

Getbol, Korean Tidal Flats (Phase II)

For Inscription on the World Heritage List

Appendix 1. Integrated Management Plan



Republic of Korea

Getbol, Korean Tidal Flats (Phase II)

For Inscription on the World Heritage List

Appendix 1. Integrated Management Plan

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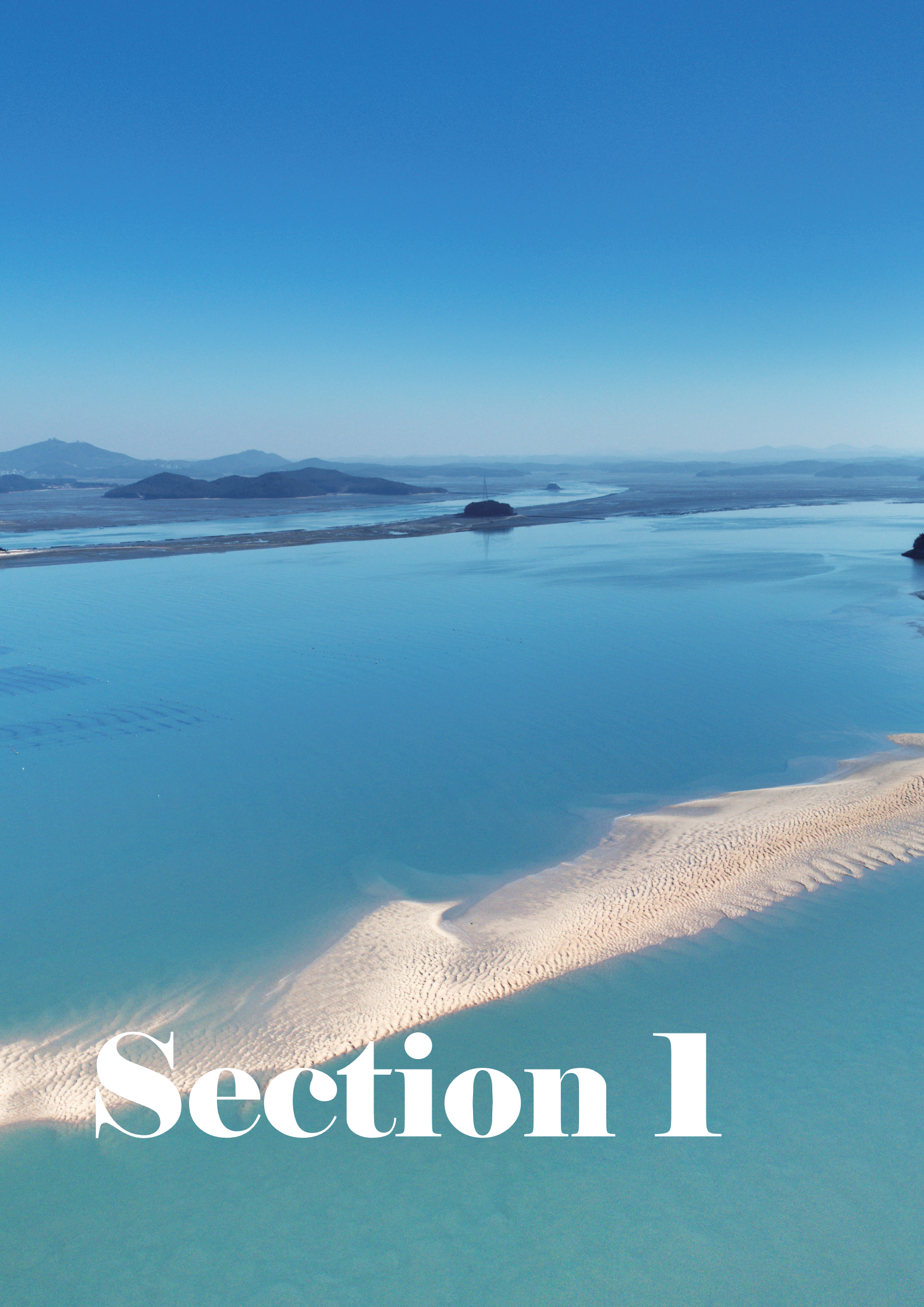
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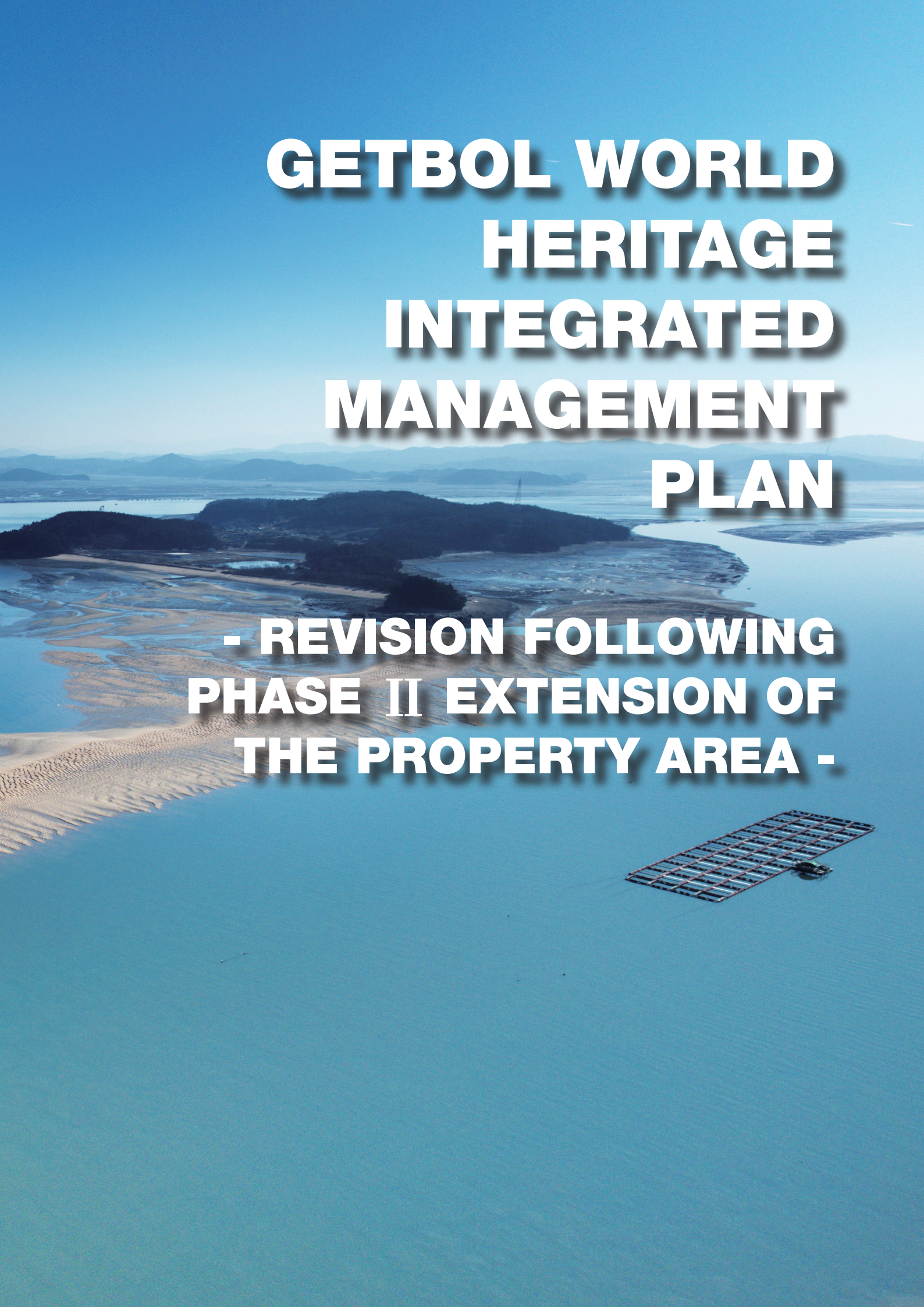
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Section I

An aerial photograph of a coastal area. In the foreground, there's a large, flat, sandy beach area. To the right, a large, rectangular floating platform or pier structure is visible in the blue water. In the background, a large, dark, forested island is situated in the water. The sky is a clear, light blue.

GETBOL WORLD HERITAGE INTEGRATED MANAGEMENT PLAN

**- REVISION FOLLOWING
PHASE II EXTENSION OF
THE PROPERTY AREA -**

Section 1

GETBOL WORLD HERITAGE INTEGRATED MANAGEMENT PLAN - REVISION FOLLOWING PHASE II EXTENSION OF THE PROPERTY AREA -

Chapter 1. Background and Overview

1. Background

- (Inscription) On July 26, 2021, Getbol, Korean Tidal Flats World Heritage was inscribed as a UNESCO World Heritage for its ‘Outstanding Universal Value’ (OUV*) of conserving the biodiversity and being a stopover site for endangered migratory birds.

* Outstanding Universal Value – Criterion (X)

- At the time of inscription, the World Heritage Committee (WHC) recommended that the State Party establish an Integrated Management Plan and extend the property area (Phase II) to protect the OUV of the serial nomination with four components.
 - The 44th Session of the UNESCO World Heritage Committee recommended the addition of components and the extension of the buffer zone to protect and strengthen the OUV of Getbol, Korean Tidal Flats. In response to the World Heritage Committee’s recommendation, the ROK Government added 4 components, Yeosu Getbol, Goheung Getbol, Muan Getbol and Seosan Getbol, which have similar attributes to the inscribed property and can strengthen the OUV, as the nominated property in Phase II.
- The WHC also requested that the State Party proactively identify and present countermeasures for potential threats that could negatively impact the OUV, such as environmental pollution, climate change, and coastal development.

Recommendations from the WHC upon Inscription of Getbol, Korean Tidal Flats World Heritage

- Extend the property area to include nine important migratory bird areas by the 48th session of the World Heritage Committee
- Establish an Integrated Management System among the components of the serial nomination, including the Phase II nomination, following its successful inscription
- Manage additional development that might adversely affect heritage conservation
- Strengthen cooperation with countries along the East Asian-Australasian Flyway (EAAF) and with the Migratory Bird Sanctuaries along the Coast of the Yellow Sea-Bohai Gulf of China (inscribed in 2019)
- Work closely with IUCN to implement these recommendations

□ (Integrated Plan) Continue to build the foundation for the integrated management of Getbol World Heritage as a serial nomination, and at the same time establish a management system to work on the Phase II extension of the property areas.

○ A consistent and systematic management approach should be adopted with consideration to the geographical features, marine life and ecosystem characteristics of the Getbol World Heritage, and the legal basis regarding its management and conservation.

- The Wetlands Conservation Act takes on a relatively passive approach to tidal flat management by restricting various activities. The Integrated Management strives to move away from this practice to actively protect and utilize the tidal flats as a World Heritage Site.
- Under the integrated management, institutional measures, such as the World Heritage Act of Korea Heritage Service and the Tidal Flats Act of the Ministry of Oceans and Fisheries can be better utilized.
- A more proactive response can be prepared, with the Phase II nominated properties incorporated into the plan.

2. Legal Basis and Scope

□ (Legal Basis) In accordance with Article 13 of the World Heritage Act, the Administrator of the Korea Heritage Service establishes an Implementation Plan for World Heritage every five years. The Plan reflects the contents of the Comprehensive Plan and the nomination dossier for the World Heritage under its jurisdiction.

○ The Implementation Plan includes the following: basic directions and goals for the conservation, management and utilization of the World Heritage; implementation projects; measures to enhance the quality of life of local residents, including support for community

activities in the World Heritage Zone.

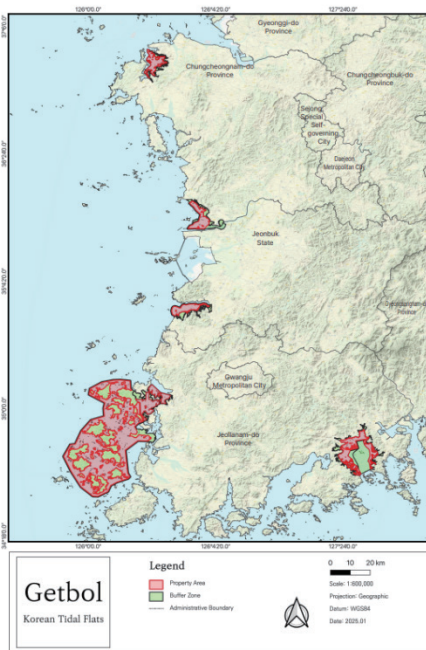
* Implementation Plan on World Heritage Conservation, Management and Utilization (2023-2027, established in November, 2022)

□ (Process) The Administrator of the Korea Heritage Service (KHS) brings the Plan to the heads of relevant central administrative agencies, including the Minister of Oceans and Fisheries, for consultation. Then the Plan is deliberated by the National Heritage Committee before being approved by the Administrator of the KHS.

□ (Period) 2023 -2027 (5 years)

□ (Area) Four components of the Getbol, Korean Tidal Flats World Heritage and the property area and buffer zone of the four components in the Phase II nominated property

【Spatial Area of Getbol World Heritage】



Component	Property area(km ²)	Buffer zone(km ²)	Total(km ²)
Seocheon Getbol	68.09	68.49	136.58
Gochang Getbol	55.31	46.60	101.91
Shinan Getbol	1,100.86	670.37	1,771.23
Boseong-Suncheon Getbol	59.85	23.23	83.08
Yeosu Getbol	38.81	125.81	164.62
Goheung Getbol	59.43	47.22	106.65
Muan Getbol	11,388	49.27	163.15
Seosan Getbol	64.67	25.67	90.34
Total(km ²)	1,560.90	1,056.49	2,617.39

Chapter 2. World Heritage Related System in Korea

1. Domestic Legal System

- The World Heritage Act is the basic management law in accordance with the World Heritage Convention, and is applied to the policy measures for the conservation, management and utilization of World Heritage Sites.

- It stipulates matters related to the establishment of the foundation for the management of World Heritage Sites, including the establishment of related plans (Comprehensive Plan, Implementation Plan, Project Plan), the designation of World Heritage Zones, and the implementation of Heritage Impact Assessment (HIA).

- The implementation of measures related to the management and utilization of World Heritage Sites is subject to individual laws, while a system for prior consultation and coordination on policies affecting World Heritage Sites is established.

* Measures to be consulted in the designation of the following: Land use zones, such as enterprise urban development zones, urban development zones; WPAs, Natural Parks; ecological and landscape conservation areas; Marine Protected Areas (MPAs), etc.

- Wetlands Conservation Act, Tidal Flats Act and Marine Ecosystems Act are domestic laws that are applied to the conservation and management of the Getbol World Heritage

- **(Wetlands Conservation Act)** Domestic implementation law for the Ramsar Convention COP. Designation and management of wetland areas, identification of wetland inventory and biodiversity status, etc. are used as policy tools.

* The National Wetlands Deliberative Committee is established and operated to deliberate on the implementation of the decisions of the Ramsar Convention COP.

- The Ministry of Oceans and Fisheries and the Ministry of Environment, together in charge of the implementation of the Wetlands Conservation Act, develop and implement a Master Plan for Wetlands Conservation every five years, which sets out the basic direction for wetlands conservation.

○ **(Tidal Flats Act)** Conservation and restoration measures, such as investigation of the pollution source, their collection and treatment, replenishing of biological resources, and tidal flat restorations are implemented. Also, a management system for the conservation and utilization of the tidal flats is in operation.

* (Management Areas) Tidal flat conservation area, Tidal flat safety management area, Tidal flat rest area, Tidal flat production area, and Tidal flat experience area

○ **(Marine Ecosystems Act)** A management system for the conservation and utilization of the tidal flats is in operation, including the implementation of the National Investigation on Marine Ecosystems, the designation and management of Marine Protected Species, and the designation of Marine Protected Areas (MPAs).

* Marine Protected Areas (MPAs): Wetland Protected Areas (WPAs), Marine Organism Protected Areas (MOPAs), Marine Ecosystem Protected Areas (MEPAs), and Marine Landscape Protection Areas (MLPAs)

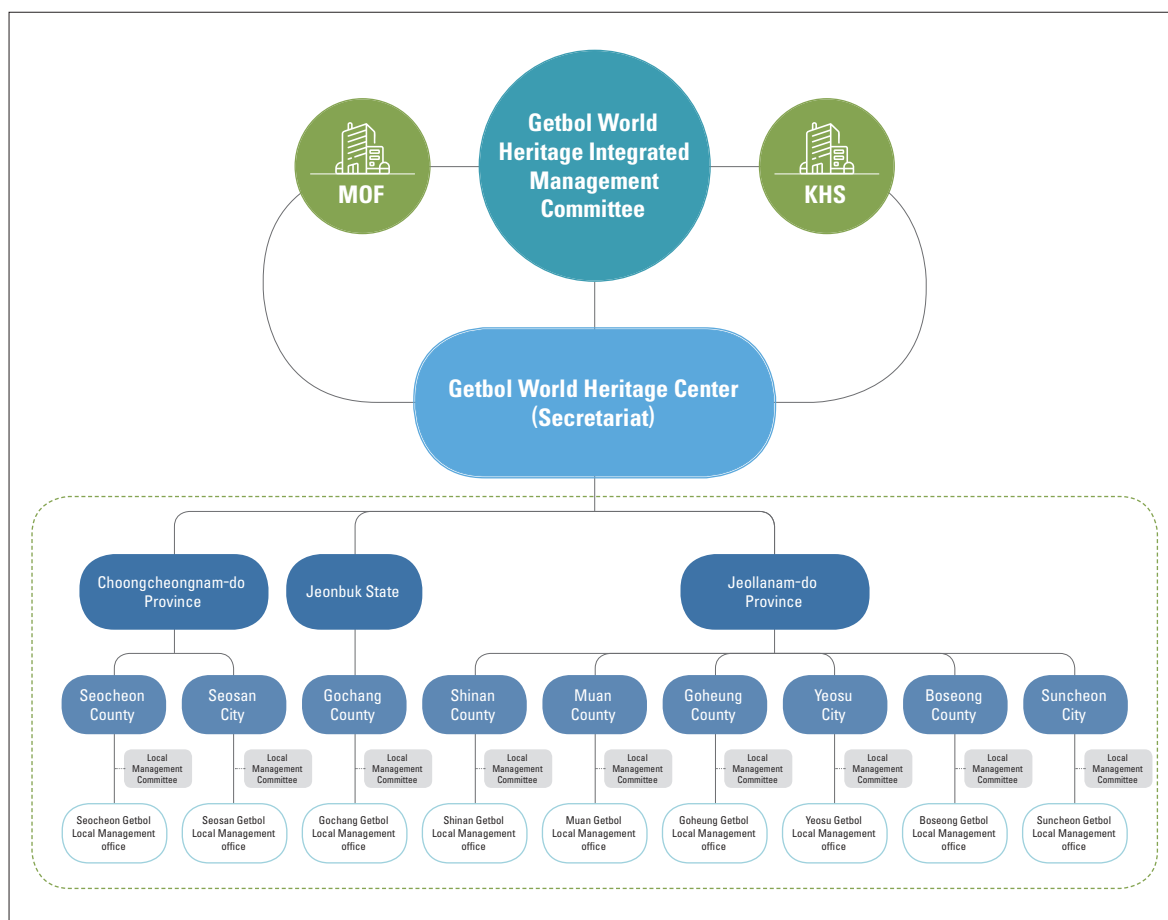
○ **(Ordinances set by relevant local municipalities)** Each municipality (City and County) with jurisdiction over the components of the World Heritage Site, has formulated Ordinance on the Inscription, Conservation and Management of World Heritage and Ordinance on the Designation and Management of Marine Protected Areas.

2. Getbol World Heritage Integrated Management System

□ Integrated Management System Overview

○ Getbol, Korean Tidal Flats World Heritage is basically designated and managed as a WPA under the Wetlands Conservation Act, and is comprehensively managed through measures such as the implementation of the Heritage Impact Assessment (HIA) and the submission of a World Heritage Periodic Report under the World Heritage Act which is the domestic law for the implementation of the World Heritage Convention.

- The Korea Heritage Service, in charge of the World Heritage Act, and the Ministry of Oceans and Fisheries, in charge of the management of coastal wetlands under the Wetlands Conservation Act, are responsible for preparing sector-specific management policies and budget support for the Getbol, Korean Tidal Flats World Heritage.



【Getbol World Heritage Integrated Management System】

□ Division of Roles and Cooperation between Relevant Government Agencies

- **(Korea Heritage Service)** In charge of the review of the extension (implementation of UNESCO procedures); designation of World Heritage Zones; development of a Comprehensive Plan for World Heritage and approval of its Implementation Plan (every 5 years); conducting the HIA; overseeing the work on the submission of the UNESCO World Heritage Center Periodic Report; and promoting international cooperation, etc.
- **(Ministry of Oceans and Fisheries)** Responsible for the designation and management of Marine Protected Areas (MPAs) (including WPAs) under the Wetlands Conservation Act and Marine Ecosystems Act. It is also in charge of the sustainable conservation, use and management of World Heritage Sites through the Public Waters Management and Reclamation Act, the Tidal Flats Act, and the Marine Use Impact Assessment Act.

- In addition, the Ministry of Oceans and Fisheries is in charge of building related infrastructure to improve the quality of life of fishermen; replenishing of fishery resources; improving the fishery management system to create a sustainable fishing environment; and cracking down on illegal fishing activities, all in accordance with the Fisheries Act and other fisheries-related laws.

※ On-going consultation is in place to have the Ministry of Environment join the Integrated Management System as a key partner organization, since the Ministry is responsible for the management of rivers and inland wetlands, as well as the Nationwide Winter Waterbird Census.

【System of Cooperation and Division of Roles and Responsibilities – Relevant Government Agencies (Tentative)】

Organization		Roles and Responsibilities
Central Government	Korea Heritage Service	• Control tower of the State Party in Phase II nomination and related work for the Getbol, Korean Tidal Flats World Heritage in accordance with the World Heritage Act - Review of the Phase II Nomination Dossier and implementation of UNESCO procedures; Conduct HIA; Oversee work on submission of UNESCO World Heritage Center Periodic Report; Designate World Heritage Zone; Develop Comprehensive Plan for World Heritage and approve Implementation Plan (every 5 years), etc. • Secure budget for World Heritage conservation, management and utilization projects and make necessary legislative improvements
	Ministry of Oceans and Fisheries	• In charge of WPA management under the Wetlands Conservation Act • In charge of WPA management in accordance with the Wetlands Conservation Act • In charge of marine ecosystem biodiversity and habitat management in accordance with the Conservation and Management of Marine Ecosystems Act • Establish a sustainable utilization and conservation system of the tidal flats in accordance with the Tidal Flats Act (i.e. Tidal Flat Management Zones) • Management of fishery resources and fishing grounds, support for fisherman in accordance with the Fishery Resources Management Act • Secure budget for World Heritage conservation, management and utilization projects and make necessary legislative improvements

□ **Division of Roles and Cooperation between Relevant Organizations**

- **(Getbol World Heritage Integrated Management Committee)** The Getbol World Heritage Integrated Management Committee is the highest decision-making body in the World Heritage management system, comprised of relevant government agencies (Director level), the GWHC (Secretary General level), relevant local governments (Governors and Mayors), experts (representatives), local residents (representatives), and civil society organizations (representatives).
- The Integrated Management Committee is responsible for reviewing and decision-making on matters related to the

following: the submission and implementation of the World Heritage Integrated Management Plan (Implementation Plan) and annual business plans; recommendation of component candidates for nomination; review of the Heritage Impact Assessment (HIA) and World Heritage Periodic Report; and the budget for GWHC and World Heritage protection and management projects.

- (GWHC) The Getbol World Heritage Center will function as an integrated management secretariat. It is responsible for supporting the work of the Getbol World Heritage Integrated Management Committee and relevant government agencies; managing any threats to the biodiversity, habitats and conservation of the Getbol World Heritage OUV; managing the local management network, preparing the nomination dossier and responding to the overall process of the nomination and its evaluation; and overseeing the integrated monitoring.

* Until the opening of the GWHC, the World Heritage Promotion Team will carry out related tasks.

【System of Cooperation and Division of Roles and Responsibilities – Relevant Organizations (Tentative)】

Organization	Roles and Responsibilities
Getbol World Heritage Integrated Management Committee	• Status – Deliberation and decision-making body for the protection and management of the Getbol World Heritage • R&R - Deliberate the submitted Getbol World Heritage Comprehensive Action Plan and its implementation - Recommend potential components for the extension of the Getbol World Heritage - Review HIA results and World Heritage Periodic Report - Deliberate the organization, work, and budget of Getbol World Heritage Center (GWHC) - Review and allocate protection and management work and budget of Getbol World Heritage
Getbol World Heritage Center (GWHC)	• Status - Secretariat for the integrated management of Getbol World Heritage *Work passed on from the former Promotion Team of Korean Tidal Flats • R&R - Support the work of Getbol World Heritage Integrated Management Committee - Support policy collaboration regarding Wetlands Conservation Act for the Ministry of Oceans and Fisheries and Ministry of Environment - Establish Getbol World Heritage Integrated Management Plan and its annual action plan - Operate network of local municipal councils and Local Management Offices - Implement Getbol World Heritage protection and management projects - Prepare nomination dossier and communicate with WHC and Advisory Bodies regarding its evaluation - Prepare World Heritage Periodic Report - Build international cooperation network for Getbol World Heritage

□ Division of Roles and Cooperation between Local Governments and the Local Management Centers

- **(Metropolitan Governments)** Participates in the Integrated Management Committee as the entity responsible for the overall management of World Heritage Sites at the metropolitan government-level. Provides budget support (matching) for World Heritage management projects, and gives priority consideration to the World Heritage Sites when promoting local community support programs.
- **(Local Municipalities)** Participates in the Integrated Management Committee and the Local Management Center Network of the GWHC as the entity responsible for the on-site management of World Heritage Sites at the local municipal-level. They are responsible for the preparation of the management system for the WPAs and further supporting them (i.e., through relevant ordinances, etc.); organization and operation of the WPA Local Management Committee; supporting the preparation of the Basic Plan on Management for Wetlands Conservation at the local-level; and organization and operation of the Local Management Centers.
- **(Local Management Committee)** Composed of management personnel (in charge of related tasks), local residents' representatives (heads of fishing village cooperatives or village leaders), local experts (researchers, civil society organizations), etc., according to the relevant ordinances of each local government. The Committee may make proposals for management projects at the World Heritage and WPA in the region, as well as deliberates on their implementation status.
- **(Local Management Offices)** Perform publicity, exhibition and education functions for the Getbol World Heritage in the region, and provide educational programs for the management capacity building of local residents and raise awareness among the general public.

【System of Cooperation and Division of Roles and Responsibilities – Local Municipalities and Local Management Center】

Organization	Roles and Responsibilities
Metropolitan Governments	• Participate in the decision-making at Getbol World Heritage Integrated Management Committee and Getbol World Heritage Center (GWHC)’s Executive Committee • Support local municipalities’ Getbol World Heritage protection and management projects • Secure budget for Getbol World Heritage protection and management projects
Local Municipalities	• Implement Getbol World Heritage Integrated Management Plan • Participate in the decision-making at Getbol World Heritage Integrated Management Committee and Getbol World Heritage Center (GWHC) Executive Committee • Organize and operate WPA Local Management Committee • Build infrastructure and operate education and outreach programs at the Getbol World Heritage visitor centers
Local Management Committee	• Support and review development of WPA Management Plan • Review budget and implementation of WPA management projects • Make necessary suggestions for the management of Getbol World Heritage • Participate in the WPA Local Management Committee Network
Local Management Offices	• Promote Getbol World Heritage through exhibitions at local level • Conduct awareness training for locals/general public and training of dedicated management staff

Chapter 3. Getbol World Heritage Management Status

- Lack of an integrated monitoring system that takes into account the OUV of the World Heritage Sites
 - Getbol World Heritage has the OUV as habitats for the threatened migratory birds and for the conservation of biodiversity among the tidal flats of the southwest coast of ROK.
 - The National Investigation on Marine Ecosystems is being conducted at the national level, including the World Heritage Sites. However, there is a lack of an integrated monitoring system to ensure the whether the OUV is maintained, including the role as stopover sites along migratory flyways and monitoring of medium to long-term changes in the habitat-specific biodiversity.
- There is persisting potential of disturbance at the tidal flats caused by topographic factors and terrigenous pollutants that enter the tidal flats.

- Socioeconomic pressure and natural pressure, due to topographical characteristics, occur.
 - The need to manage pollution sources due to river inflow, disturbance of the physical and sedimentary environment by large-scale man-made structures, and bridge construction plans are all persisting threats.
- Sewerage connection rate in the areas surrounding the World Heritage Sites is lower than the national average.
 - The sewerage connection rate in areas adjacent to the property area is increasing every year. Yet, in 2020 it stood at 67.2%, which was much lower than the national connection rate of 94.5%.
 - There is a large regional variation in the sewerage connection rate; Suncheon City records 97.8%, while Shinan County records 42.8%. Numerous islands and coastlines make it difficult to improve the connection rate in these areas.
- The Water Quality Index (WQI) is generally good, but in some areas, the concentrations level of some water quality index items are increasing, indicating a possibility of increased pollution caused by terrigenous pollution sources.
 - Chemical oxygen demand (COD) in Gochang, Suncheon, and Beolgyo areas are showing a rising trend. Levels of total phosphorus in Boseong and Suncheon Bay are also rising. Seochon Getbol is showing high concentrations of total nitrogen and total phosphorus.
- Fishing activities are actively taking place in the fishing grounds of the property area, but the fishing population has been declining rapidly.
- Village fishing or aquaculture fishing centered on tidal flats grow and harvest shellfish, seaweed, etc.
 - The area covered by a fishing license in Gochang is 82%, and in Boseong and Beolgyo area 74% of the property area, respectively, devoting a significant area to fishing activities.
- Ecological education and key tourism facilities can be utilized.
- Each region operates a key facility* for carrying out ecological education and tourism. In addition, the GWHC is being built in Shinan County, Jeollanam-do Province.

* (Seocheon) National Marine Biodiversity Institute of Korea, Bird Ecology Exhibition Center, National Institute of Ecology, (Gochang) Ramsar Gochang Tidal Flat Center, (Shinan) Shinan Tidal Flat Center, Docho Island Regional Environmental Education Center, (Suncheon) Suncheon Bay International Wetland Center, (Muan) Muan Mudflat Land

- There are fishing village recreation centers in nine cities and counties. While they are experienced in providing accommodation for the visitors, they do not have sufficient dedicated personnel, such as tidal flat eco-guides, to carry out education programs.

- Extension of protected areas and further international cooperation in support for the Phase II nomination of Getbol World Heritage

- As the UNESCO World Heritage Committee recommended a Phase II nomination by 2026, there rises a need for the designation of new WPAs followed by their nomination as components of the nominated property, as well as for the conservation of a wider area of tidal flats considering their ecological characteristics.

- The Phase II nomination will include an extension of the terrestrial buffer zones in three out of four components (Shinan Getbol excluded) in the Phase I inscribed property and also include the ecologically important tidal flats such as estuaries and inland bays.

- Cooperation will be further promoted with countries that have breeding grounds, stopover sites, and non-breeding grounds along the migratory flyways (ROK-DPRK-China, Australia-New Zealand, Russia-U.S.). Also, cooperation with existing World Heritage Sites such as the Wadden Sea and support for developing countries will be enhanced.

- Call for cooperation between participating organizations for effective OUV conservation and management of Getbol World Heritage

- Expand cooperation with the Ministry of Environment to protect seabird habitats and extend the buffer zones, and also with the Korea Heritage Service and the Ministry of Oceans and Fisheries, which are already cooperating for the conservation and protection of the World Heritage Site.

- Establish an Integrated Management System and promote its smooth operation involving the 3 metropolitan governments and 9 local municipalities of cities and counties, including the areas that have already joined the Phase II nomination.

Chapter 4. Integrated Management Plan

- Policy Directions and Promotion Strategies

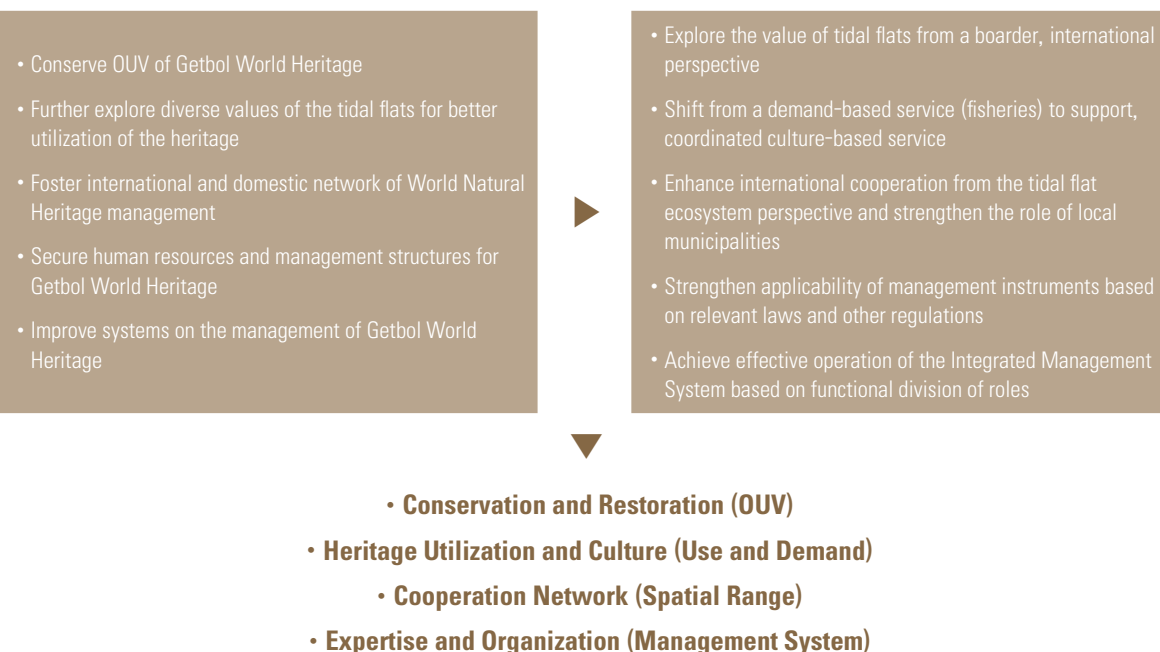
□ Integrated Management Plan - Policy Directions

- Consider the full range of internal factors (strengths/weaknesses) and external factors (opportunities/threats) of Getbol, Korean Tidal Flats World Heritage

Strength	Weakness
- Successful World Heritage inscription and increased public attention - Key area along the transboundary migratory bird flyway and high biodiversity - Communal management of village fishing grounds on the tidal flats	- Weakening fishing community due to aging and population decline - Low sewerage connection rate in tidal flat coastal areas - Lack of tidal flats education and experience programs and relevant experts
Opportunity	Threat
- Secured legal management instruments such as Wetlands Conservation Act, World Heritage Act, Tidal Flats Act, etc. - Raised awareness on sustainable use, protection and management of the tidal flats - Increased demand for establishing an Integrated Management System for the serial nomination	- Incomplete division of roles among relevant government agencies - Increased demand for marine area use, such as high fishing intensity and increasing demand for offshore wind power - HMO and alien species impacting the ecosystem
SO Strategy (Create synergy with strength and opportunity)	WO Strategy (Overcome weakness through opportunity)
- Improve tidal flat function through tidal flat restoration and extension of waterbird resting areas - Expand tidal flat ecology education utilizing visitor centers and village fishing grounds - Establish detailed management zones for tidal flats, etc. tidal flat management areas	- Continuously monitor pollution sources entering the tidal flats - Various infrastructures are being added to promote tidal flats ecotourism - Promote sustainable fisheries production and improve living conditions for the local residents
ST Strategy (Overcome threats through strengths)	WT Strategy (Avoid weakness and threats)
- Establish roles among relevant government agencies and operate an effective Integrated Management System - Eliminate any factor that might negatively affect biodiversity in the Getbol World Heritage - Establish monitoring and scientific management system for the entire tidal flats ecosystem	- Maximize OUV management effectiveness through cooperation with relevant government agencies - Strengthen cooperation between the Integrated Management organizations and local management organizations - Build human capacity in on-site management and strengthen the training function at local management centers

◆ [Set overall direction for the Integrated Management Plan]

- Responding to key issues identified in the analysis of the status and conditions of the Getbol World Heritage
- Ensure consistency between laws and plans related to tidal flats and World Heritage Sites
- Reflect UNESCO operational guidelines and World Heritage Committee recommendations



□ Vision, Policy Objectives and Key Tasks of the Integrated Management Plan

Strategy Task	Key Tasks
Strategy 1 Strengthen and conserve OUV	• Establish Integrated Monitoring and Assessment System • Strengthen and conserve biodiversity and waterbirds habitat • Extend World Heritage OUV ★
Strategy 2 Establish a systematic World Heritage Integrated Management System	• Lay foundation for implementing integrated management for Getbol, Korean Tidal Flat World Heritage ★ • Build up digitized integrated information system • Strengthen threat management★ • Build up a system for evaluation and reporting
Strategy 3 Promote better utilization of Getbol, Korean Tidal Flats and share its value	• Promote heritage education, manpower, and capacity building • Create basis for sustainable World Heritage tourism • Share World Heritage values and raise awareness • Strengthen domestic and international cooperation★

(★) : Action task directly related to the recommendation of the World Heritage Committee

Chapter 5. Detailed Key Tasks by Each Promotion Strategy

Strategy 1. Strengthen and conserve OUV

- Promote integrated monitoring of the Getbol World Heritage to maintain its OUV and develop proactive response strategies to major threats
- Extend the property area and continue systematic follow-up management as recommended by the World Heritage Committee

[Project 1-1] Promote integrated management for Getbol, Korean Tidal Flats World Heritage and establish assessment system

1. Background and Necessity

○ Getbol, Korean Tidal Flats World Heritage was inscribed as UNESCO World Heritage, recognized for its OUV as an internationally significant biodiversity hotspot and stopover site for endangered migratory birds

○ Precise monitoring is needed to maintain the OUV attributes and to scientifically manage them. However, the current national monitoring project focuses mostly on only identifying the biodiversity and thus leaves room for improvement.

* National monitoring projects:

Ministry of Oceans and Fisheries : National Investigation on Marine Ecosystems,

Ministry of Environment : Nationwide Winter Waterbird Census, etc.

○ Additional monitoring is needed to identify changes in OUV attributes before and after inscription, to present management alternatives through scientific interpretation, and to prepare the World Heritage Periodic Report.

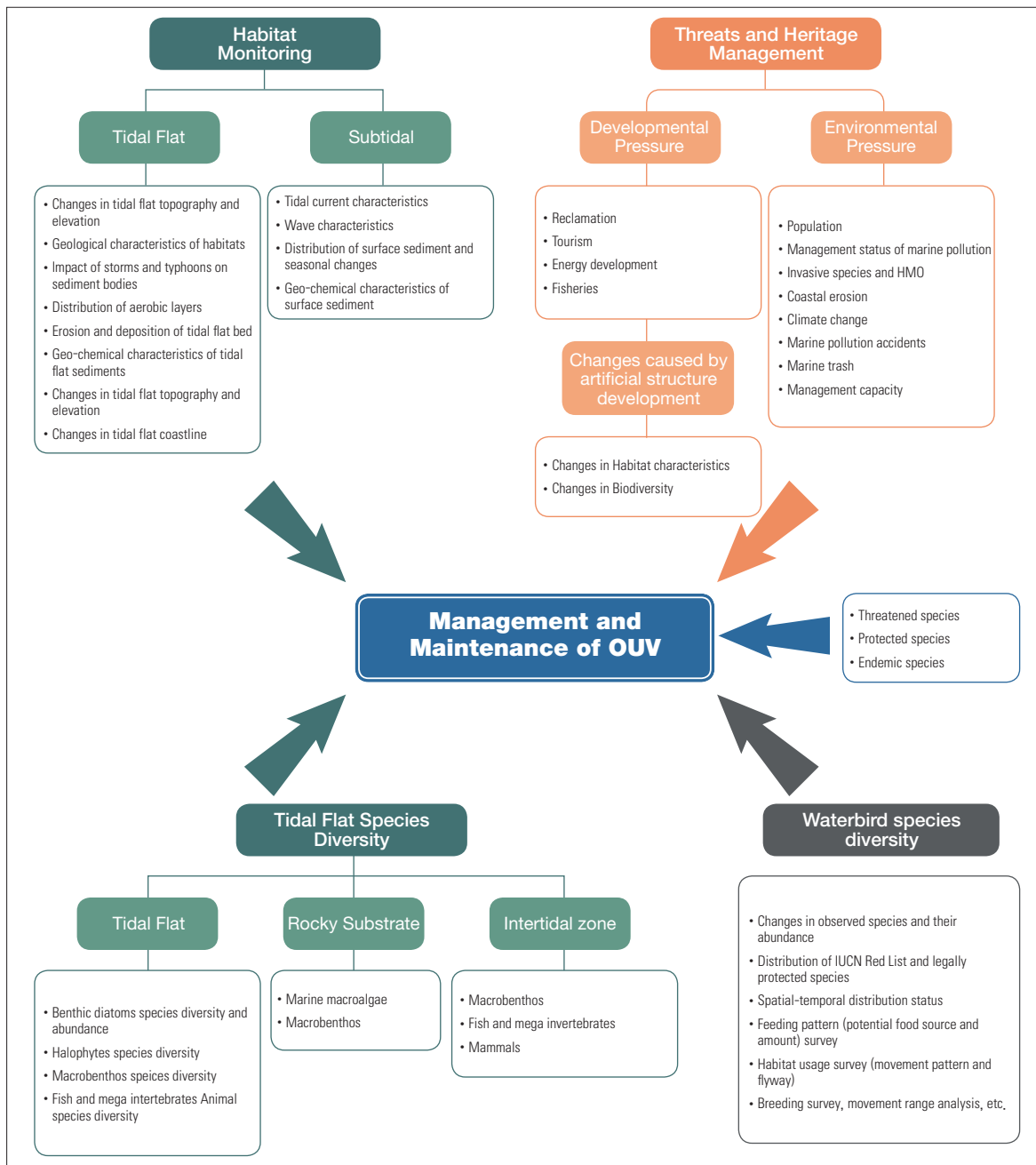
* The Promotion Team of Korean Tidal Flats prepared the Integrated Monitoring Manual for Getbol World Heritage (March 2023) and established detailed and consistent standards for monitoring items, indicators, methods, etc.

2. Detailed Contents

- (Waterbird Biodiversity Monitoring) Investigate the arrival and abundance of migratory waterbirds at Getbol World Heritage, the spatial, temporal distribution and changes in their populations
 - Survey the arrival and distribution of migratory waterbirds
 - Conduct survey of protected species (Natural Monuments, marine protected species, endangered species, IUCN Red List species)
 - Survey habitat use and threats
 - Analyze breeding status, behavior, and migration patterns

- (Tidal Flat Biodiversity) Research species diversity, abundance, distribution density, threats, endangered species, etc. of important tidal flat ecosystems
 - Species diversity and abundance of benthic diatoms
 - Halophytes (including dune plants) and vegetation
 - Macrobenthos species diversity, biomass and distribution density
 - Fish and mega invertebrate species diversity
 - Marine mammals, endangered species (including marine protected species), and endemic species distribution

- (Tidal Flats Habitat Characteristics) Survey of tidal flats topography, geological characteristics, aerobic layer distribution, and sediment geochemistry, which are the basic elements of a tidal flat habitat.
 - Investigation of tidal flats topography and elevation changes
 - Investigate the sediment characteristics of habitat tidal flats, such as the organic content of sediments
 - Investigate impact of storms and typhoons on the sedimentary facies
 - Investigation of changes in tidal flats sediment geo-chemical characteristics and sediment dynamics characteristics
 - Investigation of characteristics of tidal current and waves, and distribution of subtidal area surface sediments



【Diagram of monitoring activities within the nominated property】

○ (Threats and Heritage Management) Identification of threats to the habitat of macroinvertebrates and waterbirds, which are components of Getbol World Heritage, and establishment of an effective management system.

- Investigate changes in tidal flat characteristics due to man-made structures
- Investigate development pressures (Land reclamation, tourism, energy development, fisheries, etc.)

- Environmental pressures (Human population, marine pollution management status, alien invasive species and HMOs, etc.)
- Investigation of operation status at Getbol World Heritage management organizations and visitor centers

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Prepare a Getbol World Heritage Integrated Monitoring Manual						GWHC (Cooperation between Korea Heritage Service and MOF)
Conduct integrated monitoring by region						GWHC (Cooperate with relevant city, county and districts)

4. Expected Outcome

- Identify and respond to changes in OUV attributes through consistent monitoring
- Secure basic data for the preparation of World Heritage Periodic Report
- Utilize basic data for setting mid- to long-term integrated management policies and directions and for establishing project plans

1. Background and Necessity

- The OUV of Getbol World Heritage is being one of the most globally significant habitats for the conservation of global biodiversity and an important stopover site for endangered migratory birds.
- Therefore, restoration and enhancement of tidal flats, a key habitat for a wide range of organisms, including migratory birds, are essential as key activities for the protection and management of the Getbol World Heritage OUV.
- The Ministry of Oceans and Fisheries is promoting the restoration of damaged tidal flats and afforestation of halophytes under the First Master Plan on Management and Restoration of Tidal Flats (2021-2025).

* Restoration projects are in progress for of 4.5 km² of abandoned salt pans and fish farms by 2025, and about 660 km² of non-vegetated tidal flats with halophytes by 2050.

2. Detailed Contents

- Restoration of habitats and creation of artificial habitats for marine protected species
 - Restore habitats that had been reduced due to natural and anthropogenic changes in the tidal flat environment.
 - * In the short term, improve physical functions by restoring abandoned salt pans and fish farms and by allowing exchanges of seawater through land-to-island bridges, etc. In the long term, help tidal flats naturally recover its original status.
 - Grow halophyte communities on non-vegetated tidal flats.
 - Install facilities (artificial habitats) to support migratory birds, such as resting areas for seabirds
 - * Create artificial habitats for migratory birds to rest in areas adjacent to the tidal flats without being disturbed by visitors during high tides.

○ Projects to increase the safety of tidal flat habitats (Create migratory bird gardens, install protection fences and observatories for waterbirds, and set up alternative resting grounds)

- Roll out the practice of leaving cut straw in the harvested rice paddies, which is currently in place in Suncheon Bay, Cheonsu Bay, and Shinan.

* Unused rice paddy wetlands: Rice fields that are not used for farming but remain filled with water, thus creating a wetland ecosystem.

- Link with ecosystem service payment system projects, such as marine biodiversity management contracts
- Control artificial lighting during night time in key habitats etc.

* An example of controlling artificial lighting during night time that disturbs resting migratory birds can be found in Suncheon Bay, where the city removed electric poles to ensure a stable environment for the birds.

○ Reduce terrigenous pollution from flowing into the tidal flats

- Build more nature-based purification facilities using artificial wetlands and beneficial micro-organisms.

* This practice is also in line with the IUCN's Natural-based Solution (NbS), presented as a solution to overcome low sewerage connection rates around heritage sites.

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Restore tidal flat ecosystem						Relevant local municipalities (Cooperate with the Ministry of Oceans and Fisheries)
Create wetland gardens and migratory bird parks						Relevant local municipalities
Expand waterbird habitat protection and management infrastructure						Relevant local municipalities
Treat household waste water by creating artificial wetlands						Relevant local municipalities

4. Expected Outcome

- Increase tidal flat habitat health and its areas, contributing to enhance the OUV
- Set best practices on tidal flats restoration, which is also an issue of international interest, and lead global efforts in the area.

1. Background and Necessity

- At the time of inscription of Getbol World Heritage (Phase I), the 44th Session of the UNESCO World Heritage Committee recommended the extension of nine components in the key waterbird habitat areas as a Phase II nomination, and the establishment of an Integrated Management System for the serial nomination.

*Nine components proposed for Phase II extension

- The ROK Government promoted the extension of the World Heritage Site on top of the Phase II nominated property (Muan Getbol, Yeosu Getbol, Goheung Getbol, and Seosan Getbol), to be successfully inscribed in 2026.

- (Research) Continue to conduct surveys to identify habitats with high biodiversity of global importance and habitats that are stopover sites for endangered migratory birds.

- Expand the National Investigation on Marine Ecosystems, which is conducted in major tidal flats including WPAs on the southwest coast of Korea, and connect its results with other studies and surveys

- * In the proposed components for extension in Phase II and other key tidal flats, survey stations were added in the National Investigation on Marine Ecosystems.

- (Additional WPA designation) WPA designation or extensions were promoted in the proposed components for extension in Phase II and other newly identified key tidal flats.

- Gunsan area is newly designated as a WPA based on the survey findings. Further extension of WPAs in the Incheon-Gyeonggi region is also being promoted.

- Along with the promotion of WPAs, the conservation of the OUV and the strengthening of the national-level management system for the Getbol World Heritage are simultaneously promoted, by connecting the tidal flat heritage management system with the marine ecological axis (Southwest Sea Tidal Flat Ecological Axis) management system.

- (Preparation for Further Extension) Following a successful inscription of the Phase II nomination, preparations for further extensions would begin with the establishment of an expert committee, a committee of authors for the next nomination dossier, and public information sessions.
- To prepare and respond to the nomination preparation in a systematic and professional manner, the GWHC will establish and promote a cooperation system with relevant government agencies (Korea Heritage Service, Ministry of Oceans and Fisheries) and local municipalities.

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Promotion of further extension to the key habitats						GWHC (Cooperate with the relevant local municipalities)

4. Expected Outcome

- Lay the groundwork for the practical implementation of the UNESCO World Heritage Committee recommendations
- Contribute to the integrity of the Getbol World Heritage
- Establish a conservation and management system for key habitats along the EAAF

Strategy 2. Establish a systematic World Heritage Integrated Management System

- Establish an Integrated Management System for a serial nomination in conjunction with the existing management system, aiming for the sustainable protection and management of the Getbol World Heritage and the full implementation of the recommendations of the UNESCO World Heritage Committee.
- Cooperate with national and municipal-level initiatives to manage the main threats affecting the OUV of the World Heritage and to ensure the effectiveness of such practical management.

[Project 2-1] Lay the foundation for implementing integrated management for Getbol World Heritage

1. Background and Necessity

- Designation and implementation of WPAs are conducted through a 10-year Master Plan for Wetlands under the Wetlands Conservation Act and a 5-year WPA Basic Management Plan under the Marine Ecosystem Act.
- Based on the above plans, management centers (Visitor Centers, etc.) and local management committees at the national, metropolitan and local municipality, and city, county, district-levels are established.
 - * A local-level Basic Management Plan is established by the Regional Offices of the Ministry of Oceans and Fisheries based on the Marine Ecosystems Act. The Local Management Committees are organized and operated in accordance with local ordinances.
- As the current WPA management system is centered on local-level management, it is necessary to prepare a broader regional and integrated management system for Getbol, Korean Tidal Flats World Heritage, which is a serial nomination.
- The Korea Heritage Service and the Ministry of Oceans and Fisheries decided to establish the Getbol World Heritage Center as an integrated management organization for Getbol World Heritage.

2. Detailed Contents

○ An integrated management body will be launched and necessary rational be presented to implement the recommendations of the World Heritage Committee.

- (GWHC) The Getbol World Heritage Center will function as an integrated management secretariat. It is in charge of biodiversity, habitat, and threats management for the conservation of the Getbol World Heritage OUV in connection to the main tasks of the Ministry of Oceans and Fisheries and Korea Heritage Service. GWHC will also perform the following tasks: operate the local regional management network; prepare the nomination dossier; monitor and evaluate the conservation of the OUV; prepare the World Heritage Periodic Report; develop and disseminate heritage education and tourism programs such as CEPA to further promote the heritage values; as well as work on outreach activities and exhibitions.

- (Getbol World Heritage Integrated Management Committee) The Getbol World Heritage Integrated Management Committee is the highest decision-making body in the World Heritage management system, comprised of representatives of relevant ministries, the GWHC, relevant local governments, experts, local residents, and civil society organizations. The Committee is responsible for reviewing and decision making regarding the implementation of the World Heritage Integrated Management Plan (Implementation Plan) and annual business plans; reviewing the HIA and World Heritage Periodic Report; and the budget for GWHC and World Heritage protection and management projects.

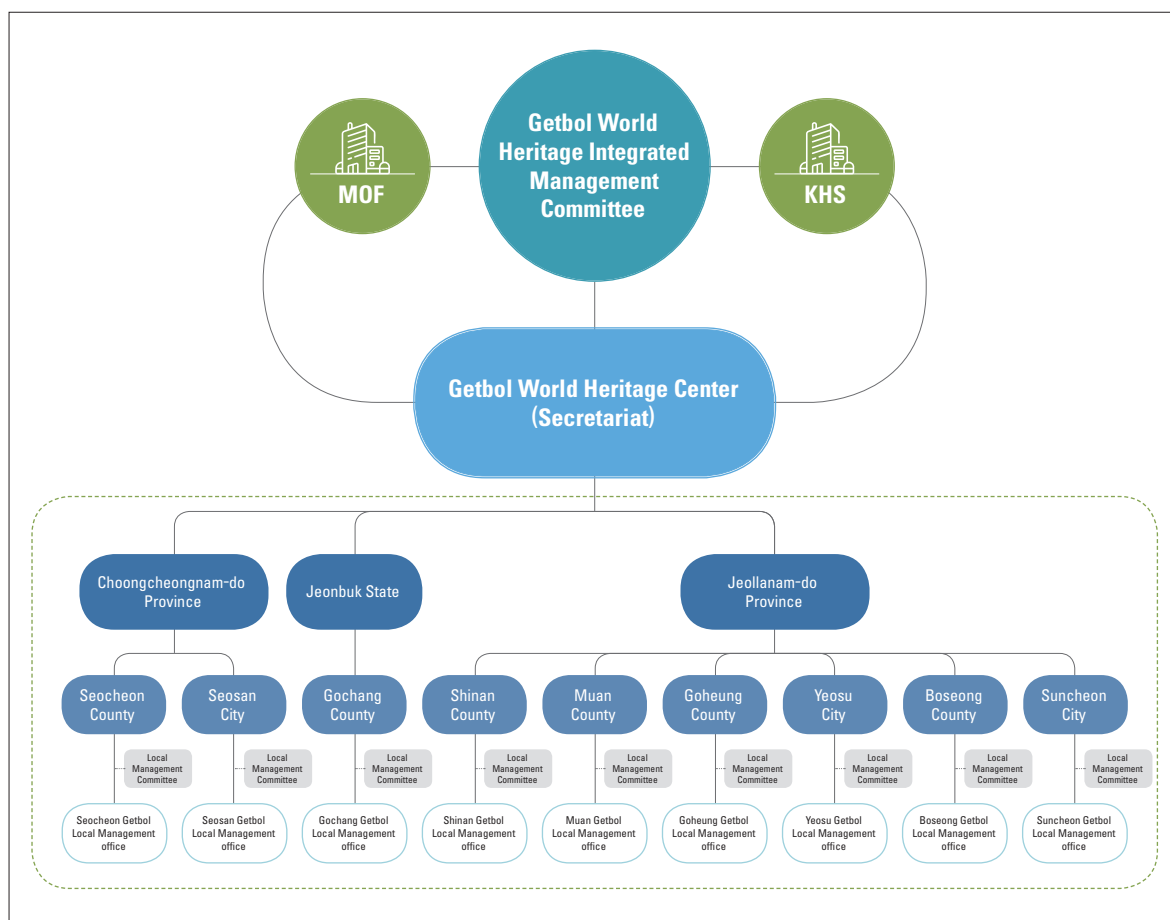
- (Reorganization of the Local Integrated Management Body and Establishment of Local Management Offices) To implement the World Heritage Committee recommendations, an integrated organization will be established for each municipality to be in charge of site management. Also, a local management office will be set up and serve as a hub for visitors to each region, and will be in charge of data compilation, education, tourism, and promotion.

* Local Integrated Management Organizations will be responsible for the comprehensive management of UNESCO Biosphere Reserves, Ramsar Sites, and EAAFP sites in each local municipality.

○ Establishment and implementation of the Integrated Management Plan

- An Integrated Management Plan will be prepared for the integrated management of Getbol World Heritage. Overall direction and detailed project plans on conservation, management and utilization, as well as additional extensions of the property area will be discussed under the Plan.

- A more customized local management plan will be established and implemented, while being consistent with the Integrated Management Plan.



【Getbol World Heritage Integrated Management System】

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
GWHC launch and operation	Planning	Organize and launch			Operation	Ministry of Oceans and Fisheries (Cooperate with the Korea Heritage Service)
Getbol World Heritage Local Management Offices set up		Planning	Organize and launch			Relevant city, county and districts (Cooperate with the GWHC)
Getbol World Heritage Integrated Management Plan established						Korea Heritage Service (Cooperate with the Ministry of Oceans and Fisheries)
Getbol World Heritage Management Plan established by each locality						Relevant city, county and districts (Cooperate with the GWHC)

4. Expected Outcome

- Lay the foundation for the practical implementation of the World Heritage Committee recommendations
- Establish an efficient and practical Integrated Management System through securing an integrated management organization
- Strengthen the on-site management system through securing and operating local management organizations
- Consistent management projects will be executed by each component through the establishment and implementation of the Integrated Management Plan.

[Project 2-2] Build up digitized integrated information system

1. Background and Necessity

- One of the key elements of integrated management is archiving (accumulation and utilization of data) through the collection and classification of data. However, currently data is dispersed in various institutions, constraining the effective data collection, analysis, and utilization.
- It is necessary to establish an easy-to-use information platform that is readily accessible to the public and various stakeholders (experts, government officials, local residents, visitors, etc.). This will help further stimulate sharing of heritage values and information.

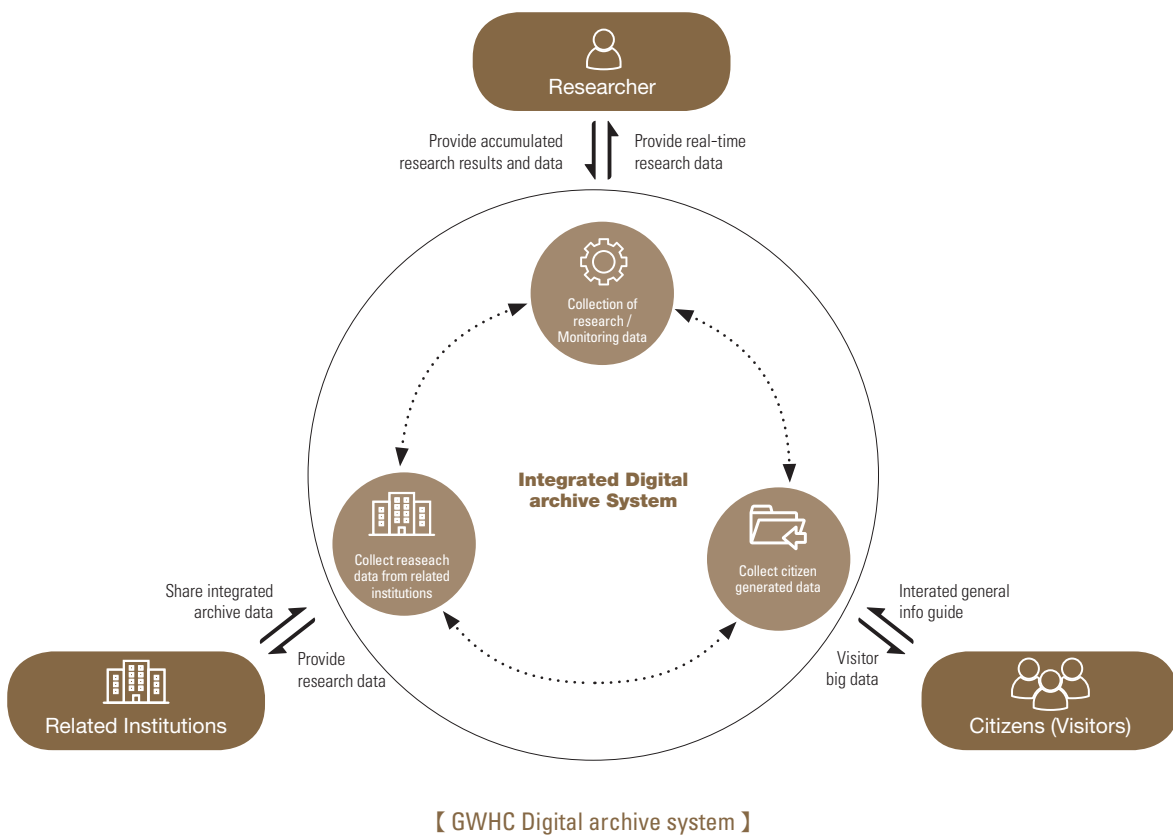
2. Detailed Contents

- Build a digital archive system
 - Establish the GWHC archive and connect it to the database of related national organizations to develop a shared platform for the collection, systematic accumulation and sharing of information.
- Build a Web-GIS-based big data information system and provide information services
 - Through the development of a Web-GIS-based big data information system, users and information providers can build up an interactive communication platform and create new services utilizing the big data.
 - * Real-time upload of field monitoring activities and results / Accumulate and utilize real-time visitor information (number of visitors, main visiting areas, movement status, etc.) using the visitor's location information.



[Example of the construction of digital tidal flat information and map service – Seosan Getbol]

- Researchers share accumulated data and real-time monitoring information (such as waterbird migration status). The World Heritage Site usually cover a vast area and placing sign boards or panels can be challenging. The visitors benefit from IT technologies such as augmented reality used on the heritage site, providing them with explanations on the World Heritage and other tourism-related information.



3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Prepare Master Plan on Tidal Flat Digital Information System						GWHC (Cooperate with relevant city, county and districts)

*Set up and operate the Master Plan on Tidal Flat Digital Information System (2028 - 2030)

4. Expected Outcome

- Enable a systematic setup, management and utilization of database of World Heritage-related documents and data
- Contribute to the sharing of heritage values by providing various public information services
- Support direction-setting of local management and revitalization of World Heritage tourism by utilizing the big data

1. Background and Necessity

- The 2023 IUCN Situation Analysis on Ecosystems of the Yellow Sea (2012, 2023) and IUCN World Heritage Assessment Report (2019, 2021) identified habitat degradation due to anthropogenic development, including land reclamation in areas surrounding the property, and excessive fishing, as major threats to the World Heritage Site.
- In addition to monitoring threats, it is necessary to strengthen the management of development projects, pollution sources, and fisheries to maintain the key attributes that make up the OUV of a World Heritage Site.

2. Detailed Contents

- Development project management
 - GWHC will obtain the status information on national and local municipality level development projects implemented or planned in the buffer zone and wider setting twice a year.
 - Promote having HIA under the World Heritage Act and other procedures such as the Marine Use Impact Assessment under relevant laws performed and their results to be reflected in the proposed development project.
- Pollution source management
 - Collect marine trash with the participation of local residents. Strengthen marine pollution monitoring by appointing honorary managers among the local residents.
 - Support the installation of bilge wastewater reduction devices to prevent oil pollution from damaging the marine ecosystems.
 - Expand sewage treatment facilities to reduce terrigenous pollution. Promote creation of artificial wetlands for household sewage from villages surrounding the property area to be purified before being discharged to the ocean.

○ Sustainable fisheries management

- Develop and distribute a sustainable fisheries management program
- Analyze the status of traditional fishing practices and aquaculture fisheries by region to identify problems and propose solutions
- Set specific use zones for sustainable fishing activities. Introduce gap-year programs, etc.
- Strengthen autonomous management of fishing activities based on self-regulated rules that reflect local needs and specificities through the organizing and operating of fishing community networks (e.g., no-catch periods, gap years, rules on use of fishing tools, etc.)

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Manage pollution sources such as marine trash						Relevant local municipalities
Build more sewage treatment facilities						Relevant local municipalities
Appoint Guardians of the Ocean Environment, Honorary Managers etc.						Relevant local municipalities (Cooperate with the Ministry of Oceans and Fisheries)
Support the transition to eco-friendly fishing tools						Relevant local municipalities (Cooperate with the Ministry of Oceans and Fisheries)

4. Expected Outcome

- Establish and implement a national and local level management system on development projects at the local municipality.
- Proactively eliminate threats that negatively impact the heritage OUV
- Contribute to raising awareness and increasing income of local residents by conducting projects with local participation

[Project 2-4] Build up a system for evaluation (annual, mid-term, comprehensive assessments) and reporting

1. Background and Necessity

- The need to establish an assessment system based on the Operational Guideline (118b) of the UNESCO World Heritage Convention, and the Comprehensive Plan on World Heritage Conservation, Management and Utilization (2022) of the Korea Heritage Service
- World Heritage Act of the Korea Heritage Service also requires that an heritage impact assessment system be established and implemented for the various planned or scheduled development projects in and around the property area.
- There is a need to check the implementation status of the Integrated Management Plan through the annual evaluation of the project and prepare for the World Heritage Periodic Report in advance.

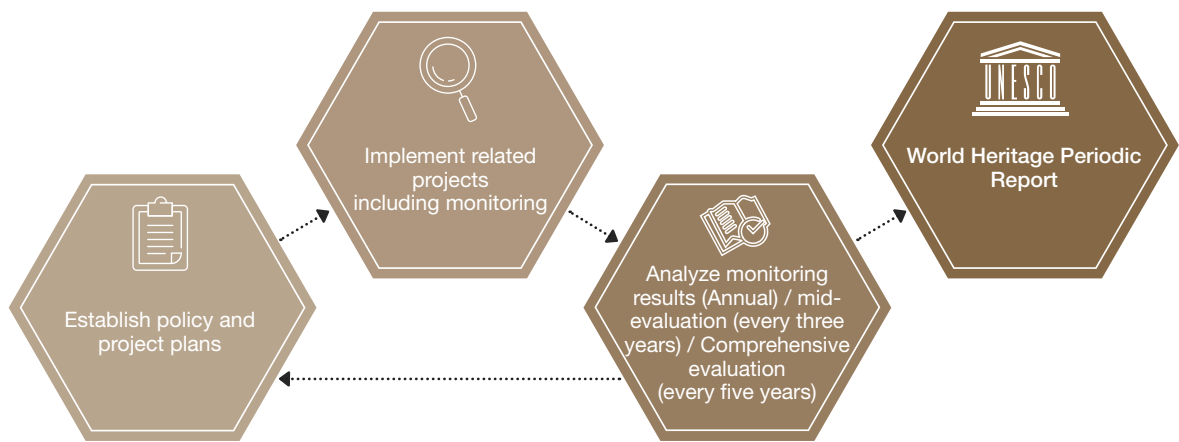
2. Detailed Contents

- Establish a heritage management evaluation system
 - (Annual Evaluation) Includes evaluation of each local municipality's individual protection and management projects by year, check-up on their implementation status and areas of improvement of the monitoring and Integrated Management Plan, as well as setting up the following year's project plan with the necessary updates and improvements applied.
 - (Mid-Evaluation) Looks at three years of monitoring results in an integrated workshop and compares the three-year accumulated monitoring results with each year's annual evaluations. The analyzed results are presented as improvement measures for protection and management.
 - (Comprehensive Evaluation) Prepares a World Heritage Periodic Report that comprehensively reflects the results of five years of integrated monitoring and annual and mid-term evaluations, and derives management effectiveness and improvements through an integrated workshop joined by various experts.

○ Establish of a preparation and response system for the World Heritage Periodic Report

- Hold a public-private-academic integrated workshop (6 months to 1 year before the Periodic Report) to share the past five years' monitoring results, the annual evaluation results, prepare conservation policies (draft) and submit the draft to the Integrated Management Committee
- Prepare the Periodic Report by utilizing the annual evaluation results and management plan analyzed through the integration workshop as the basis for the monitoring results.

*Periodic report includes the following: information on threats and significant improvements to the property since the World Heritage Committee report; follow-up on World Heritage Committee recommendations regarding the property's conservation; threats and damage to, or loss of the property's OUV, integrity, or authenticity.



【World Heritage Periodic Report response system】

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Evaluation Planning/ Annual, Mid-and Comprehensive Evaluations	Annual Evaluation	Annual Evaluation	Midterm Evaluation	Annual Evaluation	Comprehensive Evaluation	World Heritage Integrated Management Committee (Cooperate with the GWHC)
Prepare a Periodic Report						GWHC

4. Expected Outcome

- Getbol, Korean Tidal Flats has a large area, and therefore can be exposed to various influences that affect the property. The evaluations contribute to the protection and systematic management of the heritage against such influences.
- Set a positive example by taking a lead in the implementation of HIA which is a new international recommendation.

Strategy 3. Promote better utilization of Getbol World Heritage and share its value

- It is important to secure various levels of management staff, not only experts, but volunteers, and eco-guides to establish a strong local management base for Getbol World Heritage and to conduct public outreach.
- It is also important to create a virtuous circle at the local management level. To this end, the lives of the local residents, who monitor and use the property on a daily basis, should be valued. Creating an eco-friendly source of income, such as marine eco-tourism, for the locals would be needed.

[Project 3-1] Promote heritage education, manpower, and capacity building

1. Background and Necessity

○ To ensure sustainable protection and management of the Getbol, Korean Tidal Flats World Heritage and to hand it down to future generations, education and training programs for human resource development and capacity building in each field are needed.

○ It is essential to develop and implement a CEPA (Communication, Capacity building, Education, Participation and Awareness) action plan from an integrated perspective to ensure that the World Heritage conservation strategy is sustainable and robust with the participation of various stakeholders.

* Encompasses communication, capacity building, education, training, participation, and awareness raising. The CEPA Action Plan is fundamental to the sustainable use of tidal flats and is recommended by UNESCO, IUCN, and the Ramsar Convention.

○ The Getbol, Korean Tidal Flats World Heritage is a prime example of a living heritage, where the lives of the local residents are closely attached to the property. Therefore, raising awareness and inviting more active participation for better cooperation and communication among various stakeholders are key to practical heritage management.

2. Detailed Contents

○ Develop a CEPA Action Plan

- Analyze and organize documents, such as the CEPA Tool Kit (2008)
- Analyze domestic and international best practices
- Develop a CEPA program for Getbol, Korean Tidal Flats World Heritage: vision, goals, strategy, detailed action plan and implementation framework

○ Develop and operate heritage education programs

- (Public Education Program) In accordance with the CEPA Action Plan, develop and disseminate online and offline education programs to promote effective understanding of the OUV of the Getbol World Heritage. Also, develop customized education programs for different target groups.

* To strengthen heritage education for future generations, an MOU has been signed between the Ministry of Oceans and Fisheries (and/or GWHC) and the Ministry of Education (and/or the education office of each participating municipality).

This enables heritage education programs to be included in the curriculum for students from primary and secondary schools in each component.

- (Create teaching aids and materials for educational programs) Create digitalized (Digilogue, Digital+ Analogue) teaching aids and materials to meet the expectations of future generations (learners), and to encourage them to fully experience nature.
- (Develop local community education programs) Develop World Heritage education programs for local residents, who use the heritage sites daily. Programs on awareness raising, conservation and capacity building all promote the conservation and sustainable use of the property.

○ Develop and operate human resource development programs

- (Site managers and investigators) Operate training programs in cooperation with universities in the local municipalities for each component, by opening up courses in liberal arts and in each relevant field of study, as well as in graduate programs.
- (Heritage Interpreters) Develop and operate a program open to the general public and to the local residents, to train heritage interpreters (twice a year)

○ Develop and run capacity building programs

- (Site Managers) Develop and run capacity building programs for site managers from the Getbol World Heritage integrated management body and Local Management Centers, in accordance with the CEPA Action Plan for effective integrated heritage management (at least once a year)
- (Investigators): Develop and operate programs for investigators participating in monitoring by each sector to strengthen the implementation of integrated monitoring (at least once a year)
- (Heritage interpreters): Develop and operate periodic refresher training programs for heritage interpreters who are the first touch points in heritage education and heritage tourism (at least once a year)
- (Getbol World Heritage Curator) Operate a capacity building program for the professional curators, so that the exhibitions will become more interesting with better content, accompanied by well-structured explanations. This will ultimately lead to better understanding and satisfaction of the visitors to GWHC.

○ Organize and operate a network of local community councils

- Organize an integrated network of local communities and neighborhood councils by region
- Invite local residents to participate in the operation of the Integrated Management System with specific roles and gather their opinions through the operation of a local council network
- Share conservation management information from other areas, and raise better understanding of and pride for the heritage through festivals with community participation

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Develop CEPA Action Plan		Planning				GWHC
Develop and operate heritage education program				Develop and operate on/offline programs		GWHC (Cooperate with relevant local municipalities)
Develop and operate human resource program				Develop and operate on/offline programs		GWHC (Cooperate with relevant local municipalities)
Develop and operate capacity building program				Develop and operate on/offline programs		GWHC (Cooperate with relevant local municipalities)
Organize and run a network of community councils						Relevant local municipalities (Cooperate with the GWHC)

4. Expected Outcome

- Establish a CEPA Action Plan to lay the groundwork of the future for OUV conservation
- Raise awareness through heritage education, human resource training, and capacity building
- Contribute to creating green jobs and revitalizing the local economy through training programs on heritage interpreters for local residents and the general public to participate in

1. Background and Necessity

- Establish and implement a development strategy for tidal flat heritage tourism to improve the quality of life of local residents, revitalize the local economy, and further share the heritage value.
- A systematic heritage tourism infrastructure will be need to minimize the tourism pressure associated with increased demand, following a successful inscription.
- Develop and implement a local heritage tourism plan
 - Develop a local tourism vision and detailed action plan (including heritage tourism programs)
 - Establish a management system through spatial planning
 - Improve programs and systems: Designate Tidal Eco-Village (tentative title); introduce certified lodging, tour reservation system, visitation cap and fishery holidays.
 - Establish a statistical system for heritage tourism management (to identify the number of visitors and overall supply and demand in tourism)
 - Develop differentiated heritage tourism programs by analyzing ecotourism resources by each region
 - Identify and manage sustainable private tourism operators
 - Establish heritage tourism in connection with neighboring regions
 - Link heritage tourism to vitalizing the local economy
 - Analyze the supply and demand of tourism and other facilities needed for heritage tourism and propose constructive alternatives
 - Promote local economic revitalization through linkage with local tourism resources
 - Develop and operate local community participation and win-win programs
- Build heritage tourism infrastructure
 - Build heritage tourism infrastructure in line with local heritage tourism plans
 - Infrastructure construction: eco-trails, experience facilities (habitat ecology and bird watching, etc.), installation of information sign boards in the property area, creation of convenience facilities for residents and visitors, etc.

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Improve and build World Heritage tourism infrastructure						Relevant local municipalities
Actively invite the private tourism sector to World Heritage tourism						Relevant local municipalities (COOPERATE WITH THE GWHC)

4. Expected Outcome

- Reduce heritage tourism pressure through effective implementation of heritage tourism action plans
- Improve the quality of life of local residents and revitalize the local economy through infrastructure construction
- Provide high-quality heritage tourism services with more visitor facilities, while contributing to further sharing of the heritage values

1. Background and Necessity

- In order to effectively communicate the OUV and importance of the Getbol World Heritage to the public, development and implementation of systematic promotion, exhibition, and event planning are needed.

2. Detailed Contents

- Establish and implement an integrated public outreach plan
 - Establish an integrated communication plan and strategy (including long-term) to efficiently and systematically communicate the importance and value of the Getbol World Heritage and its management guidelines
 - Develop BI to enhance the brand value of Getbol World Heritage
 - Develop and utilize BI to enhance the value of the Getbol World Heritage brand and strengthen its image
 - Maximize promotional effectiveness through consistent use and exposure of BI for all promotional elements (including traffic signs, etc.)
 - Create a publicity plan
 - Diversification strategy: Diversify publicity methods to increase publicity effectiveness. Use large outdoor advertisements, and increase media exposure, etc.
 - Create explanatory materials that will help the public have easier access to and better understand the OUV
 - In addition to traditional promotional materials such as print, video, and souvenirs, analyze the latest trends to create various forms of promotional materials that would generate public interest.
 - Plan to operate a publicity portal to promote heritage tourism and heritage education programs at each component and also at an integrated level
- Exhibition content development
 - Plan content that can showcase the OUV of the World Heritage Site
 - * Plan content that can maximize experiencing the Getbol World Heritage at the indoor exhibition spaces. Though indirect, the permanent indoor exhibitions will be not affected by the climate.

- Create an exhibition space that present great storytelling, by connecting the exhibition contents in an organic manner
- Plan futuristic, forward-thinking, and experiential content to engage visitors
- Plan exhibits that are easy to update and refurbish with new content
- Operate a traveling (moving) exhibition center utilizing promotional video materials using VR, etc.

○ Host promotional events

- Organize and attend domestic and international conferences, host local tidal flats-related festivals, etc.
- Organize events linked to heritage utilization (i.e. passport stamping program, heritage education certificate, etc.)
- Organize promotional events for socially vulnerable groups (i.e. invite them to tidal flat tours)
- Organize traveling photo exhibitions together with the central and local exhibition halls, etc.

3. Timeline

Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Plan customized outreach strategies for each component						Relevant local municipalities (Cooperate with the GWHC)
Build online platform for World Heritage promotions						Relevant local municipalities
Make World Heritage promotional goods						Relevant local municipalities (Cooperate with the GWHC)
Host World Heritage promotional events						Relevant local municipalities

4. Expected Outcome

- Maximize effectiveness through systematic and consistent promotion activities by establishing and implementing an integrated promotion plan
- Effectively rearrange the space in the local management center according to the exhibition content to help the visitors better understand the Getbol World Heritage and encourage them to revisit to enjoy new spaces and contents
- Further promote the heritage values by hosting various promotional events

1. Background and Necessity

- Upon inscription of the Getbol, Korean Tidal Flats World Heritage, the World Heritage Committee recommends further collaboration with countries on the East Asian-Australasian Flyway (EAAF) and the Migratory Bird Sanctuaries along the Coast of the Yellow Sea-Bohai Gulf of China to better protect endangered migratory birds.
- As part of the World Heritage inscription, the State Party needs to further contribute to the international community through cooperation with other international organizations.
- Also, there is a need to promote further cooperation with partner organizations within the government and to strengthen networks among different components of the serial nominations to maintain the heritage OUV in a constructive and efficient manner.
- Strengthen international cooperation
 - Strengthen cooperation in the Yellow Sea Ecoregion: Build a foundation for joint management of the Yellow Sea by promoting joint research on and migratory birds in the Yellow Sea between China and Korea and by setting up information sharing platforms
 - Identify and promote joint research needs based on common tidal flats conservation and management goals, such as conservation of migratory birds
 - Regularly organize workshops to share research and survey results and support people-to-people exchanges between the two countries
 - Establish and operate a high-level council between ROK and China for marine environment cooperation in the Yellow Sea, and also work on extending the scope of this cooperation to include North Korea and other international organizations.
 - Establish a South - North communication system based on collaboration with international organizations such as IUCN, EAAFP, Ramsar Regional Center for East Asia (RRC-EA), UN ESCAP, and with China,

and seek diversified opportunities for cooperation.

- Expand collaboration with EAAF countries

- Identify international collaboration projects with Australia, New Zealand, Russia, the United States, and others to protect endangered species.

- Expand international contributions to habitat conservation through collaboration with EAAFP

- Increased collaboration with other World Heritage Sites

- Strengthen management capacity, joint monitoring, heritage education and tourism programs through exchange and cooperation with the Wadden Sea World Heritage*

- * Signed an extended MOU between Korea and the Wadden Sea (May 2023)

- Strengthened collaboration with the Royal Society for the Protection of Birds (RSPB) to support UK's World Heritage of the Wash Tidal Flats mudflats and exchange advanced techniques for habitat restoration.

- Organize and operate an international advisory board

- Cooperate with international organizations such as BirdLife International, Wetland International, RSPB, the Wadden Sea, EAAFP, etc. to discuss issues related to the conservation and management of heritage values, and to upgrade the management system through regular consultation.

- Seek advice on strategy and direction for further extension of key tidal flat areas in Korea, such as Incheon and Gyeonggi, and request cooperation from the international community.

○ Promote cooperation among domestic institution. Organize and operate networks.

- Identify and promote cooperative projects such as data sharing and joint response to threats by expanding cooperation with relevant agencies such as the Korea Heritage Service and the Ministry of Oceans and Fisheries.

- Organize networks and regular consultations between GWHC and the Local Management Centers at the local level.

3. Timeline

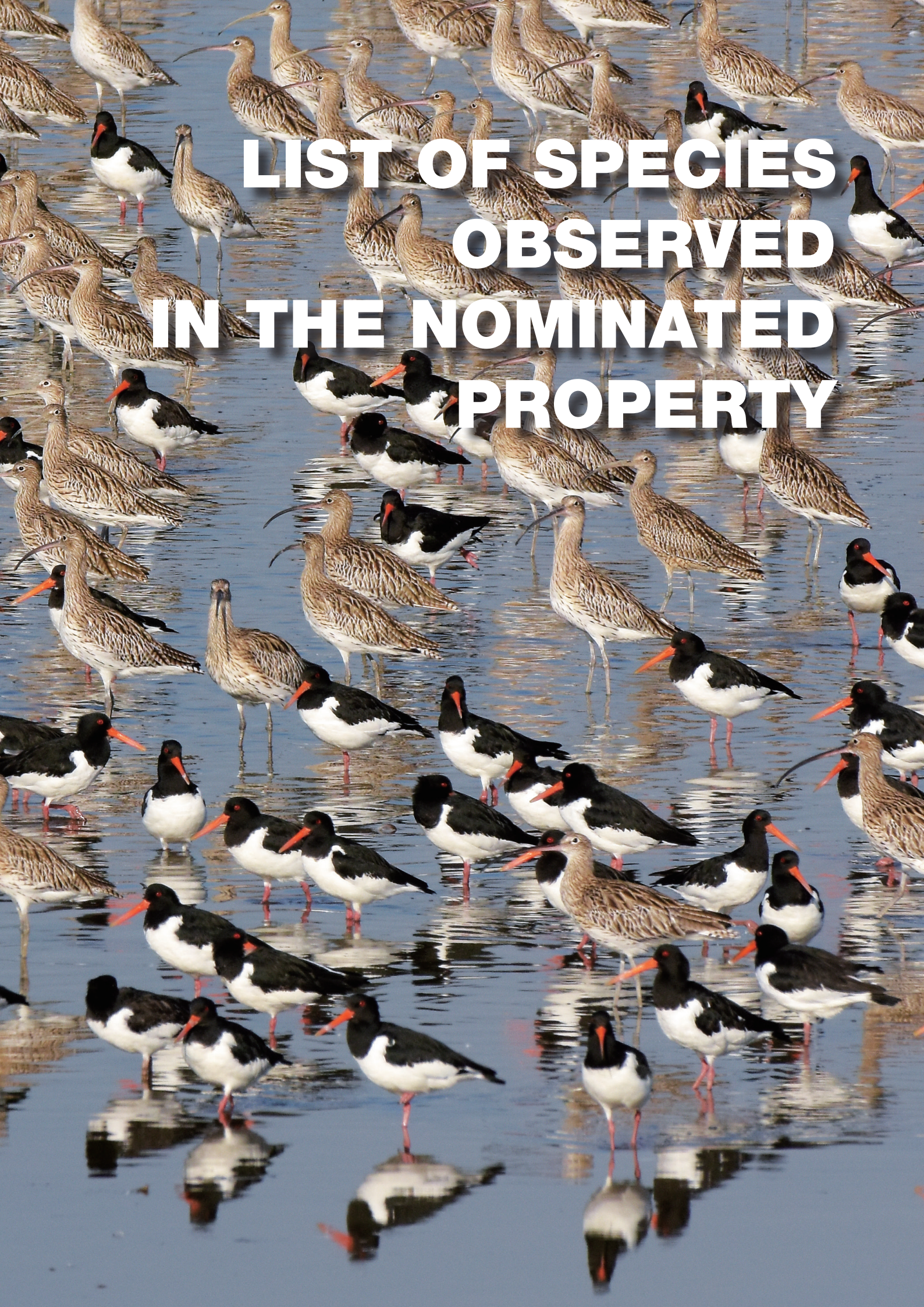
Action Task	Timeline					Implementing Agency
	'23	'24	'25	'26	'27	
Strengthen cooperation in the Yellow Sea Ecoregion						GWHC (Cooperation between Ministry of Environment and relevant local municipalities)
Strengthen international cooperation						GWHC (Cooperation between Ministry of Environment and relevant local municipalities)
Organize and operate an international advisory board						GWHC (Cooperation with relevant international organizations)
Strengthen domestic cooperation (with other ministries / local network, etc.)						GWHC (Cooperation with relevant ministries, i.e. MOE)

4. Expected Outcome

- Practical implementation of the recommendation of the WHC (To strengthen national integrated management) and advice (To strengthen international cooperation)
- Rapid adoption of advanced Integrated Management Systems through international collaboration
- Strengthen international presence by developing a leading agenda
- Build international support for further extension of the property areas
- Establish domestic governance and network to improve communication and cooperation



Section 2

A large flock of shorebirds, including waders and plovers, standing in shallow water. The birds are densely packed, with many individuals visible in the foreground and background. The water is shallow and reflects the birds. The birds have various plumages, including brown, black, white, and orange. Some have long, curved bills, while others have shorter, straight bills. The overall scene is a naturalistic depiction of a bird colony.

LIST OF SPECIES OBSERVED IN THE NOMINATED PROPERTY

Summary of biodiversity of taxon in each component

No.	Taxa	Boseong-Suncheon-Yeosu-Goheung				Shinan-Muan			Gochang	Seocheon	Seosan	Total
		Boseong-Suncheon	Yeosu	Goheung	Sub total	Shinan	Muan	Sub total				
		Phase I	Phase II	Phase II		Phase I	Phase II		Phase I	Phase I	Phase II	
1	Birds	109	67	76	126	103	171	178	89	83	174	221
2	Benthic diatoms	188	51	38	224	224	155	332	194	181	53	473
3	Marine macroalgae	23	5	54	62	145	27	150	9	49	-	173
4	Halophytes	53	36	54	74	81	95	112	49	59	68	122
5	Macrobenthos	480	361	552	789	730	624	968	338	322	462	1349
6	Marine fishes	43	21	26	65	41	41	68	45	30	46	114
7	Marine mammal	-	1	1	1	1	-	1	-	-	1	2
Total												2,454

Chapter 1. Birds

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Phylum Chordata								
	Class Aves								
1	<i>Coturnix japonica</i>					○			
2	<i>Phasianus colchicus</i>					○			○
3	<i>Anser cygnoides</i>	○						○	○
4	<i>Anser fabalis</i>	○		○	○	○	○	○	○
5	<i>Anser albifrons</i>	○			○	○	○	○	○
6	<i>Branta bernicla</i>								○
7	<i>Cygnus olor</i>						○		
8	<i>Cygnus columbianus</i>								○
9	<i>Cygnus cygnus</i>	○		○	○	○	○	○	○
10	<i>Tadorna tadorna</i>	○	○	○	○	○	○	○	○
11	<i>Tadorna ferruginea</i>					○		○	○
12	<i>Aix galericulata</i>					○			○
13	<i>Mareca strepera</i>	○	○	○	○	○	○		○
14	<i>Mareca falcata</i>	○	○	○	○	○	○	○	○
15	<i>Mareca penelope</i>	○			○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
16	<i>Anas platyrhynchos</i>	○	○	○	○	○	○	○	○
17	<i>Anas zonorhyncha</i>	○	○	○	○	○	○	○	○
18	<i>Spatula clypeata</i>	○	○	○	○	○	○		○
19	<i>Anas acuta</i>	○	○	○	○	○	○	○	○
20	<i>Spatula querquedula</i>		○			○			○
21	<i>Sibirionetta formosa</i>			○		○			○
22	<i>Anas crecca</i>	○	○	○	○	○	○	○	○
23	<i>Aythya ferina</i>	○	○	○	○	○	○		○
24	<i>Aythya nyroca</i>					○			
25	<i>Aythya fuligula</i>	○	○	○	○	○	○		○
26	<i>Aythya marila</i>	○	○		○	○			○
27	<i>Clangula hyemalis</i>					○			
28	<i>Bucephala clangula</i>	○	○	○	○	○	○		○
29	<i>Mergellus albellus</i>	○	○		○	○			○
30	<i>Mergus merganser</i>	○	○	○	○	○	○	○	○
31	<i>Mergus serrator</i>	○	○	○	○	○	○	○	○
32	<i>Gavia stellata</i>								○
33	<i>Tachybaptus ruficollis</i>	○	○	○	○	○	○	○	○
34	<i>Podiceps grisegena</i>	○					○	○	○
35	<i>Podiceps cristatus</i>		○	○		○			○
36	<i>Podiceps auritus</i>					○			
37	<i>Podiceps nigricollis</i>	○	○	○		○	○		○
38	<i>Ciconia boyciana</i>					○	○		○
39	<i>Platalea leucorodia</i>	○	○	○	○	○	○	○	○
40	<i>Platalea minor</i>	○	○	○		○		○	○
41	<i>Botaurus stellaris</i>	○			○		○		○
42	<i>Ixobrychus sinensis</i>								○
43	<i>Nycticorax nycticorax</i>	○			○		○	○	○
44	<i>Butorides striata</i>		○	○	○	○		○	○
45	<i>Ardeola bacchus</i>								○
46	<i>Bubulcus coromandus</i>	○	○	○		○	○		○
47	<i>Ardea cinerea</i>	○	○	○	○	○	○	○	○
48	<i>Ardea alba</i>	○	○	○	○	○	○	○	○
49	<i>Ardea intermedia</i>	○	○	○	○	○	○	○	○
50	<i>Egretta garzetta</i>	○	○	○	○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
51	<i>Egretta eulophotes</i>		○	○	○	○	○	○	○
52	<i>Phalacrocorax carbo</i>	○	○	○	○	○	○	○	○
53	<i>Phalacrocorax capillatus</i>		○	○	○	○	○	○	○
54	<i>Falco tinnunculus</i>	○	○	○	○	○	○	○	○
55	<i>Falco columbarius</i>	○				○			○
56	<i>Falco subbuteo</i>		○					○	○
57	<i>Falco peregrinus</i>	○	○		○	○	○	○	○
58	<i>Pandion haliaetus</i>	○	○	○	○	○	○	○	○
59	<i>Pernis ptilorhynchus</i>			○		○			
60	<i>Milvus migrans</i>	○							
61	<i>Haliaeetus albicilla</i>	○	○			○	○		○
62	<i>Aegypius monachus</i>	○			○	○			○
63	<i>Circus cyaneus</i>	○	○		○	○	○		○
64	<i>Accipiter soloensis</i>		○						○
65	<i>Accipiter gularis</i>								○
66	<i>Accipiter nisus</i>	○	○	○		○	○	○	○
67	<i>Accipiter gentilis</i>	○			○	○	○		○
68	<i>Buteo japonicus</i>	○	○	○	○	○	○	○	○
69	<i>Buteo hemilasius</i>	○		○					○
70	<i>Buteo lagopus</i>	○					○		○
71	<i>Aquila nipalensis</i>	○							
72	<i>Aquila heliaca</i>								○
73	<i>Aquila chrysaetos</i>								○
74	<i>Gallinula chloropus</i>	○		○	○	○			○
75	<i>Fulica atra</i>	○	○	○	○	○	○		○
76	<i>Antigone vipio</i>	○			○	○			○
77	<i>Grus grus</i>	○			○				
78	<i>Grus monacha</i>	○		○	○	○			○
79	<i>Haematopus ostralegus</i>	○	○	○	○	○	○	○	○
80	<i>Himantopus himantopus</i>	○			○	○	○	○	○
81	<i>Recurvirostra avosetta</i>								○
82	<i>Vanellus vanellus</i>	○			○	○	○		○
83	<i>Pluvialis fulva</i>	○			○	○	○	○	○
84	<i>Pluvialis squatarola</i>	○	○	○	○	○	○	○	○
85	<i>Charadrius hiaticula</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
86	<i>Charadrius placidus</i>	○	○		○	○		○	○
87	<i>Charadrius dubius</i>	○	○	○	○	○	○	○	○
88	<i>Anarhynchus alexandrinus</i>	○			○	○	○	○	○
89	<i>Anarhynchus mongolus</i>	○	○		○	○	○	○	○
90	<i>Anarhynchus leschenaultii</i>				○	○	○	○	
91	<i>Gallinago gallinago</i>	○			○	○	○	○	○
92	<i>Limnodromus scolopaceus</i>				○	○			
93	<i>Limosa limosa</i>	○	○		○	○	○	○	○
94	<i>Limosa lapponica</i>	○	○	○	○	○	○	○	○
95	<i>Numenius minutus</i>				○			○	
96	<i>Numenius phaeopus</i>	○	○	○	○	○	○	○	○
97	<i>Numenius arquata</i>	○	○	○	○	○	○	○	○
98	<i>Numenius madagascariensis</i>	○	○	○	○	○	○	○	○
99	<i>Tringa erythropus</i>	○				○	○	○	○
100	<i>Tringa totanus</i>	○	○		○	○	○	○	○
101	<i>Tringa stagnatilis</i>	○	○	○	○	○	○	○	○
102	<i>Tringa nebularia</i>	○	○	○	○	○	○	○	○
103	<i>Tringa guttifer</i>	○	○	○		○	○	○	
104	<i>Tringa ochropus</i>	○		○	○	○	○	○	○
105	<i>Tringa glareola</i>	○			○	○	○	○	○
106	<i>Xenus cinereus</i>	○	○	○	○	○	○	○	○
107	<i>Actitis hypoleucos</i>	○	○	○	○	○	○	○	○
108	<i>Tringa brevipes</i>	○	○	○	○	○	○	○	○
109	<i>Arenaria interpres</i>	○		○	○	○	○	○	○
110	<i>Calidris tenuirostris</i>	○	○		○	○	○	○	○
111	<i>Calidris canutus</i>	○	○		○	○	○	○	○
112	<i>Calidris alba</i>				○	○	○	○	○
113	<i>Calidris ruficollis</i>	○	○		○	○	○	○	○
114	<i>Calidris temminckii</i>	○				○			
115	<i>Calidris subminuta</i>	○			○	○	○		
116	<i>Calidris acuminata</i>	○			○	○	○	○	○
117	<i>Calidris ferruginea</i>	○				○	○	○	
118	<i>Calidris alpina</i>	○	○		○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
119	<i>Calidris pygmaea</i>						○	○	
120	<i>Calidris falcinellus</i>	○	○		○	○	○	○	
121	<i>Calidris pugnax</i>	○					○		
122	<i>Phalaropus lobatus</i>							○	
123	<i>Larus crassirostris</i>	○	○	○	○	○	○	○	○
124	<i>Larus canus</i>	○	○	○	○	○	○	○	○
125	<i>Larus hyperboreus</i>						○		
126	<i>Larus vegae</i>	○	○	○	○	○	○	○	○
127	<i>Larus mongolicus</i>	○			○		○	○	○
128	<i>Larus fuscus</i>	○			○	○	○	○	○
129	<i>Larus schistisagus</i>	○			○	○	○	○	○
130	<i>Chroicocephalus ridibundus</i>	○	○	○	○	○	○	○	○
131	<i>Saundersilarus saundersi</i>	○	○	○	○	○	○	○	○
132	<i>Rissa tridactyla</i>							○	
133	<i>Sterna hirundo</i>							○	
134	<i>Sternula albifrons</i>				○	○		○	
135	<i>Chlidonias hybrida</i>					○		○	
136	<i>Chlidonias leucopterus</i>							○	
137	<i>Streptopelia orientalis</i>	○			○	○			○
138	<i>Bubo bubo</i>	○	○		○	○			○
139	<i>Asio flammeus</i>					○			
140	<i>Caprimulgus indicus</i>	○							
141	<i>Apus pacificus</i>		○	○	○				○
142	<i>Alcedo atthis</i>		○	○	○	○			○
143	<i>Upupa epops</i>					○			○
144	<i>Yungipicus kizuki</i>	○				○			○
145	<i>Dendrocopos leucotos</i>								○
146	<i>Dendrocopos major</i>					○			○
147	<i>Picus canus</i>					○			○
148	<i>Pitta nympha</i>		○	○					
149	<i>Lanius bucephalus</i>					○			○
150	<i>Terpsiphone atrocaudata</i>			○					
151	<i>Garrulus glandarius</i>				○	○			○
152	<i>Cyanopica cyanus</i>					○			○
153	<i>Pica pica</i>	○			○	○			○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
154	<i>Coloeus dauuricus</i>								○
155	<i>Corvus frugilegus</i>					○			
156	<i>Corvus corone</i>					○			○
157	<i>Corvus macrorhynchos</i>					○			○
158	<i>Bombycilla japonica</i>								○
159	<i>Parus major</i>	○			○	○			○
160	<i>Pardaliparus venustulus</i>					○			○
161	<i>Periparus ater</i>					○			○
162	<i>Sittiparus varius</i>					○			○
163	<i>Poecile palustris</i>					○			○
164	<i>Remiz pendulinus</i>					○			
165	<i>Hirundo rustica</i>		○	○		○			○
166	<i>Aegithalos caudatus</i>					○			○
167	<i>Alauda cheleensis</i>					○			
168	<i>Alauda arvensis</i>					○			○
169	<i>Cisticola juncidis</i>					○			
170	<i>Pycnonotus sinensis</i>					○			○
171	<i>Hypsipetes amaurotis</i>	○			○	○			○
172	<i>Horornis diphone</i>	○				○			
173	<i>Helopsaltes pleskei</i>	○			○				
174	<i>Acrocephalus orientalis</i>		○	○		○			
175	<i>Phylloscopus fuscatus</i>					○			
176	<i>Phylloscopus inornatus</i>					○			
177	<i>Suthora webbiana</i>	○			○	○			○
178	<i>Zosterops japonicus</i>	○			○	○			○
179	<i>Regulus regulus</i>					○			○
180	<i>Troglodytes troglodytes</i>					○			○
181	<i>Sitta europaea</i>					○			
182	<i>Agropsar philippensis</i>					○			
183	<i>Spodiopsar cineraceus</i>					○			○
184	<i>Turdus pallidus</i>				○	○			
185	<i>Turdus naumanni</i>					○			○
186	<i>Turdus eunomus</i>					○			○
187	<i>Calliope calliope</i>								○
188	<i>Phoenicurus aureus</i>					○			○
189	<i>Saxicola torquatus</i>					○			○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
190	<i>Monticola solitarius</i>	○	○	○	○	○			○
191	<i>Muscicapa dauurica</i>								○
192	<i>Passer montanus</i>				○	○			○
193	<i>Prunella montanella</i>								○
194	<i>Motacilla flava</i>								○
195	<i>Motacilla cinerea</i>		○			○			○
196	<i>Motacilla alba</i>		○	○	○	○			○
197	<i>Motacilla grandis</i>					○			
198	<i>Anthus hodgsoni</i>					○			○
199	<i>Anthus cervinus</i>								○
200	<i>Anthus rubescens</i>					○			○
201	<i>Fringilla montifringilla</i>					○			○
202	<i>Chloris sinica</i>	○			○	○			○
203	<i>Spinus spinus</i>					○			○
204	<i>Carpodacus sibiricus</i>								○
205	<i>Carpodacus roseus</i>								○
206	<i>Loxia curvirostra</i>								○
207	<i>Pyrrhula pyrrhula</i>								○
208	<i>Coccothraustes coccothraustes</i>					○			○
209	<i>Eophona migratoria</i>					○			○
210	<i>Emberiza cioides</i>					○			○
211	<i>Emberiza tristrami</i>					○			
212	<i>Emberiza fucata</i>								○
213	<i>Emberiza pusilla</i>					○			○
214	<i>Emberiza rustica</i>					○			○
215	<i>Emberiza elegans</i>					○			○
216	<i>Emberiza rutila</i>					○			
217	<i>Emberiza spodocephala</i>					○			○
218	<i>Emberiza pallasi</i>					○			○
219	<i>Emberiza schoeniclus</i>								○
220	<i>Calcarius lapponicus</i>								○
221	<i>Columba livia domestica</i>					○			
Subcomponent		109	76	67	103	171	89	83	174
Component		126			178		89	83	174
Total		221							

Chapter 2. Benthic diatoms

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
	Phylum Cyanobacteria									
	Class Cyanophyceae									
1	<i>Gomphotheca sinensis</i>				○					
	Phylum Heterokontophyta									
	Class Bacillariophyceae									
2	<i>Achnanthes brevipes</i>	○			○	○	○	○	○	○
3	<i>Achnanthes hungarica</i>									○
4	<i>Achnanthes kuwaitensis</i>					○				
5	<i>Achnanthes longipes</i>		○			○				○
6	<i>Achnanthes minutissima</i>	○			○		○			○
7	<i>Achnanthes spp.</i>		○	○		○			○	
8	<i>Achnanthidium delicatulum</i>									○
9	<i>Actinocyclus chalnoky</i>									○
10	<i>Actinocyclus normanii</i>	○			○		○	○		
11	<i>Amphipleura pellucida</i>	○			○					○
12	<i>Amphiprora corrugata</i>	○			○		○	○		
13	<i>Amphiprora oblonga</i>				○					
14	<i>Amphiprora pusilla</i> var. <i>pusilla</i>					○				
15	<i>Amphiprora spp.</i>		○	○		○			○	
16	<i>Amphora angusta</i>				○					○
17	<i>Amphora arenaria</i>	○			○		○	○		
18	<i>Amphora beaufortiana</i>	○			○		○	○		
19	<i>Amphora borealis</i>	○			○		○	○		
20	<i>Amphora cf. boliviana</i>					○				
21	<i>Amphora delicatissima</i>	○			○		○	○		
22	<i>Amphora holsaticoides</i>					○	○			
23	<i>Amphora laevis</i>	○					○	○		○
24	<i>Amphora libyca</i>	○			○		○			
25	<i>Amphora lineolata</i>	○			○		○	○		
26	<i>Amphora ocellata</i>	○					○	○		
27	<i>Amphora ostrearia</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
28	<i>Amphora ovalis</i>	○			○		○	○		○
29	<i>Amphora pediculus</i>	○					○	○		
30	<i>Amphora proteus</i>						○	○		○
31	<i>Amphora richardiana</i>					○				
32	<i>Amphora sabyii</i>									○
33	<i>Amphora sp.</i>		○	○		○	○	○	○	
34	<i>Amphora sp. 1</i>					○				
35	<i>Amphora sp. 2</i>					○				
36	<i>Amphora sp. 3</i>					○				
37	<i>Amphora sp. 4</i>					○				
38	<i>Amphora spartinetensis</i>				○		○	○		
39	<i>Amphora subangularis</i>						○	○		
40	<i>Amphora subholsatica</i>						○	○		
41	<i>Amphora sublaevis</i>						○	○		
42	<i>Amphora veneta f. veneta</i>	○			○		○	○		
43	<i>Anorthoneis eurystoma</i>								○	
44	<i>Arachnoidiscus ehrenbergii</i>									○
45	<i>Arachnoidiscus ornatus</i>									○
46	<i>Asteromphalus flabellatus</i>									○
47	<i>Asteromphalus heptactis</i>									○
48	<i>Aulacodiscus brightwellii</i>									○
49	<i>Aulacodiscus voluta-coeli</i>									○
50	<i>Aulacoseira distans</i>									○
51	<i>Aulacoseira granulata</i>	○					○	○		○
52	<i>Aulacoseira sp.</i>	○					○	○		
53	<i>Aulacoseira subarctica</i>	○					○	○		
54	<i>Bacillaria paxillifer</i>	○			○		○	○		○
55	<i>Bacteriastrum furcatum</i>									○
56	<i>Bacteriastrum hyalinum</i>									○
57	<i>Bacteriastrum sp.</i>	○			○		○			
58	<i>Bacteriastrum varians var. princeps</i>									○
59	<i>Caloneis liber</i>				○					

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
60	<i>Caloneis westii</i>									○
61	<i>Campylodiscus clypeus</i>	○			○		○	○		
62	<i>Campylodiscus horologium</i>									○
63	<i>Campylodiscus lorenzianus</i>									○
64	<i>Campylodiscus ralfsii</i>									○
65	<i>Campylosira cymbelliformis</i>				○					○
66	<i>Carinasigma rectum</i>							○		○
67	<i>centric diatom</i>		○	○		○			○	
68	<i>Cerataulus granulatus</i>									○
69	<i>Cerataulus turgidus</i>				○					○
70	<i>Ceratoneis fasciola</i>	○	○	○	○	○	○	○	○	○
71	<i>Chaetoceros affinis</i>	○			○		○	○		
72	<i>Charocotiella grunowii</i>	○			○	○	○	○		
73	<i>Cocconeis costata</i>	○			○		○	○		
74	<i>Cocconeis distans</i>	○			○		○	○		
75	<i>Cocconeis euglypta</i>					○				
76	<i>Cocconeis finnica</i>	○			○		○	○		
77	<i>Cocconeis heteroidea</i>				○					
78	<i>Cocconeis pellucida</i>			○		○				○
79	<i>Cocconeis pellucida</i> var. <i>curvirostrata</i>									○
80	<i>Cocconeis placentula</i>	○		○	○	○	○	○		○
81	<i>Cocconeis regalis</i>									○
82	<i>Cocconeis scutellum</i>	○	○	○	○	○	○	○	○	○
83	<i>Cocconeis</i> sp.	○	○	○	○	○	○	○	○	
84	<i>Cocconema parvum</i>	○			○		○	○		
85	<i>Coscinodiscus asteromphalus</i>	○			○		○			
86	<i>Coscinodiscus</i> cf. <i>nanolineatus</i>	○			○		○	○		○
87	<i>Coscinodiscus concinnus</i>									○
88	<i>Coscinodiscus curvatulus</i>	○			○		○	○		○
89	<i>Coscinodiscus gigas</i>	○			○		○	○		
90	<i>Coscinodiscus granii</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
91	<i>Coscinodiscus lacunosus</i>	○			○		○	○		
92	<i>Coscinodiscus marginatus</i>									○
93	<i>Coscinodiscus megalomma</i>	○					○	○		
94	<i>Coscinodiscus nitidulus</i>				○					○
95	<i>Coscinodiscus nodulifer</i>	○			○		○	○		
96	<i>Coscinodiscus nodulolineatus</i>	○			○		○	○		
97	<i>Coscinodiscus oculus</i>									○
98	<i>Coscinodiscus okamurae</i>									○
99	<i>Coscinodiscus perforatus</i>	○			○		○	○		○
100	<i>Coscinodiscus radiatus</i>	○			○			○		○
101	<i>Craspedodiscus franklinii</i>									○
102	<i>Cylindrotheca closterium</i>	○			○		○			○
103	<i>Cylindrotheca fusiformis</i>									○
104	<i>Cylindrotheca gracilis</i>				○					○
105	<i>Cylindrotheca spp.</i>		○	○		○			○	
106	<i>Cymatopleura spp.</i>		○							
107	<i>Cymbella affinis</i>									○
108	<i>Cymbella minuta</i>							○		○
109	<i>Cymbella pusilla</i>					○				
110	<i>Cymbella spp.</i>		○	○		○			○	
111	<i>Cymbella tumida</i>	○			○		○	○		
112	<i>Cymbella turgida</i>	○	○		○		○	○		○
113	<i>Delphineis minutissima</i>	○			○		○			
114	<i>Delphineis sp.</i>				○		○			
115	<i>Diatoma mesodon</i>	○					○			
116	<i>Diatoma vulgaris</i>	○			○		○	○		○
117	<i>Diploneis aestuari</i>	○			○	○	○	○		
118	<i>Diploneis bombus</i>	○								○
119	<i>Diploneis sp.</i>		○	○		○	○	○	○	
120	<i>Ditylum brightwellii</i>	○			○		○	○		○
121	<i>Entomoneis alata</i>	○	○		○	○	○	○	○	○
122	<i>Entomoneis angustata</i>				○					
123	<i>Entomoneis costata</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
124	<i>Entomoneis hyperborea</i>				○		○	○		○
125	<i>Entomoneis paludosa</i>				○					○
126	<i>Entomoneis pseudoduplex</i>	○			○		○	○		
127	<i>Entomoneis sp.</i>	○			○		○			
128	<i>Ethmodiscus punctiger</i>				○					
129	<i>Eucampia zodiacus</i>	○			○		○	○		
130	<i>Eunotia arcus</i> var. <i>arcus</i>	○			○		○			
131	<i>Eunotia spp.</i>					○				
132	<i>Eunotogramma laevis</i>									○
133	<i>Eunotogramma seissei</i> var. <i>producta</i>									○
134	<i>Eupodiscus crassus</i>					○				
135	<i>Eupodiscus falsii</i> var. <i>ralfsii</i>									○
136	<i>Eupodiscus jonesianus</i>				○					
137	<i>Eupodiscus tenellus</i>				○					
138	<i>Fallacia pygmaea</i>					○				
139	<i>Fragilaria capucina</i>	○			○		○	○		
140	<i>Fragilaria cassubica</i>	○			○		○	○		
141	<i>Fragilaria construens</i>	○			○		○	○		
142	<i>Fragilaria crotonensis</i>							○		
143	<i>Fragilaria sp.</i>		○		○	○				
144	<i>Fragilaria striatula</i>									○
145	<i>Frustulia copulata</i>	○			○		○	○		
146	<i>Frustulia interposita</i>				○					
147	<i>Frustulia sp. 1</i>					○				
148	<i>Frustulia vulgaris</i>	○								
149	<i>Gomphonema clevei</i>	○			○		○	○		○
150	<i>Gomphonema olivaceum</i>	○	○	○	○	○	○	○	○	
151	<i>Gomphonema parvulum</i>	○				○		○		○
152	<i>Gomphonema sp.</i>		○	○	○	○	○	○	○	
153	<i>Gomphonema sphaerophorum</i>	○			○		○	○		
154	<i>Gomphonema ventricosum</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
155	<i>Grammatophora adriatica</i> var. <i>adriatica</i>									○
156	<i>Grammatophora angulosa</i>									○
157	<i>Grammatophora marina</i>	○			○		○	○		○
158	<i>Grammatophora oceanica</i> var. <i>macilenta</i>									○
159	<i>Grammatophora</i> sp.	○			○		○	○		
160	<i>Grammatophora undulata</i> var. <i>japonica</i>									○
161	<i>Gyrosigma acuminatum</i>	○			○		○			○
162	<i>Gyrosigma balticum</i>	○	○		○		○	○	○	○
163	<i>Gyrosigma convergens</i>	○			○		○	○		
164	<i>Gyrosigma procerum</i>	○			○	○	○	○		
165	<i>Gyrosigma scalproides</i>	○			○		○	○		○
166	<i>Gyrosigma</i> sp.	○	○	○		○	○	○	○	
167	<i>Gyrosigma</i> sp. 1					○				
168	<i>Gyrosigma sterrenburgii</i>				○					
169	<i>Gyrosigma wansbeckii</i>	○				○		○		○
170	<i>Halamphora acutiuscula</i>					○				○
171	<i>Halamphora</i> cf. <i>exigua</i>	○			○		○	○		○
172	<i>Halamphora coffeiformis</i>	○	○	○	○	○	○	○	○	○
173	<i>Halamphora holsatica</i>	○	○	○	○		○	○		○
174	<i>Halamphora hyalina</i>									○
175	<i>Hantzschia amphioxys</i>							○		○
176	<i>Hantzschia marina</i>	○			○		○	○		
177	<i>Hantzschia</i> sp.	○			○	○	○	○	○	
178	<i>Hantzschia virgata</i>	○			○		○	○		○
179	<i>Haslea nipkowii</i>					○				
180	<i>Hobaniella longicuris</i>	○			○		○	○		○
181	<i>Hyalodiscus scoticus</i>				○					
182	<i>Karayevia amoena</i>					○				
183	<i>Licmophora abbreviata</i>									○
184	<i>Licmophora</i> sp.	○	○	○	○	○	○	○		
185	<i>Lindavia bodanica</i>									○
186	<i>Lyrella clavata</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
187	<i>Lyrella sp.</i>	○					○	○		
188	<i>Mastogloia pumila</i>					○				
189	<i>Mastogloia exigua</i>					○				
190	<i>Natzschia insignis var. lanceolata</i>									○
191	<i>Navicula alpha</i>	○					○			○
192	<i>Navicula arenaria</i>					○				
193	<i>Navicula bifrons</i>	○								
194	<i>Navicula cancellata</i>	○			○	○	○	○		
195	<i>Navicula cari</i>	○					○	○		○
196	<i>Navicula cf. abscondita</i>	○			○	○	○	○		
197	<i>Navicula cf. bipustulata</i>	○			○		○	○		
198	<i>Navicula cf. erifuga</i>					○				
199	<i>Navicula cf. flagellifera</i>	○			○		○	○		
200	<i>Navicula cf. flantica</i>	○			○		○	○		○
201	<i>Navicula cf. microcari</i>					○				
202	<i>Navicula cf. smithii</i>					○				
203	<i>Navicula cf. sulcifera</i>	○					○	○		
204	<i>Navicula cf. uniseriata</i>					○				
205	<i>Navicula challengerii</i>									○
206	<i>Navicula cocconeiformis f. cocconeiformis</i>	○					○	○		
207	<i>Navicula crassa</i>			○		○				○
208	<i>Navicula cryptocephala</i>					○			○	
209	<i>Navicula delognei</i>	○			○		○	○		
210	<i>Navicula directa var. incus</i>				○					
211	<i>Navicula elegans f. elegans</i>									○
212	<i>Navicula erifuga</i>					○				
213	<i>Navicula flantica</i>					○				
214	<i>Navicula fluens</i>	○			○		○			
215	<i>Navicula fortis</i>									○
216	<i>Navicula genunijera</i>					○				
217	<i>Navicula granii</i>									○
218	<i>Navicula gregaria</i>	○			○	○	○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
219	<i>Navicula groschopfii</i>	○			○		○	○		
220	<i>Navicula hungarica</i> var. <i>linearis</i>					○				
221	<i>Navicula hustedtii</i>	○			○		○	○		
222	<i>Navicula jejuna</i>									○
223	<i>Navicula johnsoniana</i>				○					
224	<i>Navicula lanceolata</i>	○			○		○	○		
225	<i>Navicula lewisiana</i>				○					○
226	<i>Navicula littoralis</i>	○			○		○	○		○
227	<i>Navicula lorenziana</i>									○
228	<i>Navicula lyra</i> f. <i>subcarinata</i>				○					
229	<i>Navicula lyra</i> var. <i>insignis</i>				○					
230	<i>Navicula lyroides</i> f. <i>lyroides</i>	○			○		○	○		
231	<i>Navicula marina</i> var. <i>marina</i>	○			○	○	○			○
232	<i>Navicula microdigitradiata</i>					○				
233	<i>Navicula molis</i>				○					
234	<i>Navicula mutica</i> f. <i>mutica</i>									○
235	<i>Navicula oblongella</i> var. <i>oblongella</i>									○
236	<i>Navicula pelagi</i>									○
237	<i>Navicula phylleptosoma</i>					○				
238	<i>Navicula radiosa</i>	○			○		○			○
239	<i>Navicula ramosissima</i>				○					○
240	<i>Navicula rostellata</i>				○		○			
241	<i>Navicula salinarum</i>		○	○		○			○	○
242	<i>Navicula salinarum</i> var. <i>minima</i>					○				
243	<i>Navicula salinicola</i>					○				
244	<i>Navicula scopulorum</i>	○			○	○				○
245	<i>Navicula sinensis</i>				○					
246	<i>Navicula smithii</i>	○	○	○	○	○	○	○	○	○
247	<i>Navicula smithii</i> var. <i>fusca</i>									○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
248	<i>Navicula sp.</i>	○					○	○		
249	<i>Navicula sp. 1</i>					○				
250	<i>Navicula sp. 2</i>					○				
251	<i>Navicula sp. 3</i>					○				
252	<i>Navicula sp. 4</i>					○				
253	<i>Navicula sp. 5</i>					○				
254	<i>Navicula splendida var. splendida</i>		○		○		○	○	○	○
255	<i>Navicula spp. (< 20um)</i>		○	○		○			○	
256	<i>Navicula spp. (> 20um)</i>		○	○		○			○	
257	<i>Navicula suspecta var. suspecta</i>									○
258	<i>Navicula tripunctata</i>					○				
259	<i>Navicula tumida</i>	○								
260	<i>Navicula viminioides</i>	○					○	○		
261	<i>Navicula weissflogii</i>	○			○	○	○	○		○
262	<i>Navicula yarrensensis var. yarrensensis</i>									○
263	<i>Nitzschia didyma</i>				○					
264	<i>Nitzschia granulata f. granulata</i>				○	○				
265	<i>Nitzschia granulata var. hyalina</i>					○				
266	<i>Nitzschia acicularis</i>									○
267	<i>Nitzschia adducta</i>	○			○		○	○		
268	<i>Nitzschia coarctata var. coarctata</i>									○
269	<i>Nitzschia cocconeiformis</i>	○			○	○	○	○		
270	<i>Nitzschia distans</i>	○					○	○		
271	<i>Nitzschia dubia</i>					○				
272	<i>Nitzschia frustulum</i>	○			○	○	○	○		○
273	<i>Nitzschia granulata</i>	○			○		○	○		
274	<i>Nitzschia guieensis</i>	○			○		○	○		
275	<i>Nitzschia hungarica f. jungarica</i>					○				
276	<i>Nitzschia jelineckii var. jelineckii</i>									○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
277	<i>Nitzschia ligowskii</i>	○			○		○	○		
278	<i>Nitzschia linearis</i>					○				
279	<i>Nitzschia linkei</i>	○			○		○	○		
280	<i>Nitzschia littoralis</i> var. <i>littoralis</i>	○			○		○	○		○
281	<i>Nitzschia longissima</i> var. <i>reversa</i>									○
282	<i>Nitzschia longissima</i>	○	○		○	○	○	○	○	○
283	<i>Nitzschia lorenziana</i>					○				
284	<i>Nitzschia lorenziana</i> var. <i>incerta</i>					○				
285	<i>Nitzschia obtusa</i>		○			○				
286	<i>Nitzschia okamurae</i>									○
287	<i>Nitzschia palea</i>	○			○		○	○		○
288	<i>Nitzschia panduriformis</i> f. <i>panduriformis</i>	○			○	○	○	○	○	○
289	<i>Nitzschia pararostrata</i>					○				
290	<i>Nitzschia pellucida</i>	○			○		○	○		○
291	<i>Nitzschia pungens</i>									○
292	<i>Nitzschia pungens</i> var. <i>atlantica</i>									○
293	<i>Nitzschia pusilla</i>								○	
294	<i>Nitzschia scalpelliformis</i>				○	○				
295	<i>Nitzschia sigma</i>	○		○	○	○	○	○	○	○
296	<i>Nitzschia sigma</i> sensu lato					○				
297	<i>Nitzschia sigma</i> var. <i>intercedens</i>									○
298	<i>Nitzschia sigma</i> var. <i>sigmatella</i>				○					
299	<i>Nitzschia sigmoidea</i>	○			○			○		
300	<i>Nitzschia socialis</i>									○
301	<i>Nitzschia</i> sp.	○					○			
302	<i>Nitzschia</i> sp.1					○				
303	<i>Nitzschia</i> sp.2					○				
304	<i>Nitzschia</i> spp. (<20um)		○	○		○			○	
305	<i>Nitzschia tryblionella</i>									○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
306	<i>Nitzschia tryblionella</i> var. <i>levidensis</i>									○
307	<i>Nitzschia tryblionella</i> var. <i>subsalina</i>									○
308	<i>Nitzschia vermicularis</i>				○					○
309	<i>Nitzschia vidolovichii</i>				○					
310	<i>Nitzschia vitrea</i>									○
311	<i>Nitzschia vivax</i>	○					○	○		
312	<i>Odontella aurita</i>	○			○		○	○		○
313	<i>Odontella obtusa</i>				○					○
314	<i>Odontella pulchella</i>				○					
315	<i>Opephora marina</i>	○			○		○	○		
316	<i>Opephora</i> sp.	○			○		○	○		
317	<i>Pantocsekiella ocellata</i>	○			○		○	○		
318	<i>Parlibellus</i> sp.				○					
319	<i>Parlibellus</i> sp.1					○				
320	<i>Parlibellus</i> sp.2					○				
321	<i>Pinnularia ambigua</i> var. <i>ambigua</i>					○				
322	<i>Pinnularia</i> cf. <i>directa</i> var. <i>directa</i>	○			○		○	○		○
323	<i>Pinnularia distans</i>		○			○			○	○
324	<i>Pinnularia ovalis</i>	○			○		○	○		○
325	<i>Pinnularia</i> sp.	○	○	○	○	○	○	○		
326	<i>Pinnularia trevelyana</i>	○			○		○	○		
327	<i>Placoneis placentula</i>									○
328	<i>Plagiogramma vanheurckii</i>					○				○
329	<i>Plagiotropis lepidoptera</i>		○	○		○				
330	<i>Planktoniella blanda</i>				○					
331	<i>Planothidium hauckianum</i>					○				
332	<i>Planothidium</i> sp.1					○				
333	<i>Planothidium</i> sp.2					○				
334	<i>Pleurosigma acutum</i>									○
335	<i>Pleurosigma aestuarii</i>	○			○		○	○		
336	<i>Pleurosigma angulatum</i>	○	○	○	○	○	○			○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
337	<i>Pleurosigma cf. strigilis f. strigilis</i>					○				
338	<i>Pleurosigma delicatulum</i>					○				○
339	<i>Pleurosigma distortum var. distortum</i>									○
340	<i>Pleurosigma elongatum</i>				○	○				○
341	<i>Pleurosigma falx</i>				○	○				
342	<i>Pleurosigma formosum</i>				○					○
343	<i>Pleurosigma intermedium</i>	○			○		○	○		○
344	<i>Pleurosigma kuetzingii f. kuetzingii</i>	○								
345	<i>Pleurosigma longum</i>		○			○			○	
346	<i>Pleurosigma majus</i>									○
347	<i>Pleurosigma naviculaceum</i>				○					○
348	<i>Pleurosigma normanii</i>				○					○
349	<i>Pleurosigma obliquum</i>	○			○		○	○		
350	<i>Pleurosigma rigidum</i>									○
351	<i>Pleurosigma rigidum var. incurvata</i>									○
352	<i>Pleurosigma salinarum</i>	○			○		○	○		○
353	<i>Pleurosigma sp.</i>	○	○	○	○	○	○		○	
354	<i>Pleurosigma sterrenburgii</i>							○		
355	<i>Pleurosigma wormleyi</i>				○					
356	<i>Psammodictyon coarctata</i>				○					
357	<i>Pseudo-nitzschia delicatissima</i>									○
358	<i>Rhabdonema arcuatum</i>									○
359	<i>Rhabdonema spp.</i>					○			○	
360	<i>Rhaphoneis amphiceros</i>				○					○
361	<i>Rhaphoneis fasciolata var. australis</i>									○
362	<i>Rhaphoneis rhomboides</i>					○				
363	<i>Rhaphoneis surirelloides</i>				○					
364	<i>Rhizosolenia imbricata</i>	○								
365	<i>Rhizosolenia setigera</i>	○			○					
366	<i>Rhizosolenia stolterfothii</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
367	<i>Rhoicosphenia abbreviata</i>		○							
368	<i>Rhoicosphenia curvata</i> var. <i>genuina</i>									○
369	<i>Rhoicosphenia</i> spp.		○			○			○	
370	<i>Rhopalodia gibba</i>					○				
371	<i>Rhopalodia rumrichiae</i>					○				
372	<i>Rhopalodia</i> sp. 1					○				
373	<i>Seminavis arranensis</i>	○					○	○		
374	<i>Seminavis</i> cf. <i>bacilica</i>						○	○		
375	<i>Seminavis robusta</i>						○	○		
376	<i>Seminavis</i> sp.						○	○		
377	<i>Shionodiscus oestrupii</i>	○			○		○	○		
378	<i>Shionodiscus</i> sp.	○			○		○	○		
379	<i>Skeletonema costatum</i>							○		
380	<i>Stauroneis amphioxys</i> var. <i>amphioxys</i>				○					
381	<i>Stauroneis membranacea</i>									○
382	<i>Stauroneis salina</i>					○				
383	<i>Stauroneis</i> spp.					○			○	
384	<i>Stephanodiscus</i> sp. 1					○				
385	<i>Stephanopyxis</i> sp.	○			○		○	○		
386	<i>Surirella arabica</i>				○					
387	<i>Surirella</i> cf. <i>subsalsa</i>					○				
388	<i>Surirella fastuosa</i> var. <i>recedens</i>	○			○		○	○		
389	<i>Surirella gemma</i> f. <i>gemma</i>	○			○	○	○	○		○
390	<i>Surirella lata</i>	○			○		○	○		○
391	<i>Surirella minuta</i>	○			○		○			○
392	<i>Surirella oestrupi</i>				○					
393	<i>Surirella ovalis</i>		○	○		○			○	
394	<i>Surirella</i> sp.	○	○	○	○	○	○	○	○	
395	<i>Surirella spiralis</i> f. <i>spiralis</i>				○					
396	<i>Surirella voigtii</i>	○			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
397	<i>Synedra bilunaris</i> var. <i>bilunaris</i>	○					○	○		
398	<i>Synedra crystallina</i>									○
399	<i>Synedra radians</i> var. <i>radians</i>	○			○		○	○		○
400	<i>Synedra scalaris</i>	○					○	○		○
401	<i>Synedra spectabilis</i>									○
402	<i>Synedra ulna</i>	○			○		○	○		○
403	<i>Synedra ulna</i> var. <i>contracta</i>									○
404	<i>Tabularia fasciculata</i>									○
405	<i>Terpsinoe musica</i>				○					
406	<i>Tetramphora rhombica</i>									○
407	<i>Thalassionema frauenfeldii</i>	○			○		○	○		
408	<i>Thalassionema nitzschioides</i>		○		○	○	○	○	○	○
409	<i>Thalassionema</i> sp.	○			○		○	○		
410	<i>Thalassiosira allenii</i>				○		○	○		
411	<i>Thalassiosira</i> cf. <i>curviseriata</i>	○			○		○	○		
412	<i>Thalassiosira decipiens</i>	○			○		○	○		
413	<i>Thalassiosira eccentrica</i>	○			○	○	○	○		○
414	<i>Thalassiosira leptopus</i>									○
415	<i>Trachyneis antillarum</i>				○					
416	<i>Trachyneis aspera</i>	○			○	○	○	○	○	○
417	<i>Trachyneis brunii</i>				○					
418	<i>Trachyneis</i> spp.					○				
419	<i>Triceratium</i> cf. <i>favus</i>	○								○
420	<i>Triceratium revale</i>									○
421	<i>Tryblionella acuminata</i>		○		○					
422	<i>Tryblionella</i> cf. <i>acuminata</i>					○				
423	<i>Tryblionella apiculata</i>	○			○		○	○		○
424	<i>Tryblionella</i> cf. <i>aerophila</i>					○				
425	<i>Tryblionella debilis</i>	○			○		○	○		
426	<i>Tryblionella punctata</i>	○			○	○	○			
427	<i>Tryblionella</i> sp. 1					○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
428	<i>Tryblioptychus cf. cocconeiformis</i>	○			○		○	○		
429	<i>Tryblioptychus cocconeiformis</i>					○				
430	<i>Zygoceros cf. surirella</i>					○				
431	<i>Zygoceros rhombus</i>									○
432	<i>Zygoceros surirella</i>	○			○	○	○	○		○
	Class Coscinodiscophyceae									
433	<i>Actinocyclus octonarius var. octonarius</i>	○			○		○	○	○	○
434	<i>Actinocyclus senarius</i>		○	○		○			○	
435	<i>Actinocyclus spp.</i>		○			○			○	
436	<i>Actinocyclus tenellus</i>	○			○		○	○		
437	<i>Actinoptychus senarius</i>	○			○	○	○	○		○
438	<i>Actinoptychus splendens</i>				○	○			○	○
439	<i>Actinoptychus spp.</i>								○	
440	<i>Asteromphalus spp.</i>		○							
441	<i>Bacillaria spp.</i>		○			○			○	
442	<i>Coscinodiscus sp.</i>					○	○	○	○	
443	<i>Melosira discigera</i>				○					○
444	<i>Melosira dubia</i>									○
445	<i>Melosira lineata</i>									○
446	<i>Melosira moniliformis</i>									○
447	<i>Melosira varians</i>	○			○	○	○			○
448	<i>Nacicula smithii</i>	○			○		○	○		○
449	<i>Paralia fenestrata</i>	○			○		○	○		
450	<i>Paralia spp.</i>					○			○	
451	<i>Paralia sulcata</i>	○	○	○	○	○	○	○	○	○
452	<i>Podosira stelligera</i>									○
	Class Mediophyceae									
453	<i>Biddulphia biddulphiana</i>		○	○		○			○	
454	<i>Biddulphia reticulata</i>				○					○
455	<i>Biddulphia spp.</i>					○				
456	<i>Chaetoceros sp.</i>	○					○		○	
457	<i>Cyclotella atomus</i>		○	○						

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan	reference
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan				
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II	Phase I
458	<i>Cyclotella cf. stylorum</i>				○		○	○		○
459	<i>Cyclotella choctawhatcheeana</i>	○			○		○	○		
460	<i>Cyclotella comta</i>									○
461	<i>Cyclotella litoralis</i>					○				
462	<i>Cyclotella meneghiniana</i>	○			○		○	○		○
463	<i>Cyclotella spp.</i>		○	○		○			○	
464	<i>Cyclotella stelligera</i>	○			○		○	○		
465	<i>Cyclotella striata</i>									○
466	<i>Cyclotella striata</i> var. <i>ambigua</i>									○
467	<i>Cymatosira belgica</i>		○	○	○					○
468	<i>Cymatosira sp.</i>	○			○		○	○		
469	<i>Thalassiosira mala</i>			○						
470	<i>Thalassiosira nordenskiöldii</i>					○		○		
471	<i>Thalassiosira simonsenii</i>					○				
472	<i>Thalassiosira sp.</i>	○			○		○	○		
473	<i>Tropidoneis sp.</i>				○	○			○	
Subcomponent		188	51	38	223	155	194	181	53	197
Component		224			332		194	181	53	
Total		473								

Chapter 3. Marine macroalgae

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan		
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I
	Phylum Chlorophyta							
	Class Ulvophyceae							
1	<i>Blidingia minima</i>				○			○
2	<i>Bryopsis plumosa</i>			○	○			○
3	<i>Bryopsis sp.</i>	○			○			
4	<i>Capsosiphon fulvescens</i>				○			
5	<i>Cladophora albida</i>			○	○			○
6	<i>Cladophora flewuosa</i>				○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan		
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I
7	<i>Cladophora hutchinsiae</i>				○			
8	<i>Cladophora sericea</i>			○				
9	<i>Cladophora</i> sp.	○			○	○		
10	<i>Cladophora stimpsonii</i>				○			
11	<i>Codium fragile</i>	○		○	○	○		○
12	<i>Enteromorpha</i> sp.				○			
13	<i>Lychaete japonica</i>				○			
14	<i>Monostroma grevillei</i>				○			○
15	<i>Monostroma nitidum</i>			○	○			○
16	<i>Monostroma</i> cf. <i>nitidum</i>				○	○		
17	<i>Monostroma</i> sp.				○			
18	<i>Pseudocladophora conchoheria</i>				○			
19	<i>Ulothrix flacca</i>				○			○
20	<i>Ulothrix</i> sp.				○			
21	<i>Ulva australis</i>	○	○	○	○	○	○	○
22	<i>Ulva compressa</i>	○		○	○			
23	<i>Ulva conglobata</i>			○	○			
24	<i>Ulva intestinalis</i>				○			○
25	<i>Ulva linza</i>	○	○	○	○	○		○
26	<i>Ulva polyclada</i>				○			
27	<i>Ulva prolifera</i>			○	○	○		○
28	<i>Ulva</i> sp.				○			
	Phylum Ochrophyta							
	Class Phaeophyceae							
29	<i>Canistrocarpus cervicornis</i>				○			
30	<i>Colpomenia sinuosa</i>				○			○
31	<i>Desmarestia viridis</i>							○
32	<i>Dictyopteris divaricata</i>				○			
33	<i>Dictyopteris latiuscula</i>				○			
34	<i>Dictyopteris undulata</i>				○			
35	<i>Dictyota dichotoma</i>			○	○	○		○
36	<i>Dictyota dichotoma</i> var. <i>intricata</i>				○			
37	<i>Ecklonia cava</i>				○			
38	<i>Ectocarpus siliculosus</i> var. <i>arctus</i>				○			
39	<i>Ectocarpus</i> sp.				○			
40	<i>Hincksia ovata</i>				○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan		
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I
41	<i>Ishige foliacea</i>	○			○			
42	<i>Ishige okamurae</i>		○	○	○			
43	<i>Ishige sinicola</i>			○				
44	<i>Leathesia marina</i>							○
45	<i>Myagropsis myagroides</i>				○			
46	<i>Myelophycus simplex</i>			○	○			○
47	<i>Padina minor</i>				○			
48	<i>Petalonia binghamiae</i>				○			
49	<i>Petalonia fascia</i>				○			
50	<i>Ralfsia verrucosa</i>	○		○	○			
51	<i>Sargassum sp.3</i>			○				
52	<i>Sargassum confusum</i>				○			
53	<i>Sargassum fulvellum</i>				○	○		
54	<i>Sargassum fusiforme</i>			○	○			○
55	<i>Sargassum hemiphyllum</i>				○			
56	<i>Sargassum horneri</i>				○			○
57	<i>Sargassum piluliferum</i>				○			
58	<i>Sargassum thunbergii</i>	○	○	○	○	○	○	○
59	<i>Scytosiphon lomentaria</i>				○	○		○
60	<i>Scytosiphon sp.</i>			○				
61	<i>Silvetia siliquosa</i>				○	○		
62	<i>Sphacelaria fusca</i>				○			
63	<i>Sphacelaria rigidula</i>	○			○	○		
64	<i>Sphacelaria sp.</i>				○			
65	<i>Undaria pinnatifida</i>			○	○	○		○
	Phylum Rhodophyta							
	Class Bangiophyceae							
66	<i>Bangia atropurpurea</i>				○			
67	<i>Bangia fuscopurpurea</i>					○		
68	<i>Porphyra sp.</i>	○			○			
69	<i>Pyropia seriata</i>							○
70	<i>Pyropia suborbiculata</i>				○			○
71	<i>Pyropia tenera</i>				○			
72	<i>Pyropia cf. tenera</i>				○	○		
73	<i>Pyropia yezoensis</i>			○	○			○
	Class Florideophyceae							

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan		
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I
74	<i>Acrosorium polyneurum</i>				○			
75	<i>Acrosorium sp.</i>				○			
76	<i>Acrosorium uncinatum</i>				○			
77	<i>Acrosorium yendoii</i>				○	○		
78	<i>Ahnfeltiopsis flabelliformis</i>	○		○	○	○	○	○
79	<i>Amphiroa beauvoisii</i>				○			
80	<i>Amphiroa ephedraea</i>				○			
81	<i>Antithamnion nipponicum</i>				○			
82	<i>Benzaitenia yenoshimensis</i>				○			
83	<i>Botryocladia wrightii</i>	○			○			
84	<i>Campylaephora crassa</i>				○			
85	<i>Campylaephora hypnaeoides</i>				○			
86	<i>Campylaephora kondoi</i>			○	○		○	○
87	<i>Caulacanthus okamurae</i>			○				
88	<i>Caulacanthus ustulatus</i>	○		○	○	○		○
89	<i>Ceramium boydenii</i>				○			
90	<i>Ceramothamnion japonicum</i>	○		○	○	○		
91	<i>Chondracanthus intermedius</i>	○		○	○			○
92	<i>Chondracanthus cf. intermedius</i>			○				
93	<i>Chondracanthus sp.</i>			○				
94	<i>Chondracanthus tenellus</i>	○		○	○			○
95	<i>Chondria crassicaulis</i>			○	○			○
96	<i>Chondria dasyphylla</i>				○			
97	<i>Chondrus ocellatus</i>			○	○			
98	<i>Chondrus verrucosus</i>			○				
99	<i>Colaconema daviesii</i>				○			
100	<i>Corallina confusa</i>				○			
101	<i>Corallina officinalis</i>			○	○	○		○
102	<i>Corallina pilulifera</i>	○		○	○	○	○	○
103	<i>Crustose coralline algae</i>				○			
104	<i>Dasya villosa</i>			○				
105	<i>Dasysiphonia japonica</i>				○			
106	<i>Dumontia simplex</i>				○			○
107	<i>Erythroglossum minimum</i>				○			
108	<i>Fushitsunagia catenata</i>				○			
109	<i>Gayliella fraccida</i>				○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan		
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I
110	<i>Gelidiophycus divaricatus</i>	○		○	○		○	○
111	<i>Gelidiophycus freshwateri</i>					○		
112	<i>Gelidium amansii</i>			○	○		○	○
113	<i>Gelidium vagum</i>				○			
114	<i>Gloiopeltis complanata</i>			○	○			○
115	<i>Gloiopeltis furcata</i>				○			○
116	<i>Gloiopeltis tenax</i>			○	○	○		○
117	<i>Gloiosiphonia capillaris</i>				○			
118	<i>Gracilaria textorii</i>			○	○			
119	<i>Gracilaria vermiculophylla</i>					○		
120	<i>Gracilariopsis longissima</i>	○		○	○		○	○
121	<i>Grateloupia acuminata</i>				○			
122	<i>Grateloupia cornea</i>				○			
123	<i>Grateloupia divaricata</i>				○			
124	<i>Grateloupia elliptica</i>				○			○
125	<i>Grateloupia filicina</i>				○			
126	<i>Grateloupia prolongata</i>				○			
127	<i>Grateloupia rispata</i>	○						
128	<i>Grateloupia sparsa</i>				○			
129	<i>Grateloupia turuturu</i>				○			○
130	<i>Griffithsia japonica</i>				○			
131	<i>Griffithsia</i> sp.			○				
132	<i>Hildenbrandia dawsonii</i>				○			
133	<i>Hildenbrandia rubra</i>				○			
134	<i>Hydrolithon sargassi</i>							○
135	<i>Hypnea charoides</i>							○
136	<i>Hypnea japonica</i>				○			
137	<i>Jania rubens</i>			○				
138	<i>Laurencia nipponica</i>				○			
139	<i>Laurencia obtusa</i>			○				
140	<i>Laurencia okamurae</i>	○		○	○			
141	<i>Laurencia venusta</i>				○			
142	<i>Lithophyllum okamurae</i>			○	○			
143	<i>Lomentaria flaccida</i>				○			
144	<i>Lomentaria hakodatensis</i>			○	○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan		
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I
145	<i>Melanothamnus japonicus</i>					○		
146	<i>Melobesioidean algae</i>		○					
147	<i>Neorhodomela aculeata</i>				○			
148	<i>Nitophyllum stellatocorticatum</i>							○
149	<i>Pachymeniopsis lanceolata</i>				○			
150	<i>Palisada intermedia</i>				○			
151	<i>Peyssonnelia japonica</i>			○				
152	<i>Phacelocarpus japonicus</i>					○		
153	<i>Phycodrys fimbriata</i>				○			
154	<i>Phycodrys radicata</i>				○			
155	<i>Plocamium telfairiae</i>				○			
156	<i>Pneophyllum zostericola</i>							○
157	<i>Polyopes affinis</i>			○	○			○
158	<i>Polyopes lancifolius</i>				○			
159	<i>Polyopes polyideoides</i>			○				
160	<i>Polyopes prolifer</i>				○			
161	<i>Polysiphonia morrowii</i>	○		○	○			○
162	<i>Polysiphonia sp.</i>				○		○	
163	<i>Pseudopolyneura japonica</i>				○			
164	<i>Pterocladia capillacea</i>				○			○
165	<i>Rhodymenia intricata</i>				○	○		
166	<i>Schizoseris subdichotoma</i>				○			
167	<i>Schizymenia dubyi</i>				○			
168	<i>Spyridia elongata</i>				○			
169	<i>Spyridia filamentosa</i>				○			
170	<i>Symphyocladia latiuscula</i>			○	○			○
171	<i>Symphyocladia linearis</i>				○			
172	<i>Symphyocladia marchantioides</i>			○	○			
	Phylum Tracheophyta							
	Class Magnoliopsida							
173	<i>Zostera marina</i>				○			
Subcomponent		23	5	54	145	27	9	49
Component		62			150		9	49
Total		173						

Chapter 4. Halophytes

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Phylim Angiospermae								
	Class Dicotyledoneae								
1	<i>Aeschynomene indica</i>					○			
	Phylim Magnoliophyta								
	Class Liliopsida								
2	<i>Asparagus oligoclonos</i>				○				○
3	<i>Bolboschoenus planiculmis</i>	○		○	○	○	○	○	○
4	<i>Calamagrostis epigeios</i>			○	○	○	○	○	○
5	<i>Calamagrostis pseudo-phragmites</i>							○	
6	<i>Carex kobomugi</i>	○			○	○	○	○	○
7	<i>Carex pumila</i>	○			○	○	○	○	○
8	<i>Carex scabrifolia</i>	○	○	○	○	○	○	○	○
9	<i>Cynodon dactylon</i>	○	○	○	○	○	○	○	○
10	<i>Cyperus polystachyos</i>					○			○
11	<i>Digitaria sanguinalis</i>					○			
12	<i>Eleocharis parvula</i>				○				
13	<i>Elymus dahuricus</i>	○		○	○	○	○	○	○
14	<i>Fimbristylis ferruginea</i> var. <i>sieboldii</i>	○	○	○	○	○			
15	<i>Fimbristylis longispica</i>								○
16	<i>Imperata cylindrica</i>	○	○	○	○	○		○	○
17	<i>Ischaemum antheophorioides</i>	○		○	○	○	○	○	○
18	<i>Ischaemum aristatum</i> var. <i>glaucum</i>		○	○	○	○			○
19	<i>Juncus gracillimus</i>	○		○	○	○		○	○
20	<i>Juncus haenkei</i>	○			○	○			○
21	<i>Juncus setchuensis</i> var. <i>effusoides</i>								○
22	<i>Leptochloa fusca</i>			○		○			
23	<i>Leymus mollis</i>	○			○	○	○	○	○
24	<i>Lolium perenne</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
25	<i>Miscanthus sacchariflorus</i>					○			
26	<i>Parapholis incurva</i>					○			
27	<i>Phacelurus latifolius</i>	○	○	○	○	○	○	○	○
28	<i>Phragmites australis</i>	○	○	○	○	○	○	○	○
29	<i>Phyllospadix iwatensis</i>				○				
30	<i>Polypogon fugax</i>		○						
31	<i>Polypogon monspeliensis</i>				○	○			
32	<i>Puccinellia coreensis</i>	○			○				
33	<i>Puccinellia nipponica</i>				○	○		○	○
34	<i>Ruppia maritima</i>				○				○
35	<i>Scirpus maritimus</i>	○		○	○	○			
36	<i>Setaria viridis</i> var. <i>pachystachys</i>	○	○	○	○	○	○		○
37	<i>Spartina anglica</i>								○
38	<i>Triglochin maritimum</i>	○	○	○	○	○	○	○	○
39	<i>Zostera japonica</i>				○			○	○
40	<i>Zostera marina</i>				○			○	○
41	<i>Zoysia macrostachya</i>				○	○		○	○
42	<i>Zoysia sinica</i>	○	○	○	○	○	○	○	○
	Class Magnoliopsida								
43	<i>Albizzia coreana</i>					○			
44	<i>Artemisia capillaris</i>	○	○	○	○	○	○	○	○
45	<i>Artemisia fukudo</i>	○	○	○	○	○	○		○
46	<i>Artemisia rubripes</i>					○			
47	<i>Artemisia scoparia</i>	○	○	○	○	○	○		○
48	<i>Aster hispidus</i>	○	○		○	○	○	○	
49	<i>Aster spathulifolius</i>				○	○		○	○
50	<i>Aster tripolium</i>	○	○	○	○	○	○	○	○
51	<i>Atriplex gmelinii</i>	○	○	○	○	○	○	○	○
52	<i>Atriplex hastata</i>				○	○	○		
53	<i>Atriplex prostrata</i>				○	○	○	○	
54	<i>Atriplex subcordata</i>			○	○	○			
55	<i>Bidens bipinnata</i>					○			
56	<i>Bidens frondosa</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
57	<i>Cakile edentula</i>	○			○				○
58	<i>Calystegia soldanella</i>	○	○	○	○	○	○	○	○
59	<i>Cerastium glomeratum</i>					○			
60	<i>Chenopodium album</i> var. <i>stenophyllum</i>	○			○	○		○	○
61	<i>Chenopodium glaucum</i>		○	○		○			○
62	<i>Chenopodium virgatum</i>		○	○	○	○	○	○	○
63	<i>Cnidium japonicum</i>	○	○	○	○	○	○	○	○
64	<i>Corispermum stauntonii</i>				○		○	○	
65	<i>Corydalis heterocarpa</i>	○		○					
66	<i>Cuscuta chinensis</i>		○			○			
67	<i>Dianthus japonicus</i>					○	○		
68	<i>Diodia teres</i>							○	
69	<i>Erigeron bonariensis</i>			○		○			
70	<i>Euphorbia esula</i>				○				
71	<i>Euphorbia jolkini</i>				○				
72	<i>Glehnia littoralis</i>				○	○	○	○	
73	<i>Gypsophila oldhamiana</i>	○			○		○	○	○
74	<i>Kochia scoparia</i> var. <i>littorea</i>		○		○	○	○		○
75	<i>Lathyrus japonicus</i>	○		○	○	○	○	○	○
76	<i>Lathyrus japonicus</i> f. <i>pubescens</i>				○		○	○	○
77	<i>Lepidium apetalum</i>			○		○			
78	<i>Limnium tetragonum</i>	○	○	○	○	○	○	○	○
79	<i>Linaria japonica</i>					○			
80	<i>Lxeris repens</i>				○	○	○	○	○
81	<i>Lysimachia mauritiana</i>			○	○	○		○	○
82	<i>Oenothera odorata</i>			○		○			
83	<i>Orobancha coerulescens</i>				○				
84	<i>Paederia scandens</i>					○			
85	<i>Persicaria hydropter</i>			○		○			
86	<i>Persicaria vulgaris</i>					○			
87	<i>Peucedanum japonicum</i>			○	○	○		○	
88	<i>Phytolacca americana</i>					○			
89	<i>Plantago camtschatica</i>			○					○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
90	<i>Plantago lanceolata</i>					○			
91	<i>Plantago major</i>	○		○	○	○		○	○
92	<i>Polygonum aviculare</i>		○			○			
93	<i>Polygonum fusco-ochreatum</i>	○	○	○	○	○	○	○	○
94	<i>Polygonum polyneuron</i>	○	○	○	○	○	○	○	○
95	<i>Raphanus sativus</i> var. <i>hortensis</i> f. <i>raphanistroides</i>				○				
96	<i>Rosa luciae</i>	○	○	○	○	○		○	
97	<i>Rosa rugosa</i>	○			○	○	○	○	○
98	<i>Rosa wichuraiana</i>	○		○	○	○	○	○	○
99	<i>Rumex crispus</i>		○	○		○			
100	<i>Rumex maritimus</i>	○							
101	<i>Sagina maxima</i>				○				○
102	<i>Salicornia europaea</i>	○			○	○	○	○	○
103	<i>Salsola colina</i>				○	○		○	○
104	<i>Salsola komarovii</i>	○	○	○	○	○	○	○	○
105	<i>Scutellaria strigillosa</i>				○	○			○
106	<i>Sedum oryzifolium</i>				○	○			
107	<i>Senecio vulgaris</i>					○			
108	<i>Silene aprica</i> var. <i>oldhamiana</i>	○		○	○	○		○	○
109	<i>Sonchus asper</i>			○		○			
110	<i>Sonchus brachyotus</i>	○			○	○	○	○	○
111	<i>Sonchus oleraceus</i>			○					
112	<i>Spergularia marina</i>	○		○	○	○	○	○	○
113	<i>Suaeda australis</i>		○			○			
114	<i>Suaeda glauca</i>	○	○	○	○	○	○	○	○
115	<i>Suaeda heteroptera</i>	○		○	○				○
116	<i>Suaeda japonica</i>	○		○	○	○	○	○	○
117	<i>Suaeda malacosperma</i>	○	○			○	○	○	○
118	<i>Suaeda maritima</i>	○	○	○	○	○	○	○	○
119	<i>Tetragonia tetragonoides</i>	○	○	○	○	○	○	○	
120	<i>Tournefortia sibirica</i>	○			○	○	○	○	○
121	<i>Vitex rotundifolia</i>	○	○	○	○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
122	<i>Xanthium strumarium</i>					○			
Subcomponent		53	36	54	81	95	49	59	68
Component		74			112		49	59	68
Total		122							

Chapter 5. Macrobenthos

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Phylum Annelida								
	Class								
1	<i>Sipuncula sp.</i>	○							
2	<i>Themiste sp.</i>						○		
	Class Clitellata								
3	<i>Hirudinea spp.</i>		○	○		○			○
	Class Oligochaeta								
4	<i>Oligochaeta spp.</i>	○	○	○		○			○
	Class Polychaeta								
5	<i>Acoetes melanonota</i>		○	○					
6	<i>Acoetes sp.</i>	○							
7	<i>Acoetidae unid.</i>	○							
8	<i>Aedicira (Aedicira) pacifica</i>							○	
9	<i>Aglaophamus lobatus</i>		○	○	○	○			
10	<i>Aglaophamus sinensis</i>	○				○			○
11	<i>Aglaophamus sp.</i>				○				
12	<i>Aglaophamus tepens</i>		○	○					
13	<i>Alitta succinea</i>	○	○	○	○	○	○	○	○
14	<i>Amaeana occidentalis</i>		○	○	○	○			○
15	<i>Amaeana sp.</i>	○		○	○	○			
16	<i>Amage sp.</i>				○	○			
17	<i>Ampharete finmarchica</i>	○	○	○	○	○			○
18	<i>Ampharete sp.</i>							○	

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
19	<i>Amphicteis gunneri</i>	○	○		○	○		○	○
20	<i>Amphictene japonica</i>						○	○	
21	<i>Amphinome rostrata</i>	○	○	○					
22	<i>Amphinome spp.</i>	○	○	○	○			○	
23	<i>Amphinomidae sp.</i>						○	○	
24	<i>Amphisamytha japonica</i>	○				○			○
25	<i>Ancistargis matsunagaensis</i>	○	○	○		○			○
26	<i>Ancistrosyllis groenlandica</i>		○	○	○	○			○
27	<i>Anelassorhynchus mucosus</i>				○				
28	<i>Anelassorhynchus sabinus</i>	○	○	○	○				
29	<i>Anelassorhynchus sp.</i>	○							
30	<i>Aonides oxycephala</i>			○	○	○	○	○	○
31	<i>Aonides sp.</i>				○				
32	<i>Aphelochaeta monilaris</i>	○	○	○	○	○	○	○	○
33	<i>Aphelochaeta spp.</i>		○	○	○	○	○	○	○
34	<i>Aphrodita japonica</i>				○				○
35	<i>Apistobanchus tullbergi</i>								○
36	<i>Arabella iricolor</i>				○	○			○
37	<i>Arctonoe sp.</i>					○			
38	<i>Arctonoinae sp.</i>		○	○	○	○		○	○
39	<i>Aricidea (Acmira) cerrutii</i>		○	○		○			○
40	<i>Aricidea (Aricidea) wassi</i>				○			○	
41	<i>Aricidea assimilis</i>	○		○	○	○	○	○	○
42	<i>Aricidea catherinae</i>								○
43	<i>Aricidea eximia</i>					○			
44	<i>Aricidea hartley</i>				○		○	○	
45	<i>Aricidea horikoshii</i>								○
46	<i>Aricidea neosuecica nipponica</i>	○			○	○	○	○	○
47	<i>Aricidea pacifica</i>	○				○	○		
48	<i>Aricidea sp.</i>			○	○	○		○	○
49	<i>Arandia lanceolata</i>	○			○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
50	<i>Axiiothella</i> sp.				○				
51	<i>Boccardia</i> spp.		○						
52	<i>Boccardiella hamata</i>		○			○			
53	<i>Boccardiella</i> spp.			○					
54	<i>Bradabyssa villosa</i>	○	○	○	○	○		○	○
55	<i>Cabira pilargiformis</i>	○	○	○	○	○		○	
56	<i>Cabira</i> sp.	○							
57	<i>Capitella capitata</i>	○	○	○	○	○	○	○	○
58	<i>Capitella teleta</i>		○	○		○			○
59	<i>Capitellidae</i> sp.			○	○				
60	<i>Chaetopteridae</i> sp.	○	○					○	
61	<i>Chaetopterus</i> sp.	○							
62	<i>Chaetopterus variopedatus</i>		○						
63	<i>Chaetozone cirratus</i>					○			
64	<i>Chaetozone setosa</i>	○	○	○	○	○	○	○	○
65	<i>Chaetozone</i> sp.		○	○	○	○		○	○
66	<i>Chaetozone spinosa</i>		○		○			○	
67	<i>Cheilonereis cyclurus</i>						○		
68	<i>Chone infundibuliformis</i>				○	○			○
69	<i>Chone</i> sp.			○	○	○			
70	<i>Chrysopetalum occidentale</i>		○	○					
71	<i>Cirratulus cirratus</i>		○						
72	<i>Cirriformia tentaculata</i>	○	○	○	○	○	○	○	○
73	<i>Cirrophorus armatus</i>				○				○
74	<i>Cirrophorus branchiatus</i>		○	○	○	○	○		○
75	<i>Cirrophorus furcatus</i>	○			○	○	○	○	○
76	<i>Clymenella koellikeri</i>					○			○
77	<i>Clymenella koreana</i>					○			
78	<i>Cossura</i> sp.	○	○	○	○	○			
79	<i>Cossuridae</i> sp.	○		○	○	○			
80	<i>Crysopetalum</i> sp.	○			○				
81	<i>Dedecaceria</i> sp.					○			
82	<i>Diopatra</i> sp.					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
83	<i>Diopatra sugokai</i>	○	○	○	○	○	○	○	○
84	<i>Dipolydora socialis</i>	○							
85	<i>Dipolydora sp.</i>	○		○	○				
86	<i>Dodecaceria laddi</i>					○			
87	<i>Dorvillea sp.</i>	○			○				
88	<i>Dorvilleidae sp.</i>			○					
89	<i>Drilonereis filum</i>				○				○
90	<i>Drilonereis sp.</i>				○	○			
91	<i>Eteone longa</i>	○	○	○	○	○	○	○	○
92	<i>Euchone alicaudata</i>				○	○			
93	<i>Euchone sp.</i>					○			
94	<i>Euclymene oerstedii</i>				○	○			○
95	<i>Euclymene spp.</i>					○			○
96	<i>Euclymeninae sp.</i>				○				
97	<i>Eulalia viridis</i>	○	○	○			○		
98	<i>Eumida sanguinea</i>		○	○		○	○	○	○
99	<i>Eumida sp.</i>	○					○		
100	<i>Eunice sp.</i>			○					
101	<i>Eunicidae sp.</i>	○							○
102	<i>Eunicidae sp.2</i>	○							
103	<i>Eunoe sp.</i>				○				
104	<i>Eusyllinae sp.</i>								○
105	<i>Euthalenessa digitata</i>				○	○	○		
106	<i>Exogone sp.</i>				○	○		○	○
107	<i>Flabelligera affinis</i>								○
108	<i>Flabelligeridae sp.</i>				○			○	○
109	<i>Galathowenia oculata</i>			○	○	○			○
110	<i>Glycera capitata</i>	○			○				
111	<i>Glycera chirori</i>	○	○	○	○	○	○	○	○
112	<i>Glycera decipiens</i>			○		○			
113	<i>Glycera macinthoshi</i>						○		
114	<i>Glycera nicobarica</i>	○	○	○	○	○	○	○	○
115	<i>Glycera onomichiensis</i>			○		○			○
116	<i>Glycera spp.</i>			○		○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
117	<i>Glycera subaenea</i>		○	○	○			○	○
118	<i>Glycera tenuis</i>								○
119	<i>Glycera unicornis</i>				○	○	○	○	
120	<i>Glycinde bonhourei</i>	○	○	○	○	○	○	○	○
121	<i>Glycinde gurjanovae</i>	○	○	○	○	○	○	○	○
122	<i>Glycinde sp.</i>	○	○	○	○	○	○	○	
123	<i>Goniada japonica</i>	○	○	○	○	○	○		○
124	<i>Goniada maculata</i>	○	○	○	○	○	○		○
125	<i>Goniada sp.</i>			○					
126	<i>Halosydna brevisetosa</i>	○		○	○	○			
127	<i>Halosydropsis pilosa</i>								○
128	<i>Haplosyllis spp.</i>		○			○	○		○
129	<i>Harenactis attenuata</i>	○				○			
130	<i>Harmothoe imbricata</i>	○	○	○	○	○			○
131	<i>Harmothoe sp.</i>	○			○	○			
132	<i>Harpacticoida sp.</i>					○			
133	<i>Hediste diadroma</i>							○	
134	<i>Hediste japonica</i>	○	○	○	○	○	○	○	○
135	<i>Hemipodia sp.</i>					○			
136	<i>Hermenia acantholepis</i>		○	○					
137	<i>Hesionidae sp.</i>	○							○
138	<i>Heteromastus filiformis</i>	○	○	○	○	○	○	○	○
139	<i>Heteromastus koreanus</i>		○	○		○			
140	<i>Heteromastus sp.</i>	○					○		
141	<i>Heterospio sinica</i>	○	○	○	○	○			○
142	<i>Heterospio sp.</i>	○			○		○		
143	<i>Hyboscolex pacificus borealis</i>			○					○
144	<i>Hydroides ezoensis</i>			○	○				
145	<i>Hydroides sp.</i>				○				
146	<i>Idanthyrus sp.</i>				○	○			
147	<i>Inermonephtys gallardi</i>	○			○	○	○		○
148	<i>Inermonephtys inermis</i>	○			○	○			
149	<i>Inermonephtys sp.</i>				○				
150	<i>Isolda pulchella</i>								○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
151	<i>Kirkegaardia sp.</i>					○			
152	<i>Kuwaita heteropoda</i>	○	○	○	○	○	○	○	○
153	<i>Lagis bocki</i>	○	○	○	○	○	○	○	○
154	<i>Lanice conchilega</i>			○					○
155	<i>Laonice cirrata</i>			○	○				○
156	<i>Laonice sp.</i>					○			
157	<i>Leitoscoloplos pugettensis</i>				○				
158	<i>Leodamas rubrus</i>			○		○			
159	<i>Leodice antennata</i>	○			○				
160	<i>Leonnates persicus</i>	○	○	○	○	○	○	○	○
161	<i>Lepidasthenia izukai</i>					○			○
162	<i>Lepidasthenia maculata</i>			○					
163	<i>Lepidonotinae sp.</i>	○	○	○	○	○	○	○	○
164	<i>Lepidonotus dentatus</i>	○							
165	<i>Lepidonotus elongatus</i>				○		○		
166	<i>Lepidonotus helotypus</i>	○			○			○	
167	<i>Lepidonotus spp.</i>	○	○		○	○			○
168	<i>Lepidonotus tenuisetosus</i>							○	
169	<i>Levinsenia gracilis</i>			○		○			○
170	<i>Loimia medusa</i>	○				○	○	○	
171	<i>Loimia sp.</i>	○							
172	<i>Lumbrineriopsis sp.</i>				○				
173	<i>Lumbrineris californiensis</i>							○	
174	<i>Lumbrineris cruzensis</i>	○	○	○	○	○	○	○	○
175	<i>Lumbrineris japonica</i>			○	○	○	○		○
176	<i>Lumbrineris latreilli</i>	○		○	○	○			○
177	<i>Lumbrineris sp.</i>	○			○	○	○		○
178	<i>Lygdamis giardi</i>	○				○			○
179	<i>Lysidice collaris</i>	○		○		○	○		
180	<i>Lysidice sp.</i>				○	○			
181	<i>Magelona japonica</i>	○	○	○	○	○	○	○	○
182	<i>Magelona sp.</i>		○	○	○		○	○	
183	<i>Magelona sp.1</i>		○	○			○	○	○
184	<i>Magelona sp.2</i>		○	○					○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
185	<i>Magelona spp.</i>								○
186	<i>Maldanidae spp.</i>	○				○			
187	<i>Marphysa sanguinea</i>	○	○	○	○	○	○	○	○
188	<i>Marphysa spp.</i>		○	○					
189	<i>Mediomastus californiensis</i>	○	○	○	○	○	○	○	○
190	<i>Mediomastus sp.</i>	○	○	○			○		
191	<i>Melinna cristata</i>	○			○	○			
192	<i>Melinna elisabethae</i>								○
193	<i>Mesochaetopterus japonicus</i>					○			
194	<i>Mesochaetopterus sp.</i>	○	○	○			○		
195	<i>Micronephthys oligobranchia</i>	○	○	○	○	○	○	○	○
196	<i>Micronephthys sphaerocirrata orientalis</i>						○		○
197	<i>Micropodarke dubia</i>		○	○					
198	<i>Micropodarke sp.</i>	○			○	○	○		
199	<i>Myriochele sp.</i>					○	○		
200	<i>Mysta ornata</i>	○		○	○	○	○	○	○
201	<i>Myxicola infundibulum</i>								○
202	<i>Myxicola sp.</i>			○					
203	<i>Naineris laevigata</i>		○						
204	<i>Neanthes acuminata</i>		○	○					
205	<i>Neanthes sp.</i>		○	○		○			
206	<i>Nectoneanthes oxypoda</i>	○	○	○	○	○	○	○	○
207	<i>Nectoneanthes uchiwa</i>				○	○			
208	<i>Nephtyidae sp.</i>	○		○					
209	<i>Nephtys caeca</i>				○	○	○	○	
210	<i>Nephtys californiensis</i>	○			○		○	○	○
211	<i>Nephtys chemulpoensis</i>	○	○	○	○	○	○	○	○
212	<i>Nephtys ciliata</i>	○		○			○		
213	<i>Nephtys polybranchia</i>	○	○	○	○	○	○	○	○
214	<i>Nephtys punctata</i>		○	○					
215	<i>Nephtys sp.</i>		○						
216	<i>Nereididae sp.</i>			○	○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
217	<i>Nereiphylla castanea</i>		○			○			○
218	<i>Nereis heterocirrata</i>			○		○			○
219	<i>Nereis longior</i>		○		○	○		○	
220	<i>Nereis multignatha</i>			○					
221	<i>Nereis pelagica</i>				○				
222	<i>Nereis sp.</i>			○					
223	<i>Nereis surugaense</i>		○						
224	<i>Nereis zonata</i>					○			○
225	<i>Nicomache personata</i>								○
226	<i>Ninoe palmata</i>			○					
227	<i>Nothria sp. 1</i>				○		○	○	
228	<i>Notomastus latericeus</i>	○	○	○	○			○	○
229	<i>Notomastus sp.</i>		○	○	○				○
230	<i>Oenonidae sp.</i>				○	○			○
231	<i>Onuphis eremita</i>				○			○	
232	<i>Onuphis shirikishinaiensis</i>				○	○	○	○	
233	<i>Onuphis sp.</i>				○	○		○	○
234	<i>Ophelia sp.</i>				○		○		
235	<i>Ophelina arcuminata</i>				○		○		
236	<i>Owenia fusiformis</i>					○	○	○	○
237	<i>Owenia gomsoni</i>				○			○	○
238	<i>Oxydromus pugettensis</i>	○	○	○		○	○	○	○
239	<i>Oxydromus sp.</i>	○	○	○	○		○	○	○
240	<i>Paradoneis armata</i>					○			
241	<i>Paradoneis lyra</i>				○			○	
242	<i>Paralacydonia paradoxa</i>	○	○	○	○			○	○
243	<i>Paraleonnates sp.</i>						○		
244	<i>Paraleonnates uschakovi</i>	○		○	○	○	○		○
245	<i>Paraonidae sp.</i>				○				
246	<i>Paraonis (Paraonides) gracilis</i>				○	○	○	○	○
247	<i>Paraprionospio cordifolia</i>	○	○	○	○			○	
248	<i>Paraprionospio patiens</i>		○	○					
249	<i>Paraprionospio pinnata</i>	○	○	○	○				○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
250	<i>Pectinaria okudai</i>								○
251	<i>Perinereis aibuhitensis</i>	○	○		○	○	○	○	○
252	<i>Perinereis camiguinoides</i>				○	○			○
253	<i>Perinereis cultrifera</i>			○	○				
254	<i>Perinereis linea</i>			○		○			○
255	<i>Perinereis mictodonta</i>	○	○						
256	<i>Perinereis nuntia</i>	○	○	○	○	○	○		○
257	<i>Perinereis sp.</i>					○			
258	<i>Perinereis vancaurica</i>					○			
259	<i>Perinereis wilsoni</i>	○							
260	<i>Perolepis sp.</i>	○							
261	<i>Perolepis stylolepis</i>	○	○	○	○				
262	<i>Pherusa plumosa</i>	○	○	○	○	○		○	○
263	<i>Pherusa sp.</i>				○	○			
264	<i>Phyllodoce chinensis</i>	○						○	
265	<i>Phyllodoce koreana</i>	○	○	○	○	○	○	○	○
266	<i>Phyllodoce maculata</i>		○	○	○			○	
267	<i>Phyllodoce sp.</i>	○	○	○	○	○		○	○
268	<i>Phylo felix asiatica</i>	○	○	○	○	○			○
269	<i>Phylo fimbriata</i>		○			○			
270	<i>Pilargidae sp.</i>					○			
271	<i>Pilargis berkeleyae</i>				○		○	○	○
272	<i>Pilargis sp.</i>	○			○	○			
273	<i>Pisione sp.</i>				○			○	○
274	<i>Pisioninae sp.</i>								○
275	<i>Pista cristata</i>	○		○	○	○		○	
276	<i>Pista sp.</i>		○		○	○			○
277	<i>Platynereis bicanaliculata</i>			○	○	○			
278	<i>Podarkeopsis glabrus</i>				○			○	
279	<i>Podarkeopsis sp.</i>	○	○	○	○	○			○
280	<i>Poecilochaetus clavatus</i>	○	○	○		○			
281	<i>Poecilochaetus johnsoni</i>	○			○	○			○
282	<i>Poecilochaetus sp.</i>		○	○	○	○			
283	<i>Polychaeta sp.</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
284	<i>Polychaeta sp.1</i>	○							
285	<i>Polychaeta sp.2</i>				○				
286	<i>Polycirrus nervosus</i>								○
287	<i>Polydora cornuta</i>	○			○	○		○	
288	<i>Polydora sp.</i>	○	○	○	○	○	○	○	○
289	<i>Polygordiidae sp.</i>								○
290	<i>Polynoidae sp.</i>				○			○	
291	<i>Polynoinae sp.</i>	○	○	○	○	○	○	○	○
292	<i>Polyodontes sp.</i>							○	
293	<i>Polyopthalmus pictus</i>					○			
294	<i>Potamilla sp.</i>		○	○	○	○			
295	<i>Praxillella affinis</i>	○			○	○		○	○
296	<i>Praxillella pacifica</i>				○				
297	<i>Praxillella praetermissa</i>				○				
298	<i>Prionospio membranacea</i>	○							○
299	<i>Prionospio bocki</i>	○	○	○		○			
300	<i>Prionospio cirrifera</i>	○				○		○	
301	<i>Prionospio depauperata</i>			○					○
302	<i>Prionospio ehlersi</i>	○	○	○	○				
303	<i>Prionospio elegantula</i>		○	○		○			
304	<i>Prionospio expansa</i>		○	○		○			
305	<i>Prionospio japonica</i>	○	○	○	○	○	○	○	○
306	<i>Prionospio krusadensis</i>	○	○	○		○	○	○	
307	<i>Prionospio membranacea</i>	○	○	○	○	○		○	○
308	<i>Prionospio multibranchiata</i>	○		○	○			○	○
309	<i>Prionospio paradisea</i>		○	○	○	○	○	○	○
310	<i>Prionospio polybranchiata</i>		○	○					
311	<i>Prionospio pulchra</i>	○	○	○	○	○	○	○	○
312	<i>Prionospio rugosa</i>				○				
313	<i>Prionospio saccifera</i>	○				○			
314	<i>Prionospio sp.</i>		○	○		○	○		○
315	<i>Prionospio steenstrupi</i>	○			○	○			
316	<i>Protodorvillea egena</i>								○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
317	<i>Pseudobranchiomma sp.</i>				○	○			
318	<i>Pseudobranchiomma zebuensis</i>	○							
319	<i>Pseudoetrema fortilirata</i>								○
320	<i>Pseudogaleomma japonica</i>	○							
321	<i>Pseudonereis variegata</i>			○					
322	<i>Pseudopolydora gigeriosa</i>				○				
323	<i>Pseudopolydora kemp</i>	○	○	○	○	○	○	○	○
324	<i>Pseudopolydora paucibranchiata</i>			○		○			
325	<i>Pseudopolydora sp.</i>	○	○	○	○	○	○	○	○
326	<i>Pseudopotamilla ocellata</i>					○			○
327	<i>Rhynchospio tuberculata</i>								○
328	<i>Sabellaria ishikawai</i>								○
329	<i>Sabellastrate spectabilis</i>								○
330	<i>Sabellinae sp.</i>				○	○			
331	<i>Saccocirridae sp.</i>								○
332	<i>Scalibregma inflatum</i>	○		○					
333	<i>Scalibregmatidae sp.</i>							○	
334	<i>Schistomeringos matsushimaensis</i>								○
335	<i>Schistomeringos rudolphi</i>					○			
336	<i>Schistomeringos sp.</i>				○	○			○
337	<i>Scolecipis (Parascolecipis) texana</i>				○		○	○	○
338	<i>Scolecipis (Parascolecipis) yamaguchii</i>		○	○					
339	<i>Scolecipis (Scolecipis) kudenovi</i>				○		○	○	
340	<i>Scolecipis (Scolecipis) rubra</i>								○
341	<i>Scolecipis (Scolecipis) sagittaria</i>				○	○			○
342	<i>Scolecipis (Scolecipis) variegata</i>		○	○		○			○
343	<i>Scolecipis brunnea</i>					○			○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
344	<i>Scolecipis sp.</i>	○	○	○	○	○	○	○	○
345	<i>Scoletoma longifolia</i>	○	○	○	○	○	○		○
346	<i>Scoletoma nipponica</i>	○	○	○	○	○	○	○	○
347	<i>Scoloplos armiger</i>	○	○	○	○	○	○	○	○
348	<i>Scoloplos marsupialis</i>								○
349	<i>Scoloplos rubra</i>				○	○		○	○
350	<i>Sigalion sp.</i>								○
351	<i>Sigalionidae sp.</i>	○							
352	<i>Sigambra bassi</i>				○		○	○	
353	<i>Sigambra sp. 1</i>	○							
354	<i>Sigambra tentaculata</i>	○	○	○	○	○	○	○	○
355	<i>Simplisetia erythraeensis</i>	○			○	○	○		○
356	<i>Sphaerodoridae sp.</i>						○	○	
357	<i>Spio filicornis</i>				○		○	○	
358	<i>Spio martinensis</i>				○	○	○	○	○
359	<i>Spio sp.</i>				○	○			
360	<i>Spiochaetopterus costarum</i>		○	○		○			
361	<i>Spiochaetopterus koreana</i>		○	○		○		○	○
362	<i>Spiochaetopterus sp.</i>							○	
363	<i>Spionidae sp.</i>				○	○			
364	<i>Spiophanes bombyx</i>				○				
365	<i>Spiophanes kroyeri</i>	○						○	○
366	<i>Spirobranchus kraussii</i>			○	○				
367	<i>Spirobranchus tetraceros</i>			○					
368	<i>Spirorbidae sp.</i>			○					
369	<i>Sternaspis scutata</i>	○	○	○	○	○	○	○	○
370	<i>Sthenelais fusca</i>		○	○	○	○		○	○
371	<i>Sthenolepis japonica</i>	○	○	○				○	
372	<i>Sthenolepsis sp.</i>					○			
373	<i>Syllidae sp.</i>	○	○	○	○	○	○	○	○
374	<i>Tambalagama fauveli</i>	○	○	○	○	○			○
375	<i>Terebella punctata</i>	○							
376	<i>Terebellidae sp.</i>	○							○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
377	<i>Terebellides horikoshii</i>	○			○	○			
378	<i>Terebellides japonica</i>		○	○	○	○			
379	<i>Terebellides sp.</i>		○	○					
380	<i>Terebellides stroemii</i>		○	○		○			
381	<i>Terebellinae sp.</i>	○	○	○	○	○	○	○	○
382	<i>Thalassema fuscum</i>	○							
383	<i>Tharyx sp.</i>	○	○	○	○	○	○	○	○
384	<i>Thelepodinae sp.</i>			○					
385	<i>Thelepus sp.</i>	○			○	○			
386	<i>Thelepus toyamaensis</i>			○		○	○		○
387	<i>Thoracophelia dillonensis</i>				○				
388	<i>Thoracophelia sp.</i>				○				
389	<i>Travisia japonica</i>				○	○		○	
390	<i>Travisia pupa</i>						○	○	
391	<i>Trichobranchidae sp.</i>					○			
392	<i>Trichobranchus bibranchiatus</i>					○			○
393	<i>Trichobranchus glacialis</i>				○	○			○
394	<i>Trichobranchus sp.</i>	○			○	○			
395	<i>Trypanosyllis sp.</i>					○			○
396	<i>Tylorrhynchus heterochetus</i>				○	○			
397	<i>Tylorrhynchus osawai</i>	○	○	○		○			
398	<i>Tylorrhynchus sp.</i>	○			○		○	○	
399	<i>Typosyllis adamanteus kurilensis</i>		○			○			
	Phylum Arthropoda								
	Class Hexanauplia								
400	<i>Fistulobalanus albicostatus</i>	○	○	○	○	○	○	○	○
401	<i>Fistulobalanus kondakovi</i>	○			○	○	○		
	Class Malacostraca								
402	<i>Acanthomysis sp.</i>					○			
403	<i>Acetes japonicus</i>	○		○		○		○	
404	<i>Acmaeopleura balssi</i>							○	
405	<i>Actaea savignii</i>			○					

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
406	<i>Allorchestes bellabella</i>			○	○				
407	<i>Alpheidae sp.</i>					○			
408	<i>Alpheus bisincisus</i>	○	○	○	○	○			○
409	<i>Alpheus brevicristatus</i>	○	○		○	○		○	
410	<i>Alpheus digitalis</i>			○	○	○	○		○
411	<i>Alpheus hoplocheles</i>	○		○	○	○			○
412	<i>Alpheus japonicus</i>	○	○	○	○	○			○
413	<i>Alpheus sp.</i>	○	○	○	○	○	○	○	○
414	<i>Ampelisca bocki</i>		○	○	○	○		○	○
415	<i>Ampelisca brevicornis</i>		○		○	○		○	○
416	<i>Ampelisca cyclops</i>				○	○			○
417	<i>Ampelisca miharaensis</i>								○
418	<i>Ampelisca misakiensis</i>					○			○
419	<i>Ampelisca naikaiensis</i>		○	○		○			
420	<i>Ampelisca sp.</i>	○			○	○		○	
421	<i>Amphipoda sp. 1</i>				○				
422	<i>Amphipoda sp. 2.</i>						○		
423	<i>Amphipoda spp.</i>					○			
424	<i>Ampithoe koreana</i>	○		○	○				
425	<i>Ampithoe lacertosa</i>	○		○	○				
426	<i>Ampithoe plumulosa</i>					○			
427	<i>Ampithoe ramondi</i>			○					
428	<i>Ampithoe spp.</i>			○	○	○	○		
429	<i>Ampithoe valida</i>	○	○	○	○	○			○
430	<i>Aora sp.</i>	○					○		
431	<i>Aorcho sp.</i>								○
432	<i>Aoroides columbiae</i>		○	○					○
433	<i>Apocorophium acutum</i>			○	○				○
434	<i>Apohyale punctata</i>	○		○	○		○		
435	<i>Apseudes nipponicus</i>	○			○	○			
436	<i>Apseudidae sp.</i>								○
437	<i>Arcania undecimspinos</i>	○	○	○					
438	<i>Archaeomysis kokuboi</i>				○				
439	<i>Arcotheres cyclinus</i>						○		○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
440	<i>Arcotheres sinensis</i>	○			○		○	○	
441	<i>Arcturus crassispinis</i>				○				○
442	<i>Areopaguristes japonicus</i>			○					
443	<i>Arges canaliculatus</i>		○	○					
444	<i>Asthenognathus inaequipes</i>	○	○	○	○	○	○	○	○
445	<i>Ataxocerithium abnormale</i>				○				
446	<i>Athanas japonicus</i>	○	○	○	○	○		○	○
447	<i>Athanas sp.</i>			○		○			
448	<i>Austruca lactea</i>		○	○		○	○	○	○
449	<i>Batepenaeopsis tenella</i>	○			○			○	
450	<i>Bodotria ovalis</i>				○		○		
451	<i>Bodotria parva</i>				○				
452	<i>Bopyridae sp.</i>							○	
453	<i>Brachyura sp.</i>	○	○		○		○	○	○
454	<i>Bubocorophium exolitum</i>								○
455	<i>Byblis japonicus</i>	○		○	○	○			○
456	<i>Byblis sp.</i>				○				
457	<i>Camptandrium sexdentatum</i>	○	○	○	○	○	○	○	○
458	<i>Campylaspis reticulata</i>				○				○
459	<i>Caprella acanthogaster</i>			○			○		
460	<i>Caprella algaceus</i>	○		○					
461	<i>Caprella decipiens</i>			○		○			
462	<i>Caprella equilibra</i>					○	○		
463	<i>Caprella paramitis</i>			○					
464	<i>Caprella penantis</i>		○	○					
465	<i>Caprella scaura</i>	○		○	○		○		
466	<i>Caprella simia</i>			○					
467	<i>Caprella sp.</i>	○		○	○	○	○		○
468	<i>Caprella subtilis</i>			○					
469	<i>Caprellidae sp.</i>				○				
470	<i>Caridea sp.</i>	○							
471	<i>Ceina japonica</i>			○					
472	<i>Cerapus longirostris</i>								○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
473	<i>Cerapus sp.</i>								○
474	<i>Cerapus tubularis</i>				○		○		○
475	<i>Charybdis (Charybdis) acuta</i>						○		
476	<i>Charybdis (Charybdis) japonica</i>	○	○	○	○	○	○		○
477	<i>Charybdis (Gonioneptunus) bimaculata</i>		○	○	○	○	○	○	○
478	<i>Charybdis sp.</i>					○			
479	<i>Chasmagnathus convexus</i>			○					
480	<i>Cheiriphotis sp.</i>		○	○					
481	<i>Chiromantes haematocheir</i>	○	○	○	○	○			○
482	<i>Chitonomandibulum sp.</i>	○			○				
483	<i>Chitonomandibulum emargicoxa</i>		○	○	○	○			○
484	<i>Chitonosphaera lata</i>		○	○		○			○
485	<i>Chondrochelia cf. dubia</i>								○
486	<i>Chthamalus challengerii</i>	○	○	○	○	○	○	○	○
487	<i>Cirolana harfordi japonica</i>	○		○	○	○			
488	<i>Cleantiella isopus</i>	○		○	○		○		
489	<i>Cleantioides japonica</i>								○
490	<i>Cleantioides planicauda</i>				○				
491	<i>Cleantioides sp.</i>				○				
492	<i>Cleistostoma dilatatum</i>	○			○	○			○
493	<i>Clistocoeloma merguense</i>					○			
494	<i>Corophiidae sp.</i>				○	○			○
495	<i>Corophium denticulatum</i>	○			○	○	○	○	
496	<i>Crangon affinis</i>					○	○	○	
497	<i>Crangon sp.</i>				○	○	○		
498	<i>Crangon uritai</i>					○		○	○
499	<i>Crangonidae sp.</i>					○			
500	<i>Cumacea sp.</i>				○	○			
501	<i>Cumella (Cumella) rigida</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
502	<i>Cyathura higoensis</i>	○	○	○	○	○			○
503	<i>Cymodoce acuta</i>				○				
504	<i>Cymodoce japonica</i>				○				
505	<i>Deiratonotus cristatus</i>					○			
506	<i>Dexaminidae sp.</i>				○				
507	<i>Diastylis nitens</i>	○			○		○	○	○
508	<i>Diastylis paratricinta</i>				○	○	○	○	○
509	<i>Dimorphostylis asiatica</i>				○	○		○	○
510	<i>Dimorphostylis brevicaudata</i>	○	○	○	○	○		○	○
511	<i>Dimorphostylis sp.</i>					○			
512	<i>Diogenes edwardsii</i>		○	○		○			○
513	<i>Diogenes nitidimanus</i>				○	○	○	○	
514	<i>Diogenes sp.</i>		○			○		○	
515	<i>Dynamenella nipponica</i>				○				
516	<i>Dynoides brevicornis</i>				○				
517	<i>Dynoides longisinus</i>				○				
518	<i>Dynoides sp.</i>			○	○				○
519	<i>Elaphognathia sp.</i>					○			
520	<i>Enoplolambrus validus</i>			○		○			
521	<i>Entricoplax vestita</i>	○	○	○		○			
522	<i>Eochelidium lenorostratum</i>					○			
523	<i>Eochelidium miraculum</i>				○			○	○
524	<i>Eocuma hilgendorfi</i>	○	○	○	○	○		○	
525	<i>Eohaustorius longidactylus</i>				○			○	
526	<i>Eohaustorius setulosus</i>				○			○	
527	<i>Eohaustorius sp.</i>				○		○	○	
528	<i>Eohaustorius spinigerus</i>				○	○			
529	<i>Ericthonius pugnax</i>	○	○	○	○	○		○	○
530	<i>Eriocheir sinensis</i>					○			
531	<i>Eriopisella sechellensis</i>	○	○	○	○	○			○
532	<i>Eucrate crenata</i>	○	○	○					
533	<i>Eudorella pacifica</i>					○			
534	<i>Eusiridae sp.</i>				○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
535	<i>Excirolana chiltoni</i>				○				○
536	<i>Gaetice depressus</i>			○	○		○		
537	<i>Gaillardius orientalis</i>	○							
538	<i>Gammaridae sp. 1</i>				○				
539	<i>Gammaridae sp. 2</i>	○			○			○	
540	<i>Gammaridae spp.</i>					○			
541	<i>Gammaropsis (Segamphopus) utinomii</i>	○		○	○	○		○	○
542	<i>Gammaropsis japonica</i>			○	○	○		○	○
543	<i>Gammaropsis longipropodi</i>			○					
544	<i>Gammaropsis spp.</i>		○	○	○				
545	<i>Gitanopsis sp.</i>			○					
546	<i>Gnathia sp.</i>				○			○	○
547	<i>Gnorimosphaeroma naktongense</i>				○	○			○
548	<i>Gnorimosphaeroma ovatum</i>			○	○	○			
549	<i>Gnorimosphaeroma sp.</i>		○	○		○			
550	<i>Grandidierella japonica</i>	○	○	○	○	○	○	○	○
551	<i>Grandidierella sp.</i>								○
552	<i>Grandifoxus bangpoensis</i>							○	
553	<i>Grandifoxus cuspis</i>				○				
554	<i>Grandifoxus malipoensis</i>				○				
555	<i>Grandifoxus sp.</i>				○	○			○
556	<i>Guernea ezoensis</i>			○	○	○			○
557	<i>Gynodiastylis rotundicaudata</i>				○				○
558	<i>Harpinia sp.</i>				○				
559	<i>Haustorioides indivisus</i>				○				○
560	<i>Haustorioides koreanus</i>				○			○	
561	<i>Helicana japonica</i>	○	○		○	○			○
562	<i>Helicana wuana</i>	○			○	○	○	○	○
563	<i>Helice sp.</i>				○				
564	<i>Helice tientsinensis</i>		○	○	○	○	○	○	
565	<i>Helice tridens</i>	○	○	○	○	○	○		○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
566	<i>Hemigrapsus penicillatus</i>	○	○	○	○	○	○	○	○
567	<i>Hemigrapsus sanguineus</i>	○	○	○	○	○	○		○
568	<i>Hemigrapsus sinensis</i>				○	○	○		
569	<i>Hemigrapsus takanoi</i>		○	○		○			○
570	<i>Hemileucon sp.</i>								○
571	<i>Hemipodia yenourensis</i>	○				○			○
572	<i>Heptacarpus rectirostris</i>			○					○
573	<i>Hexapus sexpes</i>	○				○	○		
574	<i>Hippolytidae sp.</i>		○	○					
575	<i>Holotelson tuberculatus</i>			○					○
576	<i>Hyale sp.3</i>				○				
577	<i>Hyalidae sp.</i>	○	○	○	○	○			
578	<i>Hyastenus elongatus</i>			○		○			
579	<i>Hyperidae sp.</i>								○
580	<i>Idotea metallica</i>				○				
581	<i>Idunella chilensis</i>	○			○	○			
582	<i>Idunella curvidactyla</i>		○	○	○	○		○	○
583	<i>Idunella sp.</i>				○			○	○
584	<i>liella pelagica</i>								○
585	<i>Ilyoplax dentimerosa</i>	○	○	○	○	○	○		○
586	<i>Ilyoplax deschampsii</i>	○			○	○			
587	<i>Ilyoplax pingii</i>	○	○	○	○	○	○	○	○
588	<i>Ilyoplax sp.</i>					○			
589	<i>Incisocalliope derzhavini</i>			○					
590	<i>Indopinnixa haematosticta</i>					○			
591	<i>Iphimedia mala</i>			○					○
592	<i>Iphinoe sagamiensis</i>	○	○	○					
593	<i>Iphinoe tenera</i>	○	○	○	○				
594	<i>Jassa slatteryi</i>			○	○		○		○
595	<i>Joeropsis lobata</i>			○	○	○			
596	<i>Kamaka cf. excavata</i>				○	○			○
597	<i>Kamaka sp.</i>				○	○			○
598	<i>Kamehatylus japonicus</i>				○				
599	<i>Lampropidae sp.</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
600	<i>Laomedea astacina</i>	○	○			○			
601	<i>Latreutes planirostris</i>	○	○	○	○	○			○
602	<i>Leptochela gracilis</i>	○	○	○	○	○	○	○	○
603	<i>Leptochela sydniensis</i>		○	○					○
604	<i>Leptochelia sp.</i>			○		○			○
605	<i>Leptodius exaratus</i>			○					
606	<i>Leucosiidae sp.</i>					○			
607	<i>Leucothoe nagatai</i>			○					
608	<i>Ligia exotica</i>	○	○	○	○	○	○	○	○
609	<i>Liljeborgia japonica</i>	○		○	○			○	○
610	<i>Liljeborgia serrata</i>								○
611	<i>Liljeborgia sp.</i>		○	○					○
612	<i>Lyphira heterograna</i>				○	○	○	○	○
613	<i>Lysianassidae sp.</i>				○			○	○
614	<i>Macromedaeus distinguendus</i>			○	○		○		
615	<i>Macrophthalmus (Macrophthalmus) abbreviatus</i>				○	○	○	○	○
616	<i>Macrophthalmus (Mareotis) banzai</i>	○							
617	<i>Macrophthalmus (Mareotis) japonicus</i>	○	○	○	○	○	○	○	○
618	<i>Macrura sp.</i>	○			○	○	○	○	
619	<i>Maera sp.</i>			○					○
620	<i>Maeropsis cobia</i>			○					
621	<i>Mandibulophoxus hongae</i>					○			
622	<i>Mandibulophoxus mai</i>				○	○	○	○	○
623	<i>Mandibulophoxus sp.</i>				○				
624	<i>Mariaplax anfracta</i>		○	○					
625	<i>Matuta lunaris</i>						○		
626	<i>Matuta planipes</i>				○		○		
627	<i>Medaeops granulosus</i>	○							
628	<i>Megalopa sp.</i>							○	
629	<i>Melita bingoensis</i>			○					○
630	<i>Melita koreana</i>				○	○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
631	<i>Melita longidactyla</i>	○	○	○	○	○	○	○	○
632	<i>Melita pilopropoda</i>			○	○				○
633	<i>Melita setiflagella</i>								○
634	<i>Melita sp.</i>	○		○	○	○	○	○	○
635	<i>Melitidae spp.</i>	○		○	○	○	○		
636	<i>Merocryptus lambriformis</i>			○					
637	<i>Metapenaepsis dalei</i>				○	○	○		
638	<i>Metapenaeus joyneri</i>		○	○			○		
639	<i>Mierspenaeopsis hardwickii</i>					○			
640	<i>Monocorophium acherusicum</i>	○	○	○	○	○	○	○	○
641	<i>Monocorophium insidiosum</i>			○		○			
642	<i>Monocorophium sp.</i>		○	○	○	○			○
643	<i>Monocorophium uenoi</i>			○	○				
644	<i>Monoculodes dentimanus</i>						○	○	○
645	<i>Monoculodes koreanus</i>				○		○	○	○
646	<i>Monoculodes muwoni</i>						○	○	○
647	<i>Monoculodes sp.</i>						○		
648	<i>Mysid sp. 1</i>	○			○				
649	<i>Mysid sp. 2</i>				○				
650	<i>Mysidae sp.</i>				○	○			○
651	<i>Nannastacus sp.</i>			○		○			
652	<i>Nebalia bipes</i>			○	○				○
653	<i>Neodorippe japonica</i>	○							
654	<i>Neeriocheir leptognathus</i>	○							
655	<i>Neomysis awatschensis</i>				○				○
656	<i>Neomysis sp.</i>	○				○	○		
657	<i>Neotrypaea japonica</i>	○	○	○		○	○	○	
658	<i>Nippoleucon hinumensis</i>	○	○	○	○				○
659	<i>Nippoleucon projectus</i>								○
660	<i>Nippoleucon spp.</i>					○			
661	<i>Nursia rhomboidalis</i>				○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
662	<i>Ocypode stimpsoni</i>				○	○		○	○
663	<i>Ogyrides orientalis</i>	○					○	○	○
664	<i>Oratosquilla oratoria</i>	○	○	○	○	○		○	○
665	<i>Orchestia sp.</i>				○				
666	<i>Orchomene breviceps</i>					○			
667	<i>Orchomene sp.</i>								○
668	<i>Oregonia gracilis</i>					○			
669	<i>Orisarma dehaani</i>		○	○	○				
670	<i>Orisarma intermedium</i>	○							
671	<i>Orithya sinica</i>						○		
672	<i>Ovalipes punctatus</i>				○				
673	<i>Pachygrapsus crassipes</i>		○	○	○				
674	<i>Paguridae sp.</i>				○	○	○		○
675	<i>Paguristes ortmanni</i>			○					
676	<i>Pagurus angustus</i>				○				
677	<i>Pagurus benedicti</i>	○	○	○	○	○		○	○
678	<i>Pagurus brachiomastus</i>				○		○		○
679	<i>Pagurus conformis</i>				○	○			
680	<i>Pagurus filholi</i>			○					
681	<i>Pagurus gracilipes</i>				○				
682	<i>Pagurus lanuginosus</i>				○		○		
683	<i>Pagurus pectinatus</i>	○			○				
684	<i>Pagurus similis</i>				○				
685	<i>Pagurus sp.</i>	○			○	○			
686	<i>Pagurus trigonocheirus</i>					○			
687	<i>Palaemon carinicauda</i>	○		○	○	○	○	○	
688	<i>Palaemon gravieri</i>		○	○	○	○	○		
689	<i>Palaemon macrodactylus</i>	○			○	○			○
690	<i>Palaemon modestus</i>					○		○	
691	<i>Palaemon serrifer</i>	○		○	○				
692	<i>Palaemon sp.</i>	○			○		○		○
693	<i>Paracleistostoma crassipilum</i>					○			
694	<i>Paradexamine barnardi</i>				○				
695	<i>Paradexamine setigera</i>			○					

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
696	<i>Paradorippe granulata</i>		○	○					○
697	<i>Paranthura japonica</i>	○	○	○	○		○		○
698	<i>Paranthura sp.</i>			○		○			
699	<i>Paraphotis sinensis</i>								○
700	<i>Paraphoxus sp.</i>				○				
701	<i>Paraphoxus tomiokaensis</i>			○		○			○
702	<i>Parapseudidae sp.</i>		○	○					
703	<i>Parasesarma erythodactylum</i>	○		○	○	○			
704	<i>Parasesarma pictum</i>	○	○	○	○	○	○	○	○
705	<i>Parasesarma plicatum</i>		○	○	○	○	○	○	○
706	<i>Parasesarma tripectinis</i>					○			
707	<i>Pareurystheus latipes</i>					○			
708	<i>Parhyale sp.</i>			○	○	○			
709	<i>Pasiphaeidae sp.</i>					○			
710	<i>Penaeidae sp.</i>								○
711	<i>Penaeus chinensis</i>		○	○		○			
712	<i>Penaeus japonicus</i>	○				○			
713	<i>Pereionotus holmesi</i>			○					
714	<i>Periocolodes donghaiensis</i>				○				
715	<i>Periocolodes pinguis</i>		○	○					
716	<i>Periocolodes seohae</i>							○	
717	<i>Periocolodes sp.</i>	○			○			○	
718	<i>Philyra kanekoi</i>					○	○		
719	<i>Photidae sp.</i>	○							
720	<i>Photis japonica</i>								○
721	<i>Photis longicaudata</i>	○	○	○	○	○		○	○
722	<i>Photis reinhardi</i>								○
723	<i>Photis sp.</i>			○	○		○		○
724	<i>Photis zhujiangensis</i>					○			○
725	<i>Pilumnus minutus</i>			○	○				
726	<i>Pinnaxodes major</i>							○	○
727	<i>Pinnixa rathbuni</i>	○					○		
728	<i>Pinnixa tumida</i>				○		○		○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
729	<i>Pinnotheres pholadis</i>		○	○					○
730	<i>Pisidia serratifrons</i>	○		○	○	○	○		○
731	<i>Platorchestia crassicornis</i>				○			○	
732	<i>Platorchestia</i> sp.	○		○					
733	<i>Platylambrus validus</i>								○
734	<i>Pleustes panopla</i>				○				
735	<i>Podocerus hoonsooi</i>			○	○				○
736	<i>Podocerus</i> sp.			○	○				○
737	<i>Polycheria atollis orientalis</i>	○		○					
738	<i>Polyonyx asiaticus</i>						○	○	
739	<i>Polyonyx sinensis</i>						○		
740	<i>Pontogeneia rostrata</i>	○		○	○				
741	<i>Portunus trituberculatus</i>		○	○	○	○	○		
742	<i>Priscomilitaris</i> sp.		○	○					○
743	<i>Protohyale (Boreohyale) rubra</i>				○		○		
744	<i>Pugettia intermedia</i>				○	○	○		
745	<i>Pugettia quadridens quadridens</i>			○					
746	<i>Pyrhila pisum</i>	○	○	○	○	○	○	○	○
747	<i>Pyromaia tuberculata</i>								○
748	<i>Quadrimeia pacifica</i>			○	○	○			
749	<i>Raphidopus ciliatus</i>	○	○	○	○	○	○		○
750	<i>Rhinoecetes</i> sp.					○			
751	<i>Rhynchoplax messor</i>								○
752	<i>Romaleon gibbosulum</i>					○			
753	<i>Scopimera globosa</i>	○	○	○	○	○	○	○	○
754	<i>Scopimera longidactyla</i>					○			○
755	<i>Scylla paramamosain</i>		○	○		○			
756	<i>Scyrra bidentata</i>						○		
757	<i>Sesarma haematocheir</i>				○	○		○	
758	<i>Sesarmops intermedius</i>		○						
759	<i>Sestrostoma balssi</i>			○				○	
760	<i>Sinocorophium homoceratum</i>		○			○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
761	<i>Sinocorophium sinensis</i>	○	○	○	○	○	○	○	○
762	<i>Sinoedicerus homopalmatus</i>	○		○	○				
763	<i>Sinurothoe armatus</i>					○			
764	<i>Siphonocetes sp.</i>					○			
765	<i>Sphaeroma sieboldii</i>				○				
766	<i>Sphaeromatidae sp.</i>	○	○		○	○			○
767	<i>Sphaerozius nitidus</i>				○		○		
768	<i>Stegocephalus sp.</i>				○				
769	<i>Stenolpheops anacanthus</i>					○		○	
770	<i>Stenothoe valida</i>	○		○	○		○		
771	<i>Stimpsoplax setirostris</i>			○	○				○
772	<i>Sunamphitoe sp.</i>	○		○	○	○		○	○
773	<i>Sunamphitoe tea</i>				○				
774	<i>Symmium caudatus</i>				○				○
775	<i>Symmium yamaguchiensis</i>								○
776	<i>Synapseudes setoensis</i>								○
777	<i>Synchelidium trioostegitum</i>				○	○	○	○	○
778	<i>Synidotea laevidorsalis</i>	○			○	○			
779	<i>Talitridae sp.</i>		○	○	○				
780	<i>Thorlaksonius sp.</i>			○					
781	<i>Trachypenaeopsis richtersii</i>				○				
782	<i>Trachysalambria curvirostris</i>					○		○	
783	<i>Trinorchestia longiramus</i>				○				
784	<i>Tritodynamia horvathi</i>		○						
785	<i>Tritodynamia rathbuni</i>	○	○	○	○	○	○	○	○
786	<i>Tubuca arcuata</i>	○	○	○	○	○	○	○	○
787	<i>Typhlocarcinops canaliculatus</i>				○				
788	<i>Typhlocarcinus sp.</i>	○	○	○	○	○		○	
789	<i>Upogebia major</i>	○				○		○	○
790	<i>Urothoe convexa</i>				○		○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
791	<i>Urothoe grimaldii japonica</i>				○		○	○	○
792	<i>Urothoe sp.2</i>				○	○	○	○	○
793	<i>Ventojassa sp.</i>			○	○	○			
794	<i>Xenophthalmus pinnotheroides</i>	○	○	○					
	Class Maxillopoda								
795	<i>Balanus sp.</i>	○		○		○	○		
796	<i>Balanus trigonus</i>				○			○	
	Class Ostracoda								
797	<i>Ostracoda sp.</i>				○				
798	<i>Vargula hilgendorffii</i>			○					
	Class Pycnogonida								
799	<i>Achelia japonica</i>			○					
800	<i>Ammothea hedgpethi</i>			○					
801	<i>Ammothella sp.</i>			○					
802	<i>Anoplodactylus crassus</i>	○							
803	<i>Propallene longiceps</i>				○				
804	<i>Pycnogonida sp.</i>				○				
	Class Thecostraca								
805	<i>Amphibalanus amphitrite</i>					○			
806	<i>Amphibalanus improvisus</i>			○					
807	<i>Amphibalanus reticulatus</i>	○	○	○	○	○	○	○	
808	<i>Amphibalanus sp.</i>	○							
809	<i>Capitulum mitella</i>			○	○	○			
810	<i>Chirona cristatus</i>					○		○	
811	<i>Cirripedia sp.</i>						○		
812	<i>Megabalanus rosa</i>	○	○				○		
813	<i>Tetraclita japonica</i>		○	○	○				
	Phylum Brachiopoda								
	Class Inarticulata								
814	<i>Lingula anatina</i>	○			○	○	○	○	○
	Class Rhynchonellata								
815	<i>Coptothyris grayi</i>			○	○				○
816	<i>Terebratalia coreanica</i>				○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
817	<i>Terebratulina japonica</i>				○				
	Phylum Bryozoa								
	Class Gymnolaemata								
818	<i>Aetea anguina</i>				○				
819	<i>Amastigia rudis</i>				○				
820	<i>Amathia distans</i>	○							
821	<i>Caberea lata</i>				○				
822	<i>Copidozoum canui</i>				○				
823	<i>Crassimarginatella crassimarginata</i>				○				
824	<i>Crepidacantha poissoni</i>				○				
825	<i>Fenestrulina malusii</i>				○				
826	<i>Fenestrulina sp.</i>			○					
827	<i>Parasmittina contraria</i>				○				
828	<i>Thalamoporella lioticha</i>			○					
829	<i>Vesiculariidae sp.</i>			○					
830	<i>Watersipora subtorquata</i>	○			○	○			
	Class Stenolaemata								
831	<i>Crisia eburneodenticulata</i>				○				
	Phylum Cephalorhyncha								
	Class Priapulida								
832	<i>Priapulopsis bicaudatus</i>				○				
	Phylum Chordata								
	Class Ascidiacea								
833	<i>Ascidiacea sp.</i>		○	○					
834	<i>Chelyosoma dofleini</i>			○					
835	<i>Ciona intestinalis</i>								○
836	<i>Cionidae sp.</i>			○					
837	<i>Halocynthia roretzi</i>			○					
838	<i>Molgula sp.</i>	○							
839	<i>Styela clava</i>	○		○	○				
	Phylum Cnidaria								
	Class Anthozoa								
840	<i>Actiniaria sp.2</i>	○			○		○	○	

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
841	<i>Actiniaria sp.3</i>				○				
842	<i>Actiniaria sp.4</i>						○		
843	<i>Actiniaria spp.</i>	○	○	○	○	○			○
844	<i>Anthopleura anjunae</i>			○	○		○		
845	<i>Anthopleura japonica</i>	○		○	○		○	○	
846	<i>Anthopleura kurogane</i>			○	○				
847	<i>Anthopleura nigrescens</i>			○	○			○	
848	<i>Anthopleura sp.</i>			○					
849	<i>Anthozoa sp.</i>		○	○	○	○			○
850	<i>Cavernularia obesa</i>						○		
851	<i>Cerianthus filiformis</i>					○	○		
852	<i>Diadumene lineata</i>	○	○	○	○	○	○	○	○
853	<i>Edwardsia japonica</i>	○			○	○	○	○	○
854	<i>Edwardsia sipunculoides</i>	○							
855	<i>Edwardsiidae sp.</i>					○			
856	<i>Paracondylactis hertwigi</i>	○				○	○	○	
857	<i>Synandwakia sp.</i>	○			○	○	○	○	○
858	<i>Virgularia gustaviana</i>						○		
859	<i>Virgularia halisceptum</i>				○				
860	<i>Virgularia juncea</i>				○				
861	<i>Virgularia sp.</i>					○			
862	<i>Zoantharia sp.</i>	○	○	○	○				
	Class Hexacorallia								
863	<i>Actinia equina</i>				○				
864	<i>Anemonactis mazeli</i>	○							
865	<i>Ceriantharia sp.</i>								○
866	<i>Dofleinia armata</i>					○			
867	<i>Halcampella maxima</i>				○				
868	<i>Hormathia andersoni</i>					○	○		
869	<i>Urticina coriacea</i>	○							
870	<i>Urticina crassicornis</i>					○			
	Class Hydrozoa								
871	<i>Corynidae sp.</i>			○					
872	<i>Ectopleura crocea</i>				○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
873	<i>Plumularia setacea</i>					○			
874	<i>Plumulariidae sp.</i>			○					
875	<i>Sertulariidae sp.</i>			○					
876	<i>Solanderia secunda</i>					○			
877	<i>Turritopsis nutricula</i>				○				
	Class Octocorallia								
878	<i>Eleutherobia rigida</i>				○				
879	<i>Euplexaura sp.</i>			○					
880	<i>Scleronephthya sp.</i>				○				
881	<i>Scytalim splendens</i>	○					○	○	
	Class Scyphozoa								
882	<i>Scyphozoa sp.</i>			○					
	Phylum Echinodermata								
	Class Asteroidea								
883	<i>Aphelasterias japonica</i>				○				
884	<i>Aquilonastra batheri</i>			○					
885	<i>Asterias amurensis</i>	○		○					
886	<i>Forcipulatacea sp.</i>			○					
887	<i>Luidia quinaria</i>	○							
888	<i>Patiria pectinifera</i>	○		○			○		○
889	<i>Solaster uchidai</i>				○				
	Class Crinoidea								
890	<i>Comatulidae sp.</i>			○					
891	<i>Crinoidea sp. 1</i>				○				
892	<i>Crinoidea sp. 2</i>				○				
	Class Echinoidea								
893	<i>Hemicentrotus pulcherrimus</i>						○		
894	<i>Schizaster lacunosus</i>	○						○	
895	<i>Temnopleurus hardwickii</i>	○		○	○				
896	<i>Temnopleurus toreumaticus</i>	○	○	○	○	○			
	Class Holothuroidea								
897	<i>Apostichopus japonicus</i>			○			○	○	
898	<i>Cucumaria sp.</i>	○			○	○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
899	<i>Holothuroidea spp.</i>				○	○			
900	<i>Leptosynapta inhaerens</i>		○						
901	<i>Neoamphicyclus problematica</i>								○
902	<i>Protankyra bidentata</i>	○	○	○	○	○	○	○	○
903	<i>Sclerodactyla multipes</i>			○	○	○			
	Class Ophiuroidea								
904	<i>Amphioplus (Amphichilus) trichoides</i>				○				
905	<i>Amphioplus (Lymanella) japonicus</i>								○
906	<i>Amphioplus (Lymanella) laevis</i>	○			○	○		○	
907	<i>Amphioplus ancistrotus</i>	○	○	○	○				○
908	<i>Amphioplus sp.</i>				○				
909	<i>Amphiura (Fellaria) vadicola</i>	○	○	○	○				○
910	<i>Amphiura aestuarii</i>	○	○	○	○	○			
911	<i>Amphiura sinicola</i>	○	○		○		○	○	○
912	<i>Amphiura sp.</i>					○			
913	<i>Ophiactis affinis</i>		○	○	○				○
914	<i>Ophiactis brachygenys</i>			○					
915	<i>Ophiactis macrolepidota</i>			○					
916	<i>Ophiactis profundus</i>				○				
917	<i>Ophiactis sp.</i>	○	○		○				
918	<i>Ophiocentrus verticillatus</i>					○			
919	<i>Ophiothrix exigua</i>	○		○		○	○		○
920	<i>Ophiura sarsii</i>		○	○					
921	<i>Ophiuroglypha kinbergi</i>	○	○	○	○			○	○
922	<i>Ophiuroidea juv.</i>				○				
923	<i>Stegophiura vivipara</i>				○				
	Phylum Echiura								
	Class Echiuroidea								
924	<i>Urechis unicinctus</i>		○	○				○	○
	Phylum Hemichordata								
	Class								

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
925	<i>Hemichordata sp.</i>		○	○		○			○
	Class Enteropneusta								
926	<i>Balanoglossus carnosus</i>		○	○	○	○		○	
927	<i>Balanoglossus sp.</i>	○	○	○	○				
	Phylum Mollusca								
	Class								
928	<i>Acanthosepion esculentum</i>					○			
	Class Bivalvia								
929	<i>Abra kinoshitai</i>				○				
930	<i>Abra soyoae</i>	○							
931	<i>Abra sp.</i>					○			
932	<i>Alveinus ojanus</i>		○	○				○	○
933	<i>Anadara broughtonii</i>		○	○	○				
934	<i>Anadara inaequalvis</i>					○	○		
935	<i>Anadara kagoshimensis</i>	○	○	○	○	○		○	
936	<i>Anodontia stearnsiana</i>		○	○	○				
937	<i>Anomia chinensis</i>	○		○	○	○			
938	<i>Arcuatula senhousia</i>	○	○	○	○	○	○	○	○
939	<i>Atrina pectinata</i>	○			○				
940	<i>Barbatia stearnsii</i>		○			○			
941	<i>Barbatia virescens</i>	○		○	○	○	○		
942	<i>Basterotia reclusi</i>		○						
943	<i>Bathytellina abyssicola</i>					○			
944	<i>Bivalvia juv.</i>		○	○	○	○			
945	<i>Bivalvia unid. 1</i>	○					○		
946	<i>Bivalvia unid. 2</i>						○		
947	<i>Borniopsis tsurumaru</i>						○	○	
948	<i>Brachidontes mutabilis</i>				○				
949	<i>Cadella narutoensis</i>								○
950	<i>Centrocardita sagamiensis</i>				○	○			
951	<i>Chlamys ferresi</i>						○		
952	<i>Coecella chinensis</i>	○	○			○		○	
953	<i>Corbicula japonica</i>	○							

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
954	<i>Crassostrea echinata</i>				○				
955	<i>Cucurbitula cymbium</i>					○			
956	<i>Cultellus attenuatus</i>	○	○	○	○			○	
957	<i>Curvemysella paula</i>						○		
958	<i>Cyclina sinensis</i>	○	○	○	○	○	○	○	○
959	<i>Devonia semperi</i>	○					○		
960	<i>Didimacar tenebrica</i>	○	○	○	○	○	○		
961	<i>Dimya japonica</i>				○		○		
962	<i>Dosinia corrugata</i>	○				○	○		
963	<i>Dosinia japonica</i>	○	○	○	○		○	○	○
964	<i>Dosinia sp.</i>	○	○		○	○		○	○
965	<i>Ennucula niponica</i>				○	○			
966	<i>Ennucula tenuis</i>				○	○			
967	<i>Estellacar galactodes</i>	○							
968	<i>Estellacar olivacea</i>	○	○	○	○	○	○	○	○
969	<i>Eucrassatella adamsi</i>				○				
970	<i>Felaniella sowerbyi</i>				○		○	○	
971	<i>Fulvia mutica</i>	○							
972	<i>Glauconome chinensis</i>	○			○	○	○	○	○
973	<i>Gomphina veneriformis</i>				○				
974	<i>Gregariella coralliophaga</i>					○			
975	<i>Hanleyanus vestalioides</i>				○				
976	<i>Heteromacoma irus</i>		○						
977	<i>Hiatella arctica</i>		○	○	○	○			
978	<i>Iridona iridescens</i>	○		○	○	○	○	○	○
979	<i>Irus mitis</i>			○					
980	<i>Jitlada culter</i>	○			○		○	○	○
981	<i>Joannisiella cumingii</i>	○	○	○	○	○	○	○	○
982	<i>Joannisiella sp.</i>				○			○	
983	<i>Jolya elongata</i>					○			
984	<i>Koreameya arcuata</i>	○							
985	<i>Lamarcka avellana</i>				○				
986	<i>Lasaea undulata</i>	○	○	○	○	○			○
987	<i>Laternula anatina</i>			○		○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
988	<i>Laternula boschasina</i>	○	○	○	○	○	○		○
989	<i>Laternula gracilis</i>	○		○	○	○	○	○	○
990	<i>Laternula sp.</i>					○	○		
991	<i>Leukoma jedoensis</i>	○							
992	<i>Lucinoma soliditesta</i>	○					○		
993	<i>Macoma incongrua</i>	○			○		○		○
994	<i>Macoma tokyoensis</i>				○	○			○
995	<i>Mactra chinensis</i>				○		○	○	○
996	<i>Mactra quadrangularis</i>	○			○		○	○	○
997	<i>Mactridae sp.</i>	○							
998	<i>Mactrinula dolabrata</i>		○	○	○			○	
999	<i>Magallana gigas</i>	○	○	○	○	○	○	○	○
1000	<i>Magallana sikamea</i>	○	○	○			○		
1001	<i>Megacardita sp.</i>					○			
1002	<i>Megangulus venulosus</i>							○	
1003	<i>Melliteryx puncticulata</i>						○	○	
1004	<i>Meretrix lusoria</i>				○		○	○	
1005	<i>Meretrix petechialis</i>				○		○	○	
1006	<i>Mesocibota bistrigata</i>		○	○	○	○			
1007	<i>Mimachlamys crassicostata</i>					○			
1008	<i>Modiolatus oyamai</i>	○		○					
1009	<i>Modiolus auriculatus</i>			○	○	○			
1010	<i>Modiolus kurilensis</i>			○	○				
1011	<i>Moerella hilaris</i>	○	○	○	○	○	○	○	○
1012	<i>Musculus aipreus</i>			○					
1013	<i>Musculus cumingianus</i>			○		○			○
1014	<i>Musculus cupreus</i>				○		○		○
1015	<i>Musculus sp.</i>	○			○	○			
1016	<i>Mya arenaria</i>	○				○	○		
1017	<i>Mya truncata</i>				○	○		○	
1018	<i>Mytilidae sp.</i>			○					
1019	<i>Mytilisepta keenae</i>				○				
1020	<i>Mytilisepta virgata</i>				○	○		○	
1021	<i>Mytilus galloprovincialis</i>	○		○	○	○	○		

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1022	<i>Mytilus spp.</i>					○			
1023	<i>Mytilus unguiculatus</i>				○				
1024	<i>Neotrapezium liratum</i>	○		○	○	○	○		
1025	<i>Nipponomysella obesa</i>		○	○	○	○			
1026	<i>Nipponomysella oblongata</i>	○	○	○		○		○	○
1027	<i>Nipponomysella sp.</i>				○	○			
1028	<i>Nipponomysella subtruncata</i>				○				
1029	<i>Nitidotellina hokkaidoensis</i>		○	○	○	○	○	○	○
1030	<i>Nitidotellina lischkei</i>	○		○	○	○	○	○	○
1031	<i>Nuttallia japonica</i>				○		○	○	
1032	<i>Nuttallia obscurata</i>				○				
1033	<i>Ostrea denselamellosa</i>					○	○		
1034	<i>Paratapes undulatus</i>	○	○	○	○				
1035	<i>Penitella kamakurensis</i>				○				
1036	<i>Pinnidae sp.</i>			○					
1037	<i>Pitar sulfureus</i>	○			○	○		○	
1038	<i>Pododesmus macrochisma</i>					○			
1039	<i>Poromya flexuosa</i>					○			
1040	<i>Potamocorbula amurensis</i>	○			○		○	○	
1041	<i>Potamocorbula laevis</i>	○	○		○		○	○	○
1042	<i>Potamocorbula sp.</i>	○							
1043	<i>Praetextellina praetexta</i>						○		
1044	<i>Pristipagia radians</i>				○		○		
1045	<i>Pseudoneaera semipellucida</i>				○				○
1046	<i>Quadrans gargadia</i>					○			
1047	<i>Raeta pulchella</i>				○	○	○	○	○
1048	<i>Ruditapes philippinarum</i>	○	○	○	○	○	○	○	○
1049	<i>Scintilla sp.</i>				○				
1050	<i>Scintilla violescens</i>		○						
1051	<i>Serratina capsoides</i>	○		○		○	○		
1052	<i>Sinonovacula constricta</i>	○			○	○	○		○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1053	<i>Solen grandis</i>	○					○	○	
1054	<i>Solen strictus</i>				○		○	○	
1055	<i>Striarca symmetrica</i>		○	○	○	○			
1056	<i>Sunetta menstrualis</i>				○	○			
1057	<i>Tegillarca granosa</i>	○	○	○	○	○			
1058	<i>Tellina cumingiana</i>							○	
1059	<i>Tellinella cruciata</i>						○	○	
1060	<i>Tellinidae sp.</i>				○	○			
1061	<i>Tetrarca boucardi</i>				○				
1062	<i>Theora lata</i>	○	○	○	○	○	○	○	○
1063	<i>Thracia boschasina</i>							○	
1064	<i>Thracia septentrionalis</i>	○			○	○			
1065	<i>Trigonothracia pusilla</i>				○	○			
1066	<i>Turtonia cf. minuta</i>				○				
1067	<i>Unglulinidae sp.</i>				○				○
1068	<i>Varicorbula yokoyamai</i>				○				○
1069	<i>Veneridae sp.</i>			○					
1070	<i>Vignadula atrata</i>		○	○		○			○
1071	<i>Volachlamys hirasei</i>				○				
1072	<i>Xenostrobus atratus</i>	○		○	○	○			
1073	<i>Yoldia johanni</i>				○				
1074	<i>Yoldia notabilis</i>				○				
1075	<i>Yoldia similis</i>				○				
	Class Cephalopoda								
1076	<i>Amphioctopus fangsiao</i>	○	○	○	○				
1077	<i>Octopus minor</i>	○		○	○		○	○	
1078	<i>Sepia sp.</i>				○				
	Class Gastropoda								
1079	<i>Acmaea pallida</i>				○				
1080	<i>Acmaeidae sp.</i>				○				
1081	<i>Acusta despecta sieboldiana</i>	○							
1082	<i>Agatha sp.</i>				○				
1083	<i>Alcyna ocellata</i>					○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1084	<i>Angustassiminea castanea</i>	○		○	○				
1085	<i>Angustassiminea kyushuensis</i>	○							
1086	<i>Angustassiminea sp.</i>	○							
1087	<i>Ansola angustata</i>	○		○	○	○			○
1088	<i>Aplysiidae sp.</i>						○		
1089	<i>Assiminea estuarina</i>	○		○	○	○			○
1090	<i>Assiminea hiradoensis</i>	○							
1091	<i>Assiminea japonica</i>	○	○	○	○	○	○	○	○
1092	<i>Assiminea sp.</i>	○			○	○	○		
1093	<i>Assiminea yoshidayukioi</i>	○							
1094	<i>Assimineidae sp.</i>	○							
1095	<i>Auriculastra duplicata</i>	○							
1096	<i>Bacteridium vittatum</i>	○			○				
1097	<i>Batillaria cumingii</i>	○	○	○	○	○	○		○
1098	<i>Batillaria flectosiphonata</i>					○			
1099	<i>Batillaria multiformis</i>	○	○	○	○	○		○	○
1100	<i>Batillaria zonalis</i>					○			
1101	<i>Brachystomia bipyramidata</i>			○		○			
1102	<i>Buccinidae sp.</i>			○					
1103	<i>Bullacta caurina</i>	○	○	○	○	○	○	○	○
1104	<i>Cantharus cecillei</i>	○	○	○	○	○	○		
1105	<i>Cellana enneagona</i>					○			
1106	<i>Cellana grata</i>			○	○				
1107	<i>Cellana nigrolineata</i>				○				
1108	<i>Cellana toreuma</i>			○	○	○		○	
1109	<i>Cellaria punctata</i>				○				
1110	<i>Ceratostoma rorifluum</i>	○		○	○	○	○		
1111	<i>Cerithidea balteata</i>	○	○	○	○	○			○
1112	<i>Cerithidea moerchii</i>					○			
1113	<i>Cerithidea rhizophorarum</i>	○	○	○	○	○			○
1114	<i>Cerithideopsis largillierti</i>	○	○	○	○	○		○	○
1115	<i>Cerithidium diplax</i>		○	○					○
1116	<i>Cerithidium perparvulum</i>		○	○		○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1117	<i>Cerithiidea sp.</i>			○					
1118	<i>Cheilea cepacea</i>				○				
1119	<i>Chrysallida sp.</i>					○			
1120	<i>Clathrodrillia flavidula</i>					○			
1121	<i>Clithon retropictum</i>		○	○					
1122	<i>Columbellidae sp.</i>	○		○	○				
1123	<i>Crepidula onyx</i>	○		○					
1124	<i>Cryptonatica sp.</i>							○	
1125	<i>Cylichna biplicata</i>	○	○	○	○	○			
1126	<i>Cylichna cylindrella</i>	○							
1127	<i>Cylichnatys angusta</i>				○				○
1128	<i>Decorifer insignis</i>				○				
1129	<i>Decorifer matusimanus</i>				○	○			○
1130	<i>Diodora quadriradiata</i>				○				
1131	<i>Duplicaria koreana</i>							○	
1132	<i>Duplicaria latisulcata</i>				○				
1133	<i>Echinolittorina radiata</i>	○	○		○	○	○	○	
1134	<i>Ellobium chinense</i>	○	○	○		○			○
1135	<i>Epitonium harimaense</i>					○			
1136	<i>Epitonium tenuicostatum</i>					○			
1137	<i>Ergaea walshi</i>				○	○			
1138	<i>Ergalatax contracta</i>				○				
1139	<i>Ethaliella sp.</i>								○
1140	<i>Euassiminea violacea</i>	○							
1141	<i>Eulima bifascialis</i>	○	○	○					
1142	<i>Eulima sp.</i>					○			
1143	<i>Eunaticina papilla</i>	○							
1144	<i>Euspira gilva</i>	○	○		○	○	○	○	○
1145	<i>Euspira pallida</i>						○		
1146	<i>Fluviocingula elegantula</i>	○							
1147	<i>Gastropoda spp.</i>					○			
1148	<i>Gastropoda unid. 5</i>	○							
1149	<i>Gastropoda unid. 6</i>	○							
1150	<i>Gastropoda unid. 7</i>	○							

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1151	<i>Granulilittorina exigua</i>			○					
1152	<i>Granuliterebra bathyrhaphe</i>						○	○	
1153	<i>Haloa japonica</i>			○	○				
1154	<i>Haloa nigropunctata</i>	○							
1155	<i>Hima sp.</i>	○			○				
1156	<i>Homoiodoris japonica</i>					○			
1157	<i>Hypermastus castus</i>			○					
1158	<i>Inquisitor nudivaricosus</i>					○			
1159	<i>Inquisitor tuberosus</i>							○	
1160	<i>Iravadiidae sp.</i>		○			○			
1161	<i>Isara chinensis</i>				○				
1162	<i>Japonactaeon nipponensis</i>						○	○	
1163	<i>Lactiforis takii</i>	○	○	○		○			○
1164	<i>Laemodonta exaratooides</i>					○			
1165	<i>Laemodonta monilifera</i>					○			
1166	<i>Laemodonta octanfracta</i>				○	○			
1167	<i>Laguncula pulchella</i>								○
1168	<i>Lataxiena fimbriata</i>				○				
1169	<i>Linopyrga punctigera</i>		○	○		○			
1170	<i>Liotina semiclatratula</i>				○	○			
1171	<i>Lirularia sp.</i>			○					
1172	<i>Litharium kurodai</i>			○					
1173	<i>Littoraria articulata</i>	○	○	○	○	○			○
1174	<i>Littoraria intermedia</i>				○				
1175	<i>Littoraria scabra</i>		○	○	○	○	○		
1176	<i>Littoraria sinensis</i>	○			○				
1177	<i>Littoraria sp.</i>				○				
1178	<i>Littorina brevicula</i>	○	○	○	○	○	○	○	○
1179	<i>Littorina sitkana</i>			○		○			
1180	<i>Littorinidae sp.</i>	○			○				
1181	<i>Lottia cassis</i>					○			
1182	<i>Lottia dorsuosa</i>				○				
1183	<i>Lottia heroldi</i>				○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1184	<i>Lottia kogamogai</i>		○			○			
1185	<i>Lottia lindbergi</i>				○				
1186	<i>Lottia luchuana</i>				○	○			
1187	<i>Lottia spp.</i>				○				○
1188	<i>Lottia tenuisculpta</i>		○	○	○	○			○
1189	<i>Lunella cinerea</i>					○			
1190	<i>Lunella correensis</i>	○	○	○	○	○	○	○	○
1191	<i>Lunella spp.</i>					○			
1192	<i>Mancinella lata</i>				○				
1193	<i>Megastomia clara</i>					○			
1194	<i>Megastomia sp.</i>				○	○			
1195	<i>Melampus sincaporensis</i>	○	○	○		○			
1196	<i>Melanella acicula</i>	○	○	○					
1197	<i>Melanella major</i>		○						
1198	<i>Melanella tortuosa</i>		○	○		○			
1199	<i>Mitrella bellula</i>				○	○	○		
1200	<i>Mitrella bicincta</i>	○		○	○	○			
1201	<i>Mitrella lischkei</i>					○			○
1202	<i>Mitrella martensis</i>	○							
1203	<i>Mitrella sp.</i>				○				
1204	<i>Mitrella yabei</i>				○	○			
1205	<i>Monodonta australis</i>			○	○		○		
1206	<i>Monodonta confusa</i>	○	○	○	○	○		○	○
1207	<i>Monotygmia eximia</i>		○	○					
1208	<i>Nassariidae sp.</i>				○				
1209	<i>Nassarius castus</i>			○	○	○	○		○
1210	<i>Nassarius festivus</i>	○	○	○	○	○	○	○	○
1211	<i>Nassarius fraterculus</i>				○	○			
1212	<i>Nassarius japonicus</i>				○				
1213	<i>Nassarius livescens</i>	○	○	○	○	○			
1214	<i>Nassarius multigranosus</i>					○			○
1215	<i>Nassarius pauperatus</i>				○				
1216	<i>Nassarius reeveanus</i>		○	○	○				
1217	<i>Nassarius sinarum</i>	○				○			

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1218	<i>Nassarius siquijorensis</i>	○		○	○	○			
1219	<i>Nassarius splendidulus</i>					○			
1220	<i>Nassarius spp.</i>		○	○	○	○			○
1221	<i>Nassarius succinctus</i>	○							
1222	<i>Nassarius variciferus</i>	○			○	○	○		
1223	<i>Natica qualtieriana</i>				○				
1224	<i>Naticidae sp.</i>			○					
1225	<i>Nerita japonica</i>	○	○	○	○	○	○	○	○
1226	<i>Neverita didyma</i>	○	○	○		○	○	○	○
1227	<i>Nipponacmea concinna</i>		○	○	○	○	○		○
1228	<i>Nipponacmea radula</i>		○						
1229	<i>Nipponacmea schrenckii</i>			○	○				
1230	<i>Nipponacmea sp.</i>					○			
1231	<i>Notoacmea sp.</i>			○	○				
1232	<i>Nozema ziczac</i>	○	○	○	○				○
1233	<i>Nudibranchia spp.</i>			○					
1234	<i>Ocenebrellus inornatus</i>			○	○				
1235	<i>Odostomia aomori</i>		○						○
1236	<i>Odostomia desimana</i>				○	○			
1237	<i>Odostomia hilgendorfi</i>				○				○
1238	<i>Odostomia sp.</i>	○		○	○	○			○
1239	<i>Odostomia sperabilis</i>				○				
1240	<i>Odostomia subangulata</i>				○				
1241	<i>Olivella mandarina</i>								○
1242	<i>Onchidium sp.</i>	○							
1243	<i>Orinella sp.</i>	○							
1244	<i>Oscilla tricordata</i>		○		○	○		○	○
1245	<i>Paraclathurella gracilentia</i>		○	○					
1246	<i>Paradrillia inconstans</i>					○			
1247	<i>Patella sp.</i>				○				
1248	<i>Patellidae sp.</i>				○				
1249	<i>Patellologastropoda sp.</i>				○				
1250	<i>Patelloida conulus</i>	○	○	○	○	○			○
1251	<i>Patelloida pygmaea</i>	○	○	○	○	○	○		○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1252	<i>Patelloida saccharina</i>						○		
1253	<i>Patelloida spp.</i>			○	○	○			
1254	<i>Philine orientalis</i>	○	○	○	○	○	○	○	○
1255	<i>Philine sp.</i>	○							
1256	<i>Pirenella alata</i>	○	○	○	○	○			○
1257	<i>Pirenella cingulata</i>	○	○	○	○	○			○
1258	<i>Pirenella djadjariensis</i>	○		○	○	○			○
1259	<i>Pirenella sp.</i>	○			○	○		○	
1260	<i>Pleurobranchaea japonica</i>								○
1261	<i>Pomacea canaliculata</i>					○			
1262	<i>Potamididae sp.</i>			○					
1263	<i>Pseudoliotia pulchella</i>		○	○	○	○			
1264	<i>Pseudomphala latericea</i>		○	○		○			○
1265	<i>Pseudomphala miyazakii</i>	○			○	○	○	○	○
1266	<i>Pseudomphala sp.</i>	○							
1267	<i>Pseudonoba yendoii</i>	○	○	○	○	○			
1268	<i>Pupa strigosa</i>						○	○	
1269	<i>Puposyrnola terebroides</i>				○				
1270	<i>Pusillina plicosa</i>			○					
1271	<i>Pyramidellidae sp.</i>	○				○			
1272	<i>Pyramidellidae sp.2</i>	○							
1273	<i>Pyrgulina pseudalveata</i>			○		○			
1274	<i>Rapana venosa</i>	○	○	○	○	○	○		
1275	<i>Reishia clavigera</i>	○	○	○	○	○	○	○	
1276	<i>Reishia luteostoma</i>	○		○	○	○	○		
1277	<i>Reticunassa sp.</i>				○				
1278	<i>Retusa sp.</i>				○				
1279	<i>Ringicula doliaris</i>						○		
1280	<i>Ringicula niinoi</i>		○	○					
1281	<i>Sandalia triticea</i>						○		
1282	<i>Scalptia scalariformis</i>	○	○	○		○			
1283	<i>Sinuatodostomia nomurai</i>	○			○	○			
1284	<i>Siphonalia cassidariaeformis</i>			○	○			○	

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1285	<i>Siphonaria acmaeoides</i>				○				
1286	<i>Siphonaria laciniosa</i>				○				
1287	<i>Siphonaria rucuaana</i>				○				
1288	<i>Siphonaria zelandica</i>				○				
1289	<i>Stenothyra edogawensis</i>	○	○	○	○	○	○	○	○
1290	<i>Stenothyra hokkaidonis</i>	○							
1291	<i>Stenothyra sp.</i>	○							
1292	<i>Tegula rustica</i>	○		○	○	○	○		
1293	<i>Tegula turbinata</i>				○				
1294	<i>Teinostoma radiatum</i>								○
1295	<i>Telasco reeveana reeveana</i>	○	○	○	○	○		○	
1296	<i>Tiberia dunkeri</i>			○				○	
1297	<i>Tibersymnola lepidula</i>	○						○	
1298	<i>Tristichotrochus consors</i>				○	○			
1299	<i>Truncateocina coarctata</i>	○			○	○			○
1300	<i>Turbonilla acosmia</i>								○
1301	<i>Turbonilla crassa</i>			○		○			○
1302	<i>Turbonilla kesennumana</i>					○			○
1303	<i>Turbonilla paucicostulata</i>					○			
1304	<i>Turbonilla sp.</i>					○			
1305	<i>Turridae sp.</i>	○							
1306	<i>Umbonium thomasi</i>				○		○	○	○
1307	<i>Wakauraia sakaguchii</i>	○							
1308	<i>Yokoyamaia ornatissima</i>	○	○	○	○			○	○
1309	<i>Zeuxis sp.</i>	○			○	○			
	Class Polyplacophora								
1310	<i>Acanthochitona achates</i>	○		○	○	○	○	○	○
1311	<i>Acanthochitona defilippi</i>	○		○	○				
1312	<i>Acanthochitona sp.</i>				○	○			○
1313	<i>Ischnochiton boninensis</i>			○	○				
1314	<i>Ischnochiton comptus</i>			○	○	○			
1315	<i>Lepidozona coreanica</i>	○		○		○			
1316	<i>Lepidozona sp.</i>								○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
1317	<i>Liolophura japonica</i>	○		○	○		○		
1318	<i>Mopalia retifera</i>						○		
1319	<i>Mopalia sp.</i>								○
1320	<i>Placiphorella stimpsoni</i>				○				
1321	<i>Rhyssoplax kurodai</i>	○			○	○	○		○
1322	<i>Tonicella squamigera</i>				○				
	Class Scaphopoda								
1323	<i>Antalis tibana</i>				○				
1324	<i>Dentalium octangulatum</i>	○							
1325	<i>Siphonodentalium isaotakii</i>	○	○	○	○				
1326	<i>Siphonodentalium sp.</i>	○							
	Class Solenogastres								
1327	<i>Epimения sp.</i>			○					
	Phylum Nematoda								
	Class								
1328	<i>Nematoda spp.</i>					○			
	Phylum Nemertea								
	Class								
1329	<i>Nemertea sp.</i>	○	○	○	○	○	○	○	○
1330	<i>Nemertea sp.2</i>	○			○		○	○	
1331	<i>Nemertea sp.3</i>						○		
1332	<i>Nemertea sp.4</i>						○		
	Class Anopla								
1333	<i>Lineus fuscoviridis</i>	○	○	○	○	○			○
1334	<i>Lineus sp.</i>	○	○	○	○	○	○	○	○
1335	<i>Micrura sp.</i>	○	○	○	○	○	○	○	○
	Class Pilidiophora								
1336	<i>Baseodiscus sp.</i>					○			
1337	<i>Lineidae spp.</i>		○	○		○			○
1338	<i>Siphonenteron bilineatum</i>					○			
	Phylum Phoronida								
	Class								
1339	<i>Phoronis australis</i>			○	○				○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Phylum Platyhelminthes								
	Class								
1340	<i>Platyhelminthes sp.</i>	○	○	○	○	○	○	○	○
1341	<i>Polycladida sp.</i>	○			○				
1342	<i>Turbellaria sp.</i>	○			○	○	○	○	
	Class Polychaeta								
1343	<i>Stylochus ijimai</i>		○	○					
	Class Rhabditophora								
1344	<i>Notocomplana humilis</i>	○	○	○	○	○			○
1345	<i>Planocera multitentaculata</i>					○			
	Phylum Porifera								
	Class Demospongiae								
1346	<i>Hymeniacidon perlevis</i>	○		○				○	
1347	<i>Hymeniacidon sp.1</i>	○							
1348	<i>Hymeniacidon sp.2</i>	○							
	Phylum Sipuncula								
	Class Phascolosomatidea								
1349	<i>Phascolosoma (Phascolosoma) scolops</i>			○	○	○			○
Subcomponent		480	361	552	730	624	338	322	462
Component		789			968		338	322	462
Total		1349							

Chapter 6. Marine fishes

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Phylum Chordata								
	Class								
1	<i>Pisces spp.</i>		○	○					

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Class Elasmobranchii								
2	<i>Beringraja pulchra</i>				○		○		
3	<i>Lamniformes sp.</i>	○			○		○		
4	<i>Okamejei kenojei</i>				○	○	○	○	○
5	<i>Rajidae sp.</i>	○			○		○	○	
6	<i>Triakis scyllium</i>					○			○
	Class Myxini								
7	<i>Eptatretus burgeri</i>	○							
	Class Teleostei								
8	<i>Acanthogobius flavimanus</i>			○					○
9	<i>Acanthogobius hasta</i>			○		○			○
10	<i>Acanthopagrus schlegelii</i>	○	○	○	○	○	○	○	
11	<i>Acentrogobius pflaumii</i>								○
12	<i>Ammodytes personatus</i>				○				○
13	<i>Anguilla japonica</i>								○
14	<i>Boleophthalmus pectinirostris</i>			○					
15	<i>Branchiostegus japonicus</i>						○		
16	<i>Callionymus curvicornis</i>								○
17	<i>Carangidae sp.</i>	○							
18	<i>Chaeturichthys stigmatias</i>					○			○
19	<i>Chelidonichthys spinosus</i>		○	○					
20	<i>Chirolophis japonicus</i>								○
21	<i>Clupea pallasii</i>	○							
22	<i>Cociella crocodilus</i>					○			
23	<i>Coilia nasus</i>					○			
24	<i>Collichthys lucidus</i>					○			
25	<i>Collichthys sp.</i>				○		○		
26	<i>Cololabis saira</i>	○					○		
27	<i>Conger myriaster</i>	○	○		○	○	○	○	○
28	<i>Cynoglossidae sp.</i>	○			○		○	○	

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
29	<i>Cynoglossus abbreviatus</i>					○			
30	<i>Cynoglossus joyneri</i>		○	○					○
31	<i>Cynoglossus robustus</i>		○	○		○			
32	<i>Cynoglossus semilaevis</i>		○	○		○			○
33	<i>Engraulidae sp.</i>	○			○		○	○	
34	<i>Engraulis japonicus</i>					○			○
35	<i>Gobiidae sp.</i>	○			○	○	○	○	
36	<i>Haplogenyis analis</i>		○	○					○
37	<i>Haplogenyis nigripinnis</i>					○			
38	<i>Hemirhamphus villosus</i>	○			○		○	○	
39	<i>Hexagrammidae sp.</i>			○					
40	<i>Hexagrammos agrammus</i>	○			○	○	○	○	
41	<i>Hexagrammos otakii</i>								○
42	<i>Hippocampus coronatus</i>								○
43	<i>Hyporhamphus sajori</i>	○							
44	<i>Hyporthodus septemfasciatus</i>	○			○		○		
45	<i>Ilisha elongata</i>	○			○		○		
46	<i>Inimicus japonicus</i>		○	○		○			○
47	<i>Johnius grypotus</i>		○	○					
48	<i>Konosirus punctatus</i>	○			○	○	○	○	○
49	<i>Larimichthys crocea</i>	○			○		○	○	
50	<i>Larimichthys polyactis</i>	○	○	○	○		○	○	
51	<i>Lateolabrax japonicus</i>	○			○	○	○	○	○
52	<i>Liparis punctulatus</i>								○
53	<i>Liparis tanakae</i>	○			○	○	○	○	○
54	<i>Liparis tessellatus</i>								○
55	<i>Lophiomus setigerus</i>	○			○		○	○	
56	<i>Miichthys miiuy</i>	○			○	○	○	○	
57	<i>Monacanthidae sp.</i>	○			○		○		
58	<i>Mugil cephalus</i>			○		○			
59	<i>Mugilidae sp.</i>	○			○		○	○	
60	<i>Muraenesox cinereus</i>	○			○	○		○	
61	<i>Nibea albiflora</i>		○	○		○			○

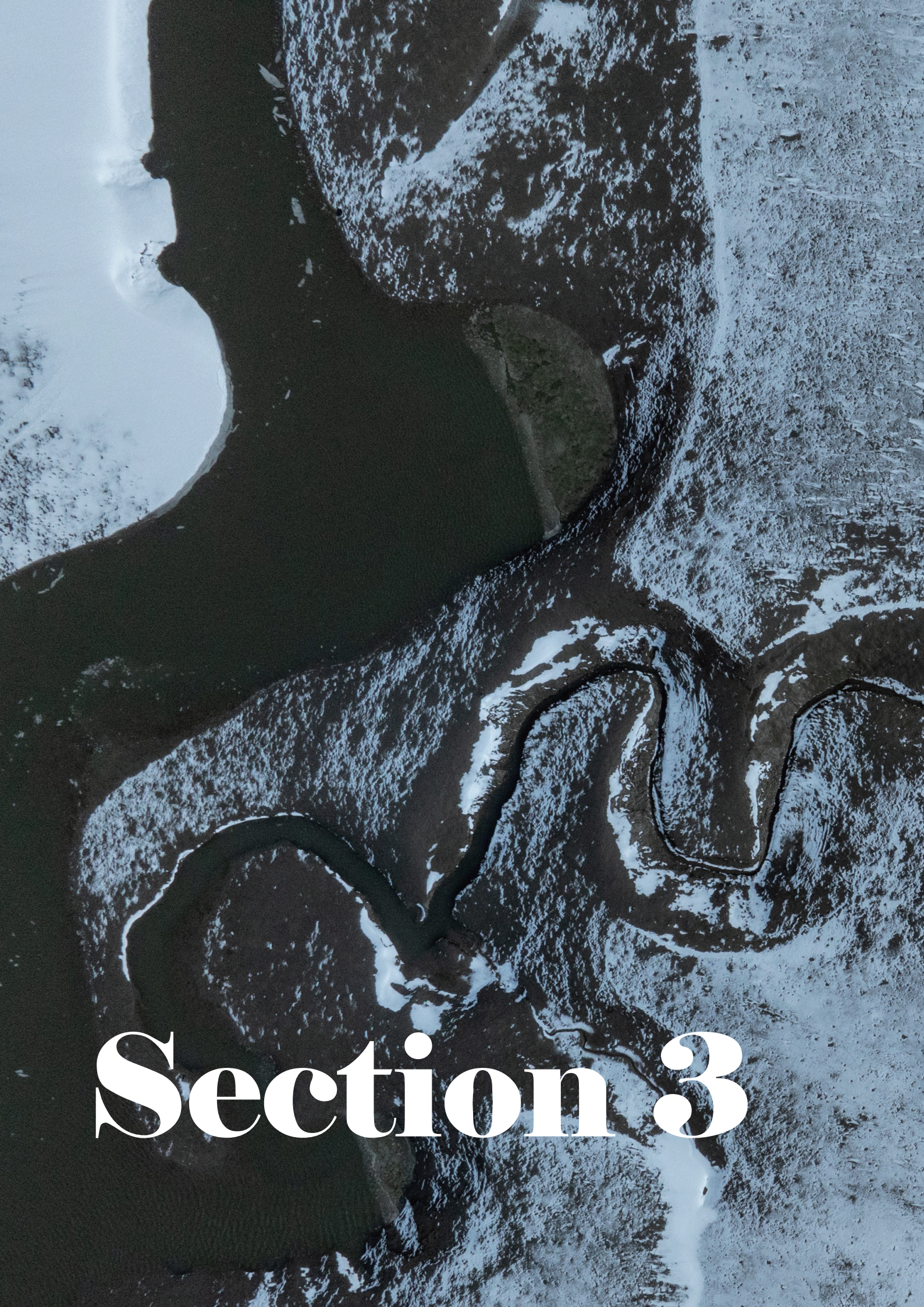
No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
62	<i>Nuchequula nuchalis</i>		○	○		○			
63	<i>Odontamblyopus lacepedii</i>		○	○					
64	<i>Oncorhynchus keta</i>						○		
65	<i>Oplegnathus fasciatus</i>	○			○	○	○		
66	<i>Pagrus major</i>	○			○		○	○	
67	<i>Pampus argenteus</i>		○	○					
68	<i>Paralichthyidae sp.</i>	○			○		○	○	
69	<i>Paralichthys olivaceus</i>					○			
70	<i>Paratrypauchen microcephalus</i>					○			
71	<i>Pennahia argentata</i>	○	○	○		○	○	○	
72	<i>Periophthalmus modestus</i>		○	○		○			○
73	<i>Pholis fangi</i>								○
74	<i>Pholis nebulosa</i>					○			
75	<i>Planiliza haematocheilus</i>					○			
76	<i>Platichthys bicoloratus</i>								○
77	<i>Platycephalus indicus</i>	○	○	○	○	○	○	○	○
78	<i>Plecoglossus altivelis</i>								○
79	<i>Pleurogrammus azonus</i>	○			○				
80	<i>Pleuronectidae sp.</i>	○			○		○	○	
81	<i>Pseudopleuronectes yokohamae</i>					○			
82	<i>Pseudopleuronectes herzensteini</i>								○
83	<i>Pseudopleuronectes yokohamae</i>					○			○
84	<i>Salangidae sp.</i>						○		
85	<i>Sardinella zunasi</i>	○			○		○		○
86	<i>Scomber australasicus</i>						○		
87	<i>Scomberomorus sp.</i>	○			○		○	○	
88	<i>Scombridae sp.1</i>				○				
89	<i>Scombridae sp.2</i>	○			○		○	○	
90	<i>Sebastes hubbsi</i>								○
91	<i>Sebastes oblongus</i>								○
92	<i>Sebastes schlegelii</i>	○			○	○	○	○	○

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
93	<i>Sebastiscus marmoratus</i>	○			○	○	○		
94	<i>Seriola quinqueradiata</i>	○					○		
95	<i>Setipinna tenuifilis</i>				○		○		
96	<i>Sillago japonica</i>		○	○					
97	<i>Sphyræna pinguis</i>								○
98	<i>Stromateidae sp.</i>	○			○		○	○	
99	<i>Syngnathus schlegeli</i>								○
100	<i>Takifugu niphobles</i>		○	○		○			○
101	<i>Takifugu rubripes</i>								○
102	<i>Tetraodontiformes sp.</i>	○			○		○	○	
103	<i>Thryssa adelæ</i>					○			
104	<i>Thryssa hamiltonii</i>								○
105	<i>Thryssa kammalensis</i>		○	○					
106	<i>Trachidermus fasciatus</i>								○
107	<i>Trichiurus lepturus</i>	○			○		○	○	
108	<i>Tridentiger barbatus</i>								○
109	<i>Tridentiger trigonocephalus</i>			○		○			○
110	<i>Triglidae sp.</i>	○					○	○	
111	<i>Verasper variegatus</i>								○
112	<i>Zebrias fasciatus</i>					○			
113	<i>Zebrias zebrinus</i>								○
114	<i>Zoarcès gillii</i>								○
Subcomponent		43	21	26	41	41	45	30	46
Component		65			68		45	30	46
Total		114							

Chapter 7. Marine mammal

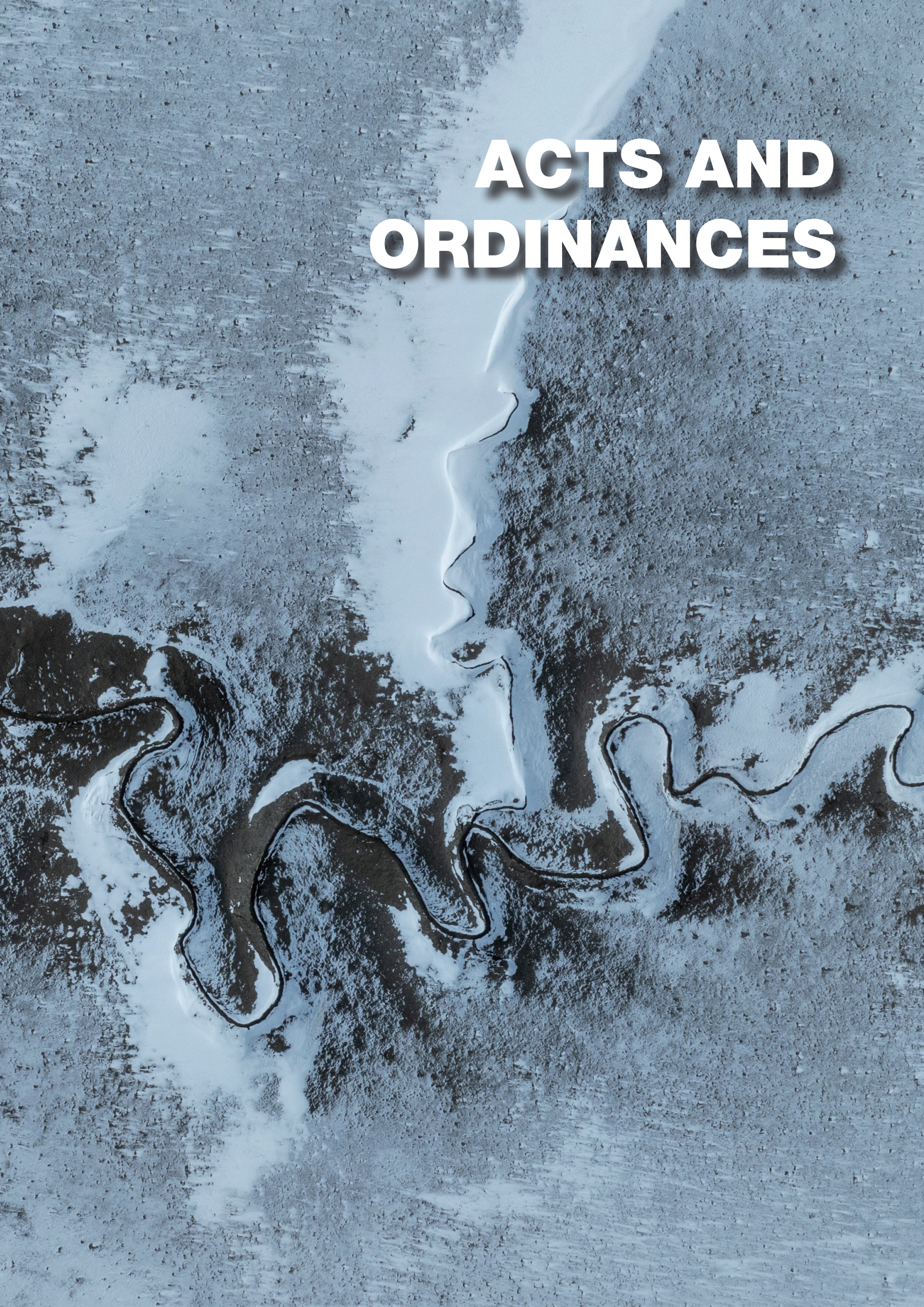
No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
	Phylum Chordata								
1	<i>Neophocaena asiaeorientalis</i>		○	○	○				

No.	Scientific name	Boseong-Suncheon-Yeosu-Goheung			Shinan-Muan		Gochang	Seocheon	Seosan
		Boseong-Suncheon	Yeosu	Goheung	Shinan	Muan			
		Phase I	Phase II	Phase II	Phase I	Phase II	Phase I	Phase I	Phase II
2	<i>Phoca largha</i>								○
Subcomponent			1	1	1				1
Component		1			1				1
Total		2							



Section 3

ACTS AND ORDINANCES



Chapter 1. Wetlands Conservation Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to prescribe matters necessary for the efficient conservation and management of wetlands to contribute to the conservation of wetlands and wetland biodiversity, and for the promotion of international cooperation by reflecting the purpose of international convention on wetlands
Article 2	Definitions	The terms used in this Act are defined as follows: <Amended on Jan. 5, 2021> 1. The term “wetlands” means inland wetlands or coastal wetlands that are an area permanently or temporarily covered with fresh water, brackish water, or salt water; 2. The term “inland wetlands” means an area of lake, marsh, swamp, river, estuary, or the like on the land or an island; 3. The term “coastal wetlands” means an area between the highest reach high tide water mark and the highest reach low tide water mark; 4. The term “damage to wetlands” means any use of wetlands for other than conservation purposes, such as changing the original form and quality of wetlands by drainage, reclamation, dredging, etc. or installing facilities or structures on wetlands.
Article 8	Designation of Wetland Areas	(1) The Minister of Environment, the Minister of Oceans and Fisheries, or a Mayor/Do Governor may designate any of the following areas worth special conservation status as a wetland protection area, from among wetlands, and designate the environs thereof as a wetland management area: 1. An area that has native continuity or rich biodiversity; 2. An area inhabited or visited by a rare or endangered wild animal or plant; 3. An area that has extraordinary scenic, topographic, or geologic value. (2) The Minister of Environment, the Minister of Oceans and Fisheries, or a Mayor/Do Governor may designate any of the following areas from among wetlands as a wetland improvement area: 1. An area in which damage to wetlands has worsened or is apprehended to worsen among the wetland protection areas; 2. An area worth improvement through artificial management, etc. among the areas where the conservation of wetland ecosystems is in poor condition. (3) In designating a wetland protection area, etc. under paragraph (1) or (2), the Minister of Environment or the Minister of Oceans and Fisheries shall consult with the head of a related central administrative agency after gathering consensus from the competent Mayor/Do Governor and local residents. (4) In designating a wetland protection area, etc. under paragraph (1) or (2), the relevant Mayor/Do Governor shall consult with the head of a related administrative agency after gathering consensus from the competent head of Si/Gun/Gu (referring to autonomous Gu; hereinafter the same shall apply) and local residents. (5) Where intending to designate a river area under subparagraph 2 of Article 2 of the River Act as a wetland protection area, etc., the Minister of Environment or a Mayor/Do Governor shall consult with or obtain approval from a river management agency in advance pursuant to Article 6 (2) of the River Act. <Newly Inserted on Jan. 5, 2021> (6) Where the Minister of Environment, the Minister of Oceans and Fisheries, or a Mayor/Do Governor has designated a wetland protection area, etc., he or she shall publicly notify the name, location, size of the relevant area, and other matters prescribed by Joint Ordinance. <Amended on Jan. 5, 2021> (7) Matters necessary for the designation of wetland protection areas, etc. shall be prescribed by Presidential Decree. <Amended on Jan. 5, 2021> [This Article Wholly Amended on Mar. 24, 2014]
Article 11	Formulation and Implementation of Conservation Plans	(1) The Minister of Environment, the Minister of Oceans and Fisheries, or a Mayor/Do Governor shall formulate and implement a plan for the conservation of a wetland protection area, etc. (hereinafter referred to as “conservation plan”) after consulting with the head of a related administrative agency. (2) A conservation plan shall include the following matters: Provided, that subparagraphs 4 and 5 shall apply when a plan for conserving a wetland protection area, etc. within a river area is formulated and implemented, and in such cases, consultation with the relevant river management agency is required: <Amended on Jan. 5, 2021> 1. Basic matters concerning wetland conservation; 2. Matters concerning the installation of facilities for wetland conservation and utilization under Article 12; 3. Matters concerning the conservation, utilization, and management of wetlands; 4. Matters concerning the securing and maintaining of the stream flow capacity according to a basic river plan formulated under Article 25 of the River Act;

Article No.	Article
	5. Matters concerning the prevention of terrestrialization and the conservation of river aquatic ecosystems. (3) Matters necessary for the method, procedures, etc. for formulating conservation plans shall be prescribed by Presidential Decree.
Article 13	Restrictions on Activities (1) No person shall engage in any of the following activities in any wetland protection area under Article 8 (1) (hereinafter referred to as “wetland protection area”): Provided, That when it becomes necessary to maintain and manage agricultural infrastructure defined in subparagraph 6 of Article 2 of the Rearrangement of Agricultural and Fishing Villages Act, when an activity falling under any of subparagraphs 1 through 3 is performed to use the relevant infrastructure for agricultural purposes, when an activity falling under subparagraph 2 or 3 is performed to take emergency measures under Article 37 of the Framework Act on the Management of Disasters and Safety, when river works, and maintenance and repair projects necessary for preventing floods are carried out pursuant to Articles 27 through 30 of the River Act, or when it is prescribed by Presidential Decree within the minimum extent necessary for military purposes, such as military mobilization and operations, the same shall not apply: < Amended on Jan. 5, 2021 > 1. New construction and extension of a building or other artificial structure (limited to where the total floor area of the building or artificial structure becomes at least two times the existing total floor area due to such extension), or a change in the form and quality of land; 2. Bringing about an increase or decrease in the level or volume of water in the wetlands; 3. Gathering earth, sand, pebbles, stones, etc.; 4. Extraction of minerals; 5. Artificial introduction, cultivation, capturing, or gathering (excluding cultivation, capturing, or gathering that has been going on by a local resident longer than a period prescribed by Joint Ordinance with the object of a means of living, leisure activity, etc.) of an animal or plant.

Chapter 2. Conservation and Management of Marine Ecosystems Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to protect marine ecosystems from artificial damage and conserve or manage marine ecosystems in a comprehensive and systematic manner, such as conserving marine biological diversity and promoting sustainable use of marine biological resources, thereby improving the quality of national life and protecting marine assets.
Article 2	Definitions	The terms used in this Act are defined as follows: <Amended on Feb. 29, 2008; Mar. 23, 2013; Dec. 31, 2018; Feb. 18, 2020; Dec. 8, 2020> 1. The term “marine ecosystems” means a material system or a functional system, wherein the biological community of specific sea areas is combined with inorganic and organic environments surrounding such community; 2. The term “conservation and management of marine ecosystems” means all activities conducted to conserve, protect or restore marine ecosystems in a systematic manner and conserve marine biological diversity; 3. The term “marine biological diversity” means the diversity of biological species or organisms within marine ecosystems, including the diversity of intra-species, inter-species, the habitats of organisms and ecosystems; 4. The term “marine biological resources” means genetic resources, organisms, a part of organisms, population and other biological components of marine ecosystems, which have a value to people or serve practical or potential purposes; 5. The term “marine ecosystem axis” means the axis composed by connecting important areas or sea areas so as to conserve and manage marine ecosystems and marine biological diversity in an integrated manner and to maintain the continuity of structure and functions of marine ecosystems; 6. The term “marine ecology map” means a map drawn up under Article 12, by classifying marine ecosystems according to ecological or landscape value, etc.; 7. The term “marine primary production” means the production of organic materials through photosynthesis or chemical synthesis in the sea;
		8. The term “marine organisms” means organisms which inhabit or grow naturally in marine ecosystems; 9. The term “migratory marine animals” means animals moving in a group for spawning, feeding activities or reproduction, etc., which are determined by Ordinance of the Ministry of Oceans and Fisheries; 10. The term “marine mammals” means mammals living in the sea, which are determined by Ordinance of the Ministry of Oceans and Fisheries; 11. The term “marine organisms under protection” means marine species falling under any of the following items, which are determined by Ordinance of the Ministry of Oceans and Fisheries: (a) Unique species living in the Republic of Korea; (b) Species, the number of which is remarkably decreasing; (c) Species of high academic or economic values; (d) Species internationally highly worthy of protection; 12. The term “organisms disturbing marine ecosystems” means organisms falling under any of the following items, which are determined by Ordinance of the Ministry of Oceans and Fisheries: (a) Marine organisms flowing in from abroad artificially or naturally, which cause or are likely to cause disturbance to the balance of marine ecosystems; (b) Marine organisms which cause or are likely to cause disturbance to the balance of marine ecosystems, from among genetically modified organisms produced through genetic modification; 13. The term “harmful marine organisms” means marine organisms causing harm to the life or property of people, which are determined by Ordinance of the Ministry of Oceans and Fisheries; 14. The term “protected marine areas” means areas highly worthy of conservation, as they are ecologically important due to diverse marine organisms or excellent marine assets, including marine landscape, which are determined by Ordinance of the Ministry of Oceans and Fisheries under Article 25; 15. The term “marine assets” means the total of non-biological resources of tangible or intangible value, which can be used for the life of people or economic activities, including biological resources of marine ecosystems, marine landscape, marine minerals, seawater and marine energy.

Article No.	Article
Article 9	Formulation of Basic Plans on Conservation and Management of Marine Ecosystems (1) The Minister of Oceans and Fisheries shall formulate basic plans (hereinafter referred to as "basic plans") on the conservation and management of marine ecosystems every ten years, so as to conserve and manage marine ecosystems in a comprehensive and systematic manner, review the feasibility of the plans every five years, and amend the plans if necessary. <Amended on Feb. 29, 2008; Mar. 23, 2013; Dec. 8, 2020> (2) Basic plans shall include the following: <Amended on Nov. 28, 2017; Dec. 31, 2018; Feb. 18, 2020; Dec. 8, 2020> 1. The actual status or use of marine ecosystems; 2. Basic directions and major projects concerning the conservation and management of marine ecosystems; 3. Matters concerning the protection or restoration of habitats or migratory routes of marine organisms; 4. Matters concerning the establishment and management of marine ecosystem axis; 5. Actual status of changes and disturbance of marine ecosystems due to an abnormal water temperature caused by heat waves, etc. and climate changes, etc. and status of marine ecosystems fragile to climate changes; 6. Education and public relations concerning the conservation and management of marine ecosystems and the promotion of civil cooperation; 7. Cooperation of the relevant central administrative agencies and local governments; 8. International cooperation on the conservation and management of marine ecosystems; 9. Matters concerning the calculation of expenses incurred in conducting projects and methods of funding; 9-2. Matters concerning ecosystem services under subparagraph 10 of Article 2 of the Act on the Conservation and Use of Biological Diversity, which are obtained by human from marine ecosystems; 10. Other matters concerning the conservation and management of marine ecosystems prescribed by Presidential Decree.
Article 25	Designation and Management of Protected Marine Areas (1) The Minister of Oceans and Fisheries may designate areas falling under any of the following subparagraphs, whose marine ecosystems or marine landscape require special protection, as protected marine areas and manage such areas: <Amended on Feb. 29, 2008; Mar. 23, 2013; Nov. 28, 2017; Dec. 31, 2018> 1. Sea areas where marine ecosystems maintain primitiveness or sea areas worthy of conservation and academic research for their diverse marine organisms; 2. Areas which need academic research or conservation, due to unusual topography, geological features or ecology of the sea; 3. Sea areas which are worthy of being conserved for their high primary production capacity or for their function as the habitats or spawning areas of marine organisms under protection; 4. Sea areas which may represent diverse marine ecosystems or are equivalent to examples thereof;
	5. Sea areas which are worthy of special conservation, for their beautiful submarine landscape, including coral reefs and seaweeds, or marine landscape; 6. Areas needed to be conserved, in order to maintain or improve their function as carbon sinks of marine ecosystems; 7. Other sea areas prescribed by Presidential Decree, which are especially necessary for the effective conservation and management of marine ecosystems. (2) Protected marine areas under paragraph (1) may be designated and managed, after being classified into the following sub-areas based on the characteristics of marine ecosystems: <Amended on Dec. 31, 2018; Feb. 18, 2020> 1. Areas for protecting marine organisms: Areas needed to protect marine organisms under protection; 2. Areas for protecting marine ecosystems: Areas with excellent marine ecosystems or diverse marine organisms, or areas with vulnerable ecosystems which are unlikely to be restored, if damaged; 3. Areas for protecting marine landscape: Areas with excellent marine landscape, wherein the topography, geological features and biota of the seaside or inside the sea achieve harmony with marine ecosystems. (3) The Minister of Oceans and Fisheries may alter or cancel the designation as protected marine areas, where such areas lose the value as protected marine areas under paragraph (1) or do not need conservation, due to military necessity, natural disasters or other grounds. <Amended on Feb. 29, 2008; Mar. 23, 2013; Feb. 18, 2020> (4) Matters necessary for the designation or management of protected marine areas under paragraphs (1) through (3) shall be determined by Ordinance of the Ministry of Oceans and Fisheries. <Amended on Feb. 29, 2008; Mar. 23, 2013; Feb. 18, 2020>

Article No.	Article
Article 27 Restrictions on Acts in Protected Marine Areas	(1) No one shall commit any of the following acts in protected marine areas: Provided, That where park areas designated under the Natural Parks Act or cultural heritage (including protected areas) under the Cultural Heritage Protection Act is included in protected marine areas, the provisions of the Natural Parks Act or Cultural Heritage Protection Act shall apply: <Amended on Feb. 29, 2008; May 19, 2011; Mar. 23, 2013; Jun. 4, 2013; Mar. 18, 2014; Jan. 17, 2017; Dec. 31, 2018; Feb. 18, 2020> 1. Capturing, collecting, transplanting, or damaging marine organisms prescribed by Ordinance of the Ministry of Oceans and Fisheries, from among marine organisms which do not fall under marine organisms under protection, or installing explosives, nets or fishing gear or using toxic substances or electric currents, so as to capture or damage marine organisms in protected marine areas; 2. Newly constructing or extending buildings or other artificial structure (limited to where buildings are extended on not less than two occasions the size of the total ground area at the time of designation of protected marine areas); 3. Changing the structure of public waters, or increasing or decreasing the water level or quantity of the sea water; 4. Changing the quality of public waters or land; 5. Collecting the sea sand, quartz sand, soil and stones in public waters; 6. Throwing away specific substances harmful to the quality of water defined in subparagraph 8 of Article 2 of the Water Environment Conservation Act, or wastes or toxic substances defined in subparagraph 1 of Article 2 of the Wastes Control Act; 7. Damaging, destroying or relocating notices on the conservation and management of marine ecosystems or other landmarks; 8. Other acts deemed harmful to marine ecosystems as prescribed by Presidential Decree.

Chapter 3. National Land Planning and Utilization Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to promote public welfare and to improve citizens' quality of life by providing for matters necessary for the formulation, implementation, etc. of plans to utilize, develop and conserve national land.
Article 2	Definitions	The terms used in this Act are defined as follows: <Amended on Apr. 14, 2011; Dec. 18, 2012; Jan. 6, 2015; Apr. 18, 2017; Dec. 26, 2017; Jan. 12, 2021> 1. The term "metropolitan plan" means a plan to set long-term development directions for metropolitan planning zones designated pursuant to Article 10; 2. The term "urban or Gun plan" means a plan on spatial structures and development directions established for the jurisdictions of the Special Metropolitan City, a Metropolitan City, a Special Self-Governing City, a Special Self-Governing Province, or a Si/Gun (excluding any Gun located in the jurisdiction of a Metropolitan City; hereinafter the same shall apply), which shall be divided into an urban or Gun master plan and an urban or Gun management plan; 3. The term "urban or Gun master plan" means comprehensive planning for setting basic spatial structures and long-term development directions for the jurisdictions of the Special Metropolitan City, a Metropolitan City, a Special Self-Governing City, a Special Self-Governing Province, or a Si/Gun, which forms guidelines for formulating urban or Gun management plans; 4. The term "urban or Gun management plan" means any of the following plans for land utilization, traffic, environment, scenery, safety, industries, information and communications, health, welfare, security, culture, etc., which are formulated to develop, improve, and conserve the Special Metropolitan City, a Metropolitan City, a Special Self-Governing City, a Special Self-Governing Province, or a Si/Gun: (a) A plan for designating or altering special-purpose areas, or special-purpose districts; (b) A plan for designating or altering development restriction zones, urban natural park zones, urbanization-coordination zones, and fishery-resource protection zones; (c) A plan for establishing, maintaining, or improving infrastructure; (d) A plan for urban development projects, or maintenance projects; (e) A plan for designating or altering district-unit planning zones, and district-unit plans; (f) A plan for designating or altering areas under minimal siting restrictions and plans on areas under minimal siting restrictions; 5. The term "district-unit plan" means an urban or Gun management plan formulated to rationalize land utilization; to increase its functionality; to improve aesthetics; to secure a better environment; and to manage the relevant area in a systematic and planned manner, for part of an area subject to the formulation of an urban or Gun plan; 5-2. The term "plan for areas under minimal siting restrictions" means an urban or Gun management plan formulated to provide for matters necessary for managing areas under minimal siting restrictions, such as land utilization, and limits on the purposes, building-to-land ratios, floor area ratios, and heights of buildings, in such areas under minimal siting restrictions; 5-3. The term "growth management plan" means a plan formulated in order to prevent urban sprawl and to encourage planned development in a growth management planning zone; 6. The term "infrastructure" means the facilities prescribed by Presidential Decree, which are: (a) Traffic facilities, such as roads, railroads, harbors, airports, and parking lots; (b) Open facilities, such as squares, parks, and green areas; (c) Distribution and supply facilities, such as distribution business facilities, supply facilities for tap water, electricity, and gas, broadcast and communications facilities, and utility tunnels; (d) Public, cultural, and sports facilities, such as schools, public office buildings, cultural facilities, and sports facilities deemed necessary for public use; (e) Disaster-prevention facilities, such as rivers, storage reservoirs, and fire-prevention facilities; (f) Health and hygienic facilities, such as funeral service establishments; (g) Basic environmental facilities, such as sewerage systems, waste treatment and recycling facilities, and rainwater storage and utilization facilities; 7. The term "urban or Gun planning facilities" means facilities prescribed by urban or Gun management plans among infrastructure; 8. The term "metropolitan facilities" means the facilities prescribed by Presidential Decree, which require maintenance systems in a metropolitan scale among infrastructure and are:

Article No.	Article
	(a) Facilities that extend over the jurisdictions of at least two Special Metropolitan Cities, Metropolitan Cities, Special Self-Governing Cities, Special Self-Governing Provinces, or Sis/Guns; (b) Facilities jointly utilized by at least two Special Metropolitan Cities, Metropolitan Cities, Special Self-Governing Cities, Special Self-Governing Provinces, or Sis/Guns; 9. The term “utility tunnel” means a facility installed underground to improve aesthetics; to preserve road structures; and to ensure smooth traffic flows by commonly housing facilities buried underground, including supply facilities for electricity, gas, and tap water, communications facilities, and sewerage facilities; 10. The term “urban or Gun planning facility project” means a project to build, maintain, or improve urban or Gun planning facilities; 11. The term “urban or Gun planning project” means any of the following projects to implement urban or Gun management plans: (a) An urban or Gun planning facility project; (b) An urban development project performed under the Urban Development Act; (c) A rearrangement project performed under the Act on the Maintenance and Improvement of Urban Areas and Dwelling Conditions for Residents; 12. The term “urban or Gun planning project operator” means a person who performs an urban or Gun planning project pursuant to this Act or other statutes; 13. The term “public facilities” means roads, parks, railroads, tap water, and other public facilities prescribed by Presidential Decree; 14. The term “State plan” means a plan formulated by a central administrative agency pursuant to statutes or to achieve the policy objectives of the State, which contains matters stipulated in Article 19 (1) 1 through 9 or matters to be prescribed by an urban or Gun management plan; 15. The term “special-purpose area” means an area prescribed by an urban or Gun management plan not to be mutually overlapped, in order to utilize the land economically and efficiently; and to ensure an improvement of public welfare by limiting the land utilization, and the uses, building-to-land ratios (referring to the building-to-land ratio provided for in Article 55 of the Building Act; hereinafter the same shall apply), floor area ratios (referring to the floor area ratio provided for in Article 56 of the Building Act; hereinafter the same shall apply), heights of buildings, etc.; 16. The term “special-purpose district” means a district prescribed by an urban or Gun management plan in order to increase the functionality of a special-purpose area; and to ensure the scenery, safety, etc. by placing stricter or lenient limits on the special-purpose area, on the land utilization, and on the uses, building-to-land ratios, floor area ratios, heights of buildings, etc.; 17. The term “special-purpose zone” means a zone prescribed by an urban or Gun management plan in order to prevent a disorderly sprawl of a urban district; to ensure a planned and phased utilization of land; and to comprehensively adjust and manage land utilization, etc., by otherwise placing stricter or lenient limits on a special-purpose area and a special-purpose district, on the land utilization, and on the uses, building-to-land ratios, floor area ratios, heights of buildings, etc.; 18. The term “development-density control area” means an area designated pursuant to Article 66 in order to apply stricter building-to-land ratios or floor area ratios on an area where the establishment of infrastructure is impracticable even though a shortage of infrastructure is anticipated due to the development of such area; 19. The term “infrastructure-levy area” means an area, other than a development-density control area, which is designated and publicly notified pursuant to Article 67 to require installation of infrastructure prescribed by Presidential Decree, such as roads, parks, and green areas, due to development, or to secure a site necessary for building infrastructure; 20. The term “infrastructure-building fees” means an amount of money to be imposed and collected pursuant to Article 69 to build infrastructure resulting from new construction and enlargement of facilities prescribed by Presidential Decree, such as detached houses and lodging facilities, or to secure a site necessary for building infrastructure. [This Article Wholly Amended on Feb. 6, 2009] [Subparagraph 6 (d) of this Article was amended by Act No. 11579 (Dec. 18, 2012) following the decision of nonconformity to the Constitution by the Constitutional Court on Jun. 30, 2011]
Article 6	Classifying Purposes of Use of National Land The national land shall be classified into the following special-purpose areas, based on such consideration as the actual conditions and characteristics of land utilization, the future directions of land utilization, and balanced regional development: <Amended on May 22, 2013; May 16, 2023> 1. Urban areas: Areas requiring systematic development, maintenance, management, conservation, etc., as the population and industries are concentrated or such concentration is anticipated therein;

Article No.	Article
	2. Control areas: Areas to be systematically controlled corresponding to the urban area in order to accommodate the population and industries of urban areas, or those requiring control corresponding to an agricultural and forest area or natural environment conservation area in order to promote the agricultural and forest industry, and to conserve the natural environment or forests; 3. Agricultural and forest areas: Areas necessary to promote the agricultural and forest industry and to conserve forests, such as agricultural promotion areas under the Farmland Act, or preserved mountainous districts under the Mountainous Districts Management Act that do not belong to urban areas; 4. Natural environment conservation areas: Areas necessary to conserve the natural environment, water resources, coastal areas, ecosystem, water supply resources and national heritage under Article 3 of the Framework Act on National Heritage, and to protect and foster fishery resources, etc.
Article 36	Responsibility Designation of Special-Purpose Areas (1) The Minister of Land, Infrastructure and Transport, a Mayor/Do Governor or the Mayor of a large city shall make a decision on the designation or alteration of any of the following special-purpose areas based on an urban or Gun management plan: <Amended on Apr. 14, 2011; Mar. 23, 2013> 1. Urban areas: To be designated under any of the following categories: (a) Residential areas: Areas necessary to protect peaceful dwelling and sound living environment; (b) Commercial areas: Areas necessary to increase convenience in commerce and other businesses; (c) Industrial areas: Areas necessary to increase convenience of industries; (d) Green areas: Areas requiring the conservation of green areas to protect the natural environment, farmland and forests, health and sanitation, security and to prevent any disorderly sprawl of cities; 2. Control areas: To be designated under any of the following categories: (a) Conservation control areas: Areas that are difficult to designate and manage as natural environment conservation areas, in consideration of relationship, etc. with surrounding special-purpose areas, while conservation is necessary to protect the natural environment, and forests, to prevent water pollution, to secure green spaces, to conserve ecosystems, etc.; (b) Production control areas: Areas that are difficult to designate and manage as agricultural and forest areas, in consideration of relationship, etc. with surrounding special-purpose areas, while a control is needed for the production in agricultural, forestry and fishery businesses, etc.; (c) Planned control areas: Areas requiring planned and systematic control that are expected to be integrated into an urban area, but intended for restricted utilization and development in view of the natural environment; 3. Agricultural and forest areas; 4. Natural environment conservation areas. (2) The Minister of Land, Infrastructure and Transport, a Mayor/Do Governor or the Mayor of a large city may designate or alter a special-purpose area under any subparagraph of paragraph (1) and each item of each subparagraph of that paragraph after subdividing such areas by a determination of an urban or Gun management plan, as prescribed by Presidential Decree. <Amended on Apr. 14, 2011; Mar. 23, 2013> [This Article Wholly Amended on Feb. 6, 2009]
Article 56	Permission for Development Activities (1) A person who intends to engage in any of the following activities prescribed by Presidential Decree (hereinafter referred to as “development activities”) shall obtain permission from the Special Metropolitan City Mayor, a Metropolitan City Mayor, a Special Self-Governing City Mayor, a Special Self-Governing Province Governor or the head of a Si/Gun (hereinafter referred to as “permission for development activities”): Provided, That the same shall not apply where he or she engages in such activities in accordance with an urban or Gun planning project (including projects deemed urban or Gun planning projects under other statutes): <Amended on Apr. 14, 2011; Aug. 14, 2018> 1. Construction of buildings, or installation of structures; 2. Changes in the form and quality of any land (excluding changes in the form and quality of land prescribed by Presidential Decree as cases for cultivation); 3. Extraction of earth and stone; 4. Subdivision of land (excluding the subdivision of a site on which a building is located); 5. Piling up goods within the green area, control area or natural environment conservation area for at least one month. (2) Paragraph (1) shall apply mutatis mutandis to alternation of permitted matters concerning development activities: Provided, That the same shall not apply where minor matters prescribed by Presidential Decree are altered.

Article No.	Article
	(3) Notwithstanding the provisions of paragraph (1), the Creation and Management of Forest Resources Act and the Erosion Control Work Act shall respectively govern any forest roads construction and any erosion-control project in forests within an urban area and a planned control area, among the development activities under paragraph (1) 2 and 3, and the Mountainous Districts Management Act shall govern development activities under paragraph (1) 2 (only applicable to changes in the form and quality of land for agriculture, forestry and fisheries) and 3 in the forests within a conservation control area, a production control area, an agricultural and forest area, and a natural environment conservation area. <Amended on Apr. 14, 2011> (4) Notwithstanding the provisions of paragraph (1), any of the following activities may be performed without permission for development activities: Provided, That where an emergency measure under subparagraph 1 is taken, a report thereon shall be filed with the Special Metropolitan City Mayor, a Metropolitan City Mayor, a Special Self-Governing City Mayor, a Special Self-Governing Province Governor or the head of a Si/Gun within one month: <Amended on Apr. 14, 2011> 1. Emergency measures for disaster recovery or disaster response; 2. Remodeling, expansion or rebuilding of buildings that may be reported and installed pursuant to the Building Act, and alteration of the form and quality of land within the scope required therefor (limited to sites for urban or Gun planning facilities where no urban or Gun planning facility project is implemented); 3. Other minor activities prescribed by Presidential Decree. [This Article Wholly Amended on Feb. 6, 2009]
Article 76	Restrictions on Construction of Buildings in Special-Purpose Areas and Special-Purpose Districts (1) Matters concerning restrictions on the uses, types, scales, etc. of buildings and other facilities within special-purpose areas designated pursuant to Article 36 shall be prescribed by Presidential Decree. (2) Matters concerning restrictions on the uses, types, scales, etc. of buildings and other facilities within special-purpose districts designated pursuant to Article 37 may be prescribed by ordinance of the Special Metropolitan City, a Metropolitan City, a Special Self-Governing City, a Special Self-Governing Province, or a Si/Gun, in compliance with standards prescribed by Presidential Decree, except as otherwise provided in this Act or other statutes. <Amended on Apr. 14, 2011> (3) Restrictions on the uses, types, scales, etc. of buildings and other facilities under paragraphs (1) and (2) shall coincide with the objectives for which the relevant special-purpose area or the relevant special-purpose district is designated. (4) Where the uses, types, scales, etc. of buildings and other facilities are altered, the uses, types, scales, etc. of such buildings and other facilities after such alteration shall comply with paragraphs (1) and (2). (5) Restrictions on the uses, types, scales, etc. of buildings and other facilities within any of the following districts, complexes, or areas shall be governed by the following provisions, notwithstanding paragraphs (1) through (4): <Amended on Apr. 22, 2009; Aug. 4, 2011; Aug. 11, 2015; Apr. 18, 2017; Mar. 21, 2023; Aug. 8, 2023> 1. Within a settlement district under Article 37 (1) 6, such restrictions shall be separately prescribed by Presidential Decree within the objectives for which the settlement district is designated; 1-2. Within a development promotion district under Article 37 (1) 7, such restrictions shall be separately prescribed by Presidential Decree within the objectives for which the development promotion district is designated; 1-3. Within a combined special-purpose district under Article 37 (1) 9, such restrictions shall be separately prescribed by Presidential Decree within the objectives for which the combined special-purpose district is designated; 2. Within an agricultural and industrial complex, under subparagraph 8 (d) of Article 2 of the Industrial Sites and Development Act, such restrictions shall be governed by that Act; 3. Within an agriculture promotion area, a preserved mountainous district, or grassland among agricultural and forest areas, such restrictions shall be governed by the Farmland Act, the Mountainous Districts Management Act, or the Grassland Act, respectively; 4. Within a park area under the Natural Parks Act, a water source protection areas under the Water Supply and Waterworks Installation Act, designated cultural heritage and protection zones thereof designated pursuant to the Act on Conservation and Utilization of Cultural Heritage, natural monuments and protection zones thereof designated pursuant to the Act on Preservation and Utilization of Natural Heritage, and a marine protection zone under the Conservation and Management of Marine Ecosystems Act, among natural environment conservation areas, such restrictions shall be governed by the Natural Parks Act, the Water Supply

Chapter 4. Public Waters Management and Reclamation Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to promote public welfare and to contribute to improving the quality of life of the people by preserving and managing public waters for their continuous use and by allowing an efficient use of reclaimed land through environment-friendly reclamation of public waters.
Article 2	Definitions	The definitions of terms used in this Act shall be as follows: <Amended by Act No. 12738, Jun. 3, 2014; Act No. 14605, Mar. 21, 2017> - The term "public waters" means as follows: - Sea: Space from a coastline referred to in Article 6 (1) 4 of the Act on the Establishment, Management, etc. of Spatial Data to the outer limit of the exclusive economic zone under the Act on the Exclusive Economic Zone and Continental Shelf; - Seashores: Space from a coastline referred to in Article 6 (1) 4 of the Act on the Establishment, Management, etc. of Spatial Data to the area registered on the cadastral record; - State-owned rivers, lakes, ditches, or water surfaces or water streams used for public purposes; - The term "submerged land" means any land submerged by erosion of such land registered on the public cadastral register; - The term "tideland" means any space from the high-water line to the low-water line; - The term "reclamation of public waters" means a formation (including reclamation in water area) of land by artificially filling the public waters with earth, rocks, stones and other objects
Article 4	Management of Public Waters	- The State or a local government that manages public waters shall manage them in an environmentally-friendly manner so that public waters may be preserved and used continuously. - Public waters falling under any of the following cases shall be managed by the Minister of Oceans and Fisheries, and other public waters shall be managed by a Special Self-Governing City Mayor, a Special Self-Governing Province Governor, the head of a Si/Gun/Gu (referring to the head of an autonomous Gu; hereinafter the same shall apply): <Amended by Act No. 11690, Mar. 23, 2013; Act No. 14605 & 14726, Mar. 21, 2017> - An exclusive economic zone under Article 2 of the Act on the Exclusive Economic Zone and Continental Shelf; - Other public waters as prescribed by Presidential Decree.
Article 5	Prohibited Acts	No person shall perform any act falling under any of the following cases on public waters without any justifiable ground: <Amended by Act No. 11690, Mar. 23, 2013> - Dumping or discharging wastes, waste oil, wastewater, sewage, excreta, livestock excreta, polluted soil, poisonous substances, animal carcasses, or other pollutants prescribed by Ordinance of the Ministry of Oceans and Fisheries, on or into public waters; - Opening, closing or damaging any floodgate or installations for managing public waters; - Abandoning or leaving a ship derelict on public waters.

Article No.	Article
Article 8 Permission to Occupy or Use of Public Waters	(1) A person who intends to perform any of the following acts shall obtain permission to occupy or use of public waters (hereinafter referred to as “occupancy or use”) from the management agency of public waters (hereinafter referred to as “permission to occupy or use”) as prescribed by Presidential Decree: Provided, That the foregoing shall not apply where a person intends to occupy or use public waters for the purpose of salvaging a ship or craft in distress pursuant to Article 19 of the Act on the Search and Rescue in Waters or taking emergency measures pursuant to Article 37 of the Framework Act on the Management of Disasters and Safety, or where a person who has obtained a reclamation license under Article 28 intends to occupy or use his or her licensed public waters within the scope of the purpose for which the reclamation license has been issued: <Amended on Mar. 23, 2013; Dec. 27, 2016; Mar. 21, 2017> 1. Newly constructing, renovating, extending, altering, or removing a wharf, a breakwater, a bridge, a floodgate, new and renewable energy facilities (referring to new and renewable energy facilities referred to in subparagraph 3 of Article 2 of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy; hereafter in this Chapter the same shall apply), a building (referring to a building provided for in Article 2 (1) 2 of the Building Act which is installed without developing land on the public waters; hereafter in this Chapter the same shall apply), or other artificial structure on any public waters; 2. Excavating any land contiguous to public waters below the surface of the public waters; 3. Dredging or excavating the bottom of public waters; 4. Developing any submerged land determined by Presidential Decree or any tideland entitled to private ownership into land;
	5. Withdrawing water from or discharging water to public waters: Provided, that acts prescribed by Ordinance of the Ministry of Oceans and Fisheries shall be excluded herefrom; 6. Taking earth, sands or rocks from or on public waters; 7. Growing or cutting down plants from or on public waters; 8. Affecting the depth of public waters, such as dumping large quantities of earth or rocks on public waters; 9. Occupying or using installations, established on public waters upon obtaining permission to occupy or use, which are owned by the State or any local government; 10. Extracting minerals provided for in subparagraph 1 of Article 3 of the Mining Industry Act from public waters; 11. Occupying or using public waters other than those listed in subparagraphs 1 through 10. (2) In granting permission for the new construction, renovation and extension of a building referred to in paragraph (1) 1, the management agency of public waters shall grant permission only to a building determined by Presidential Decree. (3) Where the management agency of public waters intends to grant permission to occupy or use, the agency shall consult in advance with the head of the related administrative agency, as prescribed by Presidential Decree. (4) Where any person who has obtained permission to occupy or use intends to change the matters, etc. prescribed by Presidential Decree, such as the period of occupancy or use and the purposes among matters permitted, he or she shall obtain permission for change from the management agency of public waters. (5) Paragraph (3) shall apply mutatis mutandis to any permission for change provided for in paragraph (4). (6) Where the management agency of public waters grants permission to occupy or use or permission for change provided for in paragraph (4), the agency shall publicly notify the terms thereof, as prescribed by Presidential Decree. (7) Where the management agency of public waters grants permission to occupy or use, the agency shall hear the opinions of fishers and other interested parties, as prescribed by Presidential Decree, and may set additional clauses concerning the method of occupancy or use, and management, etc., if deemed necessary for protection of the marine environment, ecosystem, fisheries resources, and natural landscape, for prevention of damage to fishery, or for management or operation of public waters. <Amended on Jan. 4, 2022> (8) A person who obtains permission to occupy or use shall not have others occupy or use the permitted public waters: Provided, That the foregoing shall not apply where approval from the management agency is obtained because it is necessary for public interests such as national defense or prevention of natural disaster. (9) Where the head of an administrative agency other than the management agency of public waters has issued an administrative disposition which is deemed permission to occupy or use granted under other statutes or permission for change granted pursuant to paragraph (4), he or she shall notify the management agency of public waters of such fact immediately. <Newly Inserted on Mar. 21, 2017>

Article No.	Article
Article 21	Recovery (1) Any of the following persons (hereafter in this Article referred to as “person responsible for recovery”) shall remove artificial structures, installations, earth and rocks, or other things established on any public waters and recover such public waters: Provided, That the foregoing shall not apply to cases where he or she has obtained the permission to occupy or use in order to perform an act falling under Article 8 (1) 4: 1. A person who occupies or uses public waters without obtaining permission to occupy or use or the consultation or approval for occupancy or use of public waters; 2. A person who occupies or uses public waters in excess of the area for which permission to occupy or use, consultation, or approval for occupancy or use of public waters is obtained; 3. A person for whom the period of occupancy or use expires; 4. A person for whom the project related to the permission to occupy or use or the consultation or approval for occupancy or use of public waters is discontinued; 5. A person for whom the permission to occupy or use is canceled; 6. A person for whom the consultation or approval for occupancy or use of public waters is canceled. (2) Where a person responsible for recovery fails to take measures necessary for recovery referred to in paragraph (1), the management agency of public waters may order him or her to recover public waters, specifying a certain period. (3) Where the person who has been issued an order for recovery referred to in paragraph (2) fails to comply with it, the management agency of public waters may take measures necessary for recovery pursuant to the Administrative Vicarious Execution Act.
	(4) Notwithstanding paragraph (1), where it is impossible to recover public waters, or other reasons exist determined by Presidential Decree, the management agency of public waters may, ex officio or upon request from a person responsible for recovery, exempt such person from the obligation of recovery. (5) Where the management agency of public waters receives request for exemption pursuant to paragraph (4), the agency shall notify the applicant of whether exemption is granted, within 20 days from the date of receipt of such request, as prescribed by Ordinance of the Ministry of Oceans and Fisheries. <Amended on Mar. 23, 2013> (6) The management agency of public waters may gratuitously revert artificial structures, installations, earth and rocks or other things on the relevant public waters to the State or any local government, as prescribed by Presidential Decree in any of the following cases: 1. Where any person who occupies or uses public waters without obtaining occupation or use permission fails to comply with an order for recovery referred to in paragraph (2); 2. Where a person is exempted from the obligation of recovery pursuant to paragraph (4). (7) Where it is necessary in order to secure the fulfillment of the obligation of recovery referred to in paragraph (1) and of an order for the obligation of recovery referred to in paragraph (2), the management agency of public waters may allow a relevant person to deposit an amount equivalent to the costs incurred in such recovery as prescribed by Presidential Decree at the time of approving an implementation plan for occupancy or use pursuant to Article 17 (1) or of receiving the report referred to in Article 17 (2).

Chapter 5. Special Act on Conservation, Management and Utilization of World Heritage

Article No.		Article
Article 1	Purpose	The purpose of this Act is to enhance the cultural pride of the people by providing for matters necessary to conserve, manage and utilize World Heritage in relation to the Convention Concerning the Protection of the World Cultural and Natural Heritage, and contribute to the promotion of international cooperation to conserve the common assets of humankind.
Article 2	Fundamental Concepts	(1) The underlying principle for the conservation, management and utilization of World Heritage is that the Outstanding Universal Value of the heritage, including the conditions of integrity and authenticity at the time of its inscription, shall be maintained or improved. (2) The conservation, management and utilization of World Heritage shall be implemented in a manner to raise public awareness of and involvement in World Heritage and enhance the role of local communities concerned.
Article 3	Definitions	The terms used in this Act are defined as follows: <Amended on Oct. 31, 2023> 1. The term “World Heritage” means any heritage inscribed on the World Heritage List of the United Nations Educational, Scientific, and Cultural Organization (hereinafter referred to as “UNESCO”), in accordance with Articles 1, 2 and 11 (2) of the Convention Concerning the Protection of the World Cultural and Natural Heritage (hereinafter referred to as the “World Heritage Convention”); 2. The term “Tentative List” means an inventory of properties considered suitable for nomination to the World Heritage List, which is submitted to UNESCO and registered therein in accordance with Article 11 (1) of the World Heritage Convention; 3. “World Heritage Impact Assessment” means an investigation, prediction, and evaluation of impacts that the implementation of a project will have on the outstanding universal value of the World Heritage, in order to prepare measures to avoid, eliminate, or reduce adverse effects on the World Heritage.
Article 4	Responsibilities of the State and Local Governments	(1) The State shall establish and implement comprehensive policy measures for the conservation, management and utilization of World Heritage. (2) Local governments shall establish and implement policy measures for the conservation, management and utilization of World Heritage, in consideration of the State’s policy measures and regional characteristics. (3) The State and local governments shall ensure that residents, interested parties, relevant experts, etc. can actively participate in the establishment and implementation of policies on the conservation, management and utilization of World Heritage. (4) The people shall actively cooperate with the policy measures of the State and local governments for the conservation, management and utilization of World Heritage.
Article 11-2	Implementation of World Heritage Impact Assessment	(1) Any person (including the State and a local government; hereinafter referred to as “business entity”) who intends to carry out any of the following projects (hereinafter referred to as “target projects”) in a World Heritage Zone shall conduct a World Heritage Impact Assessment: 1. Projects of installing or expanding the buildings or facilities that may have adverse impacts on the outstanding universal value of the World Heritage; 2. Other projects that have impacts on the outstanding universal value of the World Heritage, which are prescribed by Presidential Decree. (2) Notwithstanding paragraph (1), if it is deemed that a target project conducted outside the World Heritage Zone will surely have significant impacts on the outstanding universal value of the World Heritage in the light of the characteristics of the World Heritage, conditions of its location, etc. the Administrator of the Cultural Heritage Administration shall request the business entity to conduct a World Heritage Impact Assessment. (3) The specific scope of the target projects under paragraphs (1) and (2), detailed criteria such as evaluation items, methods, and procedures of the World Heritage Impact Assessment, and other necessary matters shall be prescribed by Presidential Decree. [This Article Newly Inserted on Oct. 31, 2023]

Chapter 6. Act on the Sustainable Management and Restoration of Tidal Flats (Getbol) and Adjacent Areas Thereof

Article No.		Article
Article 1	Purpose	The purpose of this Act is to maintain tidal flats in a productive and healthy manner by prescribing matters necessary for the conservation, management, and restoration of tidal flats for the sustainable use of tidal flats and adjacent areas thereof.
Article 2	Definitions	The definitions of terms used in this Act shall be as follows: 1. The term “tidal flats” (Getbol) means flat areas formed naturally of mud, sand, gravel, etc., located from the boundaries between the land and the surface of water at high tide to boundaries between the land and the surface of water at low tide; 2. The term “adjacent areas” means the seashore (the space between the coastline and the land registered in the cadastral records as defined in the Article 6 (1) 4 of the Act on the Establishment, Management, etc. of Spatial Data) and the sea areas with depth of up to six meters based on Article 6 (1) 3 of the Act on the Establishment, Management, etc. of Spatial Data; 3. The term “tidal flat ecosystem” means a biological community and material system or functional system combined with the inorganic or organic environments surrounding such community in the tidal flats and their adjacent area (hereinafter referred to as “tidal flats, etc.”); 4. The term “clean tidal flats” means tidal flats, etc. as designated by the Minister of Oceans and Fisheries under Article 14, for the health of the tidal flat ecosystems and the safe production of fisheries resources in the tidal flats, etc.; 5. The term “restoration of tidal flats” means restoring and enhancing tidal flats, etc. that have been damaged due to the impact of development project etc. to their original physical form and ecological function, with the aim of enhancing the biodiversity in the tidal flats; 6. The term “ecotourism on tidal flats” means nature-friendly tourism whereby the importance of tidal flats, etc. can be learned through experiencing the conservation and sustainable and effective use of marine assets, which takes place in areas with excellent tidal flat ecosystems or having beautiful tidal flats and surrounding landscape; 7. The term “ecological village around tidal flats” means a village that has excellent tidal flat ecosystems and beautiful scenery, has the capacity to conserve and use them in a sustainable manner, and has been designated as such by the Minister of Oceans and Fisheries or the head of a local government under Article 28; 8. The term “ecosystem services provided by tidal flats” means the benefits from tidal flats, etc., contributing to the survival of organisms including humans, such as fisheries resources production, pollutants purification, carbon sequestration, disaster prevention, and cultural benefits including ecotourism and nature-based recreation.
Article 7	Establishment of Master Plan on Management and Restoration of Tidal Flats, etc.	(1) The Minister of Oceans and Fisheries shall establish a master plan on management and restoration of tidal flats, etc. (hereinafter referred to as “master plan”) every five years, so as to manage the tidal flats, etc. in a comprehensive and systematic manner. (2) In formulating the master plan, the Minister of Oceans and Fisheries shall have the master plan deliberated upon by the Marine Fishery Development Committee (hereinafter referred to as “Committee”) under Article 7 of the Framework Act on Marine Fishery Development, after consulting with the head of a relevant central administrative agency, Special Metropolitan City Mayor, Metropolitan City Mayor, Do governor, or Special Self-Governing Province Governor (hereinafter referred to as “Mayor/Do Governor”). (3) The master plan shall include the following: 1. The current status of the tidal flat ecosystems; 2. The current status of how tidal flats, etc. are being used, including tidal flat fishing activities and fishing grounds; 3. Matters concerning the ecosystem services provided by tidal flats; 4. Basic principles and implementation directions for the management and utilization of tidal flats, etc.; 5. Matters concerning protection of habitats of tidal flat organisms; 6. Matters concerning designation and management of the tidal flat management areas; 7. Plans for revitalizing tidal flat fishing activities, etc.; 8. Goals and implementation directions of the restoration of tidal flats; 9. Phased restoration plans of tidal flats, etc. damaged by development projects;

Article No.	Article
	10. Annual action plans of the project for restoration of tidal flats; 11. Matters concerning research and development of technologies for the management and utilization of tidal flats, etc.; 12. Education, publicity, and promoting cooperation with the private sector, with regard to the management and utilization of tidal flats, etc.; 13. International cooperation on the management and utilization of tidal flats, etc.; 14. Other matters concerning the management and utilization of tidal flats, etc. as prescribed by Presidential Decree. (4) The Minister of Oceans and Fisheries may request the head of a relevant central administrative agency and the Mayor/Do Governor to submit data necessary for establishing the master plan. (5) Upon establishing the master plan, the Minister of Oceans and Fisheries shall notify the head of a relevant central administrative agency and the Mayor/Do Governor and shall issue a public notification. (6) The Minister of Oceans and Fisheries may modify the master plan, when it is deemed necessary to respond to the changes in natural or social conditions. In such cases, the Minister shall consult with the head of a relevant central administrative agency and the Mayor/Do Governor in advance. (7) When the master plan is modified under paragraph (6), Articles 2 through 5 shall apply mutatis mutandis: Provided, That the same shall not apply to any modifications to minor matters as prescribed by Presidential Decree.
Article 16	Restriction of Conduct (1) No one shall commit any of the following acts in the management area: Provided, That where wetland protection areas designated under Article 8 of the Wetlands Conservation Act, park districts designated under Article 4 of the Natural Parks Act, or cultural heritage under Article 25 of the Cultural Heritage Protection Act (including protected facilities, protection zone, and historic and cultural environment conservation areas) are included in the management area, the Wetlands Conservation Act, the Natural Parks Act, or the Cultural Heritage Protection Act shall apply: 1. New construction or extension of a building or other artificial structures; 2. Altering the structures or bringing about an increase or decrease in the level or volume of the sea water in the management area; 3. Collecting soil, rock, or minerals in the management area. (2) Paragraph (1) shall not apply in any of the following cases: 1. Where it is necessary for military purposes; 2. Where it is necessary to take emergency measures due to a natural disaster or any other force majeure circumstances prescribed by Presidential Decree; 3. Other cases specified by Presidential Decree including where the conduct is necessary for maintaining or improving the indigenous lifestyle of local residents living adjacent to the management area or where the conduct is necessary for maintaining the management of the fishery industry in practice; 4. Where the activities or related facilities are for the purpose of academic research and survey of tidal flats and are approved by the Minister of Oceans and Fisheries under Ordinance of the Ministry of Oceans and Fisheries as not impeding the conservation of the relevant management area; 5. Where it is to implement matters under Article 11 of the management plan, under a comprehensive fishing village development project or the fishery harbor development project under Article 2 of the Fishing Village and Fishery Harbors Act; 6. Where the Minister of Oceans and Fisheries performs a conduct or installs a facility prescribed by Presidential Decree to protect and manage the management area.
Article 20	Implementation of Project for Restoration of Tidal Flats (1) The Minister of Oceans and Fisheries may implement the project for restoration of tidal flats in any of the cases listed below: Provided, That as for the areas specified in paragraphs (2) and (3) that also fall under subparagraph 4, the Minister of Oceans and Fisheries may implement the project for restoration of tidal flats: 1. Protected marine areas designated and publicly notified by the Minister of Oceans and Fisheries under Article 25 of the Conservation and Management of Marine Ecosystems Act; 2. Wetland protection areas designated and publicly notified by the Minister of Oceans and Fisheries under Article 8 of the Wetlands Conservation Act; 3. Management areas designated and publicly notified by the Minister of Oceans and Fisheries under Article 10; 4. Projects the scale of which are equal to or greater than the one specified by Presidential Decree, projects which require sophisticated technology, or projects that need to be implemented across two or more Metropolitan Cities or Do.

Article No.	Article
	(2) The Mayor/Do Governor may implement a project for restoration of tidal flats in any of the following cases: 1. City/Do protected marine areas designated and publicly notified by the Mayor/Do Governor under Article 36 of the Conservation and Management of Marine Ecosystems Act; 2. Wetland protection area designated and publicly notified by the Mayor/Do Governor under Article 8 of the Wetlands Conservation Act; 3. Projects that require implementation across two or more Si/Gun/Gu. (3) The head of a Si/Gun/Gu may implement a project for restoration of tidal flats in areas other than the areas where the Minister of Oceans and Fisheries and the Mayor/Do Governor are implementing such projects under paragraphs (1) and (2). (4) The Minister of Oceans and Fisheries shall consult the Mayor/Do Governor or the head of a Si/Gun/Gu before implementing a project for restoration of tidal flats under the proviso of paragraph (1), and the Mayor/Do Governor shall consult with the head of a Si/Gun/Gu before implementing a project for restoration of tidal flats under paragraph (2) 3. (5) Where cultural heritage prescribed in Article 25 of the Cultural Heritage Protection Act (including protected facility and protection zone and historic and cultural environment conservation areas) is included in a project for restoration of tidal flats under paragraphs (1) through (4), matters shall be governed by the Cultural Heritage Protection Act.
Article 28	Designation of Ecological Village around Tidal Flats (1) The Minister of Oceans and Fisheries or the head of a local government may designate any of the following areas as an ecological village around tidal flats: 1. Areas adjacent to the management areas designated and publicly notified under Article 10; 2. Areas adjacent to a project for restoration of tidal flats under Article 20; 3. Areas adjacent to the protected marine areas or City/Do protected marine areas designated and publicly notified under Article 25 or Article 36 of the Conservation and Management of Marine Ecosystems Act; 4. Areas adjacent to the wetland protection areas designated and publicly notified under Article 8 of the Wetlands Conservation Act; 5. Areas recognized as a wetland city under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. (2) The Minister of Oceans and Fisheries or the head of a local government, when designating a ecological village around tidal flats under paragraph (1), shall first seek and implement installation of convenience facilities, including public facilities, etc. and measures for increasing income for the relevant local residents. (3) The Minister of Oceans and Fisheries or the head of a local government may revoke or modify the designation of an ecological village around tidal flats under paragraph (1), when the ecological functions and scenic views of the marine ecology village are severely damaged by a natural disaster or other force majeure circumstances. (4) The Minister of Oceans and Fisheries or the head of a local government shall hold a hearing if a designation is to be revoked or modified under paragraph (3). (5) Matters necessary for the designation standards, procedure, revocation, and modification of an ecological village around tidal flats under paragraphs (1) through (3) shall be prescribed by Ordinance of the Ministry of Oceans and Fisheries.
Article 29	Eco-Guide on Tidal Flats (1) The Minister of Oceans and Fisheries or the head of a local government may recruit and utilize or have others utilize persons who have completed training courses given at training institutions under Article 30 (1), as Eco-Guides on Tidal Flats, as prescribed by Ordinance of the Ministry of Oceans and Fisheries. (2) The Eco-Guide on Tidal Flats shall perform the following work in a professional manner for the people who experience or utilize tidal flats, etc. to enhance awareness on tidal flat conservation: 1. Explaining the tidal flat ecosystems; 2. Engaging in education and publicity for tidal flats; 3. Providing a guide to ecological excursions; 4. Other matters necessary to enhance awareness on tidal flat conservation. (3) The Eco-Guide on Tidal Flats shall cooperate on necessary measures for the conservation and management of tidal flats including providing guidance on any damaging acts to the tidal flats, etc. and notifying any such acts to the relevant agencies. (4) Necessary matters concerning the management of the Eco-Guides on Tidal Flats shall be prescribed by Ordinance of the Ministry of Oceans and Fisheries.

Chapter 7. Enforcement Decree of the Marine Environment Management Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to prescribe matters necessary for the prevention, improvement, response, and recovery with regard to marine pollution, by managing sources that generate pollutants, such as ships, marine facilities, and marine spaces, and regulate discharge of marine pollutants such as oil and noxious liquid substances, thereby contributing to the protection of the health and wealth of the people of the Republic of Korea.
Article 2	Definitions	The terms used in this Act are defined as follows: <Amended on Apr. 11, 2007; Apr. 27, 2007; Dec. 21, 2007; Feb. 29, 2008; Jun. 9, 2009; Dec. 29, 2009; Dec. 18, 2012; Mar. 23, 2013; Jan. 21, 2014; Mar. 21, 2017; Oct. 31, 2017; Oct. 18, 2022> 1. The term “marine environment” means marine environment as defined in subparagraph 1 of Article 2 of the Act on Conservation and Utilization of the Marine Environment; 2. The term “marine pollution” means marine pollution as defined in subparagraph 3 of Article 2 of the Act on Conservation and Utilization of the Marine Environment; 3. The term “discharge” means the draining or dumping of pollutants, etc. or the leakage or eruption of pollutants, etc.: Provided, That the draining, dumping, leakage, or eruption of pollutants, etc. for academic purposes, such as conducting surveys and research to mitigate or prevent, or eliminate marine pollution, shall be excluded; 4. The term “garbage” means a substance which is useless in such form when discharged into the sea and which adversely affects or is likely to adversely affect the marine environment (excluding substances referred to in subparagraphs 5, 7, and 8); 5. The term “oil” means crude oil and petroleum products (excluding petroleum gas) provided for in the Petroleum and Alternative Fuel Business Act, liquid oil mixtures containing them (hereinafter referred to as “emulsion mixtures”), and oil refuse; 6. The term “ballast water” means ballast water defined in subparagraph 2 of Article 2 of the Ballast Water Management Act; 7. The term “noxious liquid substance” means any liquid substance (excluding oil) which adversely affect or are likely to adversely affect the marine environment and mixed liquid substances containing such substances, which are prescribed by Ordinance of the Ministry of Oceans and Fisheries; 8. The term “harmful substance in packaged form” means any harmful substance transported by ship in packaged form, which are prescribed by Ordinance of the Ministry of Oceans and Fisheries as they adversely affect or are likely to adversely affect the marine environment when discharged into the sea; 9. The term “harmful anti-fouling paint” means a paint used to restrict or prevent the attachment of organisms to ships, marine facilities, etc. (hereinafter referred to as “anti-fouling paints”), which are prescribed by Ordinance of the Ministry of Oceans and Fisheries as containing ingredients destroying organisms, such as organotin; 10. The term “residual pollutant” means a chemical substance prescribed by Ordinance of the Ministry of Oceans and Fisheries, which continuously cause acute or chronic toxicity or are carcinogenic over a long period when flowing into the sea and accumulated in organisms; 11. The term “pollutant” means garbage, oil, noxious liquid substance, or any harmful substance in package form which adversely affect or are likely to adversely affect the marine environment when flowing or discharged into the sea; 12. The term “ozone depleting substance” means any substance defined in item (a) of subparagraph 1 of Article 2 of the Act on the Control of Specific Substances for the Protection of the Ozone Layer; 13. The term “air pollutant” means ozone depleting substance, volatile organic compound, and air pollutant defined in subparagraph 1 of Article 2 of the Clean Air Conservation Act, and carbon dioxide among greenhouse gases defined in subparagraph 3 of that Article; 14. The term “emission control sea area” means the sea area prescribed by Ordinance of the Ministry of Oceans and Fisheries, which needs special regulation of air pollutants emitted by ships as prescribed by Ordinance of the Ministry of Oceans and Fisheries, to prevent air pollution and other adverse effects on the land and sea resulting from ship operation; 15. The term “volatile organic compounds” means oil and noxious liquid substances among hydrocarbons, which fall under subparagraph 10 of Article 2 of the Clean Air Conservation Act; 16. The term “ship” means things (including those with an outboard motor) used or usable for navigation above or below water, and fixed or floating oil-prospecting ships, and platforms prescribed by Ordinance of the Ministry of Oceans and Fisheries;

Article No.	Article
	17. The term “marine facility” means facilities or structures prescribed by Ordinance of the Ministry of Oceans and Fisheries, which are continuously installed or placed in, or thrown into sea areas (including harbors defined in subparagraph 1 of Article 2 of the Harbor Act; hereinafter the same shall apply) or between a sea area and land; 18. The term “bilge water” means emulsion mixtures stagnating at the bottom of a ship; 19. The term “port management authority” means the management authorities under Article 20 of the Harbor Act, fishery harbor management authorities under Article 35 of the Fishing Villages and Fishery Harbors Act, and port authorities under the Port Authority Act; 20. The term “sea area management authority” means a sea area management authority defined in subparagraph 8 of Article 2 of the Act on Conservation and Utilization of the Marine Environment; 21. The term “ship energy efficiency” means the amount of energy used by a ship in connection with freight transportation, which is shown as carbon dioxide generation ratio; 22. The term “Energy Efficiency Design Index” means an index showing the energy efficiency of a ship preliminarily calculated in the shipbuilding or conversion phase, a figure is a calculated amount of carbon dioxide expected to be emitted by a ship in transporting one ton of cargo one nautical mile according to the method determined and publicly notified by the Minister of Oceans and Fisheries pursuant to Article 41-2 (1); 23. The term “Energy Efficiency Existing Ship Index” means an index showing the energy efficiency of a ship preliminarily calculated in the operation phase of the existing ships, a figure is a calculated amount of carbon dioxide expected to be emitted by a ship in transporting one ton of cargo one nautical mile according to the method determined and publicly notified by the Minister of Oceans and Fisheries under Article 41-5 (1); 24. The term “Carbon Intensity Indicator” means an ex-post index showing the annual energy efficiency of a ship, a figure obtained by annually calculating the amount of carbon dioxide emitted by a ship in transporting one ton of cargo one nautical mile according to the method determined and publicly notified by the Minister of Oceans and Fisheries pursuant to Article 41-6 (1).
Article 15	Designation and Management of Environmental Management Sea Areas. (1) If deemed necessary to preserve and manage the marine environment, the Minister of Oceans and Fisheries may designate and manage environmental preservation sea areas and specially-managed sea areas (hereinafter referred to as “environmental management sea areas”) according to the following classification. In such cases, he or she shall have a prior consultation with the heads of relevant central administrative agencies, the competent Mayor/Do Governor, etc.: 1. Environmental preservation sea areas: Sea areas (including land that directly affects marine pollution) determined and publicly notified by the Minister of Oceans and Fisheries, from among the sea areas that have well-preserved marine environment and ecosystems and require continuous management to satisfy the marine environmental standards referred to in Article 13 (1) of the Act on Conservation and Utilization of the Marine Environment; 2. Specially-managed sea areas: Sea areas (including land that directly affects marine pollution) determined and publicly notified by the Minister of Oceans and Fisheries, from among the sea areas where it is impracticable to satisfy the marine environmental standards referred to in Article 13 (1) of the Act on Conservation and Utilization of the Marine Environment and the sea areas having substantial or potential obstacles to preserving the marine environment and ecosystems. (2) Where the purpose of designating an environmental management sea area has been accomplished or lost or where it is necessary to expand, reduce, or otherwise adjust the scope of designation to achieve the original purpose of designation, the Minister of Oceans and Fisheries may wholly or partially revoke the designation of the environmental management sea area or change the scope of the designation and give public notice thereof. In such cases, the Minister of Oceans and Fisheries shall consult with the Mayor/Do Governor having jurisdiction over the relevant area in advance. (3) Where the Minister of Oceans and Fisheries intends to designate, or to revoke or change the designation of, any environmental management sea area pursuant to paragraphs (1) and (2), he or she shall consider the following: 1. Results of inspecting marine environmental measuring networks under Article 9; 2. Results of examining residual pollutants under Article 39; 3. Results of national comprehensive investigations into marine ecosystems under Article 10 of the Conservation and Management of Marine Ecosystems Act; 4. Results of surveys of the marine environment and ecosystem conducted by the State or local governments for at least three consecutive years. (4) Matters necessary for designating, revoking, or changing environmental management sea areas pursuant to paragraphs (1) through (3) shall be prescribed by Presidential Decree. [This Article Newly Inserted on Jan. 8, 2019]

Article No.	Article
Article 77	Marine Pollution Impact Surveys (1) Where a pollutant is discharged into the sea from a ship or marine facility in at least the quantity prescribed by Presidential Decree, the owner of the ship or marine facility shall require a marine pollution impact survey institution to conduct a marine pollution impact survey. (2) Marine pollution impact survey institutions referred to in paragraph (1) shall be designated and publicly notified by the Minister of Oceans and Fisheries in accordance with the criteria prescribed by Presidential Decree. < Amended on Feb. 29, 2008; Mar. 23, 2013 > (3) Where an entity required to conduct a marine pollution impact survey pursuant to paragraph (1) fails to do so within the period prescribed by Presidential Decree or where there is an urgent need for such survey, as prescribed by Presidential Decree, the Minister of Oceans and Fisheries shall select any other survey institution to conduct the marine pollution impact survey. < Amended on Feb. 29, 2008; Mar. 23, 2013 > (4) Where the Minister of Oceans and Fisheries intends to have a separate marine pollution impact survey conducted pursuant to paragraph (3), he or she shall submit the relevant matter for deliberation by the Marine Fishery Development Committee under Article 7 of the Framework Act on Marine Fishery Development, as prescribed by Ordinance of the Ministry of Oceans and Fisheries. < Amended on Feb. 29, 2008; Feb. 6, 2009; Mar. 23, 2013 >

Chapter 8. Fisheries Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to promote the comprehensive utilization of fishery resources and waters and the sustainable development of fisheries and to contribute to the improvement of the quality of citizens' lives and the balanced development of the national economy by establishing a fundamental system for fisheries.
Article 2	Definitions	The terms used in this Act are defined as follows: 1. The term “fisheries” means the fishery business, aquaculture business, fish transport services, fish processing business, and fishery products distribution business defined in the items of subparagraph 1 of Article 3 of the Framework Act on Fisheries and Fishing Villages Development; 2. The term “fishery business” means the business of catching or harvesting aquatic animals or plants and the business of producing salt by naturally evaporating sea water at salt farms; 3. The term “aquaculture business” means the business of cultivating aquatic animals or plants as defined in subparagraph 2 of Article 2 of the Aquaculture Industry Development Act; 4. The term “fish transport service” means the business of transporting catches or products made thereof from the field of fishing to a designated landing place; 5. The term “fish processing business” means the business of manufacturing or processing foodstuff, feed, fertilizer, cohesive paste, oil and fat, or leather by directly using aquatic animals or plants as raw materials; 6. The term “fishing ground” means a certain area of waters where fishery business is conducted with a license granted under Article 7; 7. The term “fishery right” means a right to conduct fishery business with a license granted pursuant to Article 7; 8. The term “fishery activity by a piscary holder” means that a piscary holder catches or harvests aquatic animals or plants at a fishing ground designated for communal fishery business; 9. The term “piscary holder” means a person who files a report on fishery business under Article 48 and is registered in the original register of fishery rights, as prescribed by Presidential Decree, among those who are recognized by the majority of local residents as having continuously engaged in catching or harvesting aquatic animals or plants in the relevant waters before the communal fishery right to such water is created; 10. The term “fisher” means a fishery owner or a fishery worker, including an aquaculture businessperson defined in subparagraph 12 of Article 2 of the Aquaculture Industry Development Act and an aquaculture worker defined in subparagraph 13 of that Article; 11. The term “fishery owner” means a person who conducts fishery business; 12. The term “fishery worker” means a person who engages in catching or harvesting aquatic animals or plants for or on behalf of a fishery owner and a person who engages in producing salt by naturally evaporating sea water at salt farms; 13. The term “fish transport service provider” means a person who provides fish transport services; 14. The term “fish transport service worker” means a person who engages in transporting catches or products made thereof from the field of fishing to a designated landing place for or on behalf of a fish transport service provider; 15. The term “fish product processor” means a person who conducts fish processing business; 16. The term “seashore” means any land between a coastline prescribed in Article 8 (1) 3 of the Act on Marine Research and the Use of Marine Information and an area registered in the cadastral register; 17. The term “leisure fishing” means the activity of catching or harvesting aquatic animals or plants for pleasure using a fishing rod or any other tool; 18. The term “fishing gear” means a tool directly used for catching or harvesting aquatic animals or plants; 19. The term “auxiliary vessel” means a fish carrier, a processing vessel, a light vessel, a vessel for supporting fishery business, etc. additionally permitted, other than a fishing vessel permitted for assisting fishing activities conducted by a permitted fishing vessel; 20. The term “buoy” means a fishing ground buoy that is used by a fisher or an aquaculture businessperson when he or she installs fishing gear, an aquaculture facility, etc. in a fishing ground defined in subparagraph 1 of Article 2 of the Fishing Ground Management Act.
Article 7	Licensed Fishery Business	(1) A person who intends to engage in any of the following fishery business shall obtain a license therefor from the head of a Si/Gun/Gu: 1. Set-net fishery business: The business of catching aquatic animals in a demarcated zone of waters with a fishing gear prescribed by Presidential Decree installed in a certain place; 2. Communal fishery business: The business conducted by a fisher residing in a certain area to manage, cultivate, catch, and harvest shellfish, seaweed, or sedentary aquatic animals in a demarcated zone of waters, contiguous to the shore, whose depth is within a certain range.

Article No.	Article
	(2) The head of a Si/Gun/Gu shall grant a license for fishery business under paragraph (1) within the scope of the relevant development plan. (3) Types of fishery business under the subparagraphs of paragraph (1) and limits on water depths in fishing grounds for communal fishery business shall be prescribed by Presidential Decree. (4) Matters necessary for the following shall be prescribed by Ordinance of the Ministry of Oceans and Fisheries: 1. Water depths of fishing grounds (excluding those for communal fishery business), the boundaries of fishing ground zones, and the distance between fishing grounds; 2. Methods of installing facilities in fishing grounds, and methods of catching or harvesting; 3. Matters regarding catches; 4. Matters regarding fishing vessels, fishing gear, or the use thereof; 5. Matters regarding the types and methods of use of tools for removing harmful organisms; 6. Other matters necessary for granting a license for fishery business.
Article 8	Licenses for Communal Fishery Business (1) A license for communal fishery business shall be granted only to a fishing village fraternity or a fisheries cooperative for each district (hereinafter referred to as "district fisheries cooperative") in order to promote the common interests of fishers who reside in a certain area. (2) Where deemed necessary for promoting the common interests of fishers and developing fishery business in a certain area, the head of a Si/Gun/Gu may grant a license for fishery business, other than communal fishery business, to a fishing village fraternity, a fisheries partnership, or a district fisheries cooperative.
Article 36	Management of Fishing Grounds by Fishing Village Fraternities (1) A fishery right owned by a fishing village fraternity shall be exercised by its members, as prescribed by the fishing ground management rules under Article 37: Provided, That a communal fishery right may be exercised by a person who is not a member of the fishing village fraternity, if the person satisfies all of the following requirements: 1. The person shall have his or her domicile in the Si/Gun/Gu to which the relevant fishing village fraternity belongs; 2. A resolution on the exercise of the communal fishery right shall be passed at a general meeting of the fishing village fraternity; 3. A report on fishery business under Article 48 shall be completed. (2) Except as provided in Presidential Decree, a fishery right owned by a district fisheries cooperative shall be exercised by a member of such district fisheries cooperative whose domicile is within the business territory of a fishing village fraternity that covers an area adjoining the relevant fishing ground, as prescribed by the fishing ground management rules under Article 37. (3) The methods of and the order of priority in exercising a fishery right under paragraphs (1) and (2), adjustment of facilities and business territories for each fishing village fraternity, or each member of a fishing village fraternity or a cooperative, and other matters necessary for the management of a fishing ground shall be prescribed by Ordinance of the Ministry of Oceans and Fisheries.
Article 62	Designation of Leisure Fishing Grounds (1) In order to promote the common interests of fishers, any fishing village fraternity, a fisheries partnership, or a district fisheries cooperative may operate a leisure fishing ground (referring to a fishing ground for sightseeing, including a field study and pleasure fishing; hereinafter the same shall apply) in a certain area of waters designated by the head of a Si/Gun/Gu to the extent that such operation does not interfere with any fishery business prescribed by Presidential Decree among fishery business for which the fishing village fraternity, fisheries partnership, or district fisheries cooperative obtains a license and permission. (2) The validity period of a designated leisure fishing ground shall expire on the date of the expiry of the validity period of the fishery business licensed or permitted for the leisure fishing ground. In such cases, if at least two fishery business is licensed or permitted for any waters designated as a leisure fishing ground, its validity period shall expire on the date of the expiry of the validity period of the licensed or permitted fishery business, whichever is earlier. (3) Where a fishing village fraternity, a fisheries partnership, or a district fisheries cooperative files an application for designation of a leisure fishing ground under paragraph (1), it shall determine methods of leisure fishing, fees for use, matters to be observed by users, and other matters regarding the management and operation of the leisure fishing ground, and shall attach them to the application, as prescribed by Ordinance of the Ministry of Oceans and Fisheries. (4) Where an application for designation is filed pursuant to paragraph (1), the head of a Si/Gun/Gu shall designate a leisure fishing ground except in any of the following cases: 1. Where the methods of leisure fishing, fees for use, matters to be observed by users, and other matters regarding the management and operation of the leisure fishing ground determined under paragraph (3) are deemed inappropriate;

Article No.	Article
	2. Where the leisure fishing ground fails to meet the standards for designation prescribed by Ordinance of the Ministry of Oceans and Fisheries, such as for the area and facilities of a leisure fishing ground; 3. Where other restrictions under this Act or other statutes or regulations are violated. (5) Matters necessary for the management and operation of leisure fishing grounds shall be prescribed by Ordinance of the Ministry of Oceans and Fisheries, including the designation of leisure fishing grounds, the development of fishery resources in leisure fishing grounds, the types of aquatic animals or plants to be caught or harvested, methods of catching and harvesting them, regulations on the management of leisure fishing grounds, the operation of service vessels, standards for facilities of leisure fishing grounds, the access of users to leisure fishing grounds, and the prevention of safety accidents and environmental pollution in leisure fishing grounds. In such cases, aquatic animals or plants in leisure fishing grounds may be caught or harvested using separately-determined methods other than those used in fishery business prescribed in Articles 7, 40, 43, and 48. (6) Where a leisure fishing ground is not managed and operated under paragraph (5), the head of a Si/Gun/Gu may issue a corrective order or revoke the relevant designation, as prescribed by Ordinance of the Ministry of Oceans and Fisheries.

Chapter 9. Fishery Resources Management Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to contribute to the continuous development of fisheries and to the income growth of fisher by establishing plans for the management of fishery resources and efficiently managing fishery resources through the prescription of matters necessary for the protection, recovery, formation, etc. of fishery resources.
Article 2	Definitions	(1) The terms used in this Act are defined as follows: <Amended on Aug. 13, 2013; Jun. 22, 2015> 1. The term “fishery resources” means aquatic animals and plants living in water, which are resources useful to the national economy and people’s living; 2. The term “management of fishery resources” means acts, such as the protection, recovery, and formation of fishery resources; 3. The term “total allowable catch (TAC)” means an annual catch limit up to which each species of aquatic animal is allowed to be captured and gathered; 4. The term “formation of fishery resources” means acts of artificially making fishery resources plentiful, such as installing in certain waters the facilities favorable for the breeding of aquatic lives, including fishing banks and seaweed beds, or releasing fishery seeds; 5. The term “marine ranch” means a place where fishery resources are captured and gathered after forming fishery resources, such as comprehensively installing facilities for forming fishery resources in a specific sea area and releasing fishery seeds, and managing them systematically; 6. The term “marine forest” means a place where fishery seeds, such as seaweed, are transplanted, restored, and managed for the restoration of coastal ecosystem and improvement of fishery productivity in the sea area where seaweed has disappeared or is feared to disappear due to coral bleaching (coral calcification), etc. (including sea jungles). (2) The Fisheries Act and the Aquaculture Industry Development Act shall apply to terms not defined separately in this Act. <Amended on Aug. 27, 2019>
Article 7	Master Plans for Management of Fishery Resources	(1) In order to comprehensively and systematically manage fishery resources, the Minister of Oceans and Fisheries shall create a master plan for the management of fishery resources (hereinafter referred to as “master plan”) every five years. <Amended on Mar. 23, 2013> (2) A master plan shall include the following: <Amended on Mar. 23, 2013; Mar. 24, 2020> 1. Objective and basic direction of policies concerning the management of fishery resources; 2. Matters concerning the trends of fishery resources; 3. Matters concerning the scientific investigation into resources and the creation of an evaluation system; 4. Matters concerning plans for the recovery of specific fishery resources recognized as in danger of reduction or exhaustion; 5. Matters concerning total allowable catch for individual species of fishery resources; 6. Matters concerning the management of habitations, ecological environments, etc. of fishery resources; 7. Matters concerning the creation, management, etc. of marine ranches and marine woods; 8. Matters concerning the management of fishery resources by a Mayor/Do Governor; 9. Other matters that the Minister of Oceans and Fisheries deems necessary for the management of fishery resources. (3) When the Minister of Oceans and Fisheries intends to create a master plan, he or she shall hear the opinions of the Mayors/Do Governors in advance and shall have such plan deliberated upon by the Central Fisheries Mediation Committee under Article 95 of the Fisheries Act. The same procedures shall be followed when such master plan is modified. <Amended on Mar. 23, 2013; Oct. 31, 2023> (4) When the Minister of Oceans and Fisheries has created or modified a master plan, he or she shall notify the Mayors/Do Governors of such fact, publicly announce the details thereof, and submit it to the competent Standing Committee of the National Assembly without delay. <Amended on Mar. 23, 2013; Jan. 8, 2019> (5) The Minister of Oceans and Fisheries shall examine a master plan every year, considering changes in specific fishery resources, management of fishers related with such fishery resources, and other matters and shall modify such plan if necessary. <Amended on Mar. 23, 2013; Mar. 23, 2013; Mar. 24, 2020>
Article 46	Designation and Cancellation of Protected Waters	(1) The Minister of Oceans and Fisheries or a Mayor/Do Governor may designate waters that are deemed necessary for the spawning of fishery resources, development of fishery seeds or growth of fingerlings as protected waters, as prescribed by Presidential Decree. <Amended on Mar. 23, 2013; Jun. 22, 2015> (2) Where the Minister of Oceans and Fisheries or a Mayor/Do Governor intends to designate protected waters under paragraph (1), he or she shall consult the heads of related central administrative agencies in advance. <Amended on Mar. 23, 2013>

Article No.	Article
	(3) When no need exists to maintain protected waters designated under paragraph (1), the Minister of Oceans and Fisheries may cancel such designation of protected waters at the request of the Mayors/Do Governors, or ex officio; and the Mayors/Do Governors may cancel such designation of protected waters at the request of the head of a Si/Gun/Gu, or ex officio. <Amended on Mar. 23, 2013> (4) When the Minister of Oceans and Fisheries or a Mayor/Do Governor designates protected waters or cancel such designation under paragraphs (1) and (3), he or she shall publicly announce such fact without delay. <Amended on Mar. 23, 2013>
Article 51	Management of Fishery Resources Protection Zones (1) Fishery resources protection zones shall be managed by a Special Metropolitan City Mayor, a Metropolitan City Mayor, a Special Self-Governing City Mayor, the Governor of a Special Self-Governing Province, or the head of a Si/Gun (hereinafter referred to as “managing agencies”) having jurisdiction over such zones. <Amended on Dec. 18, 2012> (2) The managing agencies shall conduct an investigation into the actual state of the use of land or public waters in fishery resources protection zones, as prescribed by Presidential Decree. (3) Matters necessary for the management of fishery resources protection zones, such as the installation of guidance signs, etc. shall be prescribed by Ordinance of the Ministry of Oceans and Fisheries. <Amended on Mar. 23, 2013>
Article 52	Restriction on Acts in Fishery Resources Protection Zones (1) Urban and Gun area planning projects under subparagraph 11 of Article 2 of the National Land Planning and Utilization Act to be implemented within fishery resources protection zones shall be limited to projects prescribed by Presidential Decree. <Amended on Apr. 14, 2011; Mar. 24, 2020> (2) Notwithstanding the provisions of Articles 57 and 76 of the National Land Planning and Utilization Act, only any of the following acts (hereinafter referred to as “act subject to permission”) may be performed within fishery resources protection zones with permission of the managing agencies having jurisdiction over such zones, except in cases of urban and Gun area planning projects under paragraph (1): <Amended on Apr. 14, 2011; Mar. 24, 2020> 1. Constructing buildings and other facilities of a kind and size prescribed by Presidential Decree from among the buildings and other facilities necessary for the protection, formation, etc. of fishery resources; 2. Installing buildings and other facilities necessary for residents’ livelihood, as prescribed by Presidential Decree; 3. Forestation, rearing forests, and forest road construction under the Forest Resources Creation and Management Act or the Management of Mountainous Districts Act, and other acts prescribed by Presidential Decree. (3) The managing agencies may grant permission under paragraph (2), except for any of the following cases: <Newly Inserted on Dec. 18, 2012> 1. Where a business plan related to acts subject to permission, a plan to install infrastructure designed to perform the relevant act, an environment pollution prevention program, or a plan related to the scenery or landscape, etc. fails to conform to the standards for permission prescribed by Presidential Decree; 2. Where an obstacle exists to fulfilling the objectives of the designation of fishery resources protection zones; 3. Where an obstacle exists to the reasonable use of lands concerned or neighboring lands; 4. Other cases that violate any restriction under this Act or other statutes or regulations. (4) If deemed necessary to meet the permission standards under paragraph (7), the managing agencies may grant permission under paragraph (2) on the condition that measures will be taken to install the infrastructure and prevent the environmental pollution. In such cases, the managing agencies shall hear in advance the opinion of the applicant for permission of an act. <Newly Inserted on Dec. 18, 2012> (5) The managing agencies may order suspension and reinstatement of the act by a person who commits an act subject to permission without getting the permission under paragraph (2), commits an act which is not in compliance with the permission under paragraph (2), or takes over the buildings or lands in question, within fishery resources protection zones. <Amended on Dec. 18, 2012> (6) When a person to whom a reinstatement order under paragraph (5) has been issued fails to comply with such order, the managing agencies may implement reinstatement in accordance with administrative vicarious execution under the Administrative Vicarious Execution Act. <Amended on Dec. 18, 2012> (7) Matters necessary for the permission standards, the application procedures, etc. under paragraph (2), and the period, frequencies, etc. of reinstatement orders under paragraph (5) shall be prescribed by Presidential Decree. <Amended on Dec. 18, 2012>

Chapter 10. Marine Use Impact Assessment Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to preserve the marine environment and promote the sustainable use of the oceans by stipulating the necessary provisions for predicting, evaluating, and managing the appropriateness of marine use and the impact on the marine environment in advance for projects involving the use and development of the oceans.
Article 2	Definitions	The definitions of terms used in this Act are as follows: “Ocean” refers to the marine areas as defined in Article 3, Paragraph 1 of the Framework Act on Marine Fishery Development. “Marine and Fishery Resources” refers to the marine and fishery resources as defined in Article 3, Paragraph 2 of the Framework Act on Marine Fishery Development. “Marine Use and Development Projects” refer to activities or projects that utilize or develop marine and fishery resources and are expected to affect or potentially impact the marine environment or existing marine uses. “Marine Use Consultation” refers to a series of procedures in which the head of an administrative agency (hereinafter referred to as the “disposing agency”) intending to grant a license, permit, consultation, approval, or designation for a marine use and development project (hereinafter referred to as “license, etc.”) consults with the Minister of Oceans and Fisheries on the appropriateness of marine use and the impact on the marine environment of the relevant activity or project. “Marine Use Impact Assessment” refers to a series of procedures for investigating, predicting, and evaluating the impact on the marine environment in advance for marine use and development projects that have significant environmental impacts or are likely to cause social conflicts. This aims to prepare measures to mitigate negative impacts on the marine environment and to ensure the acceptance of relevant stakeholders for the marine use and development project.
Article 6	Assessment areas and items such as marine use impact assessment	① The Marine Use Impact Assessment and related evaluations shall be conducted in the areas of appropriateness assessment for marine use and environmental impact assessment (hereinafter referred to as “marine use impact assessment areas”) for marine use and development projects. ② The appropriateness assessment for marine use shall be conducted with due consideration of the following matters: 1. The purpose and validity of the marine use and development project. 2. Harmony with the utilization activities in the surrounding sea areas, such as fisheries, leisure, tourism, and navigation. 3. Consistency with regulations established under other laws, including those related to protected areas. 4. Acceptance by stakeholders, including rights holders related to the occupation and use of public waters pursuant to Article 12, Paragraph 2 of the Public Waters Management and Reclamation Act. 5. Soundness of alternative settings and analysis and appropriateness of the facility scale 6. Any other matters deemed necessary by the Minister of Oceans and Fisheries to ensure the appropriateness of marine use ③ The environmental impact assessment for marine use shall be conducted with sufficient consideration of the following matters: 1. The validity of determining the target area and scope of impact for the Marine Use Impact Assessment and related evaluations 2. Specificity of the marine environment and marine ecosystem status by sea area 3. The reasonableness of the assessment of changes in the physical and chemical marine environment due to marine use, prediction of environmental hazards, and their impacts on marine ecosystems 4. Adequacy of mitigation measures to minimize impacts on marine ecosystems 5. Any other matters deemed necessary by the Minister of Oceans and Fisheries to be considered due to their impact on the marine environment ④ Detailed evaluation items and evaluation methods for each area pursuant to Paragraph 1 shall be prescribed by the Decree of the Ministry of Oceans and Fisheries.
Article 9	Who is subject to marine use consultation	(1) The head of the disposing agency shall hold a marine use consultation with the Minister of Oceans and Fisheries before granting a license to an entity that intends to conduct a marine use and development project (hereinafter referred to as a “project subject to consultation”) that requires a license under any of the following Subparagraphs; 1. Designation of aggregate collection site in accordance with Article 21 (2) of the <u>Aggregate Extraction Act</u> 2. Permission to occupy and use the public waters in accordance with Article 8 of the Public Waters Management And Reclamation Act

Article No.	Article
	3. Approval or consultation for the occupation and use of public waters in accordance with Article 10 of the Public Waters Management And Reclamation Act. 4. A license for the reclamation of public waters in accordance with Article 28 the Public Waters Management And Reclamation Act 5. Consultation or approval of reclamation of public waters in accordance with <u>Article 35 or Article 36 of the Public Waters Management And Reclamation Act</u>. 6. A fishing license under <u>Article 7 of the Fisheries Act</u> or an aquaculture license under <u>Article 10 of the Aquaculture Industry Development Act</u>. However, this shall apply only to fishing and aquaculture licenses in waters designated by Presidential Decree. ② In applying Subparagraph s (2) through (5) of Paragraph 1, the Minister of Oceans and Fisheries may consolidate the marine use consultations if more than one public waters is to be occupied and used for a single project subject to consultation. ③ Even if other laws stipulate that a license corresponding to any of Subparagraph s (2) through (5) of Paragraph 1 shall be deemed to have been obtained, a marine use consultation shall be conducted. ④ Notwithstanding Paragraphs 1 and 3, a project subject to consultation shall not be subject to marine use consultation if it falls under any of the following Subparagraph s. 1. Projects for emergency measures pursuant to <u>Article 37 of the Framework Act on Management of Disasters and Safety</u>. 2. An undertaking that the Minister of Defense, in consultation with the Minister of and Oceans and Fisheries, determines necessary to protect military secrets or for the urgent conduct of military operations 3. Projects that the Director of National Intelligence recognizes as requiring highly confidential protection for national security and has consulted with the Minister of Oceans and Fisheries 4. Projects prescribed by presidential decree as acts for the preservation of the marine environment and safety of maritime traffic 5. Projects subject to marine use impact assessment under <u>Article 13</u> ⑤ The specific types and scope of projects subject to consultation shall be determined by presidential decree.
Article 13	What is covered by the Marine Use Impact Assessment? (1) A business that intends to carry out a marine use and development project (hereinafter referred to as the "project subject to evaluation") falling under any of the following Subparagraph s shall conduct a marine use impact assessment before receiving a license from the head of the disposal agency. However, the projects subject to environmental impact assessment under Article 22 of <u>Environmental Impact Assessment Act</u> shall be excluded from the projects prescribed by the Presidential Decree. 1. A sea aggregate extraction project among aggregate extraction activities allowed under the <u>Article 22 of the Aggregate Extraction Act</u> or a project that requires designation of a sea aggregate extraction complex pursuant to <u>Article 34 of the same Act</u> 2. A project that requires a license to occupy or use public waters pursuant to <u>Article 8 of the Public Waters Management And Reclamation Act</u> or a consultation or approval to occupy or use public waters pursuant to Article 10 of the <u>same Act</u> 3. A project that requires a reclamation license for public waters pursuant to Article 28 of the Public Waters Management And Reclamation Act or consultation or approval for reclamation of public waters reclamation pursuant to <u>Article 35 of the same Act</u>. 4. A project of extracting minerals specified in Article 3(1) of <u>the Mining Industry Act</u> from the public waters. 5. Installing new energy and renewable energy facilities on public waters in accordance with Article <u>2 (3) of Act on The Promotion Of The Development, Use And Diffusion Of New And Renewable Energy</u>. 6. A project to utilize and develop marine deep water in accordance with Article <u>2 (1) of Development and Management of Deep-Sea Water</u>. 7. Isolated disposal of wastes pursuant to Article 9 (1)(2) of the Management of Marine Garbage and Contaminated Marine Sediment Act and a storage of carbon dioxide streams in marine geological structures project pursuant to Article 10(1) of the same Act. 8. A project of extracting seabed minerals under Article <u>2 (1) of the Submarine Mineral Resources Development Act</u> 9. Any other business that affects the marine environment as prescribed by Presidential Decree ② <u>Article 9, Paragraph 4, SubParagraph s 1 through 4</u> shall apply for exclusions to marine use impact assessment. ③ The specific types and scope of projects subject to assessment shall be determined by Presidential Decree.

Article No.	Article
Article 29	Marine Environmental Impact Survey ① The operator shall survey the impact of the project conducted after obtaining the license (hereinafter referred to as “marine environmental impact survey”) on the marine environment, and notify the survey results to the heads of the disposing authorities and the Minister of Oceans. ② The operator shall take action without delay if and when measures are required to prevent damage to the surrounding environment identified through the marine environmental impact survey, and notify the facts to the heads of the disposing authorities and the Minister of Oceans and Fisheries. ③ The Minister of Oceans and Fisheries shall review the results of the marine environmental impact survey pursuant to Paragraph 1 and the results of the measures taken pursuant to Paragraph 2, and if it is recognized that damage to the marine environment occurs, the head of the disposing authorities shall order the operator to take measures to reduce the damage as prescribed by the Decree of the Ministry of Oceans and Fisheries, such as changing engineering methods and reducing the scale of the project. ④ The head of the disposing agency shall notify the Minister of Oceans and Fisheries of the results of the measures taken under Paragraph 3. ⑤ The Minister of Oceans and Fisheries may request the operator or the head of disposing organization to submit relevant data, if necessary, for the review under Paragraph 3. In this case, the requested shall comply unless there are justifiable reasons otherwise. ⑥ Matters required for marine environmental impact surveys, including target projects, survey items, and survey periods, shall be prescribed by the Ministry of Oceans and Fisheries.

Chapter 11. Environmental Impact Assessment Act

Article No.		Article
Article 1	Purpose	The purpose of this Act is to promote environment-friendly, sustainable development and healthy and pleasant life of citizens by forecasting and assessing the environmental impacts of a plan or project and by formulating measures for environmental conservation when a plan or project that has an environmental impact is formulated and implemented.
Article 2	Definitions	The terms used in this Act are defined as follows: <Amended on Jan. 17, 2017; Nov. 28, 2017; Nov. 26, 2019> 1. The term “strategic environmental impact assessment” means an assessment conducted to determine the feasibility of a plan, the appropriateness of a site location, etc. from an environmental perspective by verifying whether the plan conforms to the relevant environmental conservation plan and by developing and analyzing alternatives to promote sustainable development of national land when it is intended to formulate a plan that has an environmental impact; 2. The term “environmental impact assessment” means an assessment conducted to formulate measures for preventing, alleviating, or mitigating harmful environmental impacts by surveying, forecasting, and assessing the environmental impact of a project, when it is intended to permit, authorize, approve, or license (hereinafter referred to as “approve, etc.”) an implementation plan or execution plan that has an environmental impact or to make a determination on such implementation plan or execution plan; 3. The term “mini environmental impact assessment” means an assessment conducted by surveying, forecasting, and assessing the appropriateness of a site location and the environmental impact of a development project to provide measures for environmental conservation, when it is intended to implement a development project in an area requiring environmental conservation or in an area requiring planned development because reckless development is anticipated; 4. The term “environmental impact assessment, etc.” means a strategic environmental impact assessment, environmental impact assessment, or mini environmental impact assessment; 5. The term “agreed standards” means standards that a project implementer or the head of the approving authority agrees to apply to a specific project with the Minister of Environment, since they find it impracticable to maintain the environmental standards under Article 12 of the Framework Act on Environmental Policy or to prevent environmental deterioration merely by enforcing any of the following standards in an area affected by the implementation of the project: (a) Standards for the quality of discharged water under Article 13 of the Act on the Management and Use of Livestock Excreta; (b) Standards for permitting emissions under Article 16 of the Clean Air Conservation Act; (c) Standards for the quality of released water under Article 12 (3) of the Water Environment Conservation Act; (d) Standards for permitting discharge under Article 32 of the Water Environment Conservation Act; (e) Standards for the management of waste disposal facilities under Article 31 (1) of the Wastes Control Act; (f) Standards for the quality of effluent water under Article 7 of the Sewerage Act; (g) Permissible noise and vibration emission standards under Article 7 of the Noise and Vibration Control Act; (h) Control standards for traffic noise and vibration under Article 26 of the Noise and Vibration Control Act; (i) Standards for other pollutants prescribed by relevant statutes for environmental conservation; 6. The term “environmental impact assessor” means a person qualified under Article 63 (1) to provide services for the preparation of environmental impact assessment reports by conducting surveys on environmental situation, forecasting and analyzing environmental impacts, formulating plans for environmental conservation, and assessing alternatives.
Article 9	Plans Subject to Strategic Environmental Impact Assessment	(1) When the head of an administrative agency intends to formulate any of the following plans, he or she shall conduct a strategic environmental impact assessment with regard thereto: 1. An urban development project; 2. A plan for the development of an industrial site or industrial complex; 3. A plan for the development of energy sources; 4. A plan for the development of a harbor; 5. A plan for the construction of a road; 6. A plan for the development of water resources; 7. A plan for the construction of a railroad (including an urban railroad); 8. A plan for the construction of an airport;

Article No.	Article
	9. A plan for the use and development of river; 10. A plan for the development of land and reclamation of public waters; 11. A plan for the development of a tourism complex; 12. A plan for the development of a mountainous district; 13. A plan for the development of a particular area; 14. A plan for the establishment of a sports facility; 15. A plan for the establishment of a waste disposal facility; 16. A plan for the establishment of facilities for national defense and military installations; 17. A plan for the extraction of earth and stone, sand, gravel, minerals, etc.; 18. A plan for the establishment of any of the facilities specified by Presidential Decree as those that have an environmental impact. (2) The plans subject to strategic environmental impact assessment conducted under paragraph (1) (hereinafter referred to as “plans subject to strategic environmental impact assessment”) are classified as follows, taking the nature of each plan into consideration: 1. Governmental plan: A plan that generally indicates the basic direction-setting for, or guidelines for, the development and conservation of all or some national land; 2. Master development plan: Either of the following plans for a certain part of national land: (a) A plan for the designation of a particular development zone; (b) A plan that is required to be formulated by a specific statute or regulation before formulating an implementation plan to form the basis for a standard for an implementation plan. (3) The subcategories of the plans subject to strategic environmental impact assessment and the governmental plans and master development plans formulated under paragraph (2) shall be prescribed by Presidential Decree, following the procedures prescribed in Article 10-2. <Amended on May 29, 2016>
Article 22	Projects Subject to Environmental Impact Assessment (1) A person who intends to implement (hereinafter referred to as “project implementer”) any of the following projects (hereinafter referred to as “projects subject to environmental impact assessment”) shall conduct environmental impact assessment: 1. An urban development project; 2. A plan to develop an industrial site or industrial complex; 3. A plan to develop energy sources; 4. A plan to develop a harbor; 5. A plan to construct a road; 6. A plan to develop water resources; 7. A plan to construct a railroad (including an urban railroad); 8. A plan to construct an airport; 9. A plan to use and develop river; 10. A plan to develop land and reclaim public waters; 11. A plan to develop a tourism complex; 12. A plan to develop a mountainous district; 13. A plan to develop a particular area; 14. A plan to establish a sports facility; 15. A plan to establish a waste disposal facility; 16. A plan to establish facilities for national defense and military installations; 17. A plan to extract earth and stone, sand, gravel, minerals, etc.; 18. A plan to establish any of the facilities specified by Presidential Decree as those that have an environmental impact. (2) Specific categories, the scope, etc. of projects subject to environmental impact assessment shall be prescribed by Presidential Decree.

Chapter 12. Ordinance on the Inscription, Conservation and Management of World Heritage in Jeollanam-do Province

Article No.		Article
Article 1	Purpose	The purpose of this Ordinance is to stipulate the necessary matters for the conservation, management, and utilization of World Heritage Sites within Jeollanam-do Province, thereby contributing to the conservation of humanity's shared heritage and enhancing the cultural pride of Jeollanam-do provincial residents.
Article 2	Fundament values	Jeollanam-do Province (hereinafter referred to as "the Province") shall protect world heritage, which holds outstanding universal value, authenticity, and integrity, and utilize them appropriately to the extent that their value is not compromised, and hand them over to future generations in good condition.
Article 3	Definition	Terms used in this ordinance shall have the meanings ascribed to them in Article 3 of the Special Act on the Conservation, Management and Utilization of World Heritage(hereinafter referred to as the "Act").
Article 4	Governor responsibilities	① The Governor of the Province (hereinafter referred to as the "Governor") shall establish and promote measures for the conservation, management, and utilization of world heritage sites in the Province, and strive to provide necessary administrative and financial support. ② The Governor shall actively endeavor to have outstanding heritage in the Province listed as World Heritage. ③ The Governor shall ensure that the people of the Province (hereinafter referred to as "citizens"), stakeholders, and relevant experts participate in the formulation and implementation of the World Heritage Policy.
Article 6	World Heritage conservation, management and utilization projects, etc.	The Governor may promote the following projects for the conservation, management, and utilization of world heritage within the Province; 1. Academic research and survey on World Heritage and Tentative List (hereinafter referred to as "World Heritage, etc.") in Japan 2. Education, public relations, and awareness-raising projects utilizing World Heritage, etc. in the Province 3. Archiving and use of oral histories and life and culture data on World Heritage, etc. in the Province. 4. Discovery and survey of eligible cultural heritage for inscription on the World Heritage 5. Any projects deemed necessary by the Governor
Article 7	Organizing and operating a World Heritage Conservation Council	The Governor may organize and operate the Jeollanam-do Province World Heritage Conservation Council (hereinafter referred to as the "Council") for each individual World Heritage in accordance with Article 18 of the Act.
Article 8	Formulation of WH, etc.	(1) The Governor may establish and operate the Jeollanam-do World Heritage Promotion Team (funding organization, legal entity, etc.) (hereinafter referred to as the "Promotion Team") to efficiently promote the work related to World Heritage candidates for World Heritage inscription and the Tentative List. The functions of the Promotion Team are as follows; 1. Preparing applications for World Heritage and Tentative List inscriptions 2. Conservation, management and support for World Heritage and heritage on Tentative List 3. Any matters the governor deems necessary ③ The Governor may entrust the establishment and operation of the Promotion Team to a specialized organization, corporation, or organization. ④ Other matters necessary for the formulation and operation of the Promotion Team shall be determined by the Governor.

Chapter 13. Ordinance on the Inscription, Conservation and Management of World Heritage in Chungcheongnam-do Province

Article No.		Article
Article 1	Purpose	The purpose of this Ordinance is to stipulate matters concerning the inscription of as well as conservation, management, and support of World Heritage in Chungcheongnam-do Province, which possess outstanding universal values to be protected for humanity, as well as heritage listed on the Tentative List.
Article 2	Definition	The terms used in this Ordinance are defined as follows: 1. "World Heritage" refers to heritage inscribed on the UNESCO World Heritage List (hereinafter referred to as the "World Heritage List") in accordance with the Convention on the Protection of the World Cultural and Natural Heritage (hereinafter referred to as the "World Heritage Convention") and recognized by the UNESCO World Heritage Committee as having outstanding universal value to be protected for the benefit of humanity, and includes cultural, natural and mixed heritage. 2. "Cultural heritage" refers to monuments, groups of buildings, or heritage sites under Article 1 of the World Heritage Convention. 3. "Natural heritage" refers to natural monuments, geological and geographical structures, habitats of endangered species of plants and animals, natural areas or natural sites in accordance with Article 2 of the World Heritage Convention. 4. "Mixed heritage" refers to heritage that fulfills some or all of the definitions for cultural and natural heritage. 5. "Tentative List" refers to a preliminary list of heritage submitted to the UNESCO World Heritage Committee with an intention for inscription on the World Heritage List as heritage worthy of inclusion on the World Heritage List.
Article 3	World Heritage Inscription	The Governor of Chungcheongnam-do Province (hereinafter referred to as the "Governor") shall actively endeavor to nominate outstanding cultural, natural, and mixed heritage in the Province as World Heritage.
Article 4	Committee set-up	The Governor may establish the Chungcheongnam-do Province World Heritage Committee (hereinafter referred to as the "Committee") to advise, deliberate, and coordinate matters related to the promotion, conservation, management, and support of World Heritage inscription for outstanding cultural, natural, and complex heritage in the Province.
Article 19	Conservation and management	(1) The Governor may set up a master plan for conservation, management, and utilization of World Heritage in consultation with the relevant city mayors and county mayors for the local heritage that is in process of World Heritage inscription or nomination. ② When the Governor would complete the master plan pursuant to Paragraph 1, he or she shall notify the relevant city mayors or county mayors, the notified shall make a detailed implementation plan in accordance with the master plan.

Chapter 14. Ordinance on the Inscription, Conservation and Management of World Heritage in Yeosu City

Article No.		Article
Article 1	Purpose	The purpose of this Ordinance is to stipulate the necessary matters for the inscription of cultural and natural heritage in Yeosu City, which possess outstanding universal value to be protected for humanity as World Heritage Sites and to provide support for such efforts.
Article 2	Definition	The terms used in this Ordinance are defined as follows: 1. "World Heritage" refers to heritage under Article 3 (1) of the Special Act on the Conservation, Management and Utilization of World Heritage (hereinafter referred to as the "Act"). 2. "Tentative List" refers to heritage as defined in Article 3, Subparagraph 2 of the Act.
Article 3	Accountability	① The Mayor of Yeosu (hereinafter referred to as the "Mayor") shall establish and implement policies related to the inscription and support for World Heritage, taking into account national policies and local characteristics. ② The Mayor shall encourage residents, stakeholders, and relevant experts to actively cooperate in the formulation and implementation of policies concerning the inscription, conservation, management, and utilization of World Heritage. ③ The citizens of Yeosu shall actively cooperate with the policies of the state and Yeosu City (hereinafter referred to as the "City") for the conservation, management, and utilization of World Heritage.
Article 5	World Heritage Inscription	The Mayor shall endeavor to preserve, manage, and utilize excellent heritage by supporting academic research, etc. to ensure that such heritage be inscribed on the World Heritage List.

Chapter 15. Ordinance on the Inscription, Conservation and Management of Getbol, Korean Tidal Flats in Goheung County

Article No.		Article
Article 1	Purpose	The purpose of this Ordinance is to stipulate the necessary matters for the promotion of “Getbol, Korean Tidal Flats” in Goheung County for its World Heritage inscription, which possesses outstanding universal value to be protected for humanity, and for the conservation and management of natural heritage
Article 2	Definition	The terms used in this Ordinance are defined as follows: 1. “World Heritage” refers to heritage inscribed on the UNESCO World Heritage List (hereinafter referred to as the “World Heritage List”) in accordance with the Convention on the Protection of the World Cultural and Natural Heritage (hereinafter referred to as the “World Heritage Convention”) and recognized by the UNESCO World Heritage Committee as having outstanding universal value to be protected for the benefit of humanity, and includes cultural, natural and mixed heritage. 2. “Natural heritage” refers to natural monuments, geological and geographical structures, habitats of endangered species of plants and animals, natural areas or natural sites in accordance with Article 2 of the World Heritage Convention. 3. “Tentative List” refers to a preliminary list of heritage submitted to the UNESCO World Heritage Committee with an intention for inscription on the World Heritage List as heritage worthy of inclusion on the World Heritage List.
Article 3	World Heritage Inscription	The Goheung County Mayor (hereinafter referred to as the “Mayor”) actively endeavors to ensure that the excellent “natural heritage,” the “Getbol, Korean tidal flats in Goheung County”, to be inscribed as World Heritage
Article 5	Conservation and Management of World Heritage	The Mayor may establish and implement a master plan for the systematic conservation and management of the second-phase extended inscription of “Getbol, Korean Tidal Flats,” inscribed as World Heritage, in consultation with the Administrator of the Korea Heritage Service and the Governor of Jeollanam-do Province.

Chapter 16. Ordinance on the Inscription, and Conservation of World Heritage in Muan County

Article No.		Article
Article 1	Purpose	The purpose of this Ordinance is to stipulate the necessary matters for the inscription of the Southwest Tidal Flats of Muan County, which possess outstanding universal value to be protected for humanity as World Heritage and for the conservation and management of natural heritage.
Article 2	Definition	The terms used in this Ordinance are defined as follows: 1. "World Heritage" means a property that has been recognized by the UNESCO World Heritage Committee under the Convention on the Protection of the World Cultural and Natural Heritage (hereinafter referred to as the "World Heritage Convention") as having outstanding universal value in need of protection for the benefit of all mankind and has been inscribed on the UNESCO World Heritage List. "World Heritage" refers to heritage inscribed on the UNESCO World Heritage List in accordance with the Convention on the Protection of the World Cultural and Natural Heritage (hereinafter referred to as the "World Heritage Convention") and recognized by the UNESCO World Heritage Committee as having outstanding universal value to be protected for the benefit of humanity. 2. "Natural heritage" refers to natural monuments, geological and geographical structures, habitats of endangered species of plants and animals, natural areas or natural sites in accordance with Article 2 of the World Heritage Convention. 3. "Tentative List" refers to a list of heritage that is submitted to the UNESCO World Heritage Committee with an intention for the World Heritage inscription as they are worthy of inclusion on the World Heritage List.
Article 3	World Heritage Inscription	The Muan County Mayor (hereinafter referred to as the "Mayor") actively endeavors to ensure that the excellent "natural heritage", the Southwest Tidal Flats in Muan County to be inscribed as World Heritage
Article 5	Conservation and Management of World Heritage	The Mayor may establish and implement a master plan for the systematic conservation and management of "Southwest Tidal Flats," which is on the Tentative List, in consultation with the Administrator of the Korea Heritage Service and the Governor of Jeollanam-do Province.

Chapter 17. Ordinance on the Designation and Management of Marine Protected Areas in Chungcheongnam-do Province

Article No.		Article
Article 1	Purpose	The purpose of this Ordinance is to stipulate the necessary matters for designating and managing marine protected areas, pursuant to Article 36 of the Conservation And Management of Marine Ecosystems Act, in regions or waters with rich marine biodiversity, ecological significance, or exceptional marine assets such as seascapes that warrant special preservation. This aims to enable the residents of Chungcheongnam-do Province to enjoy a leisurely and healthy life in a pleasant natural environment.
Article 2	Definition	“Chungcheongnam-do Province Marine Protected Area” (hereinafter referred to as “Provincial Marine Protected Area”) refers to an area designated by the Governor of Chungcheongnam-do Province in accordance with the provisions of Article 3 as it is ecologically important due to its rich marine biodiversity or has great value for special conservation for its excellent marine assets such as seascape.
Article 3	Designation of national marine protected areas, etc.	① The Governor of Chungcheongnam-do Province (hereinafter referred to as the “Governor”) may designate and manage as a Provincial Marine Protected Area for an area that is in need of special conservation of marine ecosystems and marine landscapes under any of the following Subparagraphs; 1. Marine areas where the natural ecology of its environment is pristine or rich in marine biodiversity and therefore worthy of conservation and scientific study 2. Marine areas with unique topography, geology, and ecology that require scientific research or conservation 3. Water bodies recognized as having high basic productivity or conservation value as habitats and spawning grounds for protected marine species 4. Water bodies that are representative of or sample a variety of marine ecosystems 5. Seabed and marine landscapes, such as coral reefs and seagrasses, that are in special need of conservation due to their natural beauty 6. Areas in need of conservation to maintain or enhance the carbon sink function of marine ecosystems 7. Any other waters that are particularly necessary for the effective conservation and management of marine ecosystems and fall under any of the following items: A. Environmental conservation area pursuant to Article 15, Paragraph 1, Subparagraph 1 of the Marine Environment Management Act B. Fishery resource protection areas pursuant to Article 40 of National Land Planning and Utilization Act C. Natural parks under Article 2, Subparagraph 1 of the Natural Parks Act (limited to marine areas) D. Areas designated as natural monuments pursuant to Article 2, Subparagraph 5 of the Act on Preservation and Utilization of Natural Heritage and their protected areas (limited to marine areas) < Revised on Sept. 20, 2024 >. E. Special wildlife reserves pursuant to Article 27 of Wildlife Protection and Management Act (limited to marine areas) F. Adjacent waters to absolutely or semi-conserved uninhabited islands pursuant to Article 10 of the Act on the Conservation and Management of Uninhabited Islands G. Adjacent waters to specific islands as defined in Article 2, Subparagraph 1 of the Special Act on Ecosystem Conservation in Island Areas including Dokdo ② The provincial marine protected area under Paragraph 1 may be designated and managed by dividing it into sub-zones according to the characteristics of the marine ecosystem as below; 1. Areas for protecting marine organisms: Areas needed to protect marine organisms under protection 2. Areas for protecting marine ecosystems: Areas with excellent marine ecosystems or diverse marine organisms, or areas with vulnerable ecosystems which are unlikely to be restored, if damaged. 3. Areas for protecting marine landscape: Areas with excellent marine landscape, wherein the topography, geological features and biota of the seaside or inside the sea achieve harmony with marine ecosystems. ③ The Governor may alter or cancel the designation as protected marine areas, where such areas lose the value as protected marine areas under Paragraph (1) or do not need conservation, due to military necessity, natural disasters or other grounds

Article No.	Article
Article 6	Restrictions on activities in provincial marine protected areas ① No person shall engage in any of the following activities within provincial marine protected areas under Article 3: 1. New construction and expansion of buildings and other works (only if the building area is expanded by more than twice the building area at the time of designation of the marine protected area) 2. Alteration of the shape or form of the land 3. Altering the structures of the public waters or causing an increase or decrease in the level or quantity of seawater 4. Harvesting of sea sand, silica sand, and mudstone from public waters 5. Defacing, damaging, or relocating the marine protected area markers installed under Article 6. ② The provisions of Paragraph 1 shall not apply in any of the following cases; 1. When required for military purposes 2. In cases of natural disasters or other emergencies as prescribed by Presidential Decree, where urgent measures are necessary. 3. Activities under Subparagraph 1 to 4 of Paragraph 1 that may directly cause pollution or other impacts on the marine protected area but are necessary for maintaining or improving the unique lifestyles of residents in adjacent areas or for continuing traditional farming or fishing practices previously conducted in the area. 4. Activities for the purpose of academic survey and research or other related facilities, which are authorized by the Governor as not interfering with the conservation of the provincial marine protected areas. 5. Agricultural production infrastructure maintenance projects in accordance with the provisions of Article 2, Subparagraph 5 of the Agricultural and Fishing Villages Improvement Act 6. Comprehensive development projects for fishing villages under Subparagraph 2 of Article 2 of the Fishing Villages and Fishing Harbors Act or fishing harbor facility development projects under Subparagraph 6 of the same Article. 7. Activities or installations deemed necessary by the Governor for the protection and management of the provincial marine protected area, including: a. Installation of facilities included in the management plan for provincial marine protected areas under Article 7 b. Regular monitoring, scientific research on marine ecosystems of provincial marine protected areas, and installation of minimum required observation facilities for the research activities. c. Installation of facilities deemed necessary to protect provincial marine protected areas and prevent damage to the marine ecosystem due to unauthorized entry by outsiders. 8. When the head of a related administrative agency, in consultation with the Governor, undertakes development activities or issues licenses, etc. in accordance with other laws and regulations
Article 7	Marine protected area management plans (1) The Governor shall establish and implement management plans (hereinafter referred to as “management plans”) for each provincial marine protected area designated under Article 3, every five years. This shall be done after collecting opinions from the city mayors or county mayors within the jurisdiction, and consulting with the local maritime affairs and fisheries office and relevant administrative agencies. The management plans shall include the following matters: 1. Conservation and management of marine ecosystems and marine biodiversity 2. Improvement of the quality of life for residents in the provincial marine protected areas and their adjacent regions, and the protection of the interests of stakeholders 3. Measures to contribute to the development of local communities through the conservation and management of marine ecosystems. ② For the establishment of management plans under Paragraph 1, a fact-finding survey shall be conducted regarding the utilization status, pollution sources, and other related factors in the provincial marine protected areas and their adjacent regions. The opinions of local residents and stakeholders shall also be gathered.

Getbol, Korean Tidal Flats (Phase II)

For Inscription on the World Heritage List

Appendix 1. Integrated Management Plan