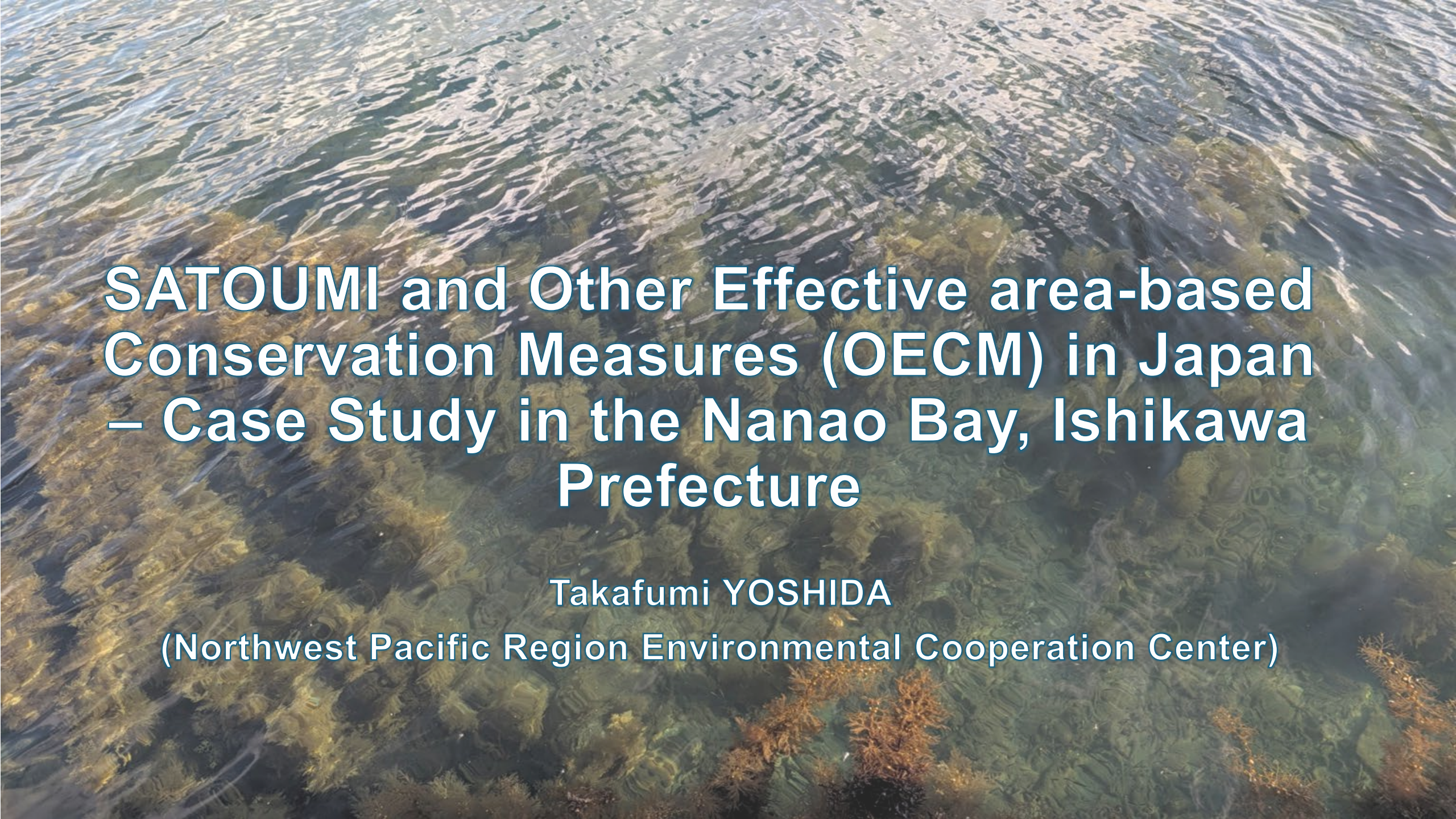

SATOUMI and Other Effective area-based Conservation Measures (OECM) in Japan – Case Study in the Nanao Bay, Ishikawa Prefecture

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Kunming-Montreal Global Biodiversity Framework (GBF)

- The GBF was adopted at the 15th meeting of the Conference of the Parties (COP15)
- It consists of four long-term goals for 2050 and 23 targets to be achieved by 2030
- Target 3: “30by30” - Conserve 30% of Land, Waters and Seas

At least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories.

SATOUMI and OECM

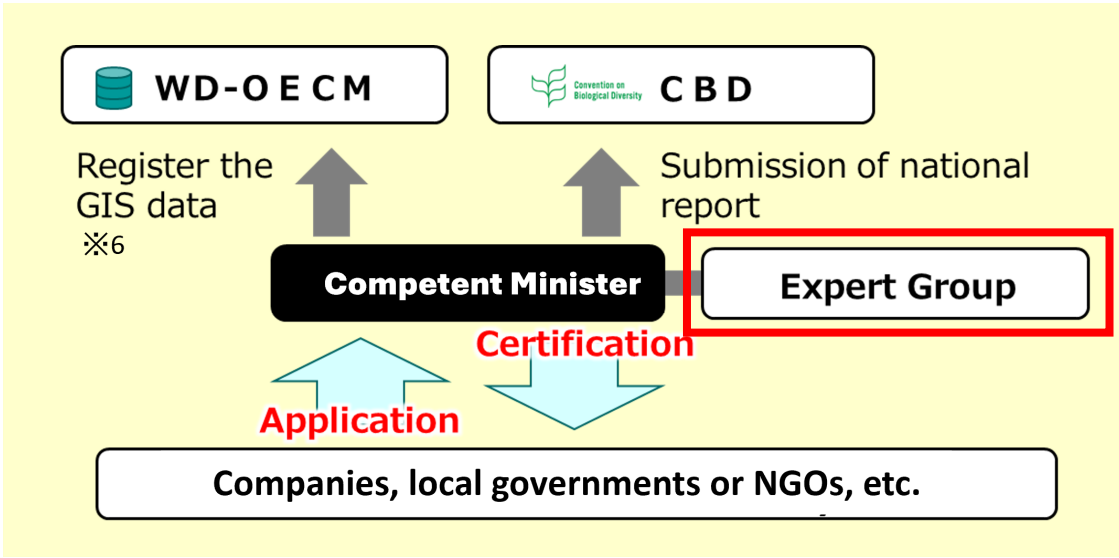
Ministry of Environment (MoE), Japan promotes “SATOUMI creation” to conserve marine environment and biodiversity, while strengthening human networks that sustain local environment and cultures.

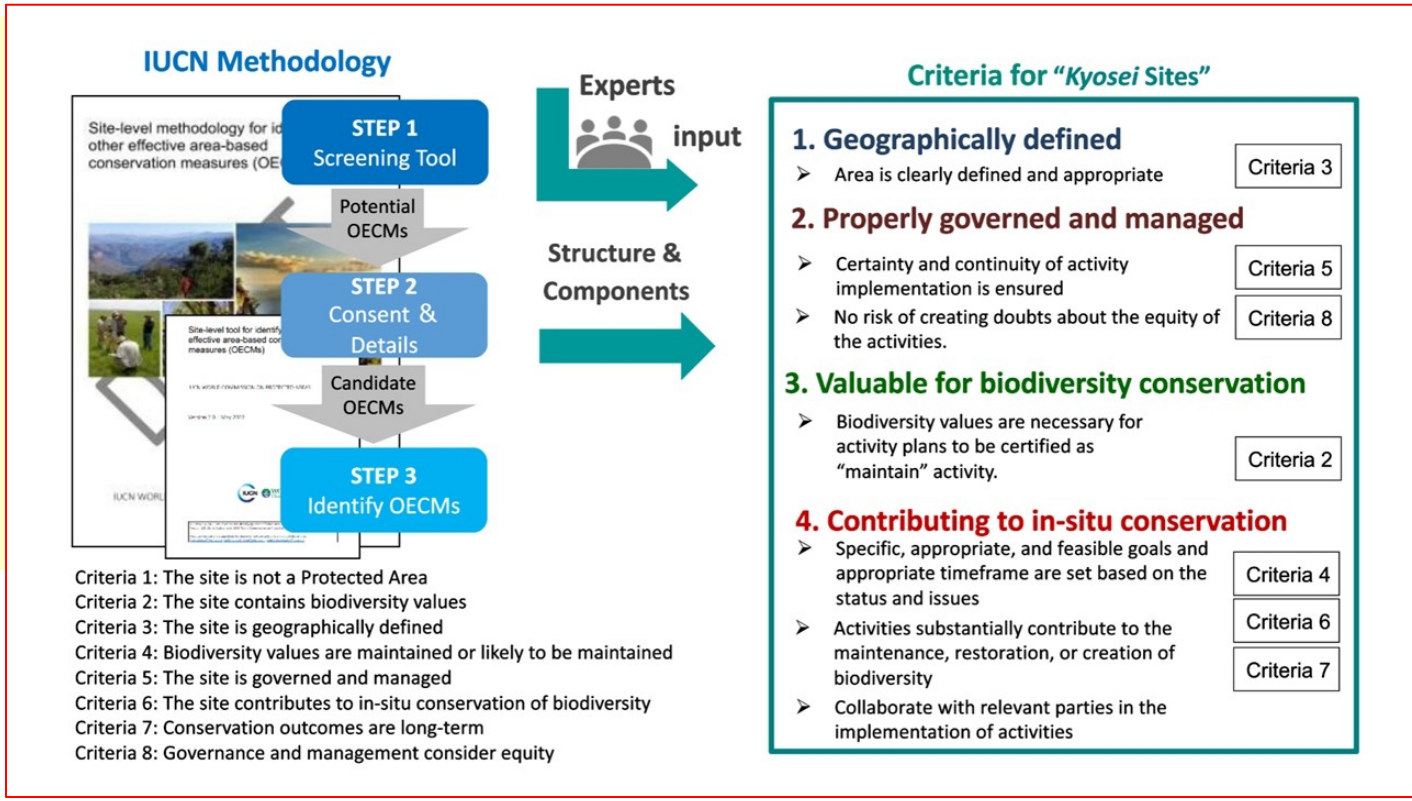
“SATOUMI” refers to coastal area where biological productivity and biodiversity are enhanced through human interaction.

To achieve the 30by30 target, MoE introduced a flexible OECM scheme: Nationally Certified Sustainably Managed Natural Sites (“*Kyosei Sites”*), which expands opportunities for participation by a wide range of stakeholders.

SATOUMI initiatives are utilized as *Kyosei Sites* in the coastal area.

Nationally Certified Sustainably Managed Natural Sites (*Kyosei Sites*)





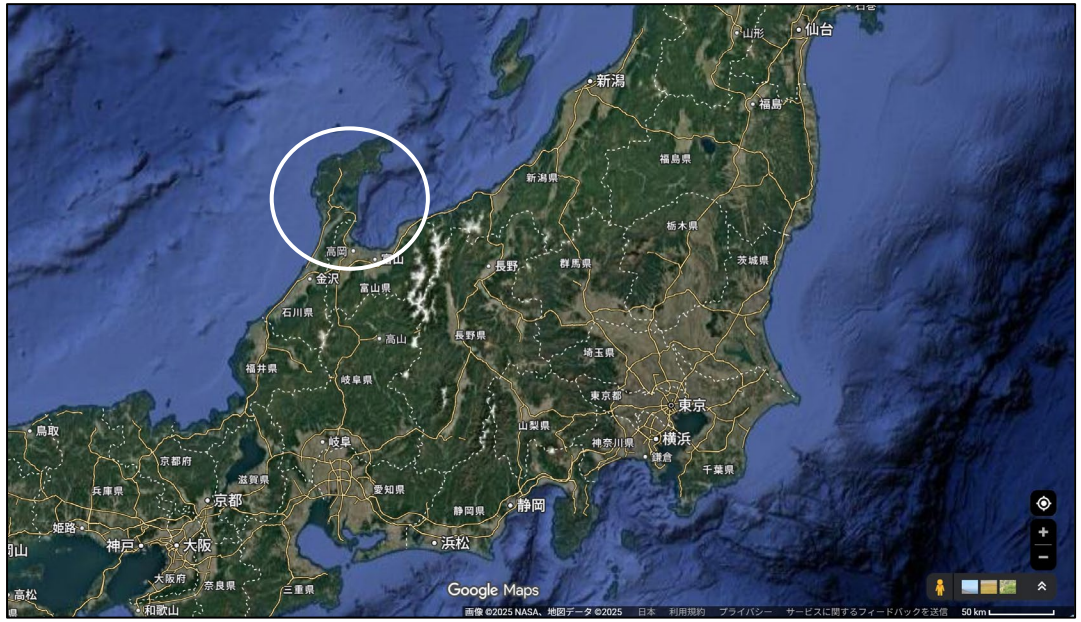
Role of Scientists

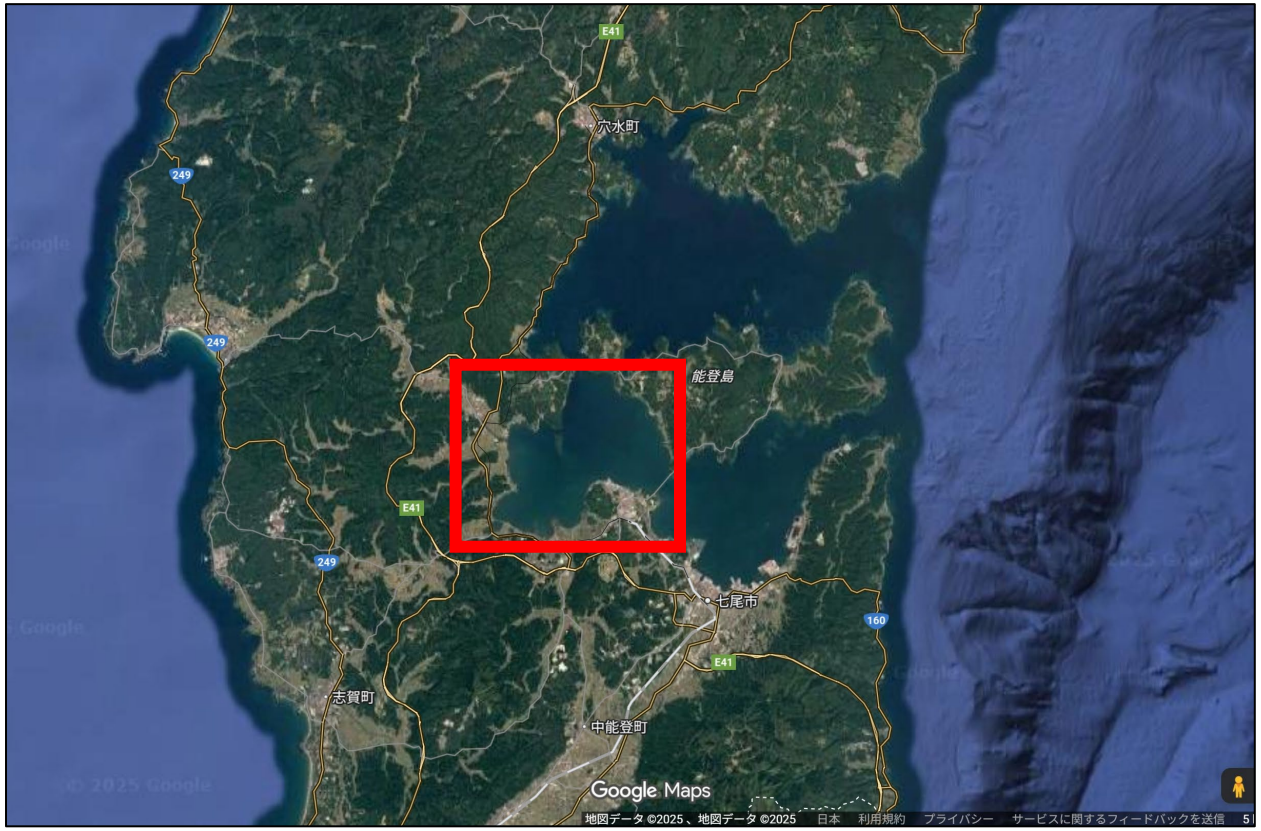
To obtain certification, applicants must undertake:

1. Assessment of current ecosystem conditions and issues
2. Development of management plans and future visions
3. Establishment of organizational frameworks to achieve goals/plans

Scientists support local stakeholders by providing data, information, and scientific knowledge needed to understand current conditions and develop effective management plans

Nanao Bay SATOUMI Creation

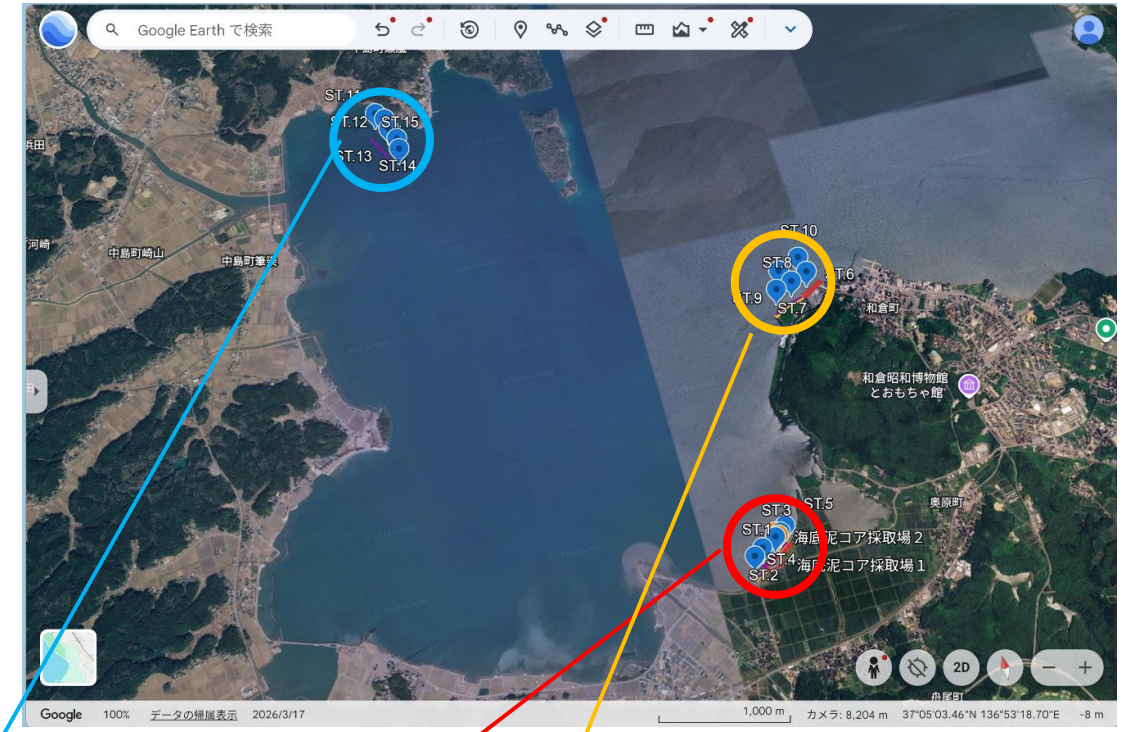




The Nanao Bay SATOUMI Creation Council aims to register the area as a Kyosei Site.

- Fishermen
- Local government
- Tourism industries
- Scientists

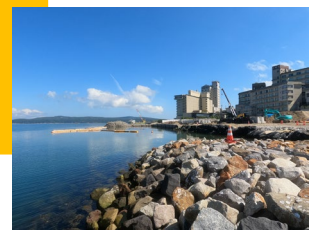
Current situation of coastal environment



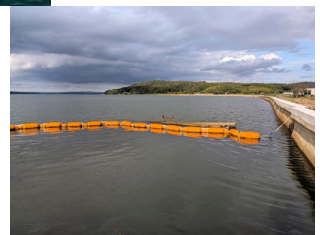
Oyster farming area



Hot spring town



Seagrass Distribution site



● Survey Items

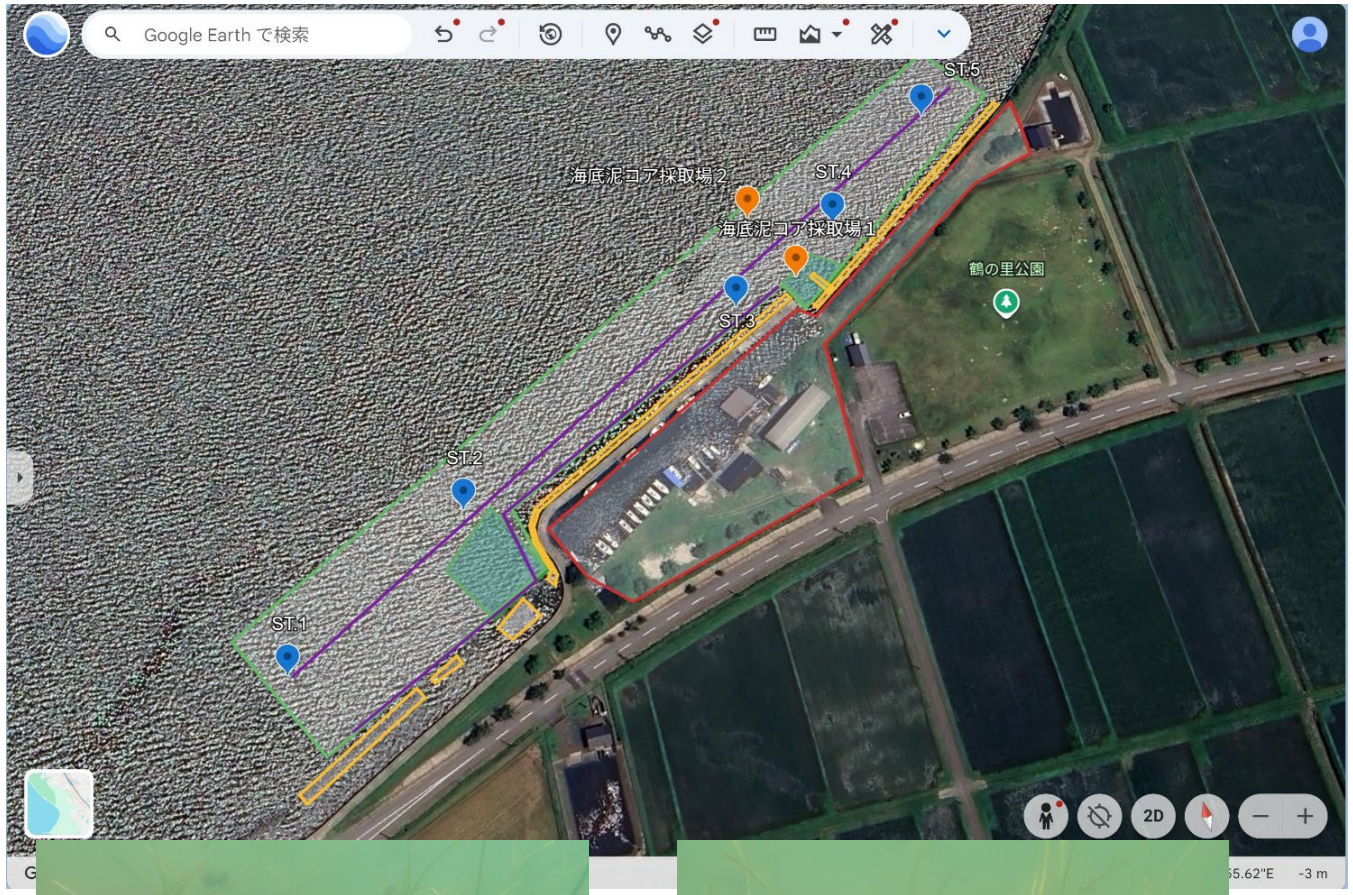
Seagrass distribution site

- Environmental DNA (Fish)
- Sediment core sampling (NH_4-N, NO_3-N, ignition loss, total sulfide)
- Seagrass sample for Epifauna and Epiphytic slgae
- Visual fish census & underwater video recording

Oyster farming area and hot spring town

- Environmental DNA (eDNA) sampling & filtration
- Visual fish census & underwater video recording

Environmental mapping







- Green areas: *Zostera marina* distribution
  Light green: low coverage, Dark green: high coverage
- Yellow area: *Sargassum* distribution

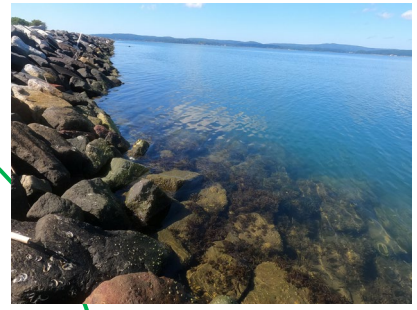
- Violet line: Visual fish census route
  Acanthopagrus schlegelii
  Pseudoblennius cottoides
  Repomucenus beniteguri…

- Orange points: Sediment core sampling sites

Parameter	Site 1 (shoreward)	Site 2 (offshore)
NH_4-N	0.72 mg/L	1.22 mg/L
NO_3-N	0.06 mg/L	0.26 mg/L
Ignition loss	2.3%	1.4%
Total sulfide	0.05 mg/g	0.01 mg/g

- Epifauna and Epiphytic Algae
  369 ind./0.04m^2 (dominant: *Caprella* spp.)
  Chl-a: 0.24μg/cm^2
  Total cell number: 23,370 (dominant: *Cocconeis* spp.)

Ecosystem Assessment





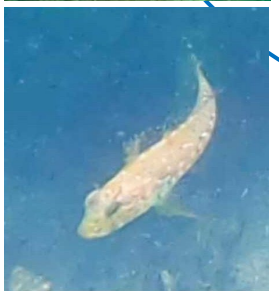
Fish population

eDNA
visual fish census

Seagrass/seaweed

Distribution
Annual change
Species composition



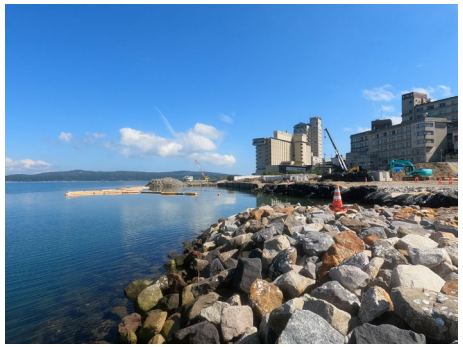




Eutrophication/
Oligotrophication
Sediment condition

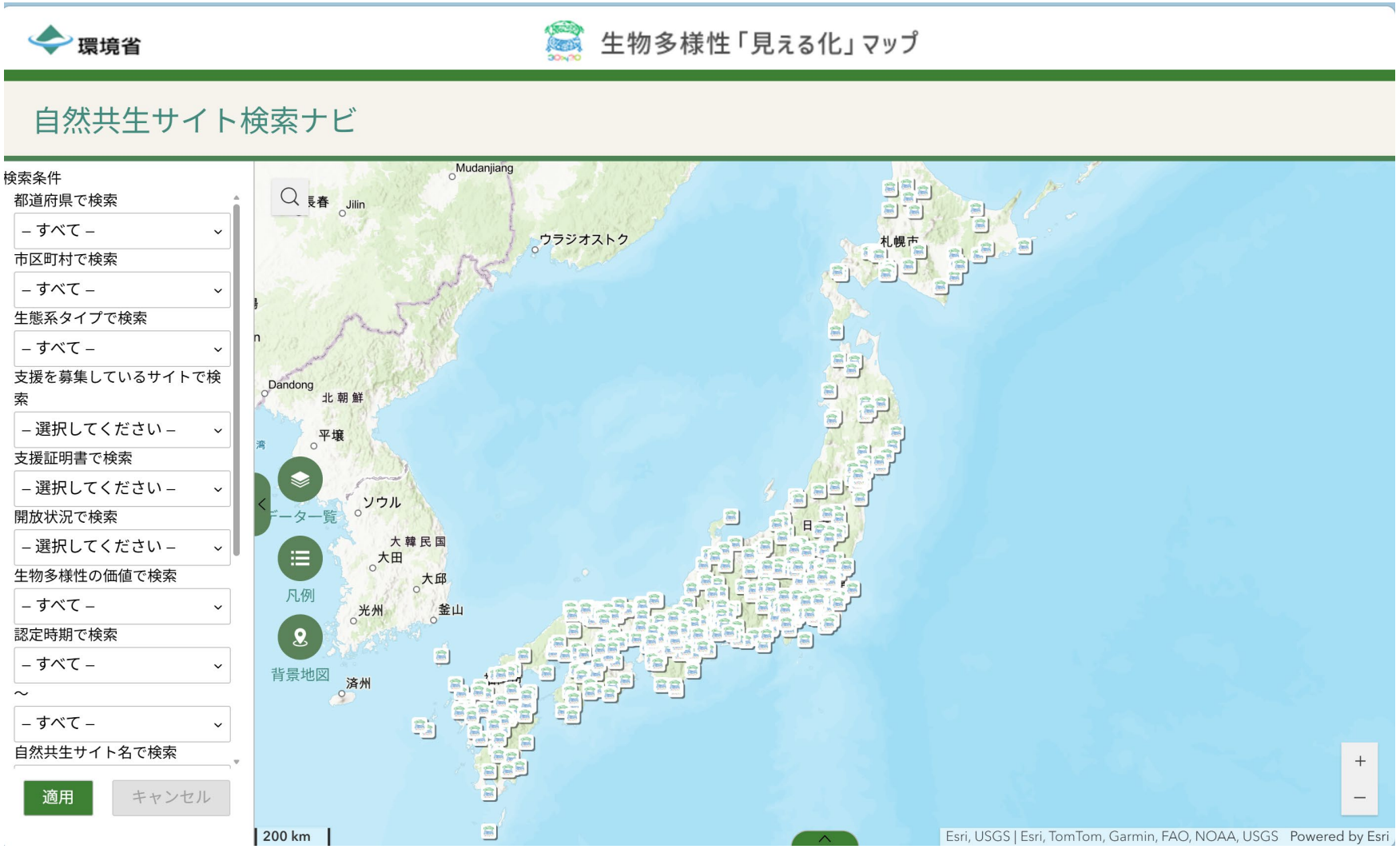
Environment

Anthropogenic impacts
  Seawall repair
Natural impacts
  Increase of water temperature
  High turbidity





Current situation of Kyosei Site



Total registered sites: 472
Most sites are located inland
Coastal Kyosei Site remain limited

How to increase Kyosei Sites in coastal and offshore area is key point of Japanese OECM