



THE DUGONG, SEAGRASS & COASTAL COMMUNITIES INITIATIVE

Opportunities for Biodiversity Conservation, Livelihood Improvement,
and Sustainable Fisheries Management



PHOTO: Mandy Etpison

INTRODUCTION

Dugong – from inexhaustible resource to high extinction risk

Traditional hunters tell of times when dugongs were an inexhaustible resource. European explorers of the 18th and 19th centuries write of vast herds of animals in shallow waters from East Africa to the Western Pacific Islands. Herds could still be seen in many places across the dugong's range as late as the 1960s.

No longer. The International Union for Conservation of Nature's Red List now lists the dugong as Vulnerable. The dugong is rarely sighted and it is at a high risk of extinction throughout most of its vast range. That is why the United Nations Environment Programme / Convention on the Conservation of Migratory Species of Wild Animals (UNEP/CMS) established the Dugong, Seagrass and Coastal Communities Initiative in 2011.

Our dugong, seagrass and coastal communities initiative

We seek investors who can contribute by funding our innovative conservation projects designed to help secure the ongoing survival of the dugong.

We want to raise US\$5 million to roll-out our local community investment Initiative in participating countries across the dugong's range.

Funds will be invested in local partnerships that return financial and environmental benefits to communities in low-income nations. These partnerships will use innovative, market-based tools to leverage conservation investments and drive self-sustaining outcomes that provide ongoing revenue streams for future conservation work.

The value of innovative conservation tools

The tale of the dugong is a common one. Our numbers grow and those of many other species, once numerous, only diminish. The challenges of protecting wildlife keep getting bigger and more entangled in our own human affairs.

Current tools for environmental conservation are not helping threatened species and ecosystems fast enough. We need new approaches. New, innovative tools can slow and stop the slide from abundance to extinction for many species.

Many of the critical locations for environmental conservation are in the developing world. Success in these locations requires innovative approaches that link conservation efforts with the sustainable development of local, often impoverished, communities.

Our approach maximises the impact of investors' funding by combining investment, conservation and development tools. We link the challenges of 21st century environmental conservation with those of sustainable development.

The bigger opportunity

The Initiative's species focus is on the dugong. Its broader contribution will be to show how innovative partnerships among investors, local communities, conservationists and scientists can combine conservation efforts, sustainable development and financial investment to the benefit of all.

PROGRAM DETAILS

We invest to ensure communities invest in their environmental assets

Businesses anywhere in the world find it hard to maintain their capital assets when they have limited working capital and cannot get affordable finance. The environment is often the only major capital asset for poor, coastal communities in developing nations across the dugong's range.

When communities are poor and resources limited, daily struggles trump conservation every time. These communities lack the financial tools to transform short-term survival into long-term management of essential environmental assets. Assets that include seagrass ecosystems, which support the fisheries these communities depend on for their livelihoods and that are the home of the dugong.



PHOTO: Donna Kwan

Investment is important, the incentives it creates are essential

Successful conservation is built on providing human communities whose actions threaten the species and ecosystems of concern with incentives to change. Our Initiative does just this by engaging with local communities using a financial and advisory toolkit that improves livelihoods and creates economic opportunities. We do this in exchange for environmental stewardship of dugongs and their seagrass habitats.

The major threats to dugongs in the developing world come from small-scale fisheries and unsustainable hunting. We work with small-scale fishers whose fishing practices drown dugongs as bycatch and damage the seagrass beds that provide dugongs' sustenance. We also work with communities that hunt dugongs.

For example, we provide affordable microfinance to fishers to buy the equipment needed to change how they fish or to shift from wild fisheries to artisanal aquaculture. We also work with a variety of stakeholders to show how conservation actions can unleash sustainable development opportunities.

The finance we provide is affordable, but it is not free. We require a fair return on our investment so that our capital can be reinvested over time in new initiatives. Investors in our work know that their initial investments will be leveraged to create maximum environmental value.

We don't hold collateral in the traditional sense. Instead, we carefully design our loans so that they keep the environmental and development incentives alive over time. We do this in many different ways, by changing interest rates, by broadening a community's access to finance or withdrawing it in the event of financial or environmental default.

We help shift financial, intellectual and market incentives towards a targeted set of environmental stewardship goals

Our program provides the following:

- Affordable finance that helps communities make their own investments in maintaining the environmental assets that are the essential factor of production in their local economies.
- Knowledge about proven practices of ecosystem stewardship to help communities make good decisions about sustainable livelihoods.
- Assistance in accessing wider markets so that communities can develop local industries that permit development above a subsistence base and spread financial and environmental risk across a wider range of economic activities.

Managing risk

We diversify community risk by providing finance, knowledge and assistance in accessing markets. And we manage environmental risk for dugongs and seagrass ecosystems by encouraging broad environmental stewardship grounded in an understanding of complex ecosystem dynamics.

PROGRAM OBJECTIVES

Vision: Improve livelihoods and create economic opportunity in exchange for dugong and environmental stewardship.

Target Communities: Rural coastal communities in Dugong MOU range states, especially in the South West Indian Ocean, Western Pacific Islands, South and South East Asia.

Services: Provide incentives for conservation activities and environmental stewardship across the dugong's range using innovative financial, educational and knowledge transfer tools that encourage development and assist in accessing wider markets.

PROGRAM MEASURES

Cultural Benefits: Maintaining traditional, cultural and social values around dugong and seagrass preservation.

Economic Benefits: Growth in sustainable fisheries, sustainable local seafood markets, and local ecotourism industries.

Environmental Benefits: Significant improvement in dugong survival rates, preservation of seagrass habitats and coastal marine environments, wider improvements in coastal biodiversity and environmental services including preservation of fish nurseries, increasing marine carbon sequestration ('blue carbon'), and buffers from climate change impacts like storm surges.



THE DUGONG

The dugong is the world's only herbivorous marine mammal. It is fast disappearing from most of its range.

A 2008 UNEP assessment confirmed that the dugong, also known as the sea cow, is already extinct in several island states. It is suffering steep declines in at least a third of the areas where it is found.

A 2011 international assessment concluded that dugong populations are in decline throughout its range in East Africa, South Asia and South East Asia. Human activities pose the greatest threats to dugong survival. Dugongs drown in gillnets set by fishers for other species. They are also hunted directly by some communities and injured by boat collisions.

Dugongs feed almost exclusively on shallow seagrass beds, which are vanishing at around 7 per cent a year as a result of human impacts. These seagrass beds are as critical to dugongs as they are to coastal communities. They serve as undersea nurseries for shrimp and fish, which are the building blocks for fisheries and the mainstay of many local, coastal economies in the developing world.





CONSERVATION & MANAGEMENT OF DUGONGS & THEIR HABITATS

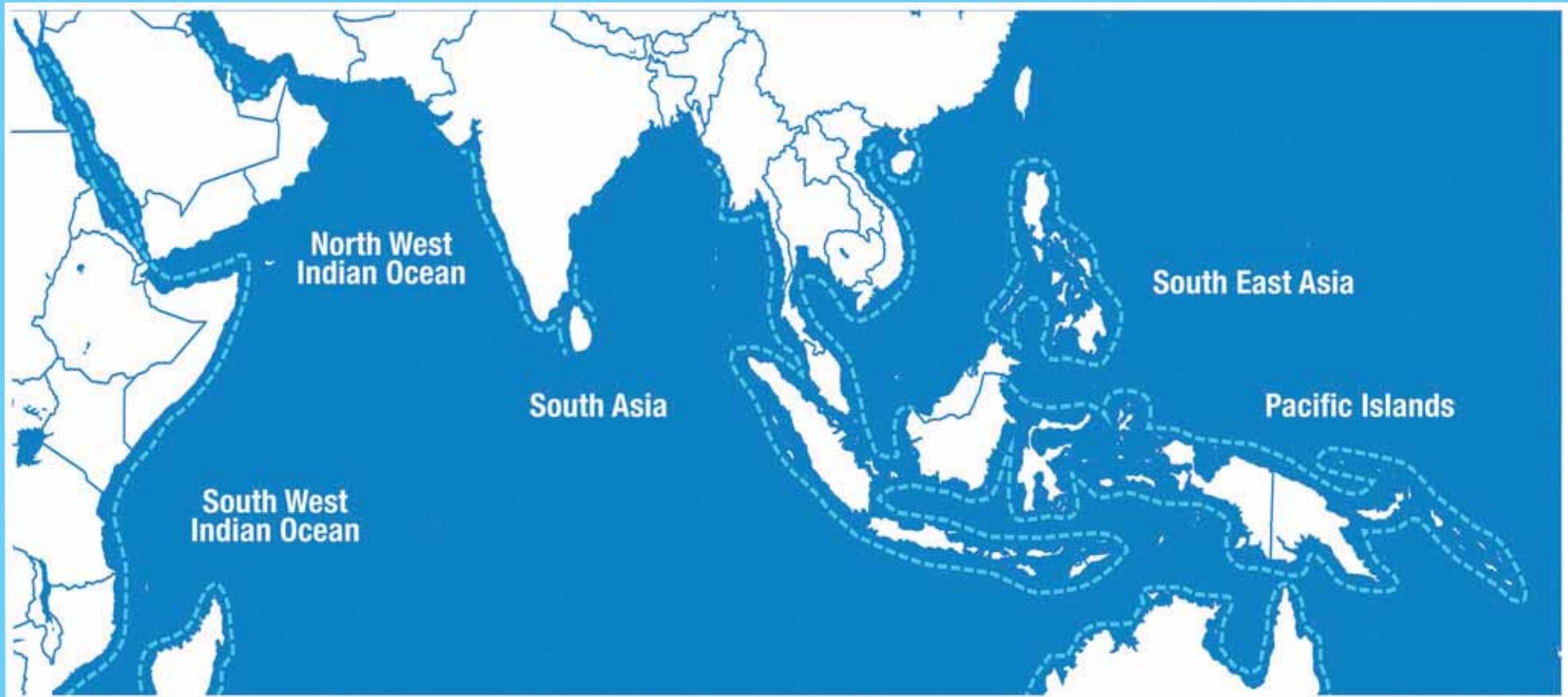
The Convention on the Conservation of Migratory Species of Wild Animals works for the conservation of endangered migratory animals.

Alarmed at the speed at which dugongs were disappearing in the wild, the CMS Secretariat established the Memorandum of Understanding (MOU) on the Conservation and Management of Dugongs and their Habitats throughout their Range, under the auspices of UNEP/CMS in 2007.

The Government of the United Arab Emirates, through the Environment Agency—Abu Dhabi, provided the support required to establish the UNEP/CMS Dugong MOU Secretariat which, under direction of its Signatory States and with the assistance of an international team of advisors, has developed this UNEP/CMS Dugong, Seagrass and Coastal Communities Initiative.



THERE ARE 21 CURRENT SIGNATORIES TO THE DUGONG MOU



DUGONG MOU SIGNATORIES: AUSTRALIA, BAHRAIN, COMOROS, ERITREA, FRANCE (MAYOTTE, NEW CALEDONIA), INDIA, KENYA, MADAGASCAR, MOZAMBIQUE, MYANMAR, PALAU, PAPUA NEW GUINEA, PHILIPPINES, SEYCHELLES, SOLOMON ISLANDS, SRI LANKA, THAILAND, UNITED ARAB EMIRATES, UNITED REPUBLIC OF TANZANIA, VANUATU AND YEMEN.

PROJECT LOCATIONS

Pacific Islands

The dugong's range extends across six countries in the Pacific Ocean region: Australia, New Caledonia, Palau, Papua New Guinea (PNG), the Solomon Islands and Vanuatu.

We are collaborating with the Secretariat of the Pacific Regional Environment Programme (SPREP) and a number of other partners in each country. We have supported the Pacific Year of the Dugong campaign.

Our work in the Western Pacific Islands urgently needs funding to maintain existing momentum and ensure effective implementation of our programs.

South West Indian Ocean

Dugongs occur along the East African coast, from Somalia south to Mozambique and into the Indian Ocean to Madagascar and other islands. Dugongs are highly endangered throughout East Africa, with a declining population of a few hundred (or fewer) individuals, concentrated in the waters of Mozambique.

Without immediate and effective intervention in the region, dugongs may disappear completely from East Africa within a few generations. We urgently need funding to develop and implement our innovative programs here.

The social and political challenges of this region need our focus on providing local communities with real incentives to change. Your investment will help catalyse this change by linking sustainable development opportunities to environmental stewardship.

South Asia and South East Asia

Dugongs are present in ten countries in South East and South Asia. The main threat to dugongs in both regions is bycatch in small-scale fisheries. We seek funding to work with local partners and extend our Initiative here.

We plan to apply our financial, advisory and conservation toolkit to provide incentives for changes in fishing gear and practices to reduce the accidental bycatch of dugongs. All our planned projects will be directly linked to the sustainable development of the local communities we work with.

Gulf of Mannar, India and Sri Lanka

A transboundary first. The waters of the Gulf of Mannar between India and Sri Lanka are home to the largest remaining dugong population in South Asia.

Here, we need funding to work with our partners to develop the first incentives-based dugong and seagrass ecosystem project that crosses national boundaries. We plan to deploy our toolkit to again provide concrete, sustainable development incentives for fishing communities to change fishing gear and practices to reduce dugong bycatch.

From a governance perspective, this project is our most ambitious. It will embody the UNEP/CMS mission by working across international boundaries with organisations including the Wildlife Trust of India, Reefwatch Marine Conservation, Dilmah Conservation, the Ministry of Environment and Forests (India) as well as the Department of Wildlife Conservation (Sri Lanka) and IUCN Sri Lanka.

PILOT PROJECTS IN ACTION

The Moro Momoro Project (My Dugong): Daru, PNG

Torres Strait, between Australia and PNG, supports the world's largest dugong population. Research suggests even this population is at risk as over-harvesting drives a rapid decline in dugong numbers.

In Daru (Western Province, PNG) we have joined with a group of well-established partners including SPREP, the PNG National Fisheries Authority, the PNG Department of Environment and Conservation, and the PNG Sustainable Development Program.

Our first step was to establish the Moro Momoro Pilot Project. This pilot reduces pressure on marine resources by providing livelihoods through artisanal aquaculture, which gives steady incomes and stable protein supplies.

Our aim is to provide the Daru communities with microfinance, knowledge resources and technical assistance with access to wider markets.

The resulting community benefits will drive better outcomes for dugongs and seagrass ecosystems.

With your funding, the scope and scale of projects provided by the 'My Dugong' partnership can grow from this successful pilot to major implementation in other islands in the Western Pacific.



PHOTO: Donna Kwan

Bazaruto Archipelago Project: Mozambique

Bazaruto Bay in Mozambique is the last remaining stronghold for dugongs in the South West Indian Ocean. It is rapidly growing as a tourist destination because of the Archipelago's beautiful beaches, surfing and fishing.

We are working with the Ministry for Coordination of Environmental Affairs, the Natural History Museum, Eduardo Mondlane University and WWF Mozambique to increase the capacity for community-based marine conservation by using the dugong as a flagship species.

Another objective is to create a program to certify 'dugong-friendly' seafood – harvested in ways that protect dugongs and seagrass habitat. Our initial targets are developed-world tourists willing to pay a premium in tourist restaurants serving the growing industry. We have designed the program so that part of the premium flows as a direct economic benefit to local fishing communities that take up 'dugong-friendly' practices. We also have a larger objective: our program is designed to encourage the spillover of 'dugong-friendly' practices to other fisheries in the region.



PHOTO : Donna Kwan

SUPPORTING & BUILDING CAPACITY

We are committed to building long-term, local capacity to protect dugongs and seagrass habitats and to improve livelihoods for coastal communities.

Our projects always build the capacity of local human resources. We introduce and support robust institutional and governance frameworks in every region we work.

The Dugong MOU Secretariat has also identified multi-disciplinary, experienced technical advisors who have helped generate this Initiative, and will contribute to supporting our local teams as they develop and implement the Dugong, Seagrass and Coastal Communities Initiative. Our Initiative is led by Dr. Donna Kwan (United Arab Emirates) from the UNEP/CMS Dugong MOU Secretariat in Abu Dhabi. She holds a PhD in dugong biology, and has over 20 years of professional experience with dugong conservation and management issues.

Our team's collective experience brings the best available local and international skills and expertise in the disciplines required: ecology, planning, finance, fisheries, sociology, project management and environmental conservation.



PHOTO : Josh Donlan

Technical Advisors

Dr. Josh Donlan (USA) is the Executive Director of Advanced Conservation Strategies. He has worked in over a dozen countries on a variety of environmental issues, including environmental restoration, environmental markets and developing financial and incentive instruments for biodiversity conservation.

Dr. Alana Grech (Australia) is a researcher at the ARC Centre of Excellence for Coral Reef Studies at James Cook University. She studies the distribution of dugongs and seagrass habitats and assesses risks to dugongs from multiple anthropogenic threats.

Jeff Kinch (PNG) is currently the Principal of the National Fisheries College in Papua New Guinea. He has an extensive knowledge of coastal livelihood strategies throughout the Pacific, including work focused on marine resources, socio-economic and environmental impacts and supply chains.

Professor Helene Marsh (Australia) is a Distinguished Professor of Environmental Science at James Cook University. She is internationally recognized as an authority on dugongs and has provided scientific advice to governments and NGOs in fourteen countries.

Dr. Hoyt Peckham (Mexico) is the Director of Fisheries Science for Grupo Tortuguero de las California, which partners with fishers, managers, and scientists to reduce fisheries bycatch of vulnerable marine megafauna, including turtles and dugongs.

Dr. Nicolas Pilcher (Malaysia) is the Executive Director of the Marine Research Foundation. His work focuses on the management of fisheries bycatch, including turtles, dugongs, and other marine mammals.

Dr. Chris Wilcox (Australia) is a senior scientist in the Pelagic Fisheries and Ecosystems Group at CSIRO, Australia's National Research Institution. His research team contributes to the spatial management of marine resources.

Simon Woodley (Australia) is an experienced manager, facilitator and advisor in the fields of marine protected area management and tropical marine scientific research. His focus in Asia and the Indo-Pacific has been on training and capacity building for the management of marine protected areas.

GET INVOLVED TODAY

We invite you to invest in the future of the dugong and critical seagrass habitats by becoming a strategic funding partner of the Dugong, Seagrass & Coastal Communities Initiative.

Our program is at a critical stage. We are beginning new pilot projects as well as taking pilot projects to full scale across the dugong's range.

Your investment is not just in the dugong. Our innovative approach puts your investment to work in the sustainable development of rural, coastal communities. Your investment will be leveraged for reinvestment in expanding projects over time to create long-term incentives for widespread environmental stewardship.



PHOTO: Donna Kwan

THERE ARE FOUR WAYS TO INVEST

Become an Initiative Steward.

By pledging US\$2 million or more, you will guarantee the implementation of this innovative environmental Initiative in two or more regions across the Indian and Pacific Ocean basins.

Become a Geography Guarantor.

By pledging US\$1 million, you will guarantee the implementation of projects in a specific region. These may include transboundary projects to improve the livelihoods of coastal communities, while also protecting endangered dugongs and seagrass habitat.

Become a State Sponsor.

By pledging US\$500,000, you can sponsor the Dugong, Seagrass and Coastal Communities Initiative in a participating country.

Become a Dugong Sponsor.

By pledging US\$10,000 or more, you can sponsor priority activities identified by dugong range states and contribute to our global efforts to protect dugongs and their habitat.

CONTACT US TODAY TO GET INVOLVED

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