

**Florida Keys National Marine Sanctuary  
Marine Zoning & Regulatory Review  
Ecosystem Protection: Ecological Reserves / Preservation Areas and Wildlife Protection  
April 17 & 18, 2014**

**Working Group Meeting Summary**

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**Meeting Agenda – April 17**

1. Review of agenda and objectives
2. Discussion: considerations for the Middle Keys Region
3. Presentation: Orientation to the Middle Keys Region
4. Presentation: Human use Data Available for the Middle Keys Region (Shay Viehman)
5. Discussion: Sharing of local knowledge
6. Presentation: Natural Use Data/Analysis (Shay Viehman)
7. Discussion: data analysis/queries
8. Discussion: highlights from small group discussions
9. Public Comment

**Meeting Agenda – April 18**

10. Welcome back and review agenda for day two
11. Small Group Discussion: management options for the Middle Keys region & Working Group Discussion: round-robin suggestions for the Middle Keys region
12. Discussion: suggestions proposed and settling on preliminary recommendations
13. Public Comment

**Meeting Summary – April 17**

1. Review of agenda and objectives
  - Welcome:
    - Absent working group members: Scott Saunders, Mark Chiappone, Tim Grollmund, and Don DeMaria
  - Objectives:
    - Review of working group's primary objective: Recommend new or modified marine zones to ensure protection of a diversity of resources, including spawning aggregations and the full suite of marine flora and fauna to be presented to the Sanctuary Advisory Council.
    - Review of Middle Keys Region meeting objective: Recommend new or modified marine zones for the Middle Keys Region based on ecological and human use data, local knowledge, and current zones.
  - Schedule:
    - The overall schedule is a series of six 2-day meetings to be completed in July 2014. For dates, locations, and agendas see: <http://floridakeys.noaa.gov/review/reserves.html>
    - This is the third meeting for this working group and the second regional meeting focusing on the Middle Keys region.

- Day 1 Objective: to build as complete a picture as possible of the Middle Keys region by combining results from biological and human use studies with members' local knowledge. Use this information to begin considering options for marine zones in the Middle Keys region.
- Day 2 Objective: discuss options, and develop recommendations for the Middle Keys region
- Last 15 minutes of each day is reserved for formal public comment. An additional half hour is set aside on both days for the public to interact with working group members. Written public comments are always welcome.
- The goal for this meeting is for the working group to reach consensus on recommendations for new or modified marine zones in the Middle Keys region; however if full consensus is not possible majority and minority opinion will be captured and included in the recommendations that are forwarded to the Sanctuary Advisory Council.

## 2. Discussion: considerations for the Upper Keys Region

Working group members were asked to share their interests and objectives for the Upper Keys region including what they care about considering, protecting, and valuing in this region. The following bullets are the statements made by individual working group members.

- Note that a vast amount of Florida Bay is included in this region, which is also an area that is heavily utilized for commercial fishing. Note that commercial trap fishing still have access to the Florida Bay area; which contributes to splitting the fishing pressure between ocean and bayside (this is different than in the Upper Keys region where access to Florida Bay is limited).
- Note that the Middle Keys region has few Sanctuary Preservation Areas (SPAs) designated, this area as well has less spur and groove reef areas, and believe that only one of these spur and groove reef areas (Delta) is not protected in an existing SPA.
- Request that special consideration be given to the fact that the Middle Keys region is a high density population area including for charter boat fishing and tends to draw a larger population of weekend recreational fishing.
- Note that the Middle Keys region appears to be a good area for repopulation and recovery. From personal experience diving in this area, has found a lot of Endangered Species Act coral listed species that are not currently in protected areas. Need to look at specific areas to set aside for no access to allow fish, coral, and lobster to flourish. These areas do not necessarily have to be large areas. Note that has also seen damage from fishing gear.
- Note that at Coffins Patch and coral nursery/restoration sites has seen a lot of fishing line on and damage to the reef.
- Like to see fisherman be able to continue to use vast amounts of the Middle Keys region.

- Encourage other water sport activities (charter fishing and diving) to put forward effort to ensure the rental community has information about coordinates where activities are and/or are not allowed. Utilize guides to educate and ensure users are informed and following regulations. Highlight value of Blue Star and education as a long-term solution.
- Note that users can help enforcement efforts through reporting when see violations; this could serve to help identify and isolate where issues are to better target enforcement efforts.
- Concern about proximity to Florida Bay and potential water quality issues.
- Concern about working group members raising issues in working group meeting and follow-up communication outside meetings that does not represent the working group discussion; concern about user groups and working group members being divided on issues (reference made to fishing trap debris study and article released on trap study). Raised question about validity of the trap study and depiction of the study in press. Noted that the press on that study serves to divide user groups and potentially pit user groups against one another when it is essential that this working group work together towards common goals.
- Note that mid-channel and off-shore patch reefs tend to be relatively small areas of reef area that have the majority of coral (% cover, diversity) and in the Middle Keys region, are poorly represented in the existing zoning scheme.
- Note that on the bayside, the shallow bank systems are important habitats and know that the Shallow Water Wildlife and Habitat Protection working group provided suggestions for this region. Would like a refresher on those suggestions to determine if and how this working group might consider this area.
- Note that there is no deeper (> 50 ft.) reef habitat protected from fishing in the middle Keys region (Alligator to Big Pine Shoal).
- Note that the Sanctuary Preservation Areas (Cheeca Rocks, Sombrero, Coffins Patch) are obviously heavily visited and unique areas in the Middle Keys region.
- Note that Tennessee Reef Research Only Area is a unique area in the region (have photos and plenty of data to support that).
- Note that there are huge swaths of patch reefs east of Marathon and further to the east-northeast that get hammered by recreational fishing and trap gear.
- While Alligator Reef falls within the Middle Keys region, it is an important area for the Upper Keys region.
- Note the issue of non-motorized user groups and potential impacts in National Wildlife Refuge.
- Note that water flows from the bay at long key bridge and 7-mile bridge, which allows massive flows of bay water to enter the ocean-side of the Middle Keys region; summer bay water temperatures can reach 90 degrees, winter can bring cold water, water can be hyper or hyposaline – all of which can be hard on coral. In the Middle Keys region, there are fewer staghorn and elkhorn coral as well as other corals that die off easier in response to these environmental conditions.

- Note that the Middle Keys region has a higher amount of artificial reef habitat due to bridge infrastructure.
- Note the difference in Lower Keys around the Northwest Channel and Boca Grande Channel where Florida Bay waters flow to the ocean-side which creates a difference in the ecosystem; note that this has to be more profound in middle keys. Question if there are areas that are farther away from exposure of the Florida Bay water flows; area that can be distinguished between near and far from water flow for potential management action.

### 3. Presentation: Orientation to the Middle Keys Region

Overall spatial and informational orientation to the Middle Keys region including existing managed areas and regulations was presented. A map showing the existing management areas can be found at:

<http://floridakeys.noaa.gov/review/documents/20140417managedareasmiddlekeys.pdf>

Working Group Questions/Comments:

- Question regarding who can get a research permit to work in Tennessee Reef Research Only Area and what type of research is conducted there. Anyone can apply for a permit, that application will be evaluated for how it advances understanding and management of sanctuary resources.
- Tennessee Reef was selected as a ROA in part due to spur and groove reef, amount and health of coral species, and proximity to FWC marine lab.
- Question about potential research related to closed area and impact on invasive species. Noted that some research is permitted looking at lionfish.
- Note about the Fishery Management Plan Areas Closed to Lobster Gear – these are a Federal Fishery Management Plan and are therefore only in Federal waters.

### 4. Presentation: Human use Data Available for the Middle Keys Region

Spatial information of available human use data for the Middle Keys region was presented. Working group members were then asked to share additional local knowledge. The presentation can be found at:

<http://floridakeys.noaa.gov/review/documents/20140417ephumanusedata.pdf>

### 5. Discussion: Sharing of local knowledge

Public attendees were given the opportunity to share their knowledge, concerns, considerations, and suggestions for the Middle Keys region with the working group members. The working group members were asked to share additional local knowledge related to human use.

Working Group Questions/Comments:

- Noted that Coffins patch is a significant dive area in the Middle Keys region.

### 6. Presentation: Natural Resource Data/Analysis

Natural resource data for the Middle Keys region was presented. The presentation can be found at:

<http://floridakeys.noaa.gov/review/documents/20140417epnaturalresources.pdf>

#### Working Group Questions/Comments:

Request clarification for what constitutes 'high structural relief'? Noted that high structural relief includes spur and groove and patch reefs. The term relates to the height of the structure from the bottom. For example, Sombrero Reef is high relief, Coffins Patch Reef is not. Response: high relief, as defined by NMFS RVC surveys, is greater than 0.7m weighted average of vertical relief (rugosity) within the diver's survey cylinder. In this survey, high relief is typically applicable to high relief spur and groove reef.

- Request to see coral reef data, particularly the Endangered Species Act listed species, separated by year.
- Noted that the fish species richness data is based on a reef-centric research study and analysis, and therefore is not fully comprehensive of other habitat types and presence of fish.
- Question regarding if artificial reef structures are included in the Reef Fish Visual Census Survey Protocols. John Hunt responded that he thought they are in the protocol. However following the meeting, he asked his scientific staff about the protocol. The answer is that at present, the RVC protocol does not incorporate artificial reefs as a strata in the design.
- A discussion was held regarding the seasonal differences in fish abundance. It was generally agreed that a better scientific understanding of seasonal abundance is needed. The FWC is currently designing a research study to conduct summer/winter month comparisons. Such a study will take several years to achieve meaningful results.
- Much emphasis and interest was centered on the regions ranked as 'high' in fish species richness, fish total abundance, stony coral species richness and stony coral cover that all overlapped.
- Noted that many of these studies were designed to have a broader perspective and application. Due to the way the research was designed, information can be extended (via modeling) to reef areas where sampling was not specifically conducted.
- Request to see location of coral nursery, out-plant, and restoration sites.
- Request to see flats fishing effort data provided by Bonefish Tarpon and Trust.

#### 7. Discussion: Data analysis/queries

Preliminary analysis of the natural resource data was done to support the group's deliberations. This analysis was presented followed by a discussion by the working group regarding additional analysis needed and how to use the data and analysis to begin considering options for marine zones in the Middle Keys region. The following

data analysis queries were presented to the working group (and can be found in the Natural Resource Data presentation):

- How much area is currently within marine zones?
- How are habitats distributed within existing marine zones?
- Where are the locations of high structural complexity relative to marine zones?
- Where are locations of spawning aggregations?
- What proportions of threatened coral species (staghorn, elkhorn, and pillar coral) are present in marine zones?
- Where are the locations of resilient reefs and how much are captured in existing marine zones?
- Where are the locations of high abundance and diversity of fish, stony coral, and soft coral?

8. Discussion: highlights from small group discussions

The working group broke into two break-out groups to work more closely with the data presented and to begin considering potential options for marine zones in the Middle Keys region. One spokesperson from each group reported the results of their discussions:

- Group One: Identified several potential options for the Middle Keys region including:
  - Modify the existing Tennessee Reef Special Use Area to capture deeper reef area and greater ecosystem components.
  - Create a zone that goes from the shoreline to the deep reef and encompasses Tennessee Reef Special Use Area.
  - Create a zone at East and West Turtle Shoals area
  - Modify Alligator Reef Sanctuary Preservation Area by shifting the outer boundary out slightly to encompass area important for fish life cycle
  - Consider opening up Coffins Patch Sanctuary Preservation Area
  - Mark and do not allow anchoring in the NMFS FMP areas closed to lobster trapping.
  - Consider the use of artificial reefs to create an ecological bridge/corridor between naturally productive patch reef areas and other hard bottom areas.
- Group Two: Recommended creating a zone at Turtle Shoals as it represents a suite spot for species richness and diversity for fish and coral, includes areas of high reef resilience and several Endangered Species Act listed coral species. Noted that if this zone is created it should be closed to all uses. Group Two also support no anchoring in NMFS FMP areas closed to lobster trapping. The group also discussed, but did not support, protecting an area from shore to the deep reef. The two options considered were Curry Hammock State Park to the outer reef and encompassing Turtle Shoals and shore to deep reef encompassing Tennessee Reef Special Use Area.

- Individual working group members provided the following additional suggestions:
  - Note that mid-channel patch reefs support the high coral cover and diversity and provide the opportunity to protect large number of species in a small space. Need to consider how best to protect this habitat type.
  - Consider creating a zone from shore to the 90' drop-off that abuts the shore at Curry Hammock State Park and spans East Turtle Shoals. This area and type of zone should be evaluated as a way to meet the Advisory Councils goal to protect large, contiguous, diverse and interconnected habitats. Also consider placing an artificial habitat (sunken ship) seaward of this zone to promote ecological and economic benefit and to mitigate potential impact from creating the zone in this area.
  - Note that if an Ecological Reserve type zone is created, the area should be closed to all uses with no exceptions.
  - Consider implementing some form of limited entry in the Sanctuary.
  - Support the use of adaptive management in a way that if the public knows of a significant resource or resource issue the Sanctuary has mechanism to assess and has the ability to create a zone or implement protection measures if needed.
  - Consider using different marker buoy colors for the different zone types to promote education of and compliance with the zones and associated regulations (note – this solution is limited by U.S. Coast Guard regulations for Aids to Navigation).
- Note: Some public attendees also discussed their knowledge of the Middle Keys region and made comments on a map that was provided during the breakout group time. The following are their comments:
  - Stated their observations of coral and fish diversity and abundance
  - Noted the need for more enforcement, mooring buoys, management decisions based on science
  - Raised concern of boating impacts
  - Noted concerns about taking/closing areas and not giving any back

## 9. Public Comment

Public comment was provided by seven individuals.

- Bill Kelly, Florida Keys Commercial Fishing Association (FKCFA).  
Commercial fishermen have reduced movement by 80% on traps. We're proud of the fishermen. We have been engaged in coral protection (through many different organizations and projects). We developed 60 new coral protection sites, which involved a lot of people to get that to happen. I have been disappointed for the past two years about my application with FWRI being denied for biodegradable trap panels for both fisheries. They (NOAA) denied it because it is considered a non-priority. We do what we can to minimize ghost traps. We are proud of all the other work we have done with other organizations.

- Steve Cramer, OFF.  
A lot of the data is quite old. It also includes debris data after hurricanes. There are no data or statistics on closed areas. I don't see anything. All I hear is "it's much better". You have numbers on what you want to take, but not on what has already been closed. I want to see numbers. Are you going to close from shoreline to drop offs? Water quality issue - no input on almost the entire keys being on a sewer system now. What killed off an acre of coral? Not from any users. It's from water quality. That's the only thing that we agree on. Everyone is taking little bites from the industries because that's where they can put their thumbs. I don't think that's right.
- Gary Nichols, OFF.  
I'm concerned about the Everglades Park. We're scared of the zone (near Tennessee Reef) being extended from shore to drop off. Let's look at expanding SPAs instead. We have reduced our lobster traps over the years. We have less impact, less trap debris. As an industry, we have really taken a hit - really are reduced. We need to be careful. Near Lower Matecumbe, they have nowhere else to go. We can work with you on protecting coral reefs and would like to work with you on that.
- Allison Estape, Resident, diver.  
I would like to tell you how special the Keys are to the rest of the western tropical Atlantic. There was a study published from the University of Miami in 1968 about a ten year study on fish diversity. In the Florida Keys, 517 species have been documented. In the past six months my husband and I have identified 200 species just within Alligator Reef SPA. We are a really unique destination for diversity. I think it is important to protect Alligator SPA from fishing. We have been diving Alligator reef forever. I don't understand closures to all. Everybody is going there. I think we need more mooring balls. I don't think it's right to close it to snorkelers and divers. Hi, my name is Allison Estape and I live on Lower Matecumbe in Islamorada. I have been diving in the keys for over 25 years, I am a scuba instructor, underwater photographer, and a citizen scientist that is involved in lionfish research at the Tennessee ROA and a member of Reef's Field Survey Team - rated at the Expert level for fish ID. I would like to share just how special the Keys are versus other parts of the tropical Western Atlantic area. In 1968, Dr. Stark from the University of Miami did a 10 year fish diversity study that ranged from Tennessee Reef thru Crocker Reef. 517 species were identified from shoreline to the 100 fathom line, documenting this area as the most diverse zone in fish species in all of the TWA. My husband and I have been replicating this study w/in the safe diving zones where we should be able to find 389 of the species identified by Dr. Stark. We have been focusing on alligator SPA. At alligator SPA we have identified almost 200 species over the last 6 months. At alligator ledge, we have identified up to 116 species in a 1 tank dive. This feat makes alligator a rare habitat in all of the TWA that needs to be protected. Only Bonaire has documented identifying more than 100 fish species on a 1 tank dive. We are working with Reef and dive shops in Islamorada to drive awareness of just how special Alligator SPA is and to leverage this unique biodiversity to drive diving & snorkeling tourism. Alligator SPA is also unique in that we have found large

aggregations of spawning size black grouper within the spa. Over the last 5 months, we have seen 20-30+ black grouper aggregating in the SPA. If spear fishing or fishing were allowed this aggregation would be wiped out in days. It is very important that we continue to protect Alligator SPA to insure future generations of groupers and other fish. I would strongly recommend expanding the SPA to include the deep water out to 100 ft, so the adults can move unmolested from deep to shallow and help populate all of the keys. I would like to comment on the idea of denying access to all people to SPAs. Based on the diversity we are seeing at Alligator I don't believe we should deny snorkelers & divers access to this SPA as it does not appear that diving/snorkeling has negatively impacted the fish diversity nor abundance. Today Alligator is used by more than 10 dive shops, the Boy Scouts of America, multiple snorkel boats and a huge number of private boaters who engage in diving & snorkeling. It provides a fantastic dive/snorkel site that is shallow enough to see the fish from the surface, and provides an excellent shallow/beginner level dive. I believe we need more mooring balls to protect all our reefs from anchor damage. In summary, It is very important that we protect Alligator SPA from fishing to insure our fish species have a safe zone where they can thrive and reproduce and where snorkelers and divers can experience an opportunity to see over 100 fish species per dive. Thank you for your time and consideration

- Carlos Estape, Resident, diver.  
Since 1978 I've been diving the reefs. The astounding difference in fish size in SPAs vs the rest of the Sanctuary is on average of 70% more. It benefits all of us to protect these areas and to take fishing pressure off of these very small areas. If possible, perhaps make the SPAs a little bigger - perhaps to 60 ft contour line. To give fish a little bit more breathing room. For the sake of future generations to do something about it today.
- Tom Hill.  
Water quality, education, law enforcement. Last night there was an informative talk about water quality in Key Largo. One of the main problems we have is water salinity. We're starved for fresh water. In order for our Sanctuary to thrive, we need some fresh water coming down. We're focusing on sideline issues, not the main issue. We need to be screaming to Congress for more money to help the Everglades, education. We still don't have any signage to inform people. We need to see that. So people can act differently.
- Jeff Cramer  
I'm on the SAC, other advisory councils and panels, etc. I worked with FWC on their research. Have you guys decided on what kind of activities you want to allow in these areas? That's the biggest problem commercial fisherman have; can you anchor even if you can't put down a trap? Fishermen have cut our trap efforts in half. Less than 2% of our traps are on the actual reef hard bottom. They're not there on purpose, if they're there. Conch Key is the only commercial fishing village in the Middle Keys. Lower Matecumbe is another large fishing area for the Middle Keys. Both areas overlap Long Key area. We have a lot of shallow water that is not fishable

in the bay behind Conch Key. We set aside some areas for no trapping. What kind of activities do you expect to happen in these areas?

### **Meeting Summary – April 18**

10. Welcome back and review agenda for day two

Schedule will include an informal public input opportunity before lunch, and public attendees will also have the opportunity to participate in their own small group to discuss management possibilities during the breakout group session.

11. Discussion: round-robin suggestions for the Middle Keys region

Working group break-out groups reported on results of their discussion and collective draft recommendations. Individual members made additional recommendations including the rationale for recommendations. These ideas were further discussed and refined as outlined below.

12. Discussion: Discussion of suggestions proposed and settling on preliminary recommendations.

The working group reviewed ideas presented for potential modifications to marine zones in the Middle Keys region. The discussion focused on (1) potential zoning changes, (2) suggested changes to regulations, and (3) innovative and Keys-wide ideas. The working group identified and documented areas of consensus, majority agreement, concerns, and issues for further discussion. The working group did not fully discuss all ideas raised.

(1) Potential zoning changes:

For full details, see the table on page 13.

(2) Suggested changes to regulations:

Create a No Anchoring regulation in Fishery Management Plan Areas Closed to Lobster Trap Gear:

- These areas should be marked and no anchoring allowed.

Rationale

- If these areas have significant amount of Endangered Species Act listed coral that no lobster trap gear is allowed, then these areas should be protected from anchor impacts.
- When an area is not defined or marked, enforcement is difficult. Individuals do not know where these areas are or what the regulations are.

Issues to Consider

- Due to the number of these zones in the Upper Keys region, marking all of these zones could create confusion and complications. Considering marking zones where feasible and makes sense.

**Preliminary Recommendation**

- Consensus: No anchoring in Fishery Management Plan Areas Closed to Lobster Trap Gear

- Consensus: Add marker buoys at the Fishery Management Plan Areas Closed to Lobster Trap Gear near Alligator Reef in the Middle Keys.

### (3) Innovative and Keys-wide ideas:

#### Consider Limited Use/Entry

- No further discussion at this meeting

#### Artificial Reefs

- No further discussion at this meeting

## 13. Public Comment

Public comment was provided by three individuals:

- Jim Teague, Key Colony Beach Fishing and Boating Club.  
You guys got a heck of a job to do. You are better able to do it than anyone else. My standpoint from the public, you are the best thing going for this task. I hope the SAC really sticks to do what you recommend. They aren't doing what you are doing. I complement you, stick with it. At the SAC meeting, a comment was made by SAC member (Cory Malcom) that once the ideas are generated, there needs to be some steps followed. You need to document these areas. Survey it, review it. If you don't, then it's 10 to 15 years to review it. If you can include steps to be followed in your recommendations then maybe you can change that. I hear education and enforcement. I suggest that as you develop, come up with a resolution, document, almost a mandate to SAC, if they can't get funding to do what you say to do. If they can't do it, then tell them to take all of your reports and throw them away.
- Rick Turner, FKCF, OFF, commercial fisherman.  
I think 99% of people (on the water) are honest. But many people don't know how to use their GPS right. Everyone knows how to read a buoy. There's a good chance people won't anchor in the marked areas. FWC can't be everywhere. If people see violations, a good citizen can get on their phone. Most people don't know that they're doing wrong. It's black and white. There's no gray. I think marking things will help a lot with this, make it way more efficient. This will allow the area to proliferate and get better. I know you have a tough job to do, everyone is a part of some user group. Everyone is getting shot a little bit. Thank you for your time.
- Bob Carew, Key Colony Beach Fishing and Boating, USCG Auxiliary.  
We fly the over reef 6-7 days/week. When we see something amiss or awry, we call it into USCG Sector Key West. Tuesday we called in someone that was in Tennessee Research Only Area (ROA). To tell you the truth, nobody goes out there because they don't have funding for enforcement. We fly over every single SPA every day. I just did that this morning. There are regulations regarding different colored buoys. I don't think you can just put in corner buoys in large areas. They can't see the next one. Put more buoys so people can see the next one. It is hard to know who is allowed in ROA. When you're talking about zones where you can't anchor, but you

can fish: that gets cloudy. From an enforcement standpoint, it's hard to determine. I agree with the idea that all should stay out in exclusion areas. Keep protected areas as rectangles rather than strips. I observe the mooring buoys get used a lot. They are being heavily used by both recreational and commercial people. If you have any suggestions for USCG Auxiliary just contact Air Station Miami or Sector Key West.

Written public comment was provided by one individual. Written comments can be found here: <http://floridakeys.woc.noaa.gov/review/documents/20140418epwrittencomments.pdf>

#### **Follow-Up Actions for Working Group Members**

- Review preliminary recommendations and discussion to date for Upper and Middle Keys regions.
- Begin considering potential options for the Lower Keys Region.

#### **Decision Items of Note**

Preliminary discussion and decisions for potential zone modifications in the Middle Keys region are outlined in the table on page 13. All other items will be further discussed before preliminary decisions are made.

DRAFT concepts presented for potential modifications to marine zones in the Middle Keys region. The below table reflects working group discussion to date. These concepts will be revisited at the final working group meeting in July. No formal working group recommendations have been made.

Area	Rationale	Zone Concepts	Regulation Concepts	Consensus
Tennessee Reef	The areas under consideration include ESA listed coral species, high fish abundance and diversity, and high coral reef resilience. Fish movement is seasonal and includes juvenile to adult stages and movement through the area and from in-shore to off-shore. This would modify and build off an existing area that is already protected through zoning. For Concept 3: proposed to meet the Advisory Council goal to protect large, contiguous, diverse and interconnected habitats, including for fish moving in-shore to off-shore through their life cycle.	Concept 1: Extend Tennessee Reef Special Use Area to the 90' drop off, which is approximately 0.6 miles.	Concept 4: Close area to all use.	Consensus: <u>Majority</u> support zone and regulation concept, however further discussion needed regarding which size zone to consider (Concept 1 and 2). <u>Minority</u> concerned about impact to fishing use.
		Concept 2: Extend Tennessee Reef Special Use Area to the 90' drop off, which is approximately 0.6 miles and expand westward by about 1.2 miles. This encompasses the resilient reef area adjacent to and offshore from Tennessee reef Special Use Area.		Consensus: Do not consider Zone Concept 3.
		Concept 3: Create a zone that extends from the shoreline at Curry Hammock State Park to the 90' drop off and include Tennessee Reef Special Use Area in the zone.		

**Issues to Consider for Tennessee Reef and associated Concepts:**

Impact to fishing, both commercial lobster and recreational, not known. Noted good yellowtail fishing in this area.  
 There will be impacts to fishing but noted the impact not likely detrimental.  
 Area that would likely be detrimental for fishing the Tennessee Reef light area near the Fishery Management Plan No Lobster Trap Gear zone.  
 For Concept 3: impact to fishing and to individuals using areas along the shoreline; potentially not worth extending zone to shore  
 For Concept 3: Consider the idea of a seasonal (May to July) catch and release / idle zone from shore to about 4' to 6' of water

Alligator Reef	This area includes a lot of diversity and has possible significance to the life cycle of groupers	Concept 1: Extend outer boundary of the existing Alligator Reef SPA seaward by 2/10ths of a mile	Concept 2: Close area to all uses but still allow exception for catch and release by trolling.	Consensus: <u>Majority</u> support No Action. <u>Minority</u> would like this zone considered for potential benefit for grouper species.
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**Issues to Consider for Alligator Reef and associated Concepts:**

Grouper are already protected through Fishery Management Plan during spawning season and bag limit  
 If the nearby Fishery Management Plan No Lobster Trap Gear zone becomes a no-anchor zone, leave Alligator Reef alone.  
 This area would be too difficult to close to all uses as it is a large area and is likely used for catch and release trolling.

DRAFT concepts presented for potential modifications to marine zones in the Middle Keys region. The below table reflects working group discussion to date. These concepts will be revisited at the final working group meeting in July. No formal working group recommendations have been made.

Area	Rationale	Zone Concepts	Regulation Concepts	Consensus
Turtle Shoals	Includes ESA and State listed coral species including staghorn, elkhorn and pillar; high stony coral cover and fish diversity. Includes resilient reefs. This area is more protected from Florida Bay water and environmental conditions than other areas in the Middle Keys.	Concept 1: Create a zone around the patch reef at East Turtle Shoals.	Concept 4: Close area to all use.	Consensus: Support zone and regulation concept, however further discussion needed regarding which zone to consider (Concept 1 and 2).
		Concept 2: Create a zone around the patch reefs at East and West Turtle Shoals.		
		Concept 3: Create a zone that extends from the shore at Curry Hammock State Park, extends to the deep reef and encompasses the area at Turtle Shoals with the greatest species abundance and diversity.		Consensus: Do not consider Zone Concept 3.

**Issues to Consider for Turtle Shoals and associated Concepts:**

This area has a lot of patch reefs so should evaluate more closely to determine the premium habitat areas to protect in the smallest way possible while also impacting the fewest users.  
 This area is a good historical site for coral so could be a good site for further coral restoration work  
 Note from commercial fisherman present that they could live with not fishing in this area (this is better than Tennessee Reef suggestion).  
 This is an important area for the dive and marine life protection industries; however are willing to give this area up for its high ecological value.  
 If taking this high value area need to consider impact to economy particularly the recreational charter fishing, marine life protection. West portion will be greater impact to marine life protection.  
 To allow for some fishing, could set a line of buoys at the southern edge of zone to allow some use; however noted that if this area is significant should be protected, concern about angling gear.

Coffins Patch	Consider opening area back up	Concept 1: Remove current Sanctuary Preservation Area	Concept 2: Remove the current regulations for Coffins Reef Sanctuary Preservation Area	Consensus: No Action, leave as zoned.
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**Issues to Consider for Coffins Patch and associated concepts:**

Note that there are only 4 SPAs in the middle keys, they are spread out widely, and are heavily used by dive community, this area serves purpose to separate use, is known, includes resources.  
 Not against giving back, but if give this area back would increase user conflict and would impact the dive industry.  
 There are four distinct areas in Coffins patch, which are managed by where the mooring bouys are placed  
 Large area of pillar coral is included in the SPA

Mid-Channel Patch Reefs	Mid-channel patch reefs support high coral cover and diversity and provide the opportunity to protect large number of species in a small space. This habitat type is under-represented in the current zoning scheme.	Concept 1: Create at least one zone to protect mid-channel patch reefs	No specific regulation concepts discussed or identified.	Still under discussion, no Consensus for concepts
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**Issues to Consider for Mid-Channel Patch Reef zones**

Washer Woman was proposed as a potential area for consideration. Note that Turtle Shoals area is a significant Mid-Channel Patch under discussion for potential protection through zoning.  
 Generally support one area selected for further protection. Area selected should be based on science.  
 Washer Woman likely gets more use than Turtle Shoals due to proximity to population center.

Fishery Management Plan Areas Closed to Lobster Trap Gear	Existing Fishery Management Plan areas with significant amount of Endangered Species Act listed coral.	Existing Zones. No new or modified zone proposed.	Concept 1: Mark these existing zones	Consensus: Mark zone near Alligator Reef
			Concept 2: Prohibit anchoring in these existing zones	Consensus: Prohibit anchoring in these zones

**Issues to Consider for Fishery Management Plan Areas Closed to Lobster Trap Gear**

When an area is not defined or marked, enforcement is difficult. Individuals do not know where these areas are or what the regulations are.  
 Due to the number of these zones in the Upper Keys region, marking all of these zones could create confusion and complications. Considering marking zones where feasible and makes sense.