

Prepared by:



PEAT

Workers Environmental Education Project

MODULE 2

AREA OF INFLUENCE



This program is a mitigation measure required by IBAMA during the federal environmental licensing process.



SUMMARY



1. Location Map and Area of Influence
2. Environmental Diagnosis

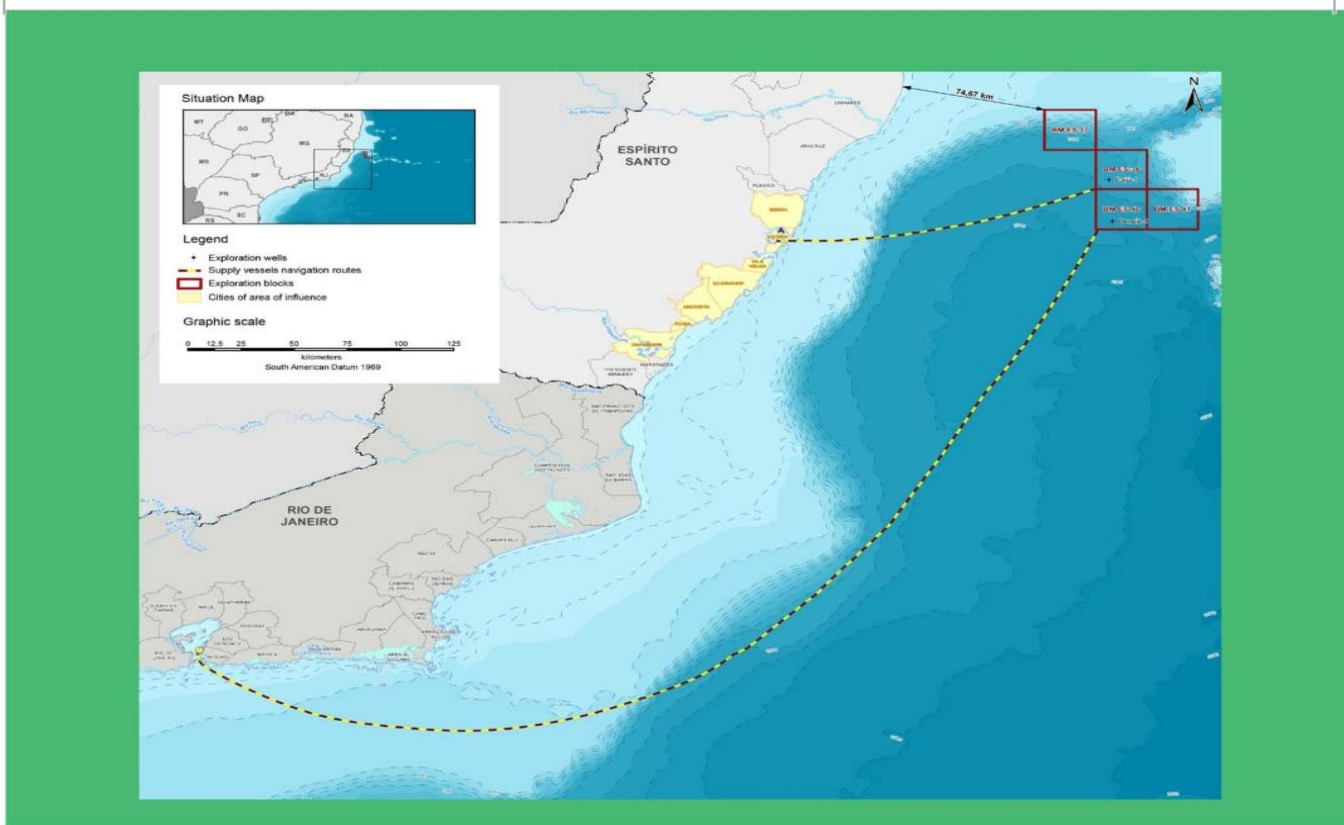




LOCATION MAP AND AREA OF INFLUENCE



LOCATION MAP



Blocks: BM-ES-37, 39, 40 e 41

Espírito Santo Basin

Shortest distance to the coast: 75 km



AREA OF INFLUENCE



- The total area of BM-ES-37, 39, 40 e 41 blocks;
- The route of the supply vessels to the onshore bases and to the drilling unit;
- The area of the drilling unit;
- The cities of Serra, Vitória, Vila Velha, Guarapari, Anchieta, Piúma and Itapemirim, in Espírito Santo; and
- The area of the onshore bases Nitshore, in Niterói, RJ and VOL-Vitória Offshore Logistics, in Vila Velha, ES.

CRITERIA: Geographic reach of direct and indirect impacts of the activity.





ENVIRONMENTAL DIAGNOSIS



ENVIRONMENTAL DIAGNOSIS



Description of the **biota and physical, and socioeconomic** environment of the area of influence.

Determination of the **environmental situation** of the area before the implementation of the activity.



PHYSICAL ENVIRONMENT



Important Geological Formation

- Abrolhos Bank;
- Vitória Trindade Current.



PHYSICAL ENVIRONMENT



Climate

2 well marked seasons:

- Rainy: November-April,
- Dry: May-October.



PHYSICAL ENVIRONMENT



Waves

Autumn (April-May) and Winter (June-August)

- **Direction:** east-southeast
- **Height:** 1,5 m.

Spring (September-November) and Summer (December-February)

- **Direction:** north-northeast
- **Height:** 1,0 m.



PHYSICAL ENVIRONMENT



Important Ocean Currents

- Corrente do Brasil;
- Vitória Vortex (50 km diameter; more intense activity in summer).





This Project will count with environmental professionals on board to perform the sighting of aquatic animals.

To succeed in this task it is important the participation of all.

Tell your supervisor if you see any animal in the water and injured birds in the operational area.

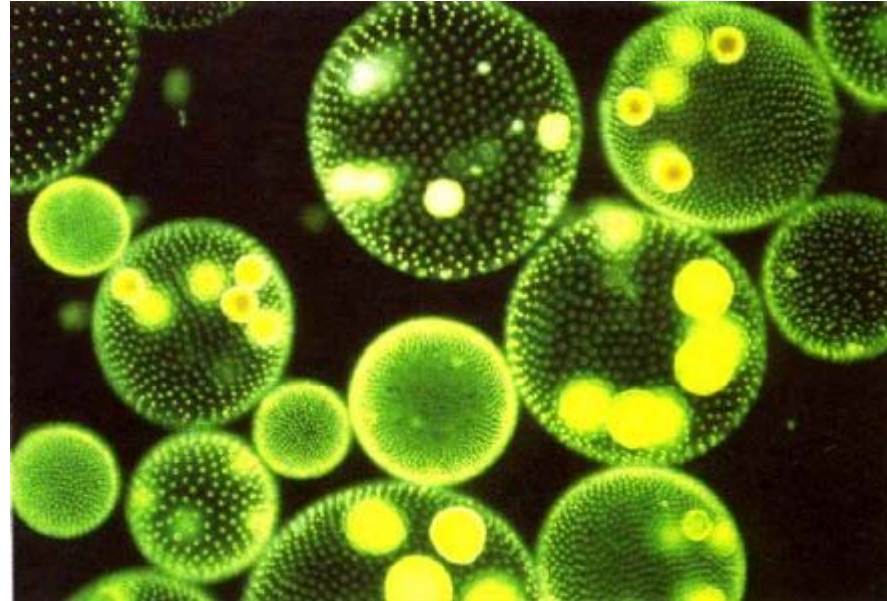


MARINE ORGANISMS



Plankton Community

Microscopic algae
(Phytoplankton), small
crustaceans and fish larvae.



It is believed that Phytoplankton is responsible for 98% of the atmosphere oxygen.



MARINE ORGANISMS



Benthic Community

Algae, sea urchins, starfish, sea sponges and corals.



MARINE ORGANISMS



Nektonic Community

Fishes

Marine Turtle

Whales and Dolphins



NEKTONIC COMMUNITY



Fishes

- Fish species of high economic value :

albacora, garoupa, cherne, peroá branco, cioba, atum and dourado.

- Endangered species :

mero, pargo, cioba, caranha, donzelinha, albacora, tubarão baleia (shark) and tubarão fidalgo (shark).



NEKTONIC COMMUNITY



Marine Turtle

tartaruga-verde, tartaruga-cabeçuda, tartaruga-de-pente, tartaruga-olivácea and tartaruga-de-couro.



NEKTONIC COMMUNITY



Whales and Dolphins

boto-cinza, toninha, baleia orca, golfinho-cabeça-de melão, baleia cachalote, baleia Jubarte, among others.





Birds

- Birds that reproduce in the Abrolhos Archipelago

atobá-marrom, atobá-mascarado, fragata, rabo-de-palha-de-bico-amarelo, rabo-de-palha-de-bicovermelho, andorinha-do-mar-preta and trinta-réis-das-rocas.



MARINE ORGANISMS



Birds

- Seabirds

albatroz-de-nariz-amarelo-do Atlântico, albatroz-de-sobrancelha negra, pardela-de-sobre-branco, pardela-preta, pardela-de-óculos, petrel-das-tormentas-de-Wilson and gaivotas-rapineiras (Catharacta spp).



pardela de bico amarelo



COASTAL ECOSYSTEMS



Sandbanks

It's a saline and sandy area near the sea and covered by mixed vegetation. It is considered of great importance due to the number of species and other natural resources that only exists in this ecosystem. Any impact in this ecosystem can result in the disappearance of certain species. The main formations of Restinga in Brazil are in the states of Bahia, Espirito Santo, Rio de Janeiro and São Paulo.



COASTAL ECOSYSTEMS



Beachs

Geological formation considered of great importance for the tourism. It's composed primarily of sand, gravel and others particulate matter along the bank of a river, sea or lake. It's a dynamic environment that hosts several species such as polychaetes, molluscs and crustaceans. Your vegetation consists of herbaceous plants and creepers.



COASTAL ECOSYSTEMS



Mangrove

Characteristic of tropical and subtropical regions is considered a coastal ecosystem of transition between terrestrial and marine environments, subject to the tidal regime. It's regarded as "nursery of life," because it's where is born several species like fish, crustaceans and mollusks. Brazil has the largest range of mangroves on the planet - about 25 square kilometers. In addition to its social and biological importance, this ecosystem has also the function to protect the coastal regions.



COASTAL ECOSYSTEMS



Estuaries

An estuary is part of a river that is in contact with the sea. For this reason is influenced by tidal and has typically brackish water. It has great importance for the reproductive cycle of most species, and serves as protection from predators to a large number of species that lives there.



COASTAL ECOSYSTEMS



Rocky Shores and Oceanic Islands

It's an ecosystem in transition from marine to terrestrial environment, it is possible to find a vast biological diversity, taking into account the influence of the tides. One of the most important coastal habitats with a great ecological and economic importance, like mussels, oysters, shellfish and a wide variety of fish.

Major Brazilian Oceanic Islands:

- **Archipelago de São Pedro e São Paulo**
- **Archipelago of Abrolhos**
- **Archipelago of Fernando de Noronha**
- **Islands of Trindade and Martin Vaz**





Coral Formation and Reefs

Coral reefs are among the richest ecosystems in the world. The Abrolhos region has a major coral formation of the South Atlantic where they inhabit a multitude of marine creatures. The main species of reef-forming corals in this region is the brain coral, which occurs only in Bahia.



CONSERVATION UNIT



It's the territorial space and its environmental resources, including territorial waters, with natural features relevant, legally instituted by the Government, with conservation objectives and limits set under special administration regime, which applies appropriate security guarantees.

Approximately 2.1% of this state is covered by specially protected areas. The region of the Espirito Santo Basin comprises 26 protected areas, and 3 Federal, 9 State and 14 Municipalities.

Archipelago of Abrolhos: Located 80 km from Bahia consists of five small islands, which make up the first National Marine Park. The archipelago in the months of June to November is visited by Humpback whales. The species plays along the northeast coast of Brazil and in Abrolhos we have the largest reproduction area of the South Atlantic.



Arquipelago de Abrolhos - BA



CONSERVATION UNIT



CONSERVATION UNIT	SITE	PHYSICAL ENVIRONMENT
APA de Conceição da Barra	Conceição da Barra	Mongrove, Sandbank and Beach
Parque Estadual de Itaúnas	Itaúnas	Atlantic Rainforest
Reserva Biológica de Comboios	Linhares/ Aracruz	Sandbank
Reserva Ecológica dos Manguezais dos Rios Piraquê-Açú e Piraquê-Mirim	Aracruz	Mongrove
APA da Lagoa de Guanandy	Piúma/ Itapemirim	Sandbank , Lagoon
APA da Praia Mole	Serra	Beach, Sandbank e Lagoon
APA da Ilha do Frade	Vitória	Coastal
APA do Morro do Moreno	Vila Velha	Atlantic Rainforest and Beach
APA da Ilha de Depiá	Vila Velha	Coastal
APA de setiba	Guarapari	Oceanic Coastal
Parque Nacional Marinho dos Abrolhos	Caravelas	Coral Reef, Coastal/Oceanic
APA Estadual Ponta da Baleia/ abrolhos	Caravelas	Reefs and Coral Banks





Use and occupation of the area of influence

- Urban areas, concentrated in Metropolitan Region of Vitória;
- Ecosystems of great environmental significance;
- Tourist activities (beachs and mangroves).



SOCIOECONOMIC ENVIRONMENT



In the last decade, the new discoveries of oil and natural gas reservoirs in the state's coast triggered a process of intensifying immobiliary speculation, in the cities of Vitória and Vila Velha.





Fishery

- Great fishing activity

Species of commercial interest :

- *vermelho, vermelho-dentão, pargo, pargo-boca-negra, cioba, catuá, guaiuba, ariacó, olho de boi and dourado.*





THANK YOU!!!!

