

## MAFAC Proposed Work Plan Resilience Working Group 2016

These actions were identified at the October 2015 meeting or constitute ongoing work of the MAFAC subcommittees. The steps below each action outline a proposed framework or work plan to accomplish the action. These may be modified with input from MAFAC and its Task Forces.

### New Ad Hoc Resilience Working Group

Co- Leads for the Resilience WG: Terri Lei Beideman and Ted Ames

1. **Identify all interested members** – Follow up on October 2015 email requesting interested members.
  - a. Emails or calls from Terri and Ted. (COMPLETED)
2. **Comment on the Draft Habitat Enterprise Strategic Plan, especially Goal 3 on resilience, and provide specific suggestions on priorities.** COMPLETED, NOV. 9, 2015
3. **Identify how aquaculture can increase the resilience of stocks, ecosystems, or communities to climate change**

*Charge:* Building on the conclusions of Managing Our Nations Fisheries III, other literature, MAFAC documents (see, e.g. <http://www.nmfs.noaa.gov/ocs/mafac/reports/index.htm>), and using information on community vulnerability, where and how could aquaculture produce significant, rapid, and beneficial effects given the risks of ocean acidification, temperature changes, or sea level rise? Please include specific examples, such as stock enhancement, coastal reef protection, etc., including international examples if available.

*Proposed deliverable:* White paper/report recommending specific techniques and/or locations for NMFS to focus aquaculture efforts on to increase resilience of stocks, ecosystems, and communities. Ideally this report could be turned into a glossy fact sheet or peer-reviewed publication for broader applicability and usage.

*Leads:* Bob Rheault and [Member from Aquaculture Task Force]

*Current participants:* Jim Parsons

*Staff leads:* Kristina Trotta, Helen Chabot, and Susan Bunsick

#### *Potential actions/tasks:*

- a. Share task with MAFAC and Aquaculture and Climate & Marine Resources Task Forces to gauge interest and identify individuals to address this task.
  - Potential candidates from MAFAC include: Micah McCarty, Harlon Pearce, and Ted Ames.
  - Potential candidates from Aquaculture Task Force include: Megan Davis, Paul Zajicek
  - Potential candidates from Climate & Marine Resources Task Force include: Lisa Suatoni, Rowan Baker, Dave Wallace
- b. Confirm proposed deliverable and proposed timeline.
- c. Conduct a literature search from national conferences, Sea Grant and other research, to identify ecosystem, stock enhancement, and economic benefits due to successful aquaculture operations.
- d. Review the NOAA Fisheries interactive social indicators of community vulnerability webpage (<http://www.st.nmfs.noaa.gov/humandimensions/social-indicators/index>) and the NOAA Office of Coast Management's Digital Coast web tool (<https://coast.noaa.gov/digitalcoast/>) to identify potential new locations or the types of locations where aquaculture could provide benefits.

- e. Coordinate with the National Ocean Service/NCCOS Coastal Aquaculture Planning and Sustainability (CAPES) Program to learn about possible connections with their resilience work: [http://coastalscience.noaa.gov/research/scem/marine\\_aquaculture/](http://coastalscience.noaa.gov/research/scem/marine_aquaculture/)
- f. Identify specific examples to illustrate existing successful models and potential new opportunities.
- g. Develop draft report/recommendations for MAFAC review and input; finalize report based on comments.
- h. Convert report into glossy brochure or peer-reviewed publication.
- i. Target 6-9 months for completion.

#### **4. Identify best approaches and future needs to prepare fishing communities and fishing-dependent sectors for the impacts of climate change.**

*Charge:* Stock abundance, structure and distribution, aquatic ecosystems, and fishery communities will be affected by the changing climate. Please offer recommendations to fill gaps in the existing scientific and socio-economic data, to expedite the analysis of data, and to forecast changes for fishery managers and fishing-dependent communities and sectors over time. The Climate and Marine Resources Task Force has started on this task and can build on this with a focus on making recommendations to use these data to improve forecasts of changes in fisheries and support decision-making.

*Background:* Fish stocks and the fishing communities that depend on them will be affected by the changing climate. Develop recommendations for how best to fill gaps in the existing socio-economic information on potential impacts to fishing communities, and identify best practices to help fishing communities prepare for and respond to climate change. This task should build on the work done by the Climate and Marine Resources Task Force under their Task 3, subtopic 1: What are the best approaches and future needs to prepare for and respond to climate impacts on fishing communities and fishing-dependent sectors?

*Proposed Deliverable:* White paper/report with recommendations for how best to fill gaps in the existing socio-economic information on potential impacts to fishing communities, and identifying best practices to help fishing communities prepare for and respond to climate change.

*Leads:* Julie Bonney and Merrick Burdan  
*Current participants:* Ted Ames, Pam Yochem

*Staff Leads:* Roger Griffis (or ST social science staff) and Heidi Lovett

*Proposed actions/tasks:*

- a. Hold a conference call with the Climate and Marine Task Force Chair (Samantha) and follow with the full Task Force to scope out in more detail how to address this task.
  - Potential candidates from the Task Force to serve on a sub-group to engage on this with MAFAC include: Merrick Burdan, Charlie Colgan, and Gale Vick
  - Potential candidates from MAFAC to serve on a sub-group include: Peter Shelley, Micah McCarty
- b. Tease out the socioeconomic comments from MAFAC's input on the NMFS National Climate Science Strategy, and identify which recommendations should be expanded with more detail and facts.
- c. Review the literature and existing tools/resources on this topic (including complementary work by the National Ocean Service; some synthesis has been done).
- d. Consult with other experts<sup>1</sup>.

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<sup>1</sup> NMFS is convening an expert workshop that relates to this issue as well, targeted for spring 2016. Its outputs should complement and/or contribute to this MAFAC effort. Goal is to identify best approaches and an action plan to increase awareness, risk assessments and action planning for fishing-dependent communities and sectors. Workshop will identify current efforts, best practices and priority research and other actions needed to assist fishing-dependent sectors and communities in a changing climate.

- e. Synthesize information and draft recommendations.
- f. Finalize and submit report.
- g. Provide comments and recommendations on the socioeconomic strategies in the draft Regional Action Plans under the NOAA Fisheries Climate Science Strategy during the review phase (~Spring/Summer 2016).
- h. Target 8 -10 months for completion.

**5. Suggest effective communications and information delivery strategies to provide forecasts of climate changes and impacts to key fisheries audiences and stakeholders.**

*Charge:* Fishers, communities, cooperatives, managers, and Councils can use information on past, current, and possible future climate-related changes to make decisions and adapt to the changing climate. This task will identify ways to increase access, delivery, and use of this information to empower local actions to adapt and make strategic actions. It will also strengthen the value proposition of NOAA to provide climate science.

*Proposed Deliverable:* White paper/report with recommendations for effectively communicating and delivering information about predicted climate change impacts to key fisheries audiences and stakeholders.

*Leads:* Erika Feller and Samantha Danchuk  
*Current participants:* Peter Moore

*Staff Leads:* Helen Chabot, Roger Griffis, and Heidi Lovett

*Proposed actions/tasks:*

- a. Identify lead participants from the Resilience Working Group and Climate and Marine Resources Task Force to handle this task. Partner also with the Strategic Planning, Budget, and Program Management Subcommittee.
  - Potential MAFAC candidates include: Dick Brame, Michele Longo Eder, Heather Brandon, Mike Okoniewski
  - Potential Task Force candidates include: Sylvia Spalding, Rick Gaffney
- b. Conduct an assessment to understand the climate-related information needs of stakeholders, how NOAA communicates with stakeholders, and which methods are most useful to them (products, tools, services). Estimate 4-5 months.
  - Assess stakeholders about the type of information or forecasts that they need.
  - Assess the level of climate knowledge of stakeholders.
  - Assess the types of forecasts, information, or tools currently provided by NOAA Fisheries and partners including Sea Grant, OAR, NOS, and NWS. How does NOAA currently assess and try to meet climate-related information needs of non-fishing sectors such as water-managers, urban planners, etc.? What lessons do these efforts have for meeting the needs of fisheries managers and fishing-related sectors? Review internet sites, print and e-newsletters, etc.
  - How well is NOAA meeting the climate-related information needs of fisheries managers and fishing-related sectors? Potentially reach out to the CCC or Councils as part of this assessment.
- c. Identify the best communications tools and formats to provide the information and forecasts to local communities, tribes, non-governmental organizations, and businesses. Work with the NOAA Fisheries Education Council and Regional Communications Council. Months 6-9.

**6. Evaluate and strengthen tools and strategies for fishery managers (NOAA, Fishery Management Councils and other management processes such as States, Commissions, and Secretarial) to consider and respond to climate driven changes in fish stocks and fisheries.**

*Charge:* Identify effective tools and mechanisms used under the Magnuson-Stevens Act (MSA) that provide for dynamic, adaptive management actions. Beyond MSA examples, identify additional models and examples, particularly international examples. Confer with the Council Coordination Committee and NOAA Fisheries (e.g., Office of Sustainable Fisheries, Office of Science and Technology, etc.).

*Background:* Effective fisheries management in a changing climate will need to be more nimble, flexible, anticipatory, and adaptive to be able to anticipate and mitigate climate-driven changes in ecosystems and fisheries.

*Proposed Deliverable:* White paper/report that clarifies challenges, potential approaches, case studies, best practices, and next steps to improve the ability of fisheries management to be nimble, flexible, and adaptive to changes in fish productivity, abundance, distribution, habitat, and interactions (including predator prey, or protected species).

*Leads:* Harlon Pearce and [Member of Climate Task Force]  
*Current participants:* Columbus Brown, Erika Feller, Peter Moore

*Staff Leads:* Wendy Morrison and Heidi Lovett

*Proposed actions/tasks:*

- a. Identify lead participants from the Resilience Working Group and Climate and Marine Resources Task Force to handle this task. Partner with the Commerce and Recreational Fisheries Subcommittees.
  - Potential MAFAC candidates include: Mike Okoniewski, Julie Bonney, Dick Brame, Phil Dyskow, Michele Longo Eder
  - Potential Task Force candidates include: Rowan Baker, Patrick Halpin, Robert Leaf, Andrew Pershing, Sylvia Spalding, Lisa Suatoni
- b. As mentioned above, effective fisheries management in a changing climate will need to be more nimble, flexible, anticipatory, and adaptive to changes in fish productivity, abundance, distribution, habitat, and interactions (including predator prey, or protected species). Please help clarify the challenges, approaches, and best practices for meeting this need (see bullets below). As appropriate, get input from NOAA Fisheries, Fishery Management Councils and other fishery management entities (e.g. States, Commissions, Tribes) to:
  - Identify the major challenges to being more nimble, flexible, anticipatory, and adaptive.
  - Examine best approaches to meeting these challenges from their perspective (from literature, conferences on the subject, etc.).
  - Present examples of current management that show these qualities, either within the U.S. or internationally.
  - Investigate key steps being taken or needed to meet these challenges.
- c. Synthesis input and draft findings/recommendations.
- d. Finalize and submit report.
- e. Target 12 – 18 months for completion.