

**Peer Review Report Peer Review Report for
Hawaiian monk seal critical habitat designation:
Draft Biological Report**

A draft biological report was prepared in support of the proposed rule to revise the critical habitat designation for the Hawaiian monk seal under section 4 of the Endangered Species Act (ESA). The draft biological report was reviewed by three peer reviewers in October 2010: Tamara McGuire, Ph.D., Sarah Marley, and Kimberly Raum-Suryan. These three peer reviewers are biologist with knowledge of pinniped biology and expertise in the field of marine mammalogy. Comments provided by the peer reviewers and by the public will be considered in the final biological report and final Hawaiian monk seal critical habitat designation. The comments submitted by each peer reviewer are attached in the following pages. Each reviewer is identified by a number. Comments specific to certain sections of the report are identified under the heading for that particular section, noted in blue; comments pertaining to subheadings are identified under the appropriate italicized subheading title. Comments pertaining to specific text will follow the italicized excerpted text from the report. Responses to peer review comments and public comments will be provided in the final Hawaiian monk seal critical habitat designation rule, due to be published in the Federal Register.

Overall Document

Reviewer 1:

It may be advisable to insert a "Further Research" section, listing proposed future research regarding critical habitat use by Hawaiian monk seals.

Reviewer 3:

- 1) Well organized, clear, easy to follow.
- 2) Would benefit from a quick revision by technical writer or editor. Punctuation and grammar issues throughout, especially with use of commas, colons, & semi colons.
- 3) Minor edits and requests for clarification throughout noted in text.

Pg 20 argument evidence in support of #4 is weak and leaves you wide open for attack. Suggest focus on improving this section and add more evidence of why anthropogenic activities are a problem.

Also define terms for first time use in the document e.g. haul-out, armoring, coastal set backs.

EXECUTIVE SUMMARY

Reviewer 1:

Executive Summary

The "Executive Summary" accurately describes the purpose of this report, however it does not provide much information regarding the actual conclusions of the report. I feel that focusing more on the biological findings summarized in this report would be beneficial. I suggest identifying: 1) the key conservation objective driving this report (i.e.

the need to increase abundance and distribution of the Hawaiian monk seal); 2) which factors influence this key objective (e.g. prey quantity and quality; availability of suitable haul-out and pupping sites, etc); and 3) the physical features essential for achieving this conservation objective (i.e. the critical habitat features proposed in this report - such as marine areas from 0-500m depth, etc).

I feel that it would be helpful to include at the start of this document an introductory passage summarizing the five steps described in lines 1291-1299. This would explain the flow of the text, the reason for the headings used, and elaborate on the reason for this document. Perhaps a "Rationale" section, prior to the "Background"? This could incorporate information from the "Executive Summary", allowing the summary to be more biological than governmental in explaining the actual outcomes of the CHRT's discussions as opposed to justifying the existence of the report (or perhaps that is the required format for this type of report?).

Reviewer 2:

Executive Summary

I think this is a well written document and does a good job of explaining the available scientific information available (with some exceptions noted below). One question I have is how this large expanse of critical habitat will be managed to ensure the well-being of the monk seals?

BACKGROUND

Reviewer 1:

Figure 1

Figure 1 is a useful supplement to the written description of Hawaiian monk seal critical habitat. However, I am concerned about the clarity of this image. Due to the dispersed nature of the islands and the resultant necessity to use a small scale to view them all, the extent of critical habitat is not immediately clear nor is the physical boundary of the islands. If this figure were to be viewed separately from the passage, the viewer would be able to gain very little information in comparison to that provided in the text. I suggest two options to more accurately summarize and compliment the written description: 1) increase the scale and size of the figure, or 2) insert a magnified view of one particular island to demonstrate the inclusion of beach crest vegetated areas, surrounding waters and other significant habitat features. It is also advisable to expand the level of detail in the figure description to accompany this.

Reviewer 3:

Figure 1

Can't read, figure is too small, names of islands are needed.

HAWAIIAN MONK SEAL NATURAL HISTORY AND STATUS

Reviewer 1:

Hawaiian Monk Seal Natural History and Status

This report goes into commendable detail describing the spatial aspects of critical habitat for Hawaiian monk seals. However, there is no mention of the temporal aspects of such habitat. Regardless of the lack of seasonality displayed in low-latitude species concerning their life history, are there nevertheless temporal differences in the use of the habitat features described in this report? For example, changes in prey abundance or availability; variations in weather or other environmental conditions which make some areas inaccessible or less preferable to seals; seasonal differences in human abundance and area use which thereby influences the number of human-seal interactions. If these issues have already been concluded to be inconsequential then fantastic, but please say so. If they are yet to be addressed, it may be worth mentioning this (perhaps in the "Further Research" section).

NATURAL HISTORY

Reviewer 1:

On average adult males smaller in size than females ((NMFS) 2007a). It is thought that Hawaiian monk seals have a lifespan of up to 30 years.

Regarding the lifespan of Hawaiian monk seals: is this estimate based on captive seals, necropsies, or re-sights of wild animals? Since the lifespan of captive animals is often significantly shorter than that of their wild counterparts, this is a distinction worth making.

Reviewer 3:

This solitary nature extends both on land and in the water; however, monk seals may congregate in small numbers in favorable haul-out areas (Antonelis et al. 2006) or when interacting.

Example?

Females will mate about 3-4 weeks after weaning her pup, and 5-6 weeks later she will haul-out to molt ((NMFS) 2007a). At least several months are required for the pup to learn to forage successfully on its own, during which time it survives on fat stores built up during nursing, resulting in considerable weight loss ((NMFS) 2007a).

(Referring to "later") After mating or after weaning the pup?

(Referring to "learn to forage") Teach themselves to forage.

RANGE

Reviewer 1:

The six main reproductive sites for the species are in the NWHI: Kure Atoll, Midway Islands, Pearl and Hermes Reef, Lisianski Island, Laysan Island, and French Frigate Shoals.

Is there any information regarding what number / proportion of the population uses these reproductive sites?

Reviewer 2:

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Information from Johnston Atoll is sparse, but monk seals have been observed on multiple occasions.

Seems a bit misleading since only observed 3 times between 1968-1999 - maybe change multiple to "several" or "a few."

Reviewer 3:

In 2003, an adult male was relocated from the MHI to Johnston Atoll because it was habituated to humans and exhibiting dangerous behavior.

May want to clarify behavior so people are not afraid of monk seals in the MHI.

POPULATION STATUS AND TRENDS

Reviewer 1:

The current Hawaiian monk seal population is estimated at 1, 161 individuals ((NMFS) 2009).

Additionally, can you please break down this total population size into numbers for each sub-population (NWHI vs. MHI).

Reporting from the general public such as this is not systematic and not representative of the overall seal use of the MHI shorelines

How does this information provide a basis for identifying unique individuals? What data do the public provide? What technique is used to allow individual identification? I suggest inserting a footnote briefly summarizing this information.

Reviewer 2:

The current Hawaiian monk seal population is estimated at 1, 161 individuals ((NMFS) 2009).

Insert confidence limits.

The first beach counts of Hawaiian monk seals in the NWHI occurred in the late 1950s, but prior to that time period, human influenced declines in population can be inferred from historical records.

How many were counted during this period?

However, the beach counts do demonstrate a decline between the late 1950s and mid-to-late 1970s in the western portions of the range, which has been associated with human disturbance related to military settlement (Kenyon and Rice 1959; Ragen 1993).

Again, how many were there and how much of a decline? This is too vague.

The growth in numbers in the MHI has not been associated with an increase in migration from the NWHI since only five seals have been documented to have migrated from the NWHI to the MHI since the 1980s when regular tagging began (Baker et al. 2010).

I understand that you are deriving this statement from your tagging data. However, in other sections of the document, you note that seals may be hauling up in locations on the MHI that are remote and that people may not see. I do not see how you can make such an emphatic statement unless you have systematic full surveys of all possible haul-out locations in the MHI. For example, with greater resight effort of Steller sea lions, it is

now known that there is a greater interchange between western and eastern populations in AK. I would change this sentence to include "has likely not been" and delete the underline and bold.

The evolutionary, historical, and geological evidence combined with the dispersion and increased numbers of Hawaiian monk seals throughout the MHI chain suggests that monk seals have been re-colonizing the MHI in recent years.

You might want to add a very brief sentence as to why monk seals are recolonizing the MHI to lead readers into the next section. Or, add "as explained in the next section".

Reviewer 3:

When monk seals first arrived to the Hawaiian Archipelago, they likely colonized emergent islands such as those of the northwest and eventually as the populations grew, the wide-ranging nature of these animals would have allowed for dispersal throughout the entire chain.

How do you know they arrived there and didn't evolve there?

While this number in no way represents a discrete number of seals (seal identification is unknown and reporting is not systematic), it does reveal the presence of seals throughout the islands in the early 1980s.

(Referring to parentheses) Not clear.

The growth in numbers in the MHI has not been associated with an increase in migration from the NWHI since only five seals have been documented to have migrated from the NWHI to the MHI since the 1980s when regular tagging began (Baker et al. 2010).

All of the seals in the NWHI have been tagged?

NORTHWESTERN HAWAIIAN ISLANDS VS. MAIN HAWAIIAN ISLANDS

Reviewer 1:

Population status and trends differ between the NWHI and MHI. In the NWHI, many of the reproductive subpopulations are experiencing a decline in populations that are attributed primarily to food limitation ((NMFS) 2007a).

It is worth inserting a one-sentence summary of evidence supporting the food limitation theory at this point.

Reviewer 2:

The sharks, jacks and other demersal fish that have been observed to compete directly with monk seals in the NWHI are much less abundant in the MHI and inter-specific competition, or competition with predators of other species feeding on similar prey, is likely lower in the MHI (Baker and Johanos 2004; Parrish 2008).

Since shark predation has been a factor in mortality of monk seals in the NWHI, it may be possible that there has been an increase in shark attacks on monk seals because of a reduction on shark's prey in the NWHI.

Reviewer 3:

That is, there is no evidence that monk seals occurring in any part of the archipelago are genetically distinct from monk seals elsewhere in the range (Schultz et al. 2009).

If they are not genetically distinct how are subpopulations determined?

While the population is not genetically differentiated, the geographic separation between breeding subpopulations is utilized for focusing research and management activities; most often for management purposes the population is separated into the NWHI and the MHI.

Rewording suggested: For management and research purposes, a distinction is often made between the subpopulations.

This is evident by the growing number of identified individuals and number of pups born annually (Baker and Johanos 2004).

Need to make a stronger case that the increase in the MHI is not from dispersion from the NWHI.

Poor juvenile survival reflected in the data has accordingly focused management efforts towards positively influencing population trajectories by increasing efforts which support monk seal health during the fragile first years.

Such as..?

HABITAT

Reviewer 1:

Since monk seals may remain at sea for several days or more at a time, resting on land is essential to conserve energy.

Perhaps worth referencing Brasseur *et al.* (1996); captive harbor seals were prevented from hauling-out and consequently notably increased their time on land once the deprivation period had ended, which the authors suggest was a way to compensate for lost haul-out time. This would emphasize that hauling-out is considered a necessity for some pinniped species.

*Observation of seals using animal-borne video cameras showed that nearly one-half of the time spent underwater was spent resting or interacting with other seals (Parrish *et al.* 2000).*

How many animals were studied in the Parrish *et al.* paper? Please state the percentage of overall time underwater spent engaging in each activity.

Monk seals are known to be foraging generalists with a wide variety of prey species. Over 150 fish species have been recorded in the monk seal diet (Iverson 2006).

The 150 fish species mentioned is presumably the maximum; although monk seals are generalists, are there any species which seem particularly preferred?

Inconsistencies with previous foraging habitat assumptions were first seen in satellite transmitter studies in the NWHI, when it was determined that seals were transiting regularly to neighboring banks (Parrish and Litnan 2007).

How regular is regularly? Which age/sex groups of seals were used in this study, is it representative of the whole population or a few wanderers?

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New information from NWHI camera studies illustrates that adult male monk seals forage mainly on sand terraces and talus slopes 50 – 100 m (160 – 325 ft) deep around their home atoll and nearby seamounts, not just the nearby reefs as previously believed (Parrish and Littnan 2007).

How many seals were crittercams deployed upon? Which age/sex groups of seals were used in these studies?

Foraging studies with instrumented juvenile monk seals (1 – 3 years old) in the NWHI illustrated foraging behavior similar to that of adult monk seals.

Have there been any studies focusing on foraging behaviour of pups in their first year of life?

Additionally, more recent tracking of Hawaiian monk seals with cell phone tags in the MHI demonstrates some diving depths beyond 200 m ranging in depths up to 474 m (NMFS unpublished data).

What studies are currently being done on monk seal prey species? Have there been any recorded changes in prey abundance?

Reviewer 2:

Although much less information is available regarding monk seals foraging in the MHI, 11 juvenile and adult monk seals were tracked in 2005 using satellite-linked radio transmitters showing location but summaries of dive depths.

This is confusing - does this mean you had locations with dive depth data binned by categories? Please rephrase this to explain what you mean by "summaries of dive depths".

Reviewer 3:

Inconsistencies with previous foraging habitat assumptions were first seen in satellite transmitter studies in the NWHI, when it was determined that seals were transiting regularly to neighboring banks (Parrish and Littnan 2007).

What does this mean how neighboring?

PHYSICAL OR BIOLOGICAL FEATURES ESSENTIAL FOR CONSERVATION

Reviewer 1:

(1) Space for individual and population growth, and for normal behavior;

The term 'normal' should be used with caution: What is the definition of "normal behaviour" for a monk seal? What studies have contributed towards this topic?

While the broad number of prey species makes identifying an individual prey species for specific protections difficult, knowledge of the foraging habits of seals helps to identify areas and habitat types that are regularly utilized including the sand terraces, talus slopes, submerged reefs and banks, nearby seamounts, barrier reefs, slopes of reefs and islands, and deep coral beds.

Source?

Reviewer 2:

(4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally;

(Referring to “seed dispersal and germination”) Is this necessary?

Hawaiian monk seal intolerance of human disturbance is best documented in declining beach counts in the later 1900s at human disturbed sites in the NWHI ((NMFS) 2007a); this may be additionally supported in the selection of current favored haul-out sites in the MHI.

This statement somewhat contradicts your statement that seals are not moving from the NWHI to the MHI because it indicates that seals are intolerant of human disturbance on the NWHI so choose haul-outs on the MHI. Again, see my comment above in that seals are not LIKELY relocating from the NWHI but it may be possible given the long distance movements they are capable of.

Reviewer 3:

1. *Areas with low levels of anthropogenic disturbance.*

This point needs to be expanded and supported. Otherwise, too easily people will draw a correlation between an increase in seals in the MHI and an increase in anthropogenic activity in the MHI and assume that seals are not impacted by anthropogenic activities.

Within these habitats conditions should support growth and recruitment of prey species to the extent that monk seal populations are supported as well.

Support this statement.

Although Hawaiian monk seals are considered to be a solitary species (in comparison to other gregarious pinnipeds), seals may haul-out in small numbers and are likely to frequent general areas utilized by other seals due to shared preferences for accessible and remote habitat.

Examples 1-3 (Referring to the number of seals)? Remote from human activity (referring to remote habitat)?

GEOGRAPHICAL AREA OCCUPIED BY THE SPECIES AND SPECIFIC AREAS WITHIN THE GEOGRAPHICAL OCCUPIED AREA

Reviewer 3:

The CHRT discussed the possibility of incorporating areas of Johnston Atoll, but determined that the lack of recent seal use, the remote nature of the Atoll from the Hawaiian Archipelago, and the hazardous conditions associated with past human use

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(including contamination, erosion, and debris (communication with USFWS staff)) rendered the features in this area inadequate for seal conservation.

Define recent and Give the distance that Johnston is from the Archipelago.

NORTHWESTERN HAWAIIAN ISLANDS (NWHI)

Reviewer 2:

The total number of seals identified at the six main NWHI sites is estimated at a minimum population of 913 individuals ((NMFS) 2009). Since 2001 the numbers of seals at these six main sites has been decreasing causing a downward population trend for the species as a whole. The smaller populations estimated at 37 for Necker and 74 for Nihoa have suggested a positive growth trend, but these estimates are based on sporadic site surveys over the years.

Give confidence limits for numbers.

Reviewer 3:

The second revision the team identified was the inclusion of Sand Island at Midway Atoll as this island supports pupping and nursing, as well as terrestrial haul-out habitat.

Why was Sand Island left out of the original designation?

Plan identifies some of the stressors to the habitat to include activities such as coastal development, marine pollution, terrestrial pollution, dredging, invasive species, fisheries, climate change and vessel groundings (Monument 2008).

(Referring to “fisheries”) Competition with Fisheries? Interaction with Fisheries? Both?

While the structured nature of the management plan for the Monument does present a means for providing protections to the Hawaiian monk seal, the plan does allow for the following activities occur within the Monument:

What does structured nature mean?

MAIN HAWAIIAN ISLANDS (MHI)

Reviewer 2:

The minimum abundance estimate for the MHI in 2008 was reported at 113 seals ((NMFS) 2009).

Confidence limits for numbers.

A more expansive designation will best meet the recovery needs of this wide ranging and solitary species.

The reasons for this designation make sense but how will such a large area be managed adequately?

Current foraging information indicates that foraging monk seals in the MHI may have a smaller range than seals foraging in the NWHI, but recent tracking data indicates that some seals are utilizing habitat in deeper areas.

Add reference.

Marine foraging habitat and prey quantity and quality may be impacted by activities such as water pollution, fishing, dredging, in-water construction, energy development, aquaculture/mariculture, and vessel activities.

And marine debris accumulation...

Reviewer 3:

At that time a limited number of seal sightings were recorded from the MHI and research efforts were concentrated on the larger numbers of breeding groups in the NWHI. (Referring to “limited number of seal sightings”) Annually?

Thus, foraging patterns will begin to mimic foraging patterns of seals tracked in the NWHI. With this consideration in mind, the CHRT recommended that foraging habitat for each specific area should be consistent with the NWHI to reflect the growing needs of the population.

Clarify this sentence since the terrestrial habitat is not the same as the NWHI.

Areas Not Included for proposed Hawaiian monk seal critical habitat in the MHI:

Why Excluded?

SPECIAL MANAGEMENT CONSIDERATIONS OR PROTECTION

Reviewer 2:

Major categories of activities

I would add marine debris in this section. Large piles of nets and other marine debris can cover coral beds or other important substrates and eventually kill off organisms in the area. This could reduce prey for monk seals in these areas.

Reviewer 3:

(3) Energy Development (renewable energy projects);

Coastal Energy Development

DREDGING

Reviewer 1:

Studies have indicated that activities from dredging have the potential to alter the macrobenthic community structure in both a negative and positive manner (Ansell et al. 1998).

Is this increase in density reflective of simple clustering of organisms, or does it indicate an overall increase in number? Are these effects short- or long-term?

ENERGY DEVELOPMENT

Reviewer 1:

Energy Development

How many renewable energy projects have been proposed for the next decade? Is any work going into investigating their potential effects on monk seals (and other species)?

The Report to Congress on the Potential Environmental Effects of Marine and Hydrokinetic Energy Technologies identifies projects and studies where impacts such as those described have been acknowledged; the report goes on to identify that project location plays the biggest role in minimizing potential effects (Energy 2009).

It may be worth making the distinction between the potential impacts of initial construction versus the effects of ongoing operation of energy-generating devices. For example, initial disturbance from construction or maintenance of such structures may be considered short-term if marine life re-inhabits the area following cessation of construction. However, if the habitat is damaged such that re-inhabitation is not possible or if acoustic disturbance arising from energy generation causes indefinite displacement of seals and/or prey, these would be considered long-term effects. Will development of critical areas be allowed if the effects are demonstrated to be strictly short-term and minimal, or is the population vulnerable enough to forbid all these activities due to the lack of experimental research on the response of Hawaiian monk seals to such activities?

Reviewer 3:

Energy Development

In-water?

Define if this is offshore energy projects...

ACTIVITIES THAT GENERATE WATER POLLUTION

Reviewer 1:

Increased temperatures in the marine environment have been linked to higher disease risks for marine species; some pathogens, including those linked to coral bleaching, have been found to grow well at temperature close to or exceeding the hosts optimum temperature (Harvell et al. 2002). Raised temperatures and increased eutrophication from runoff have been linked to harmful algal blooms, which have the potential to cause acute morbidity or mortality in Hawaiian monk seals (Gilmartin et al. 1980).

Additionally eutrophication, a common consequence of coastal development, has also been linked to raised rates of parasitism (Lafferty et al. 2004). Of further concern with regards to pollution may be the introduction of terrestrially known disease by means of runoff into the marine environment. Toxoplasmosis has been indicated in the death of a Hawaiian monk seal from Kauai (Honnold et al. 2005); this type of infection is most commonly linked to domestic cats which are known to shed infective oocysts in

This paragraph, whilst providing a good amount of information, seems to jump a lot between topics. It feels as if a list of bullet points have been turned into a paragraph, with little flow between sentences. Some rewording is required to improve the quality and cohesiveness of this section (predominantly lines 1099-1109).

Reviewer 3:

DDTs,

Spell out acronyms.

AQUACULTURE/MARICULTURE

Reviewer 1:

Potential impacts to water quality and subsequently to prey species include habitat destruction, waste disposal (pollution via eutrophication, pesticides or antibiotics), exotic species or pathogen introduction, and/or increased direct pressure on fishery resources (wild stock seeding) (Naylor et al. 2000).

An additional pressure on wild fisheries as a result of aquaculture is the fact that, depending on the species being cultured, wild fish may actually be taken in order to feed carnivorous captive species. If such species are being cultured in Hawaii, it may be worth adding this point to the list. In addition, please give an indication of how many aquaculture farms there are on Oahu, Kauai, Maui, Molokai and Hawaii, and whether these farms current pose a threat to monk seals. Are more aquaculture projects planned for the near future?

FISHERIES

Reviewer 2:

Direct interactions, including hookings and entanglements, are considered to be associated with jeopardy to the species.

Monk seals become entangled in nets and line that have washed ashore. If this marine debris is within critical habitat, which it will be as it comes ashore on so many of the beaches, it could impact either where seals haul out or cause injury and mortality if they become entangled in debris onshore.

Activities that may affect essential features include those activities (or fisheries) that reduce prey availability, or impact the quantity and quality of the habitat.

As mentioned above, large accumulations of nets can damage substrates, reducing available monk seal foraging habitat.

Reviewer 3:

Direct interactions include active fishing gear of various fisheries, feeding of fishing discards, and entanglement in derelict fishing debris.

(Referring to “interactions with active fishing gear”) Entanglement in?

However, factors favoring seals in the MHI, including low intra-specific and inter-specific competition could conceal impacts leading to a false assumption.

Rephrase not clear what is meant here.

OIL-SPILL AND VESSEL-GROUNDING RESPONSE ACTIVITIES

Reviewer 1:

Although these events are unplanned the repercussions of the events and subsequent recovery efforts may have long term impacts to Hawaiian monk seal critical habitat. Management efforts may include the need to identify essential features present in the location of the spill and appropriate response to protect those features during the recovery efforts.

If possible, please suggest methods or actions which management groups could potentially take to protect habitat features and marine life. One or two examples would add strength to this conclusion.

ADDITIONAL THREATS ADDRESSED IN THE PETITION

Reviewer 2:

ADDITIONAL THREATS ADDRESSED IN THE PETITION

You also might want to add that climate change could influence weather patterns to a greater extent, causing more storms and hurricanes which would affect critical habitat as well.

(chinstrap and gentoo)

(ice algae, krill, Emperor penguins)

Species names?

CRITICAL HABITAT REVIEW TEAM

Reviewer 1:

For the 12-month finding, NMFS convened a preliminary meeting of Pacific Island Fisheries Science Center and Pacific Island Regional Office staff that works on Hawaiian monk seal research and management to discuss the best available scientific and commercial data relevant to critical habitat for the Hawaiian monk seal.

List these features.

STEPS 2, 3, &4

Reviewer 1:

Recovery goals are set at 500 animals for the MHI; with declining numbers in the NWHI and the future projected loss of habitat, all available habitat with essential features present becomes important for the conservation of this species.

Regarding sentence starting "Recovery goals...": a very important point! I feel it would be worthwhile repeating this elsewhere in the text for emphasis; possibly the Executive Summary?

These areas include hardened shorelines, such as extensive seawalls, rock revetments, or other man-made shorelines; sheer cliffs; areas of lava flow; large commercial harbors and some larger bays.

Do "man-made shorelines" include artificial beaches?

Reviewer 2:

Recovery goals are set at 500 animals for the MHI

How was the number determined?

In identifying the inner boundary of terrestrial habitat, the team recognized that by adding 5 m to the "certified shoreline," or the vegetation line that the inland boundary of the habitat should be the best reflection of essential habitat regardless of changes due to coastal or climatic forces.

What type of regulations will be in place for building inland of the shoreline regulations.

Will new structures be allowed to build right up to the shoreline of the critical habitat?

How will this potential disturbance be mitigated?

LIST OF FIGURES

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Reviewer 3:

Figures are small and difficult to discern land masses.

[LIST OF TABLES](#)

Reviewer 3:

Suggest giving both metric & & units throughout the text & table.