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Beyond Blue Carbon: Lessons Learned from Nature Credits

Frontline Perspectives on Designing and Selling Seagrass Nature Credits

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Main authors:
Bax Innovation

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About this report

The ARTEMIS Peer Learning session 'Beyond Blue Carbon: Lessons Learned from Nature Credits' delivered a clear verdict: the ambition to scale up the restoration of vital habitats faces critical, non-ecological roadblocks. This report offers urgent, actionable insights from global leaders in the emerging, high-integrity nature credits market.

- **Prioritise Multi-Metric Schemes:** "Projects must select multi-metric biodiversity credit schemes over single-metric carbon codes to capture the 'whole suite of ecosystem services' provided by seagrass restoration."

- **Tackle Governance and Licensing Barriers:** "Developers must actively lobby national decision-makers to streamline 'laborious and time consuming' licensing processes that are currently 'not fit for purpose for a seascape scale project,' as these policy barriers are a critical bottleneck."

- **Ensure Community Benefits and Local Governance:** "Any nature credit scheme must embed mechanisms for fair and equitable benefit sharing, with models like Plan Vivo mandating that 60% of generated funds return to the local community."

- **Adopt High-Integrity Principles:** "Policymakers and credit schemes must adopt established principles to build a credible market that ensures financial flows deliver verifiable, positive outcomes for nature and communities." (For a detailed example of a national plan for market integrity, refer to the UK Marine Natural Capital Roadmap.)

- **Address Passive Restoration Value:** "Given the challenges of active restoration, especially in the Mediterranean, projects should explore how to accommodate the value and additionality of passive restoration, which is critical for restoring the ecosystem function."

For a comprehensive strategy and detailed analysis on how environmental, financial and social benefits of seagrass ecosystem services can be integrated into policy and investment, please refer to the ARTEMIS Whitepaper on Scaling Financing for Seagrass Restoration in Europe.

To learn more about ARTEMIS and other reports developed during the project you can visit the webpage on what we achieve.

Peer learning on nature credits implementation

The ARTEMIS Peer Learning Sessions took place in the form of an online webinar. This allowed for bringing together some of the global frontrunners in the space of (marine) nature credits, to present their successes and lessons learned. In the following sections, an overview of each case study, with the most important take-aways of their presentation will be presented.

Biodiversity Credit Alliance (BCA): A Call for Global Integrity and Unified Definition

Organization	Biodiversity Credit Alliance
Project	High-level Principles for the Biodiversity Credits Market
Location	Global
Presenter	Dominik Maczik
The Biodiversity Credit Alliance (BCA), addresses the critical global effort to standardize nascent biodiversity credits market. The BCA is a UN-backed coalition that works to shape a high-integrity, transparent, and scalable market by establishing "guard rails."	

Context of the project

The rapid escalation of biodiversity loss has exposed critical gaps in traditional conservation funding, prompting the development of biodiversity and nature credits as scalable, market-driven tools to channel private and public capital toward measurable ecological outcomes. Unlike carbon credits, which focus on greenhouse gas reductions, biodiversity credits quantify and monetize positive impacts on ecosystems - such as habitat restoration, species protection, or watershed conservation - using standardized metrics and rigorous methodologies. These instruments are designed to complement regulatory frameworks by creating financial incentives for landowners, corporations, and governments to adopt biodiversity-positive practices, while offering investors and buyers a transparent way to contribute to nature recovery.

The Biodiversity Credits Alliance (BCA) is at the forefront of shaping this evolving market, advocating for robust standards, interoperability, and alignment with the Kunming-Montreal Global Biodiversity Framework (GBF). The GBF's Target 19 explicitly calls for increased resource mobilization from all sources, including innovative schemes like biodiversity credits, to close the annual biodiversity financing gap - estimated at over $700 billion.

The BCA works to shape the future of the biodiversity credit market by bringing together scientific experts, conservation practitioners, and businesses to establish a high-integrity, transparent, and scalable biodiversity credit market. They focus on ensuring that investments in nature generate positive outcomes for biodiversity and communities. By creating clear guidance and supporting market development in line with principles of integrity, quality, and equity, BCA helps unlock new funding streams for biodiversity conservation while ensuring credibility and impact.

Key Innovations

- The BCA provides a unified definition: a biodiversity credit is "a certificate that represents a measured and evidence-based unit of positive biodiversity outcome that is durable and additional to what would have otherwise occurred."
- A positive biodiversity outcome can include Uplift (improvement), Avoided loss (reduction in threats), or Maintenance (prevention of decline).
- The BCA created High-level Principles to Guide the Biodiversity Credit Market to ensure integrity and quality.
- These principles cover three pillars: Verified Positive Outcomes for Nature, Equity and Fairness for People, and Good Governance for High Integrity Markets.
- Credit Use: The BCA provides guidance on credit use integrity, detailing the differences between Compensatory and non-compensatory uses and vouches for the non-compensatory use of biodiversity credits as the way forward.
- The High-level Principles have been made part of the core UNDP Social and Environmental Safeguards for biodiversity credit projects.
- Created a series of knowledge products that assist the development of high integrity and quality biodiversity credits.

Key Challenges

- Unlike carbon credits, which have an agreed fungible unit (tCO2-eq), there is "no agreed single unit" for biodiversity credits.
- Not driven by any single common global biodiversity goal, but by nature regulations - EU, TNFD, SBTN, GBF.
- Claims depend heavily on how biodiversity credits are used.
- They have to operate over 800+ different eco-regions globally.

Relevance to the Mediterranean:

The Biodiversity Credits Alliance (BCA) framework offers a high-integrity blueprint for the Mediterranean project to structure its own seagrass credits. By recognizing uplift, avoided loss, and maintenance, the BCA model validates generating credits both for active replanting and the vital protection of existing Posidonia oceanica meadows. Finally, adopting the BCA's High-level Principles and advocating for non-compensatory use ensures these new marine credits are positioned to investors as credible, transparent contributions to nature recovery rather than mere offsets.

The Biodiversity Credits Alliance (BCA) thus represents a critical intervention in the operationalization of biodiversity markets, systematically addressing the methodological and normative challenges associated with quantifying, standardizing, and verifying ecological outcomes across heterogeneous biomes and regulatory frameworks. Through its evidence-based principles - grounded in ecological additionality, durability, and equitable governance- the BCA provides a conceptual and practical foundation for scaling high-integrity biodiversity credits, thereby bridging the gap between theoretical conservation targets and measurable, on-the-ground impacts in alignment with the Kunming-Montreal Global Biodiversity Framework.

The Solent Seascape: A UK Flagship in Seascape-based Nature Credits

Organization	Blue Marine Foundation
Project	Solent Seascape Project (SSP)
Location	Solent strait, UK
Presenter	Maddie Millington-Drake
The Solent Seascape Project (SSP), "the first initiative in the UK restoring multiple coastal habitats at a seascape scale." The SSP is endorsed by the UN Ocean Decade Actions.	

Context of the Project

The Solent, a 52,200-hectare strait between mainland England and the Isle of Wight, is one of the most heavily used waterways in Europe. Its complex network of harbours, estuaries, and sandbanks supports a rich diversity of wildlife, including seagrass meadows, saltmarshes, oyster reefs, and seabird nesting sites - all of which are under severe threat from overuse, erosion, poor water quality, and sea-level rise. Over the past 200 years, industrial activity and disease have devastated keystone habitats and species, with some disappearing entirely. The Solent once hosted Europe's most significant native oyster fishery, but these ecosystems are now fragmented and degraded.

The Solent Seascape Project is the UK's first seascape-scale marine restoration initiative, aiming to restore, protect, and reconnect the Solent's critical habitats. It is led by a collaboration of 10 partners, including the Blue Marine Foundation, Hampshire and Isle of Wight Wildlife Trust, Natural England, and local universities. The project is co-designed with local communities, landowners, and regulators to ensure long-term sustainability. It has been recognized as an official United Nations Decade Action, highlighting its global significance in marine conservation.

8 hectares of saltmarsh, 7 hectares of seagrass, 4 hectares of oyster reefs, and 10 seabird nesting sites are being restored to improve ecological connectivity and resilience. Restoration efforts are already underway, with pilot sites for seagrass, saltmarsh, and oysters showing progress.

Key Innovations

The project explores biodiversity credits over single-metric carbon credits, finding them a "more holistic tool" to represent the "whole suite of ecosystem services" and the multi-habitat nature of their work.

- The SSP is one of seven pilot projects for Plan Vivo's biodiversity certification standard, PV Nature.
- The SSP is the first marine pilot for biodiversity certification within Plan Vivo's methodology and one of the first of its kind in Europe.
- The credit unit is defined as: "A percentage change per hectare per year over a basket of biodiversity metrics."
- The metrics across the habitats include: species diversity, species richness, taxonomic dissimilarity, habitat health and habitat structure.
- The certificates are voluntary and non-compensatory, focusing on "recovery rather than offsetting."

The Plan Vivo methodology requires that 60% of the funds generated by these certificates must go back to the local community, and the community will decide how to spend them.

Key Challenges:

- Current licensing processes for obtaining credits are not fit for a seascape scale project and can be very laborious and time consuming for small teams. They create administrative complexity that directly hinders profitability and restoration at scale.
- Although the SSP supports the benefit-sharing of Plan Vivo's methodology, it is also a challenge to define who makes up the local community and should get a say in how to spend the funds.

The Solent Seascape project is a great example of the innovation currently taking place around marine biodiversity credits. It is pioneering these types of credits, using a robust approach to ensure quality and integrity of their credits. Although some challenges remain, it is exciting to see the progress being made for marine conservation and restoration financing worldwide.

Relevance to the Mediterranean:

The Solent Seascape Project offers a model to follow for Mediterranean seagrass initiatives by shifting the focus from complex blue carbon accounting to holistic, non-compensatory biodiversity credits. By learning from the Solent's approach and challenges encountered along the way, Mediterranean seagrass projects can develop solid credit methodologies and prevent hitting roadblocks during the certification process.

Gutharraguda: An Indigenous-Led Restoration Enterprise

Organization	Conservation International & Tidal Moon Enterprise
Project	Gutharraguda
Location	Gutharraguda (Shark Bay), WA, Australia
Presenter	Erika Korosi
Gutharraguda is a World Heritage Area and home to the Malgana people, the traditional custodians and contains the world's largest seagrass meadows. The tidal moon project is a unique mix, uniting nature conservation with indigenous marine stewardship and sustainable business models.	

Context of the Project

The meadows store an estimated 500+ million tons of carbon dioxide, making it one of the world's largest seagrass blue carbon sinks. However, following a significant heatwave in 2011, which destroyed 25% (10,000 hectares) of the seagrass meadows, natural currents are now slowly eroding the seafloor in areas that did not recover naturally. This risks the release of over 40 million tons of ancient carbon stores, which is deemed 'irrecoverable' in the timeframe needed to meet global climate goals.

The Indigenous-led response is implemented by the Tidal Moon enterprise, Australia's first Indigenous-owned-and-led sea cucumber fishery and marine restoration venture, founded by Malgana Traditional Custodian Professor Michael Wear. Michael Wear's goal is to scale up Tidal Moon sustainably to help the ocean, help people, and make sure there are jobs to be inherited by young people in our community.

Key Innovations:

- Tidal Moon employs a business model that makes use of multiple revenue streams, including sea cucumbers, biomedical uses, blue carbon, and Nature Credits.
- Restoration acts as a complement to the traditional wild sea cucumber harvest, which for its sustainability is constrained by tide and moon cycles.
- Nature credits are viewed as an additional revenue stream to help address the finance gap for Tidal Moon's restoration efforts.
- Conservation International and local partners are developing a national, standard-agnostic, and publicly available crediting methodology for seagrass restoration.

Gutharraguda: An Indigenous-Led Restoration Enterprise

The standard is the Seagrass Ecosystem Condition Method, which consists of three modules: Intertidal, Subtidal and a Biodiversity module which can be applied in addition to the other two. The intent is for the Accounting Method to be peer-reviewed and ultimately accredited by Accounting for Nature.

Key Challenges:

- One of the largest challenges is the permitting process, which is not typically set up to enable restoration activities at scale, leading to a "very conservative approach" from regulators that often leads to extensive delays and administrative complexity.
- To meet additionality needs, credit generation should focus on active restoration. The Gutharraguda restoration includes both active and passive restoration to achieve scale.
- The challenges identified at the project level, especially the need for a non-compensatory focus and market integrity underscores the necessity for a unified global framework.

The Gutharraguda project is a great example of combining indigenous and traditional practices with innovative nature restoration financing to create new business models. This innovative project serves as an inspiration for restoration projects worldwide.

Relevance to the Mediterranean:
The Gutharraguda Bay project provides useful insights for the Mediterranean initiative by demonstrating how to layer nature credit revenue with traditional, sustainable practices - like wild sea cucumber harvesting - to create a financially viable, multi-stream business model. Furthermore, their standard-agnostic "Seagrass Ecosystem Condition Method" and integration of active and passive restoration can serve as a methodological inspiration, as it designs its own marine-specific crediting frameworks. Finally, their experience navigating conservative permitting processes highlights critical regulatory hurdles Mediterranean projects must anticipate when implementing large-scale underwater restoration.

Actionable Takeaways for ARTEMIS and Mediterranean Projects

The insights shared by global pioneers in the nature credits space provide clear lessons learned for the ARTEMIS project and other Mediterranean marine restoration initiatives. By learning from the experiences from the Biodiversity Credit Alliance (BCA), the Solent Seascape Project, and the Gutharraguda Bay project, Mediterranean stakeholders can be better prepared to develop effective, high-integrity financial instruments.

Firstly, we need to build credible markets by embracing BCA's high-level principles and engage in non-compensatory frameworks that deliver verifiable biodiversity gains instead of mere offsets. Moving beyond basic carbon tracking, projects must adopt a diverse basket of biodiversity metrics to capture the full value of complex habitats, as successfully demonstrated by the Solent Seascape Project.

Achieving financial and ecological scale also requires blending active and passive restoration while layering nature credits alongside traditional industries and other sources of income, a model proven by Gutharraguda's integration of sea cucumber harvesting. Crucially, local governance must be empowered through fair benefit-sharing, such as the Solent's mandate to return 60% of project funds directly to communities.

Finally, heavily conservative and laborious permitting processes remain a massive challenge for marine restoration worldwide. Tackling this red tape is especially urgent given the IPBES Report's stark finding that global spending on harmful subsidies ($7 trillion) completely dwarfs biodiversity funding ($220 billion). To succeed, ARTEMIS and other Mediterranean restoration projects must actively lobby decision-makers to streamline licensing and align policies, to ensure the Mediterranean's marine recovery is supported by policymakers and not hindered by bureaucracy.

Contact

For more information, contact:

Bax Innovation (Content & Organisation)
Lisa Wiatschka: l.wiatschka@baxcompany.com
Pere Giralt: p.giralt@baxcompany.com
Ramon Scholl: r.scholl@baxcompany.com

ARTEMIS Lead Partner
Arnaud Terrisse: aterrisse@planbleu.com