



Submission to the Third Preparatory Conference of the North Pacific Fisheries Commission

27-30 August 2012

Deep Sea Conservation Coalition

The following submission on behalf of the Deep Sea Conservation Coalition (DSCC) addresses several issues of relevance and provides recommendations to the Third Preparatory Conference of the North Pacific Fisheries Commission and the meeting of the Interim Scientific Working Group 30-31 August 2012.

A. Implementation of Interim Measures

Impact Assessments

VME Encounter Protocols and Move-on Rules

Predictive Modeling of habitat suitability for Octocorals on the Emperor and Hawaiian Seamount Chains

Recommendations to the Scientific Working Group

B. IUU fishing and the Fishing Vessel “Millennium”

Annex I: Habitat Suitability of Octocorals on the Emperor Seamount Chain - information prepared by Chris Yesson of the Zoological Society of London and CoralFish.

Annex II: Dossier on the Fishing Vessel *Northern Warrior*, formerly the *Millennium* flagged to Curacao and sighted bottom fishing in the North Pacific. Dossier prepared by the Trygg Mat Foundation for the Deep Sea Conservation Coalition

A. IMPLEMENTATION OF INTERIM MEASURES

IMPACT ASSESSMENTS

The UN General Assembly, in resolution 66/68 adopted in December 2011, called for further actions by States and RFMOs to implement the relevant provisions of resolutions 61/105 and 64/72 related to the management of deep-sea fisheries in the high areas. UNGA Resolution 66/68 placed particular emphasis on improving procedures for the conduct of impact assessments as follows:

“The General Assembly

129. *Considers*, on the basis of the review carried out in accordance with paragraph 129 of resolution 64/72, that despite the progress made, the urgent actions called for in the relevant paragraphs of resolutions 61/105 and 64/72 have not been fully implemented in all cases, and in this regard further actions in accordance with the precautionary approach, ecosystem approaches and international law and consistent with the Guidelines are needed to strengthen the continued implementation, and in this regard calls upon States, through regional fisheries management organizations and arrangements with the competence to regulate bottom fisheries, States participating in negotiations to establish such organizations or arrangements and flag States to take the following urgent actions regarding bottom fishing in areas beyond national jurisdiction:

- (a) To strengthen procedures for carrying out assessments to take into account individual, collective and cumulative impacts, and for making the assessments publicly available, recognizing that doing so can support transparency and capacity-building globally;
- (b) To establish and improve procedures to ensure that assessments are updated when new conditions or information so require;
- (c) To establish and improve procedures for evaluating, reviewing and revising, on a regular basis, assessments based on best available science and management measures;
- (d) To establish mechanisms to promote and enhance compliance with applicable measures related to the protection of vulnerable marine ecosystems, adopted in accordance with international law;”

In addition, paragraph 133 of UNGA Resolution 66/68 states:

“133. Encourages States, regional fisheries management organizations and arrangements and States participating in negotiations to establish such organizations or arrangements to undertake further research on deep-sea species and ecosystems and assessments of fishing activities on target and non-target species, consistent with the Guidelines and in accordance with the Convention, including Part XIII of the Convention;”

Japan, Russia, the Republic of Korea and the United States submitted impact assessment reports of varying detail to the interim Science Working Group in 2008.¹ By far the most comprehensive assessment reports were produced by Japan and the United States. The US, though not currently authorizing bottom fishing on the high seas in the NPFC Convention area, submitted an impact assessment outlining, amongst other issues, its concern over the depletion of straddling seamount fish stocks within its zone as a result of continued fishing on the high seas.

Although the impact assessments submitted by the fishing nations provided detailed information on the bottom fisheries in the region, there were numerous areas of scientific uncertainty and/or where

¹ North Pacific Fisheries Commission. Impact Assessments available at: <http://nwpbfo.nomaki.jp/Assessment.html>

data was lacking. Only Japan provided information from fisheries independent surveys of the seamounts but indicated that there were a number of limitations and uncertainties in the surveys. These included 1) the area covered by ROV and drop cameras was only a small fraction of the area subject to fishing, 2) some of the deep sea life found was difficult to identify on video, and 3) due to the lack of good scientific information, it was not clear whether some of the species seen constitute VMEs.

The US submission concluded that while the efforts to remotely view the seamount summit benthos from drop-camera photography and ROV video observations were informative, they will require much more survey effort. An independent review of the images produced by Japan concluded that a number of the areas were likely to contain octocoral gardens and that the surveys done to date do not support the conclusion that there are no VMEs on other seamounts in the Emperor chain.²

The impact assessments also indicated that it was difficult to assess the impacts of bottom fishing on the fragility of ecosystems formed by corals, due to lack of knowledge on the structure and function of coral ecosystems. Little to no information was available to determine whether significant adverse impacts would occur on VMEs based on the criteria set out in paragraphs 16-20 of the International Guidelines for the Management of Deep Sea Fisheries in the High Seas – through, for example, comparing the spatial extent of potential impacts relative to the availability of habitat type affected, the ability of an ecosystem to recover from harm and rates of such recovery, the extent of which ecosystem functions may be altered by the impact of bottom fishing, and the timing and duration of the impacts relative to the period in which a species needs the habitat during one or more life-history stages.

The Republic of Korea and the Russian Federation come to similar conclusions as Japan. With regard to the bottom gillnet, longline and pot fisheries, which target a range of species, the Russian Federation's impact assessment concluded, in each case, that "*[i]nadequate catch statistics for this fishery does not make it possible to accurately conduct stock assessment, evaluate the sustainability of the fishery, and assess SAI on VMEs*".

Finally, Japan's assessment report concluded that extensive bottom drag fishing for precious corals on the Emperor Seamount Chain in the past has probably resulted in significant reductions in the occurrence of precious corals on seamounts in the region. However, historical information on this fishery (catch, areas fished etc) was not available for the purposes of identification of areas where VMEs were known or likely to occur or have occurred in the past.

The impact assessments were submitted to the Scientific Working Group in late 2008. Since then, no further revisions of the assessments or efforts to resolve the scientific uncertainties in the assessments or lack of sufficient data in regard to the occurrence of VMEs or potential impacts on VMEs have been submitted to the Scientific Working Group as far as the DSCC is aware. Nor have impact assessments been submitted for high seas bottom fisheries in the Northeast Pacific area though it is not clear whether, and to what extent, bottom fishing takes place on the high seas in the Northeast Pacific.

² Rogers, A.D & M. Gianni. (2010) The Implementation of UNGA Resolutions 61/105 and 64/72 in the Management of Deep-Sea Fisheries on the High Seas. Report prepared for the Deep-Sea Conservation Coalition. International Programme on the State of the Ocean, London, United Kingdom, 97pp

VME ENCOUNTER PROTOCOLS AND MOVE-ON RULES

None of the encounter protocols and move-on rules adopted to date by RFMOs or States in other areas of the high seas have been based on a clear scientific understanding of the impacts of bottom fishing on VMEs and the extent to which the rules will ensure that significant adverse impacts on VMEs will be prevented.

In one of the most comprehensive reviews of the move-on rules undertaken by a scientific advisory body to an RFMO, the joint Northwest Atlantic Fisheries Organization (NAFO) and Working Group on Deep-Sea Ecology (WGDEC) of the International Council for the Exploration of the Sea (ICES) in 2010 reviewed the move-on rules adopted by the Northeast Atlantic Fisheries Commission (NEAFC) and NAFO.³

The Working Group concluded that *“The damage caused by deep-sea bottom fishing activities to marine habitats and species, in particular VME indicators, is likely to remain unrecovered for decades to centuries. Reactionary management strategies such as the “encounter clauses” and “move-on rules” are of limited benefit to prevent significant adverse impacts because they still allow damage to occur which will gradually degrade ecosystems over time”*.

The Working Group recognized that, to be effective, separate encounter threshold levels would likely need to be established, based on a scientific understanding of the biology, ecology, distribution and vulnerability to impact, for each individual VME indicator species or taxonomic group, each individual gear type or gear configuration, and each biogeographic region within the Regulatory Areas of the two RFMOs.

Rather than developing a complex set of threshold levels, encounter protocols etc, and in recognition of the fact that *“the current encounter and move-on rules would still permit pervasive and cumulative destruction of VMEs in the NAFO and NEAFC management areas”* the Working Group recommended that a *“new management strategy needs to be developed...based on the following principles:*

- 1) Bottom habitats at fishable depths within the North Atlantic are not inhabited by one fauna that ranges over the whole region, thus there can be no uniform “rule”;*
- 2) exploratory fishing with bottom contact gear in the deep sea is unacceptable because of the long-term damage such gear does to bottom habitats;*
- 3) exploratory fishing with bottom contact gear is unnecessary because modern data management tools and computer modeling techniques can provide a mechanism for making predictions about where vulnerable marine ecosystems are likely to be present; and*
- 4) the burden of proof regarding whether any particular area of the seabed can be fished with bottom contact gear without causing damage to VMEs must reside with the entity proposing to do the fishing.”*

These principles put fishing on a more equal footing with other industries who extract resources from the ocean and whose activities might have adverse or harmful effects on resident organisms.”

³ ICES. (2010). Report of the ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC). Available at: http://www.ices.dk/reports/ACOM/2010/WGDEC/wgdec_final_2010.pdf Pages 42-54

PREDICTIVE MODELING OF HABITAT SUITABILITY FOR OCTOCORALS ON THE EMPEROR AND HAWAIIAN SEAMOUNT CHAINS

Paragraph 37 of the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas recommends that States and RFMO/As should cooperate in international efforts to collate biogeographic information, including oceanographic parameters, and make use of this information, as appropriate, in their assessment and management of Deep Sea Fisheries.

Given the paucity of survey information on the types and locations of VMEs in the areas of the NPFC convention area currently subject to bottom fishing, predictive modeling of the habitat suitability of various species of VME species provides a means of determining where VMEs are likely to occur in the region.

Dr. Chris Yesson of the Zoological Society of London has prepared a series of slides for the Scientific Working Group regarding habitat suitability for one of the key groups of VME species - cold-water octocorals - on the Emperor Seamount Chain. The information is drawn from a paper published earlier this year - **Yesson, Chris; Taylor, Michelle L; Tittensor, Derek P; Davies, Andrew; Guinotte, John M; Baco, Amy; Black, Julie; Hall-Spencer, Jason; Rogers, Alex David (2012):** Global habitat suitability of cold-water octocorals. *Journal of Biogeography*, **39(7)**, 1278-1292, [doi:10.1111/j.1365-2699.2011.02681.x](https://doi.org/10.1111/j.1365-2699.2011.02681.x)

This information is attached as Annex I of this submission.

RECOMMENDATIONS TO THE SCIENTIFIC WORKING GROUP:

1. Update the Impact Assessments consistent with the provisions of paragraphs 129 and 133 of UNGA resolution 66/68 listed above.
2. Identify all relevant VME indicator species in the NPFC Convention area.
3. Make thorough use of biogeographic information, including the habitat suitability and predictive modeling information for cold-water octocorals attached as Annex II, and historical data on fishing and coral extraction to identify areas where VMEs are known or likely to occur.
4. Conduct additional and comprehensive fisheries independent surveys to identify VME species and areas where VMEs are known or likely to occur.
5. Identify vulnerable species of fish and elasmobranchs impacted by the fisheries, whether target species or species taken as bycatch, and provide recommendations on levels of mortality that would ensure their long-term sustainability and the rebuilding of depleted populations.

B. IUU FISHING AND THE FISHING VESSEL “MILLENNIUM”

At the 10th Multilateral Meeting on Management of High Seas Fisheries in the North Pacific Ocean in Vancouver, Canada, 27 February-4 March 2010, the delegation of Japan presented information to the meeting regarding sightings of three vessels apparently bottom fishing on the high seas in the Northwest Pacific operating – two of which were flagged to countries (Curacao, Togo) that had not participated in previous meetings, including the meetings at which the Interim Measures for bottom fisheries were adopted.

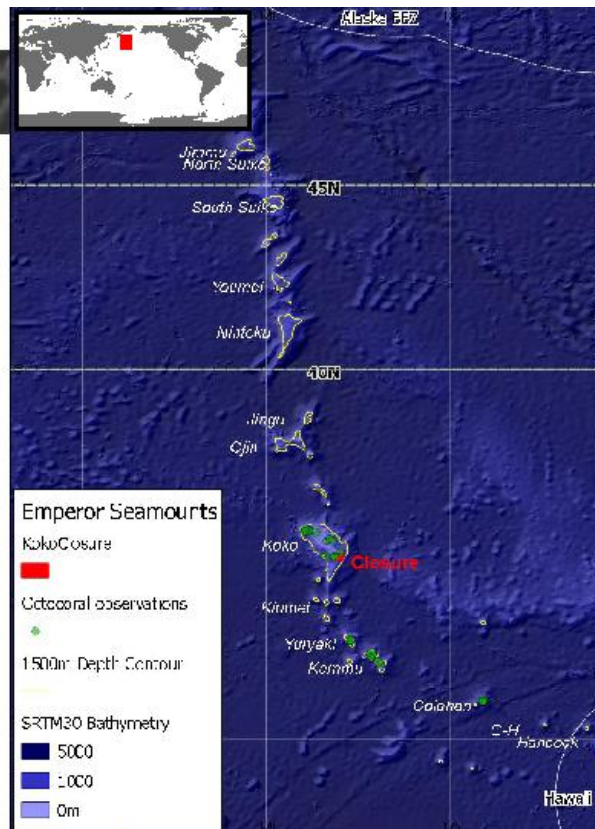
The Deep Sea Conservation Coalition made a request to the Trygg Mat Foundation, based in Norway, for information on the movements of the fishing vessel *Millennium*, flagged to Curacao. Amongst the findings of the Trygg Mat Foundation is that the vessel:

- * has apparently been renamed the *Northern Warrior* as of December 2011;
- * was apparently fishing in the vicinity of Koko Seamount in May 2011;
- * was apparently fishing in the international waters of the South Pacific between May and September 2011 and pulled into port in Suva, Fiji on several occasions;
- * transited the Panama Canal and spent approximately one month in port in Vigo Spain in November and December 2011;
- * Is currently operating in the vicinity of Angola and Namibia;
- * information on ownership and operation of the vessel indicates a possible connection with a vessel listed on the CCAMLR IUU vessel list.

A dossier on the *Millennium* prepared by the Trygg Mat Foundation is provided in Annex II. The information provided by Trygg Mat reinforces the need to ensure that regulators are able to track vessels even after change of name, flag and/or ownership. The DSCC recommends that the NPFC in the future require IMO numbers of all vessels authorized to fish in the NPFC convention would help the future work of the Commission in monitoring fishing activities in the area and ensuring compliance with management measures adopted by the Commission.

Emperor Seamounts

- Chain from West Hawaii to West Aleutian Islands
- Trawled for Alfonsin & Armourhead
- Japan fish below 45°N and down to 1500m
- Korea fish below 40°N
- Historically Koko was dredged for *Corallium*
- Other Octocorals are present



Octocorals

ZSL

- Octocorals are diverse (>2000 'deep' species)
- Can live beyond depths of 6000m
- Create coral garden habitats
- Part of vulnerable marine ecosystems
- Distribution data is difficult to find



Cruise CE10014 (RV Celtic Explorer, 18/4/10 - 11/5/10)

Habitat suitability of Octocorals



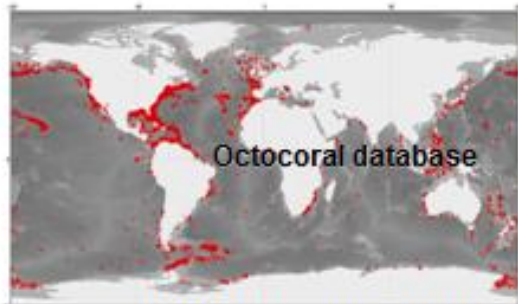
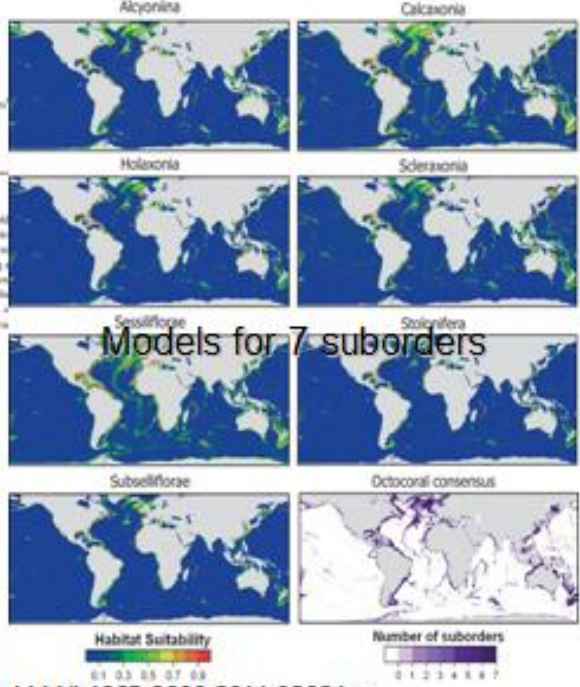
Journal of Biogeography 39, 2012, 1272-1282

ORIGINAL ARTICLE

Global habitat suitability of cold-water octocorals

Chris Travers¹, Michelle L. Taylor², Derek P. Townsend³, Andrew J. Davies⁴, John Guinotte⁵, Amy Bass⁶, Julia Black⁷, Jason M. Hall-Spencer⁸ and Alex D. Rogers¹

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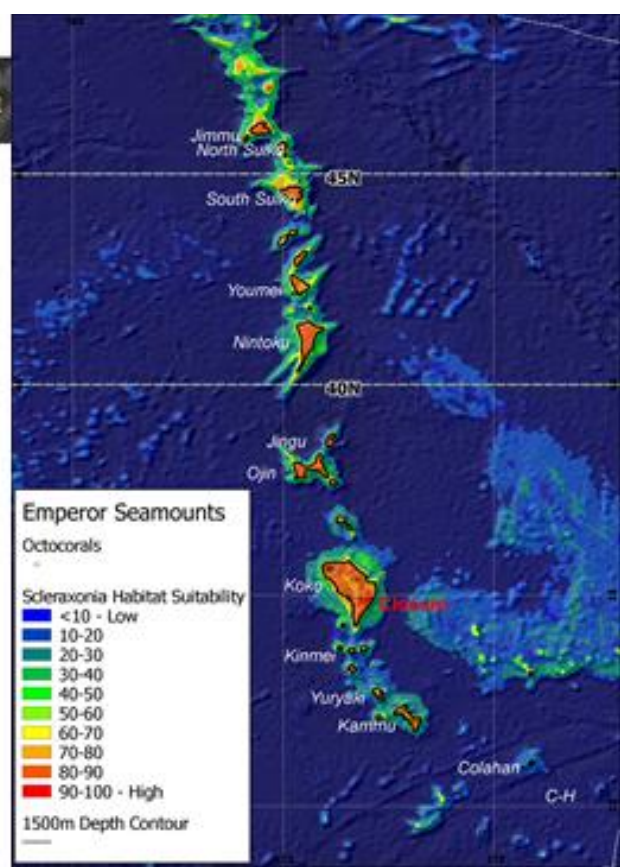
Yesson et al (2012) J. Biogeography doi:10.1111/j.1365-2699.2011.02681.x

Habitat suitability Scleraxonia

- Habitat suitability is very high for sub-order Scleraxonia (inc. *Corallium*)
- This is focussed towards the southern seamounts predominantly <1500m (fishing depths)



Corallium on Koko seamount (Fisheries Agency of Japan 2008 Assessment - Appendix H)

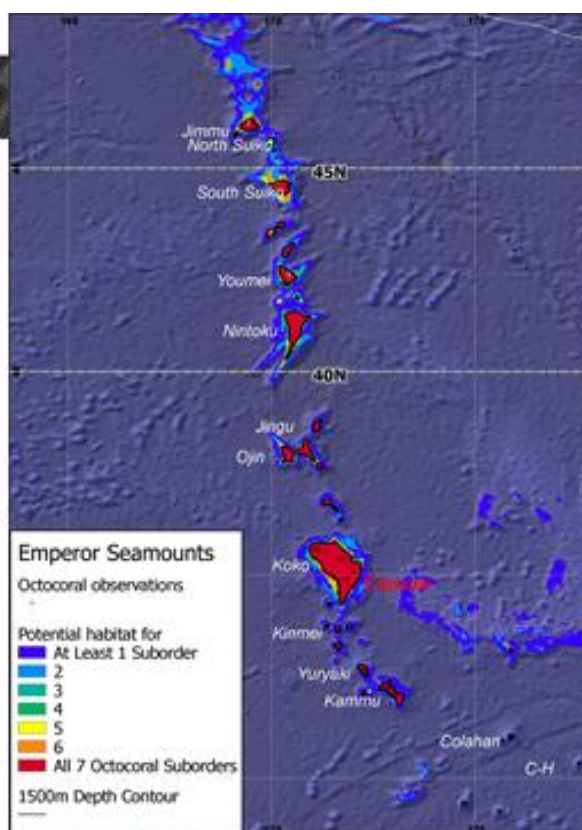


Habitat suitability Octocorallia

- Applying a threshold to each model we can produce presence / absence predictions
- All 7 sub-orders of Octocorallia could find suitable habitat



Suborder Holaxonia (left) and Calcaxonia (right) on Koko seamount (Fisheries Agency of Japan 2008 Assessment - Appendix H)



Conclusions

ZSL

- Habitat suitability models predict good conditions for Octocorals in the Emperor Seamount chain
- Potential habitat is shown to be best on the larger seamounts at fishable depths
- Note that these are global predictions of potential distribution based on environmental factors such as temperature, slope and calcite saturation state
- Local factors such as historical impacts are not included in the predictions

Slides by Chris Yesson of ZSL & CoralFISH

ANNEX II: Fishing Vessel *Millenium*

TRYGG MAT

TM Report

The Fishing Vessel Northern Warrior, formerly the Millennium.
 Suspected unregulated fishing on the high seas. Link to IUU listed vessel owners

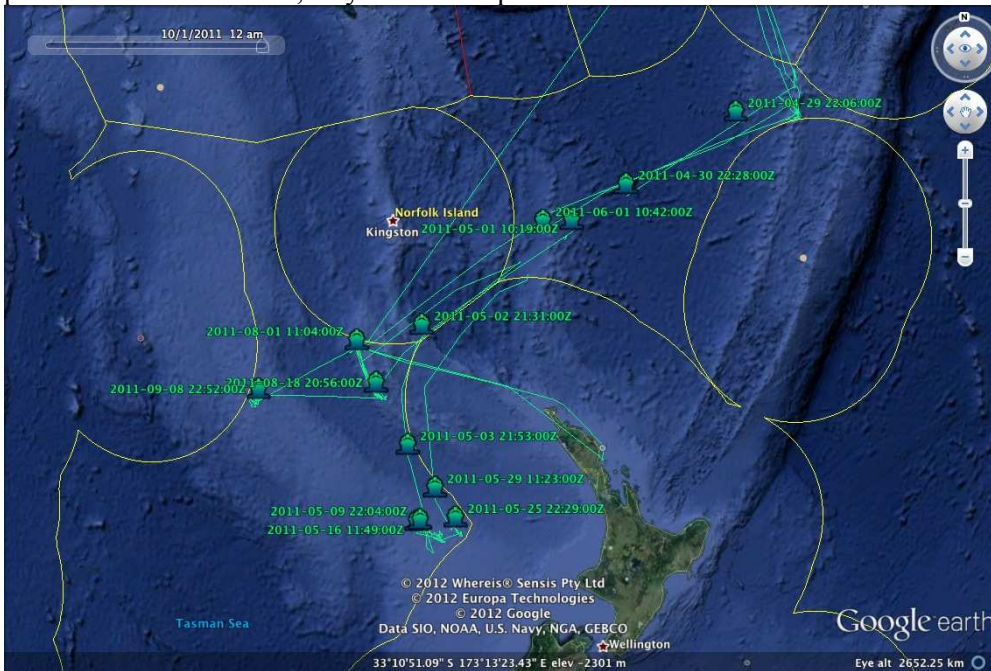
From: Gunnar Album
 Trygg Mat

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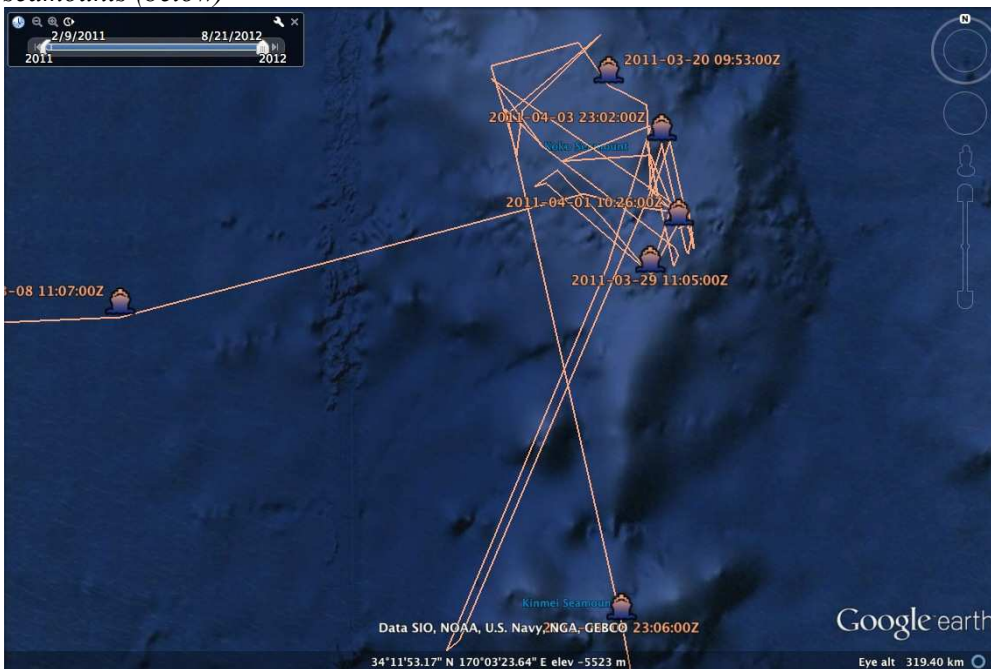
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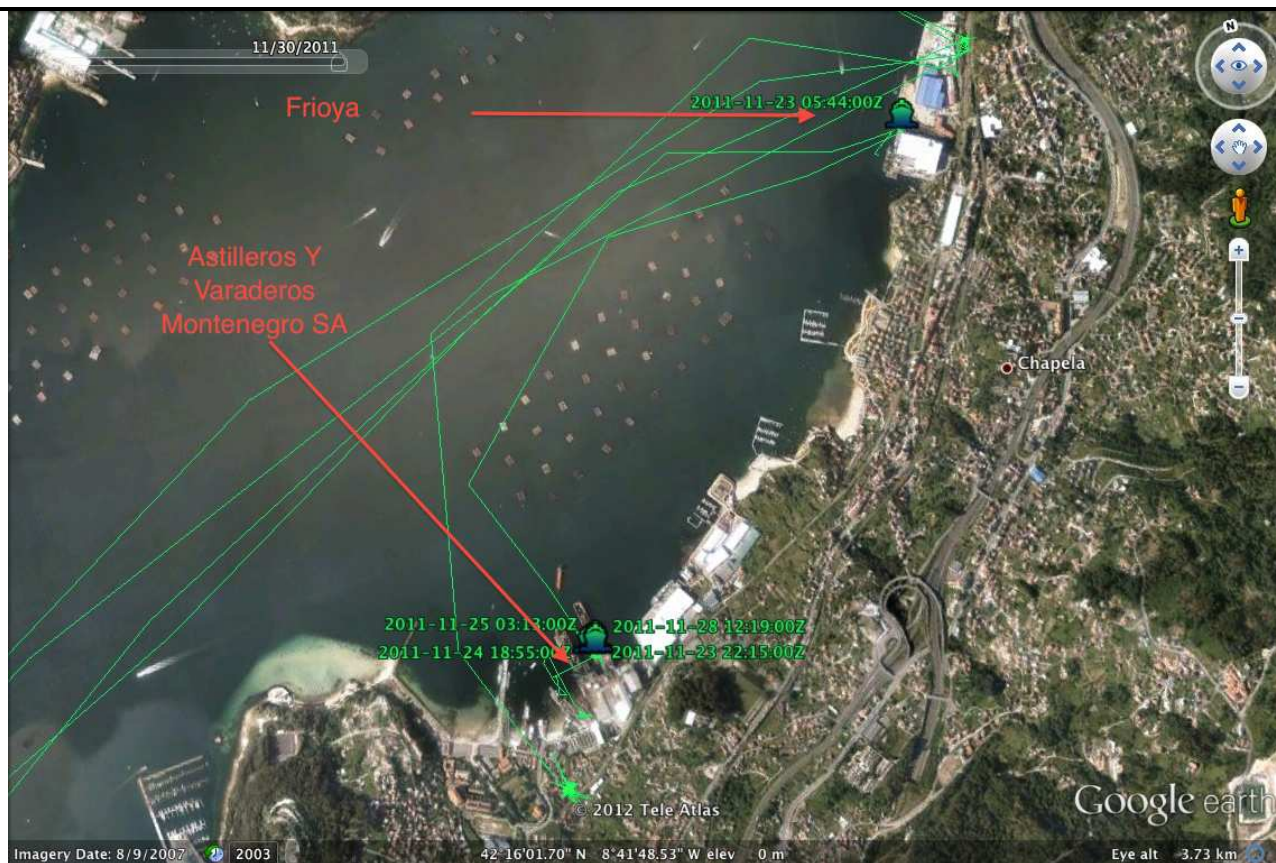
Vessel and Case

AIS tracks indicate fishing on the Koko Seamount in the North Pacific from March 8th to April 8th and in the waters between New Zealand, Australia and Fiji from May 4th to September 17th 2011. The vessel was in port in Suva on June 25th, July 11th and September 24th.

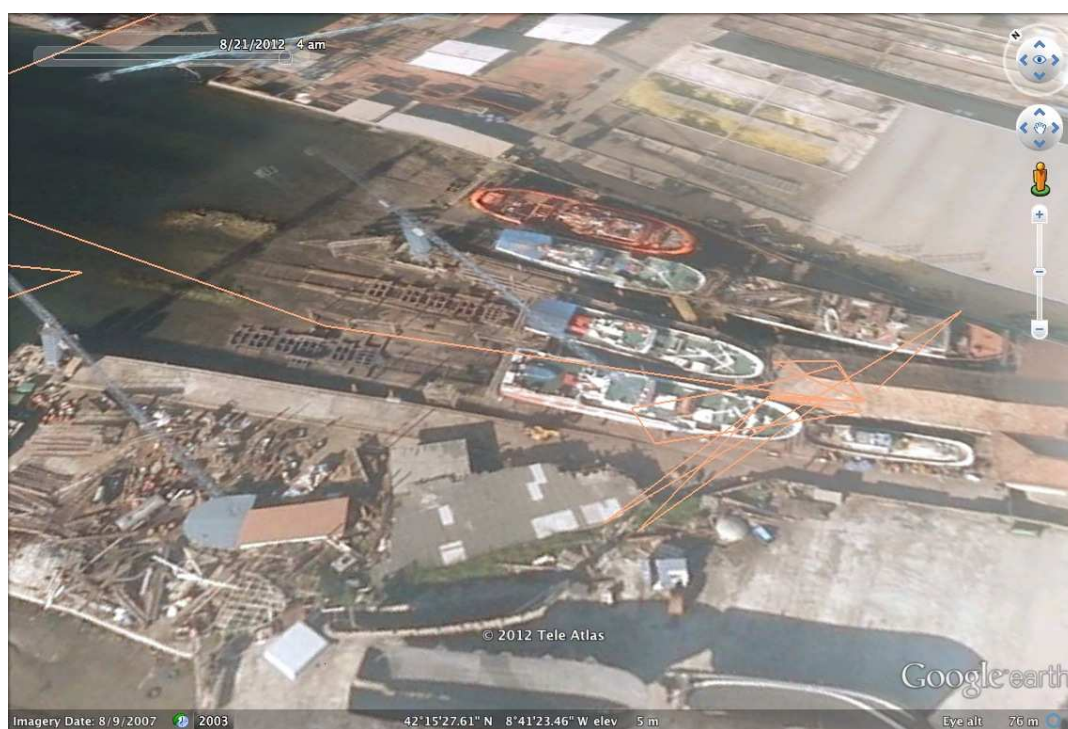


Operating in High Seas near New Zealand (above) and on the Koko Sea Mount in the North Pacific seamounts (below)

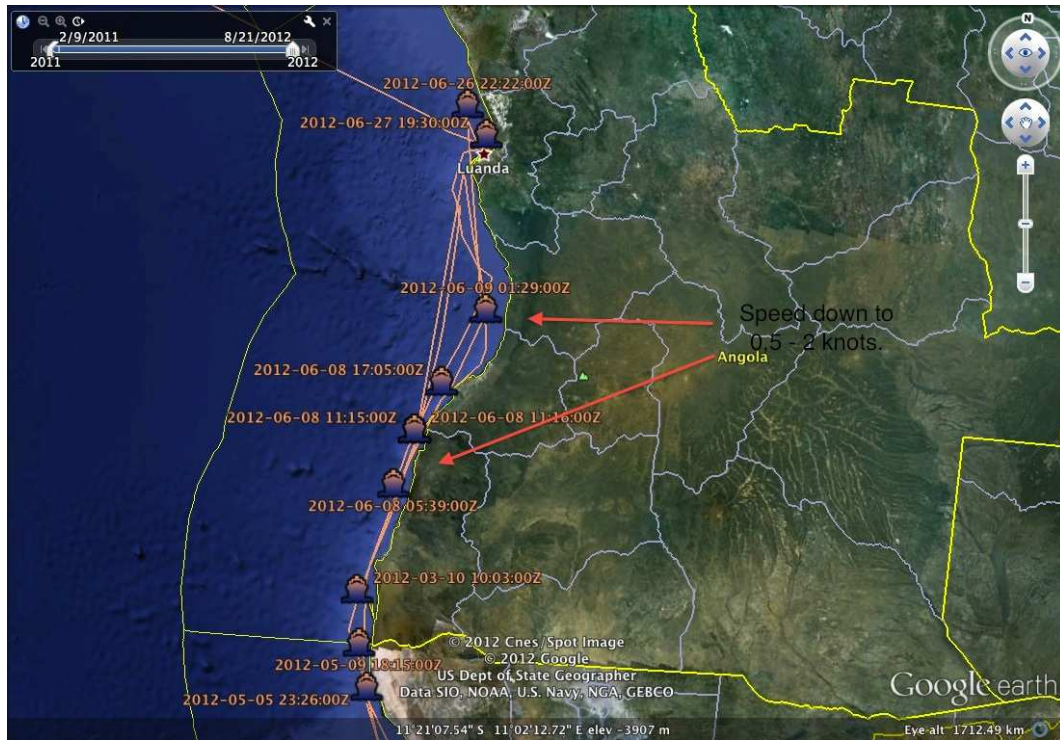




After the season in the Pacific, the vessel, still called Millennium, crossed the Pacific in October, went through Panama, crossed the Atlantic and arrived in Vigo November 21st. From November 23rd to December 14th, the vessel was in dock at Astilleros Y Varaderos Montenegro SA, Bajada a los Rios, 90, 36216 Vigo, Spain, phone +34 986 45 30 70 (picture below). Before and after the visit in the docks, the vessel was moored at Frioya. The vessel changed name to Northern Warrior end December and left Vigo December 28th.



Movements 2012



The vessel has moved up and down the Angolan and Namibian coast in May, June and July 2012. There are large gaps in the AIS signals, but at least for parts of this period the movements are more consistent with transport functions than with fishing. May 7th the Northern Warrior meets and apparently tranships with IUU listed vessel Seabull 22 in the Namibian EEZ.



Vessel Owner: South Atlantic Fishing NV, Curacao

IMO: 8808903, RCS: PJSA, MMSI: 306031000 FLAG: Curacao

Picture: Northern Warrior (then Millennium) in Vigo November 2011



Current name:
Northern
Warrior

Commercial History (Sea-web):

Date	Name	Flag	Group Owner	Operator	Manager	Registered Owner
2012-01	NORTHERN WARRIOR					
2010-10		Curacao				
2010-06				South Atlantic Fishing NV	South Atlantic Fishing NV	South Atlantic Fishing NV
2010-05		Netherlands Antilles				
2000-06		South Africa				
2000-01	Millennium					
2000-00				Southern Trading Group	Southern Trading Group	Snoek Wholesalers
1999-11				Unknown	Unknown	Dominguez/Martinez
1998-04		Belize		Areapesca SA	Areapesca SA	Areapesca SA
1990-00	SIP 3					
1989-06			Unknow			
Not recorded		Morocco		SIP	SIP	SIP

Sources:
AIS (several)
IHSF

Quality of the information sources:
Normally acceptable, but cannot be trusted 100%

Description of sources:

- AIS data is transmitted from the vessel through the VHF radio. The signals are picked up by satellites and can be used to produce tracks of the vessel movements.
- Vessel owner information is taken from IHS Fairplay on www.sea-web.com
- The pictures are from www.shipspotting.com and from private source in Walvis Bay

Discussion:

The Northern Warrior, previously Millennium was observed in fishing in international waters in the North Pacific in 2011. AIS tracks support this observation and indicate that the vessel later fished in international waters between New Zealand, Australia and Fiji. In this period the vessel visited port in Suva (Fiji) several times. The vessel has been registered in Belize and later Curacao since 1998.

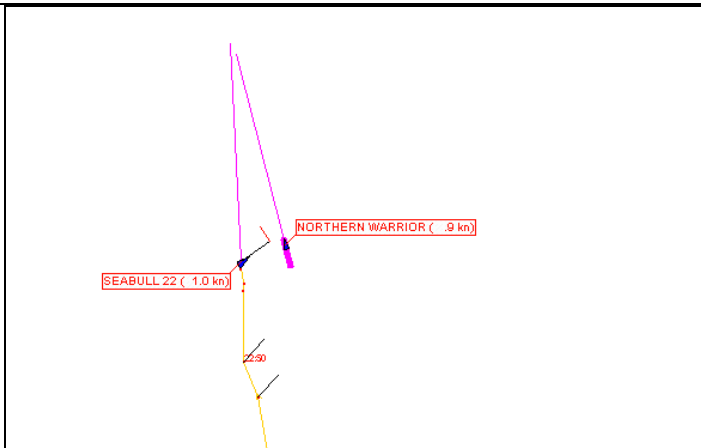
Both AIS tracks and a picture at www.shipspotting.com show that the vessel was in Vigo in November and December 2011 and that she spent time at the shipyard “*Astilleros Y Varaderos Montenegro SA*”. The vessel’s AIS tracks for 2012 show that she arrived in Luanda from Vigo mid-January and operated in the Angola zone in the rest of January. There are no signals from February, only one for March, and none from April. In May the vessel made one trip down the Namibian coast before turning back North and into Angola where she operated all of June and the beginning of July. She arrived in Walvis Bay July 11th.

The Northern Warrior was operated by Southern Trading Group from 2000 to 2010. Southern Trading Group, (PO Box 664, Beach Road, Sea Point, Cape Town, 8060, South Africa. Phone +27 21 439 6046) is the former owner of CCAMLR IUU listed vessel Sibley (IMO 7930034), which sank off Kenya in 2008. The company still owns the Antares Prima (IMO 8222288) under South African flag. Northern Warrior and Antares Prima are currently moored up together at the pier of Tunacor Fisheries Ltd in Walvis Bay, indicating links between the vessels.



Northern Warrior and Antares Prima at Tunacor Fisheries Ltd pier end of August 2012.

The former owner of Antares Prima is Capensis, owner of CCAMLR IUU listed vessel Seabull 22 (IMO 6803961). May 7th Northern Warrior meets the Seabull 22 at S 25°03.60' E 014°15.83' in the Namibian EEZ (see below)



Both the Northern Warrior and Seabull 22 entered the Angolan EEZ after this meeting. The Seabull 22 AIS signals end May 15th near Luanda, but the vessel was later observed and photographed by sports fishers with the new name Itziar II. (www.tryggmat.no)



Seabull 22, now Itziar II fishing in Angola June 2012



According to sports fishers who took these pictures, the Itziar II was gillnetting on seamounts at 100-200 meters depth.

Recommendations:

- Namibia should inspect the vessel to establish she has fished in Namibia waters and/or in the SEAFO Regulatory Area.
- This inspection should also aim to establish if there are links between the Flag of Convenience vessels Northern Warrior, the IUU listed vessel Seabull 22 (now Itziar II) and the South Africa flagged Antares Prima.
- Namibia should request licensing information from Angola and inform Angola of any indications of links between the Northern Warrior and the IUU-listed Seabull 22. In addition to common ownership and operation, the non-IUU listed vessel may be used to land fish from the IUU listed vessel and to refuel or provide other services for the IUU listed vessel.