Mid-Atlantic Fishery Management Council



July 2012 Visioning and Strategic Planning Project Stakeholder Input Report



MESSAGE FROM THE COUNCIL CHAIRMAN

Until recently, the Mid-Atlantic Fishery Management Council's management efforts have largely been driven by rebuilding goals. For most of our managed fisheries, these goals have been achieved, but it is clear that our work is not finished. Decades of stock depletion and rebuilding have come at high social, economic, and institutional costs within the region. Across our constituencies, there are pervasive gaps in confidence in the data used to manage the region's fisheries. The concept of a Visioning and Strategic Planning Project developed over the past two years as we accomplished many of our rebuilding goals and recognized we were at a historic inflection point. The time is ripe for us to think critically and candidly about how we should transition from a successful but difficult phase of rebuilding to an era of long-term sustainability, productivity, stability, and innovation.

In September 2011, after much discussion and planning, we initiated development of a stakeholder-driven vision for the future of our managed fisheries. During the initial phases of the project, Council members and staff turned their attention outward to hear from more than 1,500 stakeholders about fisheries management in the mid-Atlantic. The feedback and recommendations that we received through this process will be immensely useful as the Council develops a plan for the future.

It is likely that we can maintain many of our managed fisheries at sustainable levels in to the foreseeable future without making substantial changes to the regulations. However, this does not mean that the regulations in place are necessarily the best policies for protecting the region's valuable fishery resources, ensuring their lasting productivity, meeting the needs of diverse fishing interests, or optimizing their overall yields and benefits in the context of a dynamic marine ecosystem. The process of visioning and strategic planning will provide an opportunity for Council members and stakeholders to evaluate the system we have in place and identify management objectives that need to be refined or situations where the existing management strategies do not align with our stated objectives. My hope is that a vision and strategic plan will position the Council in such a way that we can take a proactive approach to creating a better future for our managed fisheries.

Strategic planning and visioning are certainly not novel concepts, but this initiative is new territory for the Council. Our approach has also involved a new type of stakeholder outreach and engagement. We recognized early in our discussions of this project that an effective vision would have to be based on a solid foundation of stakeholder input. Years of restrictive regulations resulted in widespread beliefs that public input was ignored. This led to a steady decline in public participation in the management process over time, narrowing the bandwidth of public input in the Council process and contributing to disaffection among constituents. Now, as we strive to create a better future, it is important for us to reengage our constituents in the initial phase of the process and work to understand their visions and desired outcomes for our fisheries. This report looks at our managed fisheries and the management process from the various perspectives of our stakeholders.

The public has provided us with extensive input, identifying both challenges and opportunities for the Council and our managed fisheries. Addressing the issues raised by our constituents in the subsequent visioning and strategic planning phases is essential not only to the future success of our management plans and programs, but also to building public confidence in the fisheries management process. This task will require a coordinated approach with our management partners and a relentless commitment to building a better future for our fisheries and their management. I am confident that our sustained resolve to improving our management processes, combined with effective stakeholder engagement and participation, will position us to be successful.

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Richard B. Robins, Jr., Chairman Mid-Atlantic Fishery Management Council

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EXECUTIVE SUMMARY Overview

In the spring of 2011, the Mid-Atlantic Fishery Management Council launched an effort to develop a comprehensive, stakeholder-informed vision for managed fisheries in the mid-Atlantic. The goals of this initiative were twofold: define and develop new ways for the Council to engage constituents and define strategies to address key challenges. The project will result in a vision, a statement of goals, and a strategic plan that outlines short- and long-term operational strategies, actions, and timelines.

In seeking to ensure its vision and strategic plan reflect the priorities of its constituents, the Council conducted the largest outreach effort in its history. This report summarizes input gathered from over 1,500 constituents through surveys, roundtable sessions, and position letters. The vision and strategic plan will guide the Council's efforts to:

- Manage fisheries (and the surrounding ecosystem and habitats) more effectively;
- Address existing management problems identified by the Council and constituents;
- Improve communication to constituents and other organizations;
- Improve the Council's ability to utilize input from constituents and other organizations;
- Increase the efficiency of the management process;
- Balance short- and long-term management goals; and
- Address new or potential challenges and threats in a proactive, strategic way.

Strategic planning requires that an organization first have an accurate understanding of the current state of the organization itself and its surrounding environment. To accurately assess the current state of mid-Atlantic fisheries and management, it was essential that the Council solicit stakeholder input. Although stakeholder engagement is an important component of fisheries management, it has become clear in recent years that only a small fraction of stakeholders were actually participating in the Council's management process. As a result, the Council initiated an effort to gain a broader, more detailed understanding of stakeholders' perspectives.

From September 2011 to February 2012, the Council utilized a number of research methods, including surveys, roundtable sessions, and position letters, to gather stakeholder input on all topics related to past and future management of fisheries in the mid-Atlantic. The results of this effort are intended to provide a foundation upon which the Council can begin developing a vision, goals, and a strategic plan.

Note that the ideas and concerns presented in this report represent the perspectives of individuals who voluntarily participated in the project and are not intended to reflect the viewpoints of all constituents or of the Council itself.

The Mid-Atlantic Fishery Management Council

The Mid-Atlantic Fishery Management Council is one of eight regional fishery management councils (Councils) in the United States. The Councils recommend fishery management measures to the Secretary of Commerce through the National Marine Fisheries Service (NMFS). Decisions made by the Councils are not final until they are approved or partially approved by the Secretary of Commerce through NMFS. The seven states that comprise the Mid-Atlantic Council are New York,



New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina.

The Council manages fisheries for 13 species: summer flounder, scup, black sea bass, bluefish, Atlantic mackerel, short-finned squid (*Illex*), long-finned squid, butterfish, surfclams, ocean quahogs, tilefish, spiny dogfish and monkfish. Spiny dogfish and monkfish are jointly managed with the New England Fishery Management Council, while summer flounder, scup, black sea bass, bluefish, and spiny dogfish are co-managed with the Atlantic States Marine Fisheries Commission (ASMFC).

Redefining Goals for Rebuilt Fisheries

Over its 35 year history, the Council's management efforts have largely been driven by rebuilding goals. For most of the Council's managed fisheries, these goals have been achieved. In June 2012, none of the Council's fisheries with biological reference points were determined to be overfished, and none were subject to overfishing. Although all management decisions are directed by the guidelines of the ten National Standards in the Magnuson Steven Fishery Conservation and Management Act, the Council has some flexibility to refine its management strategies for rebuilt fisheries in order to optimize ecological sustainability, industry productivity, and recreational enjoyment.

The Council is at a pivotal point. The Visioning and Strategic Planning Project was initiated to define success and establish long-term goals for the future. The outcomes of the project will be a *vision*, *a goal statement*, and a *strategic plan* for the next ten years.

- A **vision** will describe the desired future state of the Council's managed fisheries and the Council process.
- The **goal statement** will delineate the specific objectives that the Council intends to reflect in its actions and management decisions. These objectives should be designed to help the Council achieve the vision.
- The **strategic plan** is a detailed framework that includes the goals, specific objectives, actions, timelines, and metrics of success. This plan will provide the specifics for moving from the current state towards the desired future state.

Developing a comprehensive vision and strategic plan is an enormous task for the Council, but the potential benefits are substantial. Improvements in the fisheries management process could create social, economic, and ecological benefits for all stakeholder groups. Clarifying management goals will ensure that the Council's management decisions are designed to achieve those goals. Also, a detailed definition of success will enable the measurement of progress and proactive identification of areas for improvement. Finally, a forward-looking approach will improve the Council's capacity for maintaining regulatory stability.

Stakeholder Participation

When the Council initiated the Visioning and Strategic Planning Project, it was clear that engaging stakeholders would be critical. As a result, the Council solicited perspectives of its diverse constituents, including commercial and recreational fishermen, members of environmental organizations, seafood consumers, scientists, and others. From September 2011 through February 2012, the Council gathered feedback from constituents through surveys, roundtable sessions, and position letters.

Unlike traditional opportunities for public comment in the Council process in which the scope is generally limited to a particular issue or fishery, stakeholders were given the chance to provide feedback on all topics related to fisheries management in the Mid-Atlantic. Broad discussion questions included:

- Which aspects of management are effective and which are ineffective?
- How can we improve stakeholder engagement?

• What should our goals be beyond rebuilding stocks and preventing overfishing?

Over the 20-week period, the Council gathered feedback from more than 1,500 individuals through multiple methods. Participation was divided among the various methods as follows:

- 1,253 online survey responses
- 1,048 fishery-specific survey responses
- 220 participants in 20 roundtable sessions throughout the region
- 12 position letters received from environmental non-government organizations (ENGOs), state resource departments, and fishing organizations

The data represent a broad range of perspectives from a cross-section of the Council's stakeholders. Perspectives were influenced by a number of variables, including but not limited to: state of residence, fishery(s) of interest, age, duration of interest, participation in the fishery(s), personal history of negative or positive impacts stemming from management decisions, other personal perspectives, social status, and/or economic status. Efforts were made to quantify and understand these variables, but substantial generalizations of "stakeholder group perspectives" were necessary in order to synthesize the information in an informative way.

Four main stakeholder groups were used to summarize data themes:

- 1. **Commercial Industry**: includes participants who identified themselves as vessel owner/operators, Captains, seafood processors, fishing industry representatives, and vessel crew members, among others.
- 2. **Recreational Sector**: includes participants who identified themselves as recreational fishermen, recreational industry, and for-hire operators or crew.
- 3. Environmental Non-Governmental Organization (ENGO)
- 4. **Interested Public**: includes participants who identified themselves as recreational user (boating, diver, etc.), state or local government, federal government, academic institution, non-governmental organization, elected government official, or interested public. Note that there was insufficient participation from this category to produce a theme summary.

Stakeholder Themes

COMMON STAKEHOLDER THEMES

Several "big picture" themes were common across all stakeholder groups. Though specific concerns of each group varied, these common themes reflect shared interests and may serve as foundational elements for identifying challenges in the current system and developing goals for the future. Common themes among all stakeholder groups include:

- There is a lack of confidence in the data that drive fishery management decisions.
- Stakeholders are not as involved in the Council process as they can and should be.
- Different jurisdictions and regulations among the many fishery management organizations result in complexity and inconsistency.
- There is a need for increased transparency and communications in fisheries management.
- The dynamics of the ecosystem and food web should be considered to a greater extent in fisheries management decisions.
- Stakeholders are not adequately represented on the Council.
- Pollution is negatively affecting the health of fish stocks.

COMMERCIAL INDUSTRY THEME SUMMARY

- Lack of confidence in the science and data used in the decision-making process makes it difficult to have faith in the Council's management decisions. Fishery-independent and fishery-dependent data are often inaccurate and lack credibility. The NMFS trawl survey and the observer program are areas of great concern with respect to data collection. In addition, there is resistance by scientists and managers to involve experienced fishermen in the data collection and stock assessment process.
- Inconsistent state and federal regulations lead to inefficient fishing practices. Variance between state and federal regulations can result in unnecessary discards, inefficient fishing practices, and other negative outcomes. In addition, the requirement to land fish in particular states due to quota restrictions associated with state-by-state quotas necessitates traveling much longer distances and burning additional fuel.
- Rising costs, inconsistent fishing regulations, and market pressures make it increasingly challenging to run an economically viable commercial fishing business. Unpredictable fishing regulations lead to a less stable supply of fish in the market, reduce market opportunities, negatively impact demand and price, and create a highly uncertain future for some of the region's commercial fisheries. The high cost of fuel has made commercial fishing less profitable.
- There is a lack of trust in the Council and the Council process. Input from commercial participants has not been considered in the Council process, and fishermen have become increasingly disenfranchised. The needs of commercial industry are not fairly represented, partially due to a lack of commercial industry representatives on the Council.
- Ecosystem factors are impacting the availability of fish. There is currently an overabundance of predators in the ocean, including cormorants, dogfish, marine mammals, and striped bass, among others.

RECREATIONAL SECTOR THEME SUMMARY

- The methods for collecting and estimating recreational effort and catch data are unreliable and reduce anglers' confidence in management decisions. The Marine Recreational Fisheries Statistics Surveys (MRFSS) data are inaccurate. The data do not reflect actual recreational fishing effort or catch, and it is uncertain whether the new Marine Recreational Information Program (MRIP) will bring about significant improvements in catch estimates. The recreational fishing community in the region wants to contribute to the improvement of the recreational catch data.
- Management strategies do not always encourage sustainable recreational fishing. Regulations can be wasteful, such as high size limits that result in regulatory discards. High size limits encourage targeting of primarily large breeding fish, reducing the productivity of the resource.
- **Recreational fishermen are looking for reasonable and fair access to the fisheries**. Regulations such as closures, size limits, and bag limits make it hard to take home a fish. Quotas should be more equitable with the commercial industry. Recreational access is not equitable within the states in the region due to existing state-by-state quotas.
- The Council does not adequately communicate how and when recreational fishermen can participate in the process. There is an opportunity to increase recreational awareness and involvement by better leveraging the network of fishing clubs and the reach of media.
- Ecosystems considerations are critical to the health and sustainability of the resource. Key concerns are habitat destruction, water quality, and overfishing of forage fish.

ENVIRONMENTAL NON-GOVERNMENTAL ORGANIZATION (ENGO) THEME SUMMARY

- To better understand the health of fisheries, the Council needs more accurate and reliable data. Effective fisheries management is impossible without adequate observer coverage, monitoring, and estimation of incidental catch.
- The Council must adhere to a precautionary approach to fisheries management. Given the high levels of uncertainty and the inherent risks of managing to maximum sustainable yield, additional precaution should be incorporated into management decisions.
- The Council should transition to ecosystem-based management approaches. Predatorprey dynamics need to be more fully-integrated in to management plans and/or the Council should develop an ecosystem plan that provides a framework for incorporating ecosystem considerations into the Council process.
- The ongoing depletion of forage species is a serious concern and should be given full attention by the Council. Many forage species are under pressure but are not managed under a fishery management plan. Their importance to the ecosystem and to other economically valuable fisheries should be grounds for greater consideration.
- **Protection of fish habitat must be a top priority.** There are areas of essential habitat that are unprotected from destructive fishing practices. Fisheries management needs to include habitat management strategies.

COMMON VISION

While the majority of stakeholder input revolved around issues, challenges, and concerns, the Council was also interested in understanding how stakeholders envision successful fisheries and fisheries management in the future. All survey or roundtable participants were asked about their vision for mid-Atlantic fisheries. Many of their responses were shared by members of all groups. Characteristics of a common vision for mid-Atlantic fisheries include:

- Fish populations are thriving and are harvested at sustainable levels.
- Management decisions are based on sound data and science.
- There is equitable consideration of the needs of diverse stakeholder groups; the interest of no one stakeholder group outweighs another.
- There is little waste in the fisheries, and regulatory discards are minimal.
- More stakeholders are involved in the management process.

CONCLUSION

The majority of stakeholders who provided input for this research effort reported that they rarely or never participate in the Council process. Many participants commented that the surveys and roundtable sessions were welcome opportunities to provide feedback and learn more about the Council. It was apparent that many were encouraged by the outreach efforts, but participants also expressed skepticism that a vision and strategic plan would result in substantial changes in the Council process or fisheries management in the mid-Atlantic.

This research effort has helped build trust with stakeholders and has improved communications. The Council's demonstration of commitment to the stakeholders' input will be equally important. As the Council moves forward with the next steps of this project, it is imperative that the concerns described in this report be recognized and addressed. Incorporating stakeholder input in to the vision, goals, and strategic plan in a straightforward and transparent manner will help the Council build upon the trust that was gained through the initial stage of the project.

VISION AND STRATEGIC PLANNING APPROACH

At the onset of this project, the Council formed a Visioning Committee to design an approach for gathering stakeholder input for the development of a vision, goal statement, and strategic plan. The Visioning Committee laid out a plan that identified four phases:

- **Phase I: Develop Roadmap** (March May 2011) define the activities and timing of the overall Visioning and Strategic Planning Project.
- Phase 2: Gather Data (June 2011 February 2012) gather data from Council constituents through surveys, roundtable sessions, and position letters.
- **Phase 3: Develop Vision and Goals** (June 2012 October 2012) use stakeholder data report as a starting point and foundation for the development of a Vision and Goals.
- **Phase 4: Develop Strategic Plan** (October 2012 April 2013) develop a strategic plan to achieve the Council's Vision and Goals.

This report summarizes the results of **Phase 2: Gather Data**.

Data-Gathering Methodology

Strategic planning requires that an organization first have an accurate understanding of the current state of the organization itself and its surrounding environment. To accurately assess the current state of mid-Atlantic fisheries and management, it was essential that the Council solicit stakeholder input. Although stakeholder engagement is an important component of fisheries management, it has become clear in recent years that only a small fraction of stakeholders were actually participating in the Council's management process. As a result, the Council initiated a data gathering effort to gain a broader, more detailed understanding of stakeholders' perspectives.

The purpose of the data-gathering phase was to develop a report that synthesizes the interests, concerns, priorities, and recommendations of the Council's many diverse stakeholders. The data-gathering methodology was designed with the specific objective of characterizing stakeholder input in a format that will be useful to the Council while maintaining the validity of the data and avoiding oversimplification.

The Council formed an Advisory Panel composed of representatives from the commercial industry, recreational sector, and ENGOs. The Advisory Panel provided guidance regarding data gathering methods and communication strategies for encouraging participation.

Based on feedback from the Advisory Panel, three primary methods were used to gather data:

- Surveys: Two types of questionnaires available to anyone interested in mid-Atlantic fisheries
- **Roundtable Sessions:** Informal, interactive sessions with approximately 8 to 12 participants, generally segmented by stakeholder/user group
- **Position Letters:** Letters submitted by organizations summarizing key concerns and suggestions

SURVEYS

Two types of surveys were used to collect information:

- I. A general survey including questions related to:
 - a. Demographics
 - b. Goals and priorities
 - c. Issues impacting economic performance and/or recreational fishing experience
 - d. Challenges and concerns
 - e. Council performance
- 2. Fishery-specific surveys for each of the Council's managed fisheries including questions regarding:
 - a. Stock status
 - b. Effectiveness of management strategies
 - c. Recommendations

Links to both types of surveys were made available on the Council website from September 15, 2011 through February 29, 2012. The Council announced the availability of the survey via press release. Council staff utilized targeted communication strategies throughout the data gathering phase to encourage stakeholders to participate in the survey. Emails, phone calls, newspaper and magazine articles, social media, and participation at coastal events (e.g., fishing and boat shows, harbor days, coast day) were all used to encourage broad public participation. Staff contacted leaders of fishing organizations, associations, and clubs to request their assistance in sharing the surveys with members of their organizations. Hard copy surveys were made available upon request.

ROUNDTABLE SESSIONS

20 facilitated roundtable sessions were held with small groups of constituents from the commercial industry, recreational sector, and environmental organizations. The sessions were designed to be informal and interactive discussions about challenges, opportunities, and goals for the Council's managed fisheries. The limited number of participants at each meeting was intended to promote indepth discussions. SRA's Touchstone Consulting Group facilitated the sessions to keep the discussions focused and to provide an objective source for recording the discussions. Two to three Council members and Council staff participated as observers in each session. Their role in the session was to listen and answer questions asked by participants, not to "correct" perceptions or influence the discussion.

Participants for these sessions were identified through referrals from within the community. First Advisory Panel members, Council staff, and Council members identified points of contact for each session location. These points of contact then recommended session "hosts," credible leaders in the community who could help identify session venues and encourage representative constituents to participate. Dates, times, and venues for these sessions were selected to accommodate participant needs and encourage attendance. Each session had approximately 8 to 12 participants and lasted 2 to 3 hours.

A complete list of the dates and locations of sessions is included in the Total Stakeholder Participation section (Tables 2, 3 and 4).

POSITION LETTERS

Any organization had the opportunity to submit an official position letter. The Council website published guidelines for submitting a position letter, including guiding questions, such as:

- What aspects of the existing management system are working and which are not working?
- What are the greatest challenges facing mid-Atlantic fisheries today?
- What would successful fisheries and fisheries management in the mid-Atlantic look like?
- Does your organization have specific recommendations for how the Council can improve its performance?

Position letters were used to supplement data collection and provide a method to collect input from constituent organizations.

DATA ANALYSIS APPROACH

Data from surveys, roundtable sessions, and position letters were reviewed and organized into six general theme categories:

- A. Information and Data includes themes related to science, data, and research
- B. **Management Strategies** includes themes related to existing and future fishery management strategies
- C. Economic Challenges includes themes related to economic concerns and how fishery management decisions impact economics
- D. **Communication and Public Participation –** includes themes related to the Council process, communications, and public engagement
- E. **Governance** includes themes related to stakeholder representation, decision-making processes, and the organizational frameworks that are used to make management decisions.
- F. **Ecosystems –** includes themes related to changes in the ecosystem and on-the water observations.

*These six categories were intended to organize the information received from all stakeholders; they are not representative of any particular stakeholder group's issues or priorities. Note that not every theme category is present in every stakeholder group section.

Within each stakeholder group, the data were further analyzed to identify emergent themes or common patterns. These themes are organized by the relevant categories (A-F listed above). The data analysis process entailed an iterative review of the data and themes to develop a comprehensive summation of ideas and perspectives. The themes synthesize the information gathered from each stakeholder group and are intended to present a summary of the most frequently cited issues.

Stakeholder Participation

More than 1500 constituents participated in the survey and/or roundtable sessions. The data gathering effort resulted in:

- 1,253 general survey responses
- 1,048 fishery-specific survey responses
- 20 roundtable sessions throughout the region with 220 participants
- 12 position letters from ENGOs, state resource departments, and fishing organizations

SURVEY RESPONDENTS

Over the 24-week data gathering period, 1,253 individuals responded to the general survey. Respondents were asked to select one primary role that they play in mid-Atlantic fisheries, and on a subsequent question were allowed to select multiple roles. Thirteen different "primary roles" were represented in the survey data, with the majority of respondents identifying their primary role as "Recreational Fishermen" or "Commercial Fisherman, Industry, or Association" (Table I).

Table 1: Self-identified roles of survey respondents in mid-Atlantic fisheries. Respondents selected one "Primary Role" (first column) and were allowed to select multiple roles (described in "All Roles" column) on a subsequent question.

Description	Primary Role	All Roles
Recreational Fisherman	717	968
Commercial Fisherman, Industry, or Association	205	245
For Hire Operator or Crew	71	120
Interested Public	69	252
Recreational User (boating, diver, etc.)	52	375
Environmental Non-Governmental Organization (ENGO)	30	60
State or Local Government	29	47
Federal Government	24	24
Recreational Industry (bait and tackle, etc.)	22	61
Academic Institution	20	29
Non-Governmental Organization (NGO)	12	31
Elected Government Official	I	4
Other	1	53
Grand Total	1253	2269

The majority of survey respondents indicated that they never participate in the Council process or that they only participate "once every several years" (Figure 1). 11% of survey respondents reported that they participate "around six times a year or more."





ROUNDTABLE SESSION PARTICIPANTS

Roundtable sessions were held in locations where communities held a substantial interest in mid-Atlantic fisheries. Tables 2, 3 and 4 display the locations and summarize the number of participants at each session.

Table 2: Roundtable session participationcount by meeting location, commercialparticipants

Commercial Industry Sessions	Participants
Atlantic City, New Jersey	10
Barnegat Light, New Jersey	11
Belford, New Jersey	8
Cape May, New Jersey	14
Chatham, Massachusetts	11
Chincoteague, Virginia	3
Hampton, Virginia	3
Hatteras, North Carolina	15
Lynnhaven, Virginia	17
Montauk, New York	15
New Bedford, Massachusetts	9
Ocean City, Maryland	5
Point Judith, Rhode Island	8
Stonington, Connecticut	11
Total Participants	140

Table 3: Roundtable session participationcount by meeting location, recreationalparticipants

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Recreational Sector Sessions	Participants
Little Egg Harbor, New Jersey	17
Ocean Pines, Maryland	9
Raleigh, North Carolina	11
Riverhead, New York	13
Virginia Beach, Virginia	21
Total Recreational Participants	71

Table 4: Roundtable session participationcount by meeting location, ENGO participants

ENGO Session	Participants
Washington, DC	9

POSITION LETTERS

Twelve position letters (see Appendix C) were received over the course of data gathering phase. Position letters were received from the following organizations:

- Garden State Seafood Association
- The Great Egg Harbor Watershed Association & River Council
- Long Island Commercial Fishing Association
- Maryland Coastal Bays Program
- Maryland Department of Natural Resources
- National Association of Charterboat Operators
- National Coalition for Marine Conservation
- Natural Resources Defense Council
- New Jersey Council of Diving Clubs
- Oceana
- Pew Environment Group
- Shinnecock Marlin and Tuna Club

The content from position letters was analyzed and incorporated into the themes of the stakeholder group that the submitting organization represents. The position letters have been attached in Appendix C to ensure that all submittals are fully considered by the Council.

STAKEHOLDER THEMES AND RECOMMENDATIONS

Several "big picture" themes were common across all stakeholder groups. Though specific concerns of each group varied, these common themes reflect shared interests and may serve as foundational elements for identifying challenges in the current system and developing goals for the future. Common concerns among all stakeholder groups include:

- There is a lack of confidence in the data that drive fishery management decisions.
- Stakeholders are not as involved in the Council process as they can and should be.
- Different jurisdictions and regulations among the many fishery management organizations result in complexity and inconsistency.
- There is a need for increased transparency and communications in fisheries management.
- The dynamics of the ecosystem and food web should be considered to a greater extent in fisheries management decisions.
- Stakeholders are not adequately represented on the Council.
- Pollution is negatively affecting the health of fish stocks.

The majority of themes were specific to a stakeholder perspective. Survey participants were asked to select one of twelve "roles" that they play in mid-Atlantic fisheries, with an "other" option to write in any role that they felt was not included. Based on response rates for each role, some closely related roles were combined in order to create comprehensive theme summaries. This method resulted in four main "stakeholder group" categories:

- Commercial Industry: includes participants who identified themselves as vessel owner/operators, captains, seafood processors, fishing industry representatives, and vessel crew, among others.
- Recreational Sector: includes participants who identified themselves as recreational fishermen, recreational industry, and for-hire operators or crew.
- Environmental Non-Governmental Organization (ENGO)
- Interested Public: includes participants who identified themselves as recreational user (boating, diver, etc.), state or local government, federal government, academic institution, non-governmental organization, elected government official, or interested public.

Results by stakeholder group include:

- 1. **Participation**: A participant profile for each data gathering mode (surveys, roundtable sessions, position letters).
- 2. **Summary of Themes:** A concise, high-level summary of the overarching stakeholder issues related to each of the six theme categories. This section includes information derived from all applicable data gathering modes (surveys, roundtable sessions, position letters).
- 3. **Themes and Recommendations:** Specific themes related to each category, with supporting observations and recommendations. This includes information derived from all applicable data gathering modes (surveys, roundtable sessions, position letters).
- 4. **Management Objectives:** A table with the average ratings of importance for 17 management objectives. This information is derived exclusively from survey responses.

The Interested Public stakeholder section does not include "Summary of Themes" or "Themes and Recommendations." There was insufficient participation from this category to produce any themes. The detailed results in the following sections are intended to provide a starting point for the Council or any reader of this report to consider stakeholder perspectives in relation to past and future management decisions. It is important to emphasize that there are substantial divergences of opinions

even within the stakeholder groups described. Efforts were made to identify themes that were relatively consistent within groups.

The ideas and concerns represent the perspectives of individuals who voluntarily participated in the project and are not intended to reflect the viewpoints of all constituents or of the Council itself. Tables 5, 6, and 7 on the following pages provide reference guides for all commercial, recreational, and ENGO themes.

Theme Category	Theme Title	Page Number
Information and Data	A1. The science used by the Council lacks the accuracy, precision, and detail needed to inform fishery management decisions.	Page 18
Information and Data	A2. The methodology and implementation of the NMFS research surveys create distrust within the industry.	<u>Page 18</u>
Information and Data	A3. The commercial industry has little faith in data generated by the observer program.	<u>Page 19</u>
Information and Data	A4. There is too much of a time lag between data collection and resulting management decisions.	<u>Page 19</u>
Information and Data	A5. The reporting process is redundant and inefficient.	<u>Page 19</u>
Information and Data	A6. There is not enough transparency and industry involvement in the Research Set-Aside (RSA) funding program.	<u>Page 20</u>
Management Strategies	B1. Some management strategies result in discards that could be avoided.	<u>Page 20</u>
Management Strategies	B2. The inability to land fish in the nearest port due to state-by- state regulations is a large source of frustration.	<u>Page 20</u>
Management Strategies	B3. The basis for setting quotas is unfair.	<u>Page 20</u>
Management Strategies	B4. It is difficult to gain or maintain access to a fishery, and the commercial industry is concerned that it will continue to be a challenge in the future.	Page 21
Management Strategies	B5. Regulations are constantly changing, and the cumulative weight of regulations from different management organizations is overwhelming.	Page 21
Management Strategies	B6. The requirements of the Magnuson-Stevens Reauthorization Act (MSRA) hinder the Council's flexibility and authority when making management decisions.	Page 21
Management Strategies	B7. Protected resources are given a disproportionate amount of consideration in the regulatory process.	Page 22
Management Strategies	B8. Fishermen feel unduly persecuted by the Coast Guard in day-to- day interactions.	Page 22
Economic Challenges	CI. Management strategies can often have negative impacts on markets	Page 22
Economic Challenges	C2. The economic impacts of regulations on the commercial fishing industry are not given enough consideration in the fisheries management process.	Page 23
Economic Challenges	C3. Rising fuel costs are a major challenge for economic success in commercial fisheries.	Page 23

Table 5:	Reference	Table for	Commercial	Industry	, Themes
		1 4010 101	e o nin nen enan		

Communication	DI. Many commercial fishermen have stopped participating in the	
and Public	Council process because they do not feel their voices are being	Page 24
Participation	heard.	
Communication	D2. Council meetings are intimidating and difficult to attend.	
and Public		Page 24
Participation		
Communication	D3. The Council does not clearly communicate the main	
and Public	components of its decision-making processes.	Page 24
Participation		
Governance	EI. There is a lack of appropriate industry representation on the	Page 25
Governance	Council.	
Governance	E2. The multitude of fishery management organizations results in	Page 25
Governance	unnecessary complexity and confusion.	
Fcosystems	FI. Predators (e.g., cormorants, striped bass, marine mammals,	Page 26
Leosystems	dogfish) are overabundant in the ocean.	<u>1 age 20</u>
Fcosystems	F2. Pollution, development, and other human activities are damaging	Page 26
Leosystems	the marine ecosystem.	<u>1 age 20</u>
Ecosystems	F3. There is confusion and skepticism about ecosystem based	Page 26
LUSYSTEILS	management (EBM).	<u>1 age 20</u>
Ecosystems	F4. Fish are moving north as the ocean temperatures increase.	Page 26
•		-

Table 6: Reference Table for Recreational Sector Themes

Theme Category	Theme Title	Page Number
Information and	AI. Inaccurate MRFSS recreational fishing data has major negative	Page 29
Data	impacts on recreational fishing.	
Information and	A2. The Council's management actions are not consistent with	Page 29
Data	what the fishermen see on the water.	
Information and	A3. The Council does not sufficiently consider economic impact	Page 30
Data	analyses when making recreational management decisions.	
Management	BI. Current recreational size limits encourage catching larger,	
Strategies	more fertile breeding fish which results in increased discard	<u>Page 30</u>
	mortality and reduced recreational enjoyment.	
Management	B2. To improve the recreational experience, there is a desire for	Page 30
Strategies	more access and more fishing opportunities.	
Management	B3. Seasonal closures result in transfers of effort into other	Page 31
Strategies	fisheries.	
Management	B4. Annual fluctuations and inconsistency in state and federal	Page 31
Strategies	fishing regulations are unreasonable.	
Management	B5. Regulations favor commercial fishermen over recreational	Page 31
Strategies	fishermen.	
Management	B6. The needs and differences between recreational user groups	Page 31
Strategies	are not adequately factored into management decisions.	<u>I age JI</u>
Economic	CI. The greatest economic challenges for the recreational fishing	
Challenges	industry are shortened/closed seasons and substantial annual	Page 32
Chancinges	fluctuations in regulations and/or quota.	
Economic	C2. There is a fear among recreational fishermen that they will be	Page 32
Challenges	penalized drastically if they exceed their quota.	
Communications	DI. Most recreational fishermen do not know how or when to	<u>Page 32</u>

Stakeholder Themes and Recommendations

and Participation	participate in the Council process.	
Communications and Participation	D2. Communications by the Council are often too difficult to understand.	Page 33
Governance	E1. Fishery management efforts by the different management organizations are confusing and disjointed.	Page 33
Governance	E2. Recreational fishing interests are not adequately represented in the Council process.	Page 33
Ecosystems	F1. There has been a loss and degradation of fish habitat over the last several decades.	Page 34
Ecosystems	F2. Pollution and human activities have caused substantial degradation of water quality.	Page 34
Ecosystems	F3. There is excessive pressure on forage species due to the number of predators and the commercial overfishing in forage fisheries.	<u>Page 34</u>
Ecosystems	F4. Fish concentrations are moving further north as ocean temperatures increase.	Page 34

Table 7: Reference Table for Environmental Non-Governmental (ENGO) Themes

Theme Category	Theme Title	Page Number
Information and Data	A1. Catch monitoring and at-sea observer coverage is insufficient.	Page 37
Information and Data	A2. Cooperative research brings legitimacy to scientific decision making and the Council's management as a whole.	Page 38
Management Strategies	B1. The current ACL-setting system does not provide adequate precautionary buffers to prevent overfishing.	Page 38
Management Strategies	B2. As part of a transition toward ecosystem-based management, it is important to maintain abundant forage populations.	Page 39
Management Strategies	B3. Protection and monitoring of fish habitat are not emphasized as key elements of sustainable fishery management.	Page 39
Management Strategies	B4. There is inadequate enforcement of both recreational and commercial fisheries regulations.	<u>Page 40</u>
Communications and Participation	C1. Communications must be elevated in importance to rebuild trust across all stakeholder groups.	Page 40
Communications and Participation	C2. The Council process is not as interactive and accessible as it could be.	Page 40
Governance	D1. There is complexity and insufficient coordination among fishery management organizations.	Page 41
Ecosystems	E1. The current focus on single-species management does not adequately account for the complexity of the ecosystem.	Page 41
Ecosystems	E2. Pollution and climate change will continue to substantially alter ecosystem dynamics in the years to come.	Page 41

Commercial Industry

The majority of commercial fishing industry data came from 14 roundtable sessions with 140 selfidentified commercial fishing industry participants (Table 2) and 245 general survey responses. Of the 245 general survey respondents, 205 identified "Commercial Industry or Representative" as a primary role, and an additional 40 identified it as a secondary role. Additionally, commercial survey respondents were given a list of 15 roles and asked to identify one or more roles that they play in the commercial industry. Survey respondents also had the option to select "other." The top two roles selected were "Vessel Owner/Operator" and "Operator/Captain" (Figure 2).



Figure 2: Distribution of survey participation among roles within the commercial fishing industry

Summary of Themes

- Lack of confidence in the science and data used in the decision-making process makes it difficult to have faith in the Council's management decisions. Fisheryindependent and fishery-dependent data are often inaccurate and lack credibility. The NMFS trawl survey and the observer program are areas of great concern with respect to data collection. In addition, there is resistance by scientists and managers to involve experienced fishermen in the data collection and stock assessment process.
- Inconsistent state and federal regulations lead to inefficient fishing practices. Variance between state and federal regulations can result in unnecessary discards, inefficient fishing practices, and other negative outcomes. In addition, the requirement to land fish in particular states due to quota restrictions associated with state-bystate quotas necessitates traveling much longer distances and burning additional fuel.
- Rising costs, inconsistent fishing regulations, and market pressures make it increasingly challenging to run an economically viable commercial fishing business. Unpredictable fishing regulations lead to a less stable supply of fish in the market,

Themes and Recommendations- Commercial Industry

reduce market opportunities, negatively impact demand and price, and create a highly uncertain future for some of the region's commercial fisheries. The high cost of fuel has made commercial fishing less profitable.

- There is a lack of trust in the Council and the Council process. Input from commercial participants has not been considered in the Council process, and fishermen have become increasingly disenfranchised. The needs of commercial industry are not fairly represented, partially due to a lack of commercial industry representatives on the Council.
- Ecosystem factors are impacting the availability of fish. There is currently an overabundance of predators in the ocean, including cormorants, dogfish, marine mammals, and striped bass, among others.

Detailed Themes and Recommendations

INFORMATION AND DATA

Theme I: The science used by the Council lacks the accuracy, precision, and detail needed to inform fishery management decisions.

Commercial Observations:

- Fishery managers rely too much on the data collected and generated by the National Marine Fisheries Service (NMFS).
- Industry observations and fishery-dependent data are not regarded as legitimate sources of data for use in the management process.
- There is insufficient collection of socioeconomic data, and the existing datasets are not being used to inform management decisions.

Commercial Recommendations:

- Utilize study fleet and industry surveys to supplement fishery independent data for stock assessments.
- Expand the study fleet and other collaborative research efforts.

Theme 2: The methodology and implementation of the NMFS research surveys create distrust within the industry.

- The survey methodology is not designed to adapt to changes in environmental variables (i.e., ocean currents and weather conditions).
- There are not enough locations sampled by the surveys to yield accurate stock information.
- The NMFS trawl survey samples are not reflective of actual fish distributions.
- The fishing gear used for research surveys is not always used correctly.
- The surveys lack sufficient involvement by current, experienced fishery participants.

Commercial Recommendations:

- Involve fishermen to a greater extent in the planning and implementation of existing trawl surveys.
- Expand the use of commercial fishing vessels and fishermen to conduct independent survey work within the region. (e.g., NEAMAP)
- Continue to work with industry and academic partners and invest in new technologies to improve fish surveys, such as acoustic or video surveys.

Theme 3: The commercial industry has little faith in data generated by the observer program.

Commercial Observations:

- Observers are not held accountable to the observer program protocols.
- Most observers are not qualified and/or do not have the experience needed to adequately perform their duties.
- There is insufficient quality control on the data that are collected.
- Some observers treat fishermen and their vessels with a lack of respect.
- Observers are an expensive investment and should yield valuable data that help inform management, not just data that inform closures or marine mammal protection.
- The observer data are rarely used in the management process and/or the observers are unable to explain to fishermen how the data are used.

Commercial Recommendations:

- Focus on improving the quality of observer data and utilizing the results in stock assessments and the management process along other current data sources.
- Hold the observers to stricter standards for performance and behavior.
- Verify data from the observer program using a qualified third party.
- **Theme 4:** There is too much of a time lag between data collection and resulting management decisions.

Commercial Observations:

• Some of the datasets that inform management decisions are not used until a year (or more) after it they are collected. This time lag is longer than the life span of some species, meaning that management decisions may not be based on the current stock status.

Commercial Recommendations:

- Collect, analyze, and incorporate data into the management process as close to real-time as possible. This should be a high priority for species where closures are likely.
- Build on progress of groups like Massachusetts' School for Marine Science and Technology (SMAST) in creating real-time monitoring and information-sharing among fishermen.
- Increase the frequency of stock assessments to better estimate current population sizes and age distributions.

Theme 5: The reporting process is redundant and inefficient.

Commercial Observations:

- There are too many reports to fill out on the same fish. Redundant information is provided to both the state and federal government, and there is concern that there is double-counting of fish landings.
- Paper reporting is inefficient and is not conducive to the fishing work environment.
- The requirement for fishermen to report every day that they do not fish is an unnecessary burden.

Commercial Recommendations:

- Streamline the reporting system to maximize efficiency for fishermen and managers (including electronic reporting options).
- Work toward one reporting form for all fisheries and all management organizations.
- **Theme 6:** There is not enough transparency and industry involvement in the Research Set-Aside (RSA) funding program.

Commercial Observations:

- It is difficult to understand RSA decision-making and priorities.
- Only a small group of grantees receive funding from the program.

Commercial Recommendation:

• Make the role of the fishing industry more significant in determining research set-aside program priorities and making decisions about how RSA funds are allocated.

MANAGEMENT STRATEGIES

Theme I: Some management strategies result in discards that could be avoided.

Commercial Observations:

- Daily quotas and closed seasons result in discards and mortality of incidental catch.
- State-by-state regulations are set up so that some species can only be landed in different states at certain times. Fishermen may be forced to discard fish that were caught on the same tow or trip but cannot be landed in the same state.

Commercial Recommendations:

- Consider cumulative or weekly trip limits and other ways to reduce regulatory discards by adapting management to the historical 'mixed trawl' fishery in the mid-Atlantic.
- Increase coordination among state and federal management organizations with the goal of eliminating regulatory discards.
- Consider 'full retention fishing' as a way to limit or eliminate discards, bring the fish that are abundant to market, stabilize fish prices, and incentivize good fishing practices.

Theme 2: The inability to land fish in the nearest port due to state-by-state regulations is a large source of frustration.

Commercial Observations:

- Quota restrictions associated with state-by-state quotas necessitates traveling much longer distances, which exacerbates the problem of high fuel costs.
- Vessels from states with available quota can travel to fish in federal waters adjacent to states whose quotas have already been caught. In these situations, local fishermen are restricted, while out-of-state fishermen are able to fish.

Commercial Recommendation:

- Allow fishermen to land fish in any state and have it count against the quota of any state where they are permitted.
- •

Theme 3: The basis for setting quotas is unfair.

Commercial Observations:

- In many cases, state quotas are based on outdated and arbitrary base year data, resulting in some states with disproportionate shares (some too high and some too low). This is a particular concern in New York State, where fishermen believe their historical catch was not calculated correctly.
- Quotas were reduced during rebuilding, but fishermen don't see any benefit or reward after rebuilding.

Commercial Recommendations:

- Re-examine the way fish are allocated with contemporary data.
- Consider rebuilt stock status when setting quotas.
- Increase communications on quota setting decisions.
- **Theme 4:** It is difficult to gain or maintain access to a fishery, and the commercial industry is concerned that it will continue to be a challenge in the future.

- It is very difficult to enter some fisheries due to the high costs of boats and vessel permits. Consequently, there are very few young fishermen entering the industry.
- Fish populations are migrating further north as ocean temperatures increase and fishermen would like access to fish that swim into their traditional fishing areas.
- To maintain their permit or history, fishermen have to fish for certain species that they might otherwise not target. This may lead to wasteful or unnecessary fishing and adverse effects on market prices.
- Some fishermen are only breaking even and fear that if they stop fishing temporarily, they will lose access to a fishery or it will be too difficult to regain entry if the economic environment improves.
- There is a serious concern that implementation of catch share programs in the mid-Atlantic would force fishermen out of the fisheries.

Commercial Recommendation:

• Consider ways to improve access so that fishermen can target species that become abundant in new areas.

Commercial Observations:

- It is difficult to stay informed about regulations across state lines and management jurisdictions.
- Regulations change so frequently that their effectiveness and impacts cannot be measured.
- The multitude of management entities, (regional fishery management councils, NMFS, ASMFC, Coast Guard, state agencies) creates unreasonable complexity.

Commercial Recommendations:

- Consider multi-year specifications where possible to provide consistency in regulations and allow sufficient time for the effectiveness and impacts of regulations to be measured.
- Provide a single, easy to use resource that summarizes all relevant fishing regulations in plain language.
- **Theme 6:** The requirements of the Magnuson-Stevens Reauthorization Act (MSRA) hinder the Council's flexibility and authority when making management decisions.

Commercial Observations:

- The Council is an advisory body and does not have the authority to approve fishery management actions unilaterally. NMFS must approve all management actions, which restricts the Council's flexibility in responding to its constituents needs.
- The MSRA's mandatory ten-year rebuilding timeframe for fish species is too rigid and arbitrary. The timeframe is not logical for some fish species that mature more slowly than others or species that are not as economically valuable.
- The Council is unable to re-write the MSRA.

Commercial Recommendation:

- Eliminate the MSRA's mandatory ten-year rebuilding timeline in favor of a more flexible approach.
- **Theme 7:** Protected resources are given a disproportionate amount of consideration in the regulatory process.

- Regulations to protect certain species are unnecessary in areas where interactions with these species are rare (e.g., harbor porpoises in southern states).
- An increase in abundance of protected species leads to an increase in interactions with them, creating a potential cycle that restricts fishing activity.
- Protected resources actions under the Endangered Species Act and Marine Mammal Protection Act contribute significantly to the uncertainty of the economic future of some fisheries within the region.

Theme 5: Regulations are constantly changing, and the cumulative weight of regulations from different management organizations is overwhelming.

Commercial Recommendations:

• Consider the needs of the fishing community to a greater extent when setting protected resource regulations.

Theme 8: Fishermen feel unduly persecuted by the Coast Guard in day-to-day interactions.

Commercial Observations:

- Members of the Coast Guard are often intimidating and confrontational when boarding boats and interacting with fishermen.
- Treatment by the Coast Guard further harms the public's perception of fishermen.
- Some fishermen noted that they would be unlikely to seek help from the Coast Guard due to the hostility that they had experienced.

ECONOMIC CHALLENGES

Theme I: Management strategies can often have negative impacts on markets

Commercial Observations:

- The "derby-style" quota fisheries create pressure for fishermen to catch as much as possible as soon as the season opens. This flux of fishing effort tends to flood the market with fish and drive the price down.
- Single-species management does not consider the impact of closures on other fisheries. When one fishery closes, fishermen shift their effort to other fisheries. This puts acute pressure on certain populations throughout the year and reduces market stability.
- Large fluctuations in available quota from year to year can negatively influence the price of fish due to excess fish supply.
- Once a market for a species is lost, it is hard to rebuild both the demand for the fish and the processing capacity.
- Domestic seafood products lose market share to imported products due to the low prices and ready availability of imports.

Commercial Recommendations:

- Several mid-Atlantic species should be managed as a 'mixed trawl' fishery in order to distribute effort throughout the year and prevent sudden shifts of effort.
- Consider full retention of catch.
- Avoid closures of fisheries to the extent possible to maintain reliable markets.
- Implement incremental changes in quota to help maintain a stable price and availability of the product.
- Support marketing campaigns for domestic fisheries.

Theme 2: The economic impacts of regulations on the commercial fishing industry are not given enough consideration in the fisheries management process.

- Despite the fact that the majority of the region's fisheries are rebuilt, some of the commercial fisheries consider their economic viability to be highly uncertain in the future.
- Businesses cannot make long-term plans or investments because regulations are unpredictable.

- Required gear modifications are costly and hard to predict.
- Fishery closures and heavy restrictions result in loss of commercial fishing infrastructure. This infrastructure is very hard to reestablish and finance even if regulations are liberalized in subsequent years.
- Increasing costs are a particular challenge for smaller fishing operations competing with larger, vertically-integrated businesses.

Commercial Recommendations:

- Incorporate additional economic analyses into management decisions.
- Consider the long-term economic impacts of management decisions and the economic importance of regulatory stability.
- Communicate decisions in a timely manner and provide as much lead time as possible to allow for fishermen to plan for their business.

Theme 3: Rising fuel costs are a major challenge for economic success in commercial fisheries.

Commercial Observations:

- Increasing fuel costs have led to reduced profits for many fishing businesses.
- The combined impact of trip limits, low quotas, high fuel costs, and low Catch Per Unit Effort (CPUE) may inhibit profitability altogether.

Commercial Recommendation:

• Consider the effects of higher fuel costs on fishing businesses when planning and setting regulations.

COMMUNICATION AND PUBLIC PARTICIPATION

Theme I: Many commercial fishermen have stopped participating in the Council process because they do not feel their voices are being heard.

Commercial Observations:

- There is a belief that public comments from fishermen have little influence on management decisions.
- A lack of trust exists because the Council has not listened to fishermen's recommendations in the past.
- Fishermen are not treated with respect by fishery managers and scientists.
- The Visioning and Strategic Planning project could improve the Council's relationship with the fishing industry if it results in clear steps to address the industry's concerns.

Commercial Recommendations:

- Consider holding regular roundtable sessions with the fishing industry in home ports throughout the region to have a regular, open dialogue with the Council.
- Clearly communicate upcoming issues and meeting topics for fishermen ahead of time so that they provide input at the appropriate point in the process.
- Demonstrate understanding of the fishing industry's concerns and share progress towards implementing their recommendations.

Theme 2: Council meetings are intimidating and difficult to attend.

Commercial Observations:

- Fishermen's lack of public speaking experience is a disadvantage in the public comment process because some stakeholder groups have paid representatives that seem to get more attention from the Council.
- It is too expensive to travel to Council meetings and lose a day of fishing.
- The set-up of Council meetings makes it difficult to know which Council member is speaking.
- Many fishermen do not know which Council members represent their own state or the interests of the fishing industry.
- The public microphone is starkly situated at Council meetings in a setting that is already intimidating.

Commercial Recommendations:

- Film Council meetings and make them available on the internet.
- Utilize conference calls and web-ex meetings with fishermen to get input on specific issues prior to Council decisions.
- Distribute summaries of meeting minutes to fishermen via email and on the Council website.

Theme 3: The Council does not clearly communicate the main components of its decisionmaking processes.

Commercial Observations:

- Council communications do not sufficiently explain the scientific basis for decisions or describe the process that lead to final decisions.
- The Council can do a better job explaining the impacts of decisions on fishermen.
- Regulations seem arbitrary and politically-driven in the absence of clear communication about the science and decision-making process.

Commercial Recommendations:

 Provide materials that explain what and why decisions are made using language and a format that fishermen understand. Include sufficient background materials so that the decisions make sense in the big picture.

GOVERNANCE

Theme I: There is a lack of appropriate industry representation on the Council.

- Councils are required to reflect the interests of their constituent States. This is impossible when few Council members actually represent the commercial fishing industry's perspective. Reliance on a single commercial representative ignores the diversity of the fishing industry.
- There are not enough people with 'on the water experience' on the Council and involved at all levels of the process.
- Even when fishermen are involved in the process at the appropriate time, special interests and politics seem to dominate decision making at the Council.
- Some states that have a major stake in mid-Atlantic fisheries, such as Connecticut and Rhode Island, are not represented on the Council at all.

• The Mid-Atlantic Fishery Management Council is not able to vote on important fisheries in the region that are managed by the New England Fishery Management Council (e.g., sea scallops).

Commercial Recommendations:

- Ensure that the interests of all commercial industry members who land mid-Atlantic species are represented.
- In the absence of true commercial industry representation, the Council should consider alternative methods of incorporating industry input in a meaningful way in the decision making process.
- Allow the Mid-Atlantic Fishery Management Council to have voting rights on fisheries that are important to the region that are managed by the New England Fishery Management Council.

Commercial Observations:

- Many fish are unnecessarily managed by multiple organizations.
- It is unclear which management organizations manage which fisheries.
- The jurisdictions and roles of different management organizations are unclear.

Commercial Recommendations:

- Clearly communicate the responsibilities and jurisdictions of the different fishery management organizations.
- Work to increase coordination among the fishery management organizations in state and federal waters.

ECOSYSTEMS

Theme I: Predators (e.g., cormorants, striped bass, marine mammals, dogfish) are overabundant in the ocean.

Commercial Observations:

- Predators have a major impact on forage species, which are important to sustaining the stocks of the commercially important species.
- Conservation of some predatory species of fish (i.e., bluefish, dogfish, striped bass) may be having adverse impacts on other historically important fisheries like summer flounder and weakfish.
- The growth of the dogfish population has become a nuisance for fishermen coast-wide.

Commercial Recommendations:

- Consider predator-prey dynamics more comprehensively during the management process.
- Increase dogfish quota to relieve predatory pressure on other species.

Theme 2: The multitude of fishery management organizations results in unnecessary complexity and confusion.

Theme 2: Pollution, development, and other human activities are damaging the marine ecosystem.

Commercial Observations:

- Ecosystem degradation resulting from human activities and land development is most noticeable in the in-shore area, including estuaries.
- Various pollutants, including chemicals that are sprayed on lawns and in agricultural practices, are creating dead zones and harming essential fish habitat.
- Poor water quality near the coasts is reducing visibility for certain fish and forcing them offshore.
- Beach replenishment disturbs/destroys shoal areas and can disrupt natural fish distributions.

Commercial Recommendation:

• Increase cooperation with in-shore partners to reduce the effects of pollution and land development on marine ecosystems.

Theme 3: There is confusion and skepticism about ecosystem based management (EBM).

Commercial Observations:

- EBM is essentially a new form of area management that will result in more closed areas and additional restrictions.
- It is not possible to manage or control ecosystems given the sheer complexity of the task.
- EBM can only result in more restrictive management measures and create additional challenges for the already-struggling commercial industry.

Theme 4: Fish are moving north as the ocean temperatures increase.

Commercial Observations:

- Species are encountered further north than historical migration patterns.
- Trends in incidental catch are changing as fish move further north and fishermen experience more interactions with certain species in non-traditional locations.

Commercial Recommendation:

• Prioritize an industry-led research agenda that includes real-time monitoring of environmental conditions and fish distributions in the ocean.

Management Objectives: Commercial Industry

Survey respondents were asked to rate the importance of the following 17 management objectives on a scale of 1 (not important) to 5 (extremely important), The average ratings of the commercial industry respondents is depicted in Table 8.

 Table 8: Average rating of management objectives by commercial industry respondents.

Average Rating	Management Objectives
4.5	Consider the importance of an active and viable fishing industry to coastal
	communities
4.4	Consider the cumulative economic impact of regulations when making further
	decisions about new regulations
4.3	Consider the economic impacts of individual management decisions
4.3	Promote long term flexibility in commercial fishing regulations
4.1	Maximize jobs from the sea
4.1	Balance fishing capacity with resource availability
3.9	Maximize commercial catch
3.9	Help to ensure a safe and modern fleet
3.8	Maximize commercial profits
3.8	Prevent overfishing
3.6	Consider how management decisions impact the ecosystem
3.6	Improve the system for monitoring fishing activities
3.5	Fairly balance the concerns of commercial and recreational fishing interests
3.4	Reduce bycatch
3.4	Fairly balance the concerns of users and non-users of the resources impacted by the
	Council's decisions
3.3	Reduce impacts from fishing on protected resources
3.0	Reduce impacts from fishing on habitats

Recreational Sector

Input from the recreational sector was primarily gathered through roundtable sessions and surveys. Five roundtable sessions were held with a total of 71 recreational sector representatives, including for-hire and charter boat owners and operators, private anglers, recreational fishing club members, media, and tackle shop owners. Of those who participated in the general survey, 968 respondents identified themselves as recreational fishermen, 120 as part of the for-hire sector, and 60 as members of the recreational industry (e.g., bait and tackle). Additionally, 717 survey respondents identified their primary role as recreational fishermen, 71 as members of the for-hire sector, and 22 as members of the recreational industry. In addition to the survey responses and roundtable sessions, two position letters were submitted by recreational fishing clubs.

Summary of Themes

- The methods for collecting and estimating recreational effort and catch data are unreliable and reduce anglers' confidence in management decisions. The Marine Recreational Fisheries Statistics Surveys (MRFSS) data are inaccurate. The data do not reflect actual recreational fishing effort or catch, and it is uncertain whether the new Marine Recreational Information Program (MRIP) will bring about significant improvements in catch estimates. The recreational fishing community in the region wants to contribute to the improvement of the recreational catch data.
- Management strategies do not always encourage sustainable recreational fishing. Regulations can be wasteful, such as high size limits that result in regulatory discards. High size limits encourage targeting of primarily large breeding fish, reducing the productivity of the resource.
- Recreational fishermen are looking for reasonable and fair access to the fisheries. Regulations such as closures, size limits, and bag limits make it hard to take home a fish. Quotas should be more equitable with the commercial industry. Recreational access is not equitable within the states in the region due to existing state-by-state quotas.
- The Council does not adequately communicate how and when recreational fishermen can participate in the process. There is an opportunity to increase recreational awareness and involvement by better leveraging the network of fishing clubs and the reach of media.
- Ecosystems considerations are critical to the health and sustainability of the resource. Key concerns are habitat destruction, water quality, and overfishing of forage fish.

Detailed Themes and Recommendations

INFORMATION AND DATA

Theme I: Inaccurate MRFSS recreational fishing data has major negative impacts on recreational fishing.

Recreational Observations:

- Inaccurate MRFSS catch data are the root of distrust with recreational fishermen. Until recreational data is improved, it will be hard to build buy-in to the management process.
- Random phone calling and dockside intercepts are flawed survey methods that do not represent actual recreational fishing effort or catch.
- The MRFSS data is being used for purposes that it was not originally designed (i.e., state level allocation decisions). In many areas, there are believed to be major inconsistencies between MRFSS catch estimates and actual catch.
- MRIP was expected to address these concerns, but it is unclear whether the MRIP data will be of any higher quality or accuracy.

Recreational Recommendations:

- Increase the number of dockside intercepts with recreational fishermen to better represent recreational effort and catch.
- Consider leveraging state license databases to generate a better estimate of effort.
- Create data collection pilot programs with the for-hire sector to supplement recreational catch data.
- Consider multi-year data averaging to develop specifications.
- Utilize for-hire Vessel Trip Report (VTR) data in the stock assessment process.
- Develop a voluntary smartphone application or online portal for recreational fishermen to enter their actual catch data.

Theme 2: The Council's management actions are not consistent with what the fishermen see on the water.

Recreational Observations:

- Recreational fishermen observe changes in populations and species dynamics on the water in real time, but these changes are not reflected in the data until it is too late to make timely adjustments in management.
- The Council has lost credibility due to the disconnect between what fishermen see on the water and the Council's management actions.

Recreational Recommendation:

• Similar to some state efforts, compose a questionnaire to be distributed to recreational fishermen at the end of the fishing year. Use this anecdotal information to better understand trends and manage the fisheries more effectively on an annual basis.

Theme 3: The Council does not sufficiently consider economic impact analyses when making recreational management decisions.

Recreational Observation:

• Recreational management measures can have far-reaching effects on coastal economies, including tackle shops, hotels, marinas, restaurants, rental properties, and other tourism-related businesses.

Recreational Recommendation:

• Develop and consider more comprehensive economic analyses of the impacts of recreational management decisions.

MANAGEMENT STRATEGIES

Theme I: Current recreational size limits encourage catching larger, more fertile breeding fish, which results in increased discard mortality and reduced recreational enjoyment.

Recreational Observations:

- High size limits for important recreational species like black sea bass and summer flounder result in a high rate of discards due to the frequent encounters with undersize fish.
- Fishermen prefer to leave the larger breeding fish in the water and generally prefer to eat younger fish.
- Fishermen burn more fuel finding fish and are unhappy discarding undersize fish which may die.

Recreational Recommendations:

- Consider slot limits for all species to minimize the mortality of larger breeding fish (recommended primarily for summer flounder).
- Improve catch and release practices and decrease discard mortality by teaching fishermen the benefits of circle or barbless hooks, de-hooking tools, wet rags, and air bladder relief needles.
- **Theme 2:** To improve the recreational experience, there is a desire for more access and more fishing opportunities.

Recreational Observations:

- Long fishing seasons provide consistent opportunities throughout the year and are essential to ensuring a good recreational experience.
- The average recreational fisherman is discouraged by unreasonably high size limits that make it difficult to catch and keep a fish.
- Many recreational anglers are not looking for large quantities of keeper fish. Rather, enjoyment of the fishing experience stems from interacting with larger fish and taking home enough fish to feed the family or justify the cost of a fishing charter.
- The total economic value of the recreational sector is much greater than the commercial sector, but is heavily dependent on consistent access to the fisheries.

Recreational Recommendations:

- When establishing recreational specifications related to access to the fishery (i.e., seasons), consider the economic impacts of management alternatives that promote greater access.
- Where possible, prioritize specifications that allow greater access to recreational fisheries.

Theme 3: Seasonal closures result in transfers of effort into other fisheries.

Recreational Observations:

- When the black sea bass season was closed in the winter, it increased recreational fishing effort for species like Atlantic cod and tautog in some regions.
- Closures of other recreational fisheries have pushed fishing effort into non-traditional recreational fisheries, such as golden tilefish.

Recreational Recommendations:

- Consider the potential shifts in effort that may accompany closed seasons.
- Leave seasons open for more than one recreational species at any given time to avoid excessive fishing effort in certain fisheries. This recommendation is particularly important for species that have susceptible aggregations (e.g., dense wintertime fish populations).
- **Theme 4:** Annual fluctuations and inconsistency in state and federal fishing regulations are unreasonable.

Recreational Observations:

- Differences in size limits, bag limits, and seasons from state to state seem arbitrary and create excessive complexity. One fisherman may be fishing next to another fisherman from another state and the size or bag is completely different.
- It is difficult for fishermen to stay up-to-date with state and federal regulations. Frustration with the overly complex regulations may lead to non-compliance.

Recreational Recommendations:

- Consider multi-year specifications.
- Use data averaging over a period of years to reduce the fluctuations in quota.
- Maximize management cooperation between the states and the federal government.
- Implement regional or coast-wide approaches whenever it is feasible.

Theme 5: Regulations favor commercial fishermen over recreational fishermen.

Recreational Observations:

- The 60/40 summer flounder allocation favors commercial fishermen over recreational fishermen and does not accurately reflect the two groups' historic participation in the fishery.
- Commercial fishermen are allowed to catch smaller fish than recreational fishermen in the same waters. This disparity has long-term negative impacts on recreational fishermen's access to and enjoyment of the fishery.

Theme 6: The needs and differences between recreational user groups are not adequately factored into management decisions.

Recreational Observations:

- The recreational sector is very diverse; the needs of private anglers, both onshore and offshore, are different from for-hire/charter businesses.
- In some cases, management measures do not reflect the priorities of user groups within the recreational sector.

Recreational Recommendation:

• Consider flexible management measures that take into account differences in the needs of recreational user groups.

ECONOMIC CHALLENGES

Theme I: The greatest economic challenges for the recreational fishing industry are shortened/closed seasons and substantial annual fluctuations in regulations and/or quota.

Recreational Observations:

- The for-hire sector and other recreational fishing industries require reliable and consistent access to fisheries in order to be economically viable.
- An inability to schedule charters in the offseason because of unspecified fishing season start dates leads to a loss of revenue.
- Tackle shops cannot purchase fishing inventory in the offseason if regulations are not announced or it is unclear when the fishing season will start. This leads to higher tackle costs.
- Reductions in bag limits reduce charter/party boat booking.

Recreational Recommendations:

- Avoid closed seasons whenever possible and try to ensure that at least one recreational fishery is open at any given time. This is particularly important for the Memorial Day and Labor Day holidays.
- Announce fishing season dates as soon as possible to help the for-hire sector plan for the coming fishing season.
- **Theme 2:** There is a fear among recreational fishermen that they will be penalized drastically if they exceed their quota.

Recreational Observation:

- Exceeding a quota and having massive reductions the following year can badly damage the recreational fishing economy.
- The dividends of stock rebuilding associated with the recovery of species such as summer flounder have not been enjoyed equitably among the states.

Recreational Recommendation:

• Consider multi-year specifications that reduce the risk of overfishing and provide stability to the recreational industry.

COMMUNICATIONS AND PARTICIPATION

Theme I: Most recreational fishermen do not know how or when to participate in the Council process.

Recreational Recommendations:

- Hold roundtable sessions with recreational fishing organizations to gather input from a broad range of recreational stakeholders.
- Partner with fishing clubs and tackle shops to improve awareness and understanding of the Council process among recreational fishermen.
- Demonstrate that input from the recreational sector is being considered in the management process.

Theme 2: Communications by the Council are often too difficult to understand.

Recreational Observation:

• Press releases and website content are written in overly technical language that is hard for many anglers to understand.

Recreational Recommendation:

• Collaborate with fishermen to develop simpler communications that the majority of fishermen will understand.

GOVERNANCE

Theme I: Fishery management efforts by the different management organizations are confusing and disjointed.

Recreational Observations:

- There is a lack of consistency in regulations across all management organizations. For example, black sea bass are managed differently from state to state and between two fishery management Councils.
- Most fishermen do not understand the roles or jurisdictions of the multiple fishery management organizations.

Recreational Recommendations:

- Work more closely with all management organizations to develop standardized fishery management plans.
- Establish a system for ongoing coordination and collaboration among management organizations.
- Develop communication strategies designed to educate stakeholders about the different organizations that are involved in fisheries management.
Theme 2: Recreational fishing interests are not adequately represented in the Council process.

Recreational Observations:

- Both the Council process and the process for appointing Council members can be driven by politics and lobbyists.
- There are not enough recreational fishermen on the Council or its advisory panels.
- On-shore and private anglers, in particular, do not feel represented in the Council process.
- Governors often nominate Council members who do not truly represent the interests of their state.

ECOSYSTEMS

Theme I: There has been a loss and degradation of fish habitat over the last several decades.

Recreational Observations:

- A loss of natural reefs and degradation of inshore habitat and spawning areas in estuaries has been a cause of stock declines.
- Fish habitats and artificial reefs are adversely affected by commercial fishing gear, including dredges, pots, and nets. Commercial fishermen may deplete fish that live around artificial reefs created by recreational fishermen.

Recreational Recommendations:

- Focus on restoring the natural fishing habitat.
- Support efforts to create artificial reefs.
- Ensure that commercial gear is not allowed to damage fish habitats.

Theme 2: Pollution and human activities have caused substantial degradation of water quality.

Recreational Observations:

- Runoff into near-shore areas increases water turbidity and pushes sight-feeding fish further offshore, decreasing near-shore fishing opportunities.
- There are dead zones offshore that did not previously exist.

Recreational Recommendation:

- Work with inland management partners and municipalities to reduce pollution.
- **Theme 3:** There is excessive pressure on forage species due to the number of predators and the commercial overfishing in forage fisheries.

Recreational Observations:

- Menhaden have been overharvested by commercial fishermen.
- Overabundance of dogfish is causing forage species declines.
- Weakfish appear to have been severely depleted recently due to overfishing, loss of habitat, and predator demand for forage.

Recreational Recommendation:

• Focus on rebuilding all forage species to ensure recreational opportunities for the future.

Theme 4: Fish concentrations are moving further north as ocean temperatures increase.

Recreational Observation:

• Many recreational fishermen have noticed changes in the distribution of fish populations. Species appear to be migrating into northern waters.

Recreational Recommendation:

• Study the impacts of climate change and its effect on fish reproduction and migration patterns.

Management Objectives

RECREATIONAL SECTOR

Survey respondents were asked to "rate the importance of the following management objectives" on a scale of I (not important) to 5 (extremely important). The average ratings of the **recreational sector respondents** are depicted in Table 9.

 Table 9: Average rating of management objectives by recreational respondents.

Average Rating	Management Objective
4.4	Reduce bycatch
4.3	Prevent overfishing
4.2	Consider how management decisions impact the ecosystem
4.1	Improve the system for monitoring fishing activities
4.0	Balance fishing capacity with resource availability
4.0	Fairly balance the concerns of commercial and recreational fishing interests
3.9	Consider the importance of an active and viable fishing industry to coastal communities
3.9	Reduce impacts from fishing on habitats
3.8	Reduce impacts from fishing on protected resources
3.7	Consider the cumulative economic impact of regulations when making further decisions about new regulations
3.7	Consider the economic impacts of individual management decisions
3.5	Fairly balance the concerns of users and non-users of the resources impacted by the Council's decisions
2.9	Promote long term flexibility in commercial fishing regulations
2.8	Help to ensure a safe and modern fleet
2.7	Maximize jobs from the sea
2.2	Maximize commercial catch
2.0	Maximize commercial profits

FOR-HIRE SECTOR

Survey respondents were asked to "rate the importance of the following management objectives" on a scale of 1 (not important) to 5 (extremely important). The average ratings of **the for-hire respondents** are depicted in Table 10.

Table 10: Average	ge rating of ma	nagement objective	es by for-hire	respondents.
	- -			

Average Rating	Management Objective
4.3	Reduce bycatch
4.1	Consider the importance of an active and viable fishing industry to coastal communities
4. I	Fairly balance the concerns of commercial and recreational fishing interests
4. I	Improve the system for monitoring fishing activities
4. I	Prevent overfishing
4.0	Consider how management decisions impact the ecosystem
4.0	Consider the cumulative economic impact of regulations when making further decisions about new regulations
4.0	Balance fishing capacity with resource availability
3.9	Consider the economic impacts of individual management decisions
3.8	Reduce impacts from fishing on habitats
3.7	Reduce impacts from fishing on protected resources
3.6	Fairly balance the concerns of users and non-users of the resources impacted by the Council's decisions
3.3	Promote long term flexibility in commercial fishing regulations
3.2	Maximize jobs from the sea
3.2	Help to ensure a safe and modern fleet
2.6	Maximize commercial catch
2.6	Maximize commercial profits

Environmental Non-Governmental Organizations (ENGO)

Feedback from the environmental representatives was gathered during one roundtable session and 60 general survey responses. Of these 60 survey respondents, 30 selected ENGO as their primary role. 5 position letters were submitted by environmental organizations.

Summary of Themes

- To better understand the health of fisheries, the Council needs more accurate and reliable data. Effective fisheries management is impossible without adequate observer coverage, monitoring, and estimation of incidental catch.
- The Council must adhere to a precautionary approach to fisheries management. Given the high levels of uncertainty and the inherent risks of managing to maximum sustainable yield, additional precaution should be incorporated into management decisions.
- The Council should transition to ecosystem-based management approaches. Predator-prey dynamics need to be more fully-integrated in to management plans and/or the Council should develop an ecosystem plan that provides a framework for incorporating ecosystem considerations into the Council process.
- The ongoing depletion of forage species is a serious concern and should be given full attention by the Council. Many forage species are under pressure but are not managed under a fishery management plan. Their importance to the ecosystem and to other economically valuable fisheries should be grounds for greater consideration.
- **Protection of fish habitat must be a top priority.** There are areas of essential habitat that are unprotected from destructive fishing practices. Fisheries management needs to include habitat management strategies.

Themes and Recommendations

INFORMATION AND DATA

Theme I: Catch monitoring and at-sea observer coverage is insufficient.

ENGO Observations:

- Reliable estimates of total catch for all species within the Council's jurisdiction are necessary to gauge the overall health of the whole regional ecosystem.
- At-sea observer coverage and catch monitoring in the region is poor. This issue is prominent in small mesh fisheries that have an incidental catch of many important forage species.
- The Council has very limited information about the impacts of incidental catch.

- Increase monitoring and observer coverage for all species.
- Consider alternative sources of funding for the observer program, including industry costsharing or an ex-vessel fee, to support improvements to the observer program.
- Improve monitoring and observer protocols to account for all species caught during trips.

• Support efforts to develop technology that will reduce monitoring costs and improve data accuracy and coverage, including real time e-logbooks, onboard cameras with GPS, and confidential information sharing among fishermen.

ENGO Observations:

- Cooperative research is a valuable way to engage fishermen in the scientific process and fisheries science.
- Cooperative research provides data on ecosystems and sustainable fishing gear and practices, an area of research that is increasing in importance as emphasis on EBM grows and catch limits are enforced.

ENGO Recommendations:

- Continue to proactively work with the National Marine Fisheries Service and the Northeast Fisheries Science Center to prioritize and fund cooperative research.
- Utilize for-hire fishermen to develop data gathering methods, including at-sea tagging programs for research into fish mortality.

MANAGEMENT STRATEGIES

Theme I: The current ACL-setting system does not provide adequate precautionary buffers to prevent overfishing.

ENGO Observations:

- Failure to use precaution when increasing quotas may lead to overfishing and instability for the fishing industry. The resulting variability in the annual catch limit is resource intensive for science and management due to the additional workload associated with changes in specifications.
- Management must be particularly precautionary for data poor stocks and highly variable stocks to avoid overfishing.

- Collaborate with partners to develop a research plan that prioritizes studies and/or data collection needed to determine stock status for stocks with unknown status, especially forage species.
- Implement a more conservative risk policy for ACL setting.
- Develop clear guidelines for establishing ecologically safe catch levels (i.e.; prevents overfishing while accounting for predator demand) when stock status is unknown.

Theme 2: Cooperative research brings legitimacy to scientific decision making and the Council's management as a whole.

Theme 2: As part of a transition toward ecosystem-based management, it is important to maintain abundant forage populations.

ENGO Observations:

- Many of the Council's predatory fish populations have been rebuilt, resulting in increased reliance on forage species.
- Forage species are experiencing increased fishing pressure as targeted and incidental catch.
- Based on current stock assessments, no single forage stock is at a level above the biomass corresponding to maximum sustainable yield (BMSY).
- There are forage species in the mid-Atlantic that are not managed under a fishery management plan despite their importance to the mid-Atlantic ecosystem and several of the Council's managed fisheries.

ENGO Recommendations:

- As a first step towards ecosystem-based fishery management, consider the status of all regional forage species as a whole.
- Incentivize the development and use of selective gears to reduce incidental catch of forage species.
- Prevent the development of directed fisheries on unmanaged forage species until there is adequate information to manage them sustainably.
- Advocate the use of stock assessment models that account for predation and uncertainty regarding present and future predator demand for forage.
- Develop a research plan for species whose status is unknown that would prioritize the data collection needed to determine stock status and enhance at-sea fishery monitoring.
- In the short term, use biomass corresponding to maximum sustainable yield (BMSY) as a threshold, rather than a target, for the squid, mackerel, butterfish fishery management plan. This is consistent with the National Standard I recommendation for forage species.
- Manage non-target forage species as 'ecosystem components' of the squid, mackerel, butterfish plan.
- **Theme 3:** Protection and monitoring of fish habitat are not emphasized as key elements of sustainable fishery management.

ENGO Observations:

- Bottom habitats have not been adequately surveyed in the mid-Atlantic.
- There are areas of essential habitat that are unprotected from destructive fishing practices.

- Develop a comprehensive habitat plan with the objectives of improving fishery production and habitat protection in the mid-Atlantic region.
- In the short term, incorporate habitat assessments as a component of the fishery management plan (FMP) for species that are dependent on particular types of habitats or geographic areas.
- Consider implementing gear restrictions or closed areas to protect essential fish habitats (EFH) and other ecologically sensitive areas.

- Use geographic information systems (GIS) to incorporate habitat maps in each fishery management plan.
- Include habitat protection as a key element of the Council's strategic plan.
- Continue to work with Mid-Atlantic Regional Council on the Ocean (MARCO) to identify and protect key habitat areas throughout the marine spatial planning process.

Theme 4: There is inadequate enforcement of both recreational and commercial fisheries regulations.

ENGO Recommendation:

• Reduce illegal fishing activity through stronger penalties and more consistent enforcement.

COMMUNICATIONS AND PARTICIPATION

Theme I: Communications must be elevated in importance to rebuild trust across all stakeholder groups.

ENGO Observations:

- Misperceptions increase without clear communication regarding the specific intentions behind management actions and why past efforts have been beneficial.
- Many stakeholders do not engage at the appropriate point in the Council process to influence outcomes, leading to loss of trust when stakeholders feel as though they were not heard.
- All stakeholder groups must feel that they have a right to be at the table.

ENGO Recommendations:

- Describe the rationale for Council actions in plain language so that all can understand, especially when explaining the need for more precautionary management in the face of scientific and management uncertainties.
- Update the Council website to include information such as data sources and how they are used, relevant cooperative research projects, and specifics on how to get involved.
- Engage stakeholders earlier in the management process.
- Continue to bring stakeholders together for discussion, collaboration, and establishment of common goals.
- Manage expectations more proactively by maintaining transparency and open communication about developments on key issues.

Theme 2: The Council process is not as interactive and accessible as it could be.

ENGO Observations:

- ENGO inclusion in advisory panels is disproportionally low relative to industry representation.
- The layout of the room during Council meetings is dominated by a large 'U' shaped table, leaving little room for the public to sit.
- It is difficult to tell who is speaking at Council meetings and who they represent.
- Stakeholders often do not know who their representatives are and may not be able to identify them at a meeting.

GOVERNANCE

Theme I: There is complexity and insufficient coordination among fishery management organizations.

ENGO Observations:

- There is a lack of coordination managing fisheries that span across multiple state or federal jurisdictions, especially trawl fisheries that overlap on forage species.
- The Council may not be able to reach its visioning goals without substantive coordination and collaboration from other federal and state management organizations.

ENGO Recommendation:

• Examine institutional barriers for cooperation between the management entities.

ECOSYSTEMS

Theme I: The current focus on single-species management does not adequately account for the complexity of the ecosystem.

ENGO Observations:

- Effective fisheries management will include considerations of inter-species relationships, ecosystem dynamics, and the potential impacts of management decisions.
- At a minimum, the Council should recognize that management decisions can have an impact on predator-prey dynamics.

ENGO Recommendations:

- Develop an Ecosystem Plan that provides a framework for incorporating ecosystem considerations into the Council process.
- Adopt an ecosystem-based management approach that is area based and considers the effects of climate change and pollution (e.g., eutrophication).
- Address the impacts of fishing on marine habitat as part of the Council's ecosystem-based approach to management.
- **Theme 2:** Pollution and climate change will continue to substantially alter ecosystem dynamics in the years to come.

ENGO Observations:

- Climate change leads to a rise in sea levels and increased salinity/acidification in the ocean. Both of these trends may damage fish habitat and productivity.
- Nitrogen pollution in coastal waters and estuaries leads to dead zones and anoxia.
- There is a lack a regulatory oversight and accountability around water quality regulations.

- Coordinate with management organizations and other key federal, state, and local partners to strengthen water quality regulations.
- Prioritize a research agenda that examines changes in fish populations and ecosystem dynamics that may be a result of climate change.

Management Objectives: ENGO

Survey respondents were asked to "rate the importance of the following management objectives" on a scale of 1 (not important) to 5 (extremely important), The average ratings of the **environmental non-governmental respondents** is depicted in Table 11.

Average Rating	Management Objective
4.7	Prevent overfishing
4.6	Reduce bycatch
4.6	Consider how management decisions impact the ecosystem
4.4	Reduce impacts from fishing on habitats
4.3	Reduce impacts from fishing on protected resources
4.2	Improve the system for monitoring fishing activities
4.0	Balance fishing capacity with resource availability
3.5	Fairly balance the concerns of commercial and recreational fishing interests
3.5	Fairly balance the concerns of users and non-users of the resources impacted by the Council's decisions
3.2	Consider the importance of an active and viable fishing industry to coastal communities
3.0	Consider the cumulative economic impact of regulations when making further decisions about new regulations
3.0	Consider the economic impacts of individual management decisions
2.7	Promote long term flexibility in commercial fishing regulations
2.7	Help to ensure a safe and modern fleet
2.3	Maximize jobs from the sea
1.9	Maximize commercial catch
1.8	Maximize commercial profits

Table 11: Average rating of management objectives by ENGO respondents

Interested Public

The survey was the primary method for gathering input from the interested public. Of those who took the survey, 252 respondents identified themselves as interested public members, with 69 respondents identifying it as their primary role. In addition, several other roles were grouped as interested public for theming. This stakeholder group includes all respondents who selected roles of either interested public, recreational user (boating, diver, etc.), state or local government, federal government, academic institution, non-governmental organization, or elected government official.

Survey Highlights

Input from the interested public was solely from survey data, including responses to open-ended questions. Open-ended survey responses were often limited to a single word or short phrase. To avoid attaching unintended meaning or undue significance to the open-ended survey responses, the summary results provided for this stakeholder group does not include themes as in the previous sections. Instead, the following are highlights from two open-ended survey questions:

- What are the top three challenges facing mid-Atlantic fisheries today? (Table 12)
- If you could make one change in the way mid-Atlantic fisheries are managed, what would it be? (Table 13)
- Survey responses to the open-ended questions were categorized, and the most frequently cited categories are listed in Tables 12 and 13.

Table 12: Top challenges facing mid-Atlantic fisheries today identified by interested public respondents.

Preventing overfishing	31%
Reducing unnecessary discards	20%
Depletion of forage species	19%
Inaccurate data used to make decisions	15%
Influence of special interest groups	13%
Need for balance of diverse stakeholder interests	12%

Table 13: Top recommendations to improve management of mid-Atlantic fisheries identified by interested public respondents.

Improve the accuracy of the data	9 %
Change the council make up to better represent all stakeholders	7%
Focus on restoring forage species	7%
Improve communications and outreach	6%
Improve the science used to make decisions	6%
Remove politics from the process	6%
Incorporate an ecosystem-based management approach	5%
Increase stakeholder involvement	5%

Management Objectives: Interested Public

Survey respondents were asked to "rate the importance of the following management objectives" on a scale of I (not important) to 5 (extremely important). The average ratings of the interested public respondents are depicted in Table 14.

Table 14:	Average rating of man	agement objectives	s by interested pub	lic respondents.
-				

Average Rating	Management Objective
4.3	Prevent overfishing
4.3	Reduce bycatch
4.2	Consider how management decisions impact the ecosystem
4. I	Improve the system for monitoring fishing activities
4.0	Balance fishing capacity with resource availability
3.9	Fairly balance the concerns of commercial and recreational fishing interests
3.8	Reduce impacts from fishing on habitats
3.8	Consider the importance of an active and viable fishing industry
3.8	Reduce impacts from fishing on protected resources
3.6	Consider the cumulative economic impact of regulations when making further
	decisions about new regulations
3.6	Consider the economic impacts of individual management decisions
3.5	Fairly balance the concerns of users and non-users of the resources impacted by
	the Council's decisions
2.8	Help to ensure a safe and modern fleet
2.8	Promote long term flexibility in commercial fishing regulations
2.6	Maximize jobs from the sea
2.2	Maximize commercial catch
1.9	Maximize commercial profits

STAKEHOLDER VISION

The Council was also interested in understanding how stakeholders envision successful fisheries and fisheries management in the future. All survey or roundtable participants were asked about their vision for Mid-Atlantic fisheries.

Many of their responses were shared by members of all groups. Characteristics of a common vision for Mid-Atlantic fisheries include:

Common Vision

- Fish populations are thriving and are harvested at sustainable levels.
- Management decisions are based on sound data and science.
- There is equitable consideration of the needs of diverse stakeholder groups; the interest of no one stakeholder group outweighs another.
- There is little waste in the fisheries, and regulatory discards are minimal.
- More stakeholders are involved in the management process.

The following sections summarize the responses to this question for each of the four stakeholder group categories.

Commercial Industry

KEY CONCEPTS OF A VISION FOR MID-ATLANTIC FISHERIES

In ten years ...

- I. Fishermen still have jobs and fishing communities still exist.
- 2. Regulations are clear and easy to understand.
- 3. There is improved flexibility and predictability in regulations.
- 4. There is a diverse fleet of fishermen able to target a wide range of fisheries.
- 5. There is a thriving and diverse commercial fishing infrastructure.
- 6. Young men will be able to learn the trade of commercial fishing, enter the fishing industry, get a boat, make a living, and support a family.
- 7. The general public, particularly children, understand that fishing is a respectable and desirable profession.
- 8. All stakeholders have equal opportunities to utilize fishery resources.
- 9. Marketing for domestic fisheries is greatly improved.
- 10. There is little waste; regulatory discards are avoided.

Example statements in response to the survey question on the vision for mid-Atlantic fisheries:

"They should be well-managed to provide the maximum long and short term benefits to the participants and the country. The management should be based on sound basic science following ecosystem principals. It should be understood that all organisms in the ocean interact with each other in some way, and what is done to one organism will affect others. Ecological changes and changes in pollution levels should be part of the management decisions."

"A well-managed resource with simple and equitable regulations that allows for maximum employment and participation. A system that recognizes that the marine resources are a food resource first above all else. A system that does not provide greater or favored access to one group or class over another in both recreational and commercial. A system where anyone who wishes to engage in the trade of fishing should be allowed."

"A balance of equal growth and take of each species, eliminate wasteful by-catch, better scientific evaluations of fish stocks including data from all sectors of the fishing community."

Recreational Sector

KEY CONCEPTS OF A VISION FOR MID-ATLANTIC FISHERIES

In ten years ...

- 1. The recreational fishing industry is thriving.
- 2. There is ample opportunity and access for recreational fishermen.
- 3. There is a focus on protecting and restoring the marine ecosystem, particularly forage species.
- 4. Recreational catch data is accurate, timely, and reflective of fishing effort.
- 5. Fishermen will be able to target more species of fish on any given day.
- 6. Fish populations are generally stable from year to year. As a result, regulations are consistent and require fewer changes and seasonal closures.
- 7. There is a greater consideration of economic data when making decisions.
- 8. There is an efficient and centralized system for recreational licensing and reporting.
- 9. Fish habitats are significantly rebuilt and healthy.
- 10. Fishery management organizations work together to ensure that management plans are cohesive and seamless across all species.
- II. There are advanced management strategies that minimize waste and reduce bycatch mortality.

Example statements in response to the survey question on the vision for mid-Atlantic fisheries:

"A successful fishery would have a self-sustaining ecosystem that provides a predictable quantity of food-fish for commercial harvest, albeit of a limited number of species, while also supporting a profitable recreational fishing industry that is managed to ensure bags and slot limits over the widest variety of species are strictly adhered to. The ecosystem would ensure that all levels of the food chain are self-sustaining from marshes to the open ocean."

"Proper use of science based data collection, including surveys of fishermen; equitable distribution of quotas to recreational sector, commercial sector; realistic evaluation of ecosystem and economic impact of decisions made."

"One that is not always in crisis - where decisions make sense to people, where the states have the capacity to do their jobs. One where the long-term integrity of fish populations and marine habitats are not jeopardized by fishing activities. One where long-term benefits are not trumped by short term costs One where state, habitat, water quality, and estuary plans are better aligned with Fishery Council and ASMFC plans. One where all stakeholders feel that their values are adequately represented in the decision making process."

Environmental Non-Governmental Organizations (ENGO)

KEY CONCEPTS OF A VISION FOR MID-ATLANTIC FISHERIES

In ten years ...

- 1. All fisheries are managed in a sustainable way that avoids adverse impacts on ecosystems, and non-target species.
- 2. Goals are shaped based on actual resource availability and are not influenced by pressure from stakeholder groups or socioeconomic factors.
- 3. The health of the marine ecosystem is restored, protected, and maintained.
- 4. Preserving ecosystem resiliency is a high priority for the Council.
- 5. The Council collaborates with other scientific organizations to incorporate cutting-edge approaches for collecting data, monitoring catch, and assessing stock health.
- 6. There is accurate forage species data and it is used to understand the health of the overall forage base. There is continued protection of forage species.
- 7. Regulations are consistently enforced.
- 8. Fishery management rests on good science and a fully integrated ecosystem plan with important ecological interactions identified and considered in management decisions.
- 9. There are advanced management strategies that minimize waste and reduce bycatch mortality.

Example statements in response to the survey question on the vision for mid-Atlantic fisheries:

"All fisheries would not be overfished and have sustained stocks with adequate science and publicly supported rules, regulations, and enforcement."

"Well controlled and smartly limited harvest - both commercial and recreational - without adverse political influence. Rules enforcement should be dependable, widely and evenly distributed, firm, and free of political influence."

"Sustainable populations of all species under management with emphasis on species interrelationships and ecosystem. Recognize the importance and special protection for forage species."

"Protecting and restoring marine ecosystem health, especially in light of changing environmental conditions, including resulting from climate change; identifying and protecting important marine ecological areas; protecting important marine habitats, including essential fish habitat; integrating ecological interactions, such as predatorprey dynamics, and satisfy forage needs of current and future restored populations of flora and fauna; ensuring catch levels are set based on scientific advice and fully account for existing scientific and management uncertainties, erring on the side of precaution; and seeking to decrease scientific and management uncertainties, including through improvements in the quality and timeliness of stock assessments, the quality of catch data (particularly bycatch), and improved integration of trophic and environmental relationships."

Interested Public

KEY CONCEPTS OF A VISION FOR MID-ATLANTIC FISHERIES

In ten years ...

- I. Coastal communities are prosperous year round.
- 2. There is a balance between conservation and fishing opportunities.
- 3. Fisheries are managed to avoid adverse effects of fishing on the ecosystem.
- 4. Fisheries use more selective fishing gear that reduces bycatch and habitat impacts and increases fishing efficiency.
- 5. Management is sensitive to the needs of fishermen, while protecting the resources in the long term.
- 6. There is accurate biological, social, and economic data supporting management decisions.

Example statements in response to the survey question on the vision for mid-Atlantic fisheries:

"Successful fisheries in the mid-Atlantic would ensure that fish, a resource managed in the public trust, remains fairly accessible to recreational and commercial fishermen while ensuring the long-term viability and recovery of stocks. In particular, the Council should ensure the existence of a healthy, viable, and diverse fleet of commercial fishermen and fair access for recreational fishermen by resisting the spread of catch share programs in the region, which devastate fishermen and fishing communities and privatize our natural resource."

"Healthy and sustainable, with flexible management for users to make business decisions on fishing opportunities. In addition but as or even more important: fisheries managed to decrease impacts on other species, fisheries, and user groups."

"Healthy fish stocks with a balance between commercial fishing and recreational fishing. This includes managing all resources that effect our fish stocks (particularly menhaden fishing in the Chesapeake Bay)."

"Fishing communities are thriving, fish stocks are healthy, a diverse group of people are able to make a living from commercial fishing, and there is a diverse array of seafood available for people in the Mid- Atlantic and the United States to eat."

FISHERY-SPECIFIC THEMES

Throughout the course of the data gathering phase, the Council received stakeholder input on all 12 of its managed species. Input was received through fishery-specific surveys, as well as in roundtable sessions. This input has been compiled into themes for each species in this section. Fishery-specific themes were developed based on the input that was received. For some species, there were no themes developed due to limited stakeholder input or lack of definite themes.

Figure 3 illustrates the comparative level of interest that was shown for each species during the survey, while Figure 4 shows the percentage of roundtable discussions in which each species was discussed.





Figure 3: Number of fishery specific surveys completed for each species.

Figure 4: Percentage of roundtable discussions in which each species was discussed.

Summer Flounder

584 participants completed the summer flounder visioning survey. Input was given on summer flounder in every roundtable session. Summer flounder was the most frequently mentioned species among all fishermen.

71% of survey respondents rated the HEALTH of the summer flounder stock as excellent or very good (Fig. 5a). 63% rated the EFFECTIVENESS of the management of summer flounder as poor or fair (Fig. 5b).



Fig. 5a: Health of Summer Flounder Stock



Fig. 5b: Effectiveness of Summer Flounder Management

COMMERCIAL INDUSTRY THEMES

Theme I: The inability to land summer flounder in the nearest port due to state-by-state regulations forces commercial fishermen to travel far out of their way and costs them fuel, time, and money.

Commercial Observations:

- Fishermen must travel greater distances than necessary to land summer flounder, which exacerbates the problem of high fuel costs and makes it less economical to go fishing for summer flounder.
- Boats from other states can travel to fish in Federal waters adjacent to states whose quotas have already been caught, while local fishermen are restricted in that same area. This was a particular concern in New York State.
- The problem is more severe for those fishing in the northern portion of the fishery because there is a larger distribution of quota in southern states, meaning many fish must be landed further south.

Commercial Recommendations:

- Fishermen should be able to land fish in any state and have it count against their state's landings or any other state quota that they are permitted for.
- Work to ensure equality among federal summer flounder permit holders, regardless of state quotas.



Theme 2: Fluctuations in commercial quotas for summer flounder stocks are causing difficulties catching and marketing summer flounder.

Commercial Observations:

- The summer flounder stock has been declared rebuilt, but the quota was decreased this year (2011). This contributes to the feeling that fish are taken away but never given back.
- Fluctuations in the quota for summer flounder are damaging its market. Most buyers need a guaranteed supply, but annual fluctuations in quota create unpredictable supply streams that damage buyer/seller relationships.
- The "derby-style" quota fishery for summer flounder pressures fishermen to catch as much as possible as soon as the season opens. This flux of fishing effort tends to flood the market with fish and drive the price down. Large-scale buyers know when the state fisheries open and use this opportunity to drive the price down.
- Some fishermen feel that the summer flounder allocation is unfair and makes it impossible to catch enough to be profitable.
- Fishermen in some states, particularly New York and Massachusetts, believe that state allocations were based on flawed historical data. In the 1980s, landings in New Bedford were credited to North Carolina quota, which is an example of how historical landing data may be flawed.

Commercial Recommendations:

- Avoid large fluctuations in quota for summer flounder.
- Consider management strategies to minimize the negative effects of "derby style" fishing for summer flounder.
- Consider revisiting the historical landing data that drives quota decisions.
- **Theme 3:** Summer flounder are one of several species that are being encountered more frequently in waters north of their traditional range.

Commercial Observations:

- Fishermen are encountering summer flounder further north and in greater concentrations than they have in the past.
- The shifting range of summer flounder is problematic for fishermen targeting northern species that would not typically be caught in the same area as summer flounder. They are experiencing increasing amounts of summer flounder bycatch but many do not have permits to keep them.

Commercial Recommendation:

- Consider provisions for incidental catch of summer flounder, especially in northern waters.
- Revisit the state quotas to take the shifting range of the fishery in to account.



RECREATIONAL SECTOR THEMES

Theme I: Current recreational size limits for summer flounder encourage catching the less abundant, larger, more fertile breeding fish.

Recreational Observations:

- There is currently an abundance of undersize summer flounder in the mid-Atlantic waters.
- High size limits result in more encounters with undersize fish and more discards.
- The high ratio of throwbacks to keepers is very discouraging for fishermen, many of whom are finding it hard to catch a keeper. Fishing participation appears to be declining.
- Fishermen want to leave the larger fertile breeding fish in the water and generally prefer to eat younger fish.
- Fishermen burn more fuel finding keepers and are unhappy discarding undersize fish which they believe are likely to die.

Recreational Recommendation:

- Consider slot limits to minimize the mortality of both smaller more abundant fish as well as the larger less abundant breeding fish. This will reduce discards and make it easier for fishermen to take fish home without burning through a lot of fuel.
- **Theme 2:** The disparity between commercial and recreational regulations is unfair and does not help to achieve sustainability.

Recreational Observations:

- The minimum size for the commercial sector is 14 inches while the recreational sector is only allowed to land much larger fish.
- A recreational fisherman must throw back many summer flounder before he can catch a keeper, but he can go to the supermarket and buy a smaller commercially caught summer flounder anytime.
- Commercial fishermen are catching volumes of fish that have not reached full spawning maturity, while recreational fishermen are targeting only the larger, mature breeding fish. This reduces productivity of the stocks.
- Commercial fishing for summer flounder, especially in spawning grounds or winter rest areas, can severely deplete the resource and may damage ocean floor habitat.
- The allocation of summer flounder quota between the commercial and recreational sector does not reflect historic participation in the fishery.

Recreational Recommendations:

- Consider a uniform size limit, or at least reduce the discrepancy between the commercial and recreational size limits.
- Reconsider the 60%/40% split in commercial/recreational allocation.



Black Sea Bass

160 participants completed the black sea bass visioning survey, and input was given on black sea bass in 50% of commercial meetings and all of the recreational meetings.

75% of survey respondents rated the HEALTH of black sea bass stocks as excellent or good (Fig. 6a) and 71% rated the EFFECTIVENESS of management as poor or very poor (Fig. 6b).



Fig. 6a: Health of Black Sea Bass Stocks



Fig. 6b: Effectiveness of Black Sea Bass Management

COMMERCIAL INDUSTRY THEMES

Theme I: Stock assessments and quota allocations do not adequately reflect the regional nature of black sea bass populations.

Commercial Observations:

- Stock assessments may not reflect the distribution of regional black sea bass populations.
- Current coast-wide quotas are based on historical data that do not reflect the changing dynamics of stock populations and current distribution of black sea bass.
- Fishermen in states with less quota but a high abundance of black sea bass suffer when their quota is caught quickly.

Commercial Recommendations:

- Consider regional based stock assessments.
- Align coast-wide quota decisions with the distribution of regional black sea bass populations.
- In making quota decisions, use the time required to catch the quota as an indicator of regional abundance.



Theme 2: Black sea bass are abundant in the northern fishing areas which results in greater incidental catch.

Commercial Observations:

- Black sea bass appear to have become more abundant in northern areas with natural bottom habitat (e.g., Rhode Island, Massachusetts) as the ocean water has warmed.
- Black sea bass swim and are caught along with other species with higher quotas, such as scup.
- Fishermen in northern areas are encountering more black sea bass as incidental catch when targeting species such as scup. This may lead to greater mortality and regulatory discards, and it may constrain other fisheries that are caught in concert with sea bass that are not closed.

Commercial Recommendations:

• Consider provisions to increase commercial allowable catch of black sea bass in northern waters.

RECREATIONAL SECTOR THEMES

Theme I: Healthy, structured habitat is very important for black sea bass stocks to thrive.

Recreational Observations:

- Black sea bass prefer natural reefs, hard bottom, wrecks, and artificial reefs as habitat.
- There has been a loss of natural bottom habitat for black sea bass over the last several decades.
- Commercial pot and trap fishing on reefs can deplete the resource and prevent recreational fishermen from accessing the resource during peak fishing times (weekends, holidays).
- Dredging around reefs, either natural or artificial, can seriously damage essential fish habitats.
- Artificial reefs funded by recreational groups or taxpayers are effective in restoring black sea bass stocks and providing habitat.

Recreational Recommendations:

- Support efforts to develop artificial reefs and habitat in mid-Atlantic waters.
- Protect existing natural habitat from the negative effects of commercial fishing gear.
- Limit commercial fishing on or around artificial reefs that are funded by recreational groups.

Theme 2: The data for black sea bass do not reflect realities on the water.

Recreational Observations:

- Trawl surveys do not accurately measure black sea bass populations because black sea bass prefer structured habitat where the trawl survey cannot sample.
- Many anglers believe that stocks are more abundant than is reflected in the current data, leading to unnecessary seasonal closures.
- MRFSS data for black sea bass is inaccurate. For-hire operators who have submitted trip reports do not see their reports reflected in fishing data for their area.



Recreational Recommendations:

- Create data collection pilot programs with the for-hire sector to supplement recreational catch data.
- Utilize for-hire Vessel Trip Report (VTR) data in the stock assessment process.

Recreational Observations:

- Black sea bass is an important recreational species in the fall and winter, when there are few other recreational fishing options.
- The closures of black sea bass were very harmful for the recreational fishing industry during the winter of 2011-12.
- When black sea bass is closed in the winter, fishing effort is highly concentrated on other species that may be less abundant. (e.g.,. Atlantic cod, tautog)
- Commercial trawling for black sea bass is allowed in the winter while the recreational fishery is closed, depleting regional stocks when fish are in their most susceptible aggregations.

Recreational Recommendations:

- Consider longer or open seasons for black sea bass.
- Management decisions should take into account shifting effort when fisheries are closed.
- **Theme 4:** High size and bag limits can result in negative consequences for black sea bass populations, including higher discard mortality.

Recreational Observations:

- High size limits (12.5 inches) for black sea bass require anglers to fish in deeper water for legal-sized fish. Fish caught in deep water suffer from decompression and distended air bladders, which increases discard mortality of undersize fish.
- Anglers must fish longer to catch a keeper, resulting in higher discard rates.
- Many anglers do not know proper fish handling and catch and release techniques.
- Black sea bass change sex as they age and grow. Larger fish are typically males. High size limits encourage targeting of males, which may damage stock health because of their unique life history.
- The 25 fish bag limit is considered excessive by some anglers. Many would prefer liberalizing other measures (i.e. longer season, lower size) in place of a high bag limit.

Recreational Recommendations:

- Consider lowering the recreational black sea bass size limit.
- Provide more education on proper catch and release practices for black sea bass, including air bladder relief needles and gradual ascent of fish that are caught in deep water.
- Consider lowering the federal bag limit for black sea bass as a trade-off to liberalize the size limit or season length, particularly in the fall and winter when the fish are most valuable.



Theme 3: Closed seasons for black sea bass are economically harmful for the recreational fishing industry, particularly in the wintertime.

Theme 5: Black sea bass populations are regional. Management strategies for one region may not be effective for another region.

Recreational Observations:

- Differences in habitat abundance are not considered by coast-wide management plans.
- Quota levels for black sea bass may encourage overfishing in some areas, while restricting sustainable fishing in other areas.
- With coast-wide quotas, some states may quickly catch the majority of quota due to greater abundance in that area.

Recreational Recommendations:

• Consider management measures for black sea bass that reflect regional abundance and habitat.



Scup

39 participants completed the scup visioning survey, and input was given on scup in 71%% of commercial meetings and 60% of recreational meetings.

90% of survey rated the HEALTH of scup stocks as good or excellent (Fig. 7a), and 59% rated the EFFECTIVENESS of scup management as fair or good (Fig. 7b).







Fig. 7b: Effectiveness of Scup Management

COMMERCIAL INDUSTRY THEMES

Theme I: For many fishermen, the cost to fish for scup is too high in comparison to the price for fish at the dock.

Commercial Observations:

- The costs to find, catch, and land scup are very high in comparison to the ex-vessel price for the fish. In particular, fuel prices are cost prohibitive at current fish prices.
- Because scup are not a highly profitable species, fishermen target them infrequently.
- There is a risk that scientists will believe a lack of landings or inability to fill quota indicates that the stocks are declining, while in reality the stocks appear healthy.
- The recent increase in scup quota happened very quickly, which put downward pressure on the price due to excess supply.
- There is a "derby style" quota fishery for scup. This creates pressure for fishermen to catch as much as possible as soon as each seasonal period opens. This flux of fishing effort tends to flood the market with fish and drive the price down.
- Large volume 50,000 pound trip limits for scup benefit the profitability of large vessels, but the excess supply reduces profitability for smaller boats that cannot land high volumes of scup.

Commercial Recommendations:

- Ensure that scup quota is spread out throughout the year. In particular, scup are worth more in the summer.
- Consider the economic effects of high volume trip limits on the scup fishery.



Theme 2: In past years when the quota was low, the market for scup was lost. Rebuilding the market for scup is an important industry priority.

Commercial Observations:

- In past years when scup quota was low, tilapia and other species took the place of scup in the market.
- While the scup market is being rebuilt, it is has been difficult for scup to be commercially profitable.

Commercial Recommendations:

- Help ensure a steady supply of scup on a weekly basis to stabilize the price for scup buyers.
- Assist marketing efforts of scup to help develop markets and local demand.
- Consider the need for shore-side infrastructure for scup when making management decisions.

Theme 3: Regulatory discards of scup are a frustrating problem for mid-Atlantic fishermen.

Commercial Observations:

- There are several factors leading to a high rate of regulatory discards for scup.
- Daily trip limits and fluctuations in catch from day to day lead to unnecessary discards. For instance, during days with 8000 pound trip limits, a fisherman might catch 12,000 pounds.. The following day he might only catch 3,000 pounds. This would mean 4,000pounds of discards and 11,000 pounds of landed fish on 15,000 pounds of catch in a two day span. If the fisherman had caught 8000 pounds each day, there would not have been discards.
- Seasonal limits on scup coupled with high abundance lead to a higher discard rate of the species.

Commercial Recommendations:

- Consider cumulative trip limits for scup. (e.g., weekly trip limits)
- **Theme 4:** The scup gear restricted areas (GRAs) are not necessary for a rebuilt species and creates challenges with other fisheries.

Commercial Observations:

- The scup GRAs are unnecessary given the abundance of the stock.
- The scup GRAs restrict other fisheries, such as longfin squid, that may be present inside the GRAs when scup are not.
- The scup GRAs obstructs canyon lines where fishermen rely on access to fish for other species.

Commercial Recommendations:

• Consider revising or eliminating the scup GRAs. Work with fishermen to identify areas to modify the scup GRAs to alleviate restrictions on other fisheries.



RECREATIONAL SECTOR THEMES

Theme I: Recreational anglers should have better access to the rebuilt scup fishery.

Recreational Observations:

- There should not be closed seasons for the recreational sector, because scup is rebuilt and stocks are abundant.
- Commercial quota is too high and is not fully caught, while the recreational fishing quota is too small and restrictive.
- A higher scup quota will improve the recreational fishing economy.

Recreational Recommendations:

- Identify and consider scenarios by which the recreational scup fishery can be left open yearround.
- Consider adjusting the scup quota allocation to provide a larger share to recreational anglers.



Spiny Dogfish

75 participants completed the dogfish visioning survey, and input was given on dogfish in all the commercial meetings, 60% of the recreational meetings, and one ENGO meeting. Dogfish was one of the most frequently mentioned species among fishermen.

90% of survey respondents rated the HEALTH of dogfish stocks as either excellent or very good (Fig. 8a) while 76% of respondents rated the EFFECTIVENESS of dogfish management as either poor or very poor (Fig. 8b).



Fig. 8a: Health of Dogfish Stocks



Fig. 8b: Effectiveness of Dogfish Management

COMMON THEME

Theme I: Dogfish have become overabundant in the mid-Atlantic region, and their uncontrolled population growth is negatively affecting other fisheries.

Observations:

- The negative impacts of dogfish have been seen from near shore to hundreds of miles offshore throughout entire mid-Atlantic region
- The biomass of dogfish is very large, and the species is a voracious predator.
- Dogfish eat the young of the valuable species and deplete the forage species.
- The decline of weakfish may be associated with the explosion of the dogfish population.

Recommendations:

- To help rebuild trust, listen to and act on fishermen's observations about what they are seeing on the water, particularly around dogfish.
- Raise the quota for dogfish to a significant but sustainable level.



COMMERCIAL INDUSTRY THEME

Theme I: Dogfish management decisions limit the ability of the industry to bring dogfish to market profitably and efficiently.

Commercial Observations:

- Short dogfish seasons inhibit the development of efficient shore-side infrastructure for the species.
- Extreme fluctuations in quota can hurt the price of dogfish and the viability of the industry.
- The industry is unable to make investments if the dogfish market is unstable and quotas are insufficient.
- The level of dogfish regulatory discards is too high given their abundance.

Commercial Recommendations:

- Consider a longer or open seasons for dogfish to help stabilize market demand, especially to regain markets in Europe and overseas.
- Consider a cumulative or weekly trip limit for dogfish in order to reduce regulatory discards.
- Consider an incidental catch permit for those who do not have a directed dogfish permit.

Bluefish

82 participants completed the bluefish visioning survey, and input was given on bluefish in 29% of commercial meetings, 80% of recreational meetings, and was not discussed in the ENGO meeting.

Of 82 survey respondents, 68% rated the HEALTH of bluefish stocks as fair or good (Fig. 9a), and 57% rated the EFFECTIVENESS of the management of bluefish as fair or good (Fig. 9b).





Fig. 9a: Health of Bluefish Stocks

Fig. 9b: Effectiveness of Bluefish Management

RECREATIONAL SECTOR THEMES

Theme I: Large bluefish are valuable to the recreational sector, but have been less abundant in recent years.

Recreational Observations:

- Anglers enjoy the challenge of fishing for large (10 to 15 pound) bluefish, making those fish very valuable to the recreational sector.
- Recreational anglers are encountering fewer large bluefish in recent years, especially on the beach and in-shore areas.
- The lack of large bluefish may be related to the loss of water quality near shore.
- Commercial overfishing of large fish in the winter is limiting their availability.
- The commercial price for bluefish is very low. The recreational value of large bluefish is very high.

Recreational Recommendations:

- Manage bluefish for size, as well as abundance.
- Stop the practice of transferring recreational bluefish quota to the commercial sector. Recreational anglers like to leave quota on the table to help restore abundance and size.
- Consider the high economic value of large bluefish to the recreational sector when making allocation decisions.



Theme 3: Preemptive conservation measures may be needed to preserve bluefish stocks for the future.

Recreational Observations:

- There are currently healthy populations of smaller bluefish.
- Bluefish are not a desirable fish to eat, but there is a high bag limit. Recreational fishermen sometimes waste fish that could be released.
- The lack of forage fish may be contributing to declines in bluefish that compete with bluefin tuna and striped bass for forage.

Recreational Recommendations:

- Consider a reasonable reduction in the bag limit for bluefish. Many participants believe a limit of 15 is excessive for a fish that is not highly desirable to eat.
- Manage forage fish to provide ample food for bluefish and other predator stocks.



Atlantic Mackerel

33 participants completed the Atlantic mackerel visioning survey, and input was given on Atlantic mackerel in 64% of commercial meetings, 40% of recreational meetings, and the one ENGO meeting.

58% of survey respondents rated the HEALTH of Atlantic mackerel stocks as poor or very poor (Fig. 10a), and 73% of respondents rated the EFFECTIVENESS of management of Atlantic mackerel very poor or poor (Fig. 10f).







Fig. 10b: Effectiveness of Atlantic Mackerel Management

COMMERCIAL INDUSTRY THEMES

Theme I: Atlantic mackerel have become increasingly scarce in mid-Atlantic waters.

Commercial Observations:

- There has been a changing pattern of distribution of Atlantic mackerel over the past ten years. They have moved northeast and appear to be coming in shore less frequently.
- Many fishermen believe that stocks are in poor condition.
- Atlantic mackerel have become harder for fishermen to find in traditional fishing areas and the period of natural seasonal availability has become shorter.
- An overabundance of predators may be contributing to a decline in Atlantic mackerel stocks.

Commercial Recommendations:

• Utilize remote sensing technologies (e.g., acoustic surveys) to more effectively estimate mackerel stock status.

Theme 2: Management of Atlantic mackerel stocks has been slow to adapt to changes in abundance.

Commercial Observations:

- Fishermen predicted the decline in Atlantic mackerel years before it happened, and management reacted too late to stop the decline.
- Atlantic mackerel stocks have been overestimated in years past. Fishermen refer to mackerel as a "paper fishery" because their abundance only appears "on paper" in the stock assessment.



Fishery-Specific Themes- Atlantic Mackerel

- Many fishermen believe that since the early 2000's there has been too much capacity in the Atlantic mackerel fleet.
- The natural cycles of mackerel are not fully understood.
- There has been a lack of collaboration with Canada.

Commercial Recommendations:

- Listen and incorporate industry "on the water" input into the process more consistently.
- Work with Canada to develop: I) a research program to understand stock structure and 2) a resource sharing agreement to sustainably manage total catch across the international border.
- Consider effort in the fishery as an indicator of abundance (i.e., commercial catch rates).

RECREATIONAL SECTOR THEME

Theme I: Atlantic mackerel are an important part of the forage base in the mid-Atlantic, but have become significantly less abundant in the past decade or more.

Recreational Observations:

- Atlantic mackerel are an important forage species for recreationally valuable gamefish.
- Stocks of Atlantic mackerel have been declining and scarce in mid-Atlantic waters.
- Commercial regulations are not restrictive enough, and commercial overharvesting of Atlantic mackerel has hurt stock health.

Recreational Recommendation:

• Reduce the commercial quota of Atlantic mackerel to relieve pressure on stocks.

ENVIRONMENTAL NON-GOVERNMENTAL (ENGO) THEME

Theme I: Atlantic mackerel populations must be studied and maintained as part of an abundant forage base in mid-Atlantic waters.

ENGO Observations:

- Many of the Council's predatory fish populations have been rebuilt, which results in increased reliance on Atlantic mackerel as forage.
- The commercial fishing industry is unable to fill the quota for Atlantic mackerel.
- The latest stock assessment does not provide reference points to determine if Atlantic mackerel is overfished or if overfishing is occurring.

- In the short term, use biomass corresponding to maximum sustainable yield (BMSY) as a threshold, rather than a target, for the squid, mackerel, butterfish fishery management plan. This is consistent with the National Standard I recommendation for forage species.
- Prioritize research needed to determine stock status of Atlantic mackerel.
- Work with Canada to develop a resource sharing agreement.
- Advocate for the use of stock assessment models that explicitly account for predation and uncertainty regarding present and future predator demand (e.g., M2 models).
- Consider climate influences on mackerel abundance and distribution in annual specifications.



Golden Tilefish

16 participants completed the golden tilefish visioning survey. Input was given on golden tilefish in 36% of commercial meetings and 40% of the recreational meetings.

63% of respondents rated the HEALTH of tilefish stocks as good or excellent (Fig. 11a). Data were insufficient to identify trends in ratings of the EFFECTIVENESS of tilefish management (Fig. 11b).





Fig. I le: Health of Golden Tilefish Stocks

Fig. 11f: Effectiveness of Golden Tilefish Management

COMMERCIAL INDUSTRY THEME

Theme I: For those that have access to sufficient quota, the golden tilefish individual transferable quota (ITQ) system has helped stabilize the fishery.

Commercial Observations:

- For those who own sufficient quota in the golden tilefish ITQ system, it has been easier to run a fishing business. Businesses can work together to plan out trips to minimize effort and maximize/stabilize ex-vessel prices.
- Those that do not own significant quota in the ITQ system, especially those that were early participants in the fishery, are frustrated and feel as though they were pushed out of the fishery.
- Some fishermen are frustrated that ITQs were set based on arbitrary qualification dates that benefited certain fishing businesses.

RECREATIONAL SECTOR THEME

Theme I: There is concern that an increase in recreational fishing of golden tilefish will deplete the resource.

Recreational Observations:

- There has been increased recreational fishing effort towards golden tilefish as the seasons for other key recreational species have been shortened.
- Because tilefish is a slow growth species and the bag limit is relatively high, some recreational anglers are worried that the increased recreational effort will deplete the resource.



Butterfish

15 participants completed the butterfish visioning survey. Input was given on butterfish in 71% of commercial meetings and at the one ENGO meeting.

53% of survey respondents rated the HEALTH of butterfish stocks as excellent while 27% rated it as very poor (Fig. 12a). Generally, the commercial participants believed butterfish stocks are in excellent health, while recreational fishermen and ENGO representatives felt that the stocks are in poor health and must be restored as part of the forage base. 87% rated the EFFECTIVENESS of the management of butterfish as poor or very poor (12b).



Fig. 12a: Health of Butterfish Stocks



Fig. 12b: Effectiveness of Butterfish Management

COMMERCIAL INDUSTRY THEMES

Theme I: Butterfish stocks appear to be healthy; however, the current management is restricting a potentially valuable fishery.

Commercial Observations:

- Butterfish are as abundant up and down the coast as they have been over the last several decades.
- There is no directed fishery for a species that is very healthy.
- The butterfish catch cap unnecessarily restricts squid fishing.
- The market for butterfish was devastated when the quota dropped and will be hard to rebuild. There is no longer much Japanese demand for butterfish.

Commercial Recommendations:

- Take steps to help develop a directed fishery for butterfish and a strong market for the product.
- Remove the butterfish catch cap.
- Increase commercial industry involvement in data collection and trawl surveys for butterfish.


Theme 2: Data regarding butterfish stocks is inconsistent with "on the water" perspectives.

Commercial Observations:

- The trawl survey is unable to accurately measure this highly migratory and short lived species.
- The fishermen know where the fish are, but their knowledge is not used to obtain more representative trawl survey results.
- Observers are collecting inaccurate butterfish catch data that feeds into closures of the longfin squid fishery.

Commercial Recommendations:

• Involve commercial industry to a greater extent in data collection and trawl surveys for butterfish.

ENVIRONMENTAL NON-GOVERNMENTAL (ENGO) THEME

Theme I: Butterfish play an important ecological role as forage, yet the stock faces increasing pressure as incidental catch in the longfish squid fishery.

ENGO Observations:

- Most butterfish mortality is a result of bycatch in the squid fisheries. This bycatch is caused by small mesh nets.
- Observer coverage is low on squid trips, calling into question the effectiveness of the butterfish catch cap in preventing butterfish mortality.
- The butterfish stock assessment does not explicitly take into account predation and predator demand for butterfish as forage.

ENGO Recommendations:

- Increase observer levels on longfin squid trips.
- In the short term, use biomass corresponding to maximum sustainable yield (BMSY) as a threshold, rather than a target, for the squid, mackerel, butterfish fishery management plan. This is consistent with the National Standard I recommendation for forage species.
- Advocate for the use of stock assessment models that explicitly account for predation and uncertainty regarding present and future predator demand (M2 models).



Illex Squid

12 participants completed the *Illex* squid visioning survey, and input was given on *Illex* squid in 21% of commercial meetings and at the one ENGO meeting. 50% of survey respondents believed that the HEALTH of *Illex* squid stocks is excellent or good while 25% did not know or had no opinion (Fig. 13e). In general, commercial industry felt that the stocks of *Illex* squid are healthy. 42% rated the EFFECTIVENESS of management as good or excellent and 25% rated it as very poor (Fig. 13f).





Fig. 13e: Rating of Health of Illex Squid Stocks



COMMERCIAL INDUSTRY THEMES

Theme I: Existing participants in the *Illex* squid fishery are concerned about outdated science, latent effort, and the potential for ITQs in the fishery.

Commercial Observations:

- The science for Illex squid is outdated and is older than the one-year lifespan of the species.
- Many Illex squid are caught before they have a chance to spawn.
- Illex squid is one of the few fisheries that was regulated before it was overcapitalized.
- There have been some boats that only enter the fishery when the price for *lllex* is good. Some fishermen are worried about these latent permits and the additional effort expended by larger new boats entering the fishery.
- Some fishermen believe that ITQs would work well in this fishery because the number of participants is already small and there is a need for catch restrictions based on history. Others are worried that ITQs for *Illex* squid would mean consolidation and loss of profitability.

Commercial Recommendations:

- Work towards real time data and vessel reporting for the Illex squid fishery.
- Consider measures to incentivize *lllex* squid harvest later in the season when the squid are larger and heavier and it will require a lower number of squid to meet the harvest quota. Consequently, a higher number of squid can be left in the water and will have a better chance to spawn. In addition, it will prevent a 'derby fishery' for *lllex* squid, where fishermen focus all effort on catching smaller squid as soon as the fishery opens.



Longfin Squid

14 participants completed the longfin squid visioning survey, and input was given on longfin squid in 71% of commercial meetings and the one ENGO meeting. Longfin squid's scientific name has recently changed from *Longfin Pealeii* to *Doryteuthis (Amerigo) pealeii*).

50% of respondents rated the HEALTH of longfin squid stocks as good or excellent (Fig. 14a). Generally, commercial industry felt that the stocks of longfin squid are healthy. 64% of all survey respondents rated the EFFECTIVENESS the management of longfin squid as fair or poor (Fig. 14b).



Fig. 14a: Health of Longfin Squid Stocks



Fig. 14b: Effectiveness of Longfin Squid Management

COMMERCIAL INDUSTRY THEMES

Theme I: There are multiple regulations for the longfin squid fishery that are overly restrictive.

Commercial Observations:

- The scup gear restricted areas (GRA) are an unnecessary restriction on the longfin squid fishery. It takes up key producing areas in winter.
- The butterfish catch cap is burdensome on the longfin squid fishery and encourages a discards. Because butterfish are abundant, they are hard to avoid. Closures of the longfin squid fishery can result from the actions of only a few fishermen.
- The 72 hour notification requirement to the observer program for longfin squid trips is too great of lead-time. In many cases, 72 hours is not enough for fishermen to predict fishing conditions and prevents fishermen from operating a healthy mixed-trawl fishery.

Commercial Recommendations:

- Consider revising or eliminating the scup GRAs. Work with fishermen to identify areas to modify the scup GRAs to alleviate restrictions on other fisheries.
- Eliminate the butterfish bycatch cap.
- Reduce the 72 hour observer notification requirement.



Theme 2: Longfin squid are susceptible to annual fluctuations in abundance.

Commercial Observations:

- The current science is not reflective of true stock status because of the short lifespans of longfin squid and high fluctuations in abundance from year to year.
- Overabundance of predators may be depleting longfin squid populations.
- Trawling in spawning areas can have detrimental effects to future populations.

Commercial Recommendations:

- Consider spawning areas in management decisions, particularly during trimester II.
- Work with fishermen to develop a mechanism to react to cyclical changes in longfin squid populations in real time.

ENVIRONMENTAL NON-GOVERNMENTAL (ENGO) THEME

Theme I: Longfin squid populations must be studied and maintained as part of an abundant forage base in mid-Atlantic waters.

ENGO Observations:

- Many of the Council's predatory fish populations have been rebuilt, which results in increased reliance on longfin squid as prey.
- Based on current stock assessments, longfin squid is not at a level above the biomass corresponding to maximum sustainable yield. (BMSY)
- Current management does not provide reference points that sufficiently account for predation.
- Productivity of longfin squid is highly variable year-to-year and season-to-season, yet stock assessments and quotas are based on data that is years old. Environmental influences on productivity are poorly understood.
- The small mesh size for longfin squid results in a high level of incidental catch and discards.
- Observer coverage in the longfin squid fishery is underfunded, which may result in unobserved discards of butterfish and other bycatch species.

ENGO Recommendations:

- In the short term, use biomass corresponding to maximum sustainable yield (BMSY) as a threshold, rather than a target, for the squid, mackerel, butterfish fishery management plan. This is consistent with the National Standard I recommendation for forage species.
- Advocate for the use of stock assessment models that explicitly account for predation and uncertainty regarding present and future predator demand. (e.g., M2 models).
- Incentivize fishermen to use more selective gear that reduces bycatch.
- Increase funding for observer coverage on longfin trips.



Surfclams

Nine participants completed the surfclams visioning survey, and input was given on surfclams in 50% of commercial meetings and at one recreational meeting (20%).

33% of survey respondents rated the HEALTH of surfclams is good (Fig. 15a). 44% of respondents rated the EFFECTIVENESS of management as poor or very poor (Fig. 15b).





Fig. 15a: Rating of Health of Surfclam Stocks



COMMERCIAL INDUSTRY THEMES

Theme I: Commercial clamming effort is heavily concentrated in the mid-Atlantic.

Commercial Observations:

- George's Bank holds higher concentrations of healthy clams, but is not currently being harvested by industry due to paralytic shellfish pointing (PSP) regulations. As a result, a great deal of effort has been focused on clamming off the northern New Jersey coast.
- Clam fishermen are concerned that clam stocks around the Delmarva Peninsula are currently depleted. There is an abundance of small clams in those areas.
- The biomass of clams in the mid-Atlantic is separate from that of George's Bank. Quotas are calculated using the entire biomass when a significant portion isn't able to be harvested because of the Georges Bank closed area.
- Over the years, clam boats and gear have gotten bigger and more powerful, but the catch per unit effort has generally stayed the same.

Commercial Recommendations:

- Continuously work with industry to identify areas that must be closed to protect clam recruitment.
- Consider opening George's Bank to the surfclam industry.
- Work with industry and regulators to mitigate risks of PSP in George's Bank clams.



Ocean Quahogs

Nine participants completed the ocean quahog visioning survey, and input was given on ocean quahogs in 14% of commercial meetings.

Of 9 survey respondents, 33% rated the HEALTH of ocean quahog stocks as very poor, while another 33% rated it as fair (Fig. 16e). 44% rated the EFFECTIVENESS of ocean quahog management as very poor while 33% rated it is fair (Fig. 16f).



Fig. 16e: Rating of Health of Quahog Stocks

Fig. 16f: Effectiveness of Quahog Management

No themes for ocean quahogs emerged from input collected during the visioning surveys and roundtable sessions.



APPENDICES

The appendices to the Mid-Atlantic Fishery Management Council Strategic Planning and Visioning Stakeholder Input Report can be found in a separate file on the Council's website at http://www.mafmc.org/vision.

Appendix A: Survey Results

Appendix A contains results from all 26 questions on the general visioning survey, a copy of the general visioning survey, and links to the fishery specific surveys. **Click here.**

Appendix B: Roundtable Session Summaries

Appendix B contains meeting summaries of all 20 roundtable sessions as well as the document that was used to provide background information about the Visioning and Strategic Planning Project to roundtable session attendees. **Click here.**

Appendix C: Position Letters

Appendix C contains the 12 position letters that were submitted by interested organizations and management partners as well as the guidelines that were provided for organizations to submit position letters. **Click here.**

Appendix D: Survey Instrument

Appendix D contains the main Visioning survey. Click here.