



Climate Change and Biodiversity Conservation from the Perspective of the Ocean

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Conservation of coastal biodiversity in Japan

- Traditionally, local people have been protecting local coastal ecosystem and managing fishery resources.
- *Satoumi* is defined as “Coastal areas where high productivity and biodiversity conservation are achieved through human intervention in harmony with natural ecosystems”.
- Almost all of satoumi activities are conducted in MPAs, so these are not “OECM” by definition.

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Outline of the Survey

Questions

- How have Japan's Satoumi activities, which attracted attention at COP10, been continued?
- Has the biodiversity and productivity of the Satoumi actually been maintained or improved by the Satoumi activities?
- What are the factors that contribute to the success of Satoumi activities?

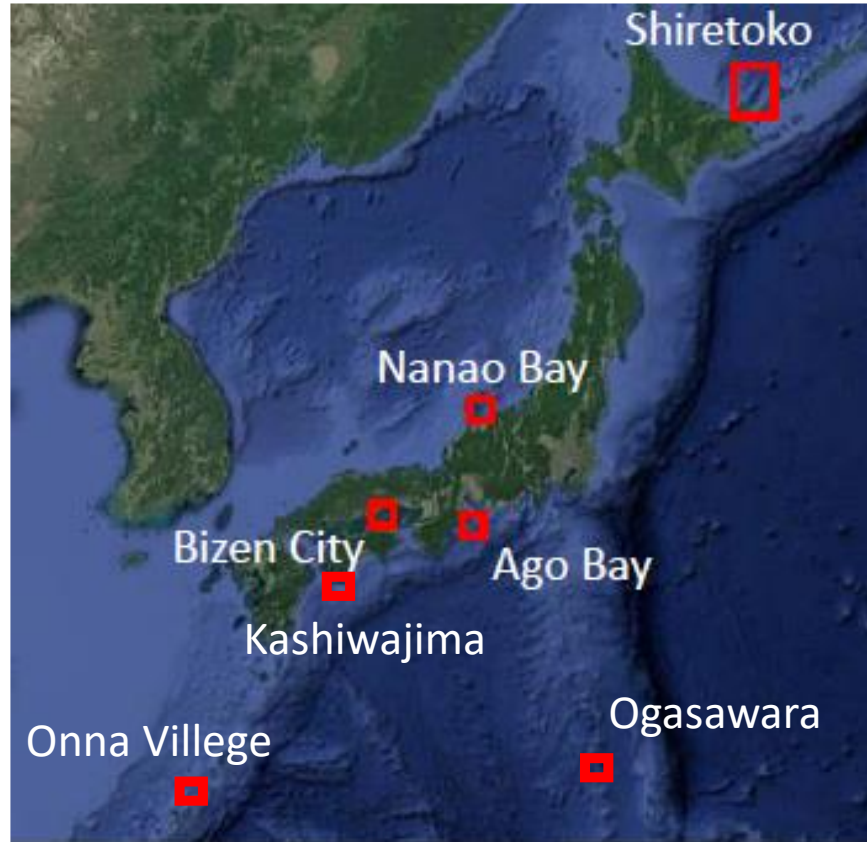
Objectives

- Verify with data how the Satoumi approach is effective in conserving biodiversity and ecosystem services.
- Contribute to the discussion on the Post-2020 Global Biodiversity Framework

Methods

- Literature review (verification using quantitative data such as fishery statistics)
- Interview survey (online and in-person)

Study Sites

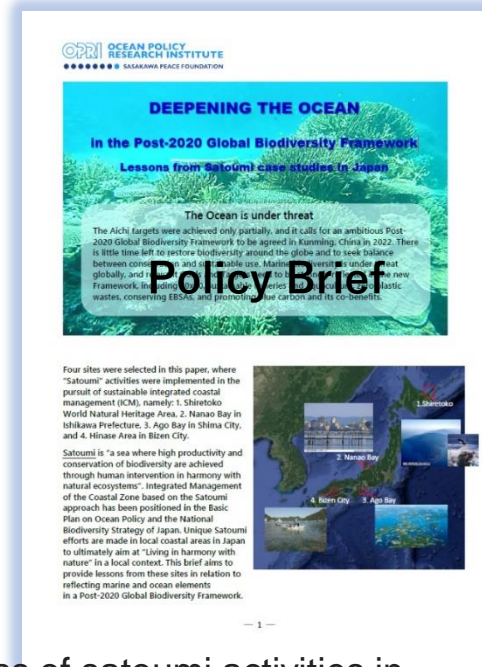


Key Findings

- At 3 sites, biodiversity increased (at least locally) as a result of successful ecosystem restoration (tidal flat, eelgrass bed, and coral reef)
- At Shiretoko World Heritage Site, maintaining existing biodiversity can be considered as a success.
- In other sites, the effect on biodiversity was not clear, but there were positive socio-economic effects (such as increased awareness, sustainable tourism practices, contribution to local economy, mainstreaming satoumi in local policy).

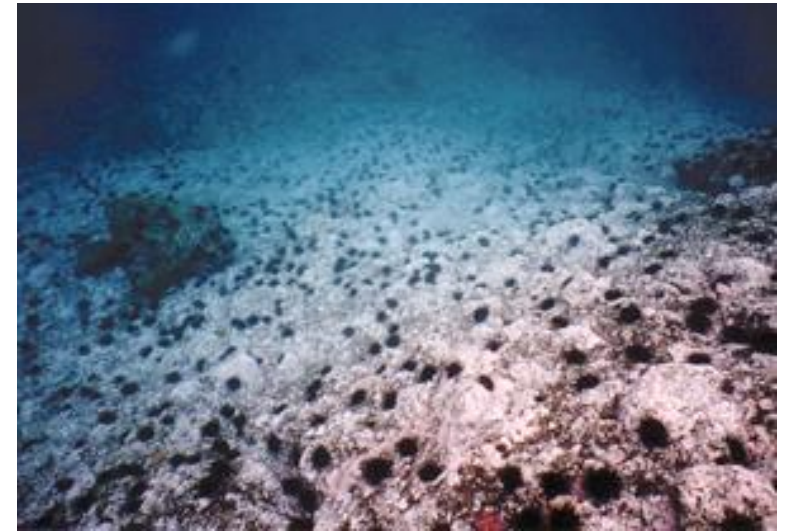


Toyoshima, J. et al. "Assessing effectiveness of satoumi activities in Japanese coastal areas from ecological and socioeconomic perspectives." *Ocean & Coastal Management* 230 (2022): 106354.

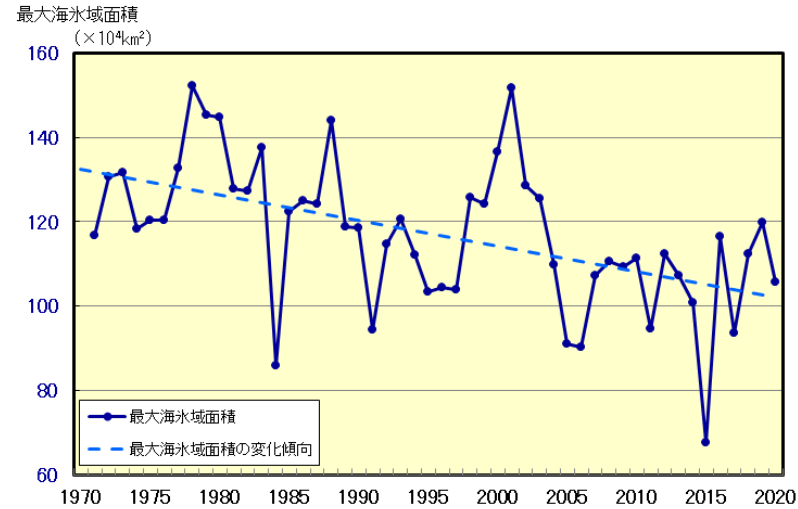


Impacts of Climate Change in Japanese Coastal Areas

1. Change in fish species composition and seasonality
2. Impacts on aquaculture production
3. Degradation (desertification) of coastal ecosystems :
Isoyake

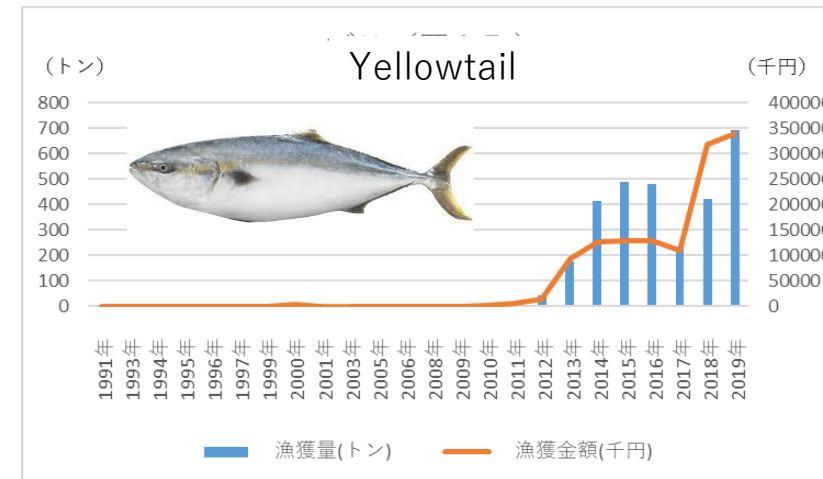
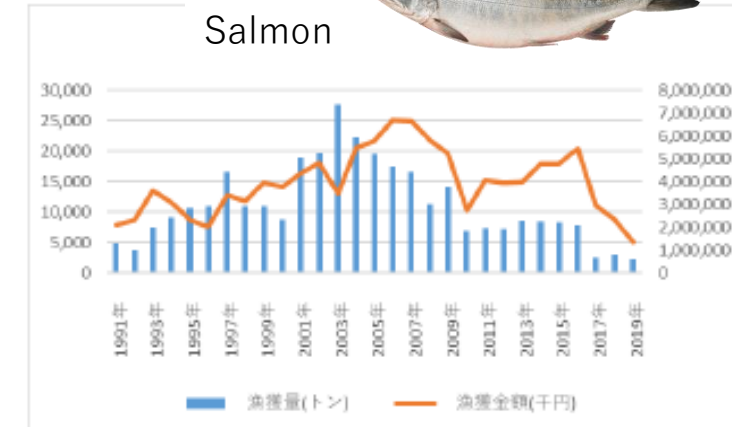
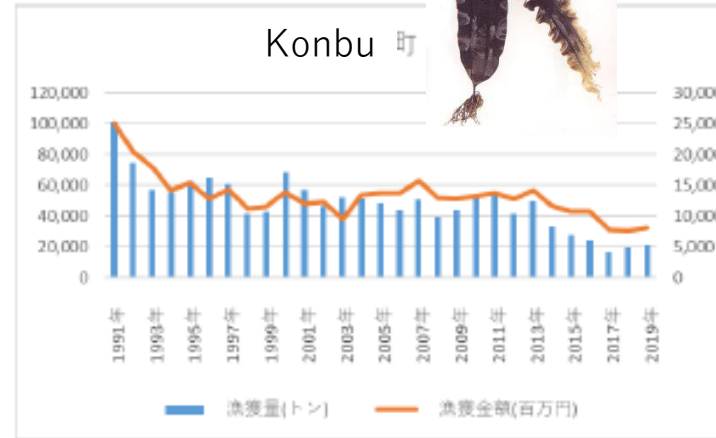


Case of Shiretoko



Change in the maximum ice-covered area in the Sea of Okhotsk
(Source: Japan Meteorological Agency)

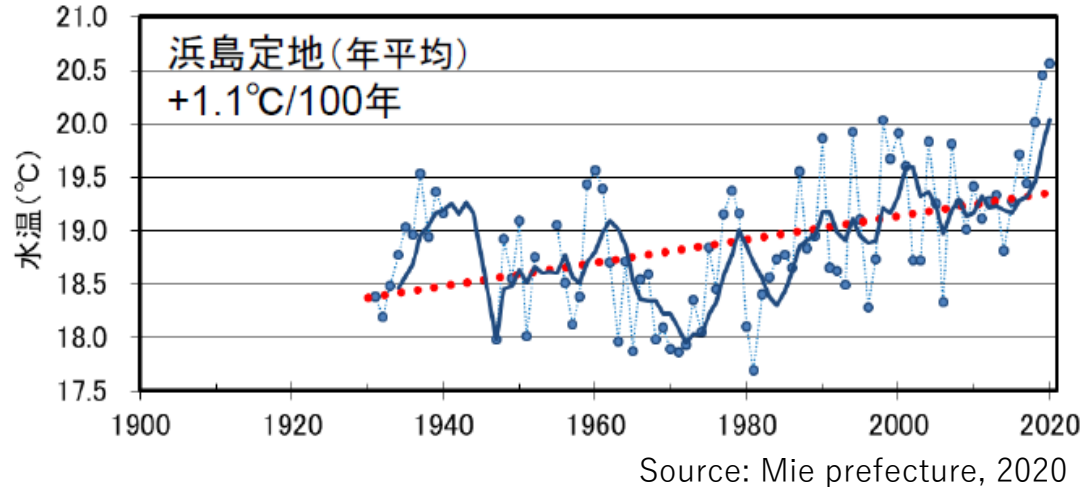
- Global warming has caused decreased ice-covered area in the Sea of Okhotsk. (10% reduction over 30 years)
- It is suspected this receding ice-cover is the cause of decreased *Konbu* production and salmon catch.



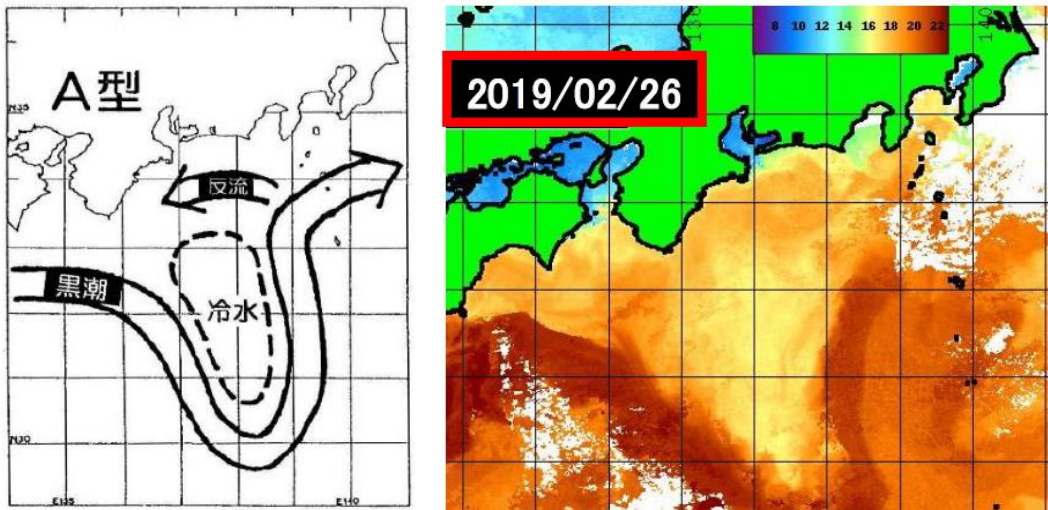
Catch of Konbu, Salmon, and Yellowtail in Rausu Town
(Source: Hokkaido Prefecture)

Case of Ago Bay

Sea water temperature rise



Kuroshio Meandering

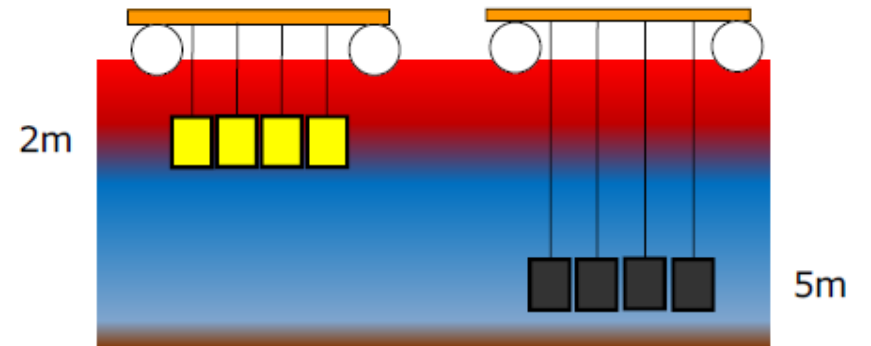


Impacts

- Reduction of eel grass beds
- Mass mortality of cultured pearl oysters

Adaptation

- Development of new aquaculture methods



Degradation of Coastal Ecosystems (Isoyake)



Source: Fisheries Agency of Japan

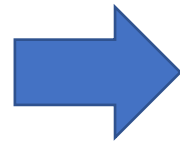
- Isoyake is widespread in Japanese coasts.
- Major causes of Isoyake are thought to be:
 - Sea water temperature rise
 - Outbreak of herbivorous fish and sea urchins



Source: Kanagawa Prefecture

Discussion & Suggestion

- Climate change has already notable impacts on coastal ecosystems in Japan, and it will continue to increase.
- Not enough scientific research is conducted on the impacts of climate change.



- Knowledge management and sharing
 - Citizen science, including fishers
- Enhance Restoration of blue carbon ecosystems
 - Restoration of blue carbon ecosystems is good for both adaptation and mitigation of climate change.

UNFCCC COP27 in 2022

Decision -/CP.27

Sharm el-Sheikh Implementation Plan

XIII. Ocean

- Welcomes the outcomes of and key messages from **the ocean and climate change dialogue in 2022** and decides that future dialogues will, from 2023, be facilitated by two co-facilitators, selected by Parties biennially, who will be responsible for deciding the topics for and conducting the dialogue...; (para.45)
- Encourages Parties to consider, as appropriate, **ocean-based action in their national climate goals** and in the implementation of these goals, including but not limited to **nationally determined contributions, long-term strategies and adaptation communications**; (para.46)

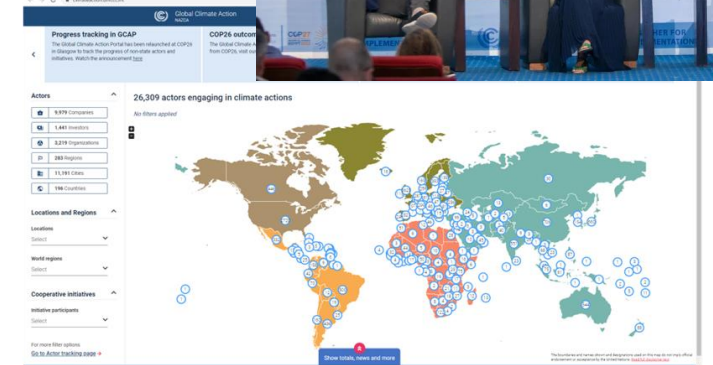
Ocean actions under UNFCCC:

- Mitigation via NDCs
- National GHG Inventories (including blue carbon)
- Adaptation and Resilience: National Adaptation Plans, Nairobi Work Programme, Warsaw International Mechanisms, Funding arrangement for Loss & Damage, Sharm-El-Sheikh Adaptation Agenda
- Oceans and coastal zones under Marrakech Partnership (Ocean Action Day, Race to Zero and Resilience, NAZCA database)
- The Ocean Pavilion (on site and virtual), Blue Carbon Initiative
- Around 177 ocean-related side events organized



Live illustrations
by Paolo Masiero,
Housatonic

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Matthew TenBruggencate



Let's Change the Tide!

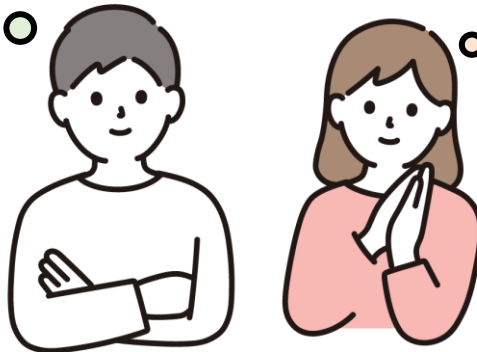
Towards mainstreaming ocean in CBD

Coordination with other relevant Conventions and International platforms?

How about "Blue" CBD-COP?

Capacity building opportunities for the youth?

Form a strong alliance group?



Need more marine experts in CBD Secretariat?



Thank you for your attention!

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