



# Ramsar Information Sheet

## Japan Shizugawa-wan



Designation date	18 October 2018
Site number	2358
Coordinates	38°40'49"N 141°31'27"E
Area	5 793,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

Shizugawa-wan is located on the southern Sanriku Coast, facing the Pacific ocean, encompassing a number of scattered islands such as Areshima and Tsubakishima. Along the coast are reef zones, silt grounds, and mudflats.

The wan (bay) stands to benefit from the warm currents of Kuroshio and Tsugaru and the cold current Oyashio, creating an environment in which warm-water and cold-water kelp cohabit.

The wetland nurtures 30 orders, 62 families and 208 species of seaweeds and seagrasses, including four types of seaweed beds (eelgrass, tangle, *Eisenia bicyclis*, and sargassum) that grow well in the area, and a *Zostera* bed that contains four threatened species (*Zostera marina*, *Zostera caespitosa*, *Zostera caulescens*, *Phyllospadix iwatensis*).

This uncommon marine environment functions as a habitat or feeding ground for 95 orders, 282 families and 553 species of marine fauna, thereby supporting marine biodiversity.

During winter, more than a hundred Brent Geese (*Branta bernicla nigricans*) and birds of prey such as White-tailed Eagles (*Haliaeetus albicilla*) and Steller's Sea Eagles (*Haliaeetus pelagicus*) — all of which are designated as Japan's natural monument under the National Red List (Vulnerable rated) and the Law for the Conservation of Endangered Species of Wild Fauna and Flora (LCES) — overwinters and migrates to this wan (bay) to feed on fish and seaweeds such as *Zostera*.

Moreover, the wan (bay) supports farming of seaweed (Wakame), oysters and fish (Coho Salmon), thus supporting livelihoods of people in the area.

The Tsunami of the Great East Japan Earthquake in 2011 caused tremendous changes to the condition of seaweed beds, but the wan (bay) has been undergoing a steady recovery, with further improvements expected in the future.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Compiler 1

Name	Seiji Ozawa
Institution/agency	Tohoku Regional Environmental Office, Ministry of the Environment of Japan
Postal address	6F, Sendai Joint Government Building No.2, 3-2-23, Honcho, Aoba Ward, Sendai City, Miyagi Prefecture 980-0014, Japan
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#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2017
To year	2018

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Shizugawa-wan
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## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<1 file(s) uploaded>

Former maps	0
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#### Boundaries description

The site has the same border as Sanriku Reconstruction National Park Marine Park zone in Shizugawa-wan.

### 2.2.2 - General location

a) In which large administrative region does the site lie?	Minamisanriku Town / Miyagi Prefecture / Honsyu, Tohoku District
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b) What is the nearest town or population centre?	Minamisanriku Town (13,202 people)
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### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha): 5793

Area, in hectares (ha) as calculated from GIS boundaries 5791.73

### 2.2.5 - Biogeography

#### Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Cold Temperate, Northwest Pacific, 48 Northeastern Honshu

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other ecosystem services provided

The wetland is home to four eelgrass species that are on the IUCN Red List: *Zostera marina*, *Zostera caespitosa*, *Zostera caulescens*, *Phyllospadix iwatensis*. Furthermore, it supports robust growth of kelp, *eisenia bicyclis*, and sargassum beds.

The wan (bay) stands to benefit from the warm currents of Kuroshio and Tsugaru and the cold current Oyashio, creating an environment in which warm-water and cold-water kelp cohabit, creating a rare environment in which *Saccharina Japonica*'s southern habitation border and *Eisenia bicyclis*'s northern habitation border exist side by side.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

Shizugawa-wan is home to numerous seaweed and seagrass beds, creating habitats, spawning and feeding grounds for various marine organisms. Due to the convergence of cold and warm ocean currents in the area, the wan (bay) supports 30 orders, 62 families and 208 species of seaweeds and seagrasses, and these, in turn, create habitats and feeding grounds for 95 orders, 282 families and 553 species of marine fauna.









It also serves as wintering grounds for Brent Geese (*Branta bernicla nigricans*), which feed on seaweeds such as *zostera*, and White-tailed Eagles (*Haliaeetus albicilla*) and Steller's Sea Eagles (*Haliaeetus pelagicus*), which prey on fish and birds in the wan (bay).

The areas adjacent to the proposed Ramsar site also feature numerous tidelands with highly diverse benthos communities. Shizugawa-wan is home to floating larva of these benthic animals.

- Criterion 4 : Support during critical life cycle stage or in adverse conditions

- Criterion 6 : >1% waterbird population

#### 3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Phyllospadix iwatensis</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU 	<input type="checkbox"/>		
<i>Zostera caespitosa</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU 	<input type="checkbox"/>	National Red List NT	
<i>Zostera caulescens</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NT 	<input type="checkbox"/>	National Red List VU	
<i>Zostera marina</i> 	Eel Grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>		

The species below meet Criterion 3. These two species are not found on the dropdown list of Scientific name.






- 1) *Eisenia bicyclis*; Justification: Shizugawa-wan is close to *Eisenia bicyclis*'s northern limit
- 2) *Saccharina japonica*; Justification: Shizugawa-wan is close to *Saccharina japonica*'s southern limit

Further information:

Previously, *Zostera japonica*, listed on the IUCN Red List as LC, was discovered around the Minamisanriku-chō Hosoura district in Shizugawa-wan.

However, the Tsunami of the Great East Japan Earthquake in 2011 eradicated the species, and has not been discovered in the area since then.

### 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
<b>Birds</b>																		
CHORDATA / AVES	<i>Branta bernicla nigricans</i> 	Brent Goose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	190	2012-2016	7.6		<input type="checkbox"/>	<input type="checkbox"/>	CMS Appendix II, Country's natural monument, National Red List VU	Criterion 4: a key wintering site, Criterion 6: Population name: nigricans, Japan (non-bre) (1%=25), 2012 - 191, 2013 - 231, 2014 - 154, 2015 - 159, 2016 - 216
CHORDATA / AVES	<i>Haliaeetus albicilla</i> 	White-tailed Eagle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Country's natural monument, National Red List VU, the Law for the Conservation of Endangered Species of Wild Fauna and Flora (LCES)	Criterion 4: a key wintering site
CHORDATA / AVES	<i>Haliaeetus pelagicus</i> 	Steller's Sea Eagle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Country's natural monument, National Red List VU, the Law for the Conservation of Endangered Species of Wild Fauna and Flora (LCES)	Criterion 4: a key wintering site

1) Percentage of the total biogeographic population at the site

### 3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

Shizugawa-wan is located on the southern Sanriku Coast, facing the Pacific ocean. The east side of the wan (bay) is facing the North Pacific ocean and has a structure deeply indented to the west. Its area is 5793 ha. This ria coast forms a complex terrain with large and small capes and inlets. Therefore, various environments such as reef zones, silt grounds and mudflats exist along the coastal area, and the aqueous vegetation on the subtidal zone in this wetland is extremely diverse.

This wetland is located in the temperate zone and the climate zone is classified as a temperate humid climate. In the Marine Ecoregions of the World, it is categorized as Northeastern Honshu and is an environment well-balanced an influence by three ocean currents; "Oyashio" which is one of the typical cold current carrying cold nutrient-rich seawater from the north, "Kuroshio" which is one of the typical warm current carrying warm seawater from the south and "Tsugaru" which Tsushima warm current moves toward the north in the Sea of Japan, goes east through the Tsugaru Strait, goes south along the Sanriku coast and finally flows into. The wetland nurtures 30 orders, 62 families and 208 species of seaweeds and seagrasses, including four types of seaweed beds (eelgrass, tangle, eisenia bicyclis, and sargassum) that grow well in the area, and a zosteria bed that contains four threatened species (*Zostera marina*, *Zostera caespitosa*, *Zostera caulescens*, *Phyllospadix iwatensis*). This uncommon marine environment functions as a habitat or feeding ground for 95 orders, 282 families and 553 species of marine fauna, thereby supporting marine biodiversity. There are quite a few threatened species confirmed, and due to the unique physical environment resulting from each ocean current, several biological species in the southern limit or the northern limit of distribution in this wetland are also confirmed.

This wan (bay) also serves as wintering grounds for Brent Geese (*Branta bernicla nigricans*) and White-tailed Eagles (*Haliaeetus albicilla*) and Steller's Sea Eagles (*Haliaeetus pelagicus*). Every winter, more than a hundred Brent Geese are confirmed, which indicates the abundance of seaweeds and seagrasses such as *Zostera marina* and Sea Lettuces. It is almost Japan's southern limit of wintering ground for Brent Geese in a large number.

There are plentiful inhabitants of fish and shellfish in this wan (bay), reflecting the high level of biodiversity. Moreover, the wan (bay) supports farming of seaweed (Wakame), oysters and fish (Coho Salmon), thus supporting livelihoods of people in the area. This wetland aims for a sustainable and properly controlled aquaculture industry, and oysters certified with Aquaculture Stewardship Council's ecolabel are also been produced. In addition, there is Tsubakijima Island on the sea about 4 km from Shizugawa Port, and its surrounding area is an important survey research spot listed as an algae site of the Ministry of the Environment's monitoring site 1000 project. The coastal shallow sea area is actively used for recreational activities such as sea kayaking, stand up paddle surfing, scuba diving as well as a field to provide opportunities for exchanging and education through nature observation and fishery experiences. Thus, it can be said that the multifaceted ecosystem services supplied by this wetland are of high importance.

### 4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
B: Marine subtidal aquatic beds (Underwater vegetation)	Shizugawa-wan	1	5793	Unique

### 4.3 - Biological components

#### 4.3.1 - Plant species

Optional text box to provide further information

Below is the 'Other noteworthy plant species' that is not found on the dropdown list of Scientific name.

- Scientific name: *Pyropia seriata*; Position in range/endemism/other (optional): Fisheries Agency Red List, Endangered Species

#### 4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATA/ACTINOPTERYGII	<i>Gymnogobius petschiliensis</i>	Dusky Floating Goby				National Red List LP (Local Population)
MOLLUSCA/GASTROPODA	<i>Littorina sitkana</i>	Sitka Periwinkle				Sitka Periwinkle's southern limit
MOLLUSCA/GASTROPODA	<i>Siphonacmea oblongata</i>					National Red List NT, <i>Siphonacmea oblongata</i> 's southern limit

Optional text box to provide further information

The followings are other noteworthy animal species that are not found on dropdown list of Scientific name, or whose distributions in the wetland are not yet clear and requires further monitoring.

- 1) Mollusca/Gastropoda; *Paludinassiminea tanegashimae*; *Paludinassiminea tanegashimae*'s northern limit
- 2) Mollusca/Gastropoda; *Neanthes virens*; *Neanthes virens*'s southern limit
- 3) Chordata/Actinopterygii; *Leucopsarion petersii* (Ice goby); Red Data Book of Miyagi Prefecture VU
- 4) Mollusca/Gastropoda; *Stenothyra japonica*; Red Data Book of Miyagi Prefecture VU
- 5) Echinodermata/Holothuroidea; *Apostichopus japonicas* (Japanese Sea Cucumber)
- 6) Mollusca/Gastropoda; *Tomatia decoratoide*

### 4.4 - Physical components

#### 4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfa: Humid subtropical (Mid with no dry season, hot summer)

#### 4.4.2 - Geomorphic setting

RIS for Site no. 2358, Shizugawa-wan, Japan

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The Pacific Ocean

4.4.3 - Soil

- Mineral
- Organic
- No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Marine water	<input checked="" type="checkbox"/>

Water destination

Presence?
Marine

Stability of water regime

Presence?
Water levels largely stable

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site
- Significant accretion or deposition of sediments occurs on the site
- Significant transportation of sediments occurs on or through the site
- Sediment regime is highly variable, either seasonally or inter-annually
- Sediment regime unknown

4.4.6 - Water pH

- Acid (pH<5.5)
- Circumneutral (pH: 5.5-7.4)
- Alkaline (pH>7.4)
- Unknown

4.4.7 - Water salinity

- Fresh (<0.5 g/l)
- Mxohaline (brackish)/Mxosaline (0.5-30 g/l)
- Euhaline/Eusaline (30-40 g/l)
- Hyperhaline/Hypersaline (>40 g/l)
- Unknown

Please provide further information on salinity (optional):

The range was 32.7-34.2g/l at surface layer, and 33.9-34.2g/l at the lower layer.

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic
- Mesotrophic
- Oligotrophic
- Dystrophic

Unknown

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar  ii) significantly different  site itself:

- Surrounding area has greater urbanisation or development
- Surrounding area has higher human population density
- Surrounding area has more intensive agricultural use
- Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

The west side of the wetland proposed to the Ramsar Site is a land area, and the east side is a deep ocean where seaweed bed cannot breed on.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Water sports and activities	Medium
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	Medium

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High

Within the site:

Outside the site:

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

4.5.2 - Social and cultural values

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland
- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

4.6 - Ecological processes

<no data available>



## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Other public ownership	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Tohoku Regional Environmental Office, Ministry of the Environment of Japan

Provide the name and title of the person or people with responsibility for the wetland:

Seiji Ozawa, Director, Tohoku Regional Environmental Office, Ministry of the Environment

Postal address:

6F, Sendai Joint Government Building No.2, 3-2-23, Honcho, Aoba Ward, Sendai City, Miyagi Prefecture 980-0014, Japan

E-mail address:

reo-tohoku@env.go.jp

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Earthquakes/tsunamis	High impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Habitat shifting and alteration	unknown impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### 5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Park, Marine Park Zone	Sanriku reconstruction National Park, Marine Park Zone	<a href="https://www.env.go.jp/park/sanriku/index.html">https://www.env.go.jp/park/sanriku/index.html</a>	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other non-statutory designation	Minamisanriku Shizugawa-wan	<a href="http://www.env.go.jp/nature/important_wetland/wetland/w102.html">http://www.env.go.jp/nature/important_wetland/wetland/w102.html</a>	partly

### 5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation

VI Managed Resource Protected Area: protected area managed mainly  for the sustainable use of natural ecosystems

### 5.2.4 - Key conservation measures

#### Legal protection

Measures	Status
Legal protection	Implemented

#### Human Activities

Measures	Status
Research	Implemented
Communication, education, and participation and awareness activities	Implemented
Regulation/management of recreational activities	Implemented
Fisheries management/regulation	Implemented

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The Visitor Center of Sanriku Reconstruction National Park of Minamisanriku provides information on the natural environment around the national park, including the proposed Ramsar site, providing visitors with the opportunity to explore nature of the area. The center also provides outdoor programmes, such as kayaking. A plan is in place to establish a facility that seeks to create visitor programmes linked to the natural environment surrounding Minamisanriku Town. Such a visitor center used to exist in the Tokura District of Minamisanriku Town, serving to provide educational programmes such as science camps and training instructors of outdoor activities (e.g., kayaking) in the area. However, this was destroyed by the tsunami disaster in 2011 with efforts currently under way in the town hall to reconstruct the center, while conducting surveys on the biota.

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented
Plant community	Implemented
Water quality	Implemented

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

- Minamisanriku Town, 2014, Summary Report of investigation, research, activity and other implemented in Minamisanriku Town
- Ministry of the Environment of Japan, 2002, Important Wetlands 500 in Japan
- Ministry of the Environment of Japan, 2015, Park Plan of Minamisanriku reconstruction National Park
- Ministry of the Environment of Japan, 2017, National Red List 2017
- Ministry of the Environment of Japan, Monitoring Sites 1000 (Anseriformes, eelgrass bed / seaweed bed)
- Miyagi prefecture, 2016, Red Data Book of Miyagi prefecture

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<8 file(s) uploaded>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Viewing the gulf from Kamivanizaki, the south side of the bay's entrance. The island of Matsushima is up front, while the island of Tsubakishima is located further into the gulf. ( *Minamisanriku Town, 15-11-2017* )



*Ditrema temminckii temminckii* in the *Eisenia bicyclis* bed. ( *Minamisanriku Town, 29-08-2017* )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation