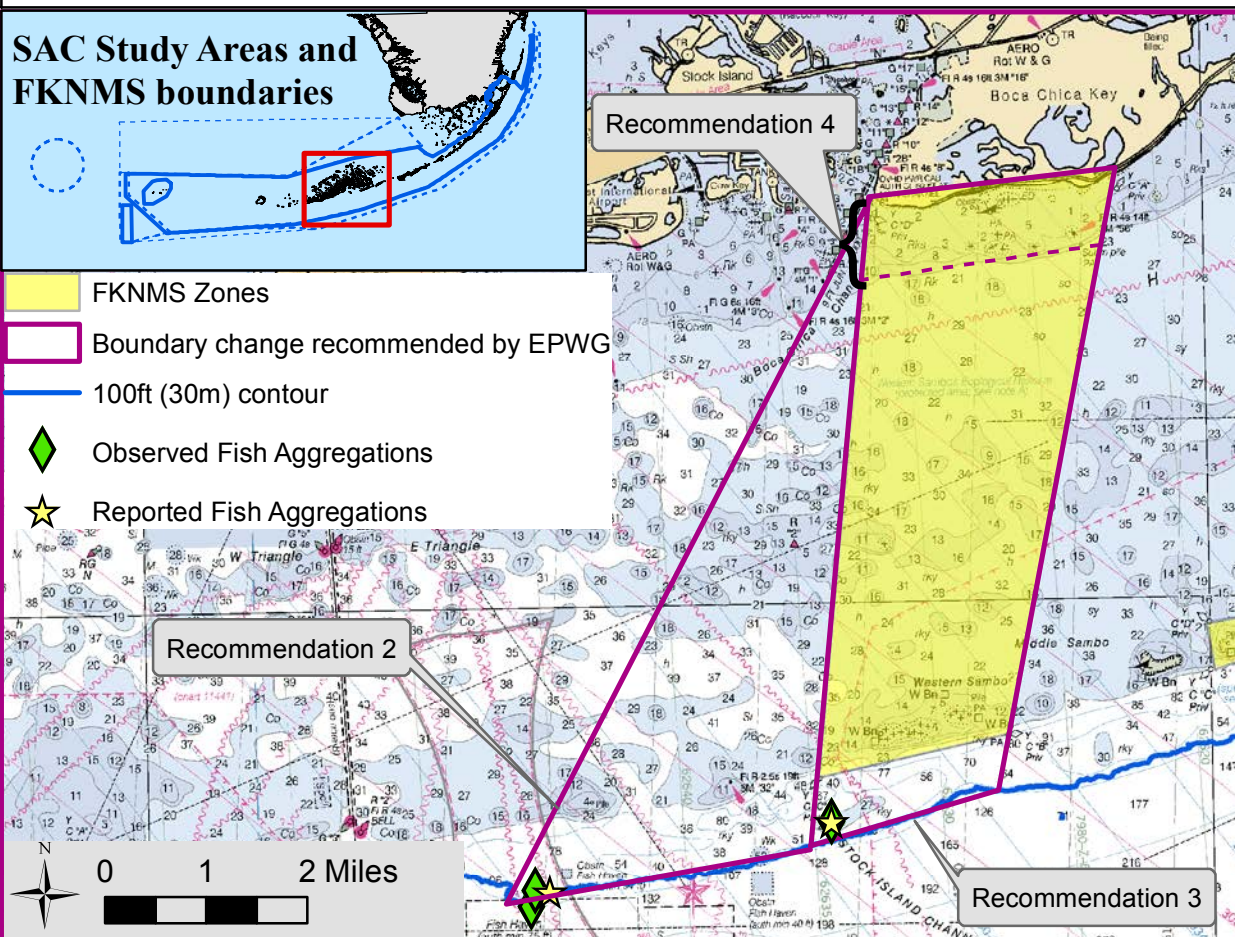


- Recommended Modifications to Existing Ecological Reserves -
Western Sambo Ecological Reserve

SAC Study Areas and FKNMS boundaries



EPWG Recommended Modifications:

- 1) No modification to existing zone boundaries.
- 2) Expand to include all known fish spawning aggregations.
- 3) Expand offshore to 30 m depth contour.
- 4) Expand protection for near-shore habitat; include idle only in 6-ft. of water.

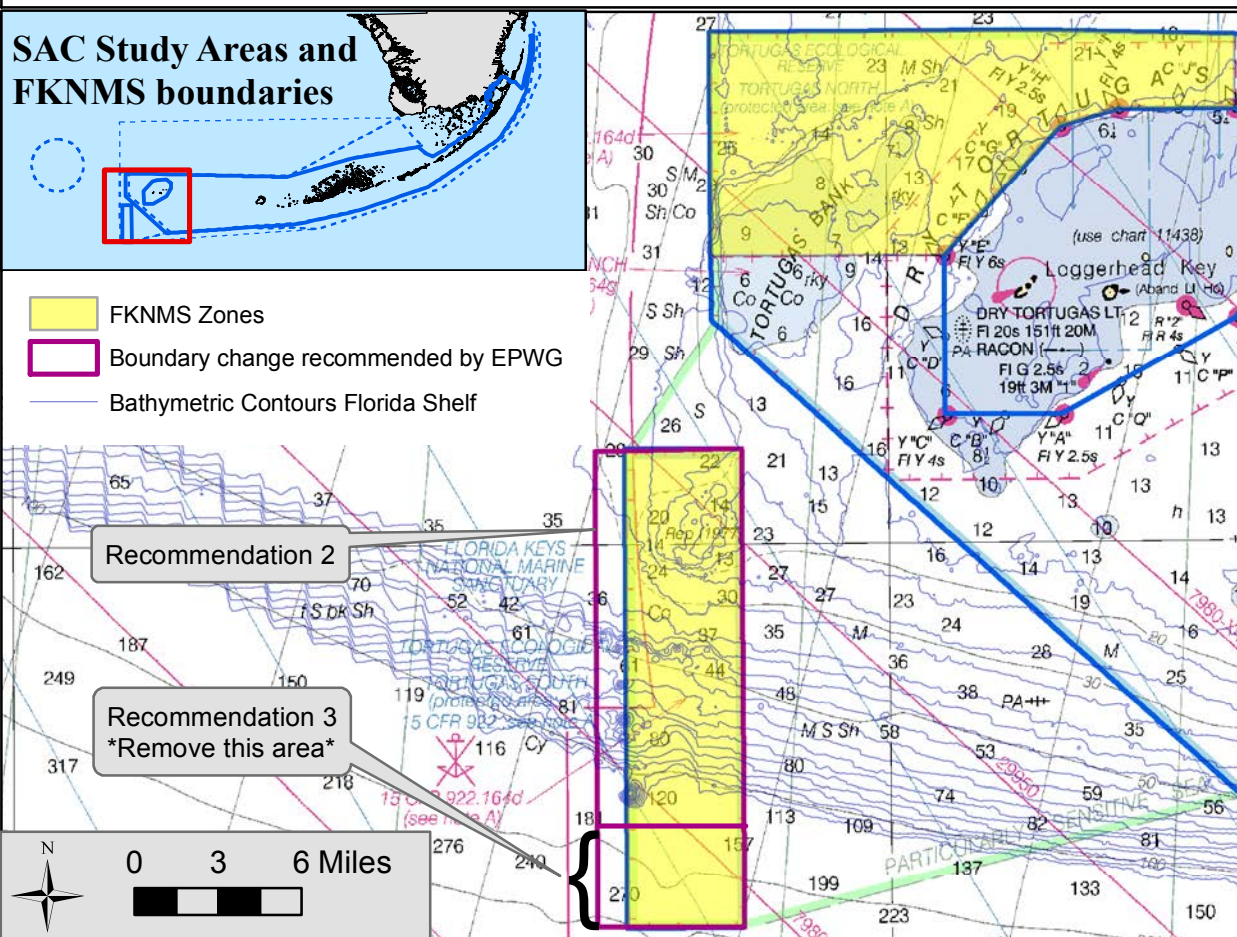
Justification for Modifications:

- 1) The original (1990) design for this area was to establish an ecological reserve from the shoreline out to at least 30-m depth.
- 2) The boundary should be extended seaward to at least 30-m depth to protect the deeper fore-reef habitat, including known spawning aggregation sites.
- 3) Potential boundary expansion to the 30-m contour should consider impact to charter fishing and trolling and any possible diving use.
- 4) Potential boundary expansion to include the near-shore habitat should include an idle only zone in 6-ft water depth due to concern regarding vessel traffic and impact to fish. Zone could promote proactive management for party zones. Consider displacement of current use.

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- Recommended Modifications to Existing Ecological Reserves -
Tortugas Ecological Reserve

SAC Study Areas and FKNMS boundaries



EPWG Recommended Modifications:

- 1) No modification to existing zone boundaries.
- 2) Consider expanding Tortugas South westward to better protect spawning aggregations.
- 3) Take some of the deepest part of the Tortugas South away and add it to the west side to better protect the spawning aggregations.

Recommendations continued on next page

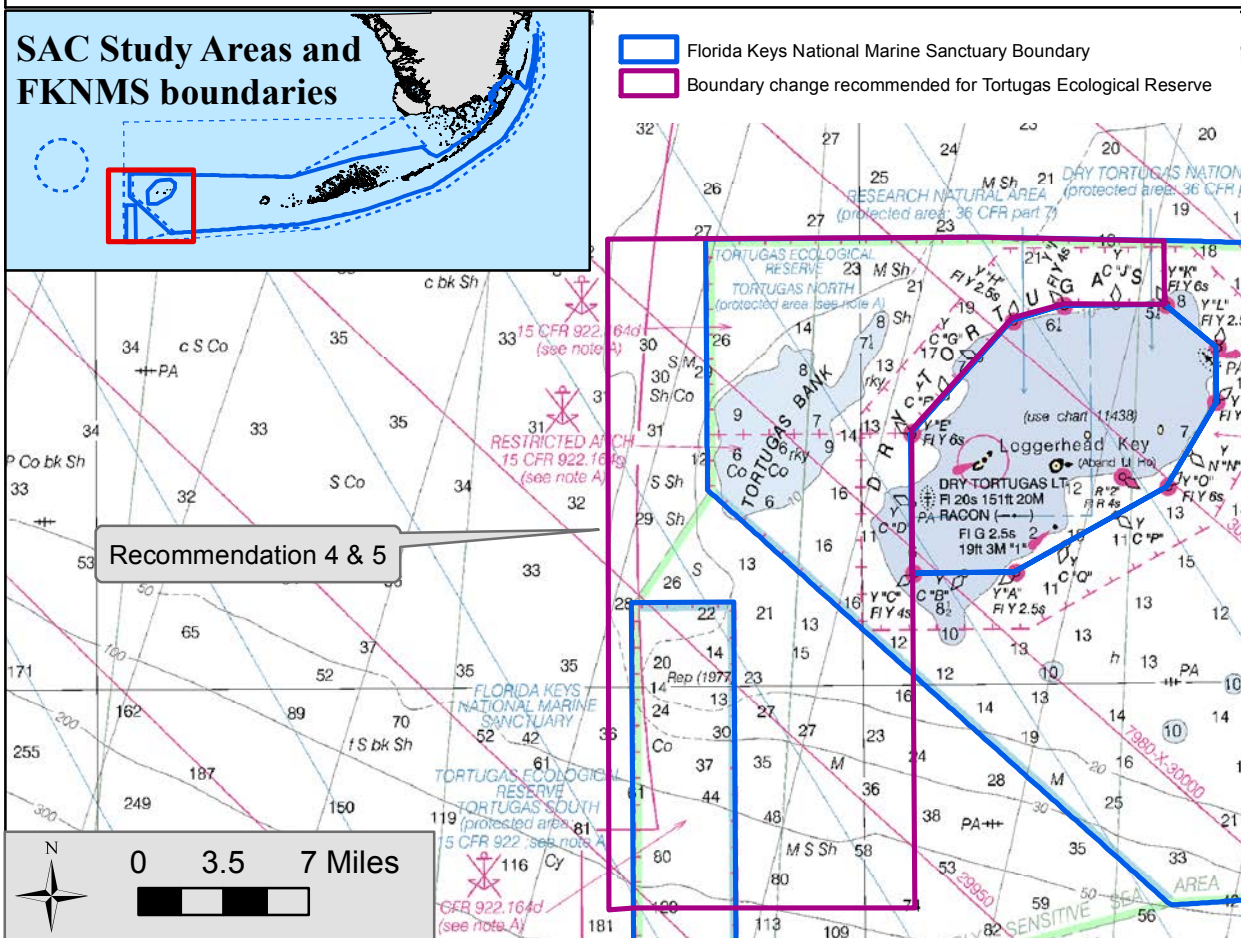
Justification for Modifications:

- 1) Based upon spawning site data, the Tortugas South Reserve boundaries may not need to be modified.
- 2) Extend the boundary westward for improved ecosystem protection of multi-species fish spawning aggregation at Riley's Hump and protection of associated habitat including the water column and benthos.
- 3) The boundaries of the Tortugas North reserve encompass some of the best deeper reef habitat in the region, including the Sherwood Forest area and a portion of Little Tortugas Bank.
- 4) Modifications to existing boundary and the potential of creating one large ecological reserve should consider impacts to current activities and impact of displacement of activities, including impact to fishing and diving, and trap fishing impacts.

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- Recommended Modifications to Existing Ecological Reserves -
Tortugas Ecological Reserve

SAC Study Areas and FKNMS boundaries



EPWG Recommendations (con't):

- 4) Make a larger, contiguous Ecological Reserve with regulations consistent with Tortugas North (permit required to stop or use a mooring buoy).
- 5) Make a larger, contiguous Ecological Reserve with regulations consistent with the current Tortugas South (no activities, transit only).
- 6) Make regulations consistent between Tortugas North and South using existing Tortugas North regulations (permit required to stop or use a mooring buoy).
- 7) Make regulations consistent between Tortugas North and South using existing Tortugas South regulations (no activities, transit only).

Justifications:

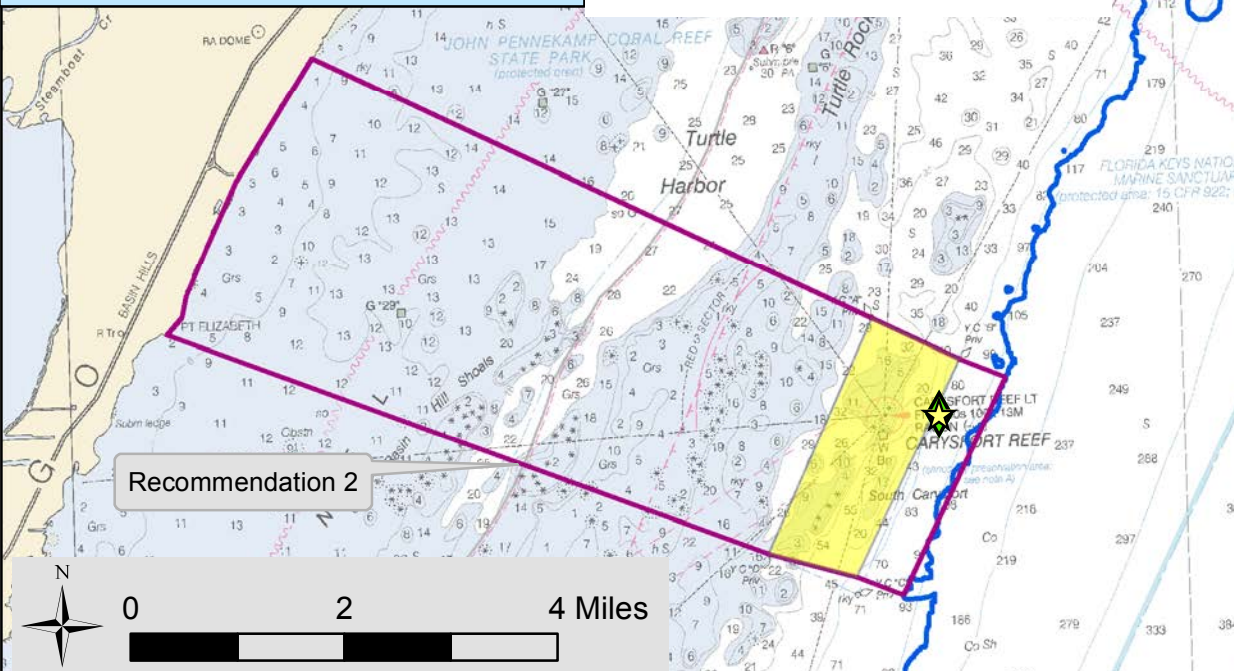
- 1) Based upon spawning site data, the Tortugas South Reserve boundaries may not need to be modified.
- 2) Extend the boundary westward for improved ecosystem protection of multi-species fish spawning aggregation at Riley's Hump and protection of associated habitat including the water column and benthos.
- 3) The boundaries of the Tortugas North reserve encompass some of the best deeper reef habitat in the region, including the Sherwood Forest area and a portion of Little Tortugas Bank.
- 4) Modifications to existing boundary and the potential of creating one large ecological reserve should consider impacts to current activities and impact of displacement of activities, including impact to fishing and diving, and trap fishing impacts.

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- Recommended New Ecological Reserves -
Carysfort Reef

SAC Study Areas and FKNMS boundaries

- FKNMS Zones
- Boundary change recommended by EPWG
- 100ft (30m) contour
- Observed Fish Aggregations
- Reported Fish Aggregations



EPWG Recommendations:

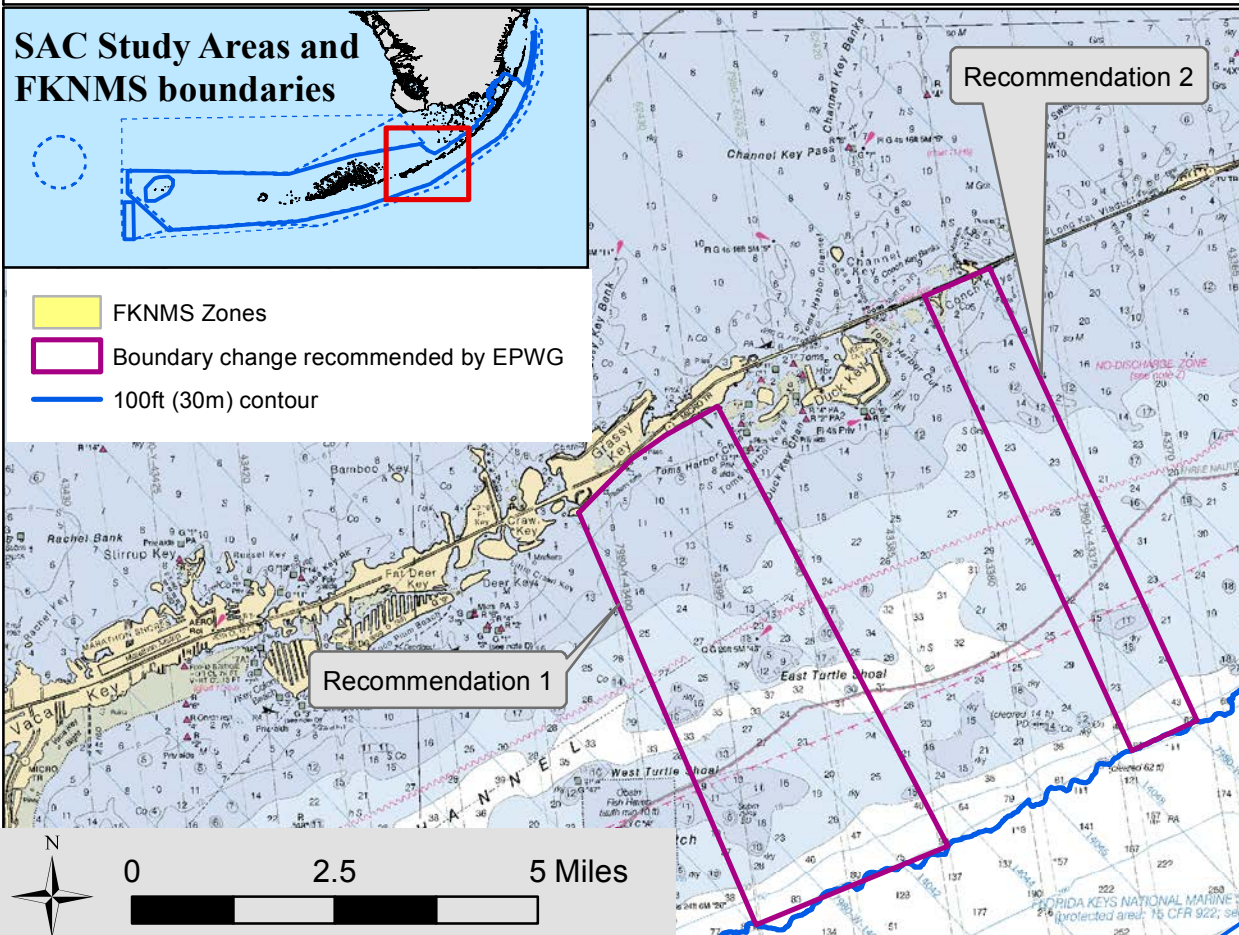
- 1) Extend the boundary of the current Carysfort SPA to the shoreline and to the 30-m depth contour. Make this zone an Ecological Reserve.

Justification for Modifications:

- 1) Creation of an ecological reserve here would increase ecosystem protection in the upper Keys region and provide a protective buffer for one of the Keys "best" coral reefs. Meets SAC principle to have a non-extractive zone in each of the Keys sub-regions.
- 2) This area provides a large enough landscape encompassing varied features and important elements represented that include a heterogeneous topography, multiple diverse and contiguous habitat types used at various times in life histories of multiple fish assemblages with migratory corridors in place, and essential oceanographic currents necessary for larval dispersal.
- 3) Protect the deeper fore-reef habitat, including known spawning aggregation sites (i.e. black grouper).
- 4) Shoreline includes mangrove area (State Park).
- 5) Consider displacement of uses and economic impact.
- 6) Consider allowing some type of use that is "permitted/managed" blue star, etc.

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- Recommended New Ecological Reserves -
Grassy Key and Conch Key

**EPWG Recommendations:**

- 1) Establish new Ecological Reserve from Grassy Key to 30 m depth contour on ocean side.
- 2) Establish new Ecological Reserve from Conch Key to 30 m depth contour on ocean side.

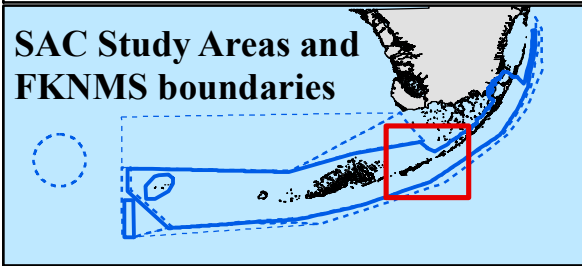
Justification:

- 1) There are no existing ecological reserves in the middle Key region of the Sanctuary, despite several islands, some of which are largely undeveloped, and a spectacular mid-depth to deeper fore reef from ~15-30 m depth.

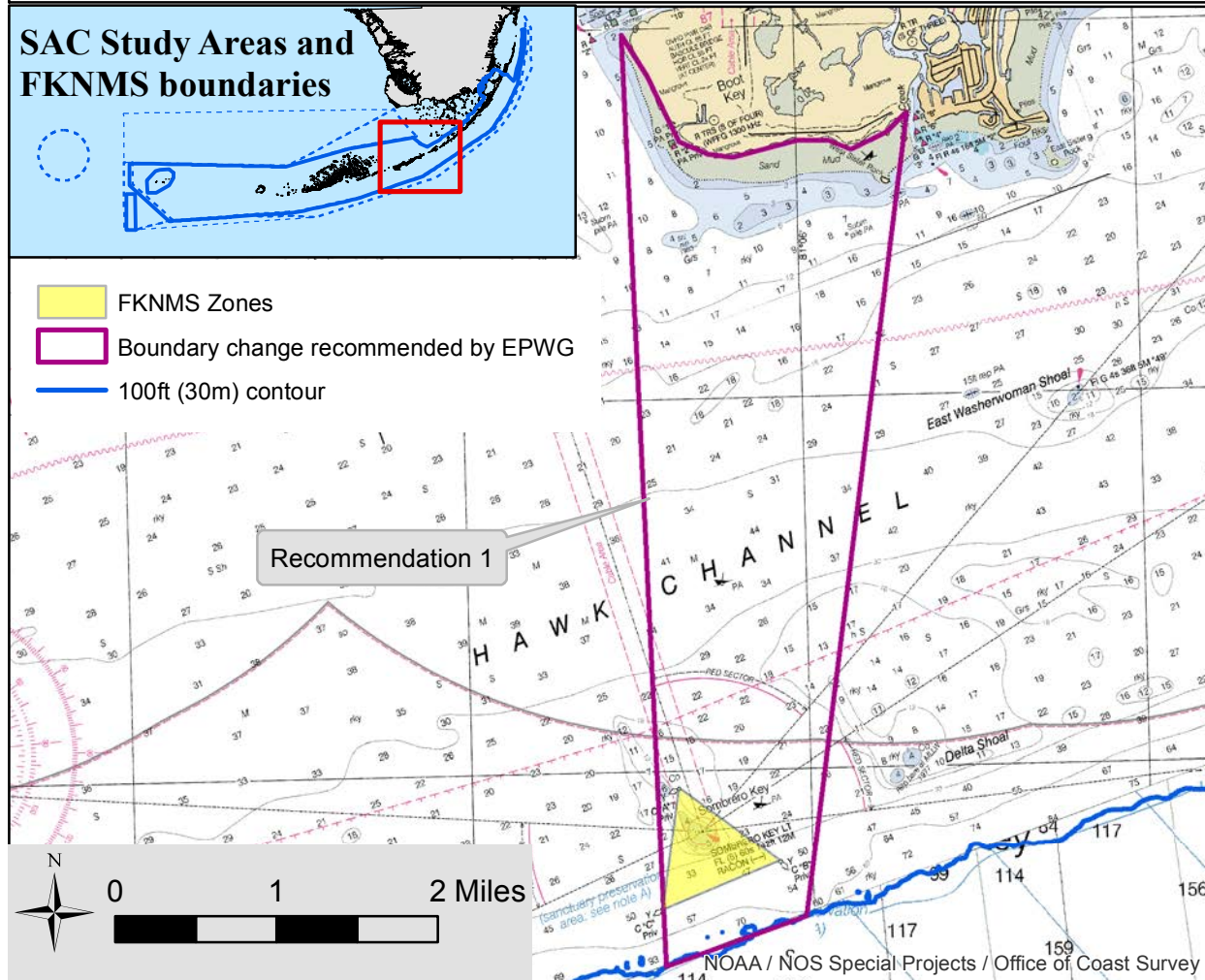
NOTE - these are DRAFT interpretations of feedback from the Ecosystem Protection Working Group members as of 7/12/13, and they are being displayed as visual reference for the working group consensus decision making process.

- Recommended New Ecological Reserves -
Sombrero Key

SAC Study Areas and FKNMS boundaries



- FKNMS Zones
- Boundary change recommended by EPWG
- 100ft (30m) contour



EPWG Recommendation:

1) Consider making Sombrero the center point of a middle Keys Ecological reserve with connectivity to Boot Key mangroves, flats, seagrass, hardbottom, patch reefs and deeper reefs outside Sombrero.

Justifications:

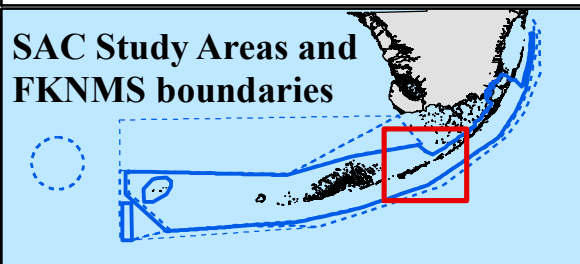
- 1) This is the principal offshore reef area that is visited by divers/snorkelers in Marathon area, aside from Coffins Patch and some of the artificial wreck sites.
- 2) Creation of an ecological reserve here would increase ecosystem protection in the middle Keys region and provide a protective buffer for one of the Keys most economically important (from the diving perspective) coral reefs.
- 3) Commercial, charter and recreational fishermen who use this general area will need to be consulted to determine if this is practical.

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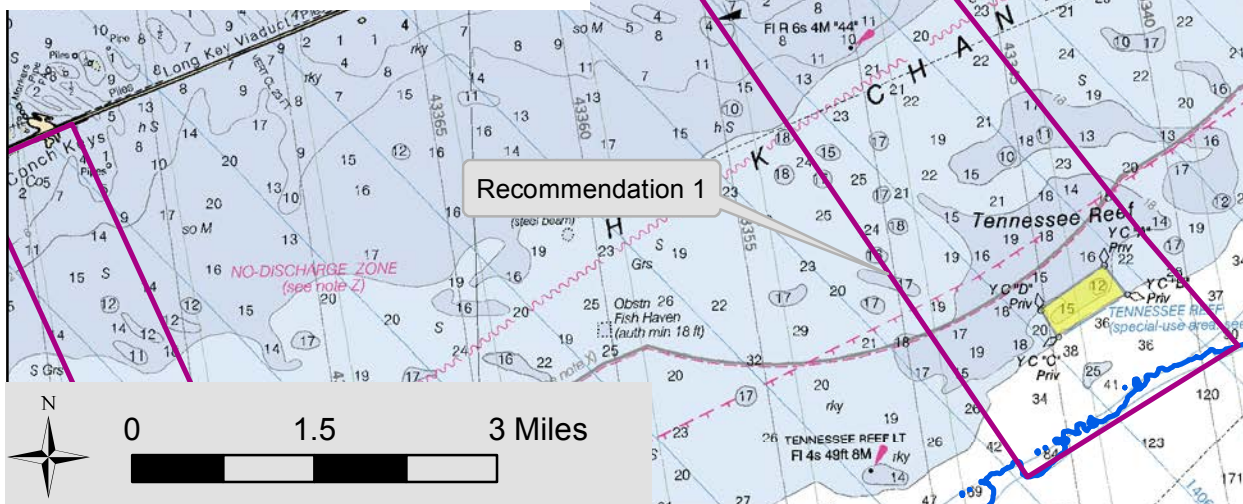
Ecosystem Protection Working Group

- Recommended New Ecological Reserves -
Tennessee Reef

SAC Study Areas and FKNMS boundaries



- FKNMS Zones
- Boundary change recommended by EPWG
- 100ft (30m) contour



EPWG Recommendation:

1) Establish a new Ecological Reserve with Tennessee Reef as the center point with connectivity to Long Key mangroves, flats, seagrass, hardbottom, patch reefs and deeper reefs outside Tennessee.

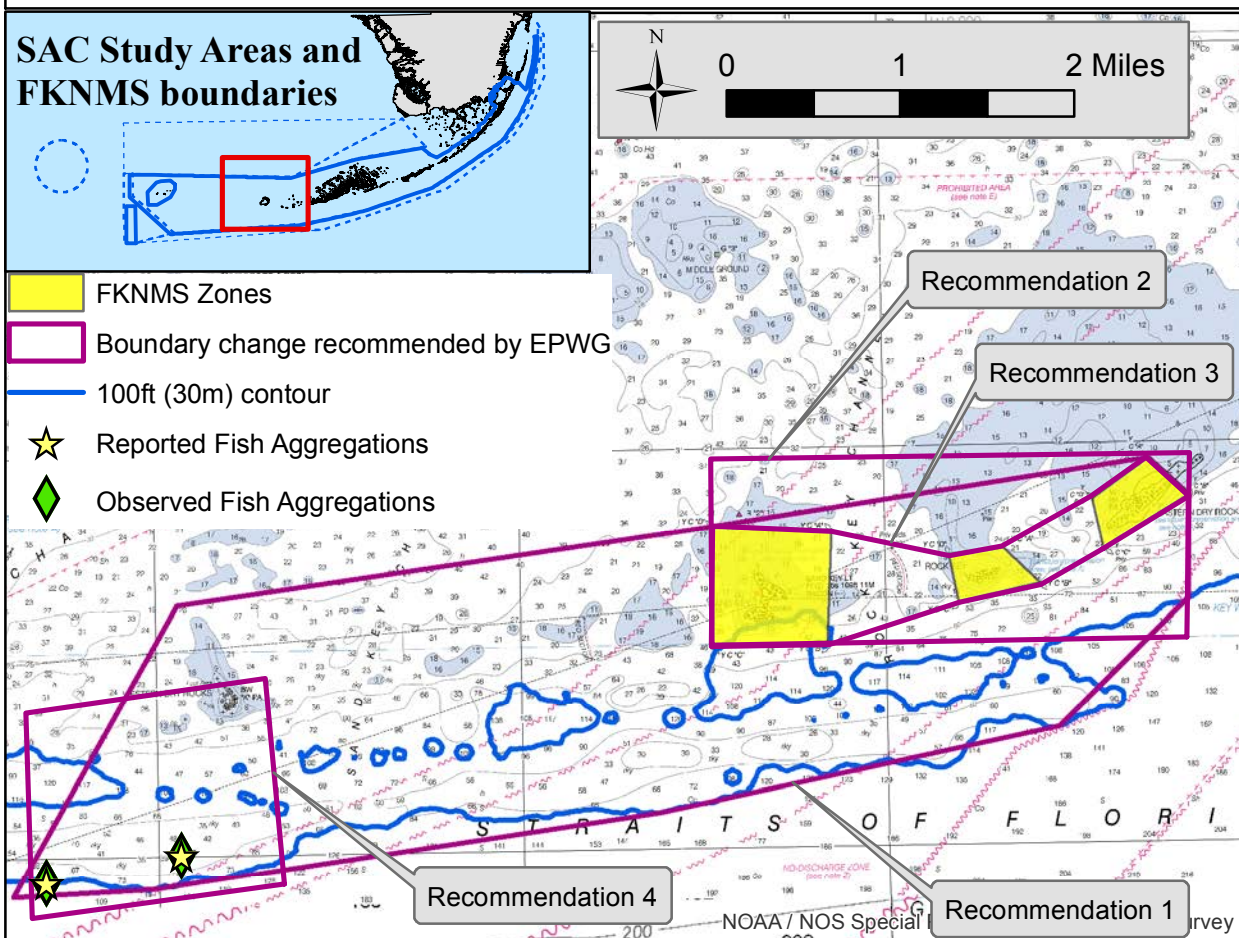
Justifications:

- 1) Creation of an ecological reserve here would increase ecosystem protection in the middle Keys region and provide a protective buffer for an important coral reef.
- 2) Shore-line is state park.
- 3) Commercial, charter and recreational fishermen who use this general area will need to be consulted to determine if this is practical.

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Ecosystem Protection Working Group

- Recommended New Ecological Reserves -
Western Dry Rocks



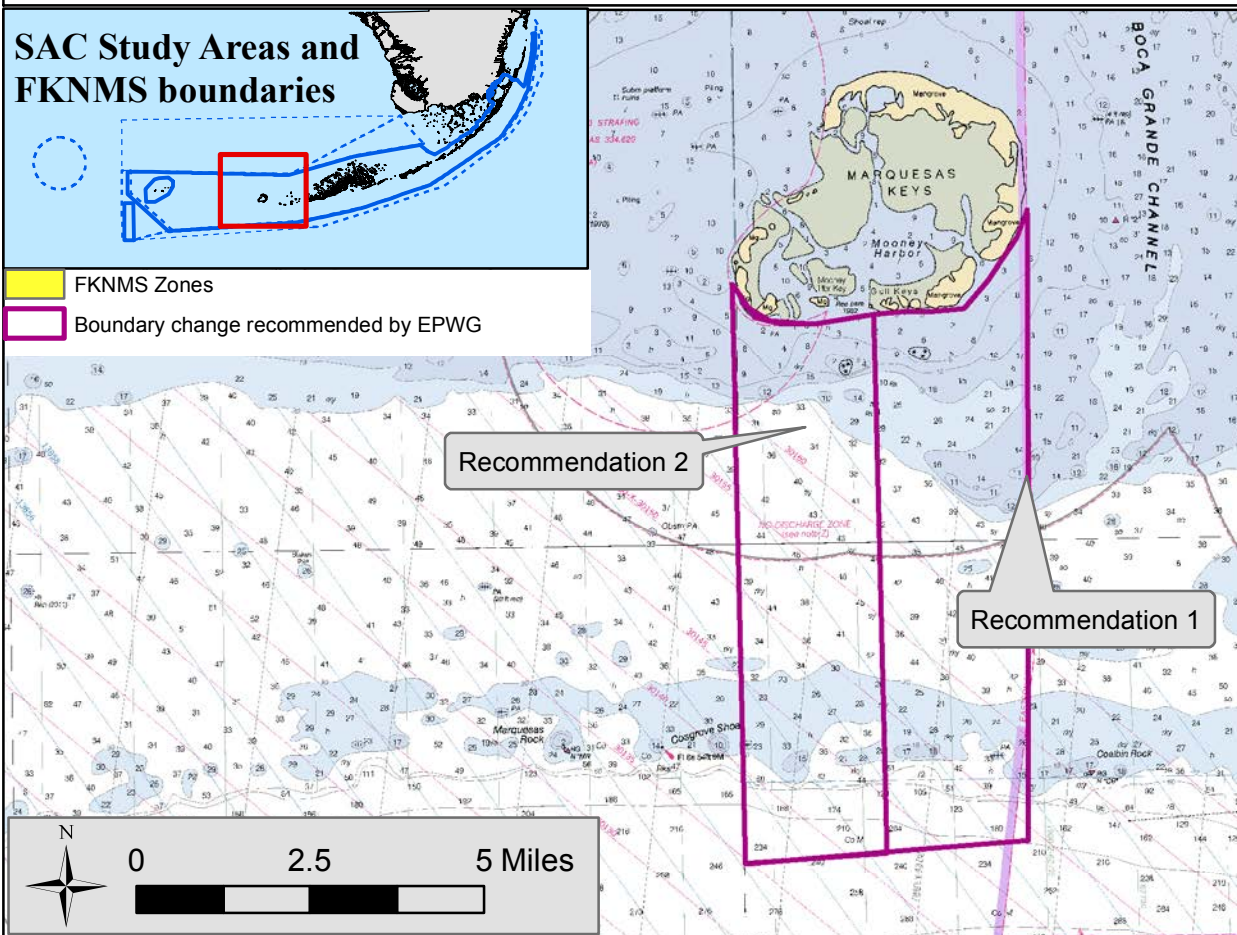
EPWG Recommendations:

- 1) Combine Sand Key, Rock Key, Eastern Dry Rocks, and Western Dry Rocks (including known spawning aggregations) into a larger Ecological Reserve.
- 2) Combine Sand Key, Rock Key, and Eastern Dry Rocks into an Ecological Reserve (boundary squared off).
- 3) Combine Sand Key, Rock Key, and Eastern Dry Rocks into an Ecological Reserve (boundaries of existing SPAs connected).
- 4) Create an Ecological Reserve around Western Dry Rocks and known spawning aggregation sites to the south.

Justifications:

- 1) Documented multi-species fish spawning aggregation is a unique (or at least very rare) natural feature with high importance for ecosystem productivity that benefits commercial and recreational fishing and diving beyond the aggregation itself.
- 2) Protecting the site from intense fishing pressure provides insurance for the ecosystem and the industries and activities that rely on it.
- 3) This area is a heavily used, multi-use area; need to determine impacts to users particularly Key West.

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**EPWG Recommendations:**

- 1) Create an ecological reserve south of the Marquesas that extends from the southern shoreline of the southern islands to the deep reef. **The width would be the entire extent of the islands.**
- 2) Create an ecological reserve south of the Marquesas that extends from the southern shoreline of the southern islands to the deep reef. **The width would be half of entire extent of the islands (eastern side).**

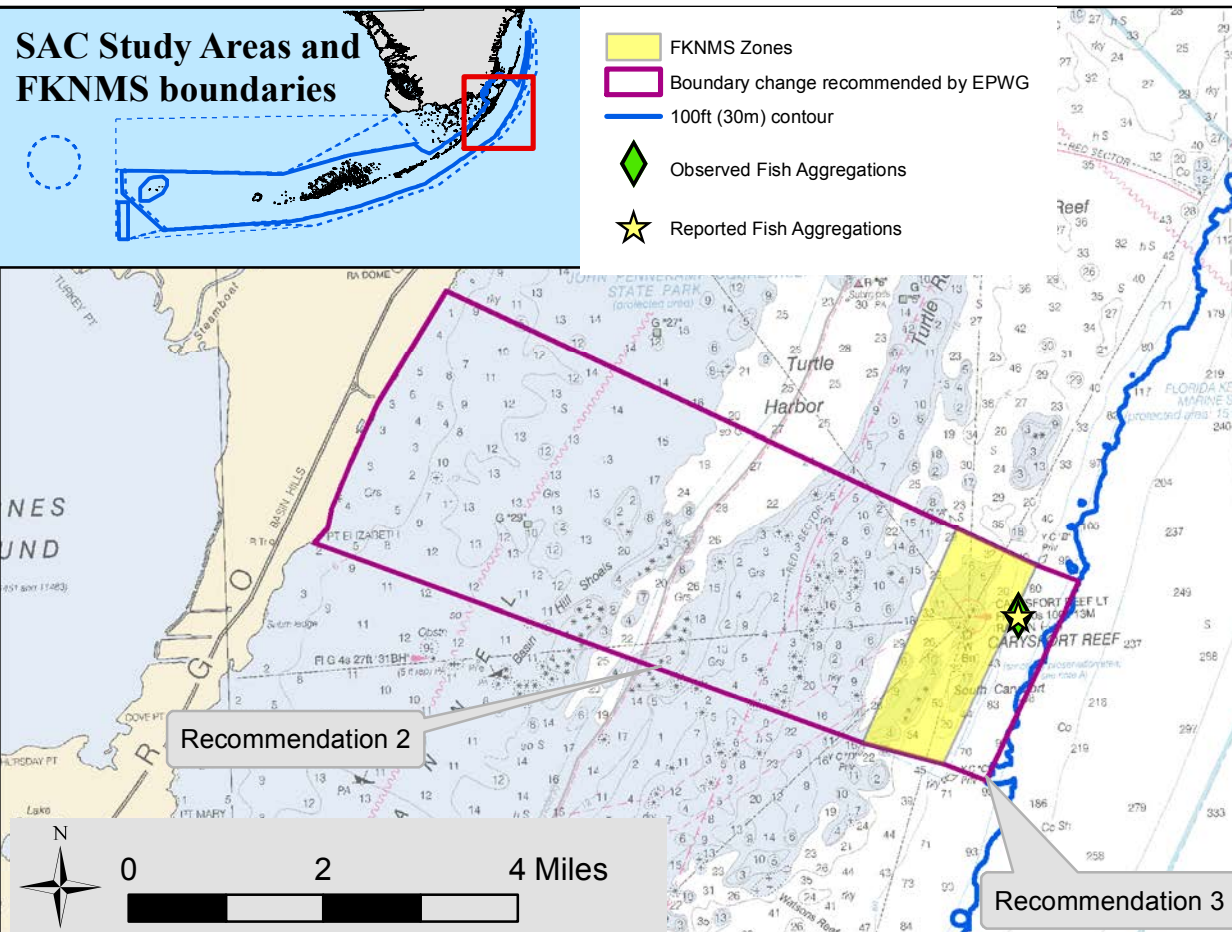
Justifications:

- 1) There is no ecological reserve in the Marquesas region.
- 2) Include several island groups and a spectacular mid-depth to deeper reef tract that extends westward to the Tortugas region. This area, which includes the Pourtales Terrace, is part of a meso-scale circulation system that potentially supports self-recruitment and entrainment of far-field and locally produced larvae.
- 3) Reserve boundaries need to take into consideration: 1) ease of enforcement and 2) proximity to Key West.
- 4) This area is a place of refuge for vessels so would need to maintain some ability to moor vessels.

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Ecosystem Protection Working Group

- Recommended Changes to SPA Boundaries -
Carysfort Sanctuary Preservation Area



EPWG Recommendations:

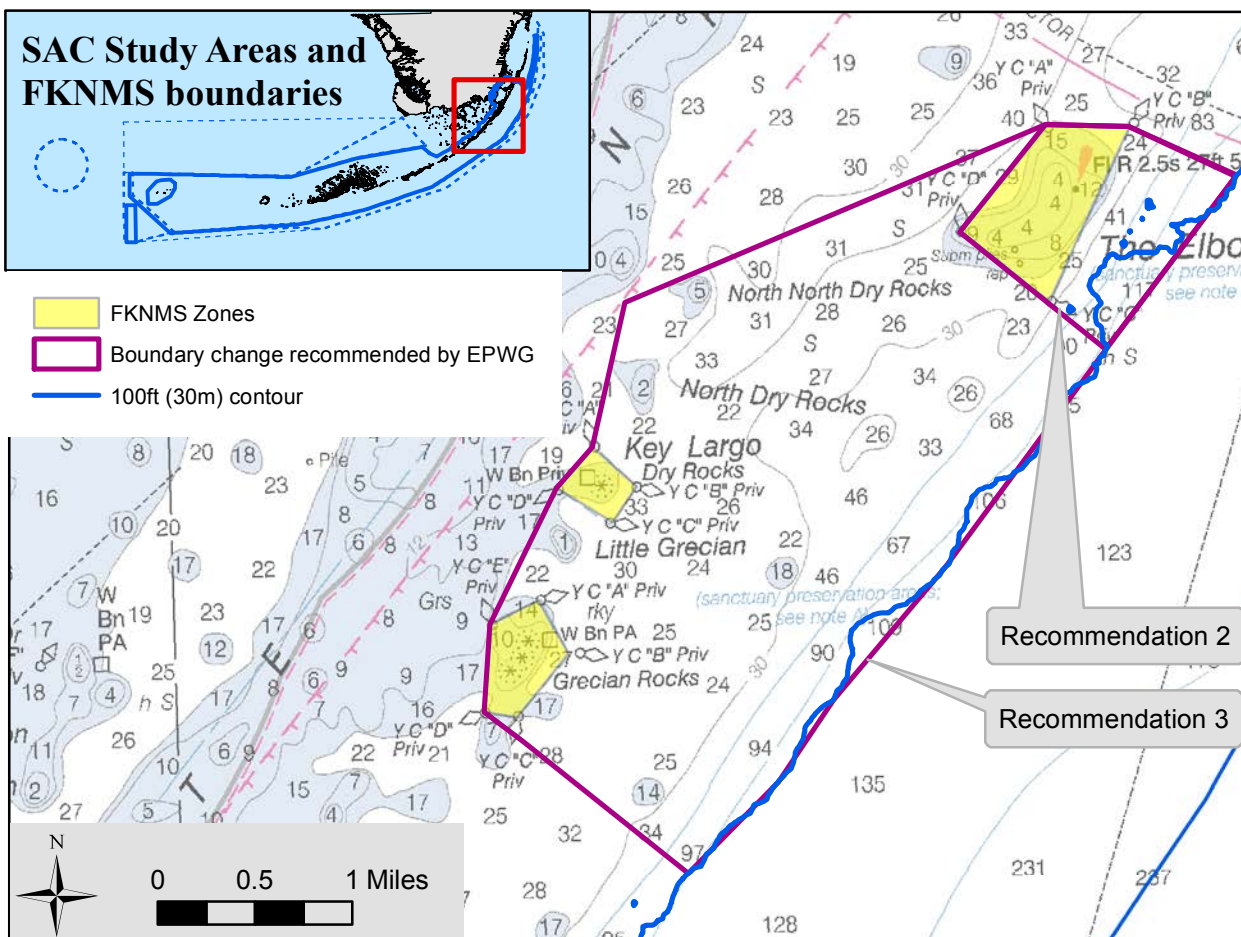
- 1) No modification to existing zone boundaries.
- 2) Extend the current Carysfort/S. Carysfort SPA boundary to the shoreline (assumes existing seaward boundary remains as is).
- 3) Extend the boundary seaward to at least 30-m depth to protect the deeper fore-reef habitat, including known spawning aggregation sites (i.e. black grouper) (assumes existing shoreward boundary remains as is).

Justifications:

- 1) Protect the deeper fore-reef habitat, including known spawning aggregation sites (i.e. black grouper).
- 2) Shoreline includes mangrove area (State Park).
- 3) Consider displacement of uses and economic impact.
- 4) Consider allowing some type of use that is "permitted/managed" blue star, etc.

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- Recommended Changes to SPA Boundaries -
Elbow Reef



EPWG Recommendations:

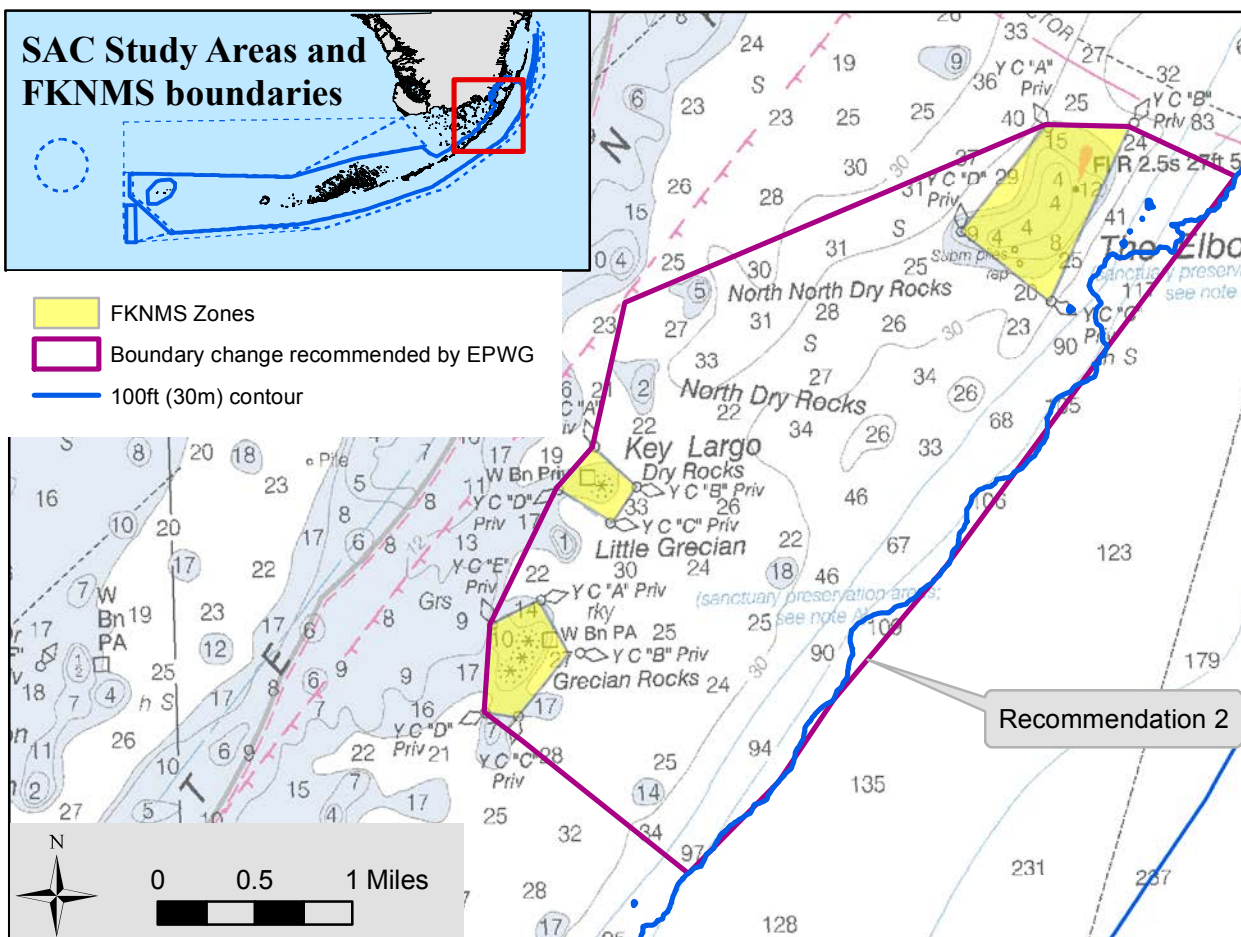
- 1) No modification to existing zone boundaries.
- 2) The boundary of the SPA at The Elbow should be extended to at least the 30-m depth contour.
- 3) Combine Elbow, Grecian Rocks and Key Largo Dry Rocks; also include North North Dry Rocks in the SPA.
- 4) If zone is expanded to combine Elbow, Grecian Rocks, and Key Largo Dry Rocks, consider establishing a professional use zone

Justifications:

- 1) Protect deeper fore-reef habitats from fishing activities.

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- Recommended Changes to SPA Boundaries -
Key Largo Dry Rocks

**EPWG Recommendations:**

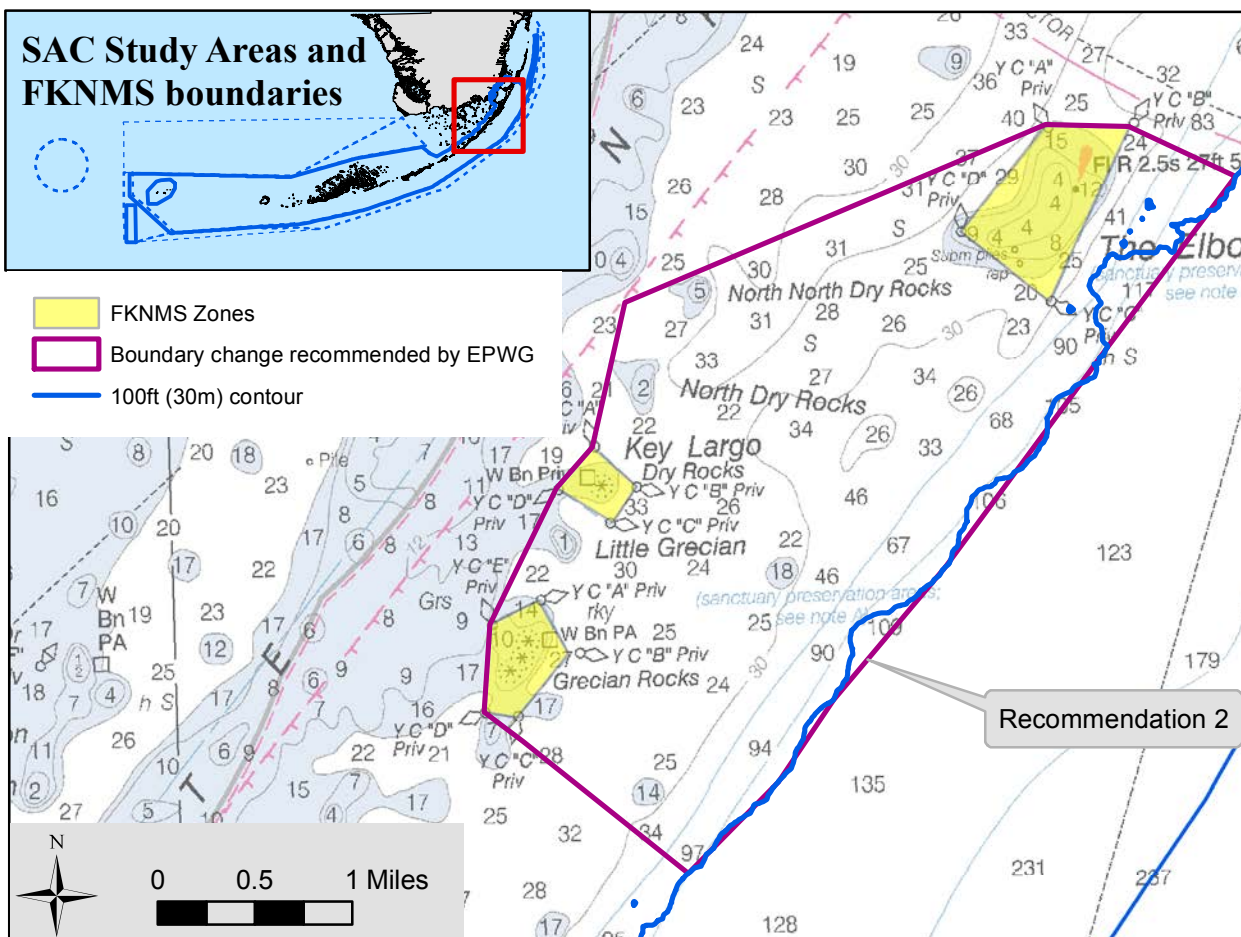
- 1) No modification to existing zone boundaries.
- 2) Combine Elbow, Grecian Rocks and Key Largo Dry Rocks; also include North North Dry Rocks in the SPA.
- 3) If zone is expanded to combine Elbow, Grecian Rocks, and Key Largo Dry Rocks, consider establishing a professional use zone.

Justifications:

- 1) This is a highly visited reef off northern Key Largo (including the site of the Christ statue), and thus should continue to separate snorkeling/diving from fishing activities.
- 2) Key Largo Dry Rocks currently protects patch reefs, the back reef, and the fore-reef of this area and extends out to about 10 m depth, which marks the terminus of this reef.

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- Recommended Changes to SPA Boundaries -
Grecian Rocks

**EPWG Recommendations:**

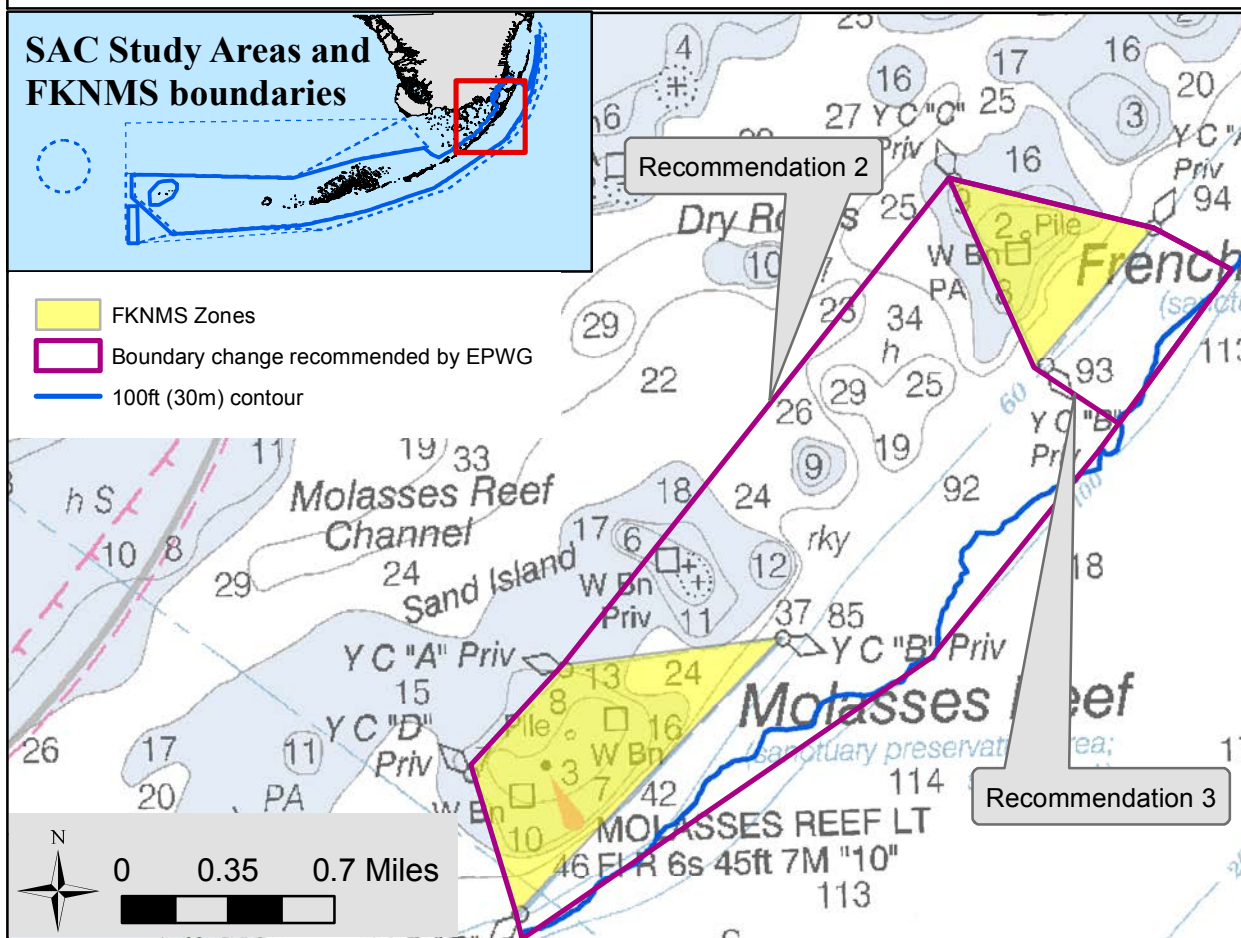
- 1) No modification to existing zone boundaries.
- 2) Combine Elbow, Grecian Rocks and Key Largo Dry Rocks; also include North North Dry Rocks in the SPA.
- 3) If zone is expanded to combine Elbow, Grecian Rocks, and Key Largo Dry Rocks, consider establishing a professional use zone.

Justifications:

- 1) Grecian Rocks currently protects the back reef and the fore-reef of this area and extends out to about 10 m depth, which marks the terminus of this reef.

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- Recommended Changes to SPA Boundaries -
French Reef

**EPWG Recommendations:**

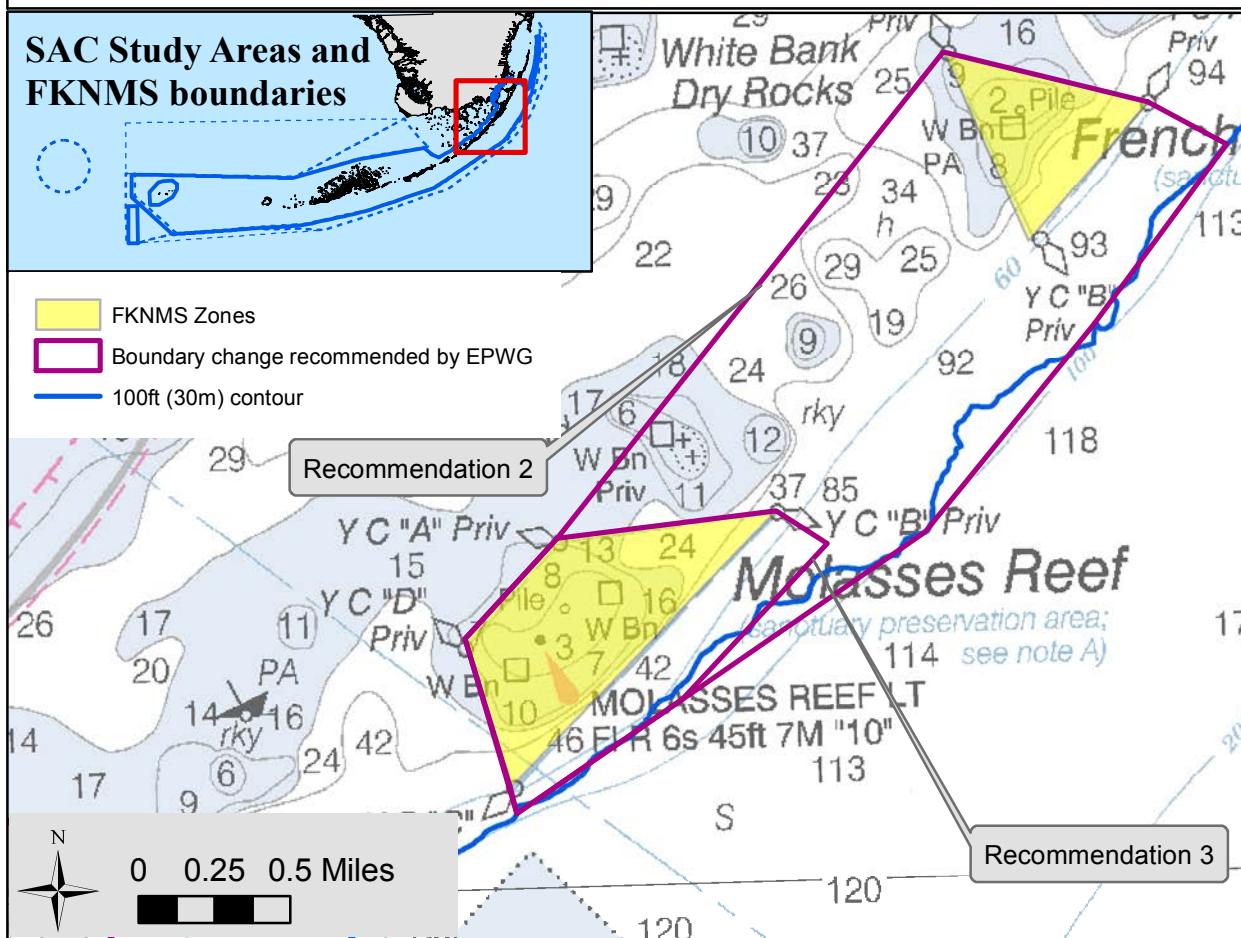
- 1) No modification to existing zone boundaries.
- 2) Combine French and Molasses into one SPA and extend to the 30-m contour.
- 3) Expand French to include some of the deep reef/drop off.
- 4) If zone is expanded to combine French and Molasses, consider establishing a professional use zone.

Justifications:

- 1) Deep reef/drop off has been shown to be crucial to spawning activity to be included in the Sanctuary.
- 2) Need to assess impact to fishing at the edge.

NOTE - these are DRAFT interpretations of feedback from the Ecosystem Protection Working Group members as of 7/12/13, and they are being displayed as visual reference for the working group consensus decision making process.

- Recommended Changes to SPA Boundaries -
Molasses Reef

**EPWG Recommendations:**

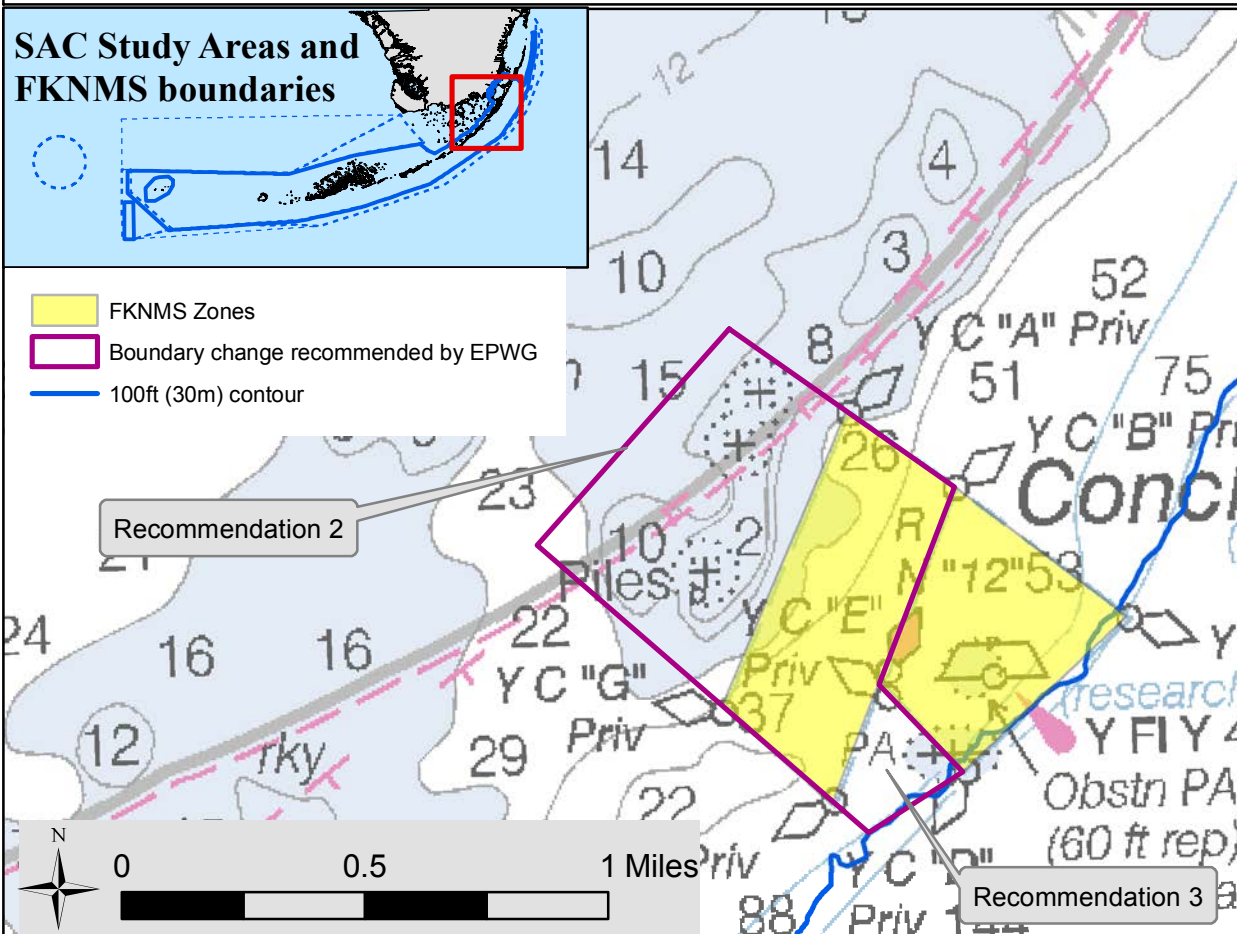
- 1) No modification to existing zone boundaries.
- 2) Combine French and Molasses into one SPA and extend to the 30-m contour.
- 3) Extend Molasses boundary to at least the 30m depth contour.
- 4) If zone is expanded to combine French and Molasses, consider establishing a professional use zone.

Justifications:

- 1) Molasses Reef is perhaps the most heavily visited coral reef on the planet and should continue as a SPA to separate incompatible activities.
- 2) Protect deeper fore-reef habitats, which are quite diverse and complex.

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- Recommended Changes to SPA Boundaries -
Conch Reef

**EPWG Recommendations:**

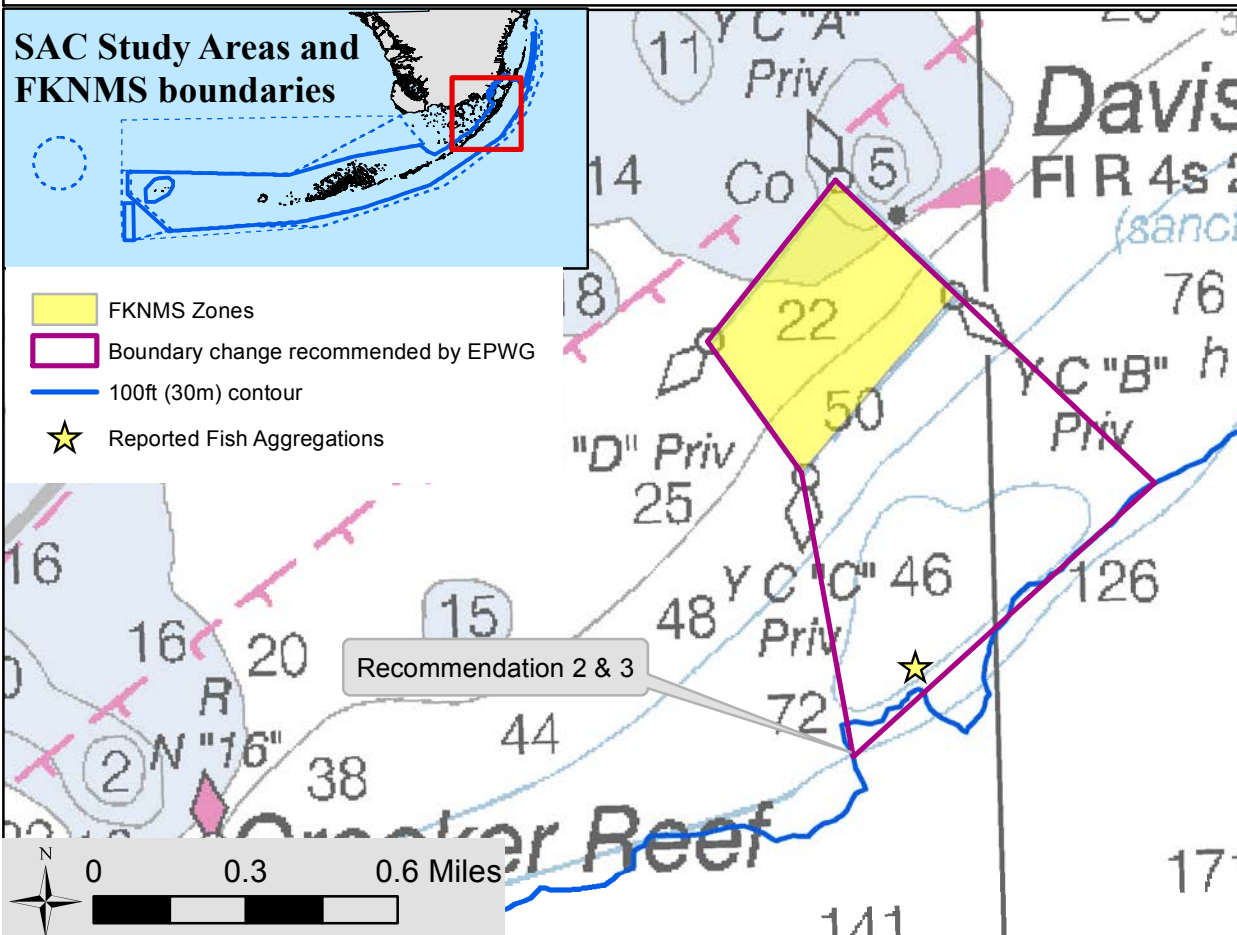
- 1) No modification to existing zone boundaries.
- 2) Expand boundary landward to protect some of the back-reef habitats behind the main ledge.
- 3) Expand boundaries to include the 3 mooring balls on the deep side next to the Research Only Area.

Justifications:

<None specified for this SPA>

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- Recommended Changes to SPA Boundaries -
Davis Reef



EPWG Recommendations:

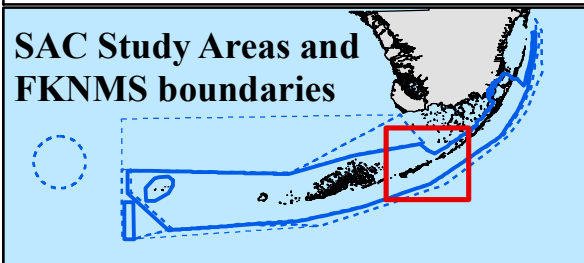
- 1) No modification to existing zone boundaries.
- 2) Extend to the 30-m depth contour.
- 3) Include nearby fish spawning aggregation(s).

Justifications:

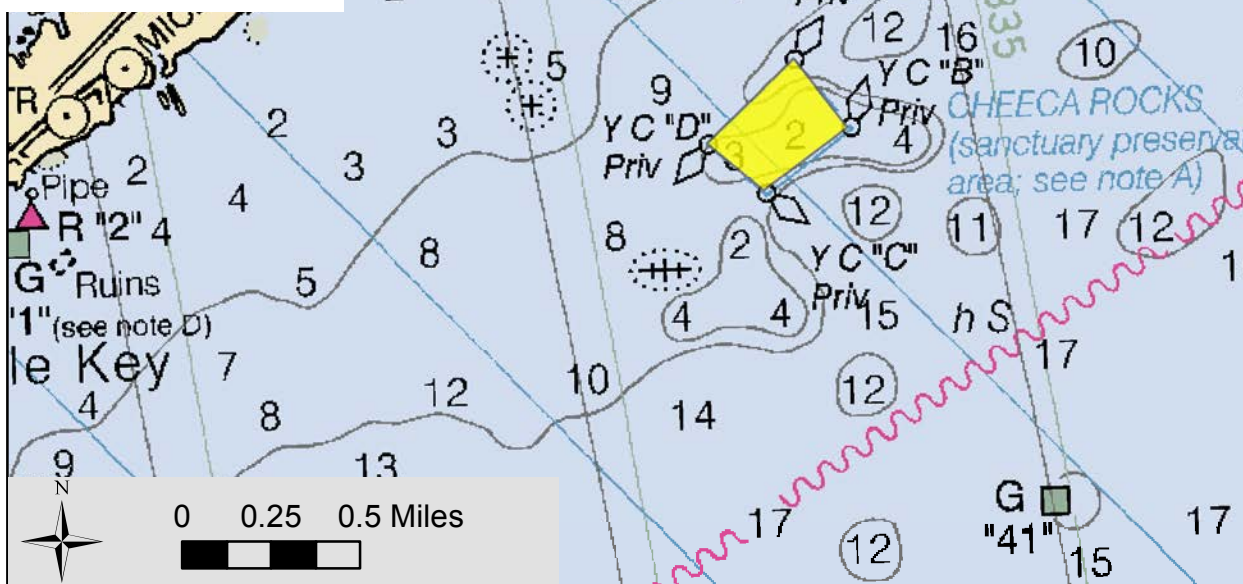
- 1) Protect deeper fore-reef habitats from fishing activities.
- 2) Spawning aggregation is Yellowtail. Need to assess presence of ecological feature to support spawning.

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- Recommended Changes to SPA Boundaries -
Cheeca Rocks



FKNMS Zones



EPWG Recommendations:

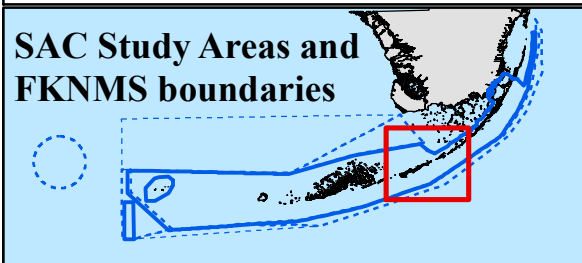
- 1) No modification to existing zone boundaries.

Justifications:

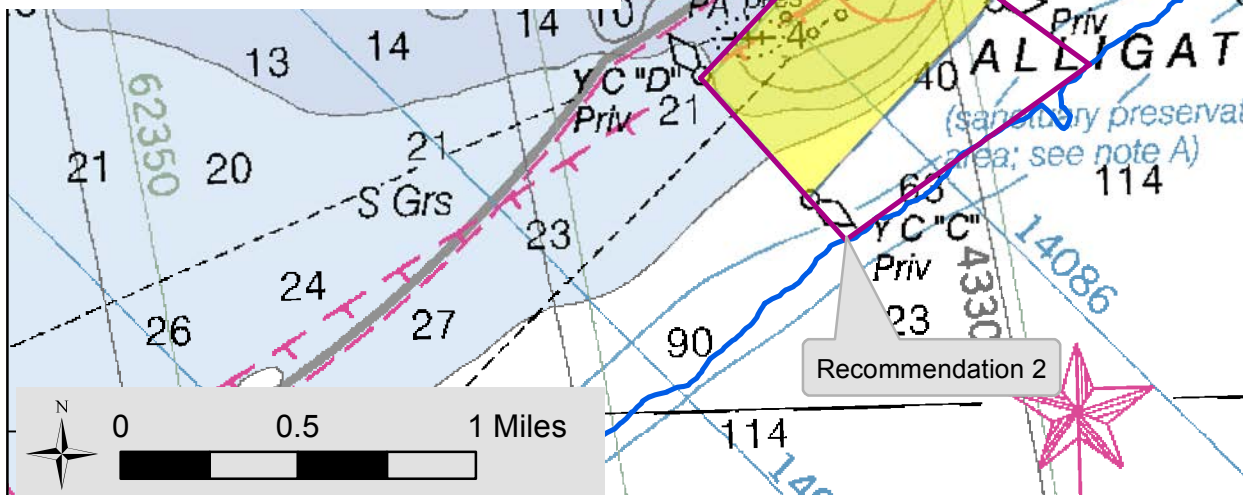
<None specified for the SPA>

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- Recommended Changes to SPA Boundaries -
Alligator Reef



- FKNMS Zones
- Boundary change recommended by EPWG
- 100ft (30m) contour



EPWG Recommendations:

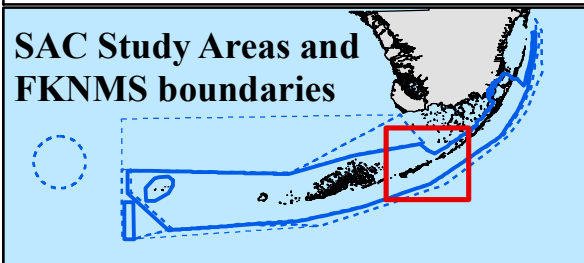
- 1) No modification to existing zone boundaries.
- 2) Extend to 30 m depth contour.

Justifications:

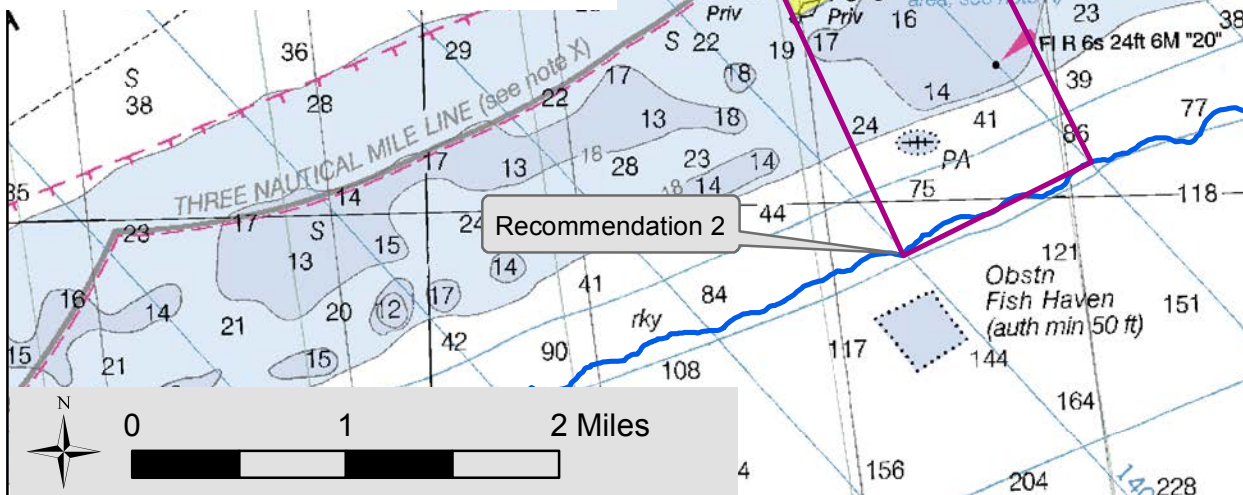
- 1) Protect deeper fore-reef habitats.

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- Recommended Changes to SPA Boundaries -
Coffins Patch



- FKNMS Zones
- Boundary change recommended by EPWG
- 100ft (30m) contour

**EPWG Recommendations:**

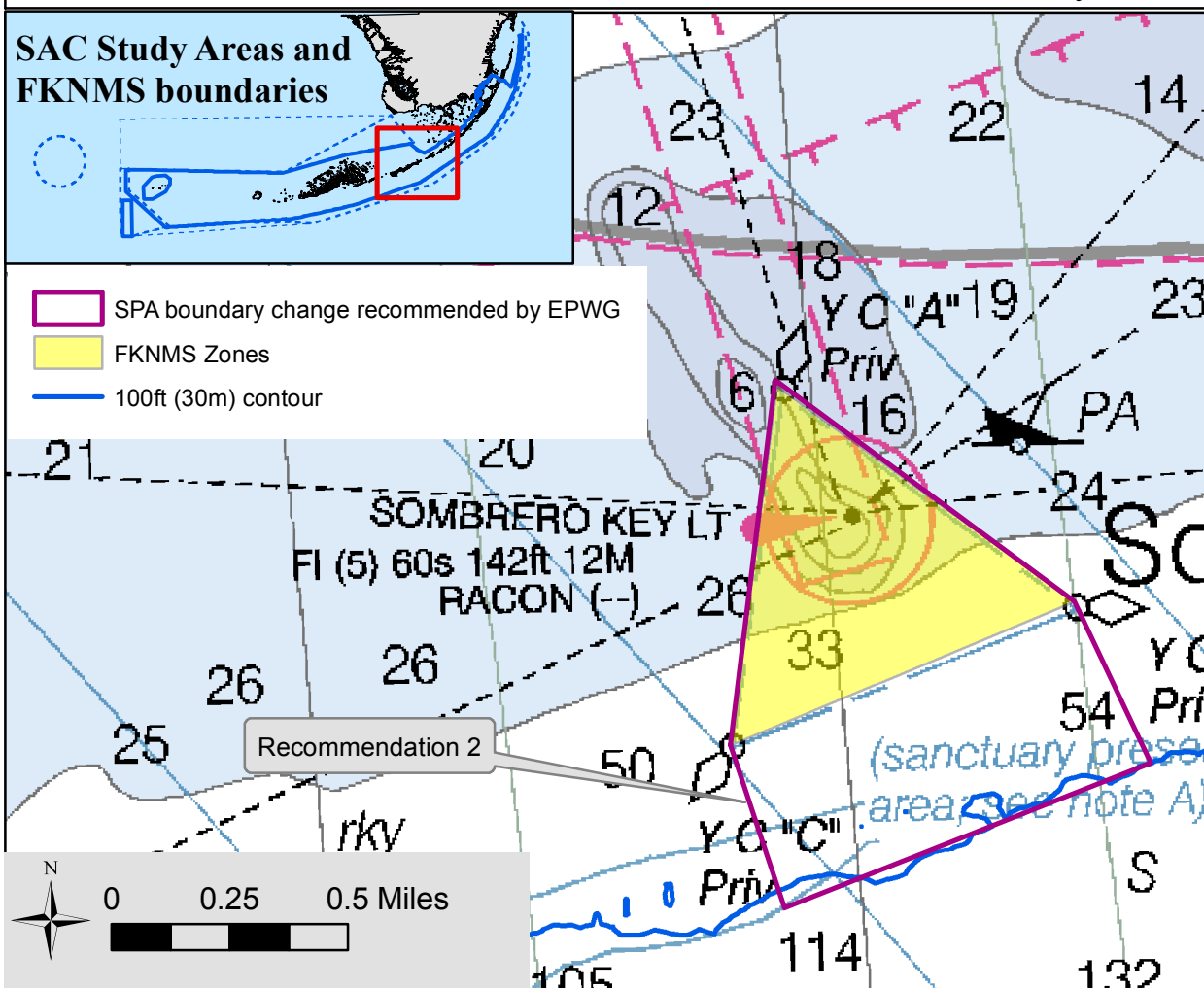
- 1) No modification to existing zone boundaries.
- 2) Expand to deeper contour.

Justifications:

<None noted for this particular SPA>

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- Recommended New Ecological Reserves -
Sombrero Key

**EPWG Recommendation:**

- 1) No modification to existing zone boundaries.
- 2) Extend to 30-m depth contour.

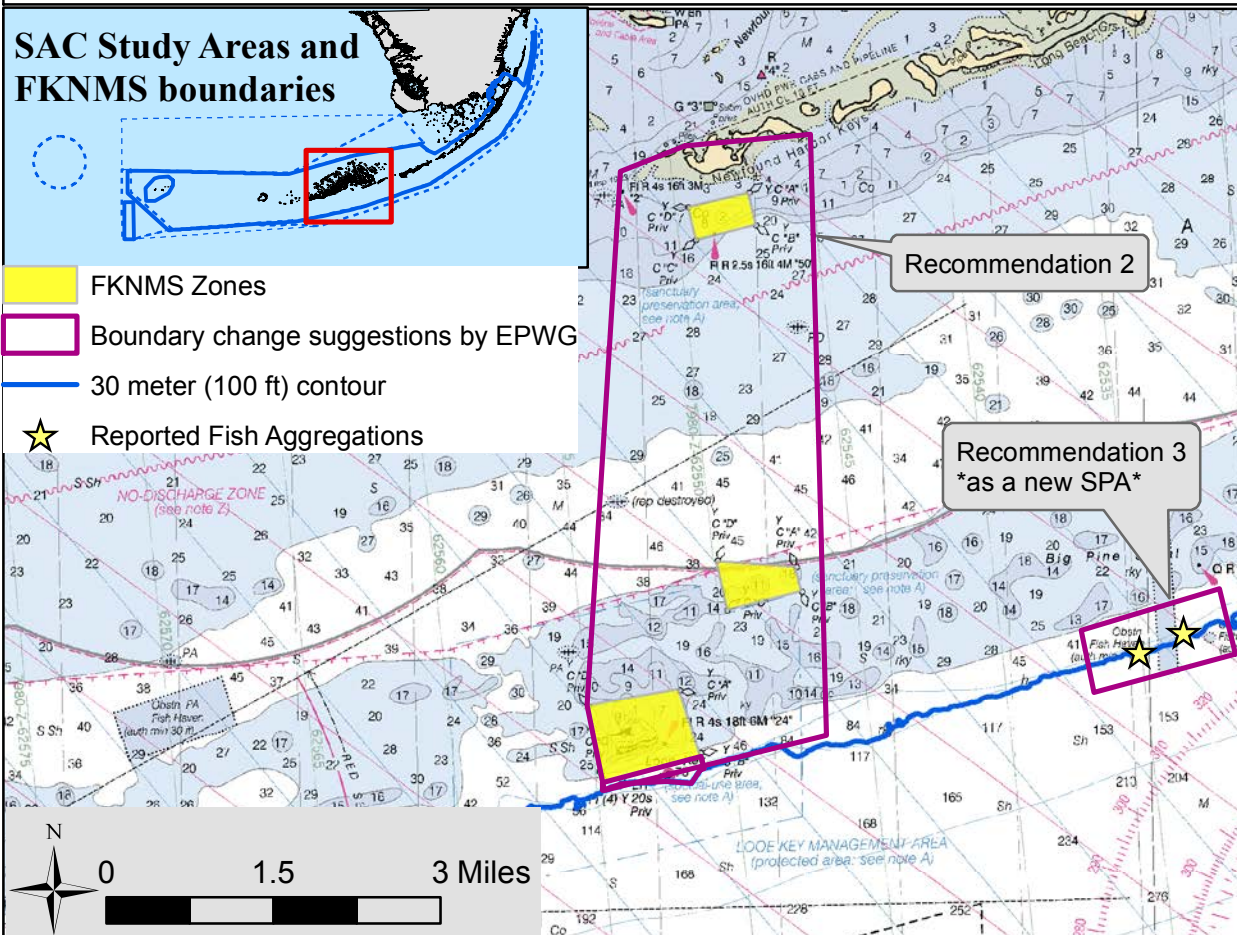
Justifications:

- 1) Protect deeper fore-reef habitats.

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Ecosystem Protection Working Group

- Recommended Changes to SPA Boundaries-
Newfound Harbor Sanctuary Preservation Area



EPWG Recommendations:

- 1) No modifications to existing zone boundaries.
- 2) Combine Looe Key SPA, Looe Key Research Area and Newfound Harbor SPA into one new Ecological Reserve that includes nearby shoreline through deep reef.
- 3) Include fish aggregation sites near Big Pine Shoal in 2 above, in a new and separate Sanctuary Preservation Area.

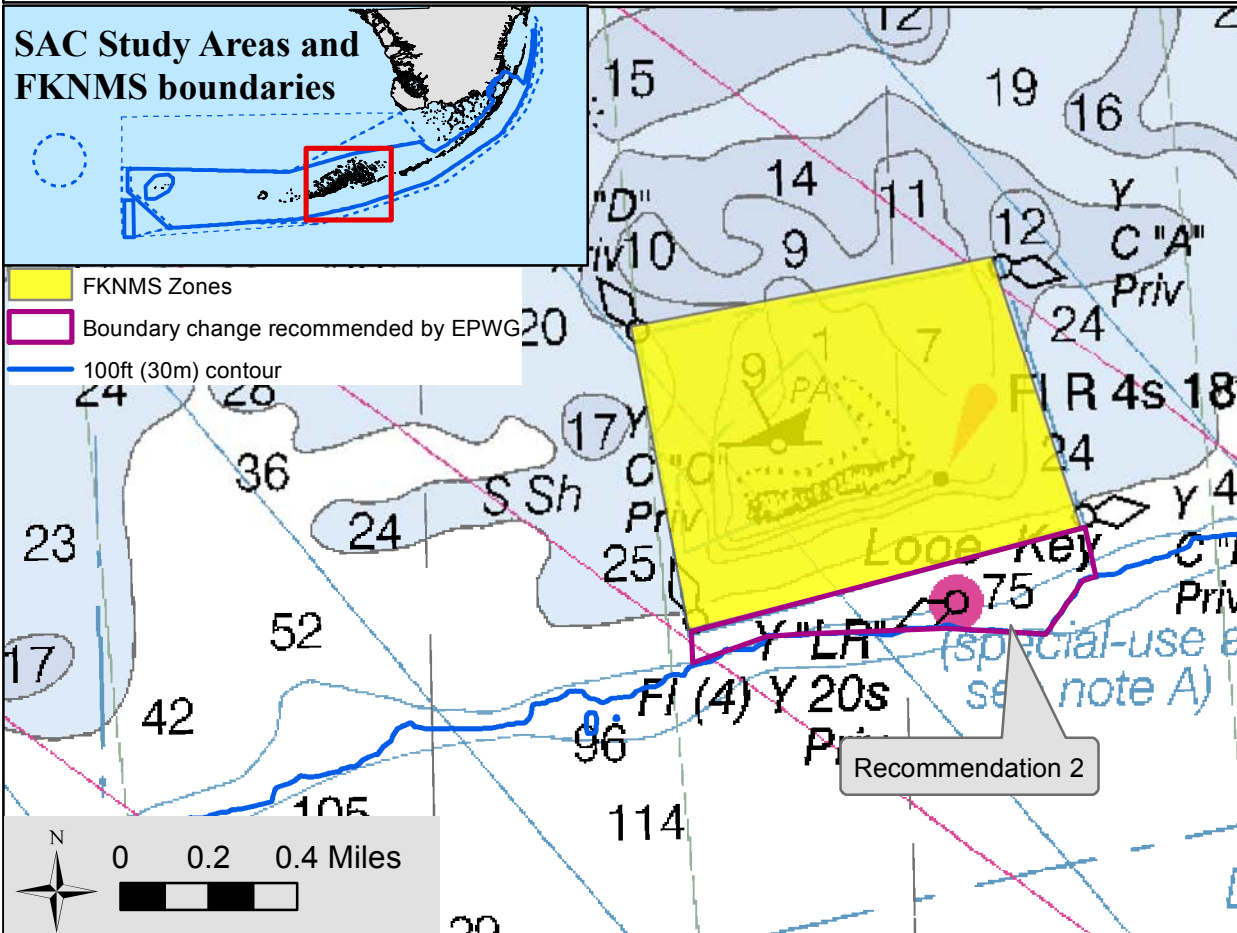
Justifications:

- 1) Creation of an ecological reserve here would increase ecosystem protection in the lower Keys region and provide a protective buffer for one of the Keys most diverse and economically important (from the diving perspective) coral reefs.

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Ecosystem Protection Working Group

- Recommended Changes to SPA Boundaries-
Looe Key Sanctuary Preservation Area



EPWG Recommendations:

- 1) No modification to existing zone boundaries.
- 2) Extend to the deeper contour.

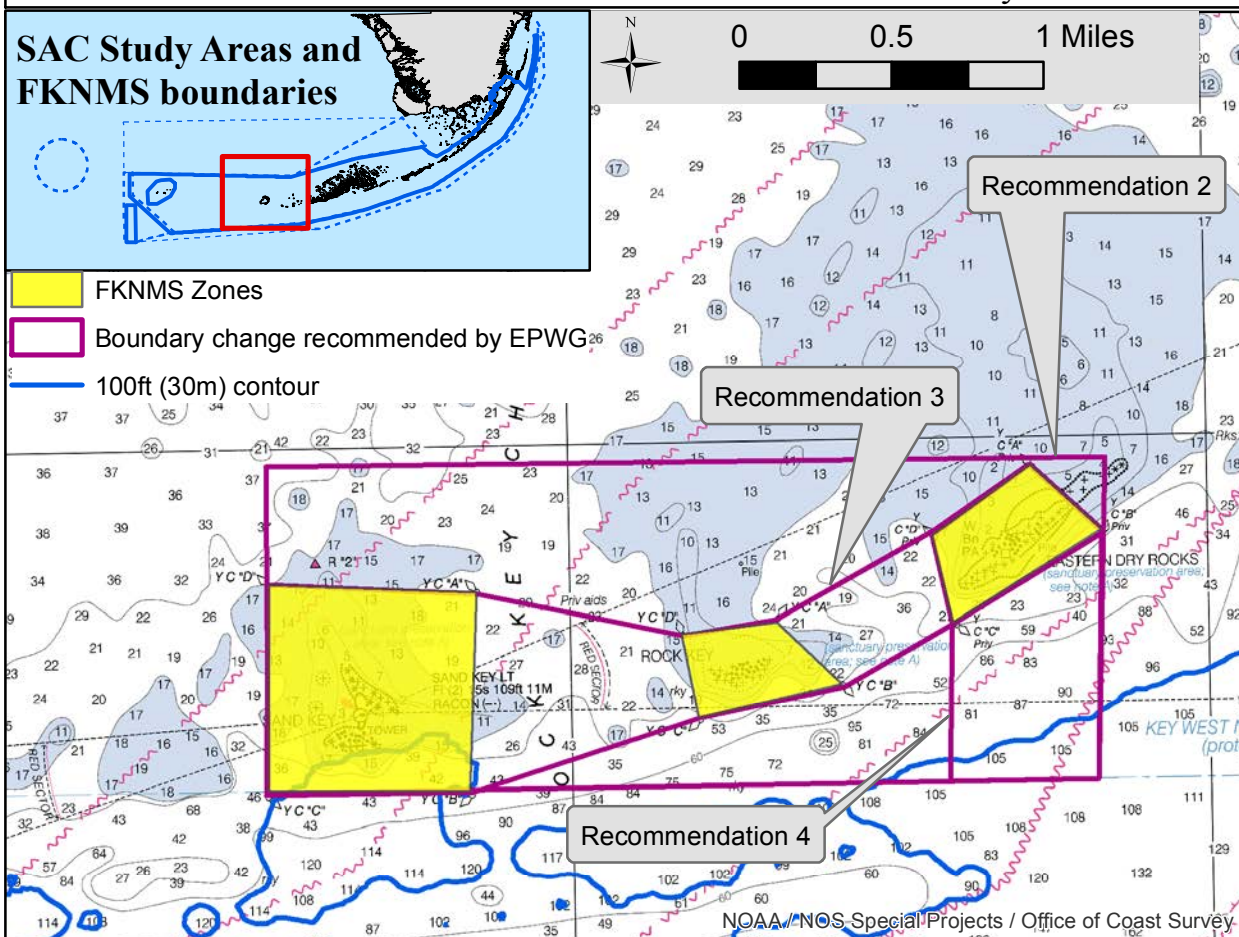
Justifications:

- 1) Creation of an ecological reserve here would increase ecosystem protection in the lower Keys region and provide a protective buffer for one of the Keys most diverse and economically important (from the diving perspective) coral reefs.
- 2) Commercial, charter and recreational fishermen who use this general area will need to be consulted to determine if this is practical.
- 3) Since 2006 or so Mote Marine Lab has had a coral nursery located just outside Looe ROA that would need to be considered.

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Ecosystem Protection Working Group

- Recommended Changes to SPA Boundaries -
Eastern Dry Rocks



EPWG Recommendations:

- 1) No modification to existing zone boundaries.
- 2) Combine Sand Key, Rock Key, and Eastern Dry Rocks into one SPA (boundary squared off).
- 3) Combine Sand Key, Rock Key, and Eastern Dry Rocks into one SPA (boundaries of existing SPAs connected).
- 4) Expand to the 30m depth contour.
- 5) If zone is expanded to combine Eastern Dry Rocks, Rock Key and Sand Key, consider establishing a professional use zone.

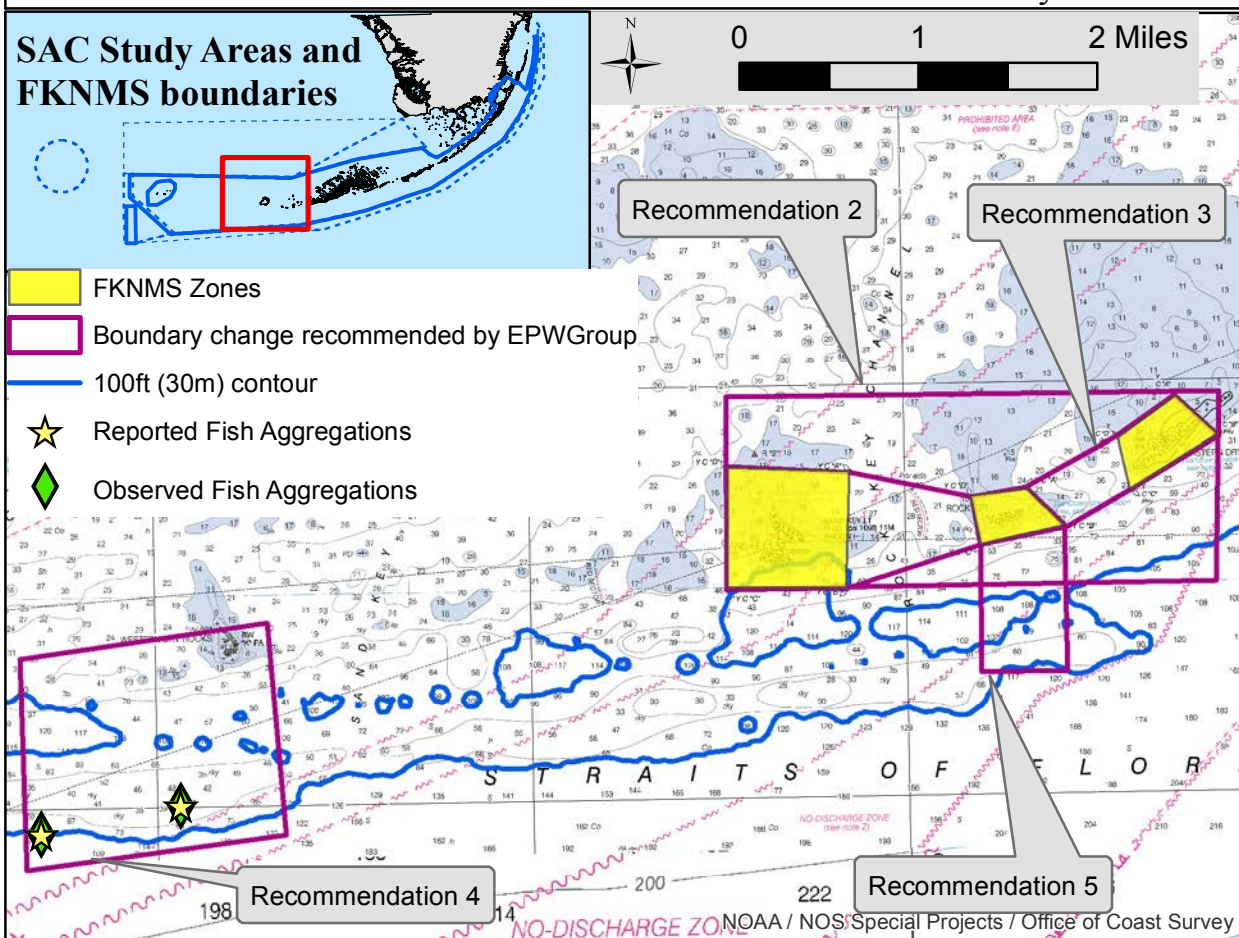
Justifications:

- 1) Protect deeper fore-reef habitats from fishing activities.
- 2) Protect known spawning aggregation site.

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Ecosystem Protection Working Group

- Recommended Changes to SPA Boundaries -
Rock Key



EPWG Recommendations:

- 1) No modification to existing zone boundaries.
- 2) Combine Sand Key, Rock Key, and Eastern Dry Rocks into one SPA (boundary squared off).
- 3) Combine Sand Key, Rock Key, and Eastern Dry Rocks into one SPA (boundaries of existing SPAs connected).
- 4) Include fish aggregation sites on the Western Dry Rocks.
- 5) Expand to the 30m depth contour.

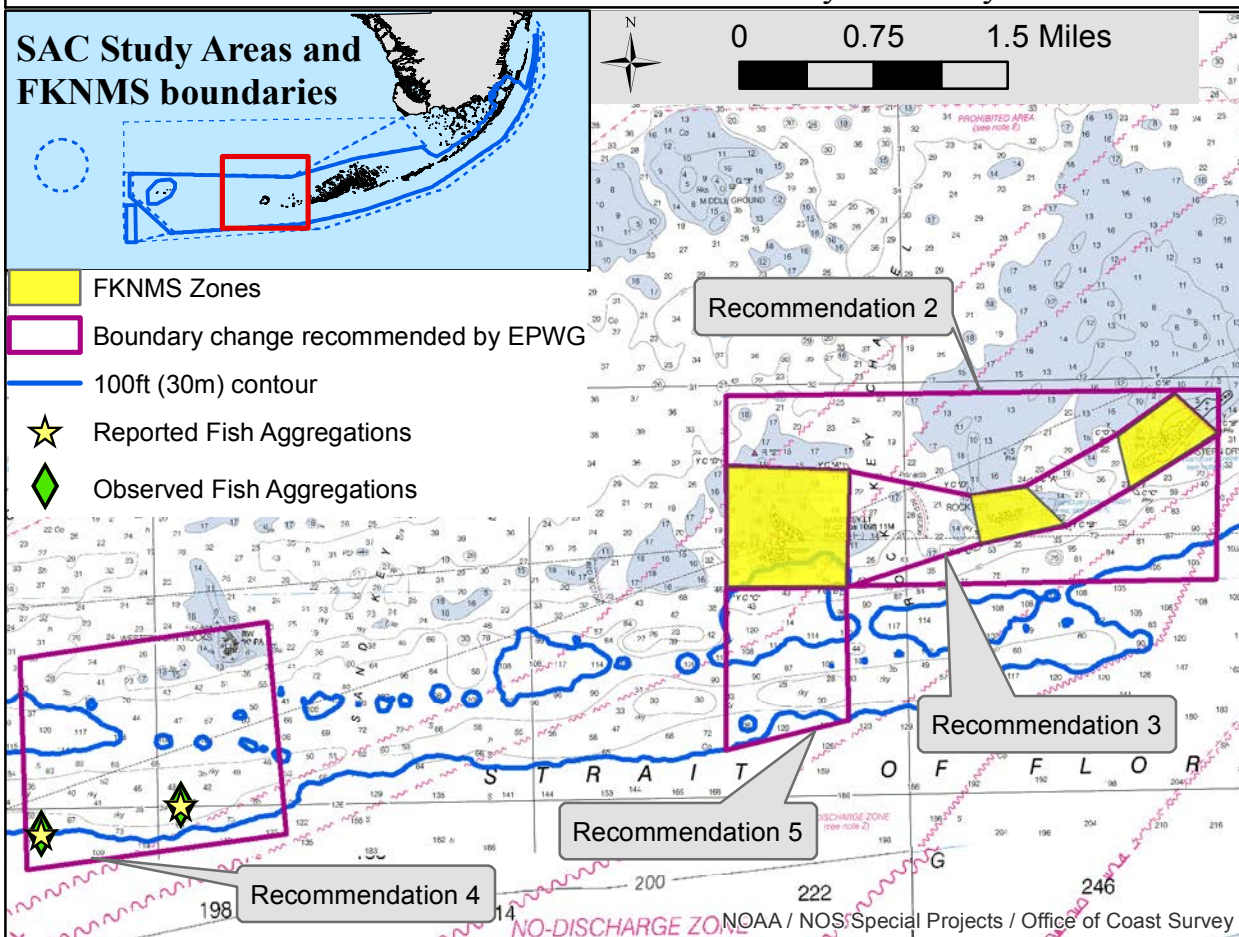
Justifications:

- 1) Protect deeper fore-reef habitats from fishing activities.
- 2) Protect known spawning aggregation site.

NOTE - these are DRAFT interpretations of feedback from the Ecosystem Protection Working Group members as of 7/12/13, and they are being displayed as visual reference for the working group consensus decision making process.

Ecosystem Protection Working Group

- Recommended Changes to SPA Boundaries -
Sand Key Sanctuary Preservation Area



EPWG Recommendations:

- 1) No modification to existing zone boundaries.
- 2) Combine Sand Key, Rock Key, and Eastern Dry Rocks into one SPA (boundary squared off).
- 3) Combine Sand Key, Rock Key, and Eastern Dry Rocks into one SPA (boundaries of existing SPAs connected).
- 4) Include fish aggregation sites on the Western Dry Rocks.
- 5) Expand to the 30m depth contour.

Justifications:

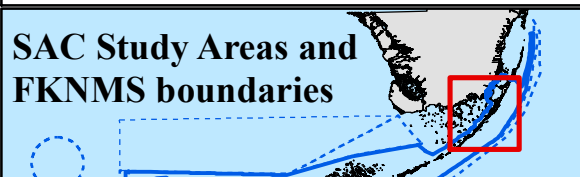
- 1) Catch-and-release fishing should be prohibited, as this is one of the principal diving/snorkeling sites used by private boaters and dive boat charters operating out of Key West.
- 2) Protect deeper fore-reef habitats from fishing activities.

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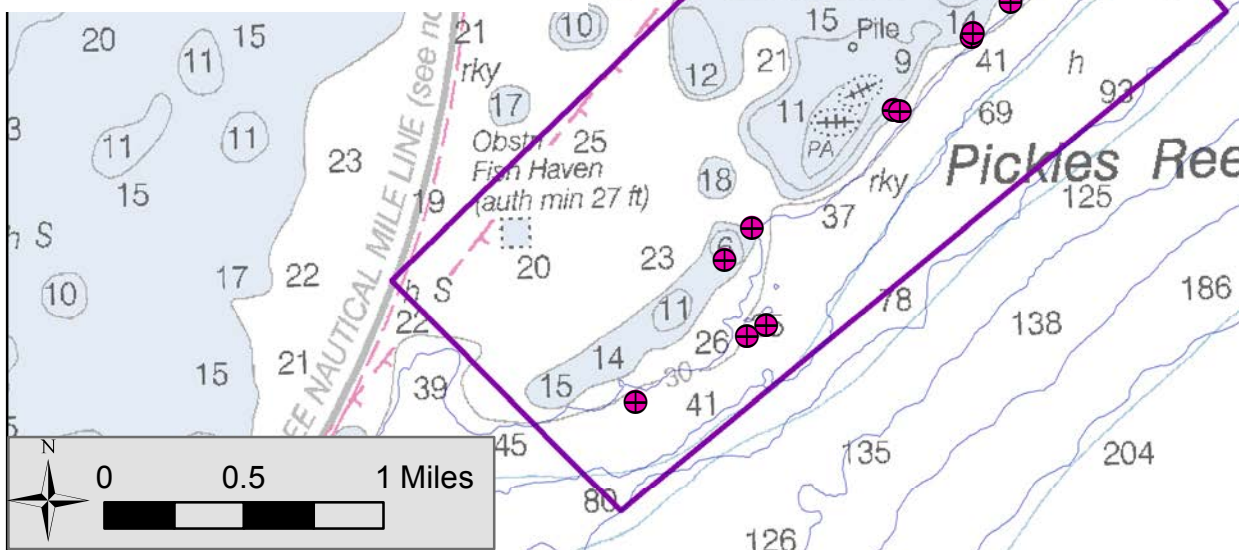
Ecosystem Protection Working Group

Recommendations for new Snapper Ledge/Pickles Reef Sanctuary Preservation Area

SAC Study Areas and FKNMS boundaries



- FKNMS Zones
- EPWG_Recommendation_Graphics
- Boundary change recommended by EPWG
- Pillar coral



EPWG Recommendations:

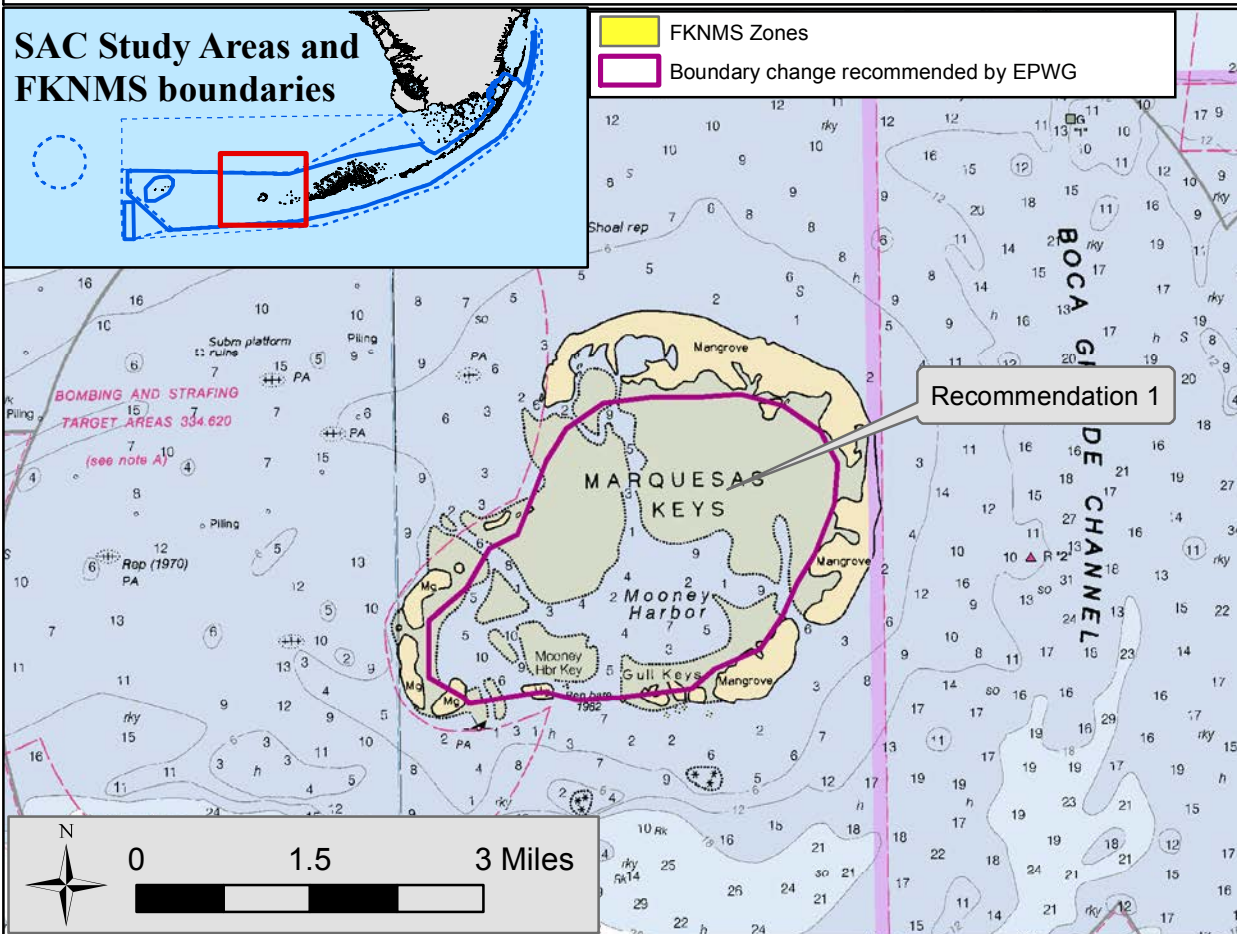
- 1) Do not establish a SPA at this site.
- 2) Establish new SPA including the previously proposed Snapper Ledge area and extending to cover Pickles and the large Pillar coral patch.

Justifications:

- 1) Includes the previously proposed Snapper Ledge area and extends to cover Pickles and the large Pillar coral patch.
- 2) The SAC deferred making a recommendation on Snapper Ledge when the dive community asked for it to be made into a SPA several years ago. Now is the time to determine if creation of a SPA is justified.
- 3) Creation of a SPA here would increase ecosystem protection

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Recommendation for new Marquesas zone

**EPWG Recommendations:**

1) Within the entire inner circumference of the Marquesas islands, create a catch and release zone. This would be on a trial basis for 5 years with adaptive management goals and monitoring.

Justifications:

1) Include several island groups and a spectacular mid-depth to deeper reef tract that extends westward to the Tortugas region. This area, which includes the Pourtales Terrace, is part of a meso-scale circulation system that potentially supports self-recruitment and entrainment of far-field and locally produced larvae. Reserve boundaries need to take into consideration: a) ease of enforcement and b) proximity to Key West.

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