LATIN AMERICA LARGE-SCALE MARINE PROTECTED AREA ENFORCEMENT PEER LEARNING EXCHANGE

Only 8.3% of the world's oceans are under some form of protection and, of those protected areas, only 2.8% have been assessed as effective and likely to deliver intended protections. To effectively manage our oceans, we not only need more protected areas, but we must also invest in the quality of their management. To achieve their ecological, socio-economic, and cultural objectives, marine protected areas (MPAs) must have good governance, be well-designed and well-planned, address threats, and be actively and equitably managed. Ensuring compliance with boundaries, rules, and other regulations is crucial to effective management and the ongoing success of an MPA. With technical and financial support from WildAid and the Blue Nature Alliance, the Latin American Region has made significant progress in strengthening, resourcing and activating national enforcement systems, including through peer to peer exchange and broader capacity development efforts.

In March 2025, 22 marine managers and enforcement practitioners from nine Latin American nations gathered in San Andrés, Colombia, for a Learning Exchange focused on enhancing Monitoring, Control, Surveillance, and Enforcement (MCS&E) in large-scale marine protected areas (LSMPAs). Inspired by the Corporación para el Desarrollo Sostenible del Archipiélago de San Andrés, Providencia y Santa Catalina (CORALINA), the group's hosts in San Andrés, Colombia, this exchange provided a space where marine managers and monitoring and compliance practitioners from several countries across Latin America could gather to exchange marine monitoring and compliance knowledge, experiences, and opportunities.

Peer Learning Exchange participants

Designed and supported by Blue Nature Alliance, WildAid, and Cambio Democratico, the exchange aimed to:

- Experientially foster collaboration between marine managers and enforcement practitioners to share and develop enforcement protocols.
- Draw lessons from countries' experiences at various stages of enforcement program maturity.
- Highlight and promote technology sharing and localized solutions for enhancing MPA compliance, featuring regional experience from the Eastern Tropical Pacific Marine Corridor (CMAR), Global Fishing Watch (GFW), Skylight, Joint Analytical Cell (JAC), and MarViva.
- Guide the co-creation of actionable steps to enhance participants' national enforcement systems.

To enable learning across the region, each country team presented their current MCS&E Strategy, including geographic context, scope, limitations, and accomplishments, and then identified similarities and differences between and across the nine countries.

PREPARATION

To ensure that all participants had a basic understanding of key enforcement principles and practices, invitees reviewed the Reef Resilience Network's new MPA Enforcement Toolkit. Developed in partnership with WildAid and the Blue Nature Alliance, the toolkit compiles leading strategies, expert advice, and success stories from marine managers to provide foundational knowledge on Marine Conservation and Sustainable Fisheries and Ecosystems (MCS&E) systems. The toolkit summarizes the four main components of MCS&E and explains how each relates to—and relies on—the other. It also provides an overview of tools and strategies for MPAs in various contexts and locations, as well as a scoping exercise for managers and teams to use when planning their MCS&E systems.

INSTITUTIONAL COORDINATION

Participants explored how to advance institutional coordination by sharing national and regional lessons learned:

Institutional Coordination and Lessons Learned in the Galapagos, Ecuador, moderated by ***Ximena Moreno Gutiérrez, WildAid*** – An inspiring panel featuring Pablo Cueva Calva and Josue Martínez of Galapagos National Park. They discussed the challenges of managing an MPA where communities reside within park boundaries. They highlighted the importance of building strong relationships with the fishing community and integrating resource co-management to ensure long-term conservation success. Additionally, they emphasized the benefits of having a centralized control center, which enhances communication, institutionalizes digital platforms and tools, and facilitates interagency coordination necessary for effective prosecution. They also noted the critical role of the tourism industry in supporting monitoring and enforcement efforts by funding and providing equipment, including dedicated marine surveillance fleets.

Bahamas Marine Action Partnership (MAP), *Gregg Casad, WildAid* – Aligned with WildAid's Blueprint for Marine Protection Systems (MPS), Gregg shared a collaborative approach to improving sustainable fishing in The Bahamas. Starting in 2018, Bahamian government agencies partnered with The Nature Conservancy (TNC) and WildAid to form the MAP. The initiative aims to enhance marine patrol, surveillance, investigation, and public outreach to reduce IUU fishing. The partnership has produced an enforcement gap assessment and a comprehensive MPS plan iin 2021, conducted knowledge exchanges, and deployed new technology to detect illegal fishing. In addition, the MAP has enhanced the skills of fisheries officers, deployed an anonymous community reporting platform, and supported focused law enforcement operations, such as Operation Red Dawn.

Eastern Tropical Pacific Marine Corridor (CMAR), ***José Julio Casas*** former Technical Secretary, presented an overview of CMAR, a regional marine conservation initiative involving Ecuador, Costa Rica, Colombia, and Panama for the past 21 years. In 2023, CMAR expanded from 5 to 10 marine protected areas, and a project coordinated by Fundación Pacífico was launched to enhance monitoring, control, and surveillance. The initiative emphasizes inter-country collaboration, respect for national sovereignty, and the use of advanced technologies. CMAR is currently a voluntary, non-binding agreement that has helped overcome priority management challenges such as harmonizing management plans, political transitions, and protecting transboundary species.

Across all these incredible examples, participating managers and enforcement practitioners were especially curious about governance, legal ramifications, and resourcing MCS&E systems.

TECHNICAL INNOVATION

Regional organizations shared available tools and experiences using various technologies, and supported country teams as they considered which technologies apply to their MPAs.

Global Fishing Watch, *Mónica Espinoza Miralles*- GFW promotes ocean governance by increasing transparency of human activity at sea. Its mission is to improve understanding of vessel movements using technologies like AIS, VMS, and satellite imagery. By combining these with AI and machine learning, GFW offers a unique view of global fishing. GFW's free, public tools help governments, researchers, and civil society monitor activity, share data, spot trends, and combat illegal fishing. Mónica emphasized GFW's role in assisting authorities in Latin America build enforcement capacity, meet sustainability goals, and track cross-border vessel movements to aid the reduction of illegal practices.

Skylight, *Natali Giomi* – Natali showcased how the platform uses artificial intelligence (AI) to monitor maritime activity in real time and at no cost, offering simplified, actionable insights. Skylight's capabilities include detecting behaviors such as transshipments, fishing activity, and vessel transits in monitored areas, as well as identifying dark vessels that are not broadcasting AIS signals. Natali emphasized the importance of user collaboration and shared two success stories where Skylight's technology helped detect and stop illegal fishing—one involving a Vanuatu vessel fined in Argentine waters, and another identifying illegal longliner activity in Panama's Coiba National Park.

Joint Analytical Cell (JAC), *Vivian Quiros* – Launched in 2021 by International Monitoring, Control and Surveillance (IMCS) Network, Trygg Mat Tracking (TMT), Global Fishing Watch, Skylight, and C4ADS, IMCS Network, the Joint Analytical Cell (JAC) is a unique collaboration that supports maritime authorities with fisheries intelligence, technology, data analysis, and capacity building to combat illegal, unreported, and unregulated (IUU) fishing. JAC aims to deter IUU fishing, boost transparency, and strengthen MCS&E systems in developing countries while informing global fisheries policy. It currently co-implements the CMAR Strengthening MCS project and operates the Technical Support Desk, offering vessel activity analysis, patrol support, and capacity-building assistance to CMAR countries.

MarViva, *David Barrios* - David shared how MarViva, a regional non-governmental organization, focuses on the conservation and sustainable use of the ocean and biodiversity in operations in Costa Rica, Panama, and Colombia. MarViva aims to enhance the following MCS&E capacities: legislation, regulation, and implementation of strategies of MCS for authorities and communities; Local governance – engagement; Provision of technical equipment for MCS patrolling; and implementation support for MCS tools through alliances and partnerships with entities such as Skylight and GFW. They often pilot special efforts, such as the analysis of networks of MPAs and how to analyze and gather information in a standardized way to account for all different types of MPAs.

LEARNING SESSION: MONITORING DATA

Gregg Casad, WildAid, and Sunny Telwright, Blue Nature Alliance, led a learning session about monitoring data sets to garner an understanding of what data sets they are using and their perception of their utility. The following summarizes the participants' feedback.

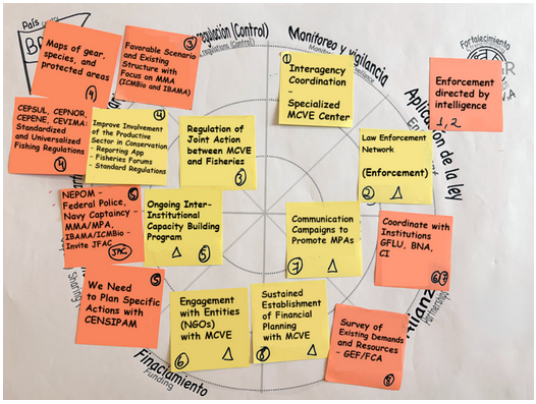
Technical Platforms Problems and Solutions:
Monitoring and enforcement systems face challenges due to limited AIS regulations, delayed and imprecise data, and difficulty detecting small vessels. These challenges are compounded by shared vessel identifiers, insufficient training and tools for field officials, and the need to protect sensitive information, all of which hinder effective surveillance and legal action.

To enhance vessel monitoring and enforcement, vessels should be equipped with tracking devices and supported through improved signal quality and real-time data integration with platforms like Skylight and GFW. Key technological solutions include generating alerts for AIS/VMS disconnections, enabling raw data processing for legal use, and training AI through legal prompts. Broader strategies involve securing funding for small vessel equipment, establishing continuous monitoring programs, and expanding satellite internet access for patrols in MPAs.

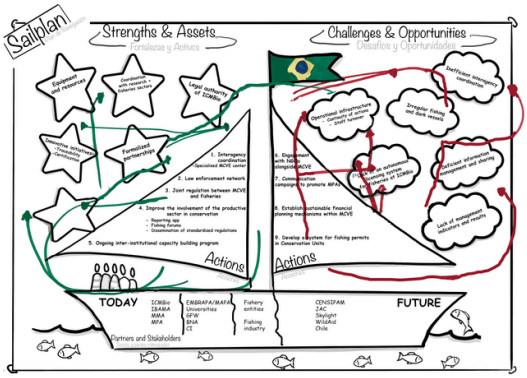
Legal and Policy Implications:
Political will is hindered by misaligned legal frameworks and institutional roles, power struggles, resistance to monitoring, and concerns over information privacy.
Efforts to mandate tracking devices on small vessels face challenges in enforcement, despite existing regulations. Key issues include a lack of institutional data sharing, the sensitivity of naval information, limited human resources, the need for legal backing to use raw data in court, and the requirement for specialized prosecutors.
Participants indicated they would like to learn more about Visible Infrared Imaging Radiometer Suite/Night Band (VIIRS) , radio frequency, Dark Vessel Detection (DVD), and Skylight.

COUNTRY-SPECIFIC STRATEGIC PATHWAYS

MCS&E National RADAR Tool: While radar in an MCS&E system is typically used to detect and track vessels, the "RADAR" tool—adapted from WildAid's Blue Print Marine Protection System framework—was used here as a reflective learning tool. Each country team used it to capture insights and regional examples that could strengthen their national MCS&E systems. The RADAR helped participants organize key enabling conditions for effective implementation, including: policies and regulations, monitoring and surveillance, enforcement, community engagement, partnerships, capacity building, and funding. It also captured country-specific actions to address challenges and leverage opportunities.



The RADAR developed by the participants from Brazil (digitally altered to show English translations).



The Sail Plan developed by the participants from Brazil translated from Portugese to English

Sail Plan: A "Sail Plan" is a way to visualize the priority activities identified by an MCS&E RADAR, to help enhance an area's enforcement efforts. The Sail Plan also provides a way to share scoping results with other departments, partners, or other stakeholders, which may inspire further partnership and collaboration necessary to continue moving an MCS&E system forward. Each country's Sail Plan reflects a commitment to pursue ecosystem-based approaches, strengthen regional cooperation, and enhance citizen involvement in marine protection. The Sail Plans offer a detailed country-by-country breakdown of MCS&E strengths, challenges, and opportunities, reflecting the localized assessments that emerged.

Country Assets and Opportunities from Sail Plan Presentations

- *Colombia*: Strong technical capabilities and interinstitutional coordination, but needs better small vessel detection and Caribbean capacity building.
- *Dominican Republic*: Solid legal frameworks and public support, yet faces enforcement and budget challenges.
- *Brazil*: Scientific integration and sustainable financing strengths, with logistical and regulatory gaps.
- *Mexico*: Effective surveillance platforms and NGO alliances, requiring improved legal and community engagement.
- *Chile*: Strong governance and political will, but funding and monitoring capacity are lacking.
- *Costa Rica*: Advanced marine protection technology, yet lacks enforcement resources.
- *Panama*: Legal and regional coordination strengths, facing challenges in logistics and standardization.
- *Uruguay*: Scientific knowledge and legislation in place, but lacking execution capacity.
- *Ecuador*: VMS leadership on small vessels, needing further legal alignment and funding.

LATIN AMERICA REGIONAL PRIORITIES: A SYNTHESIS OF CROSS-CUTTING THEMES

Once the National RADARs and Sail Plans were presented, each country contributed its top 3 priority actions moving forward to a Regional RADAR. The Regional RADAR highlighted shared priorities and emergent strategies for MCS&E development across the region. Overall, a few main areas rose to the top: holding training workshops for prosecutors and legislators; promoting regional agreements or treaties; defining joint control and surveillance protocols; convening workshops and exchange forums; and mainstreaming community participation mechanisms in MPAs. The table below shares more details about opportunities that could advance MCS&E regional collaboration across the Latin America region.

Capacity Building and Training

- Deploy apps for real-time reporting of illegal activities.
- Structure resource mobilization mechanisms to support MPA management.
- Implement training programs for both NGO staff and local community leaders.

Community Engagement

- Involve industry and stakeholders in conservation initiatives.
- Address community-level barriers to participation in marine governance.
- Raise civic awareness through education campaigns.

Infrastructure for Maritime Operations

- Expand transport and enforcement capacity in MPAs.
- Improve management plans for small-scale vessel monitoring.
- Standardize response protocols and support infrastructure needs

Legal Frameworks and Enforcement

- Strengthen environmental crime laws and integrate tracking technologies.
- Establish specialized prosecution units to improve compliance and sanctioning processes.
- Develop inter-institutional protocols for consistent enforcement.

Monitoring, Surveillance, and Technology

- Create dedicated monitoring centers with rapid data-sharing capabilities.
- Leverage anonymous reporting tools to engage citizens in enforcement efforts.
- Coordinate joint circulars across environmental, defense, and fisheries sectors.

ADVICE FROM MANAGERS

Integrating an MCS&E System

"*We should strengthen our abilities in the integration of information. For example, we have to be able to integrate everything into something centralized that helps us identify the dynamics that are in the territory. We need to be able to provide key, summarized information that helps decision-making.*"

- Margarita Rozo, MCS&E Professional, National Natural Parks of Colombia

Common MCS&E Challenges

"Have the will and integrity to face challenges. No salary can compensate for the effort needed. Discipline is essential—both professionally and personally—because the community is watching."

- Yeral Segura Alcántara, Technician, Vice Ministry of Coastal and Marine Resources, Dominican Republic

MCS&E Capacity

"*For new officers, knowing the environmental law thoroughly is crucial to doing their job well.*"

- Manuel Jose Perez Abreu, Director of Inspection, Ministry of Environment and Natural Resources, Dominican Republic

Participatory Governance

"Working with communities to co-manage areas is essential because it is much easier if the community wants to lead the protection of its area, rather than a situation where we are forced to exclude them from a territory or forbid them from carrying out certain activities in their area."

- Ganzalo Eduardo Gómez, Juan Fernández Island Communal Office Manager, National Fisheries and Aquaculture Service, Chile

CONCLUSION

The RADAR and Sail Plan tools served as critical reference points, guiding coordinated action on policy, community engagement, capacity development, and technology integration across participating nations. Their use during the 2025 Latin America MPA Enforcement Peer Learning Exchange helped fulfill the event's purpose: to create a regional forum for marine managers to share and explore strategies to strengthen MCS&E systems nationally and collaboratively.

All participants completed the evaluation survey, with unanimous feedback that the workshop was relevant, a valuable use of their time, and especially highlighted the RADAR and Sail Plan exercises as useful moving forward. The exchange provided a comprehensive overview of successful MCS&E practices, surveillance systems, and technological tools used to combat IUU fishing across Latin America. Participants gained insights into platforms like the JAC, remote vessel monitoring, satellite systems, and maritime legislation, while also building alliances and learning from diverse national experiences—ultimately enhancing regional understanding and capacity for effective fisheries management.