



Promoting integrated environmental  
management of coastal and marine biodiversity

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# PROJECT TERRAMAR

## Protection and Integrated Management of Coastal and Marine Biodiversity

TerraMar is a German-Brazilian cooperation project between the Brazilian Ministry of Environment (MMA), the Chico Mendes Institute for Biodiversity Conservation (ICMBio), and the German Ministry of the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), in the context of the International Climate Initiative (IKI), and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.



Considering the connectivity between terrestrial and marine ecosystems, the Project promotes integrated environmental management, as well as approaches to prevent and combat marine litter, and to support monitoring, conservation and sustainable use of coastal and marine biodiversity.

We work with several local partners to implement the project mainly in two regions which shelter a rich diversity of plants, animals, ecosystems and local communities: Abrolhos (Bahia and Espírito Santo) and Costa dos Corais (Pernambuco and Alagoas).

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## CAPACITIES, NETWORKS, AND COMMUNICATION

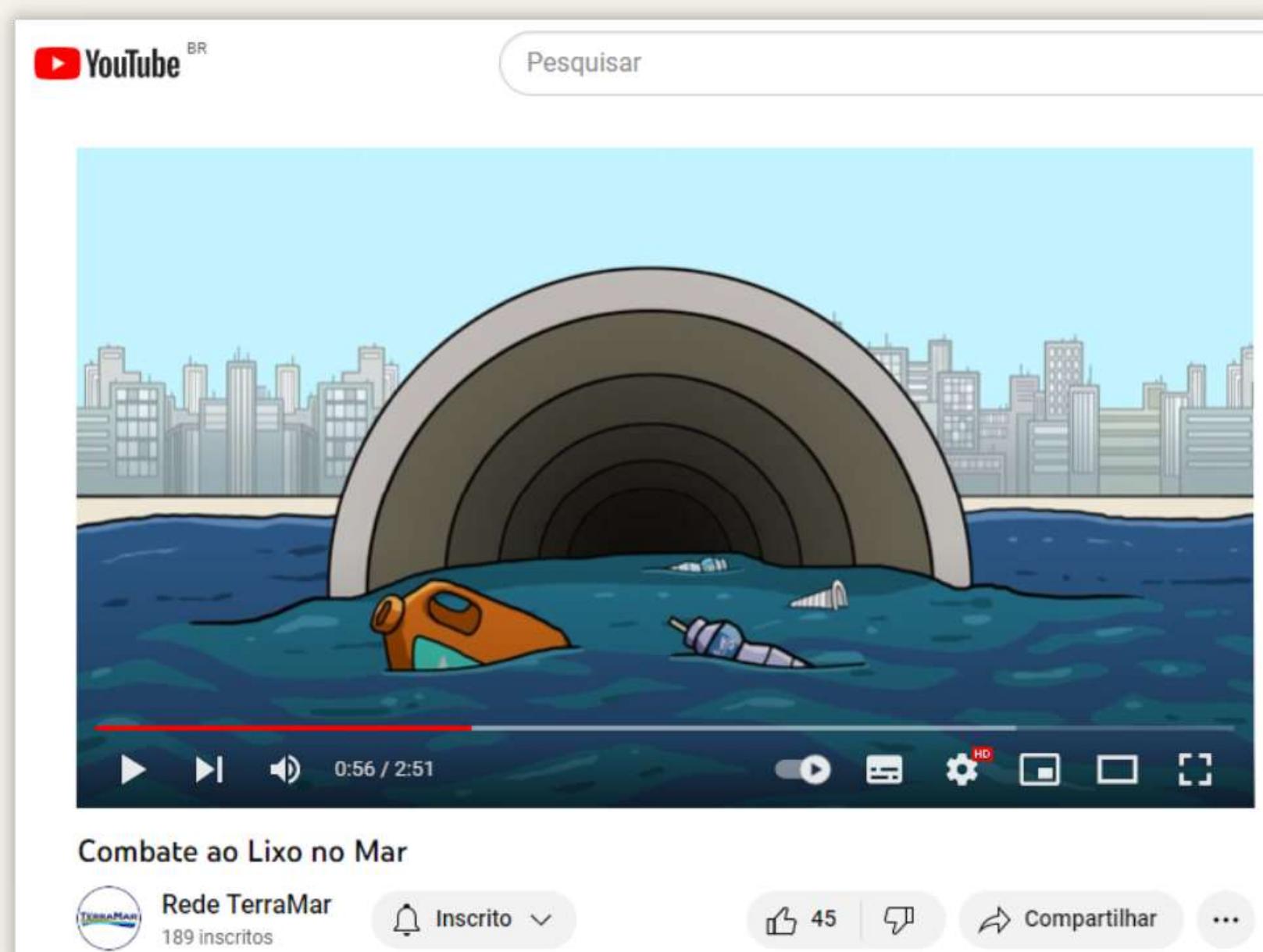
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Photos: MMA, GIZ, Iara Sommer, Leo Domingos

In 2019, to address the challenges of marine litter, the Brazilian Ministry of Environment (MMA) launched the [National Plan to Combat Marine Litter \(PNCLM\)](#), which seeks to guide national actions on marine litter. The Action Plan is structured around three central topics: solid waste management (addressing the root cause); cleaning beaches, rivers, and mangroves (recovering the quality of life and the environment); and results management (consolidating information and continuously improving). The TerraMar Project developed a strategy to support the implementation of the National Action Plan with measures that prevent and reduce marine litter and improve solid waste management.

This video aims to raise awareness about how litter ends up in the sea, and how this can be mitigated:



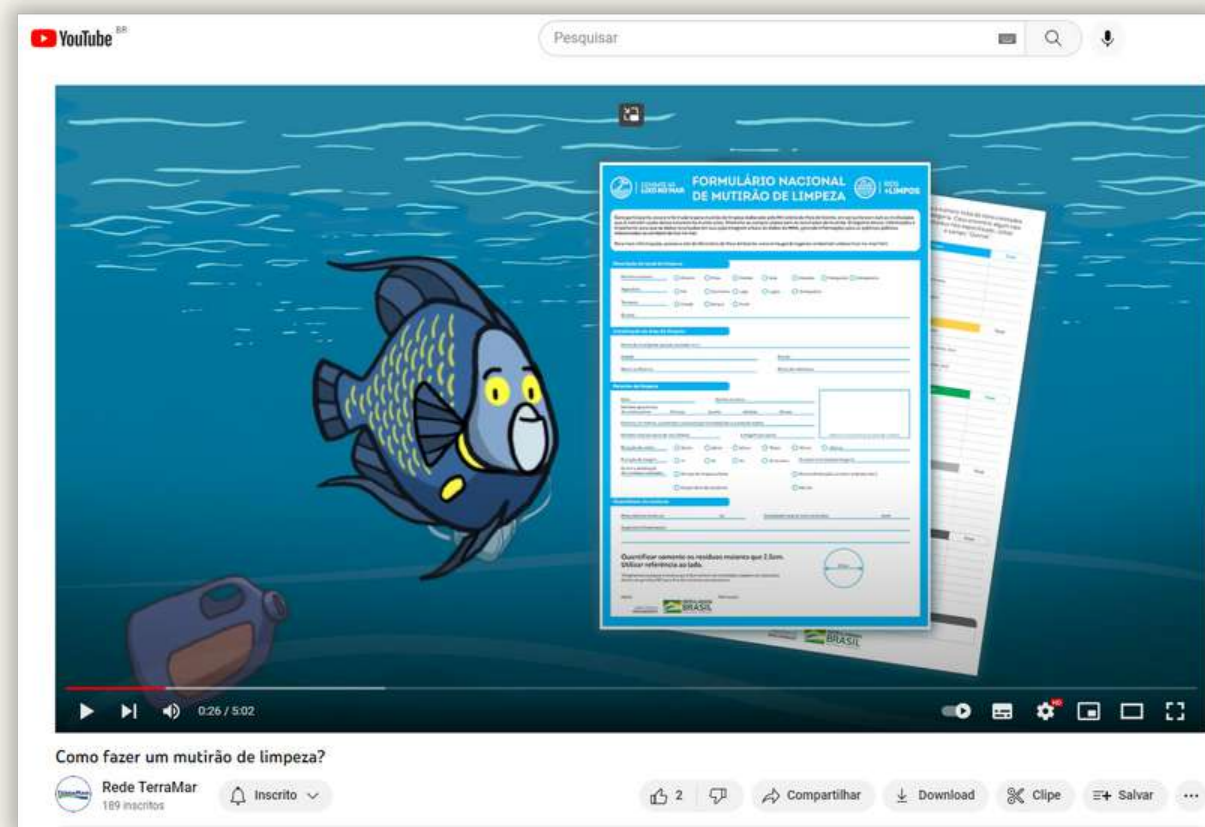
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YouTube | Combating Marine Litter

## Joint efforts to cleanup beaches, rivers, and mangroves

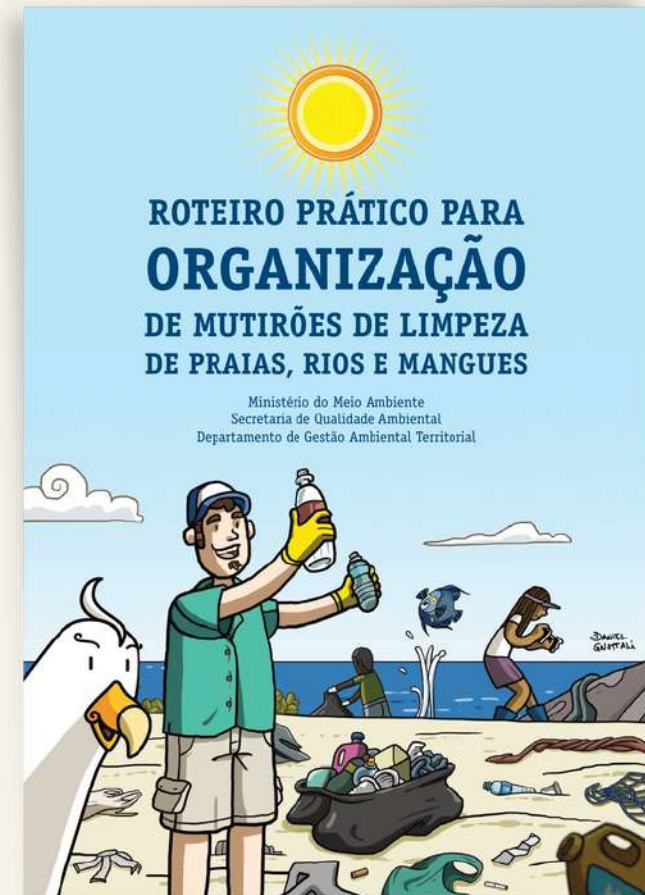
Cleanup activities to collect marine litter and other waste from mangroves and beaches mobilize the local population and raise awareness of the issues of marine litter. In 2021 and 2022, during 42 joint cleanup efforts carried out in the regions of Costa dos Corais and Abrolhos, Brazil, more than 1000 volunteers collected and sorted more than 5 tons of waste, transmitted information regarding the collected waste through the [National Cleanup Form](#), and ensured the adequate disposal of the collected waste at recycling cooperatives and waste management facilities.



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**YouTube** | Practical Guide for organizing Beach, River, and Mangrove Cleanups



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**Publication** | Practical Guide for Beach, River, and Mangrove Cleanups

## National Cleanup Form to combat marine litter

The National Cleanup Form categorizes the types of waste collected during joint cleanup efforts on beaches, rivers, and mangroves throughout the country. The information of the cleanups is systematized and made available in the [Results Panel of Cleanups and Combating Marine Litter](#) of the MMA/SQA.

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**Virtual Platform** | Results Panel of Cleanups and Combating Marine Litter



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**Publication** | National Form for Beach, River and Mangrove Cleanups



## Action Plan to Combat Marine Litter of the coastal State of Pernambuco (PACOLMAR/PE)

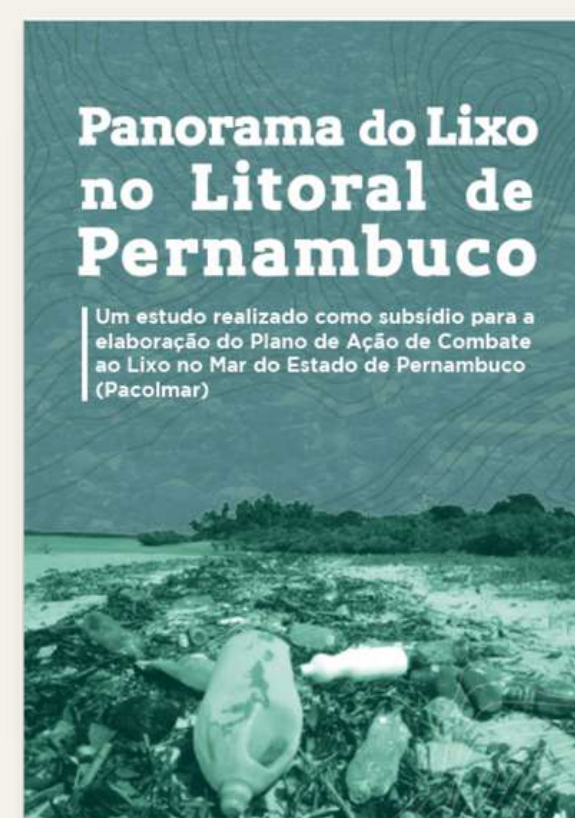
Based on the National Plan to Combat Marine Litter, and on a survey of solid waste in 15 coastal municipalities of Pernambuco, Pacolmar/PE was developed using a participatory approach. The Plan establishes guidelines for preventing and combating marine litter, especially for solid waste management in the State. It was developed in partnership with the MMA, TerraMar, the Secretariat of Environment and Sustainability of Pernambuco (SEMAS/PE), and the State Environmental Agency (CPRH), among other partners.



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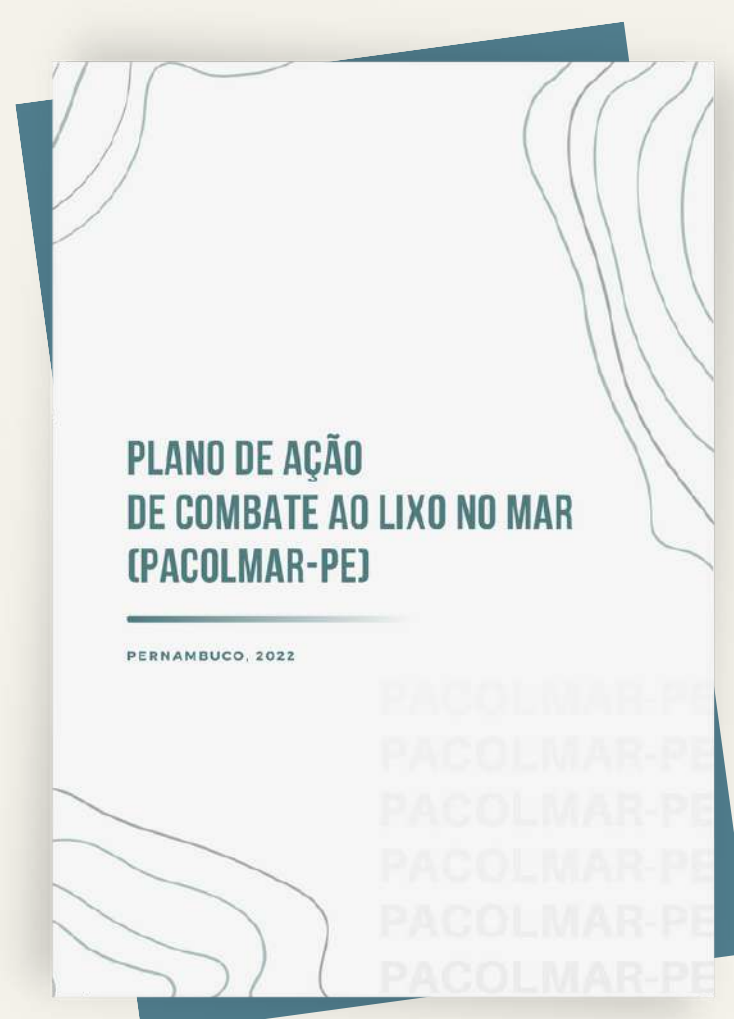
**Youtube** | Action Plan to Combat Marine Litter of the coastal State of Pernambuco (PACOLMAR/PE)



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**Publication** | Panorama of Marine Litter in the coastal State of Pernambuco



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**Publication** | Action Plan to Combat Marine Litter of the coastal State of Pernambuco (PACOLMAR/PE)

## Waste Flow Diagram

The [Waste Flow Diagram \(WFD\)](#) is a rapid evaluation tool that maps the flow of municipal solid waste and identifies the sources and pathways of waste leakage into the environment. TerraMar is applying the tool in seven municipalities (Porto Seguro/BA, Maragogi/AL, São José da Coroa Grande/PE, Barreiros/PE, Rio Formoso/PE, Sirinhaém/PE, and Tamandaré/PE), to identify and develop proposals for local environmental and public cleaning agencies to reduce waste leakage into the environment, especially into bodies of water.



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**Website** | Find out more about the Waste Flow Diagram (WFD)

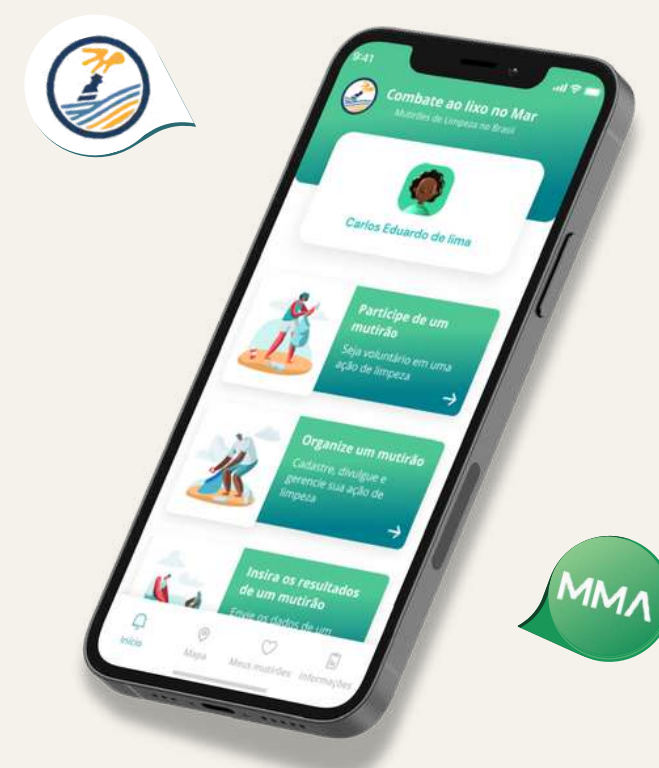
## Distance Learning Course (EaD) on Preventing and Combating Marine Litter

The distance learning course on Preventing and Combating Marine Litter, currently in development, aims to train public managers in coastal areas on the issue of marine litter and its close relation to solid waste management. Marine Litter, connectivity between land and sea, international and national political contexts, environmental education, and prevention strategies are some of the contents covered in the course modules.



## Combating Marine Litter Application

The application "Combating Marine Litter" allows citizens to engage to reduce ocean pollution. The app facilitates the organization, dissemination and participation in beach, mangrove, river, and lake cleanups and provides access to information from joint efforts carried out throughout the country. The mobile app is embedded in the Ministry of Environment's (MMA) SuperApp, available at the Google Playstore and the Apple Appstore.



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**Youtube** | Combating Marine Litter Application

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**Website/APP** | SuperApp MMA Combating Marine Litter

# COASTAL MANAGEMENT

To promote efficient environmental management of coastal and marine areas, TerraMar seeks to improve environmental planning and integrate local partners in the participatory development of environmental planning and management policies, involving public administration at the federal, state and municipal level.

## Environmental and Territorial Zoning of Nautical Activities (ZATAN) of the Formoso River Estuary

The Zoning establishes measures that promote socioeconomic development in harmony with sustainable tourism and biodiversity conservation in the Formoso River estuary, located in the Environmental Protection Area (APA) of Guadalupe, Pernambuco. ZATAN is the result of a broad participatory process with representatives of local fishing communities, civil society, the private sector and the government, coordinated by the Secretariat of Environment and Sustainability of the State of Pernambuco (SEMAS/PE) and the State Environmental Agency (CPRH), with the support of the TerraMar Project.



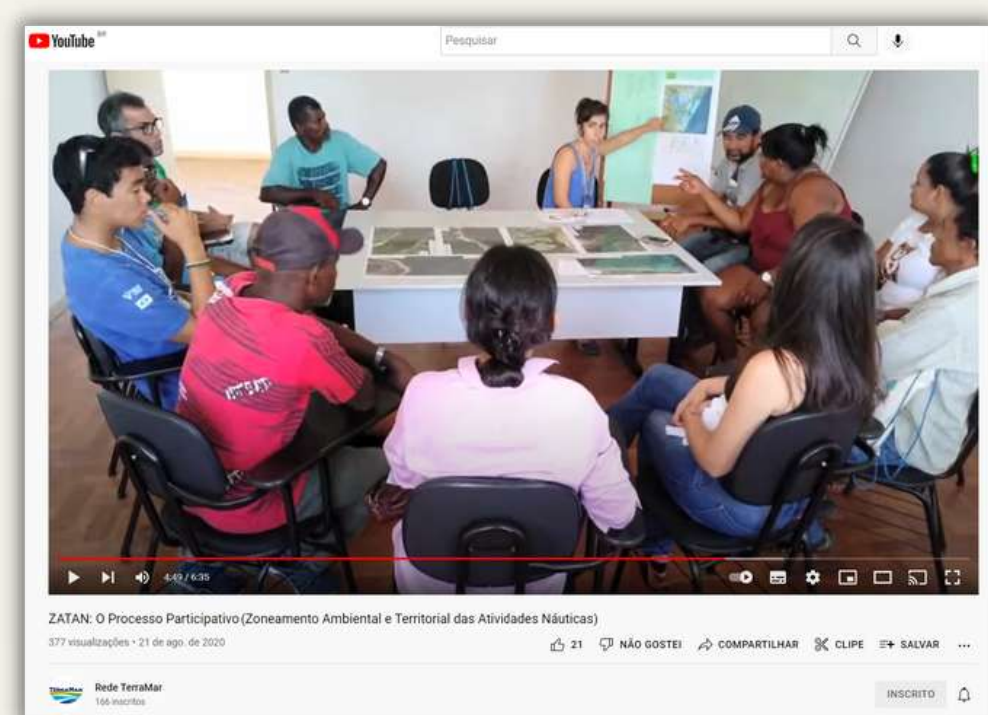
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**Booklet** | Territorial Environmental Zoning of Nautical Activities (ZATAN) of the Formoso River Estuary



**Report** | Territorial Environmental Zoning of Nautical Activities (ZATAN) of the Formoso River Estuary



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**Youtube** | ZATAN: The Participatory Process (Environmental and Territorial Zoning of Nautical Activities)

## Carrying Capacity

As part of the Management Plan of the Environmental Protection Area (APA) Guadalupe and to support the implementation of the Environmental Zoning (ZATAN), Pernambuco's Environmental Agencies SEMAS/PE and CPRH coordinated a technical study on the environmental Carrying Capacity of the Formoso River estuary, on the beaches of Tamandaré (PE) and Sirinhaém (PE), and the Island of Santo Aleixo (PE). The study presents calculations and indications on the number of people, vessels, recreation, and tourism activities that the local environment can support without compromising its natural characteristics and ecosystem health.



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**Publication** | Carrying Capacity of the Formoso river estuary



## Agenda for Coastal Management

The Integrated Agenda for Coastal Management in Brazil was developed with representatives of environmental agencies from 17 Brazilian coastal states. The document introduces guidelines for establishing a national public policy on coastal management over the next few years. Amongst others, it prioritized measures to integrate municipal, state, and federal public policies, increase participation of research institutions, and implement land use planning.

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**Publication** | Integrated Agenda for Coastal Management in Brazil



## CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY

TerraMar seeks to develop, improve, and strengthen instruments for biodiversity management for the conservation and sustainable use of coastal and marine ecosystems.

### Awareness Raising Campaign on Responsible Conduct on Beaches and in Reef Environments

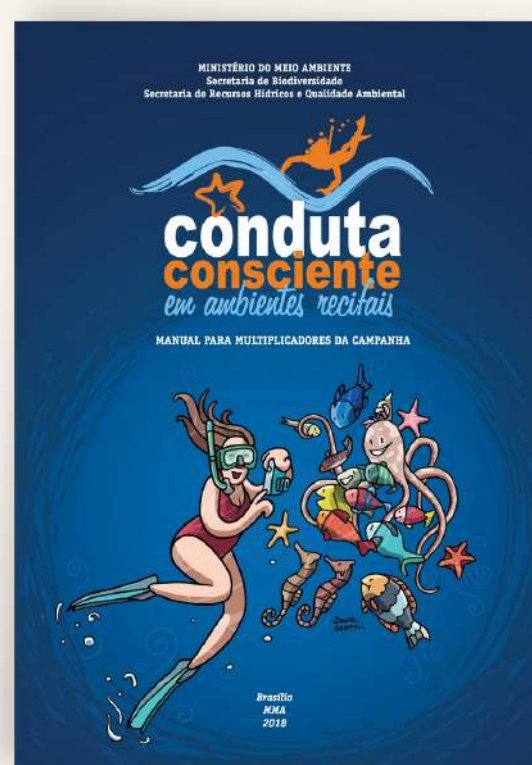
The awareness raising campaign shares information and curiosities about coastal and marine biodiversity, the importance of its conservation and responsible conduct which minimizes the impact on reefs and beaches. Developed by the Ministry of Environment (MMA), the campaign was updated in partnership with TerraMar, ICMBio and the Coral Vivo Institute, and provides animation videos, banners, posters, folders, and a manual for multipliers.



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**Folder** | Conscious Conduct on Beaches



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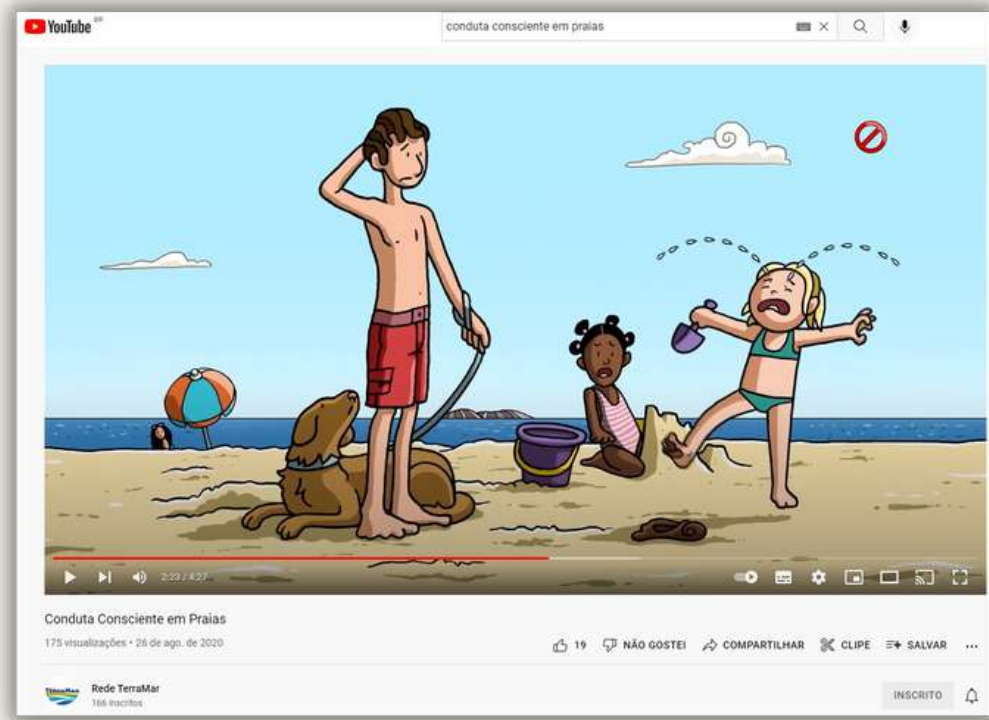
**Publication** | Manual for Multipliers of the Campaign for Conscious Conduct in Reef Environments



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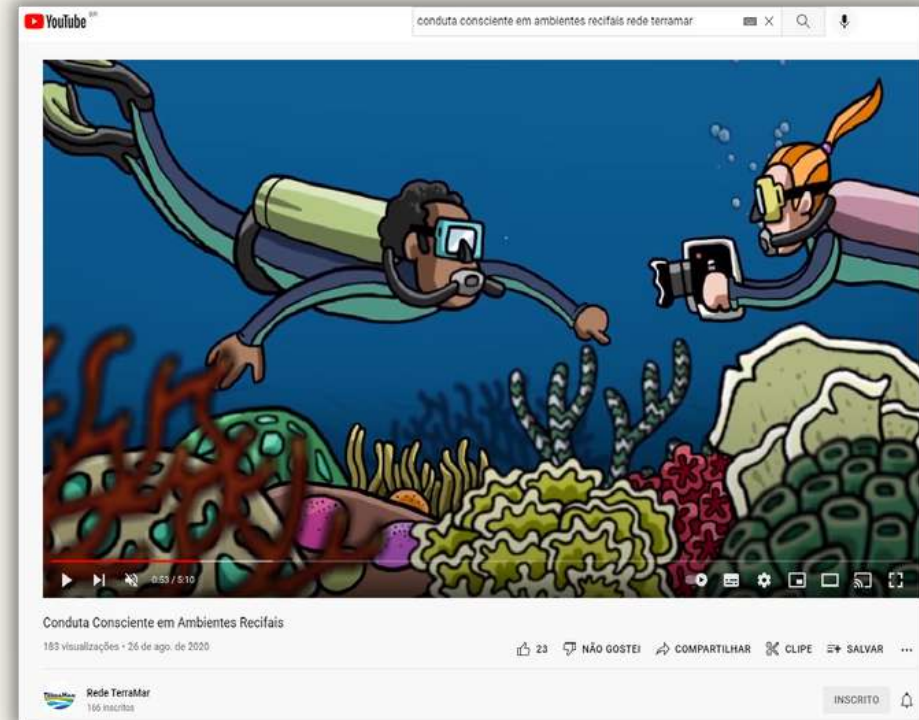
**Poster** | Conscious Conduct Poster on Beaches and in Reef Environments



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Youtube | Conscious Conduct on Beaches



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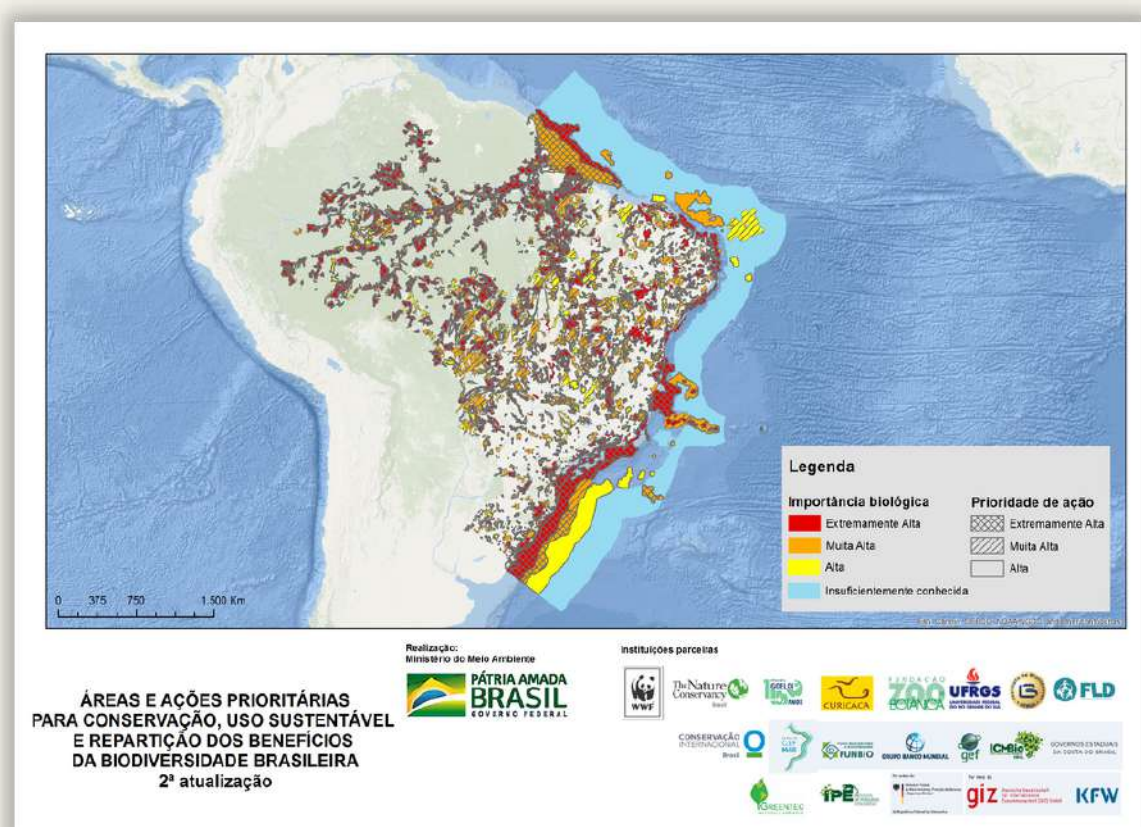


Youtube | Conscious Conduct in Reef Environments

## Priority Areas for the Conservation, Sustainable Use and Benefit Sharing of Brazilian Biodiversity

A public policy instrument developed by the Ministry of the Environment (MMA) to support decision-making on planning and implementing adequate measures for the conservation, sustainable use and recovery of Brazilian ecosystems, based on objective scientific information and participatory processes. The instrument provides important georeferenced databases and information for creating protected areas, for licensing potentially polluting activities, for control and enforcement, and for promoting the sustainable use of biodiversity, amongst others.

In 2021, in partnership with the Institute for Ecological Research (IPÊ) and the Department of Ecosystems (DECO) of the Ministry of Environment (MMA), TerraMar promoted a training on the use of the instrument for environmental managers, especially of the coastal states of Pernambuco, Alagoas, Bahia and Espírito Santo.



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Website | Maps and database of the Priority Areas for Brazilian Biodiversity



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Youtube | Find out more about the Priority Areas for Biodiversity

## National Action Plan for the Conservation of Endangered Species and Species of Socioeconomic Importance of the Mangrove Ecosystem



Photos: Mariana Santos/GIZ

The National Action Plan for the conservation of endangered species and species of socioeconomic importance of mangroves (PAN Manguezal), coordinated by the National Center for Research and Conservation of Biodiversity related to Traditional Peoples and Communities (CNPT), aims to conserve Brazilian mangroves, reduce degradation and protect species, as well as maintain its areas and traditional uses, based on the integration of public entities, society, and academic and traditional knowledge. TerraMar supported the conclusion and evaluation of the first cycle of the National Action Plan for Mangroves (PAN Manguezal), which integrated traditional knowledge into approaches for conserving endangered species.

As a result of the PAN Manguezal and fruit of the mobilization of more than 200 institutions which represent traditional peoples and communities, academia, civil society and public entities, 17 protected areas were created, 31 instruments for fisheries management were developed or revised, social participation in public policies improved, and more than 100 trainings were conducted.



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Youtube | PAN Manguezal: living memories (Teaser)

# MONITORING OF ENVIRONMENTAL QUALITY AND COASTAL AND MARINE BIODIVERSITY

TerraMar develops and supports initiatives to monitor environmental quality and coastal and marine biodiversity, such as water quality, mangroves, artisanal fishing, and associated biodiversity.

## Praia Limpa App



The Praia Limpa App provides information on water quality for recreational purposes (bathing) along the Brazilian coast. It enables collaborative evaluation among users regarding aspects such as scenic beauty of the beaches, cleanliness, ease of access, and conditions for diving and surfing. Launched in April 2022 with information on more than 1,300 locations along the Brazilian coast, Praia Limpa is incorporated into Ministry of Environment's (MMA) SuperApp, available for free at the Google Playstore and the Apple Appstore.

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[Website/App](#) | Portal of the Praia Limpa App (MMA)



[Youtube](#) | Ministry of Environmental launches Praia Limpa app

## Evaluating and monitoring river water quality in the Environmental Protection Area (APA) Costa dos Corais in Northern Alagoas

In partnership with the Federal University of Alagoas (UFAL) and the Environmental Protection Area (APA) Costa dos Corais, TerraMar supported training for riverine communities to collect samples to monitor and evaluate the water quality in three coastal rivers in Northern Alagoas (Santo Antonio, Camaragibe and Manguaba rivers). The chemical and biological analyses of the water provides a baseline for future comparisons of environmental quality to support management decisions and response measures in cases of alteration and deterioration of water quality.

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[Field Guide](#) | How to monitor the water quality of rivers



## ICMBio's National Biodiversity Monitoring Program in Protected Areas (Programa Monitora)

TerraMar supports the National Biodiversity Monitoring Program (Monitora) in structuring and implementing its marine and coastal subprogram, especially participatory monitoring of mangroves and artisanal fishing, and associated biodiversity.



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**Publication** | Integrated Coastal and Marine Monitoring Strategy

## Participatory Monitoring of Artisanal Fisheries in Protected Areas

As part of its cooperation with the Monitora Program, TerraMar supported the elaboration of didactic material on participatory monitoring of artisanal fishing, as well as training for instructors and monitors, including managers and representatives of traditional artisanal fishing communities in marine and coastal protected areas along the Brazilian coast.



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**Publication** | Technical manual for monitoring artisanal fisheries in Conservation Units

## Manuals for Scientific Fisheries Observers

The series of publications guides on-board fisheries observers in monitoring fish and invertebrate fisheries, as well as incidental catches of birds, mammals, and sea turtles, for fisheries with longlines, dragnets (trawl) and gillnets.



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**Publication** | Scientific observer manual for fishing with gillnets



**Publication** | Scientific observer manual for longline fisheries



**Publication** | Scientific observer manual for trawl fisheries

# CAPACITIES, NETWORKS, AND COMMUNICATION

TerraMar develops training courses for its partners, including federal, state, and municipal, environment agencies protected area managers, as well as local coastal communities, strengthens local networks and supports the dissemination of lessons learned.

## Costa dos Corais Fisherwomen Network

Created in 2019, the Network aims to strengthen the rights of fisherwomen. The process of mobilization and capacity building to establish the Network was supported by TerraMar, the Yandê Institute, and the APA Costa dos Corais. In 2021, TerraMar promoted training on project design and supported the inclusion of the Network's fishery products in the digital sales platform Gestor Orgânico. Today, the network has already become a reference for women in artisanal fishing and traditional communities along the entire Brazilian coast.



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**Publication** | Women Fishing for Freedom  
The creation of the Costa dos Corais Fisherwomen Network: visibility and strength based on a collective dream



**Youtube** | Costa dos Corais Fisherwomen Network



**Publication** | Handbook for project development



**Spotify** | Podcast: Women Fishing for Freedom



**Mulheres pescando liberdade**  
GIZ Brasil



## Municipal Environmental Councils (Comdemas)

With support from TerraMar, APA Costa dos Corais developed the Comdema booklet with guidelines regarding the importance, the formation and the management of municipal environmental councils. The publication seeks to promote and strengthen municipal environmental councils as important mechanisms that unite local partners and users for effective environmental management at the local level.



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**Publication** | How to create and manage a Municipal Environment Council (Comdema)?

## Training on Municipal Environmental Management (GAM)

In partnership with the Ministry of Environment (MMA) and the Coral Vivo Project, TerraMar trained regional tutors and more than 100 municipal managers in the coastal regions of Costa dos Corais and Abrolhos in municipal environmental management. Applying a combination of digital and in-person formats, the training included topics on public policy integration, coastal ecosystems, and land-sea connectivity.



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**Youtube** | Municipal Environmental Management Tutor Training Course (GAM)

## TERRAMAR SOCIAL MEDIA CHANNELS

[flickr.com/redeterramar/albums](https://www.flickr.com/photos/redeterramar/)



[facebook.com/RedeTerraMar](https://www.facebook.com/RedeTerraMar)



[Rede TerraMar](https://www.youtube.com/channel/UC...)



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