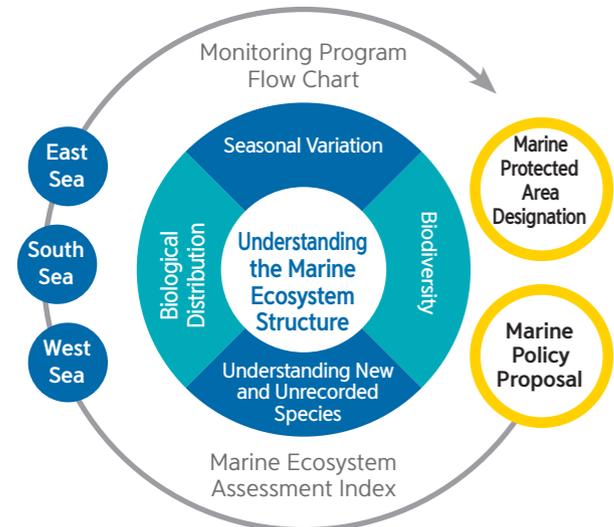


Monitoring Program Flow Chart 



 **Ocean Ecosystem Information**
www.ecosea.go.kr
 Go to our website for information on the impacts of the National Marine Ecosystem Monitoring Program

National Marine Ecosystem Monitoring Program

National Marine Ecosystem Monitoring Program

Confident Guardians of the Ocean's Health

Rationale

-  **Legislation**
 - Act on Conservation and Management of Marine Ecosystem Article 10, Article 11, Article 29
 - Wetlands Conservation Act Article 4
-  **Ecosystem**
 - Active Measures to Address Marine Ecosystem Fluctuation
-  **Social Benefits**
 - Ensuring a Pleasant and Healthy Marine Ecosystem

Purpose of Monitoring

-  **Policy**
 - Proactive Response to the Threat of Climatic Change, Policy Making for sustainable usage of the marine system
-  **Science**
 - Synthetic and systemic understanding of the short- and long-term variation in characteristics of Korea's Marine Ecosystem
-  **Conservation and Protection**
 - Management of Marine Ecosystem and Protection of Superb Marine Ecosystem through designation of marine sanctuaries



Structure of the monitoring program



Monitored Areas

Coastal Ecosystem, Tidal flat Ecosystem, Bedrock Ecosystem

Monitoring Scope

Korea is classified into 2 areas(East, West)
 - Even Years: East Sea, Eastern Part of South Sea, Jeju
 - Odd Years: West Sea, Western Part of South Sea

Monitoring Cycle 1~2 times a year

Fundamental monitoring



Monitoring Field

Coastal Ecosystem, Tidal flat Ecosystem, Bedrock Ecosystem, Seabirds

Monitoring Scope

All across Korea including Estuary, Upwelling Area(Coast), Marine MPA (Tidal flat), Subtropical Regions(Bedrock)

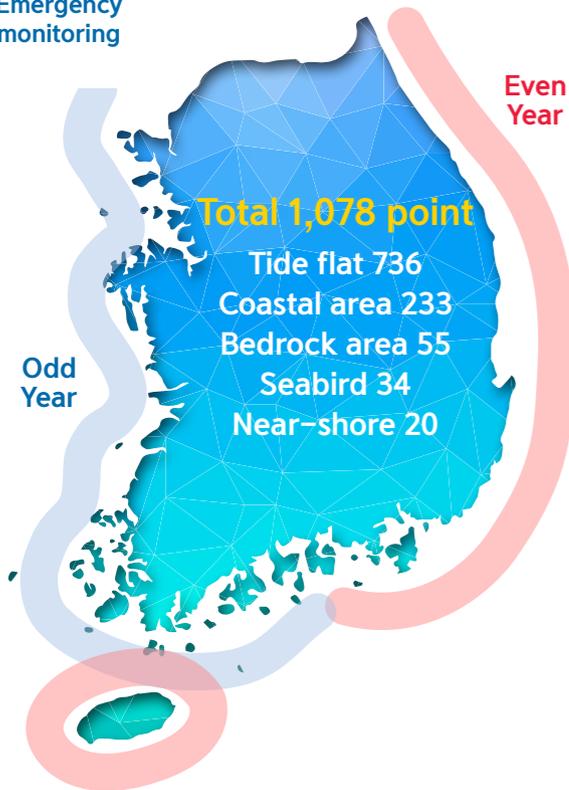
Focus monitoring

Monitoring Cycle 2~4 times a year

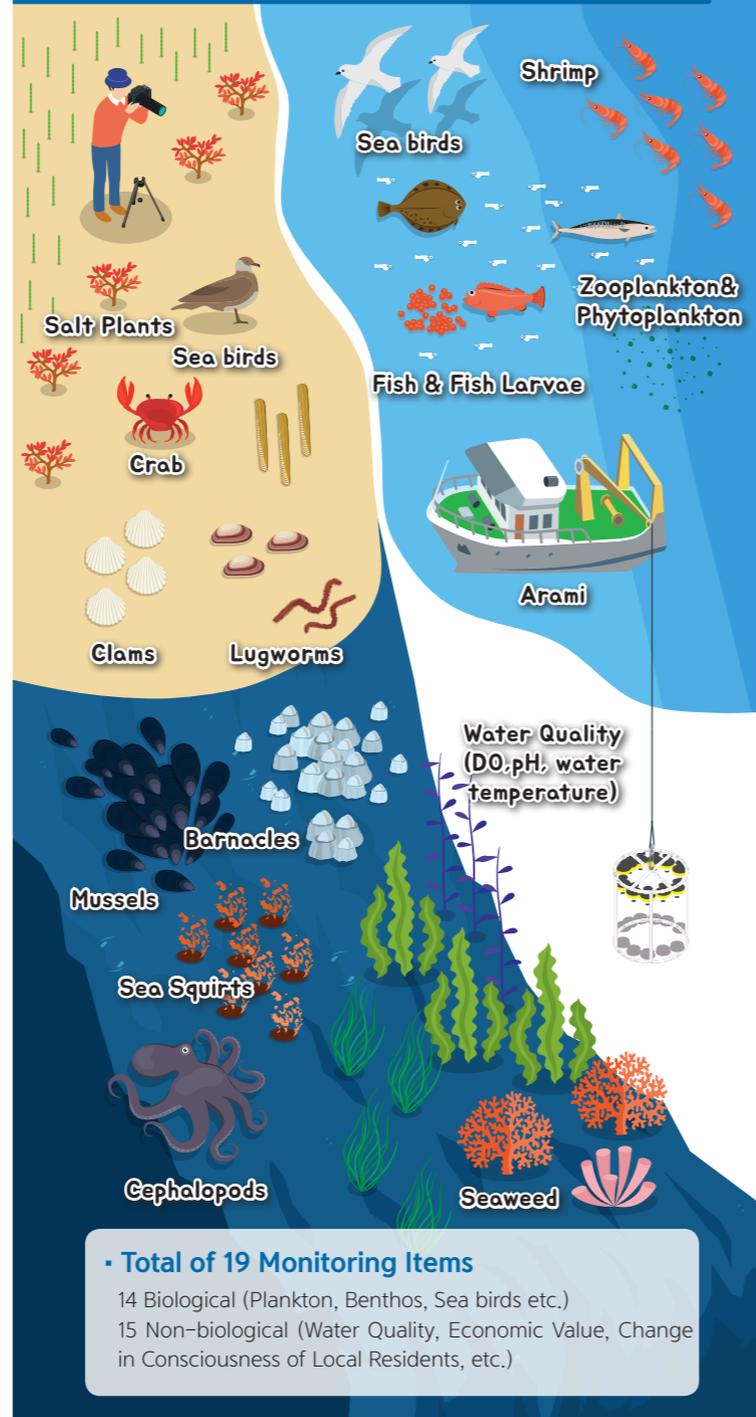


Emergency monitoring

Perform when there is the need for emergency monitoring, such as social issues or civil complaints



Monitoring Items



- Total of 19 Monitoring Items

14 Biological (Plankton, Benthos, Sea birds etc.)
 15 Non-biological (Water Quality, Economic Value, Change in Consciousness of Local Residents, etc.)

Application of Monitoring Results

1. Making a Collection Book of Marine Ecosystem and Investigation Chronology



< Summary Book of Marine Ecosystem > < Investigation Chronology >

- **Investigation Chronology**
Investigation of Results Data through Monitoring Program
- **Summary Book of Marine Ecosystem**
Total Explanatory Data based on the Results of the Monitoring Program

2. Making a Marine Ecosystem Plan

- **1st Grade:** Habitat of Marine Life Subject to Protection; or Sea with high conservation value due to Marine Biological Diversity
- **2nd Grade:** Sea with conservation value in the future or that is needed to protect a 1st Grade Sea
- **3rd Grade:** Seas other than 1st and 2nd, which are subject to development or usage.

3. Designating Marine Protected Area(MPA)

Discover the Proposed Site for Marine Sanctuaries and Suggest the scientific basis

- **Tidal flat MPA:** Wetland that has been preserved in its natural state or has excellent Marine Biological Diversity
- **Marine Ecosystem MPA:** Superb or Vulnerable Marine Ecosystem that is to be protected
- **Marine Life MPA:** Area needed for Marine Life that is Subject to Protection
- **Marine Scenic MPA:** Superb Marine Scenic Area along with healthy Marine Ecosystem

4. Other Applications

- **Offer Basis for Sea Space Planning:** Use as key materials for systemic, effective usage of Sea Space.
- **Monitor noxious Marine Life:** Use for policy to manage noxious marine life by investigating domestic habitation state of introduced species and establishing countermeasures.
- **Support International Cooperation:** Convention on Biological Diversity, the Ramsar Convention, Local consultative groups, UN Marine Evaluation

Monitoring Program Strategy & Assignment

1. Monitor · Observe (Establish System for Marine Ecosystem Monitoring · Observation)

- 1. Marine Ecosystem Fundamental Monitoring**
Evaluate marine ecosystem health through regular monitoring
1) Tideland Ecology monitoring 2) Coastal Ecology monitoring 3) Bedrock Ecology monitoring 4) Inshore Ecology monitoring
- 2. Marine Ecosystem Focus Monitoring**
Cope with changes to the global marine ecosystem and analyze effects of policy
1) MPA 2) Marine Ecosystem Change due to Climate Change 3) Estuary, Upwelling Area(Coast) 4) Habit status of Sea birds
- 3. Quality Control of Monitoring Results**
Maintain reliability of monitoring-analysis results and reinforce analysis capacity
1) Produce standard samples 2) Establish system to cross-analyze analysis results 3) Legislate monitor-analyze manual 4) Analysis agency certification and development manpower
- 4. Establish System for DB management**
Secure Marine Resources and Integrated Management of Survey Results
1) Establish Specimen Banking 2) Improve standard input system 3) Create Integrated Management System 4) Designate recognition of state

2. Assessment · Evaluation (Establish System for Assessment · Evaluation)

- 1. Reinforce Threat Management**
Discover Standard of risk for introduced species and noxious species
1) Safety Management of genetically modified organisms 2) Noxious marine life management 3) Discover indicator species for contamination
- 2. Protected Species Assessment and Management**
Reinforce Management of Species with high ecological value, such as protected species
1) Integrated assessment of Marine life subject to protect
- 3. Discover Indicator Organism**
Discover indicator organisms to diagnose marine ecosystem
1) Discover indicator organisms through statistical methods or experiential analysis
- 4. Marine Ecosystem Assessment Standard**
Analyze Effect of Policy by developing indicators such as healthiness
1) Improve Marine Ecosystem Plan 2) Create Evaluate Standard for Marine Ecosystem 3) Develop Evaluation Indicator to analyze the effect of policy

3. Policy-Usage (Diversification of Public Marine Ecosystem Information Service)

- 1. Support Policy for Marine ecosystem**
Publish scientific data for Policy enforcement and effect analysis
1) Consultative body and establish plan 2) Designate MPA and information support 3) Proactive and manage emergency monitoring team 4) International Cooperation Support
- 2. PR Diversification of Marine Ecosystem**
Global action for marine ecosystem change and analyze effect of Policy
1) Provide regular press briefings 2) Publish Regular Policy report 3) Reinforce PR- Education on Marine ecosystem