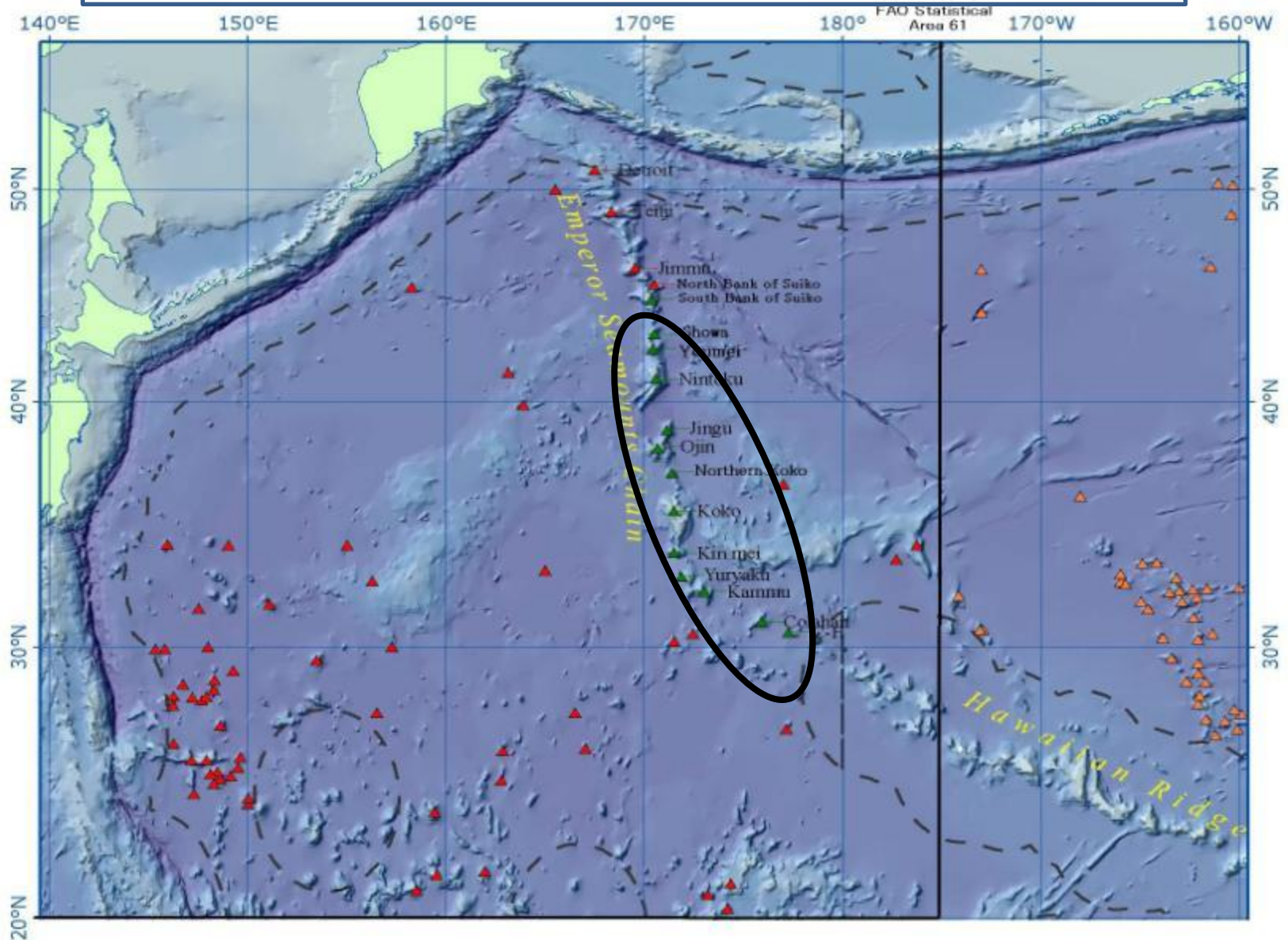


Overview of Interim Measures taken by NPFC to protect VMEs and sustainably use deep sea fish stocks

Hitoshi Honda
Representative of the NPFC

Major Bottom Fishing Ground in the North Pacific



Interim measures were established for the Northwest Pacific Ocean in 2006:

- (1) Freeze of fishing effort at the existing level
- (2) No bottom fisheries expansion into new areas, especially north of 45 N
- (3) Move more than 5 miles in case of encounter with VMEs

Interim measures were established for the Northeast Pacific Ocean in 2011:

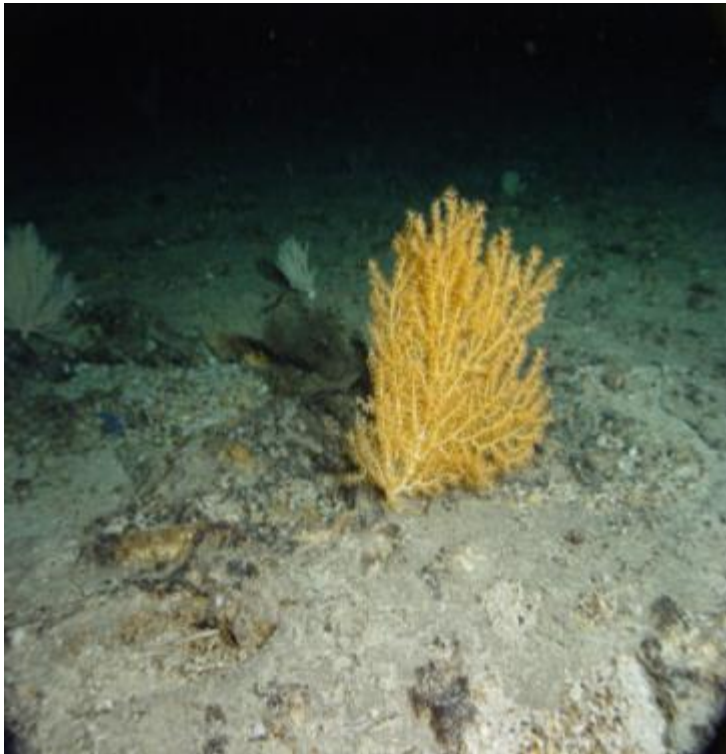
(1) ensure that no vessels engage in bottom fishing until assessments have been carried out and, where appropriate, management measures have been implemented

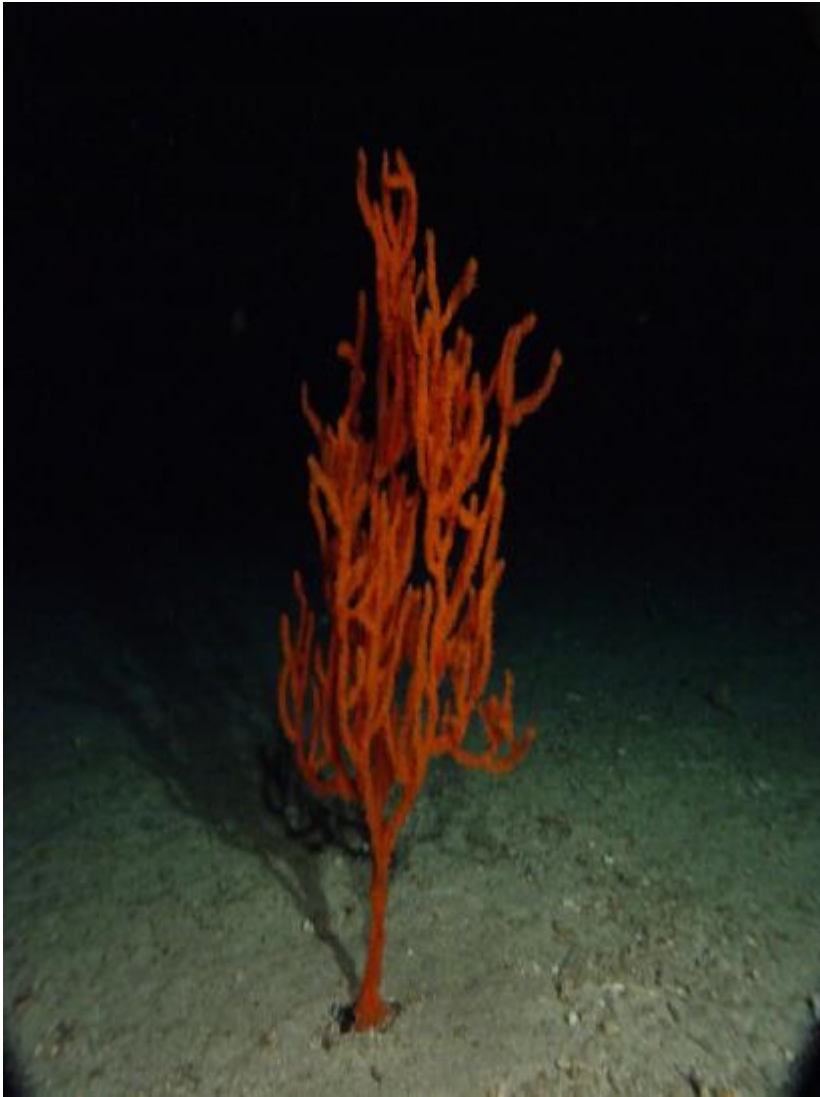
(2) prohibit direct fishing on the following orders: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia*

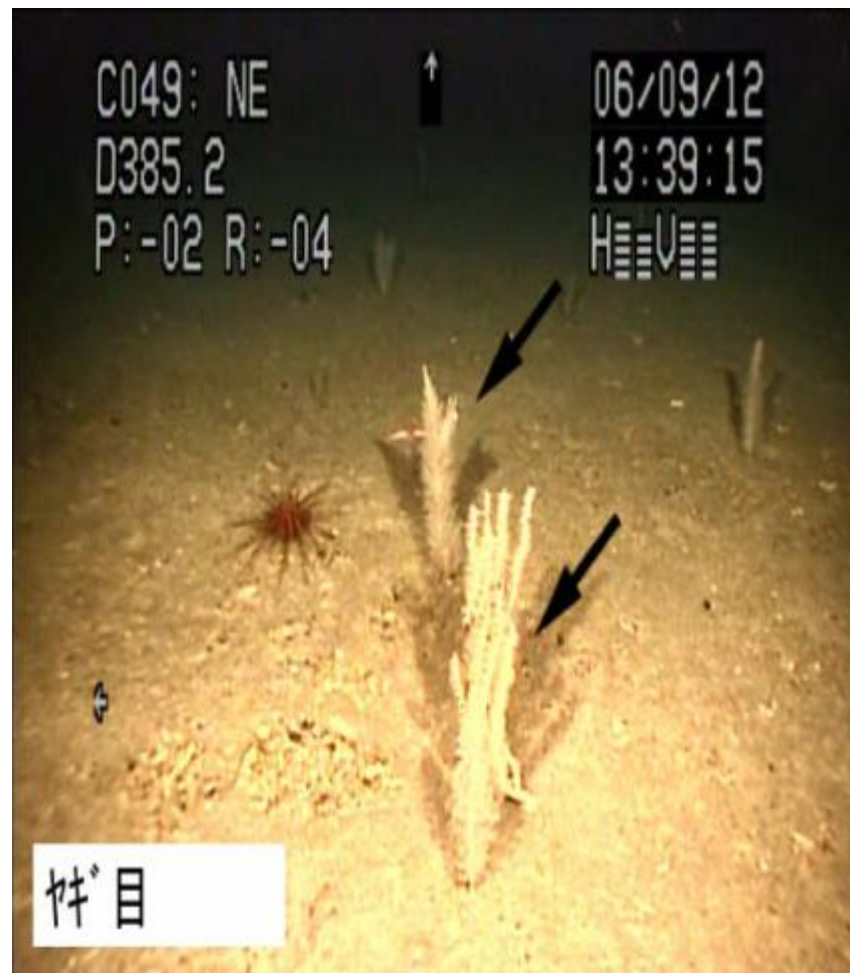
(3) close area to bottom fishing where VMEs are known to occur or likely to occur based on the best scientific information

ROV research results

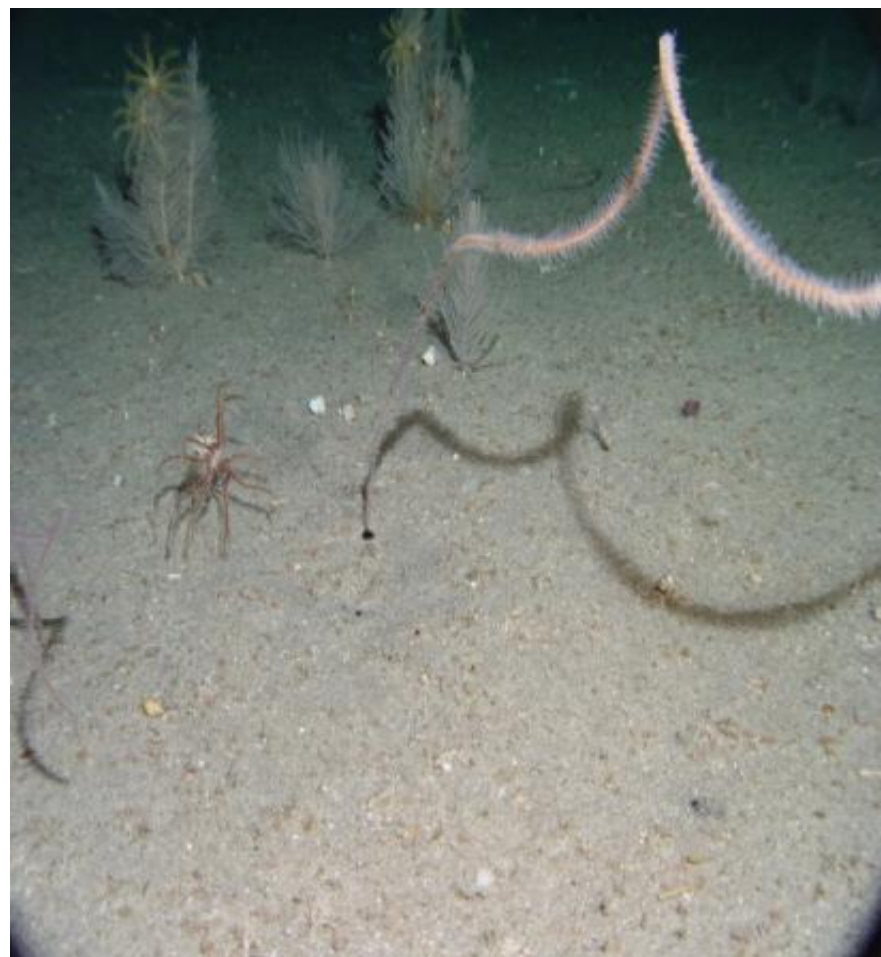
- In 2006, the Government of Japan conducted research by using ROV at 16 points in the Emperor Seamount Area. The results of the research were presented to the NPFC Scientific Working Group.
- In many cases, distribution of corals was sporadic.



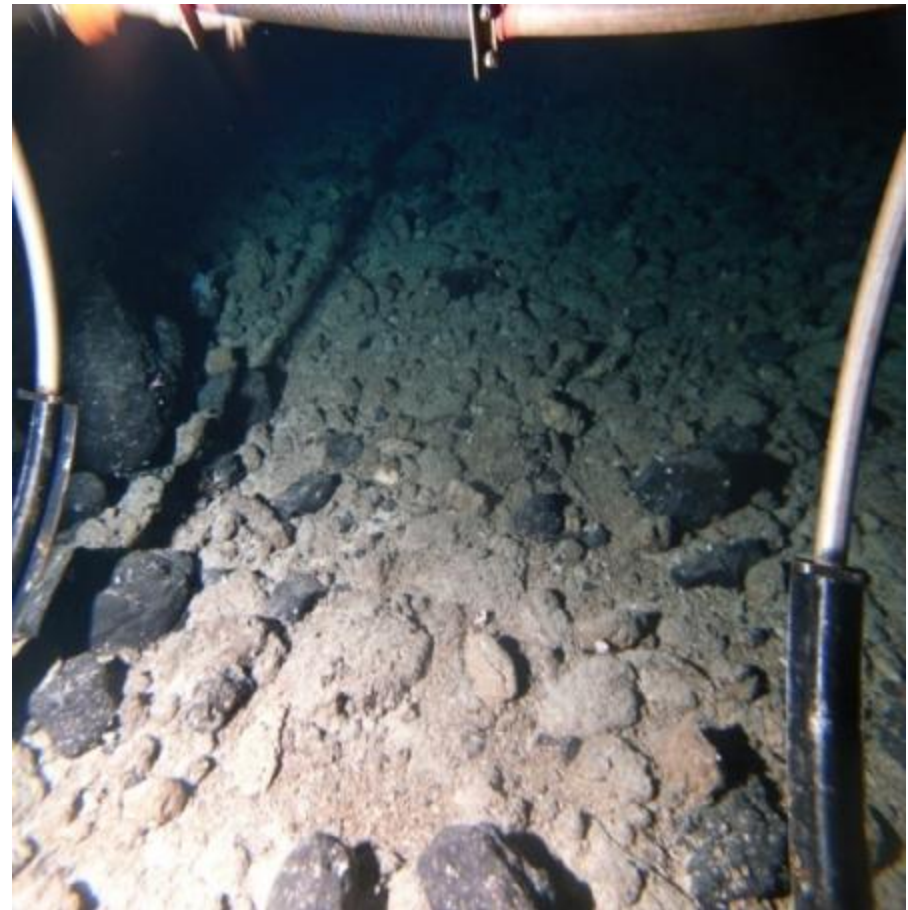
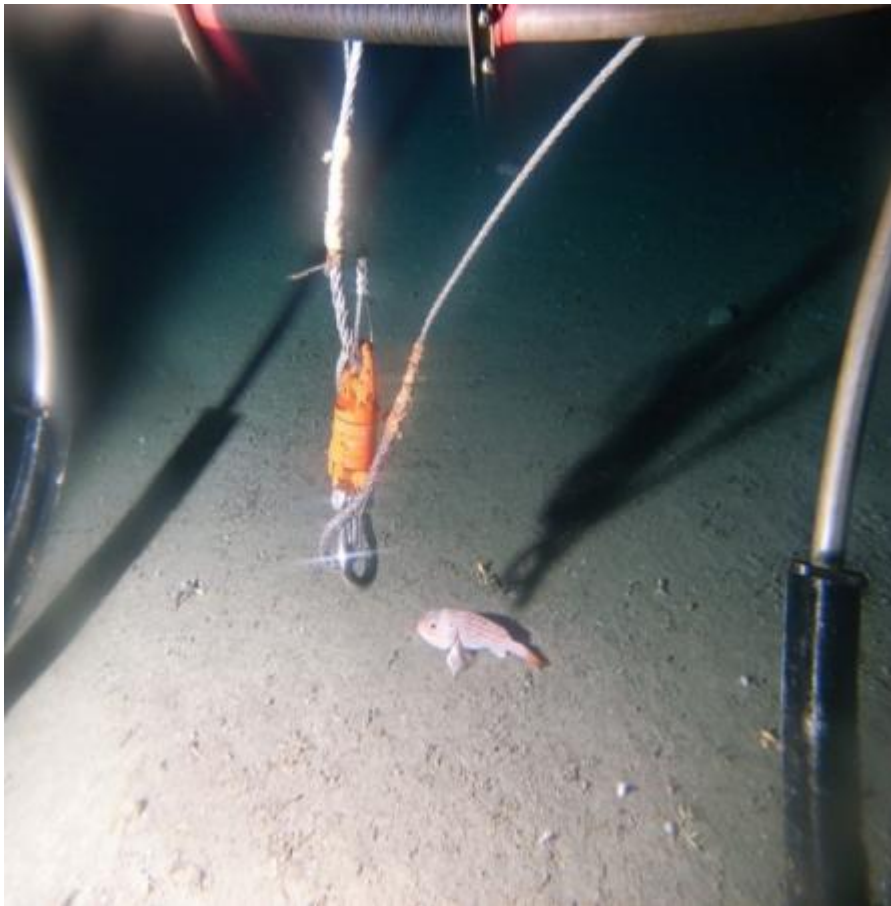




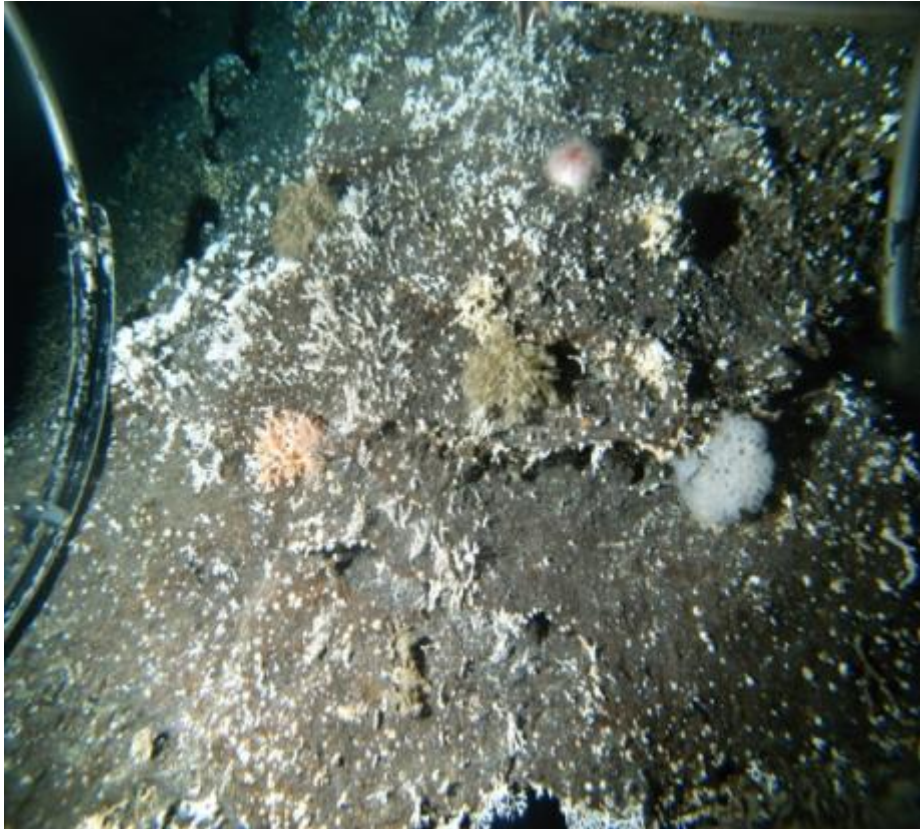




In order to assess whether sporadic distribution of corals in existing fishing ground is due to fishing activities, a drop camera survey was conducted in non fishing ground in 2008.



The results indicate no big difference between fishing ground and non fishing ground.



- Assessment was also made on whether there used to be VMEs in the area.
- Coral drag fisheries were conducted in the area until 1980s to harvest precious corals (*Corallium* spp.).
- The total amount of precious coral harvested in the area was about 2000 MT.
- This might indicate existence of VMEs in the past.



Stock assessment of deep sea fish stocks (2008)

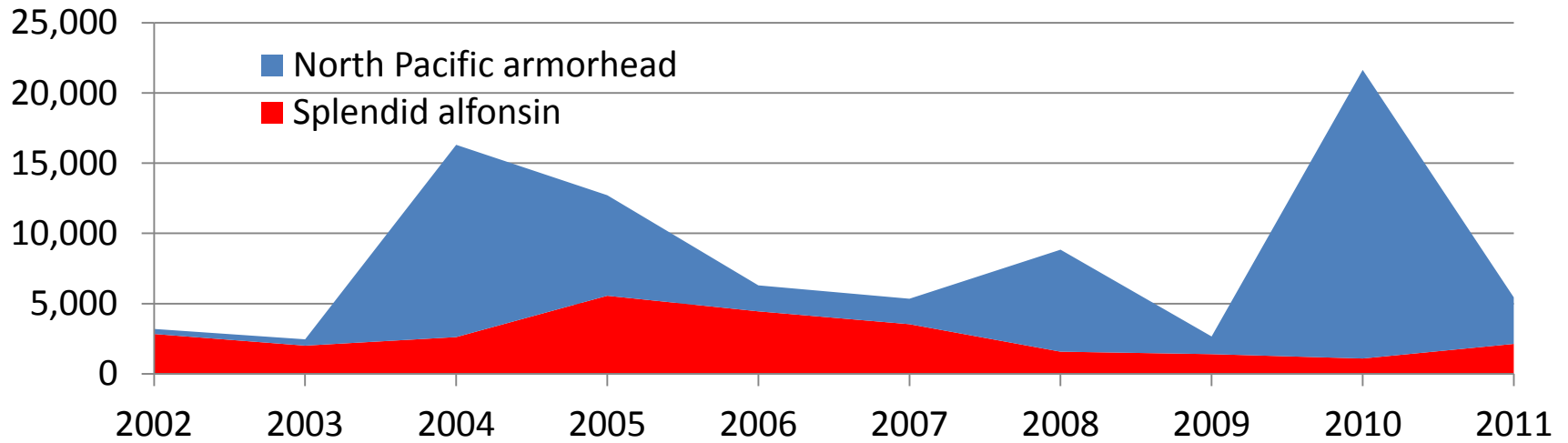


Splendid alfonsin
(*Beryx splendens*)



North Pacific armorhead
(*Pseudopentaceros*
***wheeleri*)**

Recent Catch (in MT)



Splendid alfonsin

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Japan	2,563	2,005	2,597	4,119	4,031	3,207	1,444	1,309	1,001	2,094
Korea	0	0	16	513	289	325	121	83	87	34
Russia	272	0	0	926	127	0	10	6	0	0
USA	0	0	0	0	0	0	0	0	0	0

North Pacific armorhead

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Japan	209	449	13,510	6,297	1,612	1,723	6,372	1,086	17,154	2,785
Korea	0	0	185	141	139	89	892	174	3,401	532
Russia	150	0	0	722	98	0	0	0	0	0
USA	0	0	0	0	0	0	0	0	0	0

Splendid alfonsin

It was suggested that fishing mortality should be reduced by 20 to 28% based on the stock assessment in 2008.

North Pacific armorhead

- Normal management standard such as F_{MSY} cannot be applied to this species due to its episodic recruitment.
- It was suggested that in addition to 20 to 28 % reduction of fishing mortality, closed seasons for protecting spawning stocks as well as adaptive management should be introduced.
- A workshop was held in March 2012 to investigate better stock assessment methods for this species and concluded that further investigation was needed to improve them.

Based on the impact assessment and stock assessment in 2008, additional interim measures were introduced by fishing members (but not adopted):

- Closed area in Koko seamount for protection of possible VMEs (broader area proposed by US)
- Reduction of fishing effort:
Japan 20%, Korea 25%, Russia 24%
- Closure during spawning season of armorhead:
Japan and Russia Nov. – Dec., Korea Oct. – Dec.
- Closure of seamount for protection of armorhead
C-H seamount: Japan and Korea
Colahan seamount: US proposal

Thank you

Any questions are welcome.