Setting Priorities for Health, Social and Economic Disruptions from Spills in Alaska

Learning from the Past, Preparing for the Future

February 20-21, 2019
Dena'ina Center | Anchorage, Alaska

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TABLE OF CONTENTS

Preparing for oil dispersant testing at Quayle Beach, Smith Island (Prince William Sound), after the Exxon Valdez oil spill in 1989. Public domain from the EVOS ARLIS reference.

BACKGROUND

The National Academies of Sciences, Engineering, and Medicine (NASEM) Gulf Research Program's (GRP) Thriving Communities Initiative seeks to improve the quality, accessibility, and use of information about how to protect communities from the impacts of oil spills. The Sea Grant Oil Spill Science Outreach Program focuses on synthesizing, translating, and delivering peer-reviewed oil spill science information for people whose livelihoods depend on healthy natural resources.

In 2017, the GRP and the Health and Medical Division of the NASEM hosted a workshop in Washington D.C. entitled, "Preparing for a Rapid Response to Major Marine Oil Spills: Protecting and Assessing the Health and Well-Being of Communities" (Giammaria, Nicholson, & Snair, 2018). The workshop participants discussed research opportunities for improving public health preparedness, response, and protection associated with oil spills. They also identified potential challenges and opportunities for communities to support preparedness and resiliency after a spill and recommended the GRP gather input at the local level.

To address the recommendations identified in the August 2017 workshop, the GRP collaborated with the Sea Grant Oil Spill Science Outreach Program (comprised of Florida Sea Grant College Program, Mississippi-Alabama Sea Grant Consortium, Louisiana Sea Grant College Program, and Texas Sea Grant College Program) as well as Alaska Sea Grant College Program, University of Southern California Sea Grant College Program, and Virginia Sea Grant College Program to conduct a series of regional workshops. The goal was to gather feedback at the local and regional level to identify opportunities for improving preparedness for the public health, social disruption, and economic impacts of oil spills. The regions identified for this national collaborative effort are the West Coast, Mid-Atlantic, Alaska, and the eastern and western Gulf of Mexico. There was a total of five workshops focusing on three broadly defined topical areas of public health, social disruption, and economic impacts of oil spills.

A pre-workshop summary document was prepared to inform the development of the workshop series (Sibley, 2018). An overarching Steering Committee comprised of emergency responders, resource managers, researchers, and outreach professionals, formed in 2018 to guide the development of all workshops. Each Sea Grant program gathered an expert team to organize the workshop for their area.

At each workshop, leaders representing impacted communities, and experts in emergency response and preparedness, oil spill science, and human health and well-being, were invited to share their knowledge with an audience of community stakeholders. Although there was a discussion on lessons learned, the focus was on preparing communities for future events. The purpose was to:

- Raise awareness of the topical areas as they relate to spills,
- Listen to those directly affected by spills,
- Identify regional–level needs and priorities for improving preparedness,
- Promote networking among groups who may not have previously interacted, and
- Identify resources to address gaps.

Specific deliverables from this collaborative effort are as follows:

- Clearly identified and articulated regional research and outreach priorities.
- Clearly identified and articulated inter–regional research priorities that may be nationally applicable.
- Suggested protocols to include in existing response and regulatory frameworks that address the
- topical issues.
- Pilot project ideas that address local, state, or regional issues.
- Workshop participants increase their understanding of topical issues.
- List of resources available to address topical issues.
- Foundation for future research funding proposals to support research, outreach, and/or pilot projects related to oil spills.
- Five workshop reports and a synthesized summary document.

INTRODUCTION TO WORKSHOP #2: ANCHORAGE, AK

The workshop in Alaska was held in Anchorage, Alaska's largest city and transportation hub. Anchorage is the main office for many Federal and State agencies, nongovernmental organizations, and Alaska Native Corporations. As the transportation hub, there are direct flights daily from many locations in Alaska.

The steering committee for the Alaska workshop was established in July of 2018 by Torie Baker and Davin Holen at Alaska Sea Grant (ASG) with input from Joseph Banta at the Prince William Sound Regional Citizens Advisory Council (PWSRCAC). The goal of membership of the steering committee was to have the representation of a broad spectrum of ideas related to the impacts of oil spills on human health, and potential social and economic disruption. The secondary focus was to provide a diversity of representation in terms of geography with expertise in past oil spills such as the Exxon Valdez Oil Spill in Prince William Sound, and areas such as the Bering Sea and the Arctic where there is increasing ship traffic as well as oil and gas activities. The following individuals represent the steering committee (or planning team) for the Alaska regional workshop:

- Torie Baker, Marine Advisory Program Agent, ASG, Cordova
- Joe Banta, Environmental Program Manager, PWSRCAC
- Dr. Kristin Bridges, Environmental Public Health Program Manager, Alaska Department of Health and Social Services
- Dr. Jeffery Brooks, Sociocultural Specialist, Bureau of Ocean Energy Management
- Dr. Davin Holen, Coastal Community Resilience Specialist, ASG, and Vice-Chair, PWSRCAC Scientific Advisory Committee
- Aaron Poe, Aleutian and Bering Sea Initiative, Alaska Conservation Foundation
- Dr. Todd Sformo, Wildlife Biologist, North Slope Borough
- Sarah Yoder, Public Health Specialist, Alaska Department of Health and Social Services

The following topics were identified by the planning team as being focal points for the Alaska Workshop:

- Impacts to mixed subsistence economies, commercial fishing, and tourism
- Evaluating current protocol and opportunities for health and social monitoring during an oil spill
- Response at a Community Level

WORKSHOP PARTICIPANTS

Participation in the workshop was initially by invitation with personalized invites sent to each participant. The workshop was also advertised to the public by ASG and the PWSRCAC. A total of 60 participants were invited and 56 attended, including guest speakers, panelists, and individuals who participated in facilitated breakout discussions. Over the course of the six months prior to the workshop, the steering committee put together a list of individuals to invite that represented a broad spectrum of experience, backgrounds, and geographies. Below is a list of the intended representatives. The funding for this project provided travel for 12 participants from rural communities in Alaska, including 5 elders from the Bering Sea region. Alaska Sea Grant and other agencies and organizations such as the PWSRCAC also provided travel for participants.

- Coastal residents
- Commercial fishing organizations
- Emergency responders
- Environmental non-profit professionals
- Environmental health professionals
- Media representatives
- Natural resource managers
- Oil & gas agency researchers
- Outreach professionals
- Researchers in the social and natural sciences
- Sea Grant Extension agents and specialists
- Tribal members

WORKSHOP METHODS

The two-day workshop agenda, which is included as Appendix A, led with talks by experts in emergency response, disaster science, human health, environmental science, and subsistence economies. Alaska is highly dependent on both commercial fisheries and the subsistence harvest of wild resources for economics and a way of life. Therefore, a central theme included these two topics including the first-panel discussion. For panels two and three the topics were health and social monitoring during a spill and community response. Each of the three panels included the broadest possible participation (see Appendix A).

Each panel was followed by a break out session. In total there were 5 groups that were consolidated over the two days. The following is the list of panels with the title of each breakout session. The organization of those sessions and questions is included as Appendix B.

- Panel Discussion: Impacts to mixed subsistence economies, commercial fishing, and tourism
    - Breakout Session: Monitoring and research to build resilience in local economies
- Panel Discussion: Evaluating current protocol and opportunities for health and social monitoring during an oil spill
    - Breakout Session: Effective integration of human health and community well-being into local and regional response planning
- Panel: Response at a Community Level
    - Breakout Discussion: How do we prepare communities for the next technological disaster

To document feedback from participants, breakout discussion groups were facilitated by Sea Grant extension professionals and the steering committee members. For each of the scheduled breakout session topics (listed above), participants answered questions designed to foster thought and discussion to produce specific outputs listed

as a through d, below. These questions, as well as the general topics, were consistent with the other regional workshops in this collaborative project:

a. What are the suggested protocols to include in existing response and regulatory frameworks that address the topical issue?

b. What pilot project ideas do you have that address the topical issue?

c. What are the research and outreach priorities that address the topical issue?

d. What resources are available that address the topical issue?

Each breakout session was scheduled for 45 minutes. The facilitator recorded responses on a flip chart while the discussion was occurring, focusing on specific workshop outputs (a through d above). The facilitators and appointed breakout session lead compiled notes post-workshop, and the workshop lead organized the participant feedback for this report. To maintain confidentiality, the names of participants are withheld from this report. However, participants were asked to self-identify with an audience category at the time of registration. The groups then came back together and had 30 minutes for reporting back to the group. This included a general discussion on the topic by the entire group.

At the closing of the workshop, there was a general overall discussion in the group on the technological needs for local community preparation. This discussion helped to bring the entire group back to the central theme of this workshop, which is how to better prepare communities for an oil spill.

A post-workshop evaluation form was distributed to participants to receive additional feedback about the effectiveness of the workshop (see Appendix C for evaluation form and responses). The results of this workshop, in the format of this report, will be distributed to workshop participants, the Sea Grant network, the NAS Gulf Research Program, as well as the wider community.

WORKSHOP RESULTS

BREAKOUT SESSIONS: PARTICIPANT FEEDBACK SUMMARIES

The following tables summarize the key concepts of responses to questions asked during three breakout sessions. In each of the three breakout sessions, participants were asked to 1) suggest protocols, 2) share pilot project ideas, 3) identify research and outreach needs, and 4) identify resources to address the breakout session topic, which are noted above. Breakout session notes provided by session facilitators were consolidated into a single document for each of the three topics. These documents were imported into Nvivo 12, a qualitative analysis software. Each response was coded and the analysis quatified the number of responses for each theme. Codes for responses are consistent for all three sessions as there was overlap in the discussion; i.e. some themes came up during all three breakout group sessions. Consolidated breakout session notes are included as Appendix D. Only first level topics were covered, however, in the case where a main heading included several bullet points that spanned different topical areas multiple codes were used to adequately capture the key concepts discussed by the group.

Each list is consistent; therefore, some topics came up during one of the three breakout sessions while not in others so there may be no mention of that them which is noted as a 0 in the table. A final table has been included that tabulates the total coded response themes for all three breakout sessions.

SUGGESTED PROTOCOLS

Table 1. Questions asked about suggested emergency response protocols and frameworks are in italics. Participant answers were summarized as key concepts and listed alongside the number of mentions. Detailed responses can be found in Appendix D.

What are some suggested protocols to include in existing response and regulatory frameworks that would help build economic and social resilience to future events?	
Key concept	**Number of mentions**
Baseline studies	4
Claims process	4
Communication and outreach	2
Community inclusion	11
Community/Tribal Liaison	0
Economic resilience	2
Local coordination	1
Monitoring	1
Response	10
Training	2

What are some suggested protocols to include in existing response and regulatory frameworks that could integrate human health, community well-being, and social dynamics into response planning?	
Key concept	**Number of mentions**
Baseline studies	7
Claims process	1
Communication and outreach	7
Community inclusion	5
Community/Tribal Liaison	2
Economic resilience	0
Local coordination	1
Monitoring	1
Response	9
Training	3

What are some suggested protocols to include in existing response and regulatory frameworks that would improve risk communication and local response capacity?

Key concept	Number of mentions
Baseline studies	1
Claims process	0
Communication and outreach	8
Community inclusion	6
Community/Tribal Liaison	0
Economic resilience	0
Local coordination	1
Monitoring	1
Response	0
Training	1

Total responses for focus areas for suggested protocols across the three breakout sessions.?

Key concept	Number of mentions
Baseline studies	12
Claims process	5
Communication and outreach	17
Community inclusion	22
Community/Tribal Liaison	2
Economic resilience	2
Local coordination	3
Monitoring	3
Response	19
Training	6

PILOT PROJECT IDEAS

Table 2. Questions asked about ideas for pilot projects are in italics. Participant answers were summarized as key concepts and listed alongside the number of mentions. Detailed responses can be found in Appendix D.

What pilot project ideas do you have that would contribute to building economic and social resilience?

Key concept	Number of mentions
Build local capacity	2
Community health	1
Culturally appropriate communication	2
Economics	3
Environmental Monitoring	1
Gap analysis	0
Response	7
Subsistence	3

What pilot project ideas do you have that would effectively integrate human health, community well-being and social dynamics into response planning?

Key concept	Number of mentions
Build local capacity	7
Community health	5
Culturally appropriate communication	0
Economics	0
Environmental Monitoring	1
Gap analysis	0
Response	7
Subsistence	1

What pilot project ideas do you have for improving risk communication and local response capacity?

Key concept	Number of mentions
Build local capacity	2
Community health	0
Culturally appropriate communication	4
Economics	0
Environmental Monitoring	4

Gap analysis	2
Response	6
Subsistence	0

Total responses for pilot project themes across the three breakout sessions.

Key concept	Number of mentions
Build local capacity	11
Community health	6
Culturally appropriate communication	6
Economics	3
Environmental Monitoring	6
Gap analysis	2
Response	20
Subsistence	4

RESEARCH AND OUTREACH PRIORITIES

Table 3. Questions asked about research and outreach priorities are in italics. Participant answers are summarized as key concepts and listed alongside the number of mentions. Detailed responses can be found in the Appendix D.

What are the research and outreach priorities for building economic and social resilience?

Key concept	Number of mentions
Baseline studies	3
Build local capacity	2
Coastal resilience	1
Community health	1
Community inclusion	3
Culturally appropriate outreach	2
Innovative Arctic response technology/methods	2
Knowledge co-production	1

What are the research and outreach priorities for integrating human health, community well-being, and social dynamics into response planning?

Key concept	Number of mentions
Baseline studies	3
Build local capacity	0
Coastal resilience	1
Community health	4
Community inclusion	5
Culturally appropriate outreach	4
Innovative Arctic response technology/methods	0
Knowledge co-production	0

What are the research and outreach priorities for improving risk communication and local response capacity?

Key concept	Number of mentions
Baseline studies	5
Build local capacity	1
Coastal resilience	1
Community health	2
Community inclusion	9
Culturally appropriate outreach	4
Innovative Arctic response technology/methods	3
Knowledge co-production	10

Total responses for research and outreach priority focus areas.

Key concept	Number of mentions
Baseline studies	11
Build local capacity	4
Coastal resilience	3
Community health	7
Community inclusion	17
Culturally appropriate outreach	10
Innovative Arctic response technology/methods	5
Knowledge co-production	11

RESOURCES

In each breakout session, participants were asked to identify resources that were available in their region that could be utilized to address priority issues. Resources could be anything that participants felt are useful in the short and long term following a spill. Resources were categorized by level such as Federal, State, etc. The US Coast Guard was broken out from Federal due to the number of specific responses. The Alaska Native Tribal Health Consortium was also broken out from Federal as they receive funding from multiple sources and run many different programs respondents highlighted. In many cases respondents in the groups noted several resources from different levels demonstrating collaboration between agencies and communities. See Appendix D to review specific comments regarding resources.

Table 4. Categories of resources available that could potentially support emergency response protocols, research, outreach, projects, and recovery of individuals and communities.

What resources are currently available that can aid communities or individuals in maintaining economic and social resilience?

Key concept	Number of mentions
Alaska Native Tribal organization or Corporation	0
Alaska Native Tribal Health Consortium	0
Borough	3
Coast Guard	3
Community (city, municipal, and community organizations)	7
Federal	4
Industry	2
Regional Citizens Advisory Council	1
State of Alaska	4

What resources are currently available that aid in the integration of human health, community well-being, and social dynamics into local and regional response planning?

Key concept	Number of mentions
Alaska Native Tribal organization or Corporation	1
Alaska Native Tribal Health Consortium	3
Borough	1
Coast Guard	1
Community (city, municipal, and community organizations)	3
Federal	4
Industry	0
Regional Citizens Advisory Council	1
State of Alaska	4

What resources are available to support creation of an effective risk communication and local response capacity plan?

Key concept	Number of mentions
Alaska Native Tribal organization or Corporation	2
Alaska Native Tribal Health Consortium	3
Borough	1
Coast Guard	1
Community (city, municipal, and community organizations)	3
Federal	3
Industry	2
Regional Citizens Advisory Council	0
State of Alaska	2

SUMMARY

By far the most common comment across the different groups and discussions was the need to better inform and include communities in research and response. In addition, this communication and inclusion needs to occur in culturally appropriate and meaningful ways. The co-production of knowledge is also important, so researchers understand the subsistence way of life in Alaska communities, and the value of local and traditional knowledge. Residents of coastal communities in Alaska feel a sense of urgency due to the dramatic changes that are impacting their way of life and the need to build community resilience and capacity for response in a changing Arctic. This is especially evident in the Bering and Chukchi Seas as sea ice retreats this brings new opportunity for ship traffic and oil and gas exploration. Communities feel the pressure to be ready to respond to a technological disaster as Federal resources are few in the region for a quick response, yet at the same time feel unprepared.

The focus on health at this workshop was a new lens for looking at oil and gas activity and potential response for many participants. There is a desire by respondents for more baseline studies on human health in coastal Alaska. More environmental monitoring is also requested and studies to adequately describe the subsistence way of life and value of this in terms of both economics and culture. There is a concern that more vessel traffic in the Bering and Chukchi seas especially, as well as other parts of Alaska, could lead to a vessel adrift or spill that could impact resources important for the subsistence way of life.

In summary the following are ideas for potential investments in research and community preparedness:

- Research activities that dramatically increase engagement with communities and include key questions derived from community consultation.
- Studies on best practices for response in rural coastal communities in Alaska, especially in areas where there are currently few response capabilities.
- Invest in research in the Bering Sea Region where shipping is expected to increase in coming years.
- Invest in research of innovative technology that benefits locally based response to a technological disaster.

- Baseline studies on the potential impacts of oil spills on local economies in Alaska.
- Baseline studies on the potential impacts of oil spills on resources important for subsistence.

ACKNOWLEDGMENTS

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SUGGESTED CITATION

Holen, D. (2019). Setting Priorities for Health, Social, and Economic Disruptions from Spills in Alaska: Learning from the Past, Preparing for the Future

REFERENCES

Sibley, M. (2018.) Oil Spill Science: Improving Preparedness for Marine Oil Spills to Minimize Health, Social, and Economic Disruptions

Giammaria, C., Nicholson, A., and Snair, J. (2018.) Preparing for a Rapid Response to Major Marina Oil Spills: Protecting and Assessing the Health and Well-Being of Communities. TR News 313, January-February, pp. 21-25.

APPENDIX A: WORKSHOP AGENDA

Setting Priorities for Health, Social, and Economic Disruptions from Spills in Alaska:
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Funded by the National Academies of Science, Engineering, and Math, Gulf Research Program
February 20-21, 2019 | Dena'ina Center, Anchorage, Alaska

Day 1

8:30 Registration and check in, coffee

9:00 Welcome, Sea Grant oil spill program & NAS GRP collaboration overview, workshop goals

Davin Holen, Alaska Sea Grant

Donna Schantz, Prince William Sound Regional Citizens Advisory Council (PWSRCAC)

Christine Hale, Sea Grant in the Gulf of Mexico Oil Spill Science Outreach Program

9:30 Pollution Contingency and Response Overview

Speaker: Lt. James Nunez, US Coast Guard Sector Anchorage

Part 1: Learning from the Past

10:00 Social disruption from spills: What disaster science can tell us

Speaker: Liesel Ritchie, Oklahoma State University

10:20 Coffee Break

10:40 Spill impacts on human health: Health Impact Assessments in Alaska

Speaker: Sarah Yoder, Alaska Department of Health and Social Services (ADHSS)

11:00 Economic impacts from spills: A case study of the Prince William Sound herring fishery

Speaker: Scott Pegau, Prince William Sound Science Center

11:20 Shifting patterns and trends in subsistence economies

Speaker: Jim Fall, Alaska Department of Fish and Game, Division of Subsistence

11:40 Q&A with morning speakers

12:15 Catered Lunch

Part II: What we know now

1:30 Panel Discussion: Impacts to mixed subsistence economies, commercial fishing, and tourism

Gunnar Knapp Institute for Social and Economic Research, University of Alaska Anchorage (Retired); Patience Andersen Faulkner, PWSRCAC, Cordova; Robert Archibald, PWSRCAC, Homer; James Lima, Bureau of Ocean Energy Management

2:30 Breakout Session: Monitoring and research to build resilience in local economies

Main Questions:

What are suggested protocols to include in existing response and regulatory framework that would help to build resilience to a future event?

Project ideas?

Research and outreach priorities?

Resources that are currently available?

3:15 Coffee Break

3:30 Discussion report out

3:45 Review Day 2 goals, Adjourn

Day 2

8:30 Check in, coffee

9:00 Welcome, Goals for day 2 and looking forward

Davin Holen, Alaska Sea Grant

9:00 Panel Discussion: Evaluating current protocol and opportunities for health and social monitoring during an oil spill

Kristin Bridges, ADHSS, moderator; Joe Banta, PWSRCAC; Richard Kwok, National Institute for Health

10:00 Coffee Break

10:15 Breakout Session: Effective integration of human health and community well-being into local and regional response planning

Main Questions:

What are suggested protocols to include in existing response and regulatory framework that would help to build resilience to a future event?

Project ideas?

Research and outreach priorities?

Resources that are currently available?

11:00 Discussion report out

11:30 Catered lunch

Part III: Looking to the future

12:45 Panel: Response at a Community Level

Molly McCammon, Alaska Ocean Observing System; Jeremy Robida, PWSRCAC, Matt Melton, Alaska Chaddux

1:45 Breakout Discussion: How do we prepare communities for the next technological disaster

Main Questions:

What are suggested protocols to include in existing response and regulatory framework that would help to build resilience to a future event?

Project ideas?

Research and outreach priorities?

Resources that are currently available?

2:30 Discussion report out

3:00 Coffee break, check in with participants

3:15 Group Discussion: Technological needs for local community preparation

Main Questions:

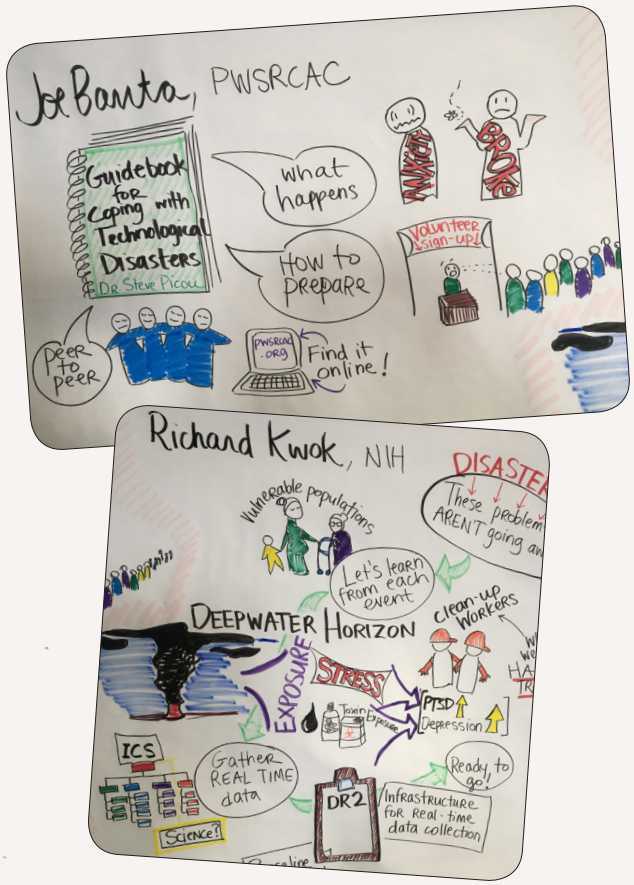
What are suggested protocols to include in existing response and regulatory framework that would help to build resilience to a future event?

Project ideas?

Research and outreach priorities?

Resources that are currently available?

4:00 Thank you and next steps



APPENDIX B: BREAKOUT SESSION PROTOCOL

Breakout session instructions for facilitators

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The facilitator's role in the breakout sessions during this workshop is to ask topical questions, listen to responses, record responses, and encourage every member of the group to engage in respectful discussion. The topical questions are designed to foster thought and discussion in order to produce specific outputs. The facilitator does not provide their own opinion. If group participants need further explanation of a question, the facilitator can reformulate questions, build on questions, or provide examples as long as the explanation is not 'leading' or based on personal interest. The facilitator must be mindful of time and of different personalities. The facilitator allows the conversation to flow naturally, but should redirect if folks get too far off topic/objectives, if some participants are dominating, or if time is running out.

Each facilitator will work with a group of around 7-8 participants. Flip charts, markers, and easels will be provided at each breakout station. If a designated recorder is not available, the facilitator will record the key points made by participants on the flip chart as the discussion is flowing. If the facilitator is not sure what the participant is expressing, they will ask the participant to repeat it, and ask them if what was recorded is accurate. Ask participants to be specific, if possible. The basic probes of "who, what, when, where, why, and how" can be useful to facilitators.

Outputs

For **each** of the scheduled breakout session topics, facilitators will guide their group in answering these main questions which are consistent with the questions from the other four national workshops:

What are suggested protocols to include in existing response and regulatory framework that would help to build resilience to a future event?

Project ideas?

Research and outreach priorities?

Resources that are currently available?

Each breakout session will last about 45 minutes, allowing around 10-15 minutes of discussion per question. The facilitator can title each page of the flip chart with these outputs (page 1: a. Suggested protocols; page 2: b. Pilot projects, etc.), and list responses to the questions on the respective page that the response best fits. Sometimes an answer to a question will fit better on a different page, so some flipping between pages will be necessary. That's ok! Facilitators and Workshop Lead will clean up and compile notes post-workshop. Workshop Lead will compile the breakout notes into a final workshop report.

BREAKOUT SESSION 1: MONITORING AND RESEARCH TO BUILD RESILIENCE IN LOCAL ECONOMIES

What are some suggested protocols to include in existing response and regulatory frameworks that would help build economic and social resilience to future events? Probes: What should be included in the planning process? Are there already any local or regional emergency response plans or frameworks that address economic issues during and after oil spills? If so, what are they? Are they effective? Who is involved? If not, why not? Should the process of compensation be included in preparedness and planning for economic resilience?

What pilot project ideas do you have that would contribute to building economic and social resilience? Probes: How do we enable communities to maintain economic resilience during and after an oil spill? What would an effective compensation process look like to you? What would it involve? Who would need to be involved?

What are the research and outreach priorities for building economic and social resilience? Probes: What factors need to be studied to improve economic and social resilience? What information is needed to improve the compensation process? What are the outreach or engagement needs for improving economic and social resilience?

What resources are currently available that can aid communities or individuals in maintaining economic and social resilience? Probes: Are there programs or organizations that can help? Other tools or services? When are they available- before, during, after a spill?

BREAKOUT SESSION 2: EFFECTIVE INTEGRATION OF HUMAN HEALTH AND COMMUNITY WELL-BEING INTO LOCAL AND REGIONAL RESPONSE PLANNING

What are some suggested protocols to include in existing response and regulatory frameworks that could integrate human health, community well-being, and social dynamics into response planning? Probes: What protocols would you suggest to improve the integration of human dimensions into response planning? When planning for a response to a spill, what should be considered in terms of human well-being? Who would be involved in these protocols? Do these protocols include formal adoption by Regional Response Teams (RRTs) or local Area Contingency Plans (ACPs)?

What pilot project ideas do you have that would effectively integrate human health, community well-being and social dynamics into response planning? Probes: If public health or community well-being monitoring programs or plans do not exist in your community, what kind of program would you create? Who/What organizations should be involved? How can this be folded into existing emergency response plans, both in the short term and long term? What barriers exist?

What are the research and outreach priorities for integrating human health, community well-being, and social dynamics into response planning? Probes: Is human dimension research included (physical, mental, social, economic etc.) in emergency response planning? Is human dimension research involved during and after a response? What research information is needed to effectively integrate human dimensions with local and regional response planning? What information gaps exist? Is outreach and engagement needed? How so? Who needs to be involved? What barriers exist?

What resources are currently available that aid in the integration of human health, community well-being, and social dynamics into local and regional response planning? Probes: Are there people, organizations, tools, services, meetings, centers/clinics, etc. that could be considered as resources? If none are available, what resources would be on your wish list?

BREAKOUT DISCUSSION 3: HOW DO WE PREPARE COMMUNITIES FOR THE NEXT TECHNOLOGICAL DISASTER

What are some suggested protocols to include in existing response and regulatory frameworks that would improve risk communication and local response capacity? Probes: When are oil spill risks communicated? Who is communicating and for how long? How can existing risk communication plans be improved to be more effective and timely? What communication plans are included in existing emergency response plans, during and after a spill? What limitations exist in the current structure?

What pilot project ideas do you have for improving risk communication and local response capacity? Probes: Are you thinking locally or regionally? Who would be involved? What sort of timeline would this involve? How would it be effective? Would the emergency response community be involved?

What are the research and outreach priorities for improving risk communication and local response capacity? Probes: What information gaps exist when it comes to risk communication? Are there research and outreach needs? What are they?

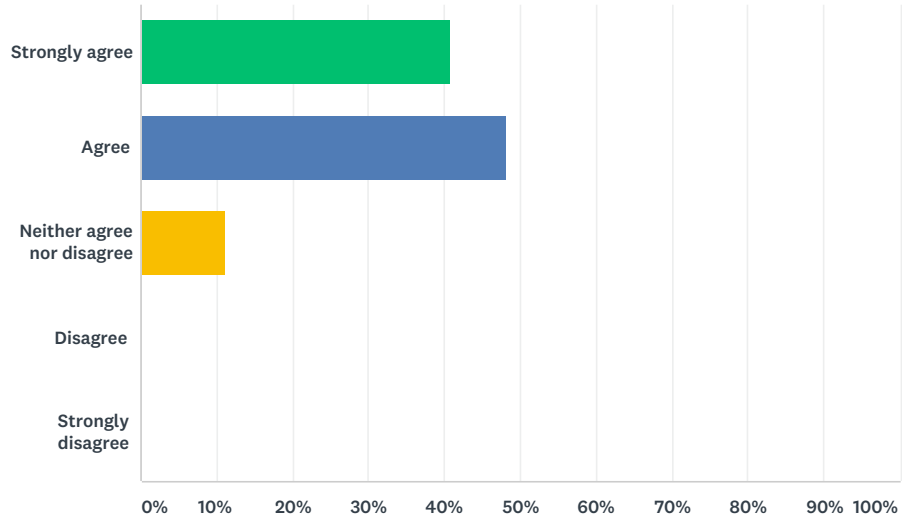
What resources are available to support creation of an effective risk communication and local response capacity plan? Probes: What people, organizations, services, tools, etc. would be considered a resource for communication before, during, and after a spill?

APPENDIX C: EVALUATION

NAS GRP Oil Spill Workshop

Q1 This workshop raised my awareness of public health issues related to oil spills.

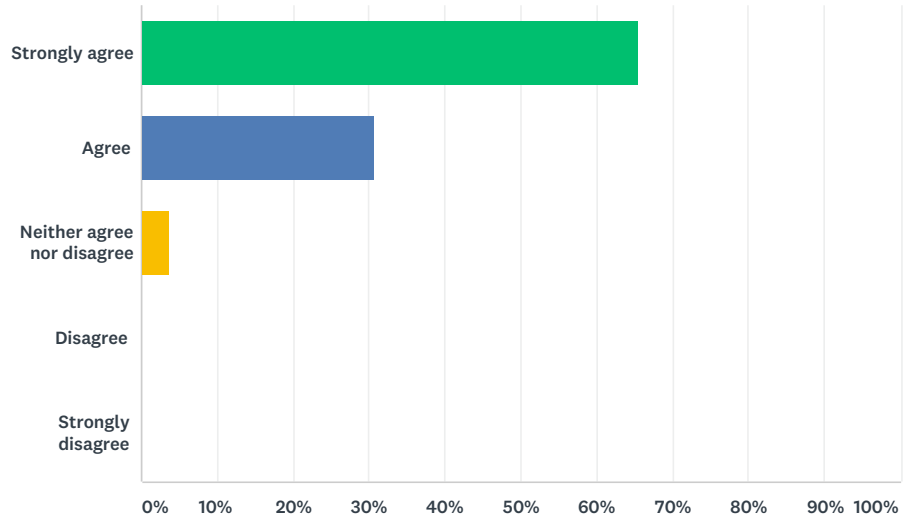
Answered: 27 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly agree	40.74%	11
Agree	48.15%	13
Neither agree nor disagree	11.11%	3
Disagree	0.00%	0
Strongly disagree	0.00%	0
TOTAL		27

Q2 This workshop helped promote networking among groups that may have not previously interacted.

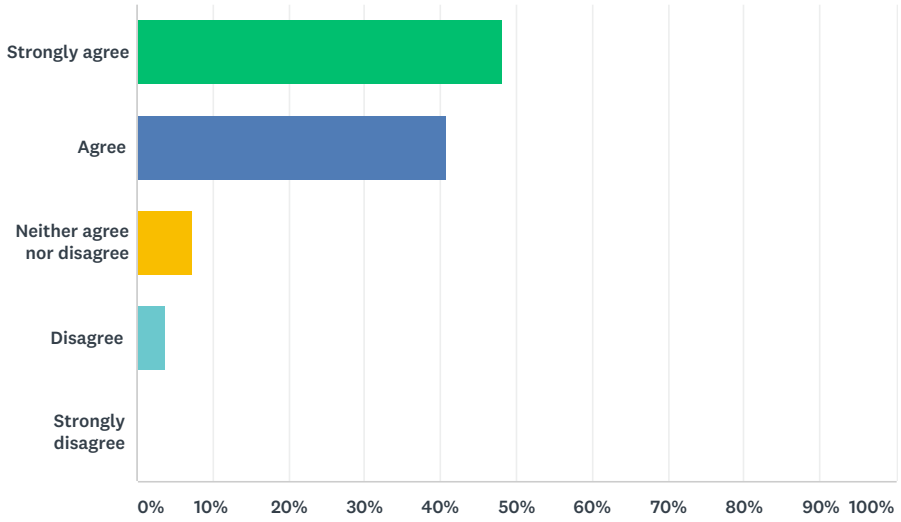
Answered: 26 Skipped: 1



ANSWER CHOICES	RESPONSES	
Strongly agree	65.38%	17
Agree	30.77%	8
Neither agree nor disagree	3.85%	1
Disagree	0.00%	0
Strongly disagree	0.00%	0
TOTAL		26

Q3 This workshop identified regional-level needs and priorities for improving preparedness.

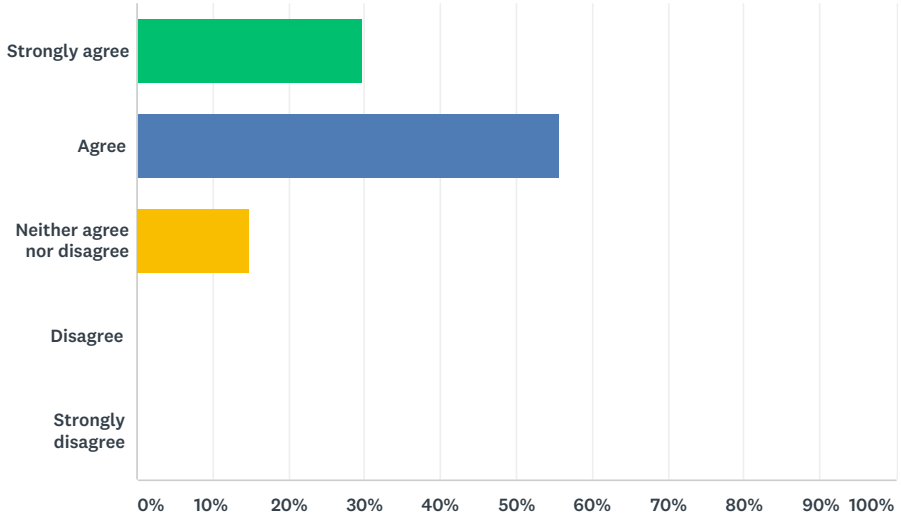
Answered: 27 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly agree	48.15%	13
Agree	40.74%	11
Neither agree nor disagree	7.41%	2
Disagree	3.70%	1
Strongly disagree	0.00%	0
TOTAL		27

Q4 This workshop identified resources to address the issues discussed.

Answered: 27 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly agree	29.63%	8
Agree	55.56%	15
Neither agree nor disagree	14.81%	4
Disagree	0.00%	0
Strongly disagree	0.00%	0
TOTAL		27

Q5 What did you like about this workshop?

Answered: 25 Skipped: 2

#	RESPONSES	DATE
1	It had different people than I normally meet.	3/11/2019 1:42 PM
2	Conmunications!	3/11/2019 1:00 PM
3	I moved to Alaska many years after the EVOS and have not seen first hand the effects of the disaster. I now work closely with the village communities in the Kodiak region, so that workshop provided a solid reminder to me that a disaster could occur at any time and we need to be prepared beforehand.	3/11/2019 11:02 AM
4	Networking opportunities	3/11/2019 10:42 AM
5	I enjoyed the organization of the daily schedules, such as breaking up into groups to discuss in between presentations.	3/11/2019 10:34 AM
6	Good conversations. And while topics and speakers were all carried a similar theme, there was a wide variety of topics that came up.	3/8/2019 10:37 AM
7	Strong engagement from regularly under-served communities.	3/8/2019 7:51 AM
8	It was a great resource for information that I usually don't see in my day to day operations.	3/6/2019 1:14 PM
9	The workshop offered opportunities for me to speak to and learn from several Native Alaskan elders and leaders regarding their particular concerns.	3/5/2019 2:43 PM
10	It was a chance to inform a passionate but largely uninformed audience about existing oil spill response issues, resources, and policies.	3/5/2019 1:15 PM
11	The opportunity to voice concerns for the region I represent to agency and folks who might be able to help better prepare the region.	3/5/2019 9:31 AM
12	It brought folks together from all parts of Alaska to share their local situations and helped others understand what their resources would be in a incident .	3/4/2019 11:09 PM
13	Interacting with others who are concerned about oil spills and learning from each other.	3/4/2019 4:38 PM
14	The community involvement!	3/4/2019 2:37 PM
15	Good mix of people and organizations. Able to network and build new relationships / collaborations. Learning from other groups about their resources, tools, and experiences so we aren't reinventing the wheel.	3/4/2019 2:35 PM
16	I enjoyed the state to state comparisons on what was learned from each spill. I also enjoyed the chance to talk with village representatives and hearing about their limitations in oil spill response and community preparedness	3/4/2019 2:34 PM
17	Networking opportunities Hearing stories from other places Working with the national team Meeting rural Alaskans Listening to Bering Strait Elders Group Lunches	3/4/2019 2:18 PM
18	Workable number of participants so information/observations could be shared. Questions were thoughtful and broad with round table discussion focus for each consistent - brought individual attention to each topic so that instant thoughts and responses received same weight. Good format, good audience, great participants.	3/4/2019 2:04 PM
19	listening to the agenda item(s) and witnessing their first hand experiences and working with the breakout group; and listening to the breakout reports that had similar points. Prevention; Prevention; Prevention.....	3/4/2019 1:40 PM
20	I liked the diversity of participants--including residents of far western AK communities, policy/ management representatives, spill respondents, USCG representation, academia.	3/4/2019 12:15 PM
21	The workshop format was conducive for information sharing. The break out sessions were well organized, although became a little redundant. conversations began repeating but maybe this was useful.	3/4/2019 11:03 AM

22	The region impacted reacted in responsible manner. The experience led to the idea of being prepared. The shipping activity is already happening through Bering Straight at alarming rate. There is no infrastructure in place to respond in timely manner, if there should be any kind of catastrophe such as running aground, or loss of ships power, the resources to counter such instances needs to be in place. It's a disaster waiting to happen.	3/4/2019 10:54 AM
23	combination of speakers and breakout sessions	3/4/2019 10:36 AM
24	The ability to discuss in small groups really encouraged networking and facilitated the sharing of valuable information.	3/4/2019 10:33 AM
25	The opportunity to hear from a variety of community voices.	3/4/2019 10:22 AM

Q6 What could we do to improve this workshop?

Answered: 23 Skipped: 4

#	RESPONSES	DATE
1	I am not sure enough on the desired outcome to make suggestions about how to improve it.	3/11/2019 1:42 PM
2	Visuals for discussion groups	3/11/2019 1:00 PM
3	nothing comes to mind; first workshop on oil spill that I have attended, so nothing to compare to.	3/11/2019 11:02 AM
4	Be more targeted about iutcomes	3/11/2019 10:42 AM
5	A third day would have provided more time for networking among groups.	3/11/2019 10:34 AM
6	Some of the pre-event communication could have been better. IE: get agenda out faster, info on location, etc. With the breakout groups, I would have enjoyed mixing up groups for each session versus sticking with the same group.	3/8/2019 10:37 AM
7	It was a bit long to hold everybody's attention and many folks began to leave before the end on the second day.	3/8/2019 7:51 AM
8	Change improve to build, take some of the topics and try to get more local representatives from communities, or tribal organizations to attend.	3/6/2019 1:14 PM
9	I think there was an assumption about knowledge level for the region going in that I didn't possess. So I'm not sure whether my contribution was very significant.	3/5/2019 2:43 PM
10	Many of the presenters were largely unaware of existing spill response resources.	3/5/2019 1:15 PM
11	Have future workshops that focus on what preventative or response resources are available. Include speakers from an indigenous perspective.	3/5/2019 9:31 AM
12	Take conversation to the greater Alaskan public.	3/4/2019 11:09 PM
13	Southeast Alaska appeared to not be represented whether oil spill responders local to the area or Haida,Tlingit, Eyak, or Tsimshian tribal leadership.	3/4/2019 4:38 PM
14	Having small group discussions is very valuable. However, you should consider mixing up the discussion groups so that we aren't stuck with the same group of people as the ideas can become stale without new people. Logistically it may be a challenge but being able to discuss topics with a wider group of people may make it more productive.	3/4/2019 2:35 PM
15	I would suggest a talk be given on the litigation side of things. It would be interesting to see more on the implications of litigation in regards to public opinion that may or may not believe the science conducted was skewed due to contractual obligations to large companies who have interests.	3/4/2019 2:34 PM
16	Moderate the presentations more strictly to keep speakers on time; increase time for panel/small discussions and decrease time for lectures	3/4/2019 2:18 PM
17	Planning was correct. No need to improve. Good planning team.	3/4/2019 2:04 PM
18	make these types of workshops available in Rural Alaska and bring the Alaska Ruralites to these types of trainings elsewhere. Ground Zero(s)	3/4/2019 1:40 PM
19	I think it would be an important voice to include representatives of the oil companies and to hear a take on what precautions are already in place from that perspective.	3/4/2019 12:15 PM
20	1.5 day would have been enough time for the workshop.	3/4/2019 11:03 AM
21	Have one in Bethel and Nome. Bethel already has significant barge activity as well as Nome. Do communities have realistic response plans and equipment?	3/4/2019 10:54 AM
22	More facilitated discussion around what the speakers presented.	3/4/2019 10:33 AM
23	More discussion time.	3/4/2019 10:22 AM

Q7 Are there individual presentations or speakers you would like to comment on? This helps inform planning for our future events.

Answered: 20 Skipped: 7

#	RESPONSES	DATE
1	No	3/11/2019 1:42 PM
2	No, good mix of presenters/speakers	3/11/2019 11:02 AM
3	No	3/11/2019 10:42 AM
4	Enjoyed the economist Gunar Knapp. Would have been nice for USCG to stick around for day two of the event and not leave. Enjoyed the Liesel Ashley Ritchie talk. Scott Pegau's talk on fishing permit values and economics of the herring run was interesting.	3/8/2019 10:37 AM
5	everyone shared good information.	3/6/2019 1:14 PM
6	How subsistence resources were used was very informative; as well as presentation on data gathering tools (AOOS) and other social media tools that were available to enhance communication and gather local knowledge.	3/5/2019 2:43 PM
7	The RCAC groups were extremely informative.	3/5/2019 9:31 AM
8	There was value from all speakers.	3/4/2019 11:09 PM
9	I felt that the individual presentations and speakers were extremely beneficial. However, I would like to have heard from other tribes as to what their concerns are with regards to oil spills and recovery.	3/4/2019 4:38 PM
10	Getting speakers from outside of the state / region was very helpful as it shows what can / has been done elsewhere so we can apply it here in Alaska. Showing new tools and what's available from the feds helps inform what we can do here. DR2 toolkit seems to be very useful for researchers and emergency responders to get more relevant information.	3/4/2019 2:35 PM
11	I really enjoyed everyone who spoke on the social impacts of communities and especially the speech on Lessons learned from Gunnar Knapp.	3/4/2019 2:34 PM
12	Jim Lima's talk about the Selendang Ayu oil spill was informative and well delivered.	3/4/2019 2:18 PM
13	Perhaps a political way forward - either with legislation, academic study requirements/options. A whole gamut of topics needs to be included: community values, community planning, incident command process, resources list - following the disaster book, civics understanding - legislative process (local and regiona), and how to recruit volunteers, hold work groups.	3/4/2019 2:04 PM
14	The presenters were great; their power point presentations should be afforded handouts to the participants.	3/4/2019 1:40 PM
15	I have provided notes on presentations/ speakers to Davin already.	3/4/2019 12:15 PM
16	Hopefully the presentations become available on line.	3/4/2019 11:03 AM
17	I would like to see a presentation that is related to the region. Shoreline is different, from one region to region. For example northern region is similar to gulf region. Yukon/Kuskokwim region is more on shallow, and possibly challenging, if anything should happen.	3/4/2019 10:54 AM
18	Excellent combination of people sharing their "stories" and sharing latest information/science.	3/4/2019 10:36 AM
19	All really great! Perhaps would have benefited from more industry participation - a community outreach person from an oil company could provide a viewpoint that wasn't present this time.	3/4/2019 10:33 AM
20	It was great to hear community voices, those that experienced events or have concerns about potential events in the future.	3/4/2019 10:22 AM

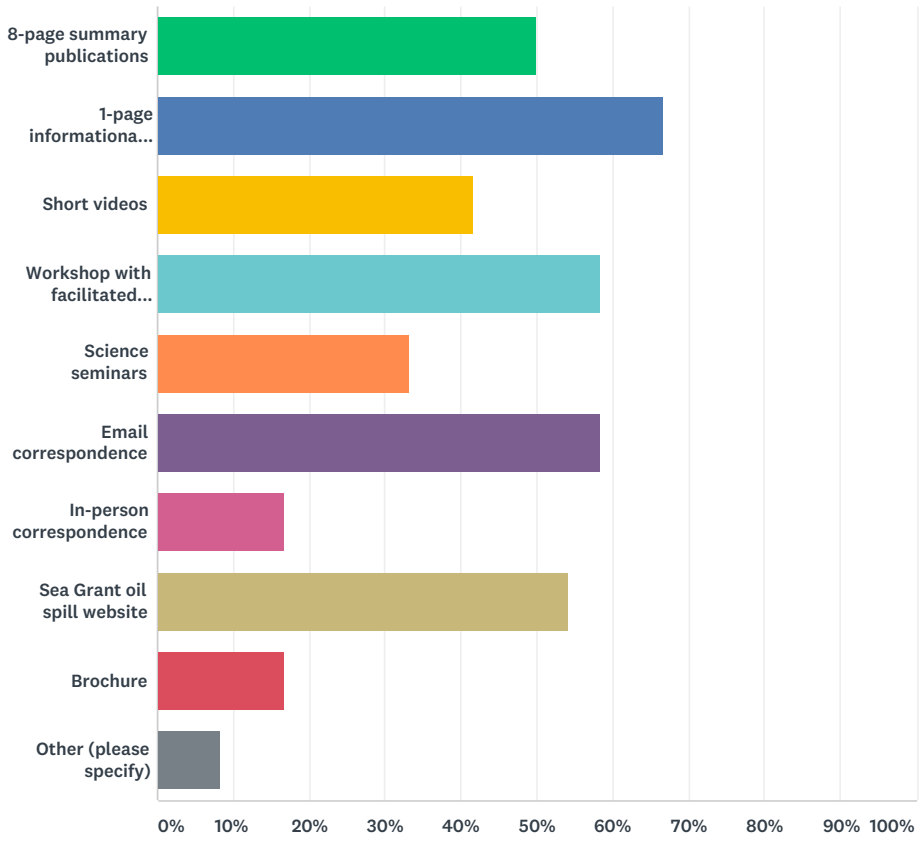
Q8 What specific questions do you continue to have about oil spills, planning and response, and public health related topics?

Answered: 18 Skipped: 9

#	RESPONSES	DATE
1	How to get the information really needed to learn about the impact to human health.	3/11/2019 1:42 PM
2	Cultural issues are extreme!	3/11/2019 1:00 PM
3	I have been thinking about whether a BIA resilience program could work to fund a coordinator type of a person so support preparedness for the Kodiak region.	3/11/2019 11:02 AM
4	How western and northern Alaska will be prepared	3/11/2019 10:42 AM
5	none	3/6/2019 1:14 PM
6	I hope it will be possible in the future to better integrate and apply scientific research before, during and after a response.	3/5/2019 2:43 PM
7	How can rural coastal communities better prepare for possible technological disasters.	3/5/2019 9:31 AM
8	Western Alaska is a huge, vulnerable area with no response infrastructure. What is the plan for a worse case scenario spill for response and community support? Reality here.	3/4/2019 11:09 PM
9	Nothing at this time.	3/4/2019 4:38 PM
10	Whens the next meeting to implement some of what we learned here at this workshop? There's a lot more that can be done to improve preparedness and gather relevant information for research like the DR2 toolkit.	3/4/2019 2:35 PM
11	How well will my town react to the incident command post and will there be to many people overlapping? will my towns medical facilities and staff be adequate?	3/4/2019 2:34 PM
12	Can we use models of communication from other disasters even if they are natural. For example, responses to wildfires have communication protocols that may be useful for oil spills. Some wildfires are human caused.	3/4/2019 2:18 PM
13	How can we get the "tent for preaching the gospel"? Get the word out before a crisis arises.	3/4/2019 2:04 PM
14	The oil spills are a living example of what could happen with projects; especially the disasters that are imminent with open pit mines that are proposed in Southwest Alaska.	3/4/2019 1:40 PM
15	There seems there are many gaps in response in western Alaska and I am not confident that community needs will be heard or addressed.	3/4/2019 11:03 AM
16	How will it affect environment, both in terms of sea mammals, fish, and waterfowl?	3/4/2019 10:54 AM
17	How the problems identified might help us learn lessons about developing energy systems in the post-oil era. For example, legal issues, etc. with NEPA that might continue to be an issue regardless of whether it's oil or wind...	3/4/2019 10:33 AM
18	What is the preparedness level for Alaska.	3/4/2019 10:22 AM

Q9 How do you wish to receive the latest oil spill information? (Check all that apply).

Answered: 24 Skipped: 3



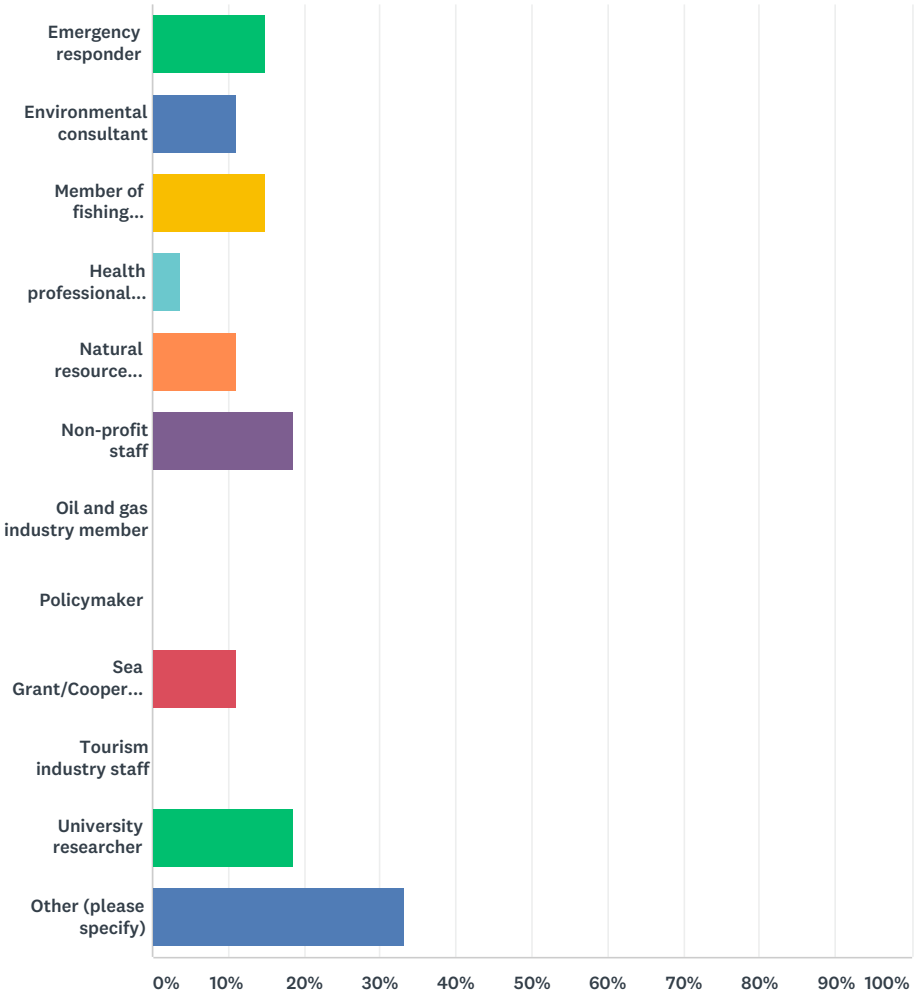
ANSWER CHOICES	RESPONSES	
8-page summary publications	50.00%	12
1-page informational sheet	66.67%	16
Short videos	41.67%	10
Workshop with facilitated discussions	58.33%	14
Science seminars	33.33%	8
Email correspondence	58.33%	14
In-person correspondence	16.67%	4
Sea Grant oil spill website	54.17%	13
Brochure	16.67%	4
Other (please specify)	8.33%	2

Total Respondents: 24	

#	OTHER (PLEASE SPECIFY)	DATE
1	Any of the above are acceptable. I think it would be useful to include local media--I know there was at least one piece put into the Cordova newspaper and I would be willing to compose for other small/ mid-size communities in AK but was not able to do so within appropriate timing for this event.	3/4/2019 12:15 PM
2	Media:newspaper through local regions.	3/4/2019 10:54 AM

Q10 How would you best describe yourself?

Answered: 27 Skipped: 0



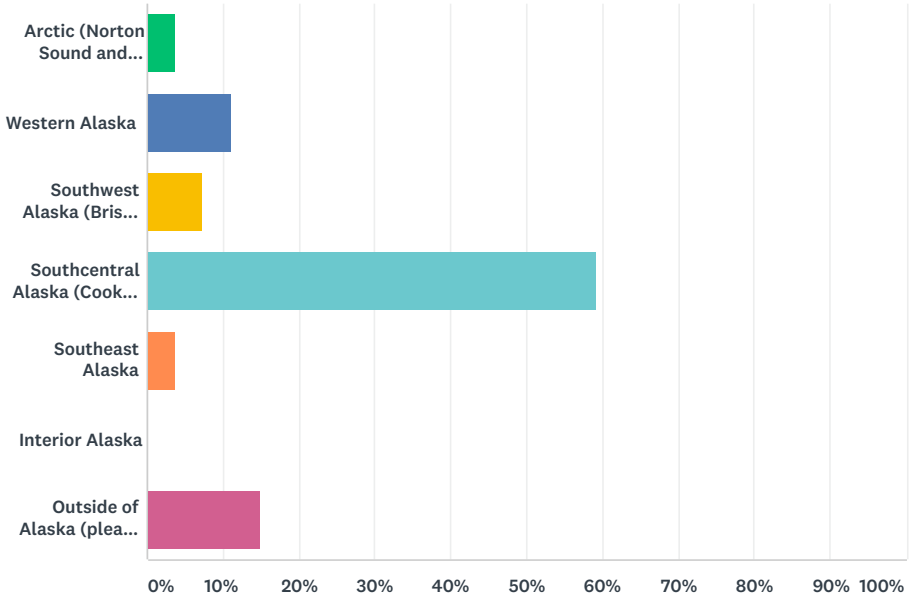
ANSWER CHOICES	RESPONSES	
Emergency responder	14.81%	4
Environmental consultant	11.11%	3
Member of fishing community or industry (commercial, for-hire, recreational, subsistence)	14.81%	4
Health professional (clinical or community)	3.70%	1
Natural resource manager	11.11%	3
Non-profit staff	18.52%	5
Oil and gas industry member	0.00%	0
Policymaker	0.00%	0

Sea Grant/Cooperative Extension agent	11.11%	3
Tourism industry staff	0.00%	0
University researcher	18.52%	5
Other (please specify)	33.33%	9
Total Respondents: 27		

#	OTHER (PLEASE SPECIFY)	DATE
1	Economic Development	3/11/2019 11:02 AM
2	Ocean observing	3/11/2019 10:42 AM
3	Spill response consulting	3/8/2019 10:37 AM
4	Director of Public Outreach	3/5/2019 2:43 PM
5	Retired Mariner trained in oil spill responce	3/4/2019 11:09 PM
6	Invited experience with EVOS and GOMOS victims	3/4/2019 2:04 PM
7	Alaska Native with close ties with the land and the sea.	3/4/2019 1:40 PM
8	Concerned coastal community resident. Volunteer researcher.	3/4/2019 12:15 PM
9	Village leader	3/4/2019 10:54 AM

Q11 Which area of Alaska do you live or work in?

Answered: 27 Skipped: 0



ANSWER CHOICES	RESPONSES	
Arctic (Norton Sound and north)	3.70%	1
Western Alaska	11.11%	3
Southwest Alaska (Bristol Bay and Aleutians)	7.41%	2
Southcentral Alaska (Cook Inlet and Prince William Sound)	59.26%	16
Southeast Alaska	3.70%	1
Interior Alaska	0.00%	0
Outside of Alaska (please specify)	14.81%	4
TOTAL		27

#	OUTSIDE OF ALASKA (PLEASE SPECIFY)	DATE
1	Oklahoma	3/11/2019 10:34 AM
2	Gulf South	3/8/2019 7:51 AM
3	Oklahoma	3/4/2019 2:37 PM
4	Gulf of Mexico	3/4/2019 10:36 AM

Q12 We will be following up with workshop participants within the next year to help us determine the effectiveness of our workshop series. Are you willing to be contacted to answer a few survey questions? Identifying information (name, contact info) will be kept confidential. Is so, please leave your name and email here.

Answered: 17 Skipped: 10

ANSWER CHOICES	RESPONSES	
Name	100.00%	17
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	17
Phone Number	0.00%	0

#	NAME	DATE
1	John M Kennish	3/11/2019 1:00 PM
2	Tyler Kornelis	3/11/2019 11:02 AM
3	Martha Sibley	3/11/2019 10:34 AM
4	Jeremy A Robida	3/8/2019 10:37 AM
5	Missy Partyka	3/8/2019 7:51 AM
6	Matt Melton	3/6/2019 1:14 PM
7	Lynda Giguere	3/5/2019 2:43 PM
8	Rick Bernhardt	3/5/2019 1:15 PM
9	John Orr	3/5/2019 9:31 AM
10	Robert Archibald	3/4/2019 11:09 PM
11	Allison Natcher	3/4/2019 4:38 PM
12	jocelyn Layte	3/4/2019 2:34 PM
13	Patience Andersen-Faulkner	3/4/2019 2:04 PM
14	Richard B. Slats	3/4/2019 1:40 PM
15	Emilie Springer	3/4/2019 12:15 PM
16	Julie Matweyou	3/4/2019 11:03 AM
17	Fred Phillip	3/4/2019 10:54 AM

#	COMPANY	DATE

	There are no responses.	
#	ADDRESS	DATE
	There are no responses.	
#	ADDRESS 2	DATE
	There are no responses.	
#	CITY/TOWN	DATE
	There are no responses.	
#	STATE/PROVINCE	DATE
	There are no responses.	
#	ZIP/POSTAL CODE	DATE
	There are no responses.	
#	COUNTRY	DATE
	There are no responses.	
#	EMAIL ADDRESS	DATE
1	kennish@live.com	3/11/2019 1:00 PM
2	tyler.kornelis@kodiakhealthcare.org	3/11/2019 11:02 AM
3	martha.sibley@okstate.edu	3/11/2019 10:34 AM
4	jeremy.robida@pwsrcac.org	3/8/2019 10:37 AM
5	m.partyka@auburn.edu	3/8/2019 7:51 AM
6	mmelton@chadux.com	3/6/2019 1:14 PM
7	giguere@circac.org	3/5/2019 2:43 PM
8	rick.bernhardt@alaska.gov	3/5/2019 1:15 PM
9	jorr@avcp.org	3/5/2019 9:31 AM
10	robert.e.archibald@gmail.com	3/4/2019 11:09 PM
11	allison.natcher@alaska.gov	3/4/2019 4:38 PM
12	jocelyn@cdfu.org	3/4/2019 2:34 PM
13	andersenpatc@ctcak.net	3/4/2019 2:04 PM
14	rbslats@yahoo.com	3/4/2019 1:40 PM
15	esspringer@alaska.edu	3/4/2019 12:15 PM
16	jamatweyou@alaska.edu	3/4/2019 11:03 AM
17	phillipfredkavlak@yahoo.com	3/4/2019 10:54 AM
#	PHONE NUMBER	DATE
	There are no responses.	

Q13 Please provide any other ideas, comments, questions, or feedback you may have.

Answered: 13 Skipped: 14

#	RESPONSES	DATE
1	I am located in Kodiak, which I think should be included in the Southwest Alaska area.	3/11/2019 11:02 AM
2	None	3/11/2019 10:42 AM
3	Thanks for the hard work in pulling this together.	3/8/2019 10:37 AM
4	my hope is that we can grow this program and find ways to get information to more communities.	3/6/2019 1:14 PM
5	I suggest, if possible, changing out the breakout groups at least once so that we can participate with a variety of people. We had a very small group which seemed to gravitate toward the philosophical rather than practical when it came to discussing solutions and ideas.	3/5/2019 2:43 PM
6	Lets find out what dispersants are really doing to the marine environment.	3/4/2019 11:09 PM
7	Thanks for all of the hard work.	3/4/2019 4:38 PM
8	Good organization in a nice space. Lunch wasn't the greatest but the conversations with everyone was good. Nice mix of people. Great work overall!	3/4/2019 2:35 PM
9	I also work with the Louisiana tribes (6) concerning impacts on their culture.	3/4/2019 2:04 PM
10	i wish to also be considered to work with and participate in more Oil Spill Workshops to campaign against open pit mines and their dangers.	3/4/2019 1:40 PM
11	I am interested in responses to this questionnaire.	3/4/2019 10:54 AM
12	Thank you to AK SG and Davin for leadership.	3/4/2019 10:36 AM
13	Thank you, it was a really great workshop! Hope you host it again.	3/4/2019 10:33 AM

APPENDIX D. BREAKOUT SESSION NOTES

BREAKOUT SESSION 1: MONITORING AND RESEARCH TO BUILD RESILIENCE IN LOCAL ECONOMIES

Suggested Protocols – What are some suggested protocols to include in existing response and regulatory frameworks that would help build economic and social resilience to future events? Probes: What should be included in the planning process? Are there already any local or regional emergency response plans or frameworks that address economic issues during and after oil spills? If so, what are they? Are they effective? Who is involved? If not, why not? Should the process of compensation be included in preparedness and planning for economic resilience?

Group 1

- There's not a clear understanding of rural economies
  - Need better economic data at the local level (better baseline). Census data are not enough.
- Make it a requirement in contingency plans to establish a baseline for economic data.
- Who can improve/establish a baseline for economic data?
  - Alaska Department of Commerce, Community, and Economic Development could do this through their community profiles
  - North Pacific Fisheries Management Council has some data
  - CDQ
  - NOAA offices
  - Boroughs (if community is in a borough)
  - Chukchi communities used census data in some reports
  - North Slope Borough planning department (for NSB-related issues)
- Levels of economy: villages, towns, cities, borough → each has unique challenges
- Educational perspective needs to be considered in protocols (i.e., western vs. Indigenous Knowledge systems)
  - Rural educational opportunities and economic considerations are different
  - Less formal discussions are needed (more interesting and draws larger variety of people)
- Need to increase discussions with local people to better inform economic discussions
- Do communities respond alone or do they have help?
- How do you put a price on subsistence?
- Limitation: capacity within healthcare organizations for a response

Group 2

- Baseline economic research for both individuals and communities, including number of permit holders, subsistence use, etc.

- USCG should join in local community planning efforts to educate them about unified command structure
- More help for very small rural communities
- Individuals need compensation, but community also needs it for direct costs (more porta-potties, etc.)
- Identify a person to deal with volunteer management (look to BC States Task Force Manual)
- Train spill management personnel in rural Alaska communities and how they work
- Changes to new shipping routes to stay as far from coast as possible

Group 3

- Go to the people in the community first and seek their opinion. If you approach a community with a plan already devised that doesn't consider their input, they won't be receptive.
- Feds have an economic recovery framework/protocol and fund, but the state doesn't have a parallel program which delays the claims settling process.
- Coastal community program addressed this previously, but it has been disbanded. That was a good link to the community and should be revitalized.
- State and federal level scientists overlook traditional knowledge, elders in community should be approached. This also legitimizes outreach efforts in the eyes of the community.
- Rules for response are generated in a top down fashion, we should work bottom up (community level) and evaluate sub-pops that would be most immediately and severely impacted by the spill.
- Add plans for economic resilience into area C-plans and SCERPS.
- Make sure people understand the claims process, it can be very confusing and is often a very foreign process to community members (that appears straightforward to government employees used to bureaucracy).
- Must make sure all information is being communicated in a way that is best for the affected community- which may be radio, social media, etc.
- The economy in many Alaskan community isn't necessarily money –based, so protocols for economic resilience should consider bartering, trade, sharing, etc. Most paradigms address these questions for the lower 48, but not necessarily here.
- Elders' voices are more powerful in these communities than state authorities. The tools and resources we need to be using in the communities are already present in the form of elders.
- Communities need a way to communicate their needs to decision makers. Tribes have authority to request an audience with the federal employee directing the response, and they should be made aware.
- System-wide change to represent marginalized and diverse communities must occur.

Group 4

- Identify qualified individuals and businesses that may respond to a spill and train them in how to become "certified" to respond.
- Provide assistance to ready/equip responders.
- Develop a list/organize who is able to respond and in what capacity.

- Build capacity for locals to respond.
- Job training, vocational training in spill response.
- Early information to residents so they know how to respond.
- "Prenup" idea, standards in compensation: work out the details beforehand re: who will do what jobs, who wants to work for response and cleanup for pay? Who does not want to be involved? Establish minimums ahead of time so everyone knows there is at least minimum compensation
    - What are we going to throw money at?
    - How to mitigate income loss?
    - Can we set up an institution beforehand to administer who does what, what gets funded, who gets paid, how do we pay for administration of response
    - Industry should establish coops
        - Follow Alyeska fishing vessel program example for training and compensation
- Preparation for influx of new incomers/newcomers
    - Planning for housing
    - Planning for influx of cash, etc.
- Form cooperative agreements
- Funding mechanisms/alternatives in addition to what now exists
    - Show value added, fraud prevention,
    - OSLTF example

Pilot Projects – What pilot project ideas do you have that would contribute to building economic and social resilience? Probes: How do we enable communities to maintain economic resilience during and after an oil spill? What would an effective compensation process look like to you? What would it involve? Who would need to be involved?

Group 1

- Need a project to look into the value of subsistence resources.
- Need a project to determine which questions should be asked.
    - What should communities ask?
    - What should responders ask?
        - Some ideas: Who in community do they talk to? What are the important resources? What do you want protected the most? Do our plans make sense to you?
- Can existing work with whaling communities be modified to work for other communities that do not have similar relationships in place with industry?
- Set up cultural education/awareness orientation for OSRIES? [I'm not sure what that acronym stands for or if I wrote it correctly]

- What are the economic and subsistence resources in each community? Where are they? What seasons are they most important/present?
    - Need to establish a consistent baseline with trend data and a place to compile data from various agencies.
- Ways to utilize LEO Network to report things during a spill?

Group 2

- "Socioeconomic contingency plans" for communities.
- Education for general public on what unified command is and how it works.
- Baseline information collection on traditionally-held knowledge about local subsistence food resources.
- Oil spill response related tourism infrastructure (to act as a "lessons learned").
- Collect baseline individual and community health information.
- Create a basic primer on legal issues during a spill or identify a point person or resource for this in communities.
- Training in setting up basic emergency response networks in very small communities.

Group 3

- What would a local/tribal response team look like?
    - How would it be set up?
    - What would be their roles? Where, When?
- How to establish local teams; how to train local teams
    - Use the Coast Guard as a resource
- How to diversify local economics
    - Training
    - Community programs
- Develop database of existing resources, audit resources every year for what is available for response.

Research and Outreach – What are the research and outreach priorities for building economic and social resilience? Probes: What factors need to be studied to improve economic and social resilience? What information is needed to improve the compensation process? What are the outreach or engagement needs for improving economic and social resilience?

Group 1

- How do you put a value on subsistence?
- Capacity to respond at community level.

- Need to improve collaborations with communities, don't want to just come in and tell them what to do from an outsider's perspective.
- Need to clarify jurisdictional issues.
- Communication centers can contact hunters in the field.
- Better communication from state/federal level to local levels, including communication protocols and ensuring follow up.
    - State and federal agencies need help figuring out who to talk to and best communication strategies.
    - Sharing of lessons learned from communities with experience in these types of communications related to oil spills to communities that do not have this experience.
- Need better connectivity (better internet connections).

Group 2

- Collect daily statistics on use of services/resources in communities.

Group 3

- What has occurred in/for previous spills/tech disasters
    - Success/failures
- Baseline data studies in economics, health, subsistence for communities where it is lacking or very dated.
- Assess where $ can be best spent
    - Reinvest in communities and local programs
    - Track the spending/follow the $
- Which segments of communities are most vulnerable and need support and assistance due to lack of family resources?
- How can climate change resiliency be applied to tech disasters?
- Study of Tank Farm (diesel fuel) in local communities for maintenance: Denali Commission

Current Available Resources – What resources are currently available that can aid communities or individuals in maintaining economic and social resilience? Probes: Are there programs or organizations that can help? Other tools or services? When are they available- before, during, after a spill?

Group 1

- Existing community groups but note that key community leaders may be pulled away.
- Spill drills can be expanded to more communities.

- "Coping with Technological Disasters Guidebook" – needs to get in more hands
- Social media can be used to get information out.

Group 2

- Experience and knowledge are ingrained in communities but not necessarily collected.
- Area contingency plans: Coast Guard and DEC request input
- Using DEC geographic response strategies and environmentally sensitive areas can help with preparedness efforts.
- Need collaborative, multi-agency teams
    - If these teams exist, there needs to be better communication with all levels, especially with communities.

Group 3

- Coast Guard
- State coastal zone plans
    - Needed in Alaska
- Alyeska coop for fishermen
- Local fire departments and police
- Municipal coops for response
- SOA DEC containers, booms, other equipment
- Family
- Support groups
    - Church
    - Service groups
    - Tribal councils
- Regional/state/national sources of support

BREAKOUT SESSION 2: EFFECTIVE INTEGRATION OF HUMAN HEALTH AND COMMUNITY WELL-BEING INTO LOCAL AND REGIONAL RESPONSE PLANNING

Suggested Protocols – What are some suggested protocols to include in existing response and regulatory frameworks that could integrate human health, community well-being, and social dynamics into response planning? Probes: What protocols would you suggest to improve the integration of human dimensions into response planning? When planning for a response to a spill, what should be considered in terms of human well-being? Who would be involved in these protocols? Do these protocols include formal adoption by Regional Response Teams (RRTs) or local Area Contingency Plans (ACPs)?

Group 1

- Emergency response meetings – need to be done regularly
    - Scheduled so people remember the info
- Establish community level training for first responders
- Health study – who was there/what was their exposure (not just working responders)
    - Doing right monitoring (e.g., particulates that cause burns)
    - Get in as fast as possible once hits
- Ethical component – IRB, how to make sure to include disaster response
- Streamlining federal red tape for social science research
    - Office of management and budget
- Locals will respond, even if not trained
- In small communities – expecting too much to require people to fill multiple roles, get multiple certifications, etc. (capacity issues)
    - What if out of town?
    - What about compensation for services?
- More information needs to be put out to rural communities in ways they utilize
    - Brochures may not be needed in Anchorage where people are directed to go online, but in villages where the internet is not reliable that may be the preferred method of info distribution
    - Who will keep information up-to-date?
- Need for state/tribal entities to coordinate – ensure no duplication and share resources
- Need to determine what will be done with the health info once its collected

Group 2

- Communities and regions: What works well in one may not in the other?
    - Activity varies between communities.
    - Posted meeting announcements don't always get people in the room.
    - Need more community involvement.
    - More needs to be done outside of what the Community Heath Aid (CHA) can do (they are mostly only medical).
    - Plans need to be specific to the type of emergency.
    - Grass roots efforts need to guide the plan.
    - Applied Intervention Skills Training, Community Readiness (where do people go, suicide information, what to do, etc.). These types of programs are only available if court-appointed.
- Unified Command is guarded with their information, especially in the first few days of an incident. So very limited information that is available to communities. Misinformation spreads as a result, leading to health impacts. Should have someone well-connected to communities stationed within JIC (Joint Information Command).

- Educate the Unified Command/Incident Command. People can be trusted to use incident information. "disaster myths". Restrictions on what can or can't be said leads to problems.
- Need tribal liaison within formal response framework.
- Challenge in that you never know what conditions the incident will offer- where, who, when- so broad language in ACPs will allow flexibility.

Group 3

- Incorporate baseline info into response protocols (health data)
- Establish a muster point/area for residents and communicate location to residents; set meeting places
    - Multiple languages
    - Cultural appropriateness
    - Tsunami example
- Personal emergency guidebook
    - e.g. Anchorage municipal guidebook
- How and where to provide seafood safety alerts; warning information
- Practice drills/role play in communities to help locals understand what happens during response
    - Within ICS structure?
    - Outside ICS structure?
    - Include health professionals
    - Local healthcare facilities
- Develop/establish mechanisms to inform residents how they can provide input on health and how they can get news back from ICS
- ICS visits communities to learn what capacities exist (2-way communication)
    - Support networks
    - Healthcare resources/facilities
- What are community values and priorities regarding care of oiled animals?
- ICS/response teams bring some resources/dispose of cleanup related wastes
    - Local coordination
    - Temporary storage/disposal of wastes
    - What is HAZMAT capacity of local communities?

Group 4

- Getting the input of elders when developing and improving regional and area plans.
- Baseline studies should be available in these communities, implement HIA process and biomonitoring (in subsistence foods).
- Contingency plans must do a better job of outlining plans for spills, not just how they will prevent them. This comment should be made when cooperating agencies are conducting EIS reviews.

- Network with other communities who have been through similar traumas for support
- A liaison between community members and response officials is needed who understands both sides of the issues. This will help community members know how to find answers and help inform responders.

Group 5

- Further develop/explore volunteer policy/opportunities to support local business and city government.
    - Basically, how can we use volunteers to keep essential small-town services functional?
    - Many will want to volunteer with clean-up efforts, but is there a way to funnel this interest into keeping essential shoreside good and services, as well as city government running smoothly?
- Better educate the IMT based safety point people on socio-economic and psychological effects of a spill. These safety folks are generally tasked with responder safety and well-being, but if there was a point person(s) embedded within the IMT managing and working with stakeholder mental and community health concerns as well, that would be a positive.
- Gather better baseline mental-health and socio-economic data on community's pre-disaster.
- As soon as an event occurs, try to move PWSRCAC's Coping with Technological Disasters Guidebook to those affected. PWSRCAC's "Peer Listener Training" would also be another resource which should get out to those affected as early as possible.

Pilot Projects – What pilot project ideas do you have that would effectively integrate human health, community well-being and social dynamics into response planning? Probes: If public health or community well-being monitoring programs or plans do not exist in your community, what kind of program would you create? Who/What organizations should be involved? How can this be folded into existing emergency response plans, both in the short term and long term? What barriers exist?

Group 1

- Pre-health study as don't know when a disaster will happen
    - Focus on SERVS fishing vessels?
        - On contract to respond, large group, together annually for training and could survey during those sessions
        - Potential health education/risks opportunity
    - Also OSRO contractors
    - Incorporate into HAZWOPER training? (as potential survey pool and/or include info in training)
- Identify organizations already engaged to determine if they have capacity and/or see it as a priority.

Group 2

- Need to develop "Small Community Emergency Response plans". There is a point of contact at the DEC and ANTHC that could help develop those plans based on community wants & needs.

Group 3

- SWOT analysis of existing resources and capacity to rescue/recover oiled marine mammals
    - Need agencies to be honest about limitations in ability to save many large animals
- Pre-event runs of response scenarios with stakeholders
    - How to do it?
    - What are the objectives?
    - What are the desired outcomes?
- RUBA example: rural utility business advisors (could also be a change to protocols)
    - Use this model to build capacity for local community response
    - Statewide coordination
    - Regional representativeness
    - Hot to incorporate RUBA into protocols
- Community well-being in north and elsewhere is related to animal oiling/mortality
    - What is the number of animals that can be rescued and actually recover?
        - How many will be euthanized?
- Survey community members to see what skills needed in the response are already present (like health care professionals, counselors, etc.)
- Assemble a GRID database that incorporates a list of resources available at the community level, up to the state government level. This will help all parties know where to look for information and facilitate bi-directional communication.

Group 4

- Have additional staff within the PIO and LIO sections of the IMT specifically keyed into and tracking affected stakeholder mental, socio-economic, and community health concerns.
- Use of silicone wrist bands to measure exposures in public populations. Better track exposure and long-term.
- Community trainings aimed at building general response readiness; courses in basic first aid, disaster preparedness, courses on how to build a "to-go-bag" for evacuation type scenarios, ICS basics, disaster policy and planning, etc. Attempt to target a younger audience with these training opportunities and instill a general preparedness mindset.
- Conduct a Health Inventory Assessment (HIA). Attempt to pull the community into these discussions and evaluate/inventory local the health resources capacity. For example, try to quantify medication needs of a given community, and how normal supply chains might be disrupted.

Research and Outreach – What are the research and outreach priorities for integrating human health, community well-being, and social dynamics into response planning? Probes: Is human dimension research included (physical, mental, social, economic etc.) in emergency response planning? Is human dimension research involved during and after a response? What research information is needed to effectively integrate human dimensions with local and regional response planning? What information gaps exist? Is outreach and engagement needed? How so? Who needs to be involved? What barriers exist?

Group 1

- Limitations going in
    - Need community buy-in
    - Get health professionals to conduct
        - There seems to currently be a reluctance to do health assessment process but need info (baseline) before something happens
- Does the community have the resources and supplies?
    - Lack of fresh water and food source could amplify disaster – what would be done to replace?
- No outreach is happening.
- No landlines in small communities, they watch the news for info. Coastal villages need access to emergency related meetings or information.
- For remote villages/communities, attending Alaska Regional Response Team (ART) meetings via teleconference technology doesn't work – usually the sound systems fail. Alaska is huge a huge area, how to get everyone to ART meetings, get them involved?
- Regional Corporations have resources and connections, as do Borough planning departments, whom have paid full time staff that are supposed to connect communities with information. ART should coordinate with Boroughs, Regional Corporations and Associations and share meeting announcements. Some Regional Corporations and Associations are: AVCP in the YK Delta, Kawerak in Nome, BBNA in Dillingham, Manilliq in Kotzebue, ICAS in Utqiagvik.
- Community resilience activities should be focus, or efforts should be reframed as community resilience (without losing oil spill preparedness as major aspect of resilience). Re-framing it could be helpful in getting people involved, incentivizing people to be part of the planning process.
- We are sitting ducks in that we don't have a simple plan, or base. We have small clinics, local schools, as our base of operations. Some communities don't have any plans at all. There are geographic challenges. Different agencies have different ways of doing things.
- Need local training opportunities for villagers for all types of emergencies. Firefighters already regularly visit some villages to train them, perhaps incorporate other types of emergency trainings for villagers.

Group 2

- Studies on emerging diseases, disorders, conditions in communities
    - Birth defects (e.g. down's syndrome)
    - Immediate vs long-term health effects

- Assessment studies of how response would tax local resources
    - Fuel
    - Food
    - Waste disposal
    - Lodging
    - Landfill limitations to prevent leaks and groundwater pollution
    - Good baseline data on communities
    - What do we need?

Group 3

- Improve community profiles and engage leaders. There is no one size fits all approach in villages, culture is unique to the village.
- Put community well-being and health as a line item in C-plans so it ends up being part of the response (funded by the RP).

Group 4

- Need to keep the "Community Profiles" within Area Plans (sections 9200 and on) up to date. Is there a more efficient way for a community to do this on their own, a way for an area plan to misinformation via other data sources (census, given municipalities website, etc.). The process of keeping community profiles up to date seems more Area Planning Committee drive/centric, but often agency budgets and workload (not enough $, too much work) mean these planning documents are not up to date.

Current Available Resources – What resources are currently available that aid in the integration of human health, community well-being, and social dynamics into local and regional response planning? Probes: Are there people, organizations, tools, services, meetings, centers/clinics, etc. that could be considered as resources? If none are available, what resources would be on your wish list?

Group 1

- State resources – has communications issues (discussed in breakout session 1)
- Tribal health
- Start work/coordination at state/tribal level, then move to federal
- Lots of lower 48 examples, but can they be modified to work for Alaska, especially regarding subsistence/cultural issues.
- Different agencies that already exist in communities
- Wish list

- Funding to support these issues
- Improved communications

Group 2

- EPA funds the IGAP – Indian General Assistance Program – has environmental coordinators (about 1 or 2 per community). This IGAP program is unique in Alaska; AK has more IGAPs than any other US state. EPA also funds the Tribal Response Program- a Brownfields Program to establish or enhance activities.
- Peer Listening Training programs are low cost, includes actual training for much more than just technological disasters/spills. Gets into health, mental health. Around 100 to 300 people have been trained in peer listening. Could be expanded. Should do post-training follow-up though pending associated funding. Last time trainings occurred was about 2 years ago, via RCAC.
- Community Health Aids (CHA) – they are overworked because they wear so many hats but are available to communities and well-known point of contact even in remote communities; regarded as the "doctor in the town". Sub-regional representatives.
- Alaska Native Tribal Health Consortium (ANTHC)
- ASSIST [acronym] could be useful. Money is limited, so people who are trained via ASSIST can't afford to go to other locations to help. IGAP could be used to build capacity? IGAP could be used to purchase equipment. Shared resources.
- Local Environmental Observer platform/app developed by ANTHC – it allows people to report environmental concerns they see/observe/encounter. Others can view the report, including scientists and managers which is helpful for them as they need more local info. It includes a map where incidents/areas of concern are located. The app is called "LEO Network" and can be downloaded to smartphones.
- NOAA-ERMA (Environmental Response Management Application): open source information for federal, state, local response strategies, natural resource information. ERMA is designed for responders but can be used everyone. It's like using Google Maps. Lots of info but finding geographic response strategies that could be helpful. Community/local feedback to ERMA is always welcomed. There is an Arctic-ERMA.

Group 3

- Coast Guard
- DHSS for State of Alaska
- Regional hospitals
- Medivac to Anchorage/Seattle
- Regional stakeholder committee on ICS (interface role)
- Traditional knowledge
- Local resources
  - Search and rescue
- DEC

Group 4

- Devise a way to better integrate Local Emergency Planning Committee (LEPC) functions (and what's more natural disaster planning) with Area Committee planning (which is more hazmat and spill response, OPA90). Often communities have functional LEPC bodies standing up, and ADEC and the USCG should insert themselves there, versus expecting LEPC type folks to show up at their Area Committee meetings. Basically, work to bridge these policy bodies and get them talking more.
- Inventory communications and bandwidth capacities in a local community. Are there other options such as Hamm Radio that might be useful during a large event?
- Identify how a community receives and moves news within its members. Meaning if there is a Facebook site where everyone grabs news from, the RP for example, would want to use that same channel to move response news. As many of these social media platforms are two-way comms, the RP could also use the same Facebook example to gather information from the community too.

BREAKOUT DISCUSSION 3: HOW DO WE PREPARE COMMUNITIES FOR THE NEXT TECHNOLOGICAL DISASTER

Suggested Protocols – What are some suggested protocols to include in existing response and regulatory frameworks that would improve risk communication and local response capacity? Probes: When are oil spill risks communicated? Who is communicating and for how long? How can existing risk communication plans be improved to be more effective and timely? What communication plans are included in existing emergency response plans, during and after a spill? What limitations exist in the current structure?

Group 1

- Gather everyone in one place and communicate
    - Have discussions summarized in paper format
    - Need printed plans, since internet is limited/slow in many communities
- HAZWOPER training needs to happen more widely
- VHF radio capabilities of state/federal agencies?
    - Need to know how community communicates with everyone (i.e., is VHF best? Facebook?)

Group 2

- Overcoming general scientific illiteracy and distrust of experts
- Continuously re-evaluate plans with community member input and best available technology/data.
- Have someone knowledgeable about potential disasters meet with tribal councils in advance, to educate and get input.

Group 3

- So many things we've been talking about this week already exist. It's a communication issue. There is no cross communication for what is already happening, programs are available.
- There are a lot of other environmental programs, agencies, and work occurring for different types of disasters. Are there communication practices in place between them? What's being done between/ across agencies for sharing information?
- Prevention tailored to changing times. Open pit mines etc. We need to keep up with the times and the issues. Storm surges, climate change, etc. Being aware of the complex environmental issues impacting each community and the difficulty keeping up with and monitoring all of them.

Group 4

- Meaningful engagement; relationship building
    - Improved communication across the board, culturally appropriate communication
        - Timely-months in advance
        - Effective
        - Regularly scheduled
        - Appropriate for rural communities (e.g. bingo night)
        - Newsletters
        - Radio PSAs
        - Consider the subsistence calendar, local social schedule
        - Involve the elders
        - Community representatives
- Continue two-way engagement with communities before an incident
- Inform communities of potential threats, activities int eh area that are of concern to local residents
- Adapt information for changing environmental conditions
- Place observers onboard for barging activities
    - Monitor fueling
    - What types of response equipment is onboard
- Barge companies inform communities of their plans, routes, equipment, onboard capabilities, etc.

Group 5

- The break-outgroup suggested the concept of partnerships be central to spill policy discussions, and cited how various budgets were already tight, and trustee agency and response decisions makers needed to work together and leverage their limited time and finances to achieve common goals. This workshop was a good example of this concept… a variety of organizers putting momentum behind and pulling the workshop together.

- If a given social media platform becomes a new source during an event, it's important that updates continue on this platform. For example, the RP creates a Facebook page for an incident. It's important that this FB site gets continually updated. Some of the break-out participants cited their past experiences of how news sources/platforms being seemingly abandoned mid-incident, and people weren't sure if the news had moved to another platform, there was nothing to report on, or if the RP's were just not communicating (for either deliberate nefarious type reasons, or they were simply overwhelmed and just couldn't).
- Make sure that contact information for the PIO and LIO are accurate so that affected stakeholders can reach these key positions. But also make sure that community profiles within the Area Plan are also accurate so that the PIO and LIO can reach out to communities.

Pilot Projects – What pilot project ideas do you have for improving risk communication and local response capacity? Probes: Are you thinking locally or regionally? Who would be involved? What sort of timeline would this involve? How would it be effective? Would the emergency response community be involved?

Group 1

- North Slope risk assessment tool (oil spill risk assessment)—apply it elsewhere
- Improving all charting/bathymetry data to avoid groundings
- Compile an updated directory of community communication plans (Who prefers radio? Who do you call? Etc.)
- Inventory of operating response tools (generators, radios, etc.)
- Template plan that can be tailored/adapted by each community to fit specific events/incidents; difficulty predicting in order to plan.
- A follow up to Regional Stakeholder Workshops (RCAC) could be to create plans or guides with useful info for communities and guides for how they fit into response. Most communities are not aware of this process. Give people "cheat sheets" for folks to understand. Unified Command needs to be motivated by community feedback.

Group 2

- Testing tools for environmental monitoring that can be used by the community; such as taking photos, water quality monitoring, samples from marine mammals, sediment samples.
    - What is available in your own home that you can use to take samples?
    - These samples and/or photos need to be of certain quality so that they can be held up in court.
    - State and Federal partners can't directly ask people to collect samples, but they can and do make publicly available lists of types of samples they need.
    - Need to develop and test tools in communities.
- Is training required to participate as "samplers"? Training is required due to possible harm.

- Independent monitoring is also important, because some organizations may cut corners because of cost, and they are biased. Ex.: industry does their own monitoring
- Spill Kits and spill kit training for small spills too, or kits for other types of incidents; make them more useful and more accessible to communities – especially coastal communities. State might slash budget/ trash existing kits. Coast Guard had some available – Response Depots, Response Equipment Containers. Bethel Mountain Village Toksook Bay (only coastal) – and they should continue to keep these kits supplied, stocked, and available in locations that make sense. Investment in continuing maintenance of kits - A lot of the equipment can expire or wear over time; freeze/thaw cycle can impact the kits. State has some responsibility to maintain/update/refresh kits.

Group 3

- Assessments of community capacity, response plans, resources, etc.
- Risk assessments of threats
    - Shipping
    - Local/regional barging activities, fueling

Group 4

- Conduct a survey via social media to help identify key positions in respective communities.
    - Anyone with a real specific skill set that might be called-on during a large incident such as a salvor or diver?
    - Who might be a good fit to sit on the Regional Stakeholder Committee and help represent a community?
    - Who has local knowledge of water currents or other potentially valuable response information?
- Conduct community meetings pre-proposed large scale (mining operation, power plant, shipping route, etc.) development. Gather community concerns and work to start addressing these before activity even starts.
- Make sure it's easy for small communities to plug-into LEPC and Area Planning meetings. For example, teleconferencing or web ties need to be in place since travel to a hub such as Anchorage is expensive and time consuming and simply may not be an option. These options should also be tested ahead of the fact, have enough bandwidth to support functionality, etc. It's disappointing to tie into a meeting to find out a teleconference line is buggy, or that speakers cannot be heard.
- Adopt an "AMSEA" style model, where trainers are trained up, and then these individuals go back to their respective communities to provide instruction on a given topic. This might include something like Hazwoper certification or ICS basics. https://www.amsea.org/

Research and Outreach – What are the research and outreach priorities for improving risk communication and local response capacity? Probes: What information gaps exist when it comes to risk communication? Are there research and outreach needs? What are they?

Group 1

- Gap: directory of community plans, people, etc.
- Effective ways of communication and training
- CASPER-type trainings (CDC tool to provide quick and at low-cost household based information about a community
- Co-production of knowledge
    - Urban, rural needs and priorities
    - Multiple perspectives are necessary
- Start outreach now, build relationships and maintain them
- Communities with existing issues, such as erosion
    - ANTHC, IGAP, etc. has some of this information
- Take note of lessons learned elsewhere and adapt them to community/region/etc.
- F&G harvest survey data
    - Sharing of GIS layers
- Youth education
    - ANSEP as an example
    - Empower youth, incorporate indigenous knowledge
    - More training opportunities for things like HAZWOPER
- Community monitoring opportunities
- Incorporation of LEO Network

Group 2

- Train community members in basic response skills in advance (FEMA-ICS, HAZWOPPER).
- Existence of citizen advisory councils is key to finding funding, building relationships, monitoring, and advocacy.
- Encourage greater youth engagement in at-risk communities. Bring them into these conversations and conferences, drills, and exercises. Train them in meaningful skills starting from a young age (e.g., Zender oil spill training, FEMA-ICS, HAZWOPPER, etc.).
- Pilot programs exist in the form of RCAC's, but they need to be developed and duplicated statewide.
- Outreach messaging should include affected community members.
- Community-focused engagement that provides education and training in oil spill response skills to ALL kids at school, not just the elite performers. Involve them in on-site technical trainings and drills.
- Create a pathway for cross-generational training like Betsi Oliver does at RCAC.

Group 3

- Existing plans in some villages might be too complicated. Nobody uses, they sit on a shelf and collect dust. Need to keep it simple.
- Training in different regions, show people how equipment is run. Kawerak training programs.
- Can we create a research project to train locals to fly drones, for collecting environmental info?
- Big gap of info; human health/community health. Lack of baseline info for Deepwater Horizon spill.
- Identify sensitive areas, including subsistence use. Communication of information, the understanding of vulnerable/sensitive areas in advance. Ex: Vessel decon near villages. Unified Command doesn't want to put their spill decontamination equipment/operations on top of sacred lands. How do we share sensitive information about these sacred lands with ICS/UC?
- HIA (Health Impact Assessments) or social vulnerability assessments (such as those done by Dr. Susan Cutter) could be conducted. Uses secondary data (sourced from already existing datasets) and doesn't need a lot of primary data collection. You can use communities nearby that share similar demographics as a control group – EVOS and Steve Picou
- Citizen science programs?
- What is the message from this workshop? Bering Sea Elders Group needs to know what went on at this workshop- report back something, maybe in print. Importance of sharing information from this meeting with others can make use of what was discussed. Sharing of key messages for the community members. Importance of creating a shareable document for everyone that can't be here in this workshop. Share with the tribes and understand what was missing from this meeting
- Share with IGAP and TRP
- Forum similar to this that brought together community members and response teams. See Sea Grant publication from 2005 written by Reid Brewer; it was a review of a spill and shared lessons learned.
- Series of reports from Coastal Response Research Center (Dr. Nancy Kinner's group) re: Arctic and outer continental shelf development meeting 2012 compare recommendations from those workshops, reports.
- Need to understand differences between regions and types of spills. Ice in Alaska will impede response. Deepwater Horizon was very different. Considerations for diverse ecosystems – oil trapped in the ice. Biggest risk of spill in Aleutian Islands. NOAA and others have conducted risk assessments in Aleutians and other areas.
- Politically challenged. Budget cuts from the federal government. Prevention is perceived as burdensome on industry, so prevention is not the focus. At the same time, funding and resources are decreasing for response and preparedness.
- Expansion on workshops [Regional Stakeholder Workshops] for all communities. Too many communities but create regional hubs and bring people there. More building of partnerships before an emergency. Build partnerships and communication, money to fund these types of projects, hire contractors. Nome project was a good way to imagine bringing people in.
- Commissioners Board of Fisheries in the Yukon had a 2-day training with cost >$100,000. Very expensive to get people to meetings; Travel issues and lodging issues.
- People will walk away from the mines, could be some that aren't being monitored. Environment Impact Statements re: mines. Is mining industry involved in response?

- Fund matching/partnering between native/tribal non-profits, native/tribal for-profits, and federal agencies to support trainings. Ex.: training in Nome. Also, Alaska Clean Seas conducts trainings in the North Slope because they have a large base for funding.
- Citizen science coupled with research and outreach
- Get this workshop report out to the participants of this workshop but also those that could not be here.

Group 4

- New technology options for barges/ships for extreme weather
- Identify responsible/trusted points of contact; share expectations and realities

Current Available Resources – What resources are available to support creation of an effective risk communication and local response capacity plan? Probes: What people, organizations, services, tools, etc. would be considered a resource for communication before, during, and after a spill?

Group 1

- Existing search and rescue teams in communities
    - Could use their skills, knowledge, ways of communication
- Health aides/EMTs, mechanics, local "MacGyvers"
    - These are examples of people with different skill sets that should be utilized
    - Need to know who can do what (a 'community skills inventory')
- Information disseminations points to consider: airline operators (locally), postmaster

Group 2

- DEC website maps of communities-needs additions
    - Resource values
    - SUA subsistence use areas
    - Community concerns
    - Healthcare facilities
    - Community resources
- Arctic ERMA-needs to be updated
- East coast space use data portal example, Marine Exchange
- Collision avoidance agreement example between industry and AEWC
- Emergency towing system
    - Identify risk/threat areas

- Potential to use LEO network to communicate
- Assess what communities have now
    - Study community/borough comprehensive development pls-CCDPs
- Updated and communicate the subarea plans
    - DEC/Coast Guard
    - Local tribes and city councils need to be updated/informed of changes to plans

Group 3

- Stakeholders should take advantage of existing resources like FEMA managed ICS training available online, Red Cross first aid trainings, etc.
- There's a variety of Alaska conferences where it be easier to engage with the AK Native Community. These include the: Providers Network conference conducted via the BIA, AFN conference and especially the Elders group, and the AK Forum on the Environment conference.
- It was also noted that the 12 different regional AK Native non-profits would be a good way to reach the AK Native Community.