Decision Document
Amendment 10
to the Fishery Management Plan for Coral, Coral Reefs, and Live Hard Bottom Habitat of the South Atlantic Region

Establish a Shrimp Fishery Access Area Along the Northern Extension of the Oculina Bank HAPC

June 2021

South Atlantic Fishery Management Council
4055 Faber Place Drive; Suite 201
North Charleston, SC 29405

This Decision Document includes the actions and alternatives, a brief discussion for each action, and a summary of the preliminary analysis.

Purpose of the Action

Amendment 10 to the Fishery Management Plan (FMP) for the Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP) proposes to establish a shrimp fishery access area (SFAA) along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC) where trawling for rock shrimp is currently prohibited. Rock shrimp fishermen requested that the proposed area be reviewed to determine if historic trawling areas could be reopened to rock shrimp fishing. With the discovery of extensive deep-water coral ecosystems, the South Atlantic Fishery Management Council (South Atlantic Council) added the northern extension to the OHAPC through Amendment 8 to the Coral FMP in 2014 (**Figures 1** and **2**.) Coral Amendment 8 also allowed transit through the OHAPC by fishing vessels with rock shrimp on board, and modified vessel monitoring system requirements for rock shrimp fishermen transiting through the OHAPC with rock shrimp on board. The South Atlantic Council, in June 2020 recommended moving forward with the action in response to the Presidential Executive Order (EO) 13921 on Seafood Competitiveness and Economic Growth. This amendment would address the EO recommendation "Consider Re-Opening Closed Areas" to commercial fishermen that have lost access to many areas that they have traditionally fished. It is essential that this takes place through the rigorous scientific process carried out under the purview of the South Atlantic Council in a manner that does not compromise the broader objectives of spatially protected areas. Coral Amendment 10 began development following South Atlantic Council's guidance at the September 2020 meeting.

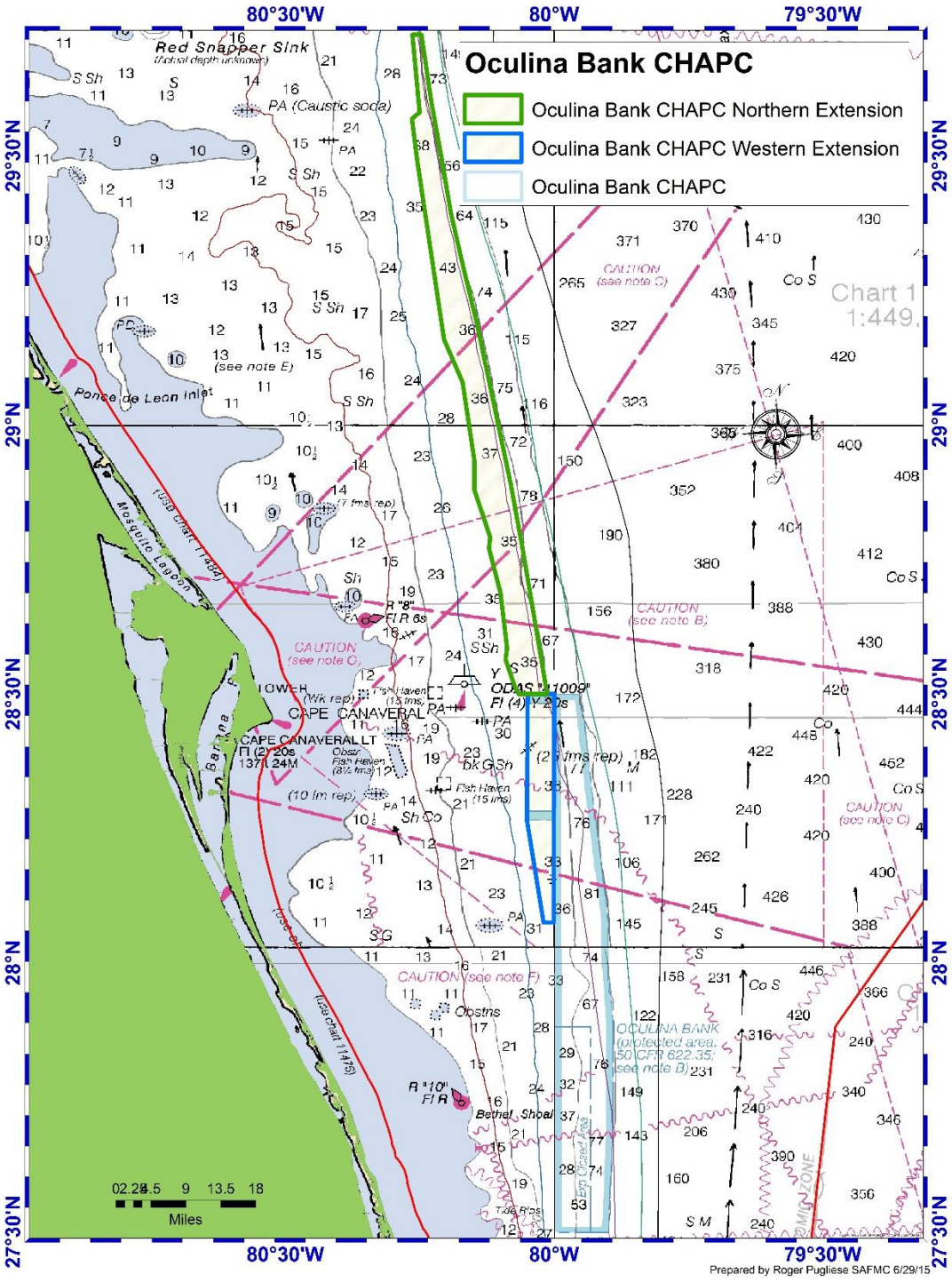

Figure 1. Map of *Oculina* Bank CHAPC Highlighting Coral Amendment 8 Expansions North and West. Source: Roger Pugliese SAFMC Staff.

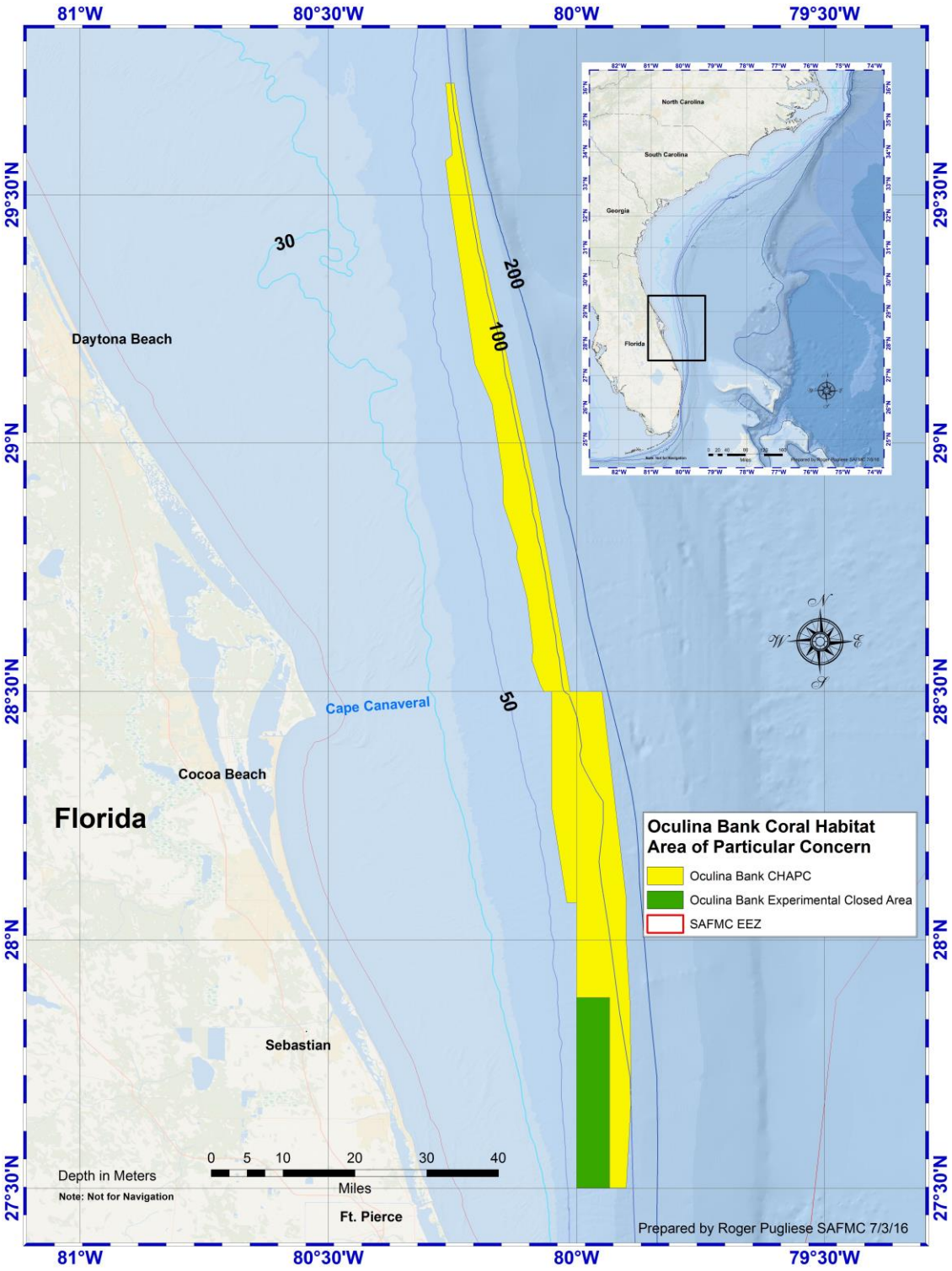

Figure 2. Map of the OHAPC with implementation of Coral Amendment 8. Source: Roger Pugliese, SAFMC Staff.

Objectives for this meeting

- Review and approve the revised purpose and need statements.
- Review comments received during public hearings.
- Review proposed action make modifications as appropriate.
- Consider timing of the amendment and approve the action and alternatives.
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Amendment Timing

	Process Step	Date
✓	Council directs staff directs staff to request input on industry requested SFAA in Northern Extension of OHAPC and options for scoping.	September 2020
✓	Habitat and Ecosystem AP Webinar input on SFAA.	October 2020
✓	Deepwater Shrimp AP and Coral AP Webinar input on SFAA.	November 2020
✓	Council reviews AP input and approves amendment for scoping.	December 2020
✓	Scoping Meetings	February 2021
✓	Council reviews public input and approves actions/alternatives for public hearings	March 2021
✓	**Public Hearings**	**May 2021**
	Council reviews public input, modifies the document as necessary, and approves action.	**June 2021**
	Council approves amendment for formal review.	September 2021
	Regulations effective	Early 2022

Revised Purpose and Need

Purpose for Action

The purpose of Coral Amendment 10 is to determine whether to establish a shrimp fishery access area along the eastern edge of the northern extension of the Oculina Bank Habitat Area of Particular Concern where the permit holders of a valid limited access Commercial Vessel Permit for Rock Shrimp (South Atlantic EEZ) would be able to fish for and possess rock shrimp.

Need for Action

The need for Coral Amendment 10 is to increase economic and social benefits to rock shrimp fishermen by increasing access to historic rock shrimp fishing grounds, while maintaining protection of the *Oculina* deep water coral ecosystems.

Committee Action:

APPROVE THE PURPOSE AND NEED STATEMENTS IN CORAL AMENDMENT 10

Action 1. Establish a shrimp fishery access area along the eastern edge of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

Currently: There are no shrimp fishery access areas within the Oculina Bank Habitat Area of Particular Concern. No person may use a bottom longline, bottom trawl, dredge, pot, or trap in the Oculina Bank Habitat Area of Particular Concern. If aboard a fishing vessel, no person may anchor, use an anchor and chain, or use a grapple and chain.

Preferred Alternative 2. Establish a shrimp fishery access area that is 22 mi^2 along the eastern edge of the northern extension of the Oculina Bank Habitat Area of Particular Concern. Allow a shrimp vessel with a valid limited access Commercial Permit for Rock Shrimp (South Atlantic Exclusive Economic Zone) to bottom trawl for rock shrimp within the established area bounded by the following coordinates.

Point	Latitude	Longitude
1	29° 17.533' N	80° 10.367' W
2	29° 10.983' N	80° 8.65' W
3	29° 3.583' N	80° 7.483' W
4	28° 54.417' N	80° 5.383' W
5	28° 48.6' N	80° 4.367' W
6	28° 30' N	80° 1.017' W
7	28° 30' N	80° 0.767' W
8	28° 46.017' N	80° 3.483' W
9	28° 48.617' N	80° 3.95' W
10	28° 53.3' N	80° 4.817' W
11	29° 11.333' N	80° 8.617' W
12	29° 17.567' N	80° 10.117' W

Alternative 3. Establish a shrimp fishery access area that is 32 mi^2 along the eastern edge of the northern extension of the Oculina Bank Habitat Area of Particular Concern. Allow a shrimp vessel with a valid limited access Commercial Permit for Rock Shrimp (South Atlantic Exclusive Economic Zone) to bottom trawl for rock shrimp within the established area bounded by the following coordinates.

Point	Latitude	Longitude
1	29° 17.533' N	80° 10.367' W
2	29° 11.333' N	80° 8.9' W
3	28° 53.25' N	80° 5.45' W
4	28° 48.6' N	80° 4.55' W
5	28° 45.95' N	80° 4.083' W
6	28° 30' N	80° 1.017' W
7	28° 30' N	80° 0.767' W
8	28° 46.017' N	80° 3.483' W
9	28° 48.617' N	80° 3.95' W
10	28° 53.3' N	80° 4.817' W
11	29° 11.333' N	80° 8.617' W
12	29° 17.567' N	80° 10.117' W

P**referred Alternative 2** (**Figure 3**) encompasses approximately 22 mi^2 and is based on coordinates presented by rock shrimp fishermen as part of March 2014 public comment for Coral Amendment 8. This set of coordinates was reaffirmed in subsequent meetings of the deep-water shrimp advisors (Deepwater Shrimp Advisory Panel, November 10, 2020). The depth of the western boundary of **Preferred Alternative 2** ranges from 92 to 95 meters (m). On the eastern boundary, along the edge of the existing OHAPC, the average depth is 98 m.

Alternative 3 (Figure 4) would establish an SFAA that encompasses approximately 32 mi^2 and is based on coordinates presented by rock shrimp fishermen as part of their March 2013 public comment for Coral Amendment 8. The depth of the western boundary of the SFAA in **Alternative 3** ranges from 88 to 90 m. On the eastern boundary of the SFAA, along the edge of the existing OHAPC, the average depth is 98 m.

Figure 6 presents the two alternatives overlapped for comparison. **Preferred Alternative 2,** at various points along its proposed western boundary, has a width that is between 500 m and 250 m narrower than the adjacent location along the western boundary of **Alternative 3**.

Vessels are required to carry a Vessel Monitoring System (VMS) to fish in the deep-water shrimp fishery. VMS is therefore a source of vessel operating information and VMS points that correspond to a vessel moving at speeds between 2 and 4 knots are used as a proxy for fishing activity. Prior to this area being closed to the rock shrimp fishery, rock shrimping along the eastern boundary of the northern extension of the OHAPC predominately occurred east of the

existing boundary. Rock shrimp fishing inside the edge of the boundary accounted for 1.76% of all fishing points during 2003-2014, 2.20% of points during 2013, and 8.50% of points during 2014, based on historic trawling operations as represented by VMS data (**Table 1**, **Figure 6**). . No information on fishing activity from VMS data exists from within the OHAPC from 2015 to present since trawling was prohibited through implementation of Coral Amendment 8. Fishing points essentially were the same for 2013 and 2014 but the percentage increased in 2014 due to the decreased rock shrimp fishing activity, as represented by reduced total number of rock shrimp fishing points. The final rule for Coral Amendment 8 requires rock shrimp vessels transiting through the OHAPC to maintain a minimum speed of no less than 5 knots as determined by a VMS system which transmits vessel location at a rate acceptable to law enforcement (i.e., every 5 minutes). These VMS requirements allow transit through the OHAPC with possession of rock shrimp on board while enhancing enforceability of OHAPC regulations including those proposed in this amendment.

Table 1. Past rock shrimp fishing activity based on historic VMS data.

Rock Shrimp Fishery	Total VMS Points	Total Rock Shrimp Points	Rock Shrimp Fishing Points (2-4 knots)	Rock Shrimp Fishing Points in the Eastern Edge of Northern Extension of the Oculina CHAPC	% Rock Shrimp Fishing Points in the Eastern Edge of Northern Extension of the Oculina CHAPC	% Rock Shrimp Fishing Points in Northern Extension as Presented in Coral 8
2003 -2007	1,139,266	156,877	58,560	1,170	2.00%	4.90%
2008 -2014	1,848,303	143,250	38,656	538	1.39%	2.70%
Total (2003-2014)	3,127,042	301,861	97,251	1,708	1.76%	4.22%
2013	241,777	19,329	5,718	126	2.20%	
2014	223,194	7,114	1,470	125	8.50%	

Source: VMS Data (2003-2014) and Coral Amendment 8 (SAFMC 2014).
Note:
Total VMS Points- VMS points recorded by all shrimp vessels required to carry VMS
Total Rock Shrimp Points- VMS points for vessels operating in the area of the rock fishery
Rock Shrimp Fishing Points- VMS points for vessels in the area of the rock fishery with speed 2-4 knots
Rock Shrimp Fishing Points in E. Edge of N. Extension- VMS points for vessels with speed 2-4 knots in Eastern Edge of N. Extension

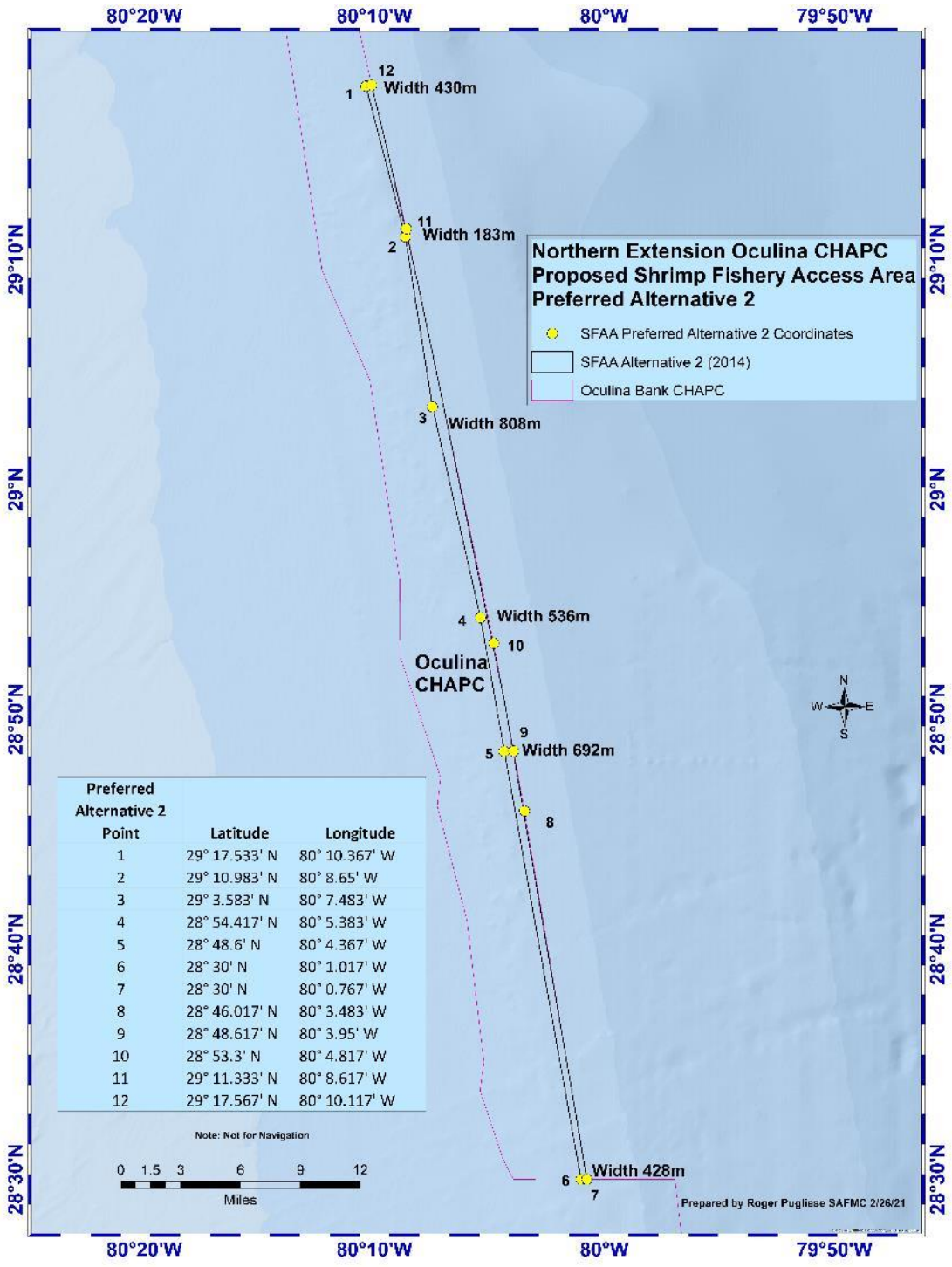

Figure 3. Coordinates and approximate widths for the proposed SFAA (**Preferred Alternative 2**).

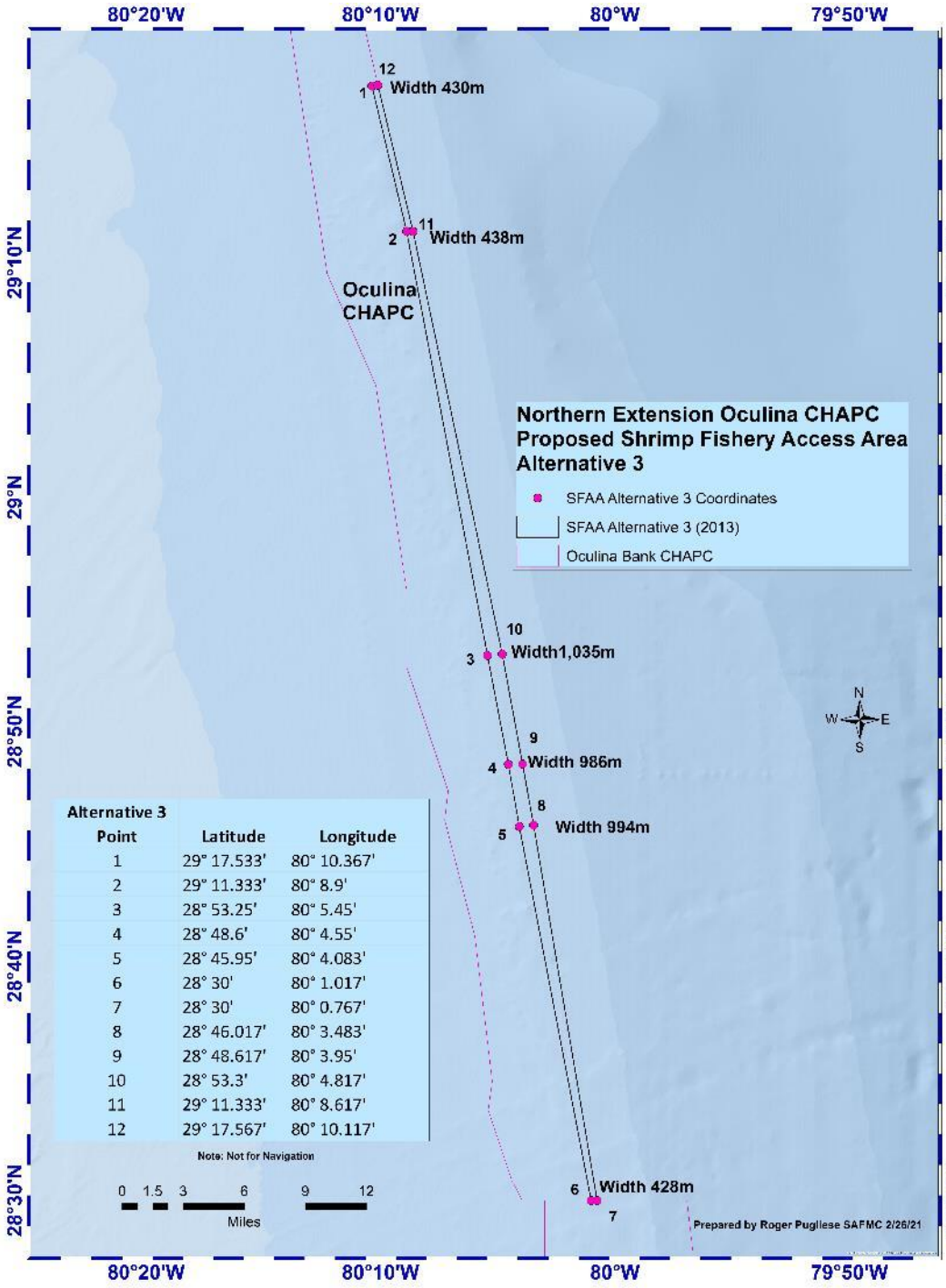

Figure 4. Coordinates and approximate widths for the proposed SFAA (**Alternative 3**).

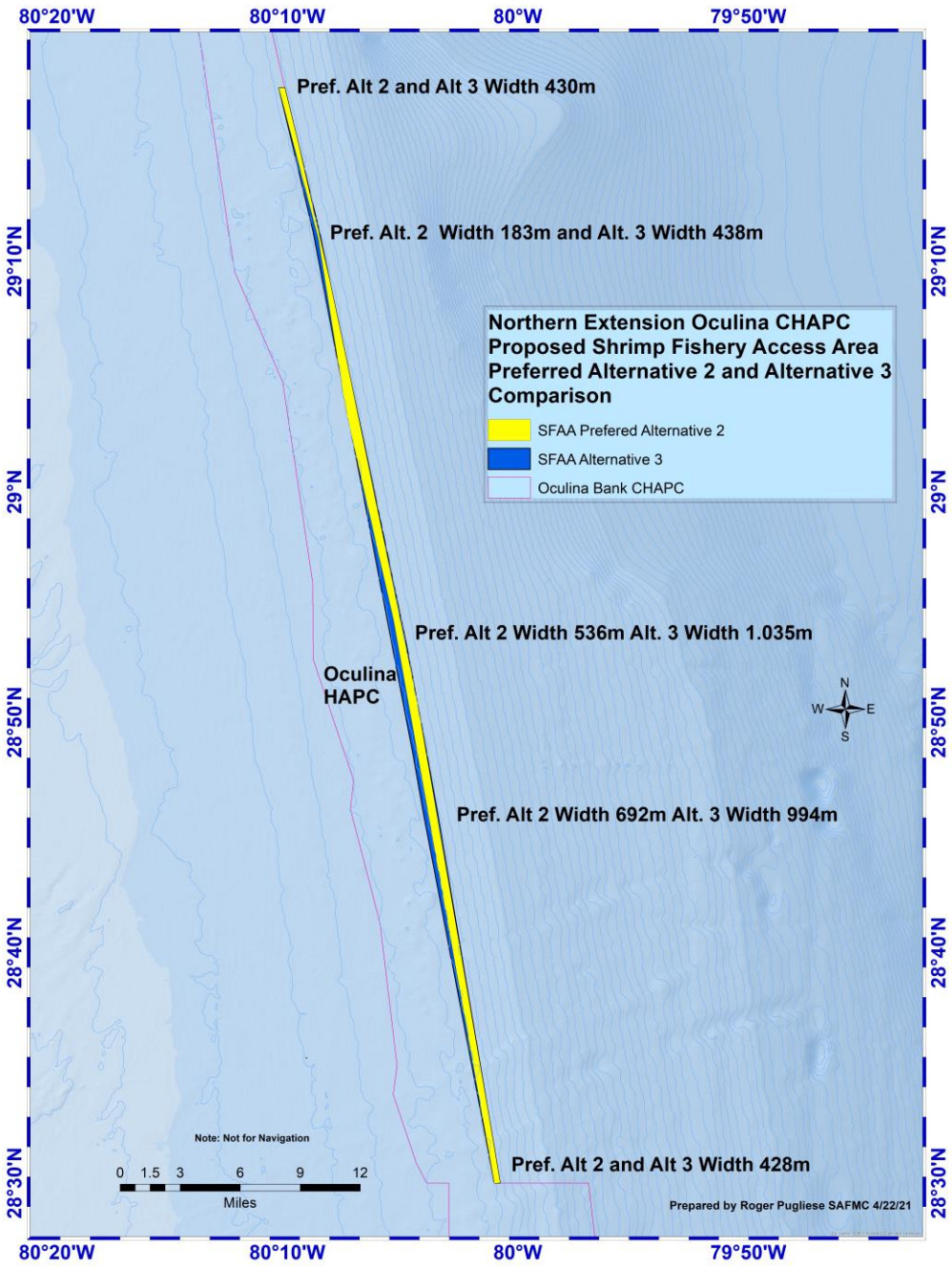

Figure 5. Comparison of SFAA **Preferred Alternative 2** and **Alternative 3** layout and widths.

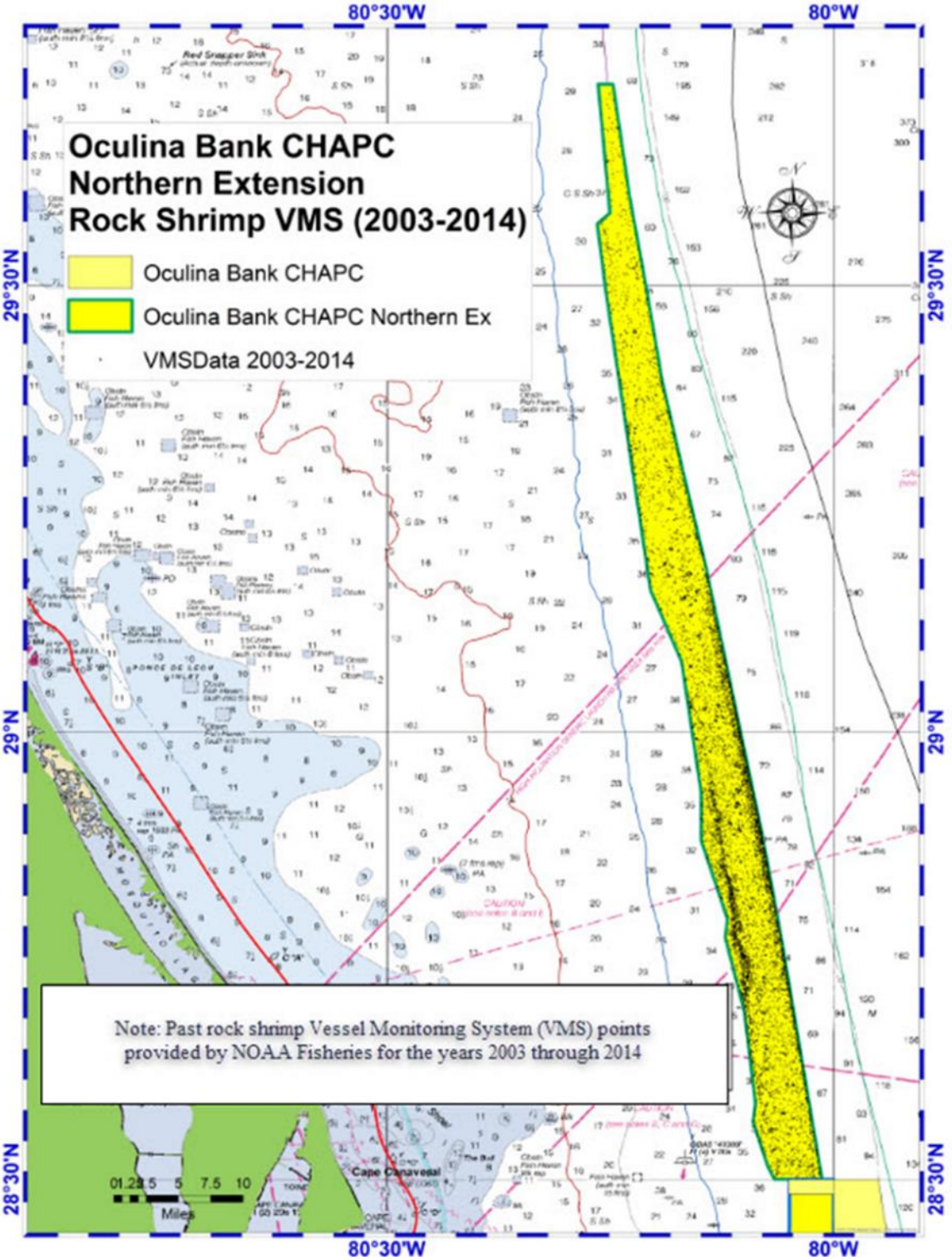

Figure 6. Rock shrimp VMS points in the northern extension of the OHAPC (2003-2013). Source: Roger Pugliese SAFMC Staff.

Possible Effects

***Biological*:**

- Not establishing a SFAA would have no negative biological impacts.
- **Preferred Alternative 2** and **Alternative 3** could result in negative biological impacts to the deep-water coral habitat within the proposed SFAA as they would allow intermittent bottom trawling for rock shrimp.
- Habitat mapping data for the proposed areas shows only low relief (probably sand or mud bottom) with no higher relief habitat in either **Preferred Alternative 2** (**Figures 7a and 7b**) or **Alternative 3 (Figures 9a and 9b**).

Given the narrow width of the proposed SFAAs, figures were created to split the areas into a northern and southern extents (**Figures 7a and 7b, 9a and 9b)** with zoomed in versions (**Figures 8a and 8b, 10a and 10b**) to show detail of mapped bottom and habitat. Approximate distances from the western boundary of **Preferred Alternative 2** to the *Oculina* pinnacles mapped in 2011 are 750 m west of Pt. 5, 700 m west of Pt. 8, and 310 m west of Pt. 2 (**Figures 8a** and **8b**). Approximate distances from the western boundary of **Alternative 3** to the *Oculina* pinnacles mapped in 2011 are 750 m west of Pt. 4, 386 m west of Pt. 5 and 115 m west of Pt. 2 (**Figures 10a** and **10b**).

Direct biological impacts from bottom tending fishing gear on coral habitat as a result of **Preferred Alternative 2** and **Alternative 3** are expected to be low considering:

- No high relief bottom was mapped in the area, rock shrimp occurrence and fishing in the area is variable.
- Fishermen are expected to target rock shrimp in areas where previously captured and thus already impacted from years of previous trawling on low relief predominately sand, habitat.
- With no visual surveys having been conducted it is not possible to know if low relief coral colonies susceptible to trawling are located within the proposed SFAAs.

Indirect effects to coral could result through influx of suspended benthic sediments created while trawling the bottom.

- Increased sedimentation can cause smothering and burial of coral polyps, shading, tissue necrosis, population explosions of bacteria in coral mucus, and generally reduces recruitment, survival, and settlement of coral larvae.
- Fine sediments tend to have greater effects on corals than coarse sediments.
- Coral experts and members of the Council's Coral Advisory Panel and Habitat and Ecosystem Advisory Panel indicated that establishing a protective (possibly 1,000 m) buffer between known coral habitat and fishing grounds would be prudent to prevent adverse impacts to coral colonies. However, research has not established exactly what

the optimal buffer distance should be. Active dredging operations found suspended particles can travel and impact coral over 700.

- The spatial extent of impacts from dredging can be variable, and in a severe case, water quality impacts have been detected up to 20 km away from the dredging activity when oceanographic features included unidirectional flow during the project. Depending on direction and magnitude of water currents in the affected area, shrimp trawls could create similar sediment plumes during fishing operations.

Potential negative biological impacts to the affected environment relative to **Alternative 1 (No Action)** would be greatest under **Alternative 3** (largest proposed allowable fishing area) followed by **Preferred Alternative 2.**

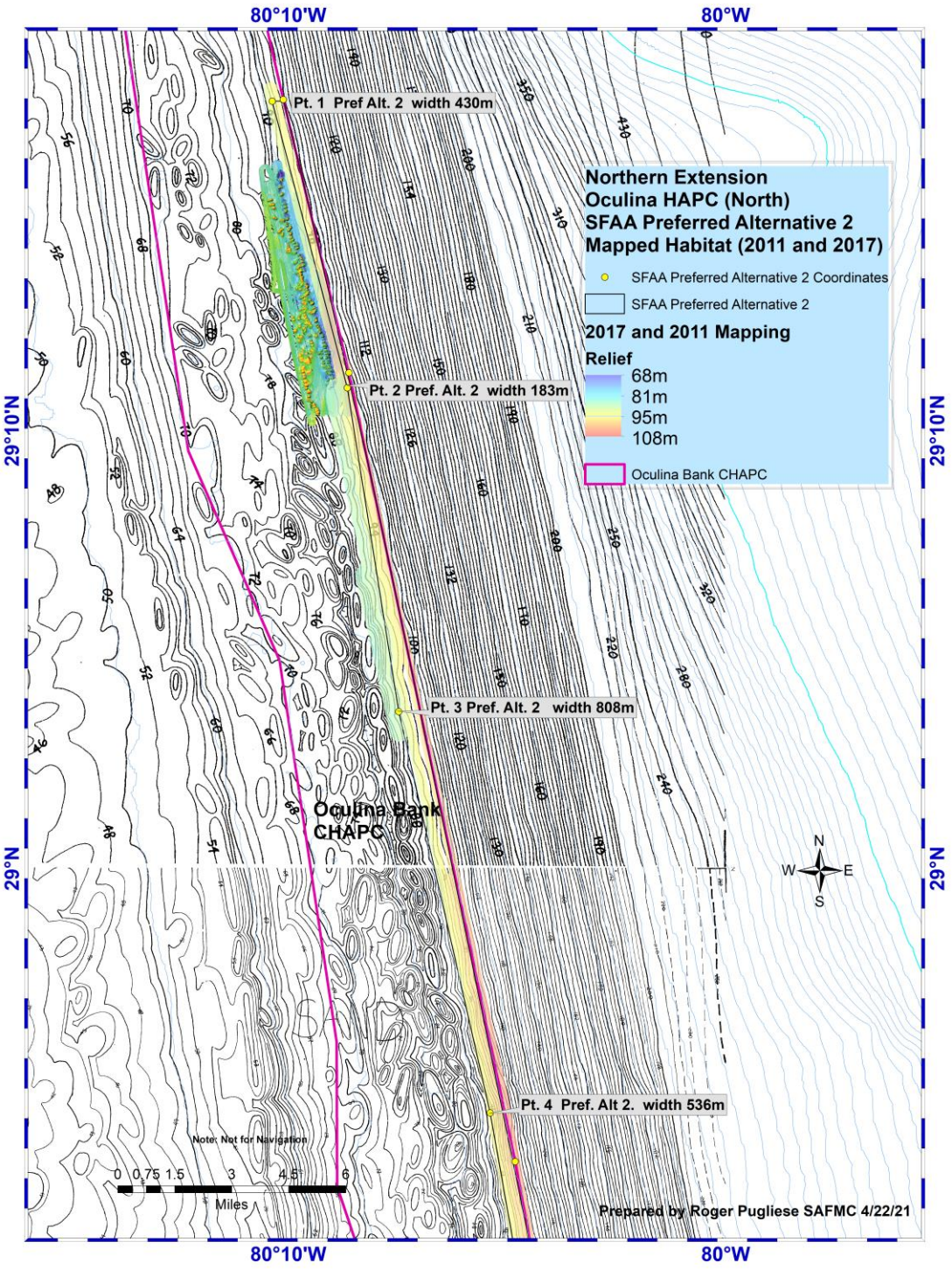

Figure 7a. Northern extension of the OHAPC (North) including the proposed SFAA (**Preferred Alternative 2**) and habitat mapped in 2017 during the Southeast Deep Coral Initiative (SEDCI) expedition and during the 2011 Pisces expedition.

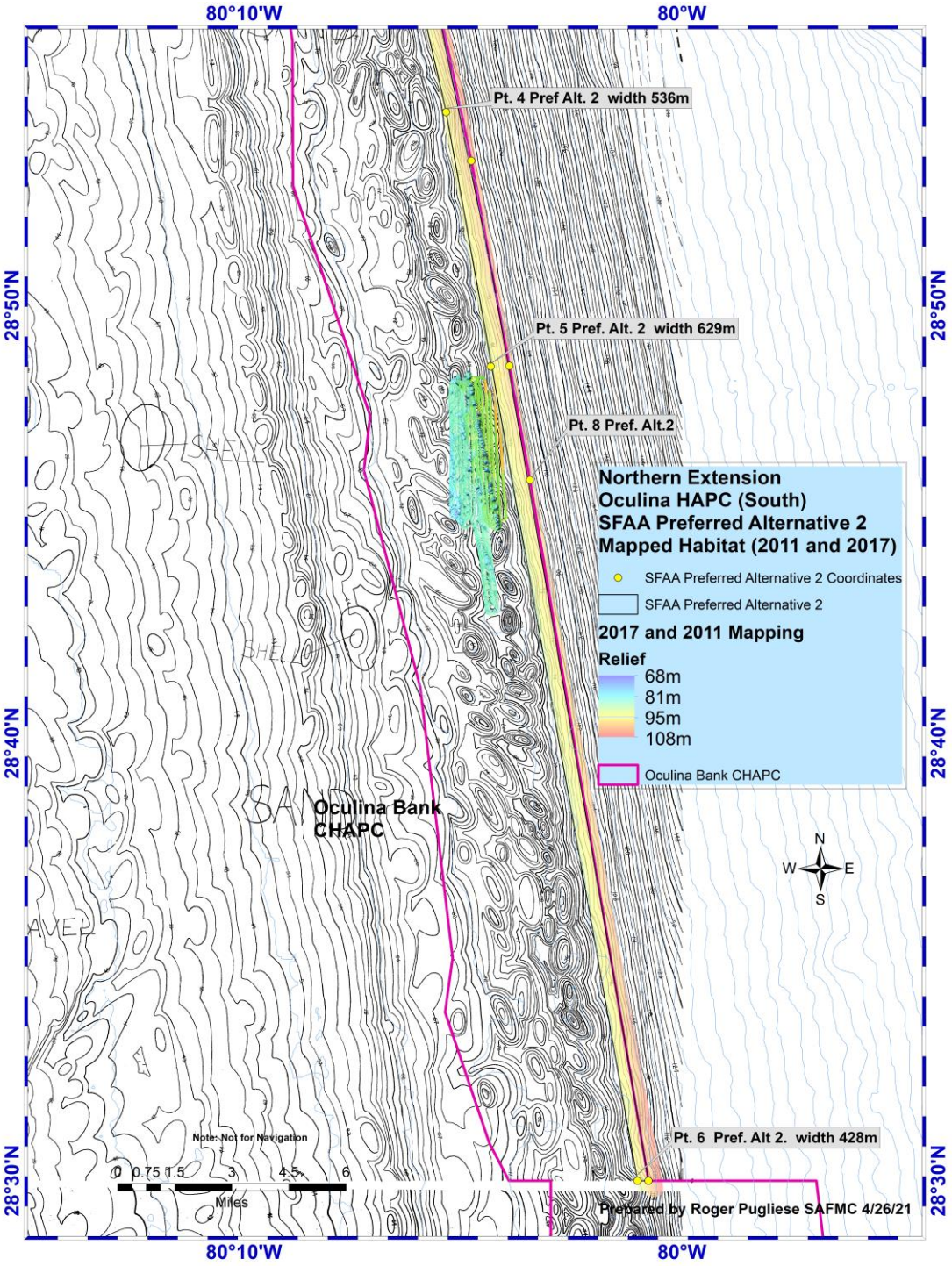

Figure 7b. Northern extension of the OHAPC (South) including the proposed SFAA (**Preferred Alternative 2**) and habitat mapped in 2017 during the SEDCI expedition and during the 2011 Pisces expedition.

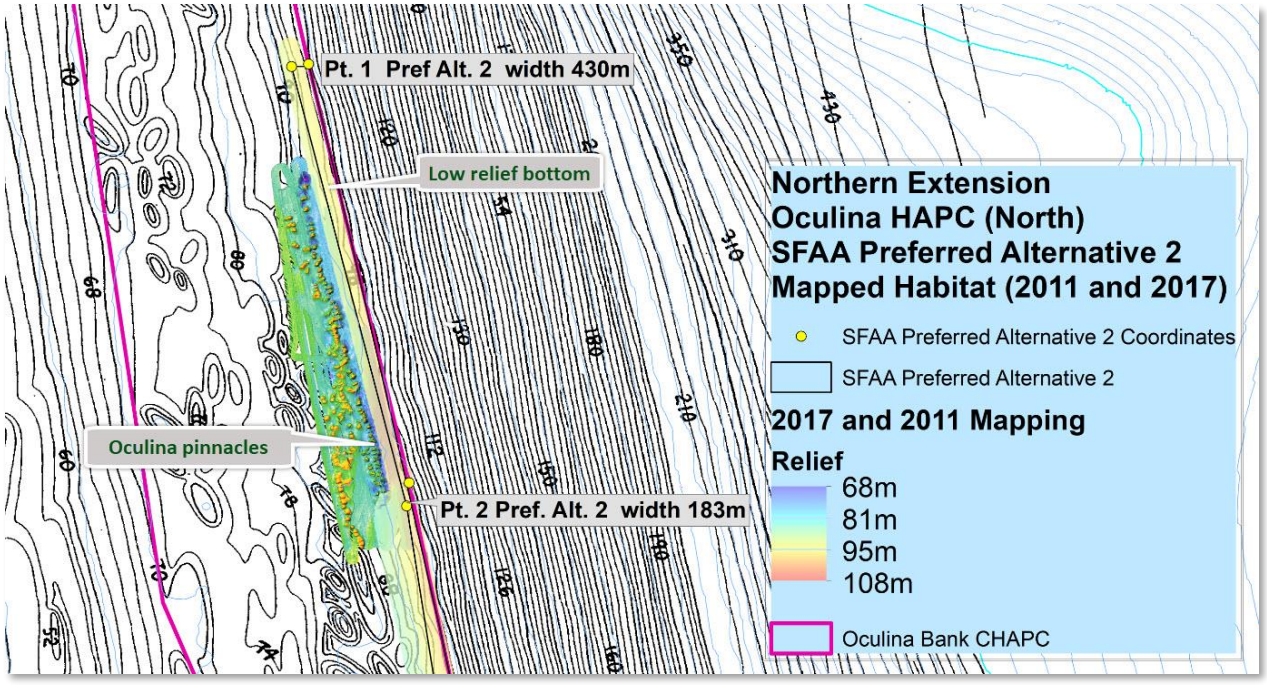

Figure 8a. Zoom in of northern portion of **Preferred Alternative 2** on mapped low relief bottom in relationship to mapped high relief Oculina pinnacle habitat distributed west.

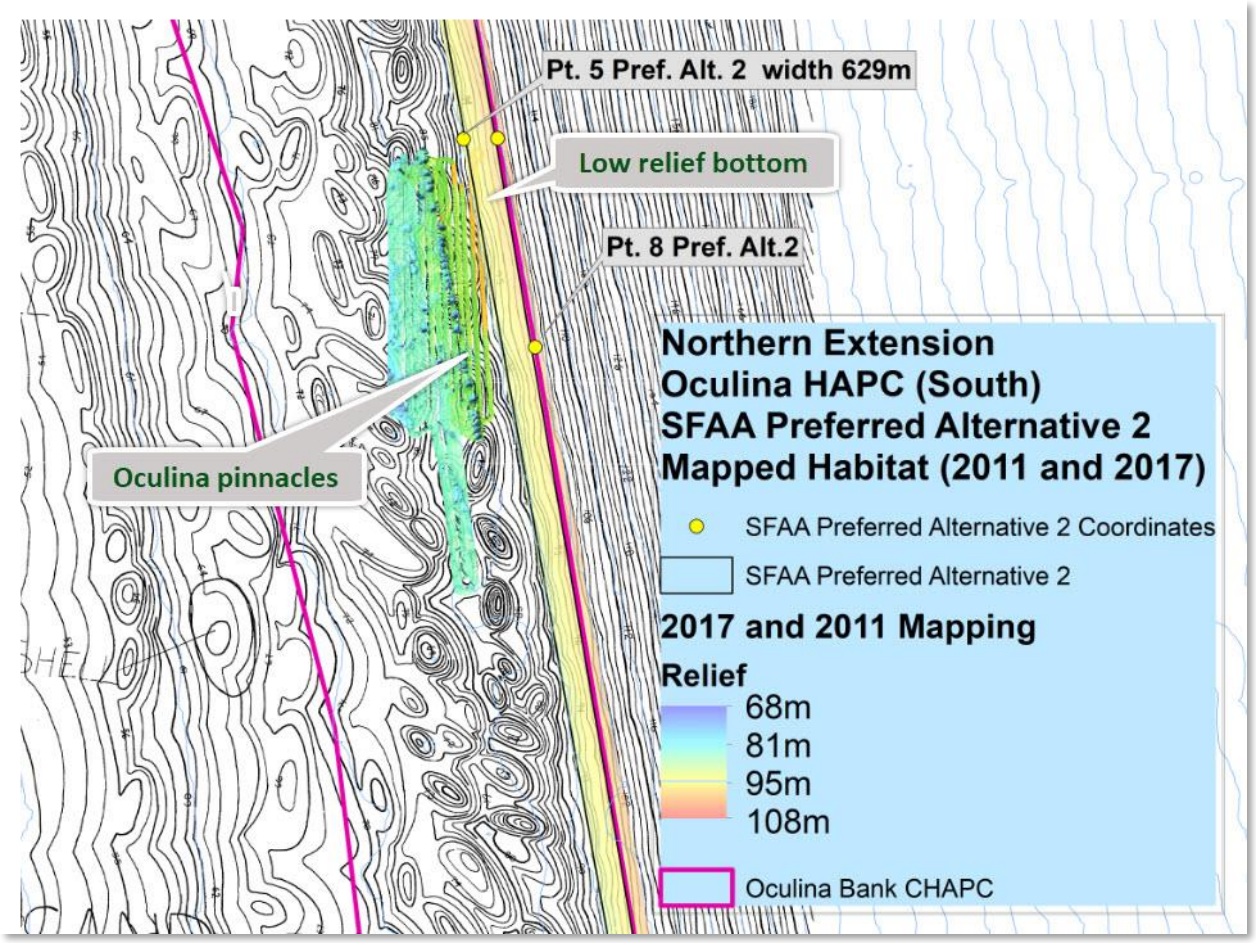

Figure 8b. Zoom in of southern portion of **Preferred Alternative 2** on mapped low relief bottom in relationship to mapped high relief Oculina pinnacle habitat distributed inshore.

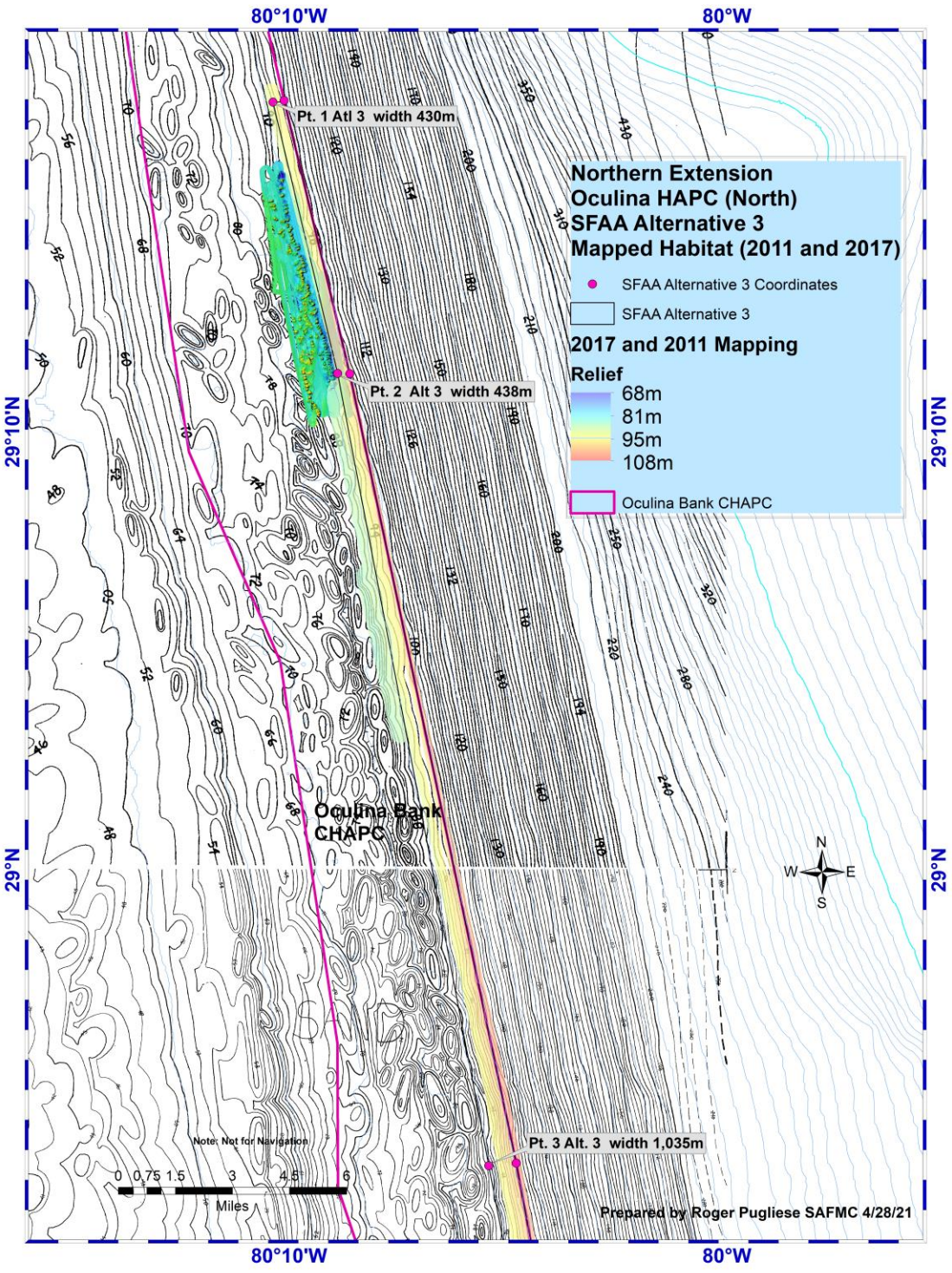

Figure 9a. Northern extension of the OHAPC (North) including the proposed SFAA (**Alternative 3**) and habitat mapped in 2017 during the SEDCI expedition and during the 2011 Pisces expedition.

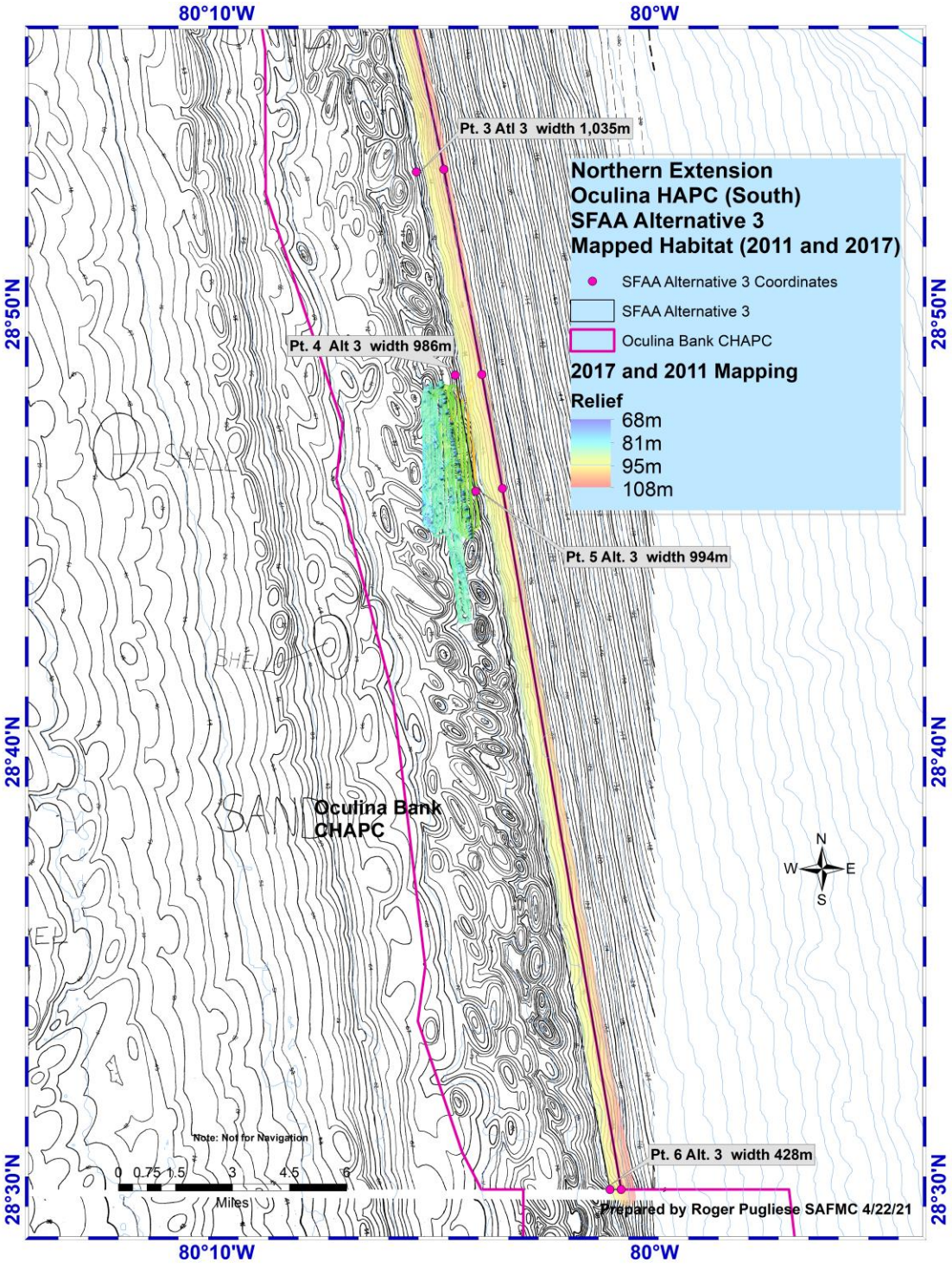

Figure 9b. Northern extension of the OHAPC (South) including the proposed SFAA **(Alternative 3)** and habitat mapped in 2017 during the SEDCI expedition and during the 2011 Pisces expedition.

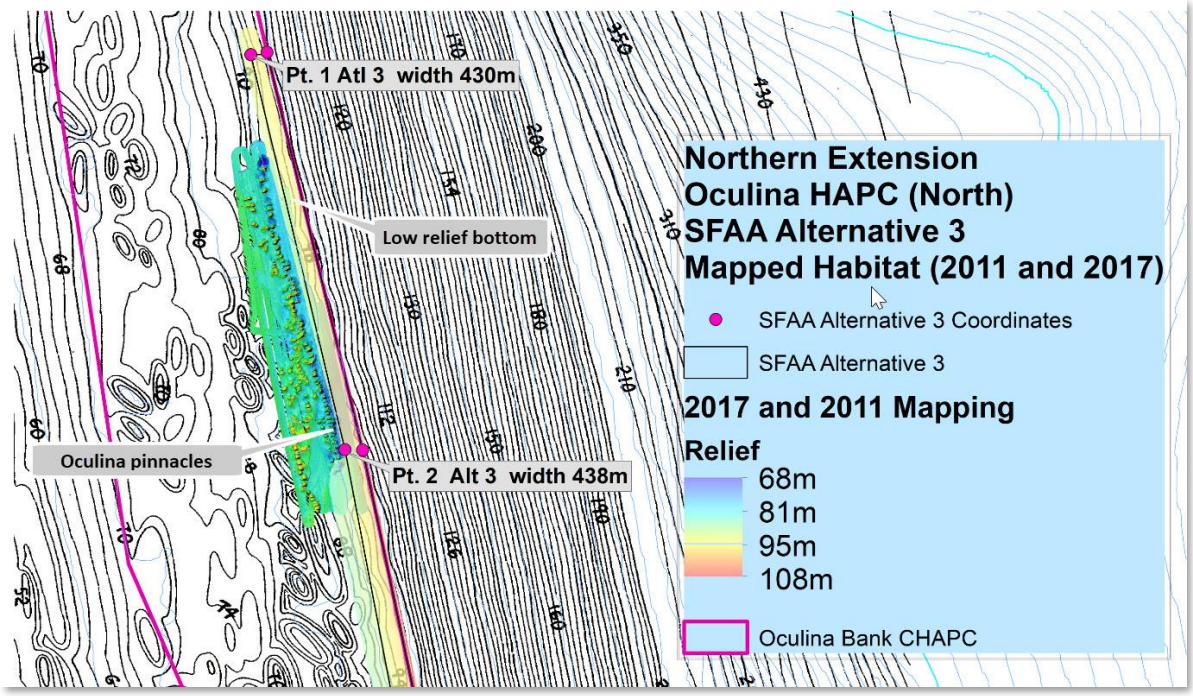

Figure 10a. Zoom in of northern portion of **Alternative 3** on mapped low relief bottom in relationship to mapped high relief Oculina pinnacle habitat distributed inshore.

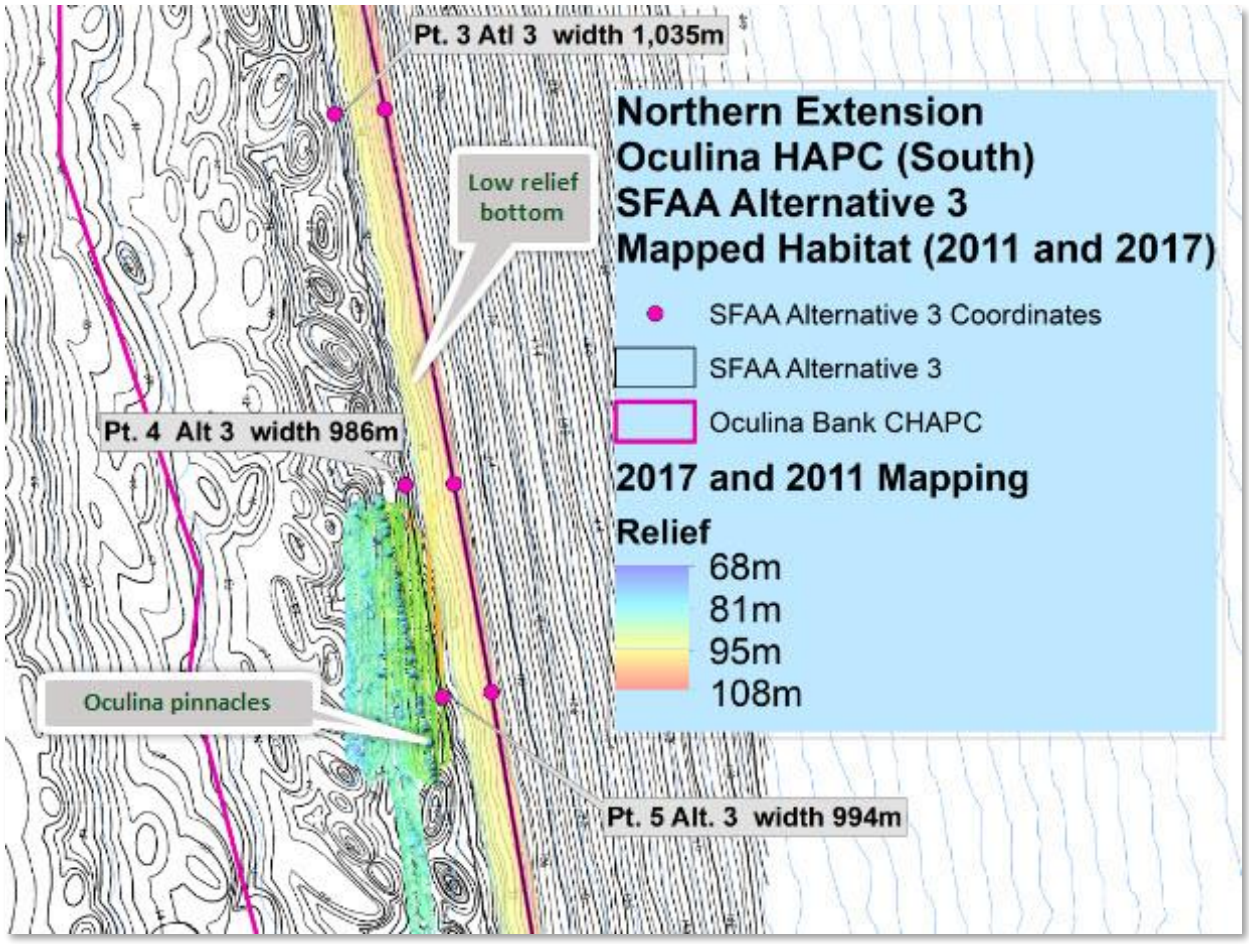

Figure 10b. Zoom in of southern portion of **Alternative 3** on mapped low relief bottom in relationship to mapped high relief Oculina pinnacle habitat distributed inshore.

Economic Effects:

- Not establishing a SFAA would continue to disallow additional fishing access to rock shrimp vessels within the northern extension of the OHAPC and would result in no change in economic benefits.
- Not establishing a SFAA would result in foregone landings of rock shrimp and thus foregone economic benefits associated with these landings compared to **Preferred Alternative 2** and **Alternative 3**. **Preferred Alternative 2** would result in net economic benefits by potentially increasing landings of rock shrimp through access to an approximate 22 mi^2 area.

- The use of this area will likely vary from year to year, however, participants in the fishery have indicated that rock shrimp have historically been caught in the proposed area and will migrate into this area at times.
- Increases in catches of rock shrimp would be expected to increase direct net economic benefits.
- Given the likely variability in usage of the area, as well as the exhibited variability in overall participation in the regional rock shrimp fishery, these economic effects cannot be quantified.
- The economic effects of **Alternative 3** would likely be similar to those of **Preferred Alternative 2**, but economic benefits under preferred **Alternative 3** would be comparatively higher since this alternative would allow access to an additional 10 mi^2 of fishing grounds.
- Economic benefits for commercial rock shrimp vessels would be highest under **Alternative 3,** followed by **Preferred Alternative 2**, and not establishing a SFAA.
- The economic effects on individual vessel owners cannot be determined with available models but from **Preferred Alternative 2** and **Alterative 3** would depend on:
    - Each vessel owner's profit maximization strategy.
    - Their dependence on rock shrimp and seasonal fishing behavior.
    - Their propensity to fish for rock shrimp in the new area compared to existing open areas.

Overall, 19 vessels with an RSLA permit harvested rock shrimp from the South Atlantic on average annually from 2015 through 2019.

Rock shrimp dealers are indirectly affected with increases in gross revenues expected to indirectly benefit dealers. Overall, 8 dealers purchased rock shrimp from the South Atlantic on average annually from 2015 through 2019.

Social Effects:

- Not establishing a SFAA would likely result in minimal social effects because the fleet is already harvesting in open areas and prohibited from working in the closed areas.
- **Preferred Alternative 2** and **Alternative 3** address stakeholder concerns regarding access to historically important fishing grounds along the eastern edge of the northern extension of the OHAPC and may improve stakeholder perceptions of the management process.
- As such, **Preferred Alternative 2** the most recent recommendation by the South Atlantic Council's Deep-Water Shrimp Advisory Panel is expected to have the greatest social benefit, followed by **Alternative 3**, and not establishing a SFAA**.**

Public Hearing Comments:

During the Public Hearing Webinar on May 13, Mike Merrifield with Cape Canaveral Shrimp Company and Chair of the Deepwater Shrimp Advisory Panel provided the following comments: He is in support of the action in the amendment and felt the Council has done a good job developing the amendment. He noted the preferred alternative included traditional bottom which has been fished and is verified by the many VMS fishing points occurring in the area over the years. He indicated the area under consideration has been fished and was just something that came up late when Coral Amendment 8 was first put into place. At that time fishermen requested the Council revisit this and he appreciated the fact that we are revisiting it and we have a good, preferred alternative.

Jerry McNew, a private recreational fisherman, provided the following comment online:
"To open up an area for a Shrimp Fishery only defeats the purpose of conservation and your role to protect environment and fishery. You are playing into the hands of the Commercial Industry and will set a precedence. Do not allow this to happen."

Committee Action:

CONSIDER PUBLIC HEARING COMMENTS AND RETAIN OR MODIFY PREFERRED ALTERNATIVE

CONSIDER APPROVING ACTION IN CORAL AMENDMENT 10
(Note: Amendment Document will be finalized and approval for submission to Secretary of Commerce will be considered during the September 2021 Council Meeting)

DRAFT MOTION: APPROVE ACTION IN CORAL AMENDMENT 10