



Aligning the Atlantic Coastal Fish Habitat Partnership Efforts with Restoration Practitioners

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Executive Summary

In the fall of 2014, the Atlantic Coastal Fish Habitat Partnership (ACFHP) approached Atlantic coast-based restoration practitioners requesting participation in a survey regarding their fish habitat restoration focus and priorities. From this survey, we learned that these habitat practitioners are primarily working to restore tidal vegetation, submerged aquatic vegetation, riverine bottom, and shellfish beds. They also plan to continue focusing on these habitats over the next five years. Though many practitioners do not follow a restoration strategy when restoring fish habitat, those that do primarily use 'number of barriers removed' and 'acreage restored' to describe targets for riverine bottom and all other habitats, respectively. For those following a restoration strategy, progress towards accomplishing their restoration goals varied across habitats, ranging from 'unlikely to achieve goal or strategy' to 'will likely exceed goal or strategy.' Practitioners stated that the top threats to habitats in general are obstructions to fish movement, habitat connectivity, dredging and coastal maintenance, and water quality degradation/eutrophication. Fish passage, water quality, and sea level rise are the threats not currently receiving enough attention, and there should be more of a focus on buffers, shellfish beds, and salt marshes. According to these restoration practitioners, ACFHP is most helpful in helping them achieve their restoration goals by endorsing and funding projects. Results from this survey will both assist ACFHP in strategic planning and focusing our efforts on a regional and coast-wide scale.

Background

The Atlantic Coastal Fish Habitat Partnership (ACFHP) is an assembly of 33 different state, federal, tribal, non-governmental, and conservation groups interested in the conservation of habitat for Atlantic coast diadromous, estuarine-dependent, and coastal fish species. It was officially recognized as a partnership under the auspices of the National Fish Habitat Action Plan in 2009.

Numerous human-caused threats are impacting coastal fish habitats, and ACFHP is working to address these threats with a broad coordinated approach, leveraging resources from many agencies, organizations, and other entities to improve and restore fish habitat along the Atlantic coast.

In order to achieve these goals ACFHP developed a five-year Conservation Strategic Plan (CSP) in 2012 that proposes key conservation and restoration strategies to confront pervasive threats to fish habitat along the Atlantic coast. In addition to the strategic planning document, ACFHP undertook an implementation planning process to identify specific tasks that the partnership could complete and update in the succeeding years to achieve the strategic objectives and actions identified in the CSP.

Individuals and/or groups were assigned to specific implementation tasks selected from the plan.

This document will present the results of one of the tasks identified in the Implementation Plan, listed under the following restoration objection and strategic action:

Restoration Objective 2: Restore subregional priority habitats, such as replanting eelgrass beds or restoring oyster beds, in locations where threats have been minimized or removed (does not include dam or other barrier removal).

B.2.1 Strategic Action: Restore subregional priority habitats in each subregion where:

- (a) they have been damaged or destroyed by past declines in water quality or human activities, such as dredging, filling, development, or vessel operation;
- (b) conditions for restoration of habitats exist; AND
- (c) goal(s) of habitat restoration can be maintained.

The short term implementation actions identified to assist in achieving the restoration goals were as follows:

- (1) Compile a list of restoration partners/practitioners (e.g. NEPs, state management plans, NGO's, ACFHP MOU signatories, etc.).
- (2) Survey them regarding the focus and priorities in their planning area (e.g. priority habitats, priority threats, and priority implementation actions).

This information would assist strategic planning in directing the partnership's efforts toward habitat types in need of restoration, geographic areas in need of restoration and, significant threats not being addressed through partner goals. Overall, this information will lead to a better understanding of priorities and ways to focus our efforts on a regional or coastal scale.

Method

To compile the list of restoration practitioners, each ACFHP Steering Committee member and each member of the Atlantic States Marine Fisheries Commission Habitat Committee recommended appropriate restoration practitioner contacts in their state. In total, 13 states and 261 restoration practitioners were contacted to participate in the survey. The survey was sent by the ACFHP Coordinator in September of 2014 and again in October of 2014.

The survey contained the following questions:

- (1) Which habitats are you currently working to restore?
Please check the THREE habitats on which you currently dedicate the majority of your time. (marine and estuarine shellfish beds, coral and live/hard bottom, macroalgae, submerged aquatic vegetation (SAV), tidal vegetation, unvegetated coastal bottom, riverine bottom)
- (2) Which habitats do you anticipate working to restore over the next five years?
Please check the THREE habitats on which you anticipate dedicating the majority of your time. (marine and estuarine shellfish beds, coral and live/hard bottom, macroalgae, SAV, tidal vegetation, unvegetated coastal bottom, riverine bottom)
- (3) Which habitats above do you anticipate working to restore over the next five years?
Please rank each of the choices below with a range between very unlikely to very likely. (very unlikely, unlikely, undecided, likely, very likely)
- (4) Which local, state, regional, or federal restoration strategy or goal are you primarily currently seeking to achieve for each habitat listed above?
(restore or enhance # acres by this date; remove or replace # of barriers by this date; # miles reconnected through fish passage by this date; current restoration work is not guided by a local, state, regional, or federal goal or strategy; or other)
- (5) Which statement below best describes progress towards the strategy or goal you are primarily currently seeking to achieve for each habitat listed above?
(unlikely to achieve goal or strategy; likely to achieve a percentage of the goal or strategy; currently behind, but likely to achieve the goal or strategy; on target to achieve the goal or strategy; or will likely exceed goal or strategy)
- (6) Which of the following threats to each of the habitats you checked above are you currently working to address? Please check all that apply.
(obstructions to fish movement/habitat connectivity, dredging and coastal maintenance, water quality degradation and eutrophication, consumptive water withdrawal, sedimentation, vessel operation impacts, contamination of water [ground and surface] and sediments, invasive species, climate change, not currently working to address a threat, other)
- (7) In your opinion, are there particular habitats in need of restoration, or threats in need of correction, which are currently under addressed? Please explain.
- (8) (a) How can a Fish Habitat Partnership help achieve your habitat restoration objectives?

Please rank on a scale of 1-5. [1 = strongly disagree, 2= disagree, 3= no opinion, 4= agree, 5= strongly agree] (funding your restoration projects, endorsing your restoration projects, identifying funding sources, assistance with developing proposals for your restoration projects, assistance with identifying partners for your restoration projects, providing technical expertise for your restoration projects, providing communications and outreach expertise for your restoration projects, maintain a database of restoration practitioners and areas of restoration focus in your region and along the Atlantic coast, maintain a database of habitat restoration manuals, reports, and other publications, develop science-based decision support tools to help prioritize habitat restoration activities)

(b) Please list any other activities that a fish habitat partnership can do to help achieve your habitat restoration objectives.

Results

The survey yielded 81 responses (30% response rate). Of the 81 responders, 53 provided contact information, allowing ACFHP to determine the regional distribution of information (North Atlantic [Maine to Cape Cod]: 17, Mid-Atlantic [Cape Cod to Cape Hatteras]: 26, South Atlantic [Cape Hatteras to Florida]: 4, and Florida: 6). Not all questions were answered by all 81 responders. In order of survey questions 1–8, the response count was: 76, 79, 69, 61, 58, 61, 42, 57, and 15, respectively (the latter two are in reference to question 8, which had two parts).

Question 1: Which habitats are you currently working to restore?

The majority of restoration practitioners are currently working to restore tidal vegetation, riverine bottom, shellfish beds, and SAV (Figure 1). These habitats are

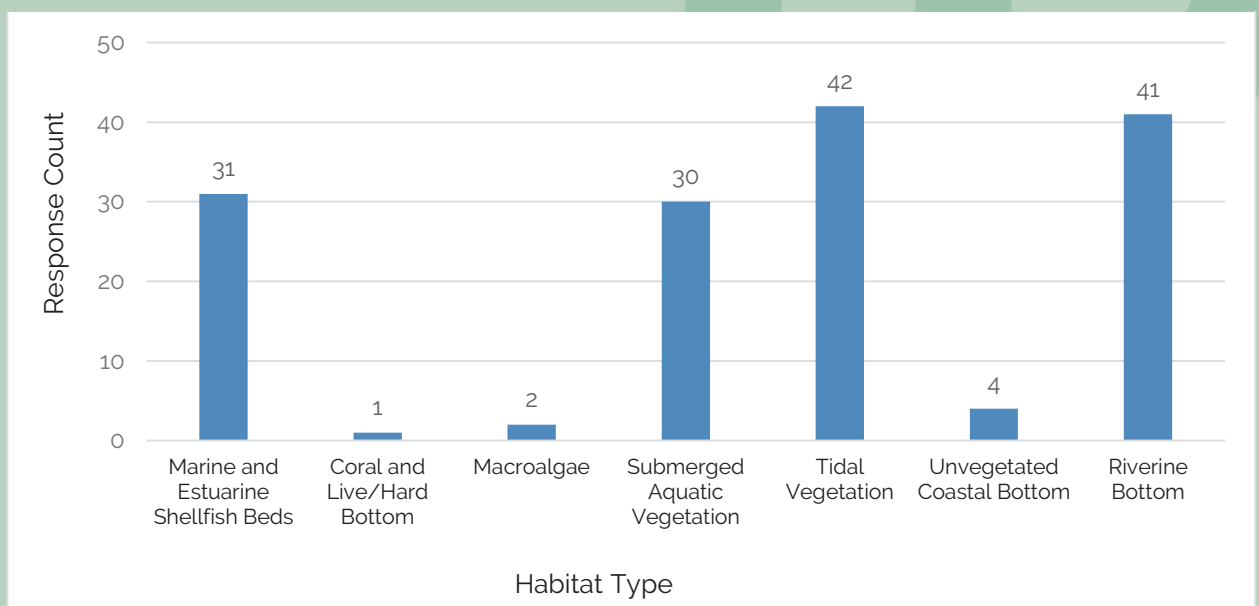


Figure 1. Current habitat type focus by ACFHP practitioners

found along the entire Atlantic coast, which is likely why they were the most common responses in the survey. Habitats limited to one or two geographic areas (e.g. coral reefs) were less common survey responses (especially with the disproportionate number of responders representing the North and Mid-Atlantic).

The habitat foci by region are as follows (Table 1):

An example of a restoration project for each habitat is as follows:

Table 1. Habitat Focus by Region

	Marine and Estuarine Shellfish Beds	Macroalgae Macroalgae	Submerged Aquatic Vegetation	Tidal Vegetation	Unvegetated Coastal Bottom	Riverine Bottom
North Atlantic	2	1	7	7	1	11
Mid-Atlantic	10	0	11	14	2	19
South Atlantic	4	0	0	2	0	0
Florida	3	0	3	4	1	3

Marine and Estuarine Shellfish Beds

Seeding shells with oyster spat and planting them in estuaries to create new shellfish beds. These beds improve water clarity, stabilize sediments, and provide habitat for fishes and invertebrates.

Coral and Live/Hard Bottom

Utilizing coral nurseries to support new growth and reproduction via fragmentation, and then outplanting the colonies on coral reefs. Coral reefs provide food and shelter for many species of fishes and invertebrates, supporting biodiversity and healthy ecosystems.

Macroalgae

Replanting seaweeds in areas of decline to create food and shelter for marine life.

SAV

Revegetating shallow estuaries with seagrass plantings to stabilize sediments, improve water clarity, oxygenate the water, and provide fish habitat.

Tidal Vegetation

Planting salt marshes such as *Spartina alterniflora* to stabilize sediments, reduce boat wakes, and create fish habitat.

Unvegetated coastal bottom

Replacing anoxic sediments (usually fine in grain size and/or containing a lot of organic matter) with oxygenated sediments of a larger grain size. This is important for species that feed and reside on unvegetated bottom, or that use the habitat for spawning (e.g. horseshoe crabs).

Riverine Bottom

Removing excess sedimentation and replacing it with clean, hard substrate on which anadromous fishes can spawn.

Questions 2 and 3: Which habitats do you anticipate working to restore over the next five years? Which habitats above do you anticipate working to restore over the next five years?

Results from questions 2 and 3 (Figure 2) indicate a similar, longer-range habitat focus on tidal vegetation, riverine bottom, shellfish beds, and SAV five years from now.

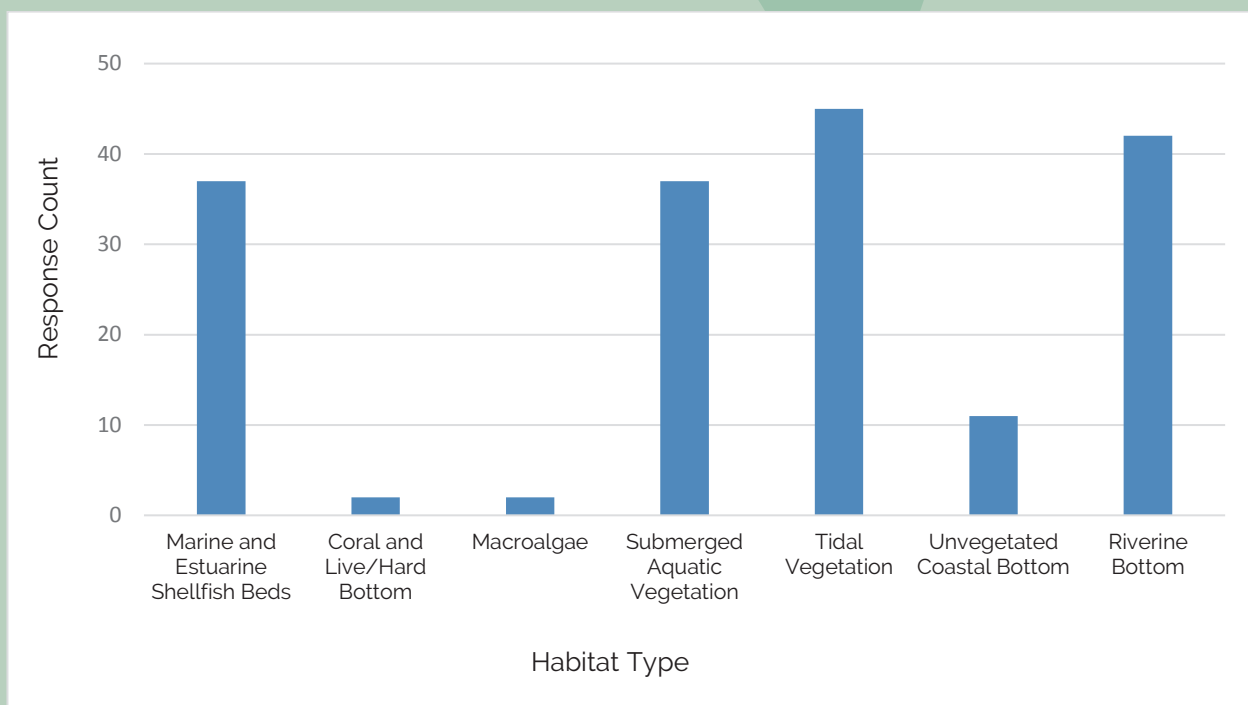


Figure 2. Habitat type focus over the next 5 years by ACFHP practitioners (as determined in question #2)

Question 4: Which local, state, regional, or federal restoration strategy or goal are you primarily currently seeking to achieve for each habitat listed above?

Restoring x number of acres by a particular date is how most of the respondents address SAV and tidal restoration (Figure 3). Riverine bottom restoration goal criteria

overwhelmingly consisted of the number of barriers removed and river miles opened. Each habitat type also had a number of responses that revealed practitioners' actions are not governed by a strategy or goal. This could be because not-for-profit practitioners are not governed by the restoration strategies listed in the question, or that the strategy that governs restoration does not address that particular habitat type.

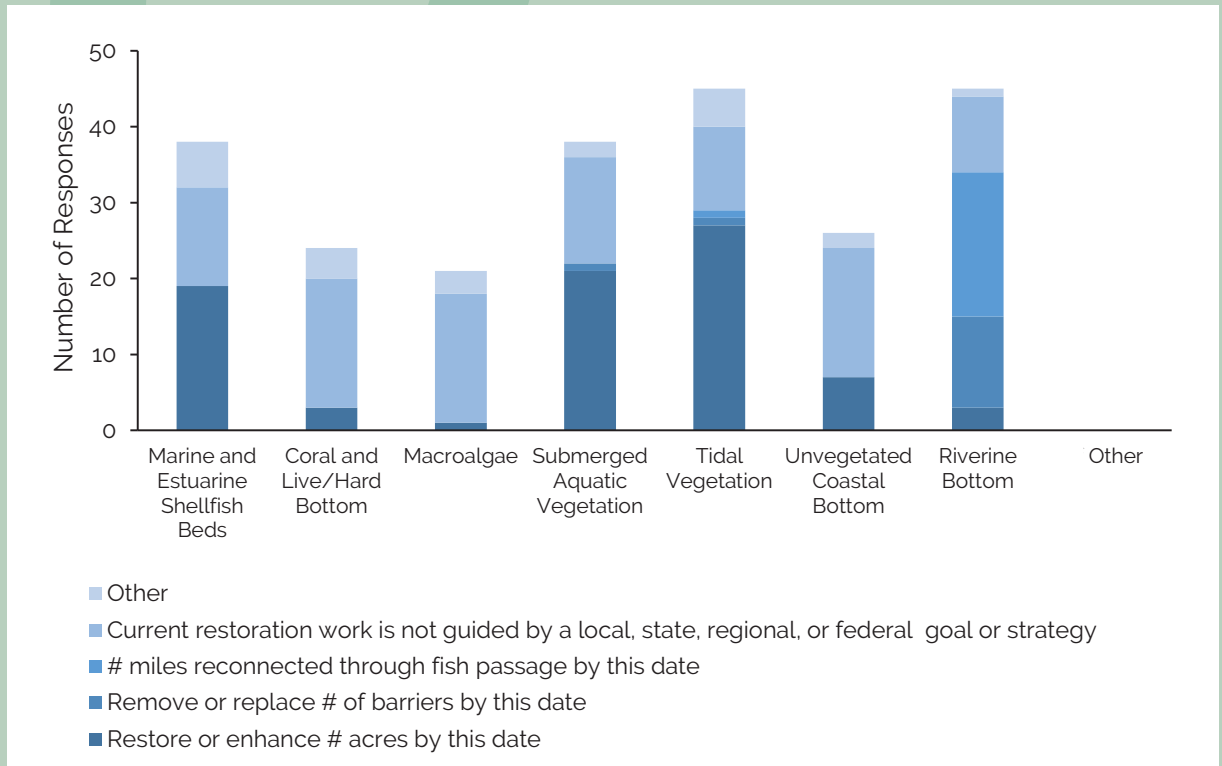


Figure 3. The restoration strategy ACFHP practitioners are seeking to achieve for each habitat type

Question 5: Which statement below best describes progress towards the strategy or goal you are primarily currently seeking to achieve for each habitat listed above?

Practitioners are achieving at least part of their goal in tidal vegetation and river bottom habitats (Figure 4). Results from the survey specifically include: behind but will achieve goal, likely to achieve a percentage of goal, and on target to achieve their goal. For SAV and shellfish bed habitats, less than half of responders anticipate achieving a percentage of their goal. Each habitat type had 7 - 22 out of 58 total responses suggesting that they had no current goal or strategy.

Question 6: Which of the following threats to each of the habitats you checked above are you currently working to address?

From the survey, the top threats to all habitats are: obstructions to fish movement/habitat connectivity, dredging and coastal maintenance, and water quality degradation

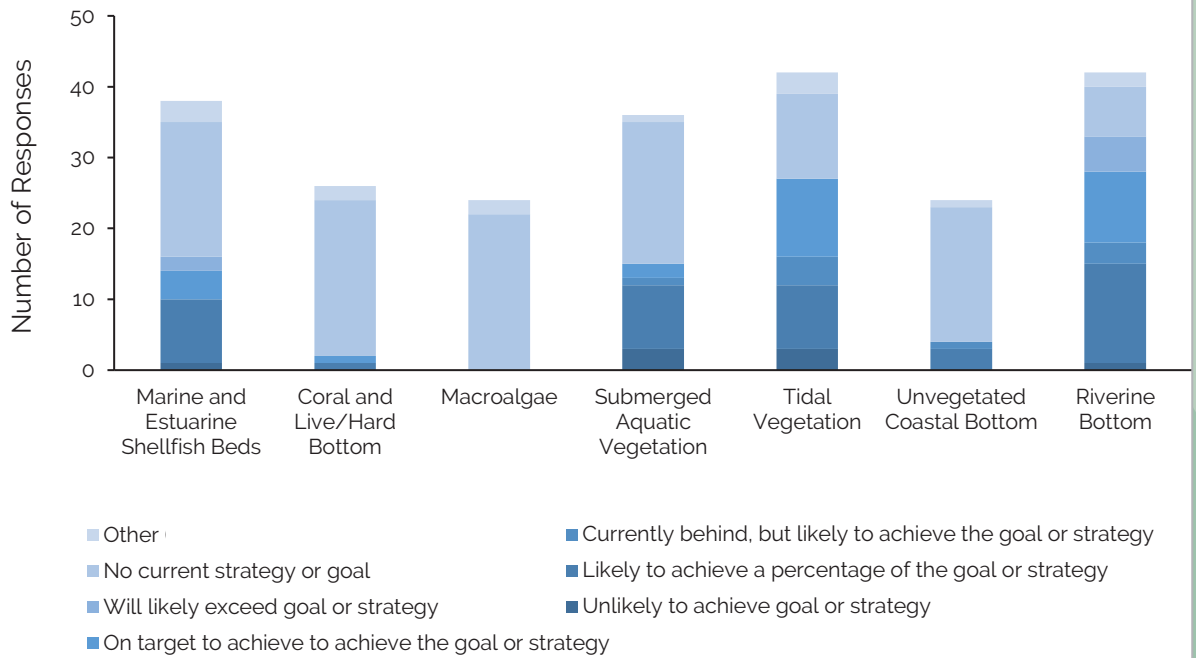


Figure 4. Progress of ACFHP practitioners toward meeting their goal or strategy

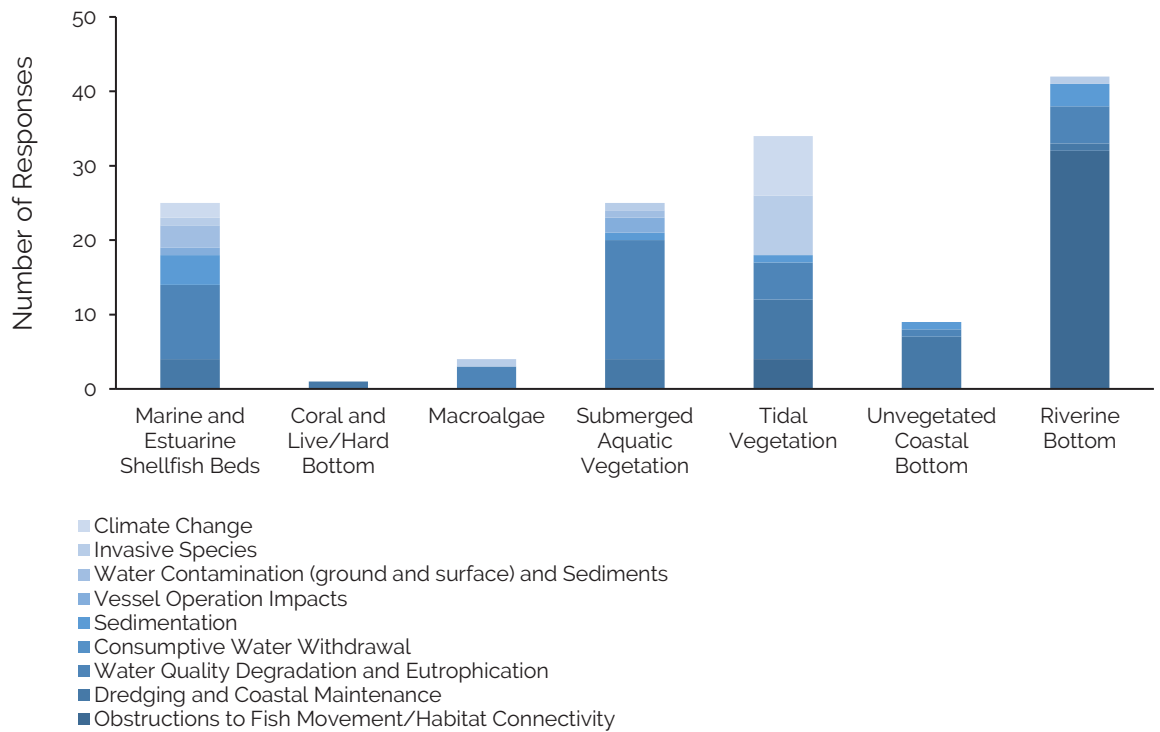


Figure 5. The threats on which ACFHP practitioners are currently focused

eutrophication. Threats by habitat type are shown in Figure 5. The top threats to shellfish beds that are currently being addressed are: water quality degradation, sedimentation, dredging and coastal maintenance, and water contamination. For SAV the threats being addressed are: water quality degradation and dredging. The top

threats for tidal vegetation are: dredging, invasive species, climate change, and water quality. Obstruction to fish movement is the biggest threat to riverine bottom currently being addressed.

Question 7: In your opinion, are there particular habitats in need of restoration, or threats in need of correction, which are currently under addressed?

Responses to question 7 were limited, totaling only 42. The top three threats not currently being addressed are: fish passage, water quality, and sea level rise. The top three habitats not being addressed are: buffers, salt marshes, and shellfish beds. The question was worded such that responses could not be separated by region. Specifically, the question asked, "in your region or on a coast-wide basis," instead of breaking the question into two parts: one by region and one on a coast-wide scale.

Question 8: (a) How can a Fish Habitat Partnership help achieve your habitat restoration objectives? (b) Please list any other activities that a fish habitat partnership can do to help achieve your habitat restoration objectives.

The responses for question 8 were not very different from each other overall. Endorsing and funding projects are the most important ways ACFHP can help practitioners, followed by identification of funding sources and assistance in developing proposals (Figure 6). Generally, practitioners liked ACFHP's assistance with providing potential partners; communications and outreach materials; and databases with technical materials, manuals, reports, and publications. Maintaining a database of

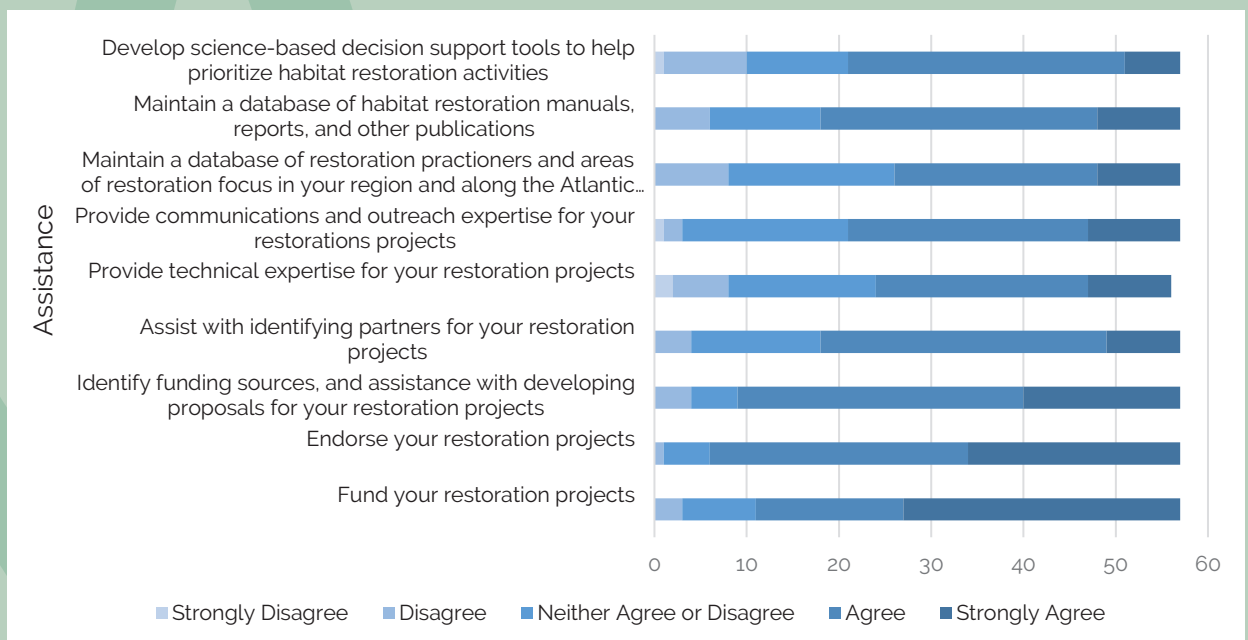


Figure 6. Importance of various types of assistance to ACFHP restoration practitioners


practitioners in their area, providing technical expertise, and developing science-based decision tools are the least favored types of assistance that ACFHP could provide.

Discussion

Habitat practitioners along the Atlantic coast are currently focusing on tidal vegetation, SAV, riverine bottom, and shellfish bed restoration, and plan to do so in the near future. Many practitioners do not follow a restoration strategy, and for those that do, progress towards meeting restoration goals is mixed. From the survey we cannot determine why so many restoration projects are not guided by a strategy or goal. If it is because practitioners are not aware of existing strategies and goals, or do not know how to prepare them, there is an opportunity for ACFHP to help provide guidance. If projects are not driven by strategies or goals because they are opportunity-driven, ACFHP might be able to help practitioners in prioritization and finding match and expertise to focus on projects that will have the greatest positive impact on fish habitats. The top current threats to habitats are obstructions to fish movement, habitat connectivity, dredging and coastal maintenance, and water quality degradation/eutrophication. Fish passage, water quality, and sea level rise are the threats not currently receiving enough attention, and there should be more of a focus on buffers, shellfish beds, and salt marshes. ACFHP's most useful role in assisting survey responders is via funding and endorsing on the ground projects.

Some themes from the survey align with ACFHP's current priorities. Tidal vegetation, riverine bottom, shellfish beds, and SAV are all priority habitats, though not necessarily a priority for each of our four subregions (North Atlantic, Mid-Atlantic, South Atlantic, and South Florida). Macroalgae and unvegetated coastal bottoms are not common focal areas for restoration efforts according to restoration practitioners. Though unvegetated coastal bottoms were an important habitat for Atlantic species according to the Species-Habitat Matrix, ACFHP also does not focus our restoration efforts on either of these habitats.

This survey was developed by members of the ACFHP Steering Committee, and after reviewing the responses, some questions arose that were not addressed by the initial survey. The primary challenge with this survey was, in part to respect anonymity, that it is unclear whether there are regional patterns regarding the responses. The overwhelming majority of the 65% of respondents from which we could determine subregion were based in the North and Mid-Atlantic, which could have skewed the survey results. Only four respondents were from the South Atlantic and six were from Florida, which could explain why, for example, coral reefs were not highlighted in the survey responses.



This survey provides ACFHP with many questions to consider as well. Should we use the survey results to narrow our priority habitats further? Should we shorten our list of threats? Is the information about practitioners meeting their goals going to help ACFHP focus our efforts? Additionally, it appears that practitioners are interested in specific types of assistance from ACFHP. Should we focus our efforts on those opportunities, and de-emphasize the others? Results from this survey will help ACFHP prioritize future restoration and conservation goals and strategies.