and management.



GoMRI Objectives (cont.):

3. Build intellectual capacity by:

- a) advancing relevant technologies;
- b) fostering research connectivity;
- c) building and maintaining an interactive GoMRI Gulf of Mexico database that can serve as a future baseline and to inform a more efficient future response;
- d) informing and training future scientists and engineers; and
- e) stimulating interest in STEM for K-12 students and educators.



GoMRI Objectives (cont.):

4. Demonstrate that the responsiveness of the GoMRI model is appropriate and effective in serving the public good by enabling and overseeing timely and independent research funded through a private-public partnership with industry.



Common Mistakes

- Vague behavior
 - Have a thorough *understanding* of the...
 - Inform best science-based policy and management.
- Gibberish/Jargon
 - Have a deep awareness and thorough humanizing grasp on...
 - Engender improved understanding, confidence, and trust of the public and other stakeholders.



Common Mistakes (cont.)

- Not Student-Focused
 - Train students how and where to find information.
 - Build intellectual capacity by advancing relevant technologies



My Suggested Objectives:

As a result of GoMRI research based programs (T), GOM stakeholders (A) will:

1. Increase their scientific knowledge of the Gulf of Mexico, including GOM interactions with oil, dispersant, and dispersed oil (SMR),
2. Gain confidence and trust in GoMRI scientific findings (SMR),



My Suggested Objectives:

As a result of GoMRI research based programs (T), GOM stakeholders (A) will:

3. Develop skills needed to participate in and use GoMRI research (SMR),
4. Make informed decisions using their gained knowledge (SMR), and
5. Provide input to science-based policy and management decisions (SMR).



When Writing Objectives:

- Ask yourself: What is the **intended result** of the program ***in terms of the participant?***
- Objectives should answer:
 - What should the participant be able to do?
 - Under what conditions?
 - How well?
 - In what time frame?



Assess **ALL** Objectives

- **EVERY** objective **MUST** be measured
 - Can be phased in over time (multiple years).
- Data is the evidence that each objective has been measured
 - Data can come from standardized objective measures, performance assessments, checklists, or many other methods

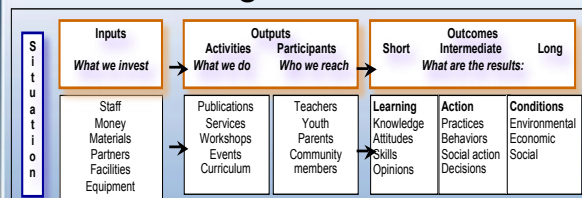


Next Step

- Using Objectives that guide your project, develop a Logic Model of your project.
 - Logic Model is a description of your project.
 - Logic Model includes inputs, outputs, and outcomes.
 - Logic Model accounts for each component of the project.



Logic Model



Assumptions:

Environment:



Program Evaluation

...the **systematic collection** of information (evidence) about activities, characteristics and outcomes of programs **in order to make judgments** about the program to improve effectiveness, and/or inform decisions about future programming.



Why we evaluate programs

- Project Improvement (Formative)
 - Improved delivery
 - Participant satisfaction
- Provide Evidence of Outcome/Impact (Summative)
- Public Relations
- Capacity Building
- Accountability; Justify funding



Types of Evaluation based on Purpose

- Front-End = Needs Assmnt:
 - guides program development
 - focus on relationships and capacity
- Process/Implementation = Formative Assmnt.
 - guides program improvement
 - focus on quality and quantity
- Outcome = Summative Assmnt:
 - guides decisions about program future
 - focus on effectiveness, magnitude, satisfaction

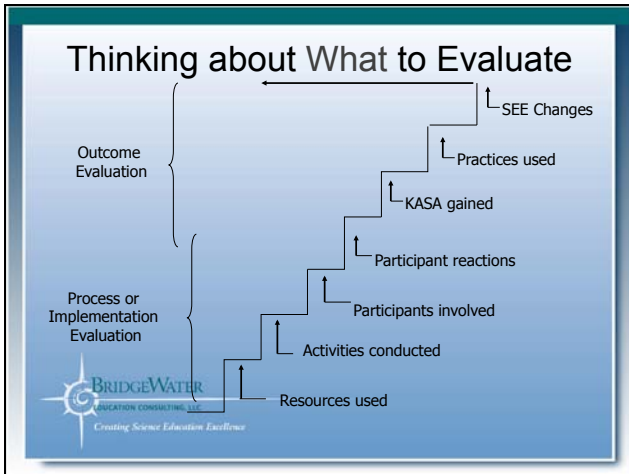


Formative v. Summative

*“When the cook tastes the soup, that’s **formative** evaluation; when the guest tastes it, that’s **summative** evaluation.”*

(Scriven, 1991)





- ### Evaluation Steps
- 1) **Develop evaluation plan**
 - Describe Project
 - Identify stakeholders
 - Determine purpose for evaluation
 - Consider logistics
 - 2) **Develop data collection tools**
 - Develop evaluation questions
 - Identify indicators
 - 3) **Collect & analyze data**
 - Determine sampling and design
 - Identify sources of information
 - 4) **Communicate results**
 - Identify/develop tools
 - Analyze data
 - 5) **Use the information to improve the project or make decisions about project value**
 - Communicate/use results
- The BRIDGEWATER logo is at the bottom left.

Using your logic model for project evaluation

Project logic model with evaluation questions:

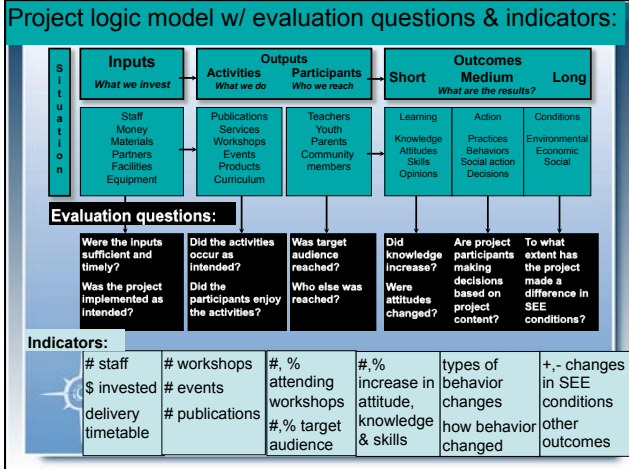
S i t u a t i o n	Inputs	Outputs		Outcomes		
	<i>What we invest</i>	Activities <i>What we do</i>	Participants <i>Who we reach</i>	Short	Medium	Long
	Staff Money Materials Partners Facilities Equipment	Publications Services Workshops Events Products Curriculum	Teachers Youth Parents Community members	<i>What are the results:</i>		
				Learning Knowledge Attitudes Skills Opinions	Action Practices Behaviors Social action Decisions	Conditions Environmental Economic Social

Evaluation questions:

Were the inputs sufficient and timely?	Did the activities occur as intended?	Was target audience reached?	Did knowledge increase?	Are project participants making decisions based on project content?	To what extent has the project made a difference in SEE conditions?
Was the project implemented as intended?	Did the participants enjoy the activities?	Who else was reached?	Were attitudes changed?		

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- ### Good Evaluation Questions...
- Fit the intended purpose for conducting the evaluation.
 - Are **not** framed in ways that will yield "Yes" or "No" responses.
 - Meet the needs of multiple stakeholders.
 - Are framed and prioritized based on available resources.
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Program Component	Evaluation Questions	Indicators
Outputs	How well have we implemented our program?	# press releases # attending event
	To what extent are our program efforts efficient?	% activities completed in timeframe # hours spent on activities Cost of program

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Schueler, S.K., S.L. Yaffee, S.J. Higgs, K. Mogelgaard, and E.A. DeMatia. (2006). Evaluation Sourcebook: Measures of Progress for Ecosystems and Community-Based Projects. Ecosystem Management Initiative, University of Michigan (www.snre.umich.edu/ecomgt/evaluation/EMI_SOURCEBOOK_August_2006.pdf)

Program Component	Evaluation Questions	Indicators
Outcomes	To what extent has the community become more aware of program issues?	# attending public events # participating problem remediation efforts
	To what extent are our participants behaving in ways consistent with program instruction/activities?	Specific changes in behaviors #, % compliance with recommended behavior changes

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Schueler, S.K., S.L. Yaffee, S.J. Higgs, K. Mogelgaard, and E.A. DeMatia. (2006). Evaluation Sourcebook: Measures of Progress for Ecosystems and Community-Based Projects. Ecosystem Management Initiative, University of Michigan (www.snre.umich.edu/ecomgt/evaluation/EMI_SOURCEBOOK_August_2006.pdf)

Guidelines for Conducting a Successful Evaluation

- Invest heavily in planning.
- Integrate evaluation into ongoing program activities.
- Indicate to all that evaluation is important.
- Involve program staff as much & as early as possible.
- Be realistic about the burden on you and staff.
- Be aware of the ethical & cultural issues involved.

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Thank You!

Questions?



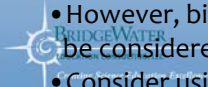
Using Objectives to Design Assessments

- Objectives dictate the type of assessment to conduct.
- The action verb indicates the appropriate ways to measure that objective.
 - Example: “recognize”: indicates matching, multiple choice, etc. “*lower-level thinking*”
 - Example: “demonstrate”: indicates a performance assessment. “*higher-order thinking*”



Evaluation Costs

- Depends on size and complexity of project
 - More qualitative data collection = > costs
 - More pen and paper = > costs
- Recommendation: 5%-15% of project costs
- Costs can be reduced if conducted in-house.
 - However, bias and conflict-of-interest must be considered.
 - Consider using existing data with caution.



Ethical Considerations

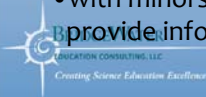
- Evaluation involves collecting information directly or indirectly, from individuals.
- During design, must ensure individuals are treated with respect and sensitivity.
- Respect: time and effort expended by participants.
- **Maintain:** confidentiality and/or anonymity.

Ethical Considerations

- Don't collect data without specific plans to use that data.
- Assure respondents' physical and psychological well-being throughout the data collection process.
- Interviews, surveys, etc. must be designed so participants are not embarrassed or asked to do something that might put them in jeopardy.

Ethical Considerations

- All information provided by participants is personal & must be protected.
- Informed consent: respondents must understand they are participating in an evaluation & give their permission.
 - with minors, a parent or guardian must **provide informed consent.**



Hiring an External Evaluator

- Many projects can be evaluated using internal expertise.
- But, if significant educational research and evaluation experience does not exist within the organization, you may need to hire a consultant.
- Determining a sampling scheme, designing data collection instruments, and analyzing the data all require specific knowledge and skills that cannot be substituted.
- Additionally, an argument can be made that an external consultant provides distance and objectivity that may not be possible for members of the planning team with vested interests.

Hiring an External Evaluator

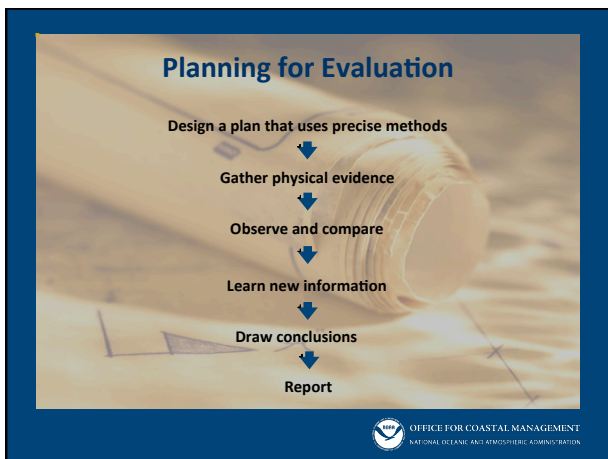
- Define the scope of work.
 - Be as specific as possible.
 - Determine what you want to accomplish and what aspects of the evaluation can be conducted by the project team.
- Determine the budget.
- Identify consultants with experience.
- Interview at least two consultants. Then try to determine:
 - **Relevance** of previous experience to project needs.
 - Has the consultant worked on similar projects?

Hiring an External Evaluator

- **Workload**
 - How likely is the consultant to meet timelines?
 - What is the size of the consulting team?
 - How will work be divided?
- **Work style**
 - Will the consultant work with the project team, while maintaining objectivity?
 - Will the consultant customize the strategy to the project or adapt an existing one?
 - Is the consultant willing to share his/her expertise with the project team so that the team learns from the experience?

Hiring an External Evaluator

- Request a written proposal that details process, timeline, responsibilities, and budget.
- Ask for a recent client list. Use references to gauge the consultant's ability to meet deadlines and to adapt to unforeseen circumstances.
- Select a consultant based on qualifications and "match."
- Develop a written agreement. Spell out, in writing, expectations, deliverables, timeline, and budget.



- Collection Methods**
- Interview
 - Focus Group
 - Survey
 - Observation
 - Existing data
 - Test
 - Concept map
 - Rubric
- OFFICE FOR COASTAL MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
- The slide has a dark blue background with white text. The NOAA logo is in the bottom right corner.

- A Few Examples**
- NOAA/NERRS Climate Training
 - Gulf Climate Community of Practice
 - GoMRI Oil Spill Science Outreach
- OFFICE FOR COASTAL MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
- The slide has a dark blue background with white text. The NOAA logo is in the bottom right corner.

Purpose of the Training Evaluation

- Climate change is creating continual challenges for a range of environmental professionals.
- NOAA was interested in learning the degree to which customer training needs are being met with regard to:
 - Incorporating and implementing climate resilience in comprehensive planning.
 - Conducting pre-disaster planning for post-disaster redevelopment
- Targeted professional audiences of interest:
 - Coastal resource managers
 - Coastal land use planners
 - Disaster planning and response professionals

Methodology

- Selective literature review
- Five-part assessment:
 - Phase 1: NOAA team to select interviewees and focus group attendees.
 - Phase 2: Use interviews and focus group to gather information on status, barriers, role of training, training content, and effective delivery formats.
 - Phase 3: Create draft "training modules" designed around information from respondents.
 - Phase 4: Interview feedback on the draft training modules.
 - Phase 5: Report results to NOAA.

Phases One and Two

- Selection of participants for interviews and focus groups
- Phone interviews (set questions + open discussion)
 - Conservation professionals
 - Coastal Training Program coordinators
 - Disaster preparedness professionals
 - Emergency management professionals
 - Municipal and regional planners
- Focus Groups
 - Training needs for pre-disaster recovery and redevelopment planning
 - Barriers to implementation of recovery and redevelopment plans

Phase Three: Creating Training Modules

- 1: Creating local pre-disaster redevelopment plans.
- 2: Incorporating planning for climate and natural hazards impacts into comprehensive plans, policies, and processes.
- 3: Protecting natural systems in climate change adaptation planning and implementation.
- 4: Communicating the economic case for implementing climate adaptation strategies.
- 5: Sharing case studies in climate adaptation planning and implementation.

Phase Four: Training Module Review

- Re-interviews to assess usefulness of draft modules and solicit questions, concerns, edits and new ideas
- Focus Group:
 - Focused information gathering for reactions to pre-disaster recovery and redevelopment planning (PDRP) training module.
 - Comments on other modules, as desired.

The Gulf of Mexico Climate Community of Practice as a Forum for Regional Climate Outreach



A formative evaluation



GoMex Climate Community of Practice

A Community of Practice is a group of professionals who aim to achieve common outcomes. By working together, they can learn from one another and develop a set of effective common approaches that can be refined over time.

- **Initiated in 2009 through the Gulf of Mexico Regional Collaboration Team (GoMRCT) with funding from Sea Grant**
- **Goal: be a “conduit for addressing climate adaptation strategies”**



Formative Evaluation

- **CoP Evaluation working group developed a logic model and initiated formative evaluation to identify:**
 - Progress toward objectives
 - Participant benefit and satisfaction
 - Overall effectiveness
 - Strengths and areas for opportunities
- **The CoP and the NOAA CSC engaged an external consultant, Eastern Research Group, Inc, to perform the evaluation**

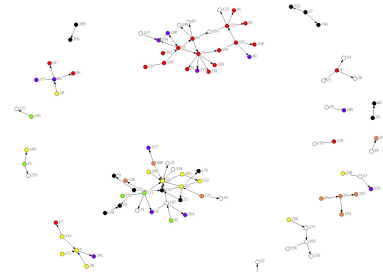


Data Collection

- **Phone interviews with 12 key CoP participants**
 - Interviewees represented active workshop attendees and a cross-section of groups involved
 - Provided detailed information on the program
 - Findings used to develop survey instrument
- **Web-based survey of 402 individuals who had participated in any CoP activity (i.e., workshop, webinar, online resource)**
 - The survey was open for 27 days
 - 127/402 (32%) responded



Evaluating Oil Spill Science Communication through Social Network Analysis



Purposes

1. 2014 GoMRI-sponsored oil spill outreach survey
 - Identify oil spill science questions
 - Understand the network people are using
2. Baseline for evaluation (pre-test)

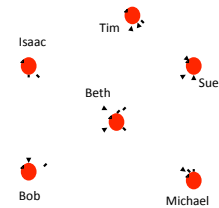


What Does SNA Tell Us?

Relationships are uncovered through questions we ask

Network structure is analyzed based on key indicators

- Direction of information flow
- People who are overly central
- People who are loosely connected and who may be under-utilized
- Divisive subgroups
- Network level of overall connection



(Rob Cross and Network Roundtable, LLC)



Methods

Survey development Sampling method



Round one (333 people)

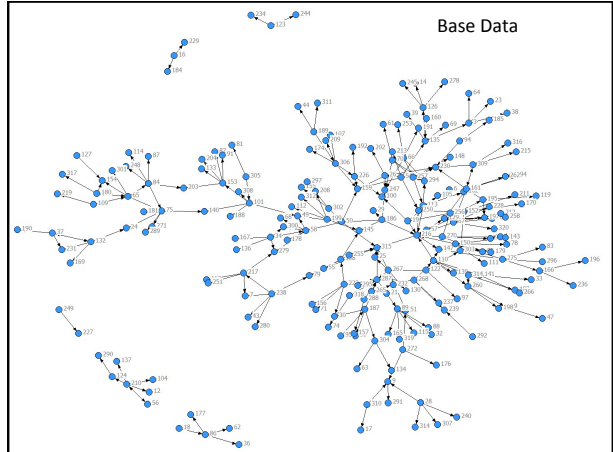
- Contacts from Gulf-wide Sea Grant network
- 3-4 contacts per state per target audience group
- GoMRI outreach contacts (26 people)

Round two and three

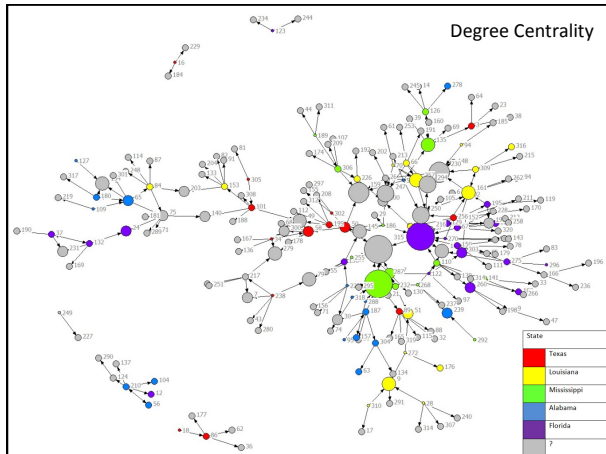
- Contacts based on round one survey responses
- Limitation: network is constrained by those who completed the survey



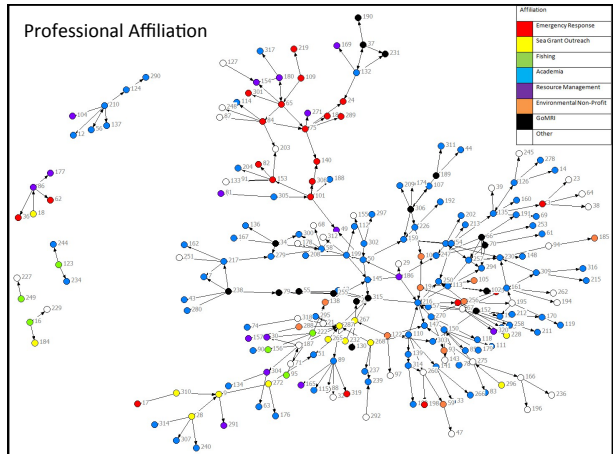
Base Data

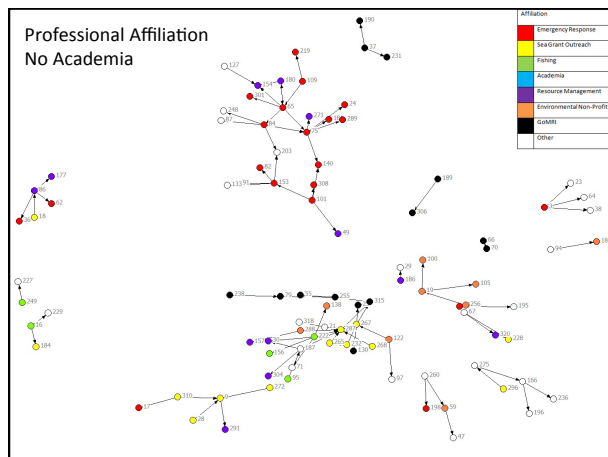


Degree Centrality



Professional Affiliation





Applications

- Identify areas where greater (or less) representation may be needed
- Address gaps in the network
- Determine the “reach” of the network



Thank You

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SECTION B:
Breakout Session Summaries

Sharing oil spill science with non-scientists: Effectively communicating complex research results through outreach education programs

BREAKOUT SESSION: General Public

1 PREPARING SCIENTISTS TO PRESENT TO THIS AUDIENCE

Getting scientists to understand:

- How to present information in a relevant way – explaining to people why they should care
- Communicating to an audience without scientific training is not the same as communicating to peers with scientific backgrounds
- How to read the audience
 - Especially important when determining how detail to include
 - Want to retain the passion and awe!
- Public speaking 101
 - Skip using Powerpoint in the planning phase
 - Maintaining eye contact with audience
 - Let go of detail
 - Cultivating these (above) skills in young generation of scientists (graduate students)
- Creating a presentation format that fits
 - Determined by
 - Number of attendees
 - Knowing who will attend
 - Time-frame allotted (and respecting it)

2 WHAT TIPS FOR SCIENTISTS HAVE YOU FOUND MOST EFFECTIVE?

- Go under the time limit, because this allows you to
 - Use the Q & A time to shine!
- What's your one take away message?
 - Storytelling is important!
- Make meaningful connections with the audience/audience interests
- Remember to read audience cues
 - Do people appear to be focused?
- Prepare ahead of time
 - Strategic messaging
 - Key facts to recall
 - Exercises to build confidence in communicating science:
 - Role playing

- Create an effective presentation title

3 WHAT TOOLS OR TECHNOLOGY WORKS BEST FOR SHARING WITH THIS AUDIENCE?

- Social media
 - Hit or miss
 - Video does best
 - Instant/momentary popularity if a popular group/organization 'Likes' a post
 - Be consistent – keep posting (creates a history on the web)
 - Set goals for posting
 - Can include retweeting, sharing, etc.
 - Be in tune with what others are doing
- Website
 - Building out from original purpose (e.g., go from repository -> outreach content)
- Google Analytics
 - Use it to determine who goes from social media to visit webpage
 - Often website hits are the result of Google search hits
- Development of a learning game
 - Using a web-based game to evaluate knowledge gain

4 WHAT ARE YOUR GOALS & OBJECTIVES FOR WORKING WITH THIS AUDIENCE?

- Human connection with environment/coast/ocean
 - Especially want to reach the public who does not live near coast/ocean
- As emergency responders,
 - Getting the public to understand the breadth of problem
 - Removing preconceptions
 - Positive experiences with:
 - Using social media
 - One-on-one interactions
- Giving general overview on topic & being informative
- Impart hope!
 - Garner confidence in actions/behavior changes that are meaningful
- Inspiring awe!

Breakout Session Notes - K-12 Audience

1. How do you prepare scientists to present to K - 12?
 - a. Challenges
 - i. Geographical distances between the multitude of diverse scientists within each consortia makes it difficult to sit down one-on-one with professional consortia outreach personnel whom would like to prepare the scientists to present to K-12.
 - ii. Outreach staff perceive a lack of enthusiasm coming from scientist when it comes to preparing them for presentations to K -12
 - b. Ideas
 - i. Outreach staff need to tell and show scientists how to make their science tangible and relatable to K-12 students; help the make the connections between science and the everyday
 - ii. Outreach staff could set up regular Skype sessions with distant scientists to brainstorm re: the needs of different students and to find the appropriate applicable lesson plans /game plan
 - iii. Outreach staff need to demonstrate to scientists alternative or out-of-the-box approaches to outreach (for example, Ecogig conducts outreach at major football events called Science at the Stadium)
2. What tips for scientists have you found most effective?
 - a. Be yourself
 - b. Don't talk down to students
 - c. Be careful with lingo/jargon
 - d. Be enthusiastic and be genuine in your enthusiasm
 - e. Share personal stories to show that scientists are human too
 - f. Break the scientist stereotype (old white guy in a lab coat)
 - g. Field trips, demonstrations and hands-on experiences can be more valuable than lectures (make a short intro talk then spend rest of the time on activitiy)
 - h. Teachers need to be invested too
3. What tools or technologies work best for K-12?
 - a. Hands-on tools
 - b. Online labs
 - c. Computer games and phone apps
 - d. Bring in real things that kids can touch and see
 - e. Phone camera and apps and science lessons, all paired together
 - f. Citizen science (with an app)
4. What are your goals and objectives for working with K-12?
 - a. Fitting oil spill impacts into existing curricula (state and national standards) and getting buy-in from teachers/school admin

- b. Learn more and take lesson home
 - c. Spark interest
 - d. Expose students to different kinds of science
 - e. Demonstrate that science does not have to be boring
 - f. Get teachers engaged – make them enthusiastic about the science coming from GoMRI; so that students are too. Instill a “street cred” with teachers because students/kids pick up on the authenticity of enthusiasm/passion/experience coming from their teachers.
5. What are differences between sharing science with K-12 versus other audiences?
- a. Kids are the decision makers of the future
 - b. Maturity, respect, and attention levels
 - c. State and National educational standards can be a limiting factor

Notes from Outreach Breakout Session – Fishing Industry

1. How to prepare scientists
 - Find scientists that are also fishers to work with this group so they have a shared interest
 - Choose a message that is relevant to the audience – even if your project isn't focused on fish, you may still be able to find a message that ties to that topic
 - Help scientists make the connection – what is actually of interest to the audience
 - Find “role models” – scientists that can show others how to communicate best and at what level of detail
 - Ask fishing industry what they care about
 - Remember there are multiple audiences within the fishing industry (your messages might differ based on who you are talking to!)
 - Establish a trusting relationship – start engaging before you try to share science and continue to sustain this relationship
 - Partner with community leaders within the fishing community
 - Scientists need to sit back and listen (and remember the 7 rules of extension)

2. Tips that are successful
 - Have one on one conversations or open house forums where fishers can provide input
 - Let fishers share info related to research projects (ideas, locations on maps, etc) and include them in the research projects, if possible
 - Make sure scientists are using appropriate language to talk with fishers and make sure that information is available to fishers that do not speak English as a first language
 - Build relationships with “champions” in the fishing community and have these folks host meetings so others will attend
 - Attend events where fishers will be present (e.g., fishing tournaments and boat shows) instead of expecting them to come to you

3. Tools and technology
 - Use media that they read! - post information in places that they frequent, instead of expecting them to come to your sites
 - Videos
 - One on one contact/go to them
 - Social media, forums, and apps – recreational and charter boat fishers use these;
 - Events, places – tackle shops, marinas, boat shows, etc.
 - Magazines – National Fisherman (commercial fishers)
 - Radio shows – again, target the ones they listen to
 - Translate and interpret when needed
 - Provide incentives for participation – food or money

4. Goals and objectives
 - Establish and sustain a trusting relationship to reduce misinformation – this can be done by working with organizations that are embedded in the fishing industry or some researchers may build these relationships over the course of their career
 - Build sustainable fish stocks and resilient fishing communities

- Create ambassadors for research and sharing relevant research results
 - Create cooperative research projects where there is two-way communication and fishers are involved in the projects as appropriate
 - Identify leaders that are trusted and knowledgeable in both the science and fishing community
5. Differences from other audiences
- Their livelihoods depend on a healthy Gulf
 - Some may have local knowledge
 - Some may have speak other languages
 - Some may have suffered economic or medical issues from past disasters

Notes from Breakout Session

Target Audience: Media

1. How do you prepare scientist to present to this audience?

- Prepare ahead of time
- Make questions relevant to audience
- Provide questions to scientist in advance
- Have 3 discussion points to stick to, this will cause less rambling
- Be positive and personable
- Don't get to technical, keep it simple
- Understand the time frame that media is working with, they are usually very pressed for time
- Have key points or engaging photos to supply to media
- Have a prepared "press kit" – may include a one-pager with background information

2. What tips for scientist have you found most effective?

- Put them in a familiar setting – lab, field
- Find the right person for the job
- Choose projects that are visual and scientist who can be understood
- Practice, have questions ahead of time (if possible)
- Reassurance that they can take control of the interview if they are well prepared
- It's ok to say "I don't know"
- Attitude, media is a medium they can use
 - o Establish relationships with local media personnel
- Online presence

3. What tools or technology works best for sharing with this audience?

- HAVE AN ONLINE PRESENCE!!
 - o Twitter, Facebook – have captivating titles and use hashtags
- Participate in media mentoring
- Email
- Make sure to keep it balanced and consistent
 - o Don't let it take over your work but still participate in social media (ex. 1/week)
- Talk with others to find out what has worked for them in the past

4. What are your goals and objectives for working with this audience?

- Accurate and timely information/topic
- Choose relevant/trending topics
- Generate awareness for the public
- Build public trust
- Communicator acts as a "middle man" between scientists and media personnel
- Build relationships with media personnel