



Ocean Accounts as Infrastructure for the BBNJ Clearing-House Mechanism

Integrating Environmental, Economic, and Social Data for Evidence-Based Ocean Governance



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Summary

The 2023 Agreement on Biodiversity Beyond National Jurisdiction (BBNJ) establishes a Clearing-House Mechanism (CHM) as its digital backbone for transparency, compliance, and benefit-sharing across all treaty functions. Yet the Agreement provides limited technical specifications for CHM implementation, creating risks of fragmented development and missed opportunities for systematic ocean governance.

The imperative for robust ocean information architecture has gained unprecedented global recognition. The 2025 UN Ocean Conference in Nice emphasized the critical need for “national ocean accounting and mapping of coastal and marine ecosystems” to inform policy decisions. The Convention on Biological Diversity, through Decision 15/24, urges parties to strengthen ocean accounting for decision-making support. Ocean Accounts—a structured framework aligned with international statistical standards and now implemented across 30+ countries through the Global Ocean Accounts Partnership—offers proven architecture that can operationalize CHM requirements while enabling evidence-based decision-making.

This research demonstrates that Ocean Accounts provides essential infrastructure for CHM success through five key synergies: standardized three-dimensional spatial architecture enabling consistent geographic reporting across water column and seabed distinctions; flow accounting systems tracking marine genetic resource utilization from extraction through commercialization with batch ID integration; baseline condition accounts supporting comprehensive environmental impact assessments including cumulative impacts; asset monitoring frameworks measuring conservation effectiveness through standardized indicators; and capacity-building pathways that integrate traditional knowledge while ensuring equitable participation.

[Download Full Research Paper \(PDF\)](#)

Key Findings

Spatial Architecture

Ocean Accounts’ Basic Spatial Unit framework provides three-dimensional geographic reference system distinguishing water column from seabed areas, essential for consistent BBNJ reporting across all treaty pillars and jurisdictional boundaries.

Resource Tracking

Flow accounting systems enable comprehensive tracking of marine genetic resources from extraction through commercialization using standardized batch identifiers, supporting transparent and equitable benefit-sharing calculations.

Impact Assessment

Environmental asset accounts establish robust baselines for cumulative impact analysis, supporting comprehensive environmental assessments with real-time monitoring capabilities and adaptive management responses.

Capacity Building

Modular implementation pathways integrate traditional knowledge through FPIC protocols while standardized indicators enable all countries to participate, with 30+ nations already demonstrating diverse implementation models.

Implementation Pathway

The integration follows a phased approach leveraging proven experience from the Global Ocean Accounts Partnership's work with 30+ countries, aligned with the April 2025 PrepCom meeting and UN Ocean Conference commitments:

1. **Foundation Phase** (Pre-COP1): Establish Ocean Accounts-CHM Technical Working Group, develop proof-of-concept pilots aligned with UNOC Nice commitments
2. **Early Implementation** (COP1-COP3): Deploy core CHM architecture integrating pilot country data through regional cooperation models like the Pacific Community framework
3. **Expansion Phase** (COP3-COP5): Scale to global coverage with automated data flows, align with CBD reporting mechanisms, integrate traditional knowledge systems
4. **Full Operation** (Post-COP5): Achieve universal participation with predictive analytics supporting adaptive management and transformative ocean governance

This bottom-up harmonization approach builds on existing systems rather than imposing top-down standardization, demonstrated by successful implementations from Small Island Developing States to developed nations. Critical success factors include political commitment, realistic technical capacity development, and clear institutional arrangements that bridge traditional agency boundaries.

Access the Full Research Paper: Navigate to the **Research Paper** section for the complete analysis, technical specifications, and detailed recommendations.

Explore the Source Code: This research project is open source and available on GitHub. View the underlying code, data processing scripts, and visualization components at github.com/BMMilligan1/BBNJ-CHM [https://github.com/BMMilligan1/BBNJ-CHM]. Contributions and feedback are welcome through issues and pull requests.