PROCEEDINGS OF THE BACK-TO BACK EVENTS on

- 6th GEO BLUE PLANET SYMPOSIUM
- LEARNING EXCHANGE ON GOOD PRACTICES IN IMPLEMENTING BIODIVERSITY-FOCUSED AREA-BASED MANAGEMENT APPROACHES
- 3RD PEMSEA NETWORK OF LEARNING CENTERS (PNLC) GENERAL ASSEMBLY MEETING 2023

31 October – 3 November 2023
Seoul, RO Korea

PEMSEA NETWORK OF LEARNING CENTERS PNLC 2015

Partnerships in Environmental Management for the Seas of East Asia

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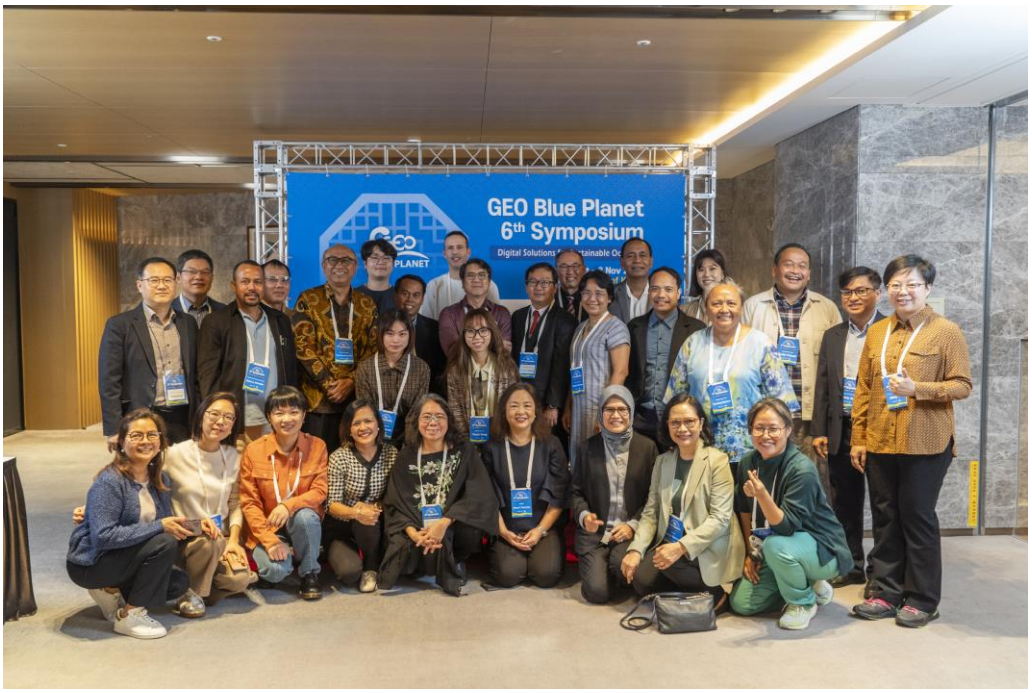

1.0 Introduction

1.1 Three back-to-back activities were conducted in Seoul, Republic of Korea from 31 October to 3 November 2023. The activities were as follows:

- The 6th Geo Blue Planet Symposium on Digital Solution for Sustainable Ocean Community on October 31
- PEMSEA Learning Exchange on Good Practices in Implementing Biodiversity Conservation-Focused Ecosystem and Area-based Management Approaches on November 1
- The 3rd PEMSEA Network of Learning Centers (PNLC) General Assembly Meeting on November 2

1.2 The activities were organized by the PEMSEA Resource Facility (PRF) with support from the Korea Ministry of Ocean and Fisheries, the Korea Maritime Institute (KMI), and the Korea Management Corporation (KOEM) and the Korea Blue Carbon Research Center.

1.3 The activities were participated in by 39 representatives from 17 of the 21 PNLC members, officers and staff from KMI, KOEM, the Korea Blue Carbon Research Center and the PEMSEA Resource Facility (PRF).

1.4 The following supporting documents are annexed to these proceedings:

- Annex 1: Link to the GEO Blue Planet Symposium Program
- Annex 2: Link to the Learning Exchange presentations, outputs and photos
- Annex 3: Link to the PNLC General Assembly documents, presentation and photos
- Annex 4: List of participants

2. The 6th GEO Blue Planet Symposium on "Digital Solution for Sustainable Ocean Community"

2.1 The Republic of Korea, through KMI, hosted the 6th GEO Blue Planet Symposium on "Digital Solution for Sustainable Ocean Community". The symposium introduced GEO Blue Planet to help establish GEO Blue Planet networks in Asia to strengthen data-based marine and coastal management capabilities. It hoped to provide the participants an opportunity to become key members of the GEO BP Asian network by participating in the working groups on topics of interest, including digital MSP.

2.2 The Geo Blue Planet's Asia Regional Secretariat was launched in 2022 and is hosted by the Republic of Korea through KMI. As their core activities, GEO BP operates through seven working groups, including marine litter, coastal change, fisheries, climate adaptation, oil spills and a new working group called digital MSP where each working group will discuss their activities and achievements.

2.3 GEO Blue Planet aims to bridge the gap between ocean and coastal observational data and societal needs to deliver actionable information. They work with various stakeholders to understand their information needs and connect them with available data and products. They develop tools that meet their information needs, and work with them to strengthen their capacity to make informed decisions. They comprise of representatives from a variety of stakeholder groups, including international and regional organizations, NGOs, national institutes, universities and government agencies. Participation in Working Group activities is open and they have regular calls for contributing to our formal governance structure.

2.4 PEMSEA, represented by the PEMSEA Resource Facility (PRF) Executive Director Ms. Aimee Gonzales, is part of the Steering Committee of GEO Blue Planet which is responsible for providing scientific and technical guidance on GEO Blue Planet's activities, suggesting opportunities, identifying partners and, where possible, contributing resources.

2.5 Ms. Gonzales who served as one of the two keynote speakers of the symposium presented the following:

- State of ocean and coasts report of the EAS region to set the scene and familiarize the non-Asian based participants of the symposium to the trends, outlook, opportunities, challenges and lessons in implementing blue economy in the region. The presentation was based on PEMSEA's two-volume report entitled '*Regional State of the Ocean and Coasts in the East Asian Seas region report 2021 Vol 1 Blue Economy: Where are we now? Where are we heading? and Vol 2 'Gearing up for Recovery, Resiliency and Inclusivity: The Blue Economy Way.* The report provides a detailed look into the environmental, economic, and demographic status of the seas of East Asia as well as actions and recommendations to accelerate the implementation of a sustainable, inclusive and resilient blue economy of the countries in the region.
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sustainable, inclusive and resilient blue economy of the countries in the region with impacts and lessons in developing such reports. She emphasized that it is critical to fully understand the value and use of the ocean, and the interactions and different impacts they have with each other. While data availability remains lacking in some areas, models based on what we do know provide some improved understanding. This RSOC 2021 report gives updated information and progress after the release of the initial RSOC 2018 and includes a supplement report on the impacts and opportunities of the global pandemic to transform ocean management and the blue economy.

2.6 Former KMI President Young Tae Chang, Professor Emeritus of Inha University in Korea, also served as keynote speaker. His presentation on 'Dynamic Oceans and the Blue Economy' provided the global outlook, trends, risks and challenges faced by the region on the triple planetary crises and achieving blue economy.

2.7 The first plenary session tackled the "Ocean and Coastal Challenges and Priorities in Asia and Pacific Region". The session was predicated on how the Asian Pacific seas are facing a myriad of issues and pressures, restraining communities' abilities to embrace a sustainable and prosperous future. While observations from satellites can help improve regional awareness, monitoring and forecasting, different regions across the Asia-Pacific have different capacities to uptake these opportunities and realize their potential. Targeted actions and support are needed to connect communities of practice, energize data analysis and use capacity, and unlock satellite data use across the sea basins.

2.8 The session highlighted a number of these targeted action areas. It provided examples where regional efforts to move forward and build awareness and capabilities have been restrained somewhat by regional capacities. A panel discussion and participants explored the constraints, and proposed actions to address them.

2.9 PEMSEA's Regional Centre of Excellence, the University of the Philippines - Marine Science Institute's Director Dr. Laura David served as a panelist for the session on Ocean and Coastal Challenges and Priorities in Asia and Pacific Region and provided the state of mangrove conservation in the region and how key actors in the region are working on blue carbon. She also served as a speaker in the workshop on Data Needs for National Adaptation Planning. Dr. Johnny Ching of the De La Salle University-Dasmarinas, another PNLC member, also served as a presenter during the workshop on Digital Challenges and Activities in the Asia-Pacific Region.

2.10 For more information on the first day of the symposium, please check out 6th GeoBP and photos.

3. The Learning Exchange on Good Practices in Implementing Biodiversity-Focused Area-Based Management Approaches

3.1 The "Learning Exchange on Good Practices in Implementing Biodiversity-Focused Area-based Management Approaches" was jointly organized by PEMSEA Resource Facility in collaboration with the Ministry of Oceans and Fisheries (MOF) of Korea, Korea Maritime Institute (KMI), Korea Marine Environment Management Corporation (KOEM), and the Blue Carbon Research Center, to delve on the direction set by Global Biodiversity Framework (GBF) in utilizing area-based conservation measures and other area-based management approaches and their integration into wider landscapes and seascapes to realize the 30 x 30 target. The specific objectives of the learning exchange were to:

- Share practical experiences in implementing biodiversity-focused area-based management approaches, including gaps and challenges and areas for improvement;

- Share emerging/new developments and directions in mainstreaming various area-based approaches;
- Identify synergies in plans and programs in support of the GBF (and BBNJ) targets;
- Identify opportunities for capacity development and networking as well as transformative actions that would highlight the region's contribution to achieving the relevant GBF (and BBNJ) targets, and
- Share RO Korea's experiences and future plans in establishing a system of MSP and marine and coastal management methods that facilitate the integration of various area-based approaches in RO Korea, including the conservation and management of marine protected areas and current status in implementing the ecological axis management under the Natural Environment Conservation Act of 1991 as part of other effective area-based conservation measures (OECM).

3.2 In the context of the healthy ocean's component and enabling capacity programs of the Sustainable Development Strategy for the Seas of East Asia Implementation Plan 2023-2027, the learning exchange elucidated on the implementation requirements of the Kunming-Montreal GBF in consideration of national circumstances, priorities and capacities in relation to coastal and marine biodiversity management in the EAS region. It highlighted the practical experiences in the region in implementing area-based management approaches such as integrated coastal management (ICM), marine spatial planning (MSP) and other approaches as measures to operationalize the GBF requirements in line with the commitments made by the countries.

3.3 Ms. Nancy Bermas, Regional Program Manager of the PRF, made a presentation on "Implementing the Global Frameworks on Biodiversity Conservation and Delivering on the Sustainable Development Goals: Approaches and Opportunities in East Asia". It provided the framework on the links of ICM, MSP, and other area-based management approaches in securing sustainable development goals and multilateral environmental agreements and targets such as Kunming-Montreal Global on Biodiversity Targets and the Biodiversity Beyond National Jurisdiction (BBNJ), and through the Sustainable Development Strategy for the Seas of East Asia Implementation Plan. She also showed not only the region's responses in delivering on the environmental commitments through existing legal frameworks and plans and programs of countries on ICM and MSP but more specifically how the members of the PEMSEA Network of Learning Centers have and are contributing in the delivery of SDGs and Biodiversity targets. She also provided opportunities for action by the PNLC in not only enhancing their contributions but in making them count such as through monitoring and evaluation, reporting, data and knowledge-sharing, and conducting learning exchanges to link science and policy-making.

3.4 The session that followed had the participants divide into 3 groups based on their presentations: Group 1: ICM and Sustainable Coastal Development Approaches, Group 2: Biodiversity and Habitat Management Approaches, and Group 3: Role of Learning Institutions in Biodiversity Conservation and Management. Each group had 4-5 members presenting about their projects and programs on the specific themes. The groups and the presenters are seen in the table below:

Group 1: ICM and Other Area-based Management Approaches	**Group 2: Approaches in Habitat and Biodiversity Conservation and Management**	**Group 3: Role of Learning Institutions in Biodiversity Conservation and Management**
Presentation 1: ICM Implementation: Case Study of Danang City (University of Danang)	**Presentation 1:** Utilization of Tidal Flats in Catanduanes Island, Philippines (Catanduanes State University	**Presentation 1:** Good practices in Biodiversity Conservation and Coastal Management (De La Salle - Lipa)

Presentation 2: Development of a Pollution Management Plan for Badung River and Adjacent Denpasar Coastal Areas through ICM (Udayana University)	**Presentation 2:** Mangrove-based MPA, is it possible? (Diponegoro University)	**Presentation 2:** Scaling up of ICM in eastern Thailand from Chonburi to other provinces: a role of PEMSEA Network of Learning Center at BUU (Burapha University)
Presentation 3: Systematic Review of Transboundary Conservation Governance of Coastal Habitat in Cambodia - Vietnam Coastal Zone. (Royal University of Phnom Penh)	**Presentation 3:** Biodiversity Management Enhancement and Stakeholders Resiliency Strengthening in Mts. Palay-palay/Mataas na Gulod Protected Landscape (MPMGPL) (De La Salle University- Dasmarinas)	**Presentation 3:** National Marine Spatial Planning Initiative and Capacity Building Need for Thailand (Prince of Songkla University)
Presentation 4: Transboundary Issues related to IUU Fishing and Its Management between Australia, PNG, Indonesia and Timor Leste (Universidade Nasional Timor - Lorosa'e)	**Presentation 4:** Nexus between Climate Change Adaptation and Ocean Biodiversity Conservation (Institute for Global Environmental Strategies)	**Presentation 4:** Recent progress in fisheries management, biodiversity conservation, pollution monitoring, and international collaborative projects led by State Key Laboratory of Marine Pollution (SKLMP)
Presentation 5: Marine Spatial Planning for Transboundary Issues in Bays of Fujian, China: A Hierarchical System (COMI, Xiamen University)		

3.5 Summaries of the presentations in **Group 1: ICM and other Area-based Management Approaches** are as follows:

3.6 **ICM Implementation: Case Study of Danang City, Dr. Hoang Hai, The University of Danang**: The presentation provided an overview of the ICM program in Danang City. The program was implemented in 2000 to protect and manage natural resources, particularly fisheries and coastal tourism. It has improved coordination, resolved conflicts, and strengthened local planning and implementation capacity. The program promotes sustainable development and collaborates with national and international partners on local issues such as climate change. As a result, there have been positive impacts on the economy, including increased tourism investments, city revenue, job opportunities, reduced dependence on coastal resources, and greater environmental awareness.

3.7 **Development of a Pollution Management Plan for Badung River and Adjacent Denpasar Coastal Areas, Dr. Ketut Gede Dharma Putra, Udayana University Bali Indonesia**: The Tukad Badung is a river in Bali that flows through Denpasar City and Badung Regency. It is divided into three parts and its water is stored at the Estuary Dam for water supply. The river is surrounded by 35 villages and its water quality is affected by the population and economic development in the area. The community activities in the watershed include health activities, hotels, markets, agriculture, and more. The water quality of the estuary is critical as it supplies clean water to the south of Bali. The government has developed a management action plan for the river and coordination between the local governments is needed. There are programs in place to reduce pollution and protect the environment, such as the Bali Clean and Green program and beach conservation projects. Regular environmental monitoring is conducted and interventions like wastewater treatment plants and mangrove rehabilitation are implemented. The end result is a remarkably clean river.

3.8 **Transboundary Governance Issues of Coastal Habitat in Cambodia - Vietnam Coastal Zone, Asst. Prof. Hoy Sereivathanak Reasey, Royal University of Phnom Penh**: Cambodia and Vietnam rely on marine fisheries for income and food, but illegal fishing threatens coastal ecosystems and livelihoods. The study reviews transboundary risks and focuses on engagement, integration, and completeness. The research methodologies used include systematic review and qualitative approaches. Three governance indicators are identified for addressing transboundary issues: 1) the average level of *completeness of all formal arrangements* in place; 2) the level of *integration across different arrangements*; and 3) the average level of *engagement for each of the agreements* in place. The Cambodia-Vietnam coastal habitat supports migratory species and is rich in biodiversity. Transboundary issues in the Gulf of Thailand include fisheries, biodiversity loss, and pollution. Factors contributing to the decline in marine fisheries resources are discussed, including illegal fishing, overfishing, habitat destruction, pollution, and climate change. The Gulf of Thailand is at high risk due to low economic development and high pollution. The lack of binding bilateral and multilateral arrangements for transboundary governance increases the risk to coastal ecosystems and endangered species. Recommendations include strengthening transboundary conservation governance through existing multilateral arrangements and establishing a regional coordination body. Integration of multiple levels and stakeholders is essential for effective transboundary conservation governance.

3.9 **Arafura and Timor Seas Region: The Transboundary issues, Mr. Abilio da Fonseca, Universidade Nasional Timor - Lorosa'e**: The Arafura Timor Seas (ATS) region is a vast area bounded by Australia, Indonesia, Papua New Guinea, and Timor Leste. It contains important coastal ecosystems such as coral reefs, seagrass, and mangroves, which provide habitat and ecosystem services that contribute to the livelihoods of people in the region. However, unsustainable fishing and aquaculture practices, including illegal, unreported, and unregulated (IUU) fishing, destructive fishing methods, and non-selective fishing gear, pose significant challenges to the sustainability of the region's marine resources. Limited monitoring capacity and the impact of climate change further exacerbate these challenges. The degradation and loss of marine habitats, including mangroves, seagrass, and coral reefs, also have negative impacts on ecosystem services and human well-being. Environmental degradation leads to declining water quality, fish populations, and biodiversity, affecting livelihoods, tourism, and overall resource sustainability. Marine and land-based pollution, such as plastic waste and improper land use, further contribute to the decline in water quality and the degradation of coastal and marine ecosystems. These environmental impacts have consequences for coastal communities, including increased poverty, food insecurity, and threats to cultural practices. The decline of biodiversity and key marine species is another pressing issue in the ATS region. Unsustainable and destructive fishing practices, as well as the legal and illegal trade of marine species, contribute to the loss of marine biodiversity and critical habitats. This decline in biodiversity affects ecosystem health, reduces fisheries productivity, and impairs various ecosystem services. Coastal communities face increased poverty and economic decline due to lost livelihoods from

decreased fisheries and tourism, while the loss of marine tourism assets affects economies. Climate change also has significant impacts on the ATS region, including rising temperatures, extreme weather events, changes in precipitation patterns, and sea-level rise. These climate-related impacts lead to the loss of habitats, damage to marine life and fisheries, and negative effects on coastal communities. Freshwater resources are also affected, leading to increased riverine flooding and landslides. The economic impacts of climate change include losses in foreign exchange earnings and increased operational costs for fishing. To address these challenges, the Strategic Action Program proposes interventions in five key areas: 1) unsustainable fishing and aquaculture practices, 2) degradation and loss of marine habitats, 3) marine and land-based pollution, 4) decline of biodiversity and species, and 5) response to climate change impacts. The program recommends effective legal frameworks, coordinated efforts, and community-based planning to address these issues. It also highlights the need for stronger enforcement, incentives for improvement, and consideration of ecosystem services. Potential indicators, such as species-specific data and evidence-based metrics, can aid in tracking progress toward sustainable fisheries management. Integrated coordination among littoral countries, joint research, capacity building, and the implementation of international laws and conventions are also important strategies for addressing the challenges in the ATS region.

3.10 **Marine spatial planning in a transboundary context: a case study in bays of Fujian Province, China, Prof. Dr. Qinhua Fang, Coastal and Ocean Management Institute (COMI) / College of the Environment and Ecology (CEE), Xiamen University, China**: Transboundary cooperation is a key concern in maritime/marine spatial planning (MSP) studies. In March 2017, the 2nd International Conference on MSP, adopted a “Joint Roadmap to accelerate Maritime / Marine Spatial Planning processes worldwide”. The report discusses the need for coherent marine spatial plans across borders due to the presence of marine ecosystems and resources that span national boundaries. Existing research focuses on addressing conflicts between different sea uses but lacks methods to quantitatively assess coordination in a transboundary context. The study area includes transboundary bays in Fujian Province, China, and uses Sea Use Intensity Value and Sea Use Conflict Value to analyze sea use intensity and conflicts. One method is Sea Use Intensity Value, which reflects coastal zone development needs to reshape sea area use. This study aims to answer questions about the status of sea use intensity and sea use conflict in each bay, as well as the determining factors of sea use intensity and sea use conflict in the study area. Meizhou Bay had the highest provincial and municipal MSP SUIV, while Xiamen Bay had the lowest. Municipal SUIV exceeds provincial SUIV. The largest SUIV variation from provincial-level MSP to municipal-level MSP was 19.1% in Xiamen Bay and the lowest was 3.8% in Xinghua Bay. Municipal SUCV is higher than provincial SUCV, indicating MSP conflicts at transboundary bays. This study shows that sea use intensity and conflicts can be quantified spatially and temporally, especially in transboundary contexts, to improve planning/management. MSP can effectively address cross-border “integration” of ICM, and it should be considered at various MSP levels.

3.11 Summaries of the presentations of **Group 2: Approaches in Habitat and Biodiversity Management** are as follows:

3.12 **Utilization of Tidal Flat Resources in Catanduanes Island, Philippines, Dr. Kristian Q. Aldea, Associate Professor, Catanduanes State University**: Tidal flats, primarily composed of sandy and muddy sediments, are areas periodically inundated by tides and provide vital ecosystem services. However, many have been lost, and their status, including that of their dependent communities, is poorly understood. These losses are often attributed to land reclamation, soil erosion, rising sea levels, and coastal community developments. Tidal flats are often called "barren," "blank," "unstructured," or "empty" compared to other vegetated ecosystems. Tidal flat organisms face extreme temperatures, ocean tidal currents, and salinity, and many fish and other organisms migrate there during high tide to eat invertebrates and small fish. Others forage at low tide

(seabirds). Many of the tidal flat residents are coastal bioengineers. The complex services of tidal flats include biodiversity, ecotourism, physico-chemical cycles, aquaculture, and socio-economic services. From these services, tidal flat ecosystem services are vital to coastal communities. The benefits of the ocean and land-sea interface draw people to coastal areas, attracting economic activity and creating coastal communities. Coastal communities in the Philippines use tidal flats, suggesting studying socioeconomic activities to gather data for ecological management analysis. The study included descriptive and inferential analyses to explore the status of utilization (socio-economics, catch rates, frequency, and perceptions of its players) of the intertidal flats in Catanduanes Island, Philippines. The study site is Catanduanes Island, which has villages/stations with known adjacent coastal ecosystems used for gleaning and tidal flat fishing. The results suggest that gleaning is prevalent among women, while fishing is biased towards men. Socio-economic attributes of gleaning families may have driven women to glean, as most gleaning women are housewives. The income and catch are not discriminative with age, suggesting the availability and richness of the ecosystem when it comes to providing economic significance for different age groups. Gleaners can generally choose the time and specific areas in the gleaning sites, which may satisfy physical limitations between age and gender. Gleaning and intertidal fishing are traditional activities practiced by coastal communities, and identifying their status for possible conservation strategies is necessary. Other concerns include increasing population, drastic price increase of invertebrates and fish in the last three years, few coastal regulations related to MPA, and limited aquaculture systems and other livelihoods heavily reliant on tidal flats services. To conclude, tidal flats are primarily utilized for food, but they may provide additional income for coastal families. Catch rate and income are non-discriminative at different ages, suggesting economic benefits for all age groups.

3.13 **Mangrove-based MPA: Conservation for Sustainable Fisheries, Dr. Rudhi Pribadi, Dept. Of Marine Sciences Diponegoro University, Tembalang, Semarang, Indonesia**: The presentation discussed the importance of mangroves in Indonesia, highlighting their coverage (3.4 million has) and connectivity. It also mentioned the ecosystem relationships and the significance of mangroves for fisheries, including prawns, lobsters, crabs, and cockles. Marine Protected Areas (MPAs) conserve nature, ecosystem services, and cultural values. Marine habitats, endangered species, and commercially important fishery species' breeding and nursery grounds depend on well-managed MPAs. They build marine biomass and restock fishing grounds, improving global food security and livelihoods. They also protect cultural and natural heritage and provide ecosystem services to coastal populations. Finally, well-designed and managed MPA networks can promote climate change resilience in a rapidly changing marine environment. As of December 2019, Indonesia has 196 Conservation Areas covering 23.1 million hectares, or 7% of its marine water area. These areas safeguard 43% of coral reefs, 37% of seagrass beds, and 25% of mangrove forests. Few of these habitats are protected in non-extractive zones, indicating the need for more marine protection, especially for mangrove ecosystems. The MPA Vision 2030 seeks to protect marine biodiversity and fish resources in 32.5 million hectares of Indonesian MPAs to benefit fishers, coastal, and small island communities. This vision seeks to effectively manage all MPAs by 2024 and expand coverage to 32.5 million hectares by 2030. The role of mangroves in aquatic conservation is underappreciated. Interconnectivity needs better understanding, especially in mangrove-dominated coastal areas. These areas, such as Papua, Kalimantan, and Sumatra, are crucial for the conservation of mangrove biodiversity in Indonesia and globally. The presentation also discussed the Principles of Mangrove-Based MPA for Fisheries Development. Optimization of Conservation Area Design; Seascape and Land Connectivity; Implementing Sustainable Fisheries Strategies, Active Community Role and Recognition of Community-Based Management Rights; Encouraging the Transformation of Mangrove Fisheries Markets; Effective Governance; Monitoring, Evaluation and Learning; and MPA Development.

3.14 **Integrated Park Restoration, Protection and Conservation of Mts. Palay-Palay/Mataas-Na-Gulod Protected Landscape (MPMGPL) Southern Luzon, Philippines, Dr. Johnny Ching, De La Salle University – Dasmariñas**: Mts. Palay-palay /Mataas-na-Gulod Protected Landscape is a protected area in Cavite, Philippines. It was proclaimed as a protected landscape in 2007 and covers a total area of 3,973.13 hectares. The landscape includes three peaks, namely Mt. Pico de Loro, Mt. Palay-palay, and Mt. Mataas-na-Gulod. The project focused on reducing adverse claims and encroachment/land disputes and more importantly on the forest cover quality degradation as these are the underlying causes of biodiversity loss in MPMGPL. In its recent findings, a vast area of the Protected Landscape (PL) has been identified for rehabilitation because of the impact of the threats. Specifically, this project improved and updated the baseline and protected area management plan. Such contribution may lead to (1) enhanced governance structures, plans and programs for effective management of the protected landscape; (2) resiliency thru full and effective participation of key holders at all levels in biodiversity conservation and protected landscape preservation by developing an improved attitude and perception towards protected area conservation and protection; and (3) increase in the number of collaborators that would realize the plans and programs for the PL by enforcing Biodiversity regulations by LGUs and PAMB and strengthening partnership commitment in sustaining initiatives. In addition, the project, in parallel to efficient implementation, incorporate mechanisms to ensure that every activity within the area is properly documented and reported. By large, the project's outcomes and lessons that were generated can be used as guides in formulating and planning forest management strategies for the sustainability of the PL.

3.15 **Nexus between Climate Change Adaptation and Ocean Biodiversity Conservation, Ms. Nagisa Shiiba, Researcher at Adaptation and Water Unit, Institute for Global Environmental Strategies (IGES)**: Ocean and coastal ecosystems are crucial in addressing climate change impacts. Nature-based Solutions (NbS) promotes protection, restoration, and sustainable management of ecosystems. Co-benefits for climate change mitigation and adaptation are essential for coastal cities and communities. Mangroves and other blue carbon ecosystems absorb carbon dioxide from the atmosphere, reducing climate change. Their value extends beyond mitigation to adaptation. These ecosystems can absorb coastal disaster risks, aiding climate adaptation. To fully appreciate these ecosystems' diverse advantages, we must recognize and promote their contribution to climate change resilience. The presentation discussed the promotion of ocean ecosystem-based adaptation, specifically focusing on the J-Blue Credit System in Japan. This system, initiated by the Japan Blue Economy Association and the Japanese government, aims to preserve and restore blue carbon ecosystems. Non-profit organizations (NPOs) and others certify the amount of greenhouse gases (CO_2) absorbed by seaweed beds and tidal flats through conservation activities and issue credits. These credits are then sold to companies and others. The presentation also mentioned the launch of Inspired by Nature-based Actions and Solutions (INAS) in 2021, which aims to share existing practices.

3.16 Summaries of the **Group 3: Role of Learning Institutions in Biodiversity Conservation and Management** presentations are as follows:

3.17 **Good Practices in Biodiversity Conservation and Coastal Management, Dr. Catherine M. Precioso, Biology Department and Science Area, De La Salle Lipa, Batangas, Philippines**: The presentation aimed to share successful approaches in conserving biodiversity and managing coastal areas. It also aimed to highlight the difficulties faced by academic institutions in promoting coastal resource management and identify potential opportunities for these institutions to contribute to coastal management efforts. The Lasallian Institute for the Environment (LIFE) is the community's environmental arm, focusing on projects like One Million Trees and Beyond (OMTB), Coastal Clean Up, Eco-Camp, Watershed management, and Ecological Solid Waste Management. Launched in 2006, the OMTB Project involves the Lasallian Family in sustainable reforestation and greening

efforts, promoting a "learning-by-doing" approach in environmental education. De La Salle Lipa is committed to sustainability and the conservation of our environmental resources. It has an institutionalized research office, research laboratory, faculty members who are experts in their own field of specialization and environmental research studies by faculty and students. Research Topics include Microplastic Studies, Ecological impact studies, Bioremediation studies, Biodiversity studies and Molecular studies. In 2007, collaboration was initiated with the Partnership in Environmental Management for the Seas of East Asia (PEMSEA) and the Provincial Government - Environment and Natural Resources Office (PG-ENRO). Different programs/projects were established from 2007 to 2013, including the Batangas Bay Watershed Rehabilitation Program and Sustainable Development Plan. In 2014, an MOA was signed for the establishment and operationalization of the Integrated Information Management System for Coastal and Marine Environment (IIMS). In 2015, an invitation to join the PEMSEA Network of Learning Center (PNLC) was received from PEMSEA. De La Salle Lipa (DLSL) is an ICM Training Center and an active partner of Conservation International-Philippines in the Coral Triangle Initiative. The Science in Coastal Resource Management Foundation Course was launched in 2011, aiming to provide an overview and appreciation of the different sciences that underpin successful coastal resource management in the Philippines. BRAVO-MPA was launched in 2013 by the provincial government of Batangas in partnership with Conservation International. Perceived challenges include a lack of technical personnel in the Research Laboratory, high turnover rates of faculty and staff, and limited technical knowledge on resource management and GIS application. Perceived opportunities include support from other NGOs and local government, collaboration with other HEIs and private sectors, and attendance/participation in research presentations and publications.

3.18 **Scaling-up of ICM in Eastern Thailand from Chonburi to other Provinces: A Role of PEMSEA Network of Learning Center at Burapha University (BUU), Dr. Wansuk Senanan, Faculty of Science, Burapha University**: BUU signed a 2015 MOU and 2021 Charter. PNLC-BUU leverages the expertise of several BUU academic and research units including Burapha Institute of Marine Science, Department of Aquatic Science, Faculty of Science and Faculty of Marine Technology. It provided technical assistance to the "GEF/UNDP/PEMSEA Project on Scaling Up SDS-SEA Implementation 2015-2019." It collaborated with the Department of Marine and Coastal Resources (DMCR) to implement ICM in four provinces in eastern Thailand. It encouraged local governments in four eastern provinces to take part in the sustainable development of coastal areas. Chonburi is a member of the PNLG. Projects and programs on natural and man-made hazard prevention and management are being implemented in Chonburi, habitat protection restoration and management in both Chonburi and Chantaburi, food security and livelihood management in Trat, and pollution reduction and waste management in both Chonburi and Chantaburi under the ICM Framework for Sustainable Development of Coastal Areas. DMCR Act 2015 Article 12, which was promulgated by the Provincial DMCR Committee shaped the governance structure and institutional mechanism of the ICM program. The ICM program under the SDS-SEA project (2019 to 2022) was implemented at the local, national and regional levels. Provincial plans were developed as two municipalities in the province became demonstration sites. Lessons learned from the projects were shared. ICM Coordinating mechanism worked well across agencies/local governments/communities duringS DS-SEA project. Because the mechanism uses existing regulatory framework, the working group can be easily revised for future ICM projects. Local governments are key to coastal management success. Community networks within the Ministry of Natural Resource and Environment (incl. those registered with DMCR) have been quite active. SOC reporting needs some adjustments because many indicators are already in agency State of the Coast/Environment Reports (DMCR, Pollution Control Dept.) and annual local/provincial development plan reviews. Lastly. the SDS-SEA project addressed important issues in the provinces; it provided a foundation (ICM plans and reporting system) for subsequent efforts.

3.19 **National Marine Spatial Planning Initiative and Capacity Building Need for Thailand, Dr. Sakanan Plathong, Marine Science Learning Center, Faculty of Science, Prince of Songkla University, Thailand**: The National Marine Spatial Planning (MSP) Committee is composed of PEMSEA, COBSEA, National Reform Council and MSP Global: IOC West-Pac + World Bank. The presentation also mentioned the different periods of implementation for the country-owned regional partnership and coordination mechanism for SDS-SEA. The Transitional Period is the stage where a country-owned regional partnership and coordination mechanism for SDS-SEA implementation is developed (with GEF support). The Transformation Period will demonstrate and test the implementation of the regional mechanism and prepare for exit of GEF (with GEF support). The Sustainable Operation Period will fully implement the country-owned regional mechanism for SDS-SEA implementation (without GEF support). The presentation also emphasized the importance of future and capacity building in MSP, as well as the focus on Thailand's coastal zone. The importance of policy, participatory management, and knowledge management in promoting coastal resilience for the Blue Economy was emphasized. The presentation also mentioned the need for an integrated approach between naturalists/scientists and economists/managers to protect natural resources and sustain ecosystem services. Marine and Coastal Spatial Planning was identified as a key strategy to achieve these goals.

3.20 **Fisheries Management, Biodiversity Conservation, Pollution Monitoring, and International Collaborative Projects led by State Key Laboratory of Marine Pollution (SKLMP), Dr. Meng Yan, SKLMP, City University of Hong Kong, Hong Kong SAR, China, PEMSEA-RCOE in Marine Pollution**: The vision of State Key Laboratory of Marine Pollution (SKLMP) is to be a key international research center in advancing marine environmental research that contributes to the protection and management of the marine environment and generates positive societal impact. Its mission is to protect marine environments through research and innovations; build capacity by training environmental scientists, managers, and entrepreneurs in the region; and support the Hong Kong SAR Government and the Chinese Central Government in managing environmental quality and protecting marine ecosystems. SKLMP has been operating since 2010 with funding of USD2.5 million/year. It is inter-university and multi-disciplinary with 70 members, 13 advisors, 281 PhD/MPhil and 87 postdocs. It's three strategic research themes are 1) innovative technology for pollution monitoring and control; 2) eco safety and environmental risk assessment and 3) ecosystem responses and ecological restoration. On 27 July 2022, PEMSEA's Partnership Council officially endorsed SKLMP as a Regional Centre of Excellence (RCOE) in Marine Pollution Research. As a PEMSEA-RCOE, SKLMP automatically becomes a member of the PEMSEA Network of Learning Centers (PNLC). The presentation also discussed the Training Session on Pollution Assessment and Management, Research Highlights, Global Estuaries Monitoring (GEM) Program, Academic Exchanges Cooperation and Education Activities including the IOC-Regional Training and Research Centre on Coastal Contaminant Monitoring and Marine Innovative Technologies (RTRC Coastal COMMIT) and the 10th International Conference on Marine Pollution and Ecotoxicology.

3.21 After the presentations, the groups had facilitated discussions to identify key elements and takeaways, issues/needs and challenges, opportunities and proposed programs or activities where the PNLC may take part in to advance the specific theme. Results of the discussions will feed into discussions on plans and programs of the network. Results of the group discussions may be found in the table below:

3.22 **Important Elements and Key Strategies, Lessons and Key Takeaways**

Group 1: ICM and Other Area-based Management Approaches	Group 2: Approaches in Habitat and Biodiversity Conservation and Management	Group 3: Role of Learning Institutions in Biodiversity Conservation and Management
• Good cooperation between governments: central, local governments and academic institutions, • Identify priorities to take action • Implementation of management programs addressing priorities (eg. in pollution reduction, climate change, biodiversity) • Stakeholder participation • Funding • Capacity-building for communities • Strengthening and implementation of existing laws and policies • At the operational level, need for collective action between national and local levels • Science and evidence-based planning and policy-making • Transboundary cooperation • Secure commitment to work together between countries; strengthen cooperation	• Involvement of the local community; implementation should be participatory approach considering socio-economic profile • Have baseline information • Capacity building for the trainers, assessors, carbon trader, and various stakeholders • Better communication between holders of knowledge and the public • Implementor should be a collaboration between expertise	• The support of the institution is important, but it needs alignment with national/local needs • Partnerships at all levels are important

between littoral countries		

3.23 **Issues and Needs/ Gaps/ Challenges/Areas for Improvement/ Emerging Developments and Demands?**

Group 1: ICM and Other Area-based Management Approaches	Group 2: Approaches in Habitat and Biodiversity Conservation and Management	Group 3: Role of Learning Institutions in Biodiversity Conservation and Management
• Funding / Financing mechanism / getting funds from multiple sources (eg. PPP); developing partner engagement for financing (GCF, GEF, etc.) • Capacity-building and Training • Commitment and trust • Sustainability of efforts/mainstreaming/institutionalization • Needs for international cooperation • Development of proposals/requirements	• Funding for the management, trainings, manpower • Lack of standard methodologies on assessment monitoring and evaluation to measure effectivity; classification based on usage	• Continuous capacity building (technical + funding + online/onsite or hybrid) • Baseline assessment • Vulnerability assessment • Long-term monitoring (at different locations and levels) • Data sharing • Economic valuation • Fine tuning SOC to fit local needs • Scaling up the implementation of one site to more • Information dissemination to local communities • Long-term monitoring (standardized approach)

3.24 **Opportunities for capacity development, research, networking, transformative actions that would highlight the region's contributions to achieving the relevant GBF and BBNJ targets? What can a network like ours build on?**

Group 1: ICM and Other Area-based Management Approaches	Group 2: Approaches in Habitat and Biodiversity Conservation and Management	Group 3: Role of Learning Institutions in Biodiversity Conservation and Management

• Learning exchanges • Sharing of success stories (eg. north-south cooperation) • Joint research • Documenting, communicating (for replication) • Communicating good practices for replication • Data-sharing/access to information (platforms for sharing?) • Organize regional activities • Get involved in: UN Decades of Ocean Science: projects, programs, action, MSP Global 2.0 (MSP Roadmap to 2030); GBF 30 by 30 targets • Participate in SDS-SEA Reporting	• Common platform – • Success stories of each organization or institution should be used as a benchmark/ inspiration for others to follow • Disaster risk management platform between the different countries i- incorporate ocean perspectives • Come up with a policy paper relevant to biodiversity and habitat conservation	• SKLMP, visiting scholars from 1 month to 6 months (full funding) (Some collaborative projects, e.g., Global Estuarine Monitoring) • Luce Foundation – early career profession – EIA/ICM (full funding) • PRF-IPB courses for tropical ICM/MSP/Blue carbon courses (partial funding) • Potential annual member fees

3.25 **In what way or what role can the PNLC take on to address/advance the theme? What can we do to address the theme/issue? What programs, services, activities do you propose?**

Group 1: ICM and Other Area-based Management Approaches	**Group 2: Approaches in Habitat and Biodiversity Conservation and Management**	**Group 3: Role of Learning Institutions in Biodiversity Conservation and Management**

• Joint programs on specific issues: training, projects, programs on climate change, MSP, transboundary issues (marine litter, IUU fisheries) • To engage early career researchers/young professionals (eg. ECOP Asia) • Training next generation of ICM practitioners/ stewards/managers • Joint PNLG-PNLC activities	• Attract more partners/ collaborators • Come up with collective and comparative studies • Advocate specific priorities / actions for the policy maker • Policy paper • Collaborate with other PNLC members • Strengthening of the national mangrove / blue carbon ecosystem; working with the government and the scientists and stakeholders	• Integration of knowledge: Integrating coastal management + marine spatial planning • Programs from members and partners: visiting scholars collaborative projects, early career professions, courses

3.26 The afternoon sessions of the learning exchange focused on Ecosystem Management and Blue Carbon Initiatives.

3.27 The presentations shared by KMI and KOEM were on RO Korea's experiences and future plans in establishing a system of MSP and marine and coastal management methods that facilitate the integration of various area-based approaches in RO Korea, including the conservation and management of marine protected areas and current status in implementing the ecological axis management under the Natural Environment Conservation Act of 1991 as part of other effective area-based conservation measures (OECM). Summaries of the presentations are as follows:

3.28 **Designation and Management of MPAs, Dr. Suh Woo Rak, Korea Marine Environment Management Corporation (KOEM)**: The presentation provided an overview on the designation status of MPAs, current status of MPA management and examples of MPA Management. On the overview and designation status of MPAs, a definition of the MPA was provided, as well as the criteria for designating MPAs based on the Conservation and Management of the Marine Ecosystem Act Article 25 and the Wetlands Conservation Act Article 8. The process of MPA designation entailed three phases: Pre-Preparation, Designation Preparation and Designation. Pre-preparation entailed recommending MPA candidates and investigating target areas. Designation Preparation entailed drafting and establishing a plan for designation, holding a briefing for residents, and discussing with relevant agencies. Designation entailed announcing MPA designation and publishing official gazette and on website. On July 20, 2021, the MOF designated MaebEnz-ri Tidal Fat in the Yellow Sea as a Wetland Protected Area. It took three years to convince the locals. With regard to the current status of MPA management, permissions and restrictions related to MPAs and the administrative system for MPA management were discussed in detail. The operation system for MPA management entailed local management committee formation and management involving public officials/managers, residents/ fishing villages, Civil Society/NGOs, academia and industry/ businesses. Management projects for MPAs revolved around four areas: 1) Research Investigation Projects, 2) Education/PR Projects; 3) Conservation/Management Projects and 4) Profitable/ Resident Project. The Suncheon Bay Eco Park was featured as a wetland protected area management example, while the Oryukdo Skywalk was featured as an MPA management example.

3.29 **Korean Marine Ecological Networks functioning as Other Effective Area-based Conservation Measures (OECM), Dr. Cho Soo-Yeon of the Marine Ecosystem Management Department, Korea Marine Environment Management Corporation (KOEM)**: The presentation discussed the 1) Background of Marine Ecological Networks; 2) Marine Ecological Network ROK; 3) Scientific Basis of Korean Marine EN; 4) Designation of Korean Marine EN; 5) Consideration of function as OECM; 6) Management Plan of Korean Marine EN; and 7) Lessons Learned. The Kunming Montreal Global Biodiversity Framework's four overarching goals was discussed. IUCN-WCPA best practice Protected Area Guidelines aims to maintain or restore the ecological connectivity by specifically designing/ implementing/managing ecological networks for conservation. A review of the 2nd Marine Ecosystem Conservation and Management Plan (2019-2028) was undertaken as well. The policy establishment for ecological networks in ROK was discussed, which tackled the formulation of ecological networks, the reorganization of law related to marine EN and the establishment of Korean Marine and Management Plan. In addition, the definition and necessity of Marine Ecological Networks were also explained. The National Marine Ecosystem Monitoring Program was explained. The enabling legislation is the Act on Conservation and Management of Marine Ecosystem Article 10 (National Marine Ecosystem Monitoring Program, etc.). Securing scientifically reliable data and analyzing and diagnosing accumulated time-series data can inform policy establishment and implementation of Marine Ecosystem Conservation and Management. Five Korean Marine Ecological Networks have been designated including the 1) West Sea Tidal Flat Conservation Network, 2) South Sea- Islands Ecosystem Conservation Network, 3) East Sea - Eastern Coast Conservation Network; 4) Migratory Protected Marine Organisms Conservation Network, and 5) climate change observation Network. Lessons Learned include 1) M-EN should be composed of Networks for ecosystem conservation (MPAs, OECMs etc.) with ecological corridors; 2) Integrated consideration of clear geographical spatial planning on ecological corridors should be promoted; 3) Connectivity diagnosis system of M-EN have to be established to confirm the continuity of ecosystem structure and function; 4) Scientific monitoring should be provided to estimate a current status and connectivity of each 5 M-EN; 5) Consideration for connecting and construction of management system with any other field to implement marine ecosystem conservation policies.

3.30 Presentations on Blue Carbon status, contributions to research, capacity development and its potentials were provided by Prof. Khim Jong Seong of the Seoul National University, Dr. Kim Young Nam from KOEM, Prof. Dr. Yonvitner of IPB University, Dr. Guanqiong Ye of Zhejiang University and Dr. Laura David of the University of the Philippines-Marine Science Institute. Summaries of the presentations follow:

3.31 **Blue Carbon Research and Contribution to Policy in Korea Prof. Jong Seong Khim, Ph. D., FKAMS, Professor of Marine Biology, Laboratory of Marine Benthic Ecology, School of Earth and Environmental Sciences, Seoul National University**: The presentation gave a background on the age of climate crisis. The main point was that science has proven climate change. The IPCC Assessment Report (AR) provided a scientific basis for the understanding of climate change while the IPCC AR6 (2022) found out that "Global warming will hit 1.5℃ by 2040 from pre-industrial times". The presentation also touched on the significance of the ocean in responding to climate change. A study looked at "tidal flats" as an Emerging Blue Carbon source. Getbol, Korea's Tidal Flats, was designated a UNESCO World Heritage Site in 2021. The presentation also highlighted Blue Carbon Science in a Global Climate Change, noting that blue carbon as a natural climate solution is becoming more widely recognized around the world, and that the Korean government has strongly supported blue carbon science since 2017. Based on blue carbon technology, carbon stock is equal to the sum of carbon absorption and carbon sequestration. Phase I of the Blue Carbon Project was implemented from 2017 to 2021 with a funding of USD 8 million. During this period, the Development of Blue Carbon Management Research Planning was undertaken in 2016. Phase II of the Blue Carbon Project (2022 to 2026) entitled "*Development of Living Shoreline Technology Based on Blue Carbon Science Toward Climate Change Adaptation*" has a funding of USD 40 million. The

project aims to support net-zero by 2050 through 1) Enhancement & Excavation of blue carbon, and 2) Construction & management of living shoreline technology. Its research objectives aim to develop techniques on enhancement of “blue carbon resources” and apply in situ along the coasts of Korea using the “living shoreline techniques” towards “carbon neutrality”. It involves 29 institutions with the Seol National University as the Blue Carbon Research Center. The Criteria for Inclusion as Actionable Blue Carbon Ecosystems were discussed. These include 1) Large scale of GHG removals/emissions; 2) Long-term storage of fixed CO2; 3) Practical management to reduce emission; 4) Included in IPCC GHG accounting guidelines; and 5) alignment with other policies.

3.32 **Blue Carbon Capacity-building at Local Level by Dr. Young Nam Kim, Korea Marine Environment Management Corporation (KOEM):** The presentation discussed carbon neutrality and its importance in achieving climate mitigation goals. It explained that carbon emissions and absorption are influenced by human activities and land use. Carbon neutrality aims to balance these emissions and absorption to limit global temperature increase. Achieving the 1.5-degree climate mitigation goal requires zero or negative carbon emissions by 2050. The presentation also mentioned natural and technology-based absorption methods, with a focus on expanding natural absorption measures in recent years. The presentation also explained that blue carbon is an organic carbon captured and stored by marine and coastal ecosystems. Further it showed several methods for greenhouse gas reduction utilizing natural CO2 remediation processes and the marine ecosystem. It also discussed Nationally Determined Contribution (NDC) and carbon neutrality scenarios and showed tables containing information on Carbon Sinks in the 2030 NDC Enhancement Proposal and provided information on Blue Carbon in 2050 Carbon Neutrality Scenarios of Maritime and Fisheries Sector. The Blue Carbon Strategy of the Ministry of Oceans and Fisheries (May 31, 2023) underscored the plan to increase participation in blue carbon creation through private, regional, and international cooperation. Tasks related to strengthening response to climate disasters through the "Breathing Ocean New Deal," linking with corporate ESG management, and establishing a foundation for participation of fishermen and local governments were also highlighted. The Technology Development for Blue Carbon-Based Climate-Adaptive Coastal Infrastructure (2022-2026) aims to discover and enhance new, national, blue carbon sequestration sources and development of calculation methods as well as develop and demonstrate coastal infrastructure for carbon sequestration risk mitigation technologies. Expected outcomes include Tidal Flat Blue Carbon Map, Agendas at International Conference (IPCC, etc.) and Climate-Adaptive Coastal Infrastructure Technology. The presentation also discussed Blue Carbon Awareness Survey, which was meant to assess understanding of blue carbon policies and derive considerations for project implementation. The target respondents were the local government officials in charge of programs related to blue carbon. Among other findings, the general survey results concluded that: “positive responses regarding level of carbon neutrality response of governments is about 29.6%” and “Need for local government ordinances: 61%”. The presentation also covered the current state of carbon neutrality policies and blue carbon-related projects in metropolitan cities and provinces' marine and fishery sectors. Furthermore, it discussed the current status of Blue Carbon in Yeosu, including the National Greenhouse Gas Inventory, nationwide changes in blue carbon, and blue carbon change in Yeosu City. There were also efforts to expand Marine Protected Areas and UNESCO World Heritage Sites in Yeosu. Since South Korea's tidal flats were included on the UNESCO World Heritage List on July 31, 2021, Yeosu has been working had to have its sites improved as part of a second-phase nomination. Considerations for Strengthening Local Blue Carbon Capacity include the 1) Development of a Central Government Support Strategy for Local Government-led Blue Carbon Projects, 2) Establishment of a Communication System between Central and Local Government Officials Responsible for Blue Carbon Policy, 3) Development of Expertise and Work Force necessary to Activate Region Oriented Blue Carbon Link Projects, 4) Encouragement of Private Sector Investment and Corporate Participation In the Blue Carbon Sector, and 5) Strengthening of Education, PR, and Communication Activities to Improve Awareness among Local Residents.

3.33 **Contribution on Climate Adaptation Through Blue Carbon Research and Training in Indonesia, Prof. Dr. Yonvitner of the Center for Coastal and Marine Resources Studies IPB University, PEMSEA Network Learning Center**: Adaptation and mitigation are complementary strategies to reduce and manage climate change risks. Adaptation is the process of strengthening and building strategies to anticipate the impacts of climate change and implement them so as to reduce negative impacts and take positive benefits (Adjusting Changes). Mitigation pertains to countermeasures to prevent climate change through activities that can reduce emissions/increase the absorption of greenhouse gases from various emission sources/sinks (Prevent). The presentation focused on the importance of measuring carbon in mangroves. This is necessary due to the significance of mangroves, the need to monitor their status and trends, and the surveys conducted to describe their composition, structure, and ecosystem. The presentation also stated that Nature-based Solutions integrate efforts to protect, manage, and restore ecosystems to address social issues and improve human life and biodiversity. Blue Carbon Approach in Indonesia is based on the IPCC Guideline and the Indonesian National Standard (SNI) 7724/2019 or Other Approved Methodology. A timeline for the Blue Carbon Indonesia (BCI) Roadmap for NDC Achievement was shown which covered the period 2022 to 2030. The presentation also explained the methodology for Carbon Stock Measurements in Indonesia. The Blue Carbon Capacity Building Program will provide knowledge, skill and capacity in understanding the Global Climate Change Impact, Management Policy (as well local context), the scope of the Blue Carbon Ecosystem and equip methodology and technical skills in conducting assessment, carbon calculation, design and action plan, reporting and verification of emission reduction programs for all parties. It will also provide an understanding of Blue Carbon and equip methodology and technical skills in conducting assessment, carbon calculation, reporting and verification of emission reductions for parties who are concerned with blue carbon ecosystems, especially Mangrove and Seagrasses. The course curricula for Blue Carbon Accounting Training for Policy Maker, Professional & Academician, Policy Maker, Private, Professional / Proponent, and Professional/Academician were shown. These courses follow the Measurement, *Reporting and Mitigation Plan* and *Verification and Validation* (MRV) process flow.

3.34 **Global Blue Carbon Development and its Potential Benefits through International Cooperation, Dr. Guanqiong Ye, Ocean College, Zhejiang University**: The presentation discussed a report from 2009 entitled Blue Carbon which highlighted the important role of the ocean in binding carbon. A rapid response assessment defined the concept of Blue Carbon and recognized the critical role of the ocean in global climate change and carbon cycle. Globally, blue carbon is evolving in all aspects of scientific research, policy, and management. Blue carbon ecosystems have received increased attention as nature-based solutions to climate change mitigation. Blue carbon is the carbon storage in vegetated coastal ecosystems such as mangroves, salt marshes, and seagrass. Green carbon is fixed and stored by vegetation in terrestrial ecosystems. Nature-based solutions are meant to achieve emission reductions, provide ecosystem services, etc., through the protection, management and restoration of ecosystems. Typical and most widely studied coastal blue carbon ecosystem are mangrove, salt marsh and sea grass. The current research on blue carbon primarily examines the sinks and storage of carbon in marine ecosystems. Some studies also investigate the socioeconomics and governance aspects of blue carbon, including management strategies to reduce carbon losses and the assessment of blue carbon wealth. However, the overall sustainable development level of blue carbon is still uncertain. In summary and as ways forward the promotion of sustainable development in blue carbon ecosystems can have positive impacts on the social well-being and livelihoods of coastal communities. Protecting and restoring these ecosystems can help communities become more resilient to climate change and align with the United Nations' Sustainable Development Goals (SDGs). This study depicted the global and national spatial and temporal development status of blue carbon. The proposed global cooperation model in this study could provide a feasible way to improve local ocean management and promote blue carbon ecosystem conservation and restoration. Once local-scale data is available, it is critical to extend and adapt the BCDI system to local scales, allowing local government and the community to

implement more efficient socioeconomic interventions. Ecosystem services were not considered in the indicators of this study, and future work could include additional ecosystem services, such as storm protection, habitat provision, and pollution uptake, in the indicator system once the national data becomes available. Finally, blue carbon is not the only nature-based solution; there are others (forests, peatlands, and grasslands), and meeting the Paris Agreement goals will necessitate a combination of natural-based solutions and other approaches, including energy structure optimization, the establishment of carbon trading markets, and the expansion of carbon capture and storage.

3.35 **Blue Carbon: Sequestration and Offsetting Potential by Dr. Laura David, Marine Science Institute, University of the Philippines**: Ecosystem services are the benefits people derive from mangroves. These include wood, livelihood, mangrove ecosystem services, climate regulation, coastal protection, water filtration, tourism and fisheries. According to research, NbS could provide around 30% of the cost-effective mitigation needed by 2030 to keep warming below 2 degrees Celsius. Carbon sequestration is the process of removing or capturing CO2 from the atmosphere, which can be accomplished by mangroves and seagrass. Carbon offset are ways to compensate for the production of greenhouse gas emissions. Co-investing with tropical countries in the rehabilitation of mangroves is a win-win situation. Compliance or regulated market dependent on a law, especially those that will be used as reduction of carbon related to the NDC or those that will be sold to other countries as an Internationally Transferred Mitigation Option (ITMO) under Article 6 of the Paris Agreement. This also applies to emissions trading mechanisms similar to the EU and other countries for the past decade. Voluntary carbon market (VCM) which is not regulated by law. This is the nature of most carbon credits now. The portfolio of VERRA is mostly on VCM in about 1600 projects worldwide. VERRA manages the Verified Carbon Standard (VCS), the world's largest voluntary GHG crediting program. The countries trading on VCM have no carbon law (Japan, France, EU etc.) except for Indonesia which has delayed the registrations. We were offered carbon credits by Shell and their Environmental Representative said they have a project in Leyte. The country has no law on carbon credit to cover this project because of the nature of the mechanism. As explained by DFA and CCC in 2021 consultations on the NDC, the Philippines did not include carbon credits as a commitment in the NDC to take advantage of the private sector assistance to grow the forests. Instead, the Philippines is demanding that developed countries focus on downloading technologies and resources they promised to developing countries.

4. PNLC General Assembly Meeting

4.1 Another target of the back-to-back activities was the conduct the 3rd General Assembly (GA) of the PEMSEA Network of Learning Centers (PNLC). The 3rd PNLC GA covered the following agenda: (1) Updates on the PNLC Executive Meeting; (2) the PNLC Sustainability Plan; (3) Opportunities for PNLC member engagement and workplan for 2024; (4) MOA Signing between PEMSEA and the Korea National Ocean Science Museum (KOSM); (5) Signing of the PNLC Charter by 4 Universities; (6) PEMSEA Blue Carbon Program; (7) Seas of East Asia Knowledge Bank; (8) Other Business, which included announcements from network members on events and others.

4.2 **Opening of the meeting and approval of the meeting agenda.** Prof. Dr. Yonvitner, PNLC President, opened the meeting and acknowledged the presence of the participants. He then presented the provisional agenda of the meeting (*PNLC GA DOC01_Agenda*) for review of the group.

Action taken: The agenda was approved as presented.

4.3 **Updates on the PNLC Executive Committee Meeting.** Ms. Isdahartatie presented the updates on

PNLC EC Meeting (*PNLC GA DOC02a_1st PNLC EC Meeting Proceedings*) held in July 2023 in Hanoi, Vietnam. Among the updates were the following:

- The PNLC Secretariat MOA (*PNLC GA DOC02b_MOA and Secretariat Transition Plan 2023*) was signed during the 15th East Asian Seas Partnership Council Meeting in Hanor, Vietnam. Salient provisions of the MOA were presented.
- The Secretariat Transition Plan was reviewed, revised and agreed upon by the PNLC EC members. Salient provisions of the transition plans was presented.
- Amendments to the PNLC document on the Designation of ICM Learning Centers (*PNLC GA DOC02c_Designation of PEMSEA Learning Centers*) to reflect (1) changing ICM Learning Centers to PEMSEA learning centers; (2) changes in PNLC Secretariat and its role in new members' application to the network. Some added annexes in the document include:
  - Annex A: Checklist of Requirements for Learning Center Application
  - Annex B: Summary Review Form for Leaning Center Designation

Action taken: Revisions on document accepted and approved.

4.4 **Presentation of PNLC Sustainability Plan.** Prof. Dr. Yonvitner presented the PNLC Sustainability Plan (*PNLC GA DOC03_Approved PNLC Sustainability Plan*) which showed the PNLC operational resource requirements and current and possible sources. It was divided into (1) Secretariat Operations; (2) PNLC membership engagement activities; and (3) Income-generating activities. Main points of the presentation were:

- For the Secretariat operations, operational requirements include: secretariat and office facilities, manpower, equipment and office supplies, office operational costs. Main sources of funds and resources are from the CCMRS-IPB as PNLC Secretariat. Other potential sources will be explored.
- For PNLC membership engagement activities (eg. EC meetings, General Assemblies, participation in PNLG-PNLC learning events, project engagements, training activities and workshops), sources are mainly from PRF projects and country contributions. Other potential sources to be explored include the possibility of membership fees and the organization of training and capacity development and research activities and programs.
- For income-generating activities, the possibility of PNLC membership fees was discussed. Based on a previously conducted survey with the PNLC members on membership fees, the responses were varied with only 5 willing to pay a 1-time membership fee of up to USD1k, 4 willing to pay annual fees of between USD100-500, 9 replying that they were unable to pay membership fees for various reasons but that they were willing to contribute in other ways. The dominating direction was towards finding other sources and resources. On this point, inputs from the members were solicited:

PNLC Members	Points made on membership fees
COMI, Xiamen University	• Appreciated the effort of PRF and IPB in establishing and operationalizing the PNLC Secretariat. While mobilization of resources in Indonesia (IPB) is necessary, it also needs to be undertaken internationally. • PNLC is a unique network of institutions working in the same field related to coastal and sustainable development. • Contribution of all members is important, need to have more discussion on the membership fee although subject to financial

	regulations of the respective universities. ● Need to identify alternatives. A one-time membership fee can be considered so that there would be no need to handle the fees annually. ● Contribution from the members is not just in cash but also in kind; all members have activities and projects that are relevant to the SDS-SEA; the key is to share information; ● Will keep in mind income-generating activities for the future.
IGES	● Agrees with the sustainability plan; payment of fees, however, can be a sensitive topic since it requires approval from the management of each organization; IGES will consult with the management on the matter.
Udayana University	● Has been in different kind of collaboration among and between universities but sees the PNLC as unique – there is opportunity to twin with local governments. ● Has experience in contributing to the PNLG through the ICM program in Bali, Indonesia. ● Local governments have stricter financial regulations compared to universities, however, there is a need to comply with the financial management of our respective institutions, including communicating to other centers within the university. ● Contribution will not only come from membership fee but also from the joint efforts of PNLC.
RUPP	● Amplified IGES point that financing is a sensitive topic. ● Recognizes the need for a financing mechanism. ● Agrees with Prof. Dr. Fang on income-generating programs. ● The members can contribute in terms of research, providing training, services, support in planning to generate income for the network. ● A one-time fee is not a problem but the membership fee is a small amount to run the organization.
DLSL	● Having membership fees will be of great help since an organization won't work without finances, but need to consult the administration since financial matters would impact the administration. ● Will elaborate on the responsibility of the university and opportunities as a PNLC member when reporting to the management (Contribution to environmental management through engagement in local government programs.) ● We have to contribute but need to clarify amount and frequency.
Burapha University	● Agrees with the membership fee but need to consult with the university. ● There are different ways to pay for the fees. Alternative contribution can be in the form of activities on environmental management which may possibly earn more than USD500. We have to show concrete opportunities for collective effort to show administrators. ● It is easier to host a workshop or get funding for those activities. Some centers do training ● Get commitments for in kind membership fees. ● Develop a draft that identifies options/categories that can be considered as in-kind contribution ● Since the PNLC Secretariat would require funding for its operations, the LCs can discuss the commitment to the network with their respective administrators – but need to have a plan to show the benefits of being part of the network (eg internship, student

	exchange). A plan to show the administrator that a USD500 fee can do much.
SKLMP	● Fully extends support on all suggestions but also needs to consider and get approval from the management and finance administration as membership fees is a new category for finance.
UNITAL	● There are activities on habitat degradation and pollution management, it is a matter of communication to be able to use resources to achieve common objectives.
Diponegoro University	● A possible revenue-generating source is blue carbon certification.
Catanduanes University	● Agrees with one-time payment but need to secure the administration's approval since it involves funds.
Zhejiang University	● Not authorized to make any comments yet as we are just about to sign the charter but fully supports the activities of the PNLC and in the future will comply with the decisions and contribute to the PNLC's priorities as best as we can.
CCMRS IPB University	● Agrees with the membership fee of USD500 /year, like what PNLG does ● In order to support sustainable PNLC Secretariat, develop joint proposals for research collaboration between PNLC members ● Training programs with PNLC Members can be a part of PNLC secretariat activities
Prince of Songkla University, UNTL and Danang University	Abstained from providing inputs or comments.

- Ms. Aimee Gonzales stressed that fees are a small part of PNLC and that support and ownership can be manifested in various ways, such as through learning exchanges, paid internship opportunities that can be availed by members, hosting of PNLC members for academic exchanges and to focus on commitments and plans not entirely on cash. PRF, on the other hand, commits through the PRF-implemented projects (IRBM and Marine Plastics Project) that provide training opportunities. CCMRS-IPB has committed to host the Secretariat with the provision of a PNLC office, including equipment, staffing and office operations budget. Burapha University also still has a PNLC office.

Action taken: The members provided inputs and comments on the sustainability plan.

4.5 **Presentation of Opportunities for PNLC member engagement and workplan for 2024**. Prof. Dr. Qinhua Fang presented the PNLC workplan and budget 2023-24 (*PNLC GA DOC04_PNLC work plan and budget 2023 to 2024*) which included the possible engagements of PNLC members from 2023 onward. His presentation included the following:

- Objectives/components of the work plan: (1) Development and strengthening of PNLC governance mechanisms to manage and coordinate PNLC activities; (2) SDS-SEA Implementation Plan programmatic implementation, training and capacity development; (3) Communication and knowledge management; (4) Partnerships and resource mobilization. Targets and Indicators for each of the above components were also shared.
- Activities under each of the work plan components: the organization and conduct of regular organizational meetings (EC, GA and EAS PC meetings), transitioning of PNLC Secretariat to CCMRS-IPD University, conduct of and participation in learning events (e.g. PNLG-PNLC joint learning event, EAS Congress 2024, participation in national or regional capacity development

program by PRF-implemented projects and other knowledge sharing events by PNLC members and PEMSEA partners), provision of technical assistance to PRF-implemented projects, creation of working committees within the network to develop thematic action programs (e.g. training, proposal development) for the network, among other activities.

- Possible engagements of PNLC members from 2023 onward which mainly consisted of engagements with the current projects implemented by the PRF (the Integrated River Basin Project and the Marine Plastics Project) and the blue carbon initiative of the PRF.
- Budget needed is mainly for personnel, travel and meetings costs, preparation of documents which are currently being covered by the PRF operations budget, country contributions and PRF-implemented project budgets.
- Potential engagements of PNLC members with current projects and programs of the PRF.

Details of the workplan may be found in PNLC GA DOC04_PNLC work plan and budget 2023 to 2024.

Points made during the open discussion following the presentation are the following:

- Dr. Abilio de Fonseca made inquiry on the details of the training and capacity development (capdev) activities, including provision of long-term capdev; it was mentioned that the ODA project on marine plastics will provide training on ICM and marine plastics for Timor Leste.
- As part of the sustained program for the PNLC, the information on training opportunities from the Learning Exchange workshop will be consolidated; the possibility of creating thematic committees within the PNLC that can be tapped or can offer training was raised.
- SKLMP has capacity development programs and activities which mainly focus on pollution assessment and management; the Global Estuaries Monitoring (GEM) Programme under the United Nations Decade of Ocean Science for Sustainable Development (UNDOS) may provide training on marine contaminants and marine plastics.
- IGES started collaborating with PEMSEA on the IRBM project in 6 ASEAN countries; collaboration on climate change adaptation can be further pursued; raised the possibility of linking the existing initiatives or platforms with the Asia-Pacific Climate Change Adaptation Information Platform (AP-PLAT) which offers opportunities and partnerships on CCA and have capdev as a major component; PEMSEA and PNLC can be a member of the platform.
- Prof. Dr. Fang suggested that for the committees, a good way to start is to have virtual meetings for the discussions; newsletters may also be an option for the network. He also shared that PEMSEA has a youth program and stressed the importance to encourage young people to engage.

Action taken: The members provided inputs on the work plan.

4.6 **MOU Signing between PEMSEA and Korea National Ocean Science Museum (KOSM).** A Memorandum of Understanding (MOU) between the PEMSEA Resource Facility and the Korean Ocean Science Museum was signed during the General Assembly. Mr. Seo Jang Woo, President of the Korea National Ocean Science Museum and signed the MOU with Ms. Aimee Gonzales. The main content of the MOU emphasizes the commitment between KOSM and PEMSEA to undertake mutually agreed-upon activities that contribute to sustainable coastal and marine management in the East Asian seas. Specifically, it underscores the emphasis on knowledge sharing and capacity building in marine science and technology, marine conservation management solutions, and adaptation strategies for climate change. Specifically, it underscores the emphasis on knowledge sharing and capacity building in marine science and technology, marine conservation management solutions, and adaptation strategies for climate change.

4.7 **Charter Signing**. Four universities signed the PNLC Charter and increased the number of charter members to 19. Representatives from the Ocean College, Zhejiang University, China, Prince of Songkla University, Thailand, Udayana University and Diponegoro University both in Indonesia gave brief messages after the ceremonial signing session. The PNLC President, Vice-President and the PRF Executive Director witnessed the signing, as members of the PNLC Executive Committee.

4.8 **PEMSEA Blue Carbon Program**. Ms. Gonzales presented key updates and a timetable for the PEMSEA Blue Carbon Program. Highlights of her presentation are as follows:

- Key updates and activities conducted so far: (1) Blue carbon small group meetings conducted and proceedings circulated; (2) received copies of BC methodologies from IPB, UP-MSI, COMI-XU and JBlue and review of methodologies (comparing too with Verra standards) are ongoing; (3) fund raising for 2024 activities started.
- Plans for 2024: (1) create portal and content on supply and demand market of blue carbon; (2) workshop on methodology 'harmonization"; (3) defining PRF's role as blue carbon hub.
- Blue Carbon Program and Roadmap showing the immediate, medium-term and long-term targets for the four streams of the BC program on (1) BC Standardized Accounting Methodology; (2) Supply; (3) Demand; (4) Certification System.

The members were invited to an open discussion after the presentation. Some questions and points made are as follows:

- Dr. Wansuk Senanan inquired on the status of methodology to conduct blue carbon accounting and verification and techniques for different ecosystems. Dr. David responded by saying that the PRF is consolidating and comparing available methodologies against the Verra standards; the results of the comparative assessment including comparison of methods where the samples are taken/method of collection will be shared with the PNLC.
- Dr. Sakanan Plathong cited the training course on methodology on seagrass for carbon credit.
- A common methodology to evaluate carbon credit was re-emphasized; inclusion of the value of other ecosystems services and benefits to the value of carbon credit was also stressed.
- Dr. Guanqiong Ye shared that they conduct ecosystem services accounting; they have conducted local studies using CCB and applied the Vera system as well; one study combined CCB where mudflats were included; currently methodology for mudflats, however, is not yet acceptable (whether as carbon source or carbon sink); requested ROK to share the methodology for mudflats accounting, as well as for macroalgae and shellfish. She suggested for PEMSEA to coordinate the methodology exchange.
- Dr. David suggested that the region must make a decision on premiums – ecosystem services should be put into the equation – protection of what is already there will get premium – vs what we put now which may take decades before it provides the ecosystem service
- Prof. Dr. Yonvitner shared that training can be one potential service for PNLC; he suggested collecting information on the various efforts of the PNLC members on blue carbon including how their efforts are contributing to national commitments (NDCs) and how these are aligned with global and regional targets for sustainable development.

Action taken: PNLC supports the blue carbon program and provided suggestions on actions moving forward.

4.9 **Seas of East Asia Knowledge Bank (SEAKB)**. The beta version of the PNLC site on the SEAKB was presented for suggestions and comments. Main features of the PNLC SEAKB include:

- PNLC landing page which includes general data of the network: objectives, members, officers among others
- Microsites of members which include contact details and focal points, experts,

expertise and skills and links to their websites (need more inputs from members)
- Directory of experts and individual profiles (need inputs from members)
- Search and query functions
- Announcements and events page
- PNLC Forum page

The members were invited to provide suggestions and comments after the presentation. Some questions and points made are as follows:

- Prof. Dr. Yonvitner stressed that inputs from PNLC are needed to update the information on the respective microsites of the members in the SEAKB.
- Prof. Dr. Fang expressed that it may entail huge workload for the Secretariat to update the pages and suggested to identify a focal person per university to be assigned the administrator role.
- Dr. Senanan raised a concern on the discussion forum as some queries may require quick responses; the forum alerts may also flood the members' emails. The use of other platforms such as WhatsApp, Wechat, etc. – that would allow quick communication exchange and feedback immediately; include hashtag for PNLC in Facebook.

Action taken: The members provided inputs on the PNLC SEAKB.

4.10 **Other business.**

- New applicant to PNLC: Mindanao State University, Naawan, Philippines
- Training Opportunity with Burapha University-Luce Foundation/University of Hawaii
- Events: Lombok Workshop in 2024, EAS Congress in November 2024 in Xiamen, China
- Other business and announcements from members:
  - SKLMP
  - UPMSI
  - Zhejiang U
  - Prince of Songkla U
  - Burapha U

4.11 **Proposed next steps and closing.** Prof. Dr. Yonvitner thanked everyone for coming and participating in the PNLC General Assembly. Prof. Dr. Qinhua Fang provided a summary of the discussions and highlighted the following:

- Inputs provided are important to the network's operationalization
- Secretariat with PRF support will prepare the summary report and circulate to the members for comments
- Turn-over of secretariat to IPB will be smooth and IPB will function efficiently
- Communication among the members is necessary thru emails, virtual meetings, information sharing, etc.
- Populating the microsites and preparing the PNLC annual report
- The establishment of thematic working group where people with common interest can have focused discussions
- Events that can be participated in by members
- Thanked the local organizers – KMI, KOEM, Blue Carbon Research Center, PEMSEA and the resource persons and LC representatives for the successful conclusion of the PNLC Learning Exchange and General Assembly.

4.12 The meeting was adjourned at 12 PM (UTC+8).

5. Field Trip

5.1 After the PNLC GA, the participants were treated to a field trip on November 2 to (1) the Blue House: former office and residence of the Korean President; (2) Gyeongbokgung Palace: built in 1395 by the first king of the Joseon Dynasty (3) Bukchon Hanok Village: a 600-year old traditional residential area and (4) Tea Therapy Café: a wellness attraction.

ANNEXES

Annex 1: Daily Schedule and Program

Annex 2: Link to the GEO Blue Planet Symposium Program

Annex 3: Link to the Learning Exchange presentations, outputs and photos

Annex 4: Link to the PNLC General Assembly documents, presentation and photos

Annex 5: List of participants

ANNEX 1: DAILY SCHEDULE AND PROGRAM

DAY 1: OCTOBER 31

Activity: GEO Blue Planet Symposium
Venue: Grand Ballroom, Ambassador Pullman Hotel

We hope you have already registered with the Geo Blue Planet Symposium. If you have not yet registered, you may do so through this link: https://symposium.geoblueplanet.org/registration/

The GEO Blue Planet Symposium will start at 8:00am for registration and the program proper will start at 9:00am. Since the venue of the symposium will be a 15-minute walk from your accommodation, we suggest you leave not later than 8:30 from the Ramada Hotel.

Geo Blue Planet Symposium Program		
Time	**Activity**	**Other details**
8:00-9:00	Registration	
9:00-9:30	**Welcome notes** ● Dr. Sung-Jin Cho, Korea Maritime Institute (KMI), GEO Blue Planet ● Jong-doeg Kim, President, KMI ● Seung-Hwan Cho, Minister of Oceans and Fisheries ● Yana Gevorgyan, GEO Secretariat	
9:50 – 10:00	**Group Photo**	
10:00 – 10:30	**Coffee Break**	
10:30-11:30	**Keynote presentations** ● Dynamic Oceans and the Blue Economy	Young Tae Chang, Professor Emeritus Inha University, Korea
	● An introduction to Ocean and Coastal Observations	
11:30-12:30	**Plenary Session 1:** Ocean and Coastal Challenges and Priorities in Asia and Pacific Region	Session Co-chairs: Aimee T. Gonzales, PEMSEA and Rory Scarrot, University of Cork
12:30 – 14:00	**Lunch**	
14:00-15:30	**Plenary Session 2:** Digital Solutions for Sustainable Oceans	Session Co-chairs: Andiswa Mlisa, The Pacific Community and Dr. Piotr Zabrowski, Open Geospatial Consortium
15:30-14:00	Break	

14:00-17:30	**Plenary Session 3:** Introduction to K-MSP	Session Chair: Dr. Jungho Nam, KMI
18:00-20:00	*Welcome reception*	

DAY 2: NOVEMBER 1

Activity: Learning Exchange on Good Practices in Implementing Biodiversity Conservation-Focused Ecosystem and Area-based Management Approaches

Venues:

09:00 - 13:00 – Jewel Room (2nd floor), Ambassador Pullman Hotel
14:00 - 17:00 – Ballroom (Basement 1), Ramada Seoul Dongdaemun

This learning exchange jointly organized by the Ministry of Oceans and Fisheries, the Korea Maritime Institute (KMI), the Korea Marine Environment Management Corporation (KOEM), the Blue Carbon Research Center and the PEMSEA Resource Facility (PRF), will discuss the implementation of the Kunming-Montreal Global Biodiversity Framework (GBF) in relation to coastal and marine biodiversity management in the East Asia region, highlighting the sharing of experiences and plans of the PNLC member participants and the Republic of Korea. A more detailed program is sent together with this bulletin.

PEMSEA Learning Exchange Program		
Time	**Activity**	**Other details**
9:00-09:15	**Opening Program** ● Opening remarks ● Introductions ● Rationale and Objectives of the Program	**Ms. Aimee Gonzales**, PEMSEA Resource Facility (PRF) **Dr. Nam Jung Ho**, Korea Maritime Institute (KMI)
09:15-10:15	**Session 1: Sustainable Development Strategy for the Seas of East Asia: Roadmap to 2030** **Presentation:** Implementing the Global Frameworks on Biodiversity Conservation and Delivering on the Sustainable Development Goals: Approaches and Opportunities in East Asia	**Ms. Nancy Bermas**, PRF
10:15-10:30	Break	
10:30-11:30	**Session 2: Learning Exchange Sessions** Participants break into thematic groups and present and share models and good practices on their implementation of ecosystem and area-based management frameworks, approaches and tools in addressing biodiversity targets. After presentations, the groups will have guided discussions and come up with a consolidated group output for sharing with the plenary.	PNLC Members
	Group 1: ICM and Sustainable Coastal Development Approaches **Presentation 1:** ICM Implementation: Case Study of Danang City **Presentation 2:** Development of a Pollution	**Dr. Hoang Hai**, Danang University **Dr. Ketut Gede Dharma**

	Management Plan for Badung River and Adjacent Denpasar Coastal Areas through ICM **Presentation 3:** Systematic Review of Transboundary Conservation Governance of Coastal Habitat in Cambodia - Vietnam Coastal Zone. **Presentation 4:** Transboundary Issues related to IUU Fishing and Its Management between Australia, PNG, Indonesia and Timor Leste **Presentation 5:** Marine spatial planning for transboundary issues in bays of Fujian, China: A hierarchical system	**Putra**, Udayana University **Mr. Hoy Reasey**, Royal University of Phnom Penh **Mr. Abilio da Fonseca**, Universidade Larosae Timor Leste **Dr. Qinhua Fang**, COMI-Xiamen University
	Group 2: Biodiversity and Habitat Management Approaches **Presentation 1:** Utilization of Tidal Flat Resources in Catanduanes Island, Philippines **Presentation 2:** Mangrove-based MPA, is it possible? **Presentation 3:** Empowering People's Organizations for Mangrove Rehabilitation **Presentation 4:** Biodiversity Management Enhancement and Stakeholders Resiliency Strengthening in Mts. Palay-palay/Mataas na Gulod Protected Landscape (MPMGPL) **Presentation 5:** Quo vadis TINMR? Revisiting and benchmarking the conservation goals, targets and performance of Taklong Island National Marine Reserve (TINMR), Guimaras, Philippines with outstanding Marine Protected Areas in the Philippines **Presentation 6:** Nexus between Climate Change Adaptation and Ocean Biodiversity Conservation	**Dr. Kristian Aldea**, Catanduanes State University **Dr. Rudhi Pribadi**, UNDIP **Dr. Astrid Sinco**, Xavier University **Dr. Edwin Linesis**, De La Salle University-Dasmarinas **Dr. Frances Nievales**, University of the Philippines-Visayas **Ms. Nagisa Shiiba**, Institute of Global Environmental Strategies (IGES)
	Group 3: Role of Learning Institutions in Biodiversity Conservation and Management **Presentation 1:** Good practices in Biodiversity Conservation and Coastal Management **Presentation 2:** Experiences and Insights from Bio-physical and Socio-economic Characterization and Formulation of Integrated Watershed Management Plans in various River Watersheds in Cavite, Philippines from 2015-	**Ms. Catherine Precioso**, De La Salle-Lipa **Dr. Noel Sedigo**, Cavite State University

	2021 **Presentation 3:** National Marine Spatial Planning Initiative and Capacity Building Need for Thailand **Presentation 4:** Scaling up of ICM in eastern Thailand from Chonburi to other provinces: a role of PEMSEA Network of Learning Center at BUU (BUU) **Presentation 5:** Recent progress in fisheries management, biodiversity conservation, pollution monitoring, and international collaborative projects led by State Key Laboratory of Marine Pollution	**Dr. Sakanan Plathong**, Prince of Songkla University **Dr. Wansuk Senanan**, Burapha University **Dr. Meng Yan**, State Key Laboratory on Marine Pollution-City University of Hong Kong (SKLMP)
11:30 – 12:30	**Group Presentations** Group 1: ICM and Sustainable Coastal Development Group 2: Biodiversity and Habitat Management Group 3: Role of Learning Institutions	
12:30-14:00	Lunch (Pullman Hotel)	
14:00-17:00	**Session 3: Ecosystem Management and Blue Carbon Initiatives** o Conservation and management of marine protected areas o Korean Marine Ecological Networks Functioning as Other Effective Area-based Conservation Measures (OECM) o Blue carbon research and contribution to policy in Korea o Blue carbon capacity development in Korea o Blue carbon Initiatives from PNLC members: ● Contribution on Climate Adaptation through Blue Carbon Research and Training in Indonesia (IPB) ● Global Blue Carbon Development and its Potential Benefits through International Cooperation ● Blue Carbon: Sequestration and Offsetting Potential	**Dr. Suh Woo Rak,** Korea Marine Environment Management Corporation **Dr. Cho Soo-Yeon,** Korea Marine Environment Management Corporation **Prof. Khim Jong Seong,** Seoul National University **Dr. Kim Young Nam,** Korea Marine Environment Management Cor. **Dr. Yonvitner**, Bogor University **Dr. Guanqiong Ye**, Zhejiang University **Dr. Laura David**, University of the

		Philippines, Marine Science Institute
17:00	**Closing**	

DAY 3: NOVEMBER 2

Activity: 3rd PNLC General Assembly and Field Trip
Venue: Ballroom (Basement 1), Ramada Seoul Dongdaemun

The 3rd PNLC General Assembly (GA) will be a half-day event followed by a field trip in the afternoon. To optimize the time for the GA, we would like to request all members to review all documents to be discussed and to prepare your inputs, comments and notes for sharing and discussion. The agenda as well as the relevant documents are sent together with this information bulletin.

PEMSEA Network of Learning Centers (PNLC) General Assembly Program		
Time	**Activity**	**Other details**
8:30 – 8:40	**Agenda 1.0:** Opening of the meeting and approval of the meeting agenda	**Prof. Dr. Yonvitner** PNLC President
8:40 – 9:00	**Agenda 2.0:** Updates on the PNLC Executive Committee Meeting	PNLC Secretariat
9:00 – 9:30	**Agenda 3.0:** Presentation of the PNLC Sustainability Plan	**Prof. Dr. Yonvitner** PNLC President
9:30 – 10:00	**Agenda 4.0:** Presentation of Opportunities for PNLC member engagement and workplan for 2024	**Prof. Dr. Qinhua Fang**, PNLC Vice-President
10:00 – 10:15	**Tea Break**	
10:15 – 10:35	**Agenda 5.0:** MOA Signing between PEMSEA and Korea Ocean and Science Museum (KOSM)	**Ms. Shinji Kim**, Head of Partnerships Program, PRF
10:35 – 11:00	**Agenda 6.0:** Signing of the PNLC Charter	PNLC EC and members
11:00 – 11:30	**Agenda 7.0:** PEMSEA Blue Carbon Program	**Aimee Gonzales** Executive Director, PRF
11:30 – 11:50	**Agenda 8.0:** Seas of East Asia Knowledge Bank (SEAKB)	PNLC Secretariat
11:50 – 12:15	**Agenda 9.0:** Other Business o Emerging issues o Member announcements	**Prof. Dr. Yonvitner**, PNLC President
12:15 – 12:30	**Agenda 10.0:** Next steps and Closing	**Prof. Dr. Qinhua Fang**, PNLC Vice-President
12:30 – 13:00	Lunch at the Ramada Hotel	
13:00 – 17:00	**Field Trip** ● Gyeongbokgung Palace (Gyeongbokgung Palace, the Main Palace of the Joseon Dynasty (royalpalace.go.kr)	**Korea Tourism Organization**

	• Cheongwadae, the Blue House, the Korean presidential residence (Cheong Wa Dae: Back to the people (opencheongwadae.kr) • Tea therapy (wellness tour destination) (Tea Therapy | Cafe - Clinic - School)	

ANNEX 2: LINK TO THE GEO BLUE PLANET SYMPOSIUM MATERIAL

Link to the GEO Blue Planet Symposium Material may be accessed through this link:
https://drive.google.com/file/d/1__tlFoXR05q1qKFPlzEFANybjpbxqPeH/view?usp=drive_link

ANNEX 3: LINK TO THE LEARNING EXCHANGE PRESENTATIONS, OUTPUTS AND PHOTOS

Links to the Learning Exchange documents, presentation and photos may be accessed through this link:
https://drive.google.com/drive/folders/1m6t9c-pwyBLbR8DIZXkdatxiQzqR2B3c

ANNEX 4: LINK TO THE PNLC GENERAL ASSEMBLY DOCUMENTS, PRESENTATION AND PHOTOS

Links to the PNLC GA documents, presentation and photos may be accessed through this link:
https://drive.google.com/drive/folders/1YXDesPHxhjE_3bD5Ozeia_LkwockOXGl

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