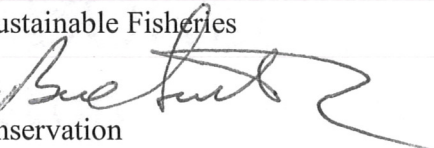




UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

JUN 11 2014

MEMORANDUM FOR: Executive Directors, Regional Fishery Management Councils  
Chairs, Regional Fishery Management Councils  
NMFS Regional Administrators  
Director, Office of Sustainable Fisheries

FROM: Buck Sutter, Director   
Office of Habitat Conservation

SUBJECT: Protection of Deep-Sea Corals from Physical Damage by Fishing Gear  
under the MSA Deep Sea Coral Discretionary Authority

The attached informational document was developed by the NMFS Office of Habitat Conservation and reviewed by NOAA General Counsel, the Office of Sustainable Fisheries, and the NMFS Regional Offices. The purpose of the document is to provide options and information for NMFS Regional Offices and the regional fishery management councils as they implement the discretionary provisions for deep-sea coral protection included in the Magnuson-Stevens Fishery Conservation and Management Act Section 303(b)(2). These provisions provide that any fishery management plan (FMP) which is prepared by any Council or the Secretary, with respect to any fishery, may:

- A) designate zones where, and periods when, fishing shall be limited, or shall not be permitted, or shall be permitted only by specified types of fishing vessels or with specified types and quantities of fishing gear;
- B) designate such zones in areas where deep sea corals are identified under section 408 [the Deep Sea Coral Research and Technology Program], to protect deep sea corals from physical damage from fishing gear or to prevent loss or damage to such fishing gear from interactions with deep sea corals, after considering long-term sustainable uses of fishery resources in such areas. 16 U.S.C. § 1853(b)(2)(A)-(B).

The information included in this document is consistent with NOAA policies established in its *Strategic Plan for Deep-Sea Coral and Sponge Ecosystems*.

We hope this information is useful to you as you consider mechanisms for the protection of deep-sea corals.

Please contact Dr. Tom Hourigan ([Tom.Hourigan@noaa.gov](mailto:Tom.Hourigan@noaa.gov)) in my Office with any questions or if you would like further information about the Deep Sea Coral Research and Technology Program.





## **Protection of Deep-Sea Corals from Physical Damage by Fishing Gear under the MSA Deep Sea Coral Discretionary Authority**

### **Purpose**

The National Oceanic and Atmospheric Administration (NOAA) is a steward of the nation's living marine resources. This document will assist NOAA offices and the regional fishery management councils (Councils)<sup>1</sup> when developing protective measures for deep-sea corals under section 303(b)(2)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).<sup>2</sup> Section 303(b)(2) provides that any fishery management plan (FMP) which is prepared by any Council or the Secretary, with respect to any fishery, may:

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We encourage use of this discretionary authority to advance the agency's and Councils' conservation objectives. NOAA's Strategic Plan for Deep-Sea Coral and Sponge Ecosystems seeks to ensure that fisheries that may interact with known and likely deep-sea coral ecosystems are identified and monitored and that such ecosystems are protected from the impacts of fishing gear (see Figure 1).<sup>3</sup> This document is consistent with those policy goals.

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<sup>1</sup> Hereafter, "Council" includes NOAA's National Marine Fisheries Service (NMFS), when it prepares fishery management plans or amendments under MSA sections 304(c) (Secretarial plans) and (g) (Atlantic highly migratory species plans).

<sup>2</sup> This document supercedes NMFS Office of Habitat Conservation's Essential Fish Habitat and Deep-sea Coral Authorities White Paper (Feb. 2010).

<sup>3</sup> NOAA 2010. *NOAA Strategic Plan for Deep-Sea Coral and Sponge Ecosystems: Research, Management, and International Cooperation*. Silver Spring, MD: NOAA Coral Reef Conservation Program. NOAA Technical Memorandum CRCP 11. 67 pp.  
[http://coris.noaa.gov/activities/deepsea\\_coral/](http://coris.noaa.gov/activities/deepsea_coral/) Deep-sea sponge habitats can play similar ecological roles and face similar threats as deep-sea coral habitats, but they are outside the scope of the discretionary authority and thus not addressed in this document.

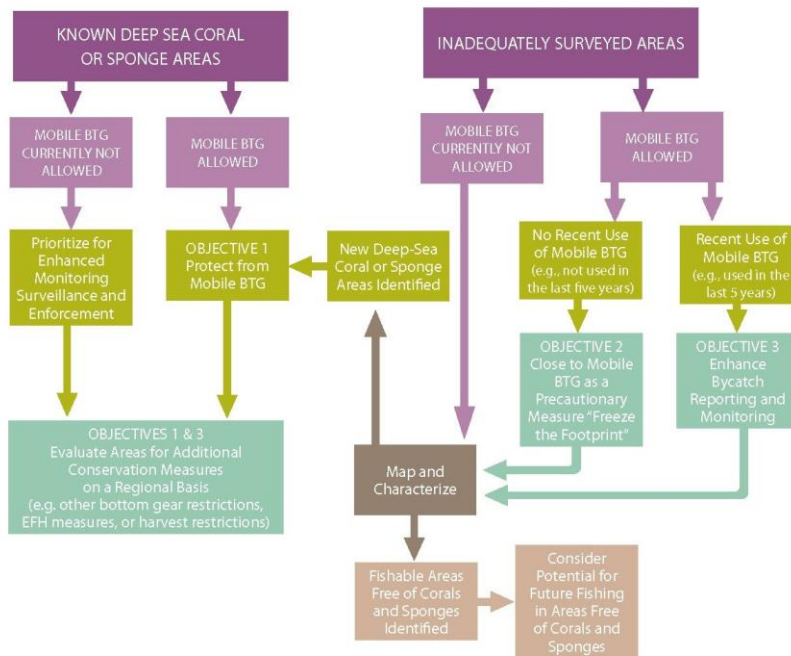


Figure 1: NOAA’s precautionary approach to manage bottom-tending gear, especially mobile bottom-tending gear and other adverse impacts of fishing on deep-sea coral and sponge ecosystems, as described in NOAA’s Strategic Plan for Deep-Sea Coral and Sponge Ecosystems.

## Scope

This document focuses on the use of MSA section 303(b)(2)(B) discretionary authority to minimize physical damage from fishing gear to deep-sea corals identified by the Deep Sea Coral Research and Technology Program. Such measures would also prevent loss or damage to gear from interactions with deep-sea corals. In addition to the discretionary authority, other MSA provisions may be relevant to deep-sea corals. *See Other MSA Provisions* (explaining mandatory requirements for essential fish habitat and bycatch).

## What are considered Deep-Sea Corals?

There is strong scientific consensus on the taxa that are considered “corals”<sup>4</sup> but less consensus on what is considered “deep sea.” For the purposes of this document and the implementation of the MSA, NOAA has defined the term “deep-sea corals” as azooxanthellate corals (i.e., corals that do not depend upon symbiotic algae and light for energy) generally occurring at depths below 50 meters.<sup>5</sup> Of particular ecological importance and conservation concern are “structure-

<sup>4</sup> Cairns, S.D. 2007. Deep-water corals: an overview with special reference to diversity and distribution of deep-water scleractinian corals. *Bulletin of Marine Science*, 81(3): 311-322.

<sup>5</sup> See NOAA Strategic Plan for Deep-Sea Coral and Sponge Ecosystems, *supra* note 3; 1<sup>st</sup> Report to

forming deep-sea corals,” those colonial deep-sea coral species that provide vertical structure above the seafloor that can be utilized by other species<sup>6</sup> and are most likely to be damaged by interactions with fishing gear. Structure-forming deep-sea corals include both branching stony corals that form a structural framework (e.g., *Lophelia pertusa*) as well as individual colonies of corals, such as gorgonians and other octocorals, black corals, gold corals, and lace corals (Table 1). These are often referred to as habitat-forming deep-sea, deep-water, or cold-water corals.

| Class   | Subclass     | Order                                | Common Name                     | Additional Information  |
|---|--------------|--------------------------------------|---------------------------------|---|
| <b>Anthozoa</b> —corals, sea anemones, sea pens | Hexacorallia | Scleractinia                         | Stony corals                    | A few species form deep-water reef-like structures known as bioherms, coral banks, or lithoherms.                               |
|   |              | Zoantharia                           | Gold corals                     | Only a few zoanthids in the family Parazoanthidae (e.g., genus <i>Kulamanamana</i> & <i>Savalia</i> ) form rigid skeletons.     |
|   |              | Antipatharia                         | Black corals                    | Many branching forms. Certain species harvested for jewelry in Hawaii.  |
|   | Octocorallia | Alcyonacea*                          | True soft corals                | Most are not major structure-forming species.   |
|   |              | Gorgonacea                           | Gorgonians, sea fans, sea whips | Many branching forms. At least 12 families contain major structure-forming species.   |
|   |              | Pennatulacea                         | Sea pens                        | Unlike other species, sea pens are found on soft sediments. Contribution as habitat and to biodiversity is not well understood. |
| <b>Hydrozoa</b> —hydroids and hydromedusae      | Hydroidolina | Anthoathecata (Family Stylasteridae) | Stylasterids or lace corals     | Can form branching colonies. May be confused with stony corals but the resemblance is superficial.                              |

\*Gorgonians are included by many taxonomists in the Order Alcyonacea.

**Table 1:** Major deep-sea coral groups (phylum Cnidaria)<sup>7</sup>

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*Congress on Implementation of the Deep Sea Coral Research and Technology Program*, infra note 7; and *The State of Deep Coral Ecosystems of the United States* (NOAA 2007).

<sup>6</sup> Lumsden SE, Hourigan TF, Bruckner AW, Dorr G (eds.) 2007. *The State of Deep Coral Ecosystems of the United States*. NOAA Technical Memorandum CRCP-3. Silver Spring MD.

<sup>7</sup> NOAA 2008. *1<sup>st</sup> Report to Congress on the Implementation of the Deep Sea Coral Research and Technology Program*. [http://www.nmfs.noaa.gov/habitat/2010\\_deepcoralreport.pdf](http://www.nmfs.noaa.gov/habitat/2010_deepcoralreport.pdf).

### ***What is the role of the Deep Sea Coral Research and Technology Program (DSCRTP)?***

The DSCRTP was established under MSA section 408 to identify and map locations of deep-sea corals, monitor activity in locations where deep-sea corals are known or likely to occur, and submit information to the Councils. Section 408 also authorizes the program to conduct research, develop technologies or methods designed to assist fishery participants in reducing interactions between gear and deep-sea corals, and engage in other activities.<sup>8</sup> The program integrates expertise and resources available across NOAA to provide scientific information needed to conserve and manage deep-sea coral ecosystems.<sup>9</sup>

Upon request, the DSCRTP has been providing available information on deep-sea corals to some Councils and Regions to assist them with management initiatives. The DSCRTP is also compiling a database of information on known deep-sea coral locations. The database and its records are undergoing peer review and then, consistent with MSA confidentiality requirements, will be made publicly available through a U.S. Geological Survey web site, OBIS-USA.gov, and through a NOAA web application. The records of deep-sea coral locations are also being used to identify areas likely to contain deep-sea corals using scientific modeling approaches coupled with new field research. In addition, the Program will continue to work with Councils and other partners to develop an updated list of known areas with major structure-forming deep-sea coral aggregations for inclusion in the Program's statutorily required biennial report to Congress on efforts to identify, monitor, and protect deep-sea corals.

The DSCRTP may present a Council with research on, and known locations of, deep-sea coral areas and areas with expected habitat suitable to support deep-sea corals. Should a Council or other organization have information on the location or bycatch of deep-sea corals, it may provide that information to the DSCRTP. If the DSCRTP concurs with that information, it may submit the information to the Council as an area that the Council could consider for protection under the deep-sea corals discretionary authority. The DSCRTP, in consultation with the appropriate Council(s), will periodically review any new information available on deep-sea coral areas and propose revisions and/or amendments to these areas as warranted. If possible, the DSCRTP will schedule such reviews to coincide with a Council's existing essential fish habitat review schedule to maximize efficiency and effectiveness.

As explained below, under the deep-sea coral discretionary authority, a Council may adopt measures that restrict or prohibit fishing or fishing gear. NOAA may provide recommendations to assist Councils in identifying deep-sea coral zones and potential protective actions. These recommendations are in line with MSA section 408, described above, which provides, among other things, that the DSCRTP develop methods designed to assist fishing industry participants in reducing interactions between fishing gear and deep sea corals. The DSCRTP may provide recommendations to a Council for the initial incorporation of deep-sea coral information into an

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<sup>8</sup> See 16 U.S.C. § 1884.

<sup>9</sup> See [http://coralreef.noaa.gov/deepseacorals/noaasrole/research\\_technology/](http://coralreef.noaa.gov/deepseacorals/noaasrole/research_technology/) for further information.



FMP and for any subsequent modification to fishery management actions. If applicable, NOAA may also provide recommendations for protection of deep-sea corals identified as EFH, including recommendations for designating deep-sea corals as habitat areas of particular concern (HAPCs). In making recommendations, the DSCRTP will coordinate with the appropriate NOAA office(s).

### **Deep-Sea Coral Discretionary Authority**

This section addresses designating deep-sea coral zones and adopting protective measures in an FMP, FMP amendment or omnibus amendment that applies to several FMPs. Such measures must be consistent with the National Standards, other MSA provisions and other applicable law. When using the discretionary authority, an FMP/amendment should clearly state the purpose, need and rationale for the action; be supported by the factual record, including environmental, economic and social impact analyses; and cite to the authority. Example citation: “The purpose of this action is to protect deep-sea corals from physical damage from fishing gear as authorized by section 303(b)(2)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.”

#### ***Designating Deep-Sea Coral Zones***

When designating deep-sea coral zones, the following parameters and considerations apply:

1. The authority may only be used for deep-sea coral areas identified by the DSCRTP.
2. Deep-sea coral zones may only be designated within the U.S. Exclusive Economic Zone (EEZ) and within the geographical range of a fishery managed under an FMP. A Council may develop protective measures for such zones that apply to any fishing, not just that managed under the applicable FMP.<sup>10</sup> Thus, measures may apply to fishing that is managed under a different federal FMP or to state-regulated fishing that is authorized in the EEZ.
3. A Council should coordinate with potentially affected Councils, state commissions, and states to ensure that it has sufficient information to support the need for its action and to analyze impacts of the action on other fisheries.<sup>11</sup>

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<sup>10</sup> There may be instances where deep-sea corals extend from the EEZ into state waters. While a Council cannot designate the state waters portion as a deep-sea coral zone under MSA section 303(b)(2)(B), it could describe the deep-sea corals in its FMP. A Council could also explore whether protective measures should be applied to federal permittees when fishing near the deep-sea corals in state waters. However, there would have to be a conservation and management need under the MSA for such action. Should this scenario arise, please consult NOAA General Counsel for further guidance.

<sup>11</sup> See 16 U.S.C. § 1853(a)(9) (requiring FMP to have a fishery impact statement addressing likely effects on and possible mitigation measures for participants in fisheries in adjacent areas under the authority of another Council, after consultation with that Council and representatives of the fisheries’ participants). Often, a Council will consult directly with other Councils when developing an action that might affect their fisheries. In addition, where a fishery extends beyond the geographical area of authority of any one Council, the Secretary may designate a Council to prepare an FMP/amendment or require that the

4. Long-term sustainable uses of fishery resources in the deep-sea coral areas must be considered. This consideration informs but does not limit the scope of protective measures that a Council may adopt.
5. Deep-sea coral zones and protective measures may be adopted even if there are no vessels currently fishing at or near the areas or there is no indication that current fishing activities are causing physical damage to deep-sea corals.
6. To ensure the effectiveness of protective measures, deep-sea coral zones may include, as necessary, additional areas beyond the exact locations of the deep-sea corals.

Areas considered as priorities for protective measures should be identified on a case-by-case basis considering the following ecological factors and other factors as appropriate:<sup>12</sup>

- the size of the reef or coral aggregation, or density of structure-forming deep-sea corals;
- the occurrence of rare species;
- the importance of the ecological function provided by the deep-sea corals as habitat;
- the extent to which the area is sensitive to human-induced environmental degradation;
- the likelihood of occurrence of deep-sea corals in unsurveyed areas based on the results of coral habitat suitability models or similar methods.

### ***Protective Measures***

Within the designated deep-sea coral zones, there are various options available for protecting the corals from physical damage from fishing gear, including but not limited to:<sup>13</sup>

1. Restrictions on the location where fishing may occur. If a closure to all fishing is being considered, it must comply with requirements at MSA section 303(b)(2)(C),<sup>14</sup> which include establishing a timetable for review of the closed area's performance. This review should be conducted in consultation with the DSCRTP. Given the additional

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FMP/amendment be jointly prepared. *Id.* § 1854(f)(1).

<sup>12</sup> See *NOAA Strategic Plan for Deep-Sea Coral and Sponge Ecosystems*, *supra* note 3.

<sup>13</sup> See *supra* page 1 (quoting authority for fishing and gear restrictions under 16 U.S.C. § 1853(b)(2)(A)).

<sup>14</sup> With respect to any closure of an area to all fishing, an FMP/amendment must ensure the closure: “(i) is based on the best scientific information available; (ii) includes criteria to assess the conservation benefit of the closed area; (iii) establishes a timetable for review of the closed area's performance that is consistent with the purposes of the closed area; and (iv) is based on an assessment of the benefits and impacts of the closure, including its size, in relation to other management measures (either alone or in combination with such measures), including the benefits and impacts of limiting access to: users of the area, overall fishing activity, fishery science, and fishery and marine conservation.” 16 U.S.C. § 1853(b)(2)(C).



requirements and process, a Council may want to consider whether targeted gear restrictions, as opposed to a full fishing closure, would provide sufficient protection.

2. Restrictions on fishing by specified types of vessels or vessels with specified types and quantities of gear. These could include, for example, limits on the use of specified fishing-related equipment, required equipment modifications to minimize interactions with deep-sea coral communities, prohibitions on the use of explosives and chemicals, prohibitions on anchoring or setting equipment, and prohibitions on fishing activities that cause damage to deep-sea corals.
3. Proactive protection by freezing the footprint of current fishing activities of specified types of vessels or vessels with specified types and quantities of gear to protect known or expected locations of deep-sea corals.
4. Limits on the harvest or bycatch of species of deep-sea coral that provide structural habitat for other species, assemblages, or communities.

### **Other MSA Provisions**

The deep-sea coral authority is discretionary, but there are other mandatory requirements that may be applicable, including MSA provisions on essential fish habitat and bycatch.

#### ***Essential Fish Habitat (EFH)***

MSA section 303(a)(7) requires that an FMP describe and identify EFH for the fishery, minimize to the extent practicable adverse effects caused by fishing, and identify other actions to encourage the conservation and enhancement of the EFH. Federal action agencies must consult with NOAA on activities that may adversely affect EFH, and NOAA provides non-binding conservation recommendations to the agencies through that process.<sup>15</sup> If a deep-sea coral area is EFH (e.g., essential for spawning, breeding, feeding or growth to maturity of fish managed under an FMP),<sup>16</sup> then it must be identified as such and the above requirements apply.

For deep-sea corals identified through the DSCRTP, the Council may also adopt additional measures under the deep-sea coral discretionary authority. Unlike the EFH requirements, the discretionary authority does not require a showing that corals are habitat for federally-managed fish or that current fishing activities are causing physical damage. The discretionary authority has no required consultation process for non-fishing activities that may affect deep-sea corals. However, there may be avenues for providing non-binding recommendations to conserve or protect corals through other processes under the MSA (*see e.g.*, section 305(b)(3)(A)), National Environmental Policy Act, Fish and Wildlife Coordination Act, and other authorities.

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<sup>15</sup> See 16 U.S.C. § 1855(b) and 50 C.F.R. § 600.905 *et seq.* (setting forth EFH consultation requirements and guidance).

<sup>16</sup> EFH is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” 16 U.S.C. § 1802(10). *See also* EFH Guidelines at 50 C.F.R. § 600.810 *et seq.*

### ***Bycatch Requirements***

National Standard 9 of the MSA requires that conservation and management measures minimize bycatch and to the extent bycatch cannot be avoided, minimize bycatch mortality.<sup>17</sup> The MSA defines “bycatch” as fish that are harvested in a fishery but that are not sold or kept for personal use.<sup>18</sup> Because deep-sea corals fall under the statutory definition of “fish,”<sup>19</sup> the MSA bycatch provisions are applicable to them.

When analyzing proposed conservation and management measures, if a Council has information that bycatch of deep-sea corals may occur, it should address the above bycatch requirements regardless of whether the DSCRTP has identified the resources as deep-sea coral areas. For deep-sea corals identified through the DSCRTP, a Council may adopt additional measures under the deep-sea coral discretionary authority. Designation of appropriate deep-sea coral zones that prohibit the use of bottom-contact fishing gears is likely to be among the most effective approaches to minimize bycatch of deep-sea corals.

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<sup>17</sup> 16 U.S.C. § 1851(a)(9). *See also id.* § 1853(a)(11) and 50 C.F.R. § 600.350 (NS 9 Guidelines).

<sup>18</sup> 16 U.S.C. § 1802(2) and 50 C.F.R. § 600.350(a)(2)(c). *See also Managing the Nation’s Bycatch: Priorities, Programs and Actions for the National Marine Fisheries Service* (NMFS 2008) (including as “bycatch” the discarded catch of any living marine resource plus retained incidental catch and unobserved mortality due to a direct encounter with fishing gear).

<sup>19</sup> *See* 16 U.S.C. § 1802(12) (defining “fish” as “finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds”).

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