Egyptian NBSAP:
implementation, assessment and barriers

Regional Workshop for the Middle East and North Africa on Updating National Biodiversity Strategies and Action Plans: Focus on Targets and Indicators

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Background

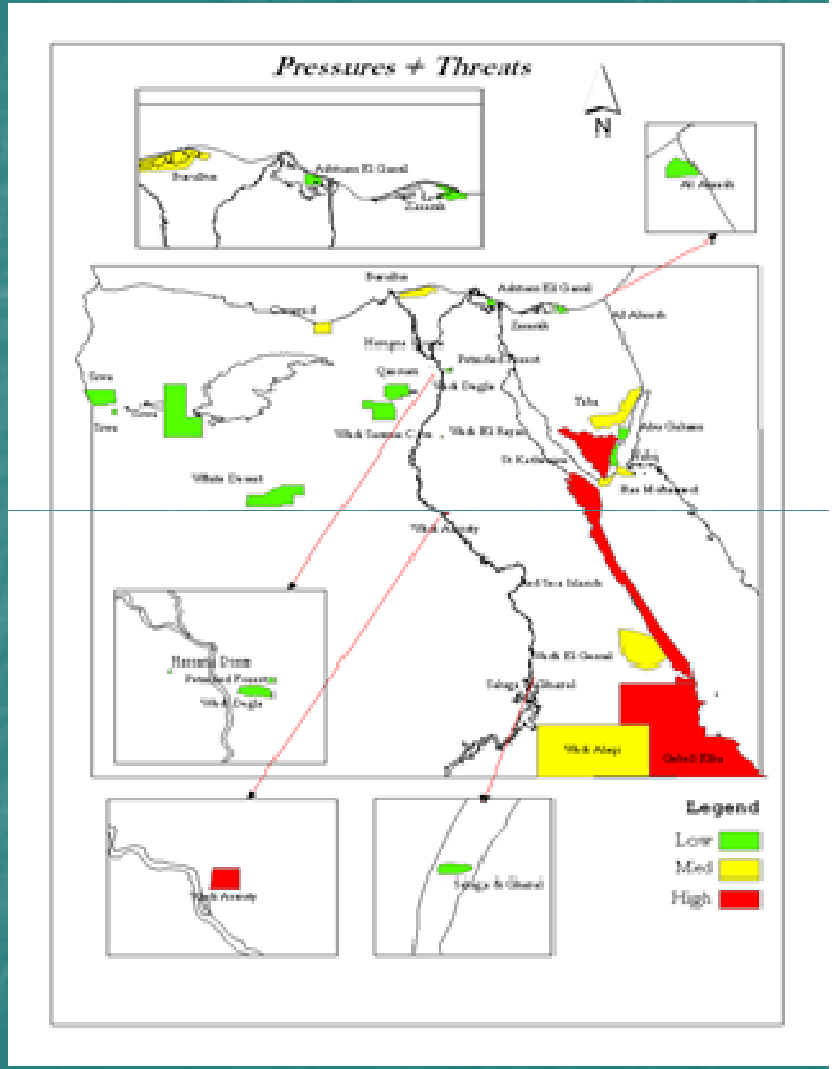
1. In Egypt, the primary party responsible for managing biodiversity is the Ministry of State for the Environment, Egyptian Environmental Affairs Agency (EEAA), Nature Conservation Sector (NCS).

2. There is a National Multi-stakeholder Committee:

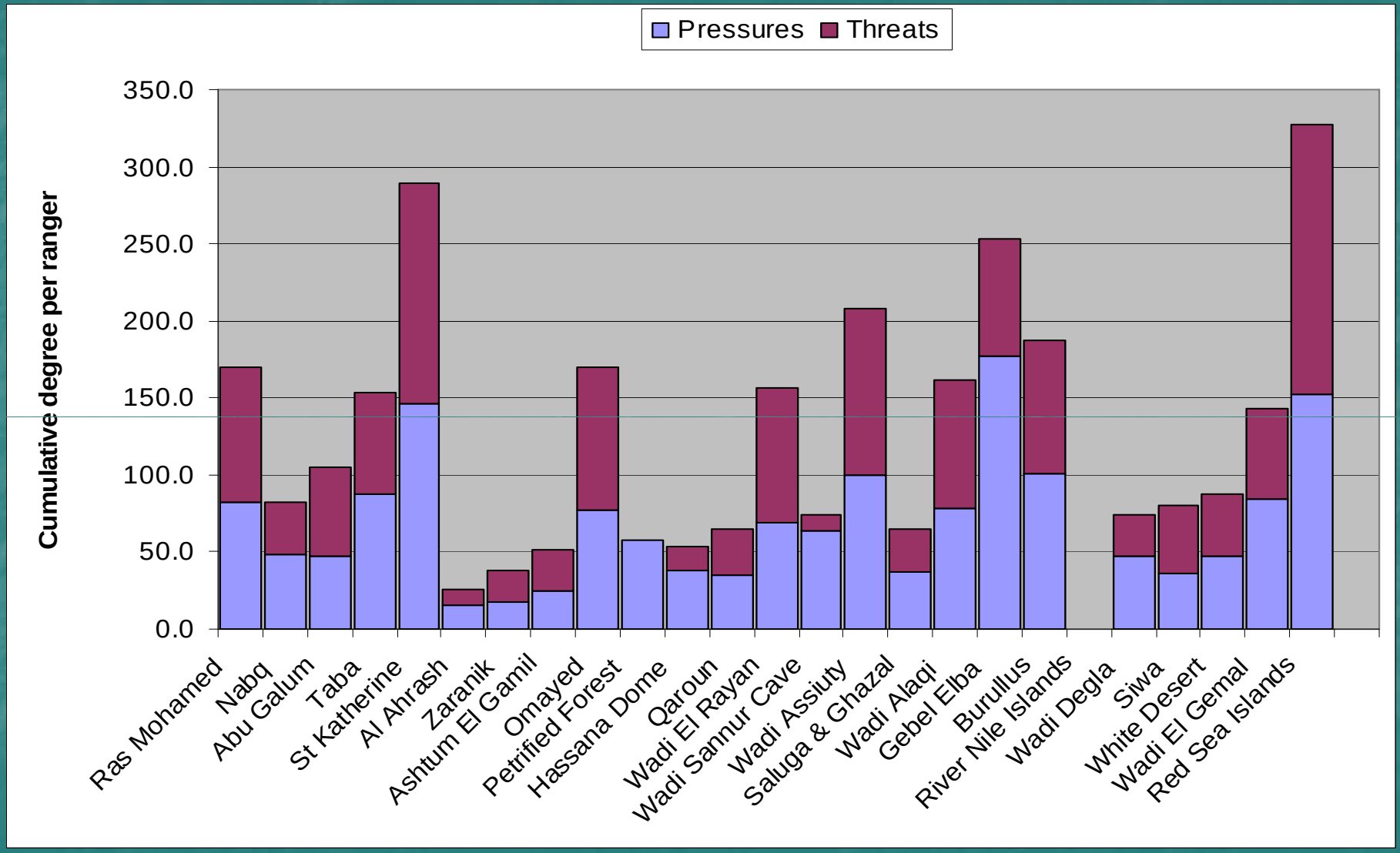
   - Minister of Environment as Chairman of the Board.
   - CEO of EEAA as deputy chairman of the Board.
   - A representative from each of six ministries selected by the Prime Minister.
   - Two experts in the field of environmental affairs selected by the Minister of Environment.
   - Three representatives from NGOs concerned with the environment.
   - A high-ranking employee of the EEAA selected by the Minister of Environment.
   - The head of the Legal Opinions Department at the Council of State.
   - Three representatives from the public business sector.
   - Two representatives from universities and scientific research centres.
   - Representatives of the ministries concerned shall be invited whenever subjects related to the sectors under their supervision are discussed by the Board.

Pressure and threats facing biodiversity in Egypt

1. **Habitat destruction**: There is tremendous human development pressure on those areas that are most important for biodiversity, resulting in high degrees of habitat destruction, conversion and degradation.
2. **Coastal conversion and development**: On the marine side, the conversion of natural land cover along coastal areas has had a large impact on marine and coastal species and habitats.
3. **Hunting**: Excessive hunting is endangering the very existence of several species of resident and migratory birds and a number of hoofed animals (e.g. gazelles).
4. **Pollution**: Pollution continues to be a major threat to biodiversity hotspots (e.g. water pollution in the Nile having major impacts on aquatic biodiversity).
5. **Invasive species**: Egypt, like nearly all countries, faces numerous threats to biodiversity from invasive alien species, including from rats, birds, insects and the American cotton worm.
6. **Climate Change**: Climate change is increasingly becoming a threat to biodiversity in Egypt (e.g. extreme heat events –drought).

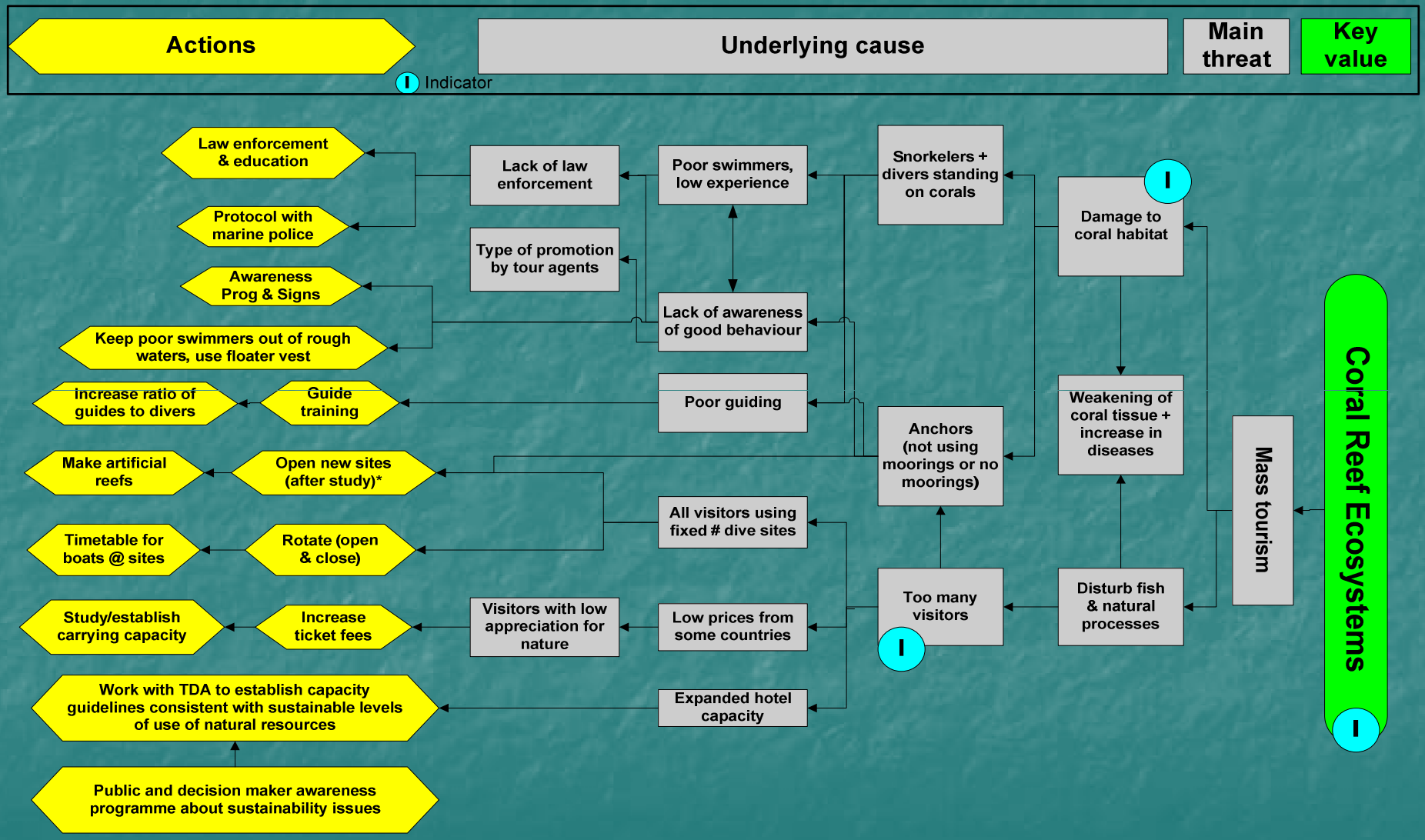


pressures & threats in PAs



Data are the summed degrees of pressure/threat, divided by the # rangers
'degree' = extent (0-4) * impact (0-4) * permanence (0-4)

Example Threat Map



*Opening new sites could result in an increase in use overall instead of dispersing existing levels of use; this would need to be carefully managed

Key barriers: Not enough staff to enforce & do awareness in face of growing use; limited budget; staff have low power/influence; inaccurate statistics from tourism industry about # visitors, nationalities, etc.

Sample Portion of Threat Matrix

Threat	Fossils WHS	Springs	Rayan Lakes	Desert	Main Visitor Area	Visitor Centre	Safary Camp	Camping, Bird Hides	Tracks, Roads	Land Rec	Local Comm Inside	Local Comm Outside	Overall Threat Rank
Cooperation with PAMU	-	-	-	-	-	-	High	-	-	-	-	-	Medium
Facilities*	-	-	-	-	High	-	Medium	High	-	-	-	-	High
Fish farming activities	-	-	Medium	-	-	-	-	-	High	-	High	-	High
Fishing-over fishing & illegal	-	-	-	-	-	-	-	-	-	-	Medium	Medium	Medium
Habitat change	-	Low	High	-	-	-	-	-	-	-	-	-	Medium
Human disturbance or damage	Very high	Medium	Low	Low	-	-	-	Low	-	Low	Low	Low	Medium
Visitor use-under use, security	-	-	-	-	-	-	Very high	-	-	-	-	-	High
Water-declining levels (input)	-	-	Very high	-	High	-	High	Very high		High	Medium	-	Very high
Water-deteriorating quality	-	-	-	-	Medium	-	-	-	-	-	-	-	Low
Water-over use	-	Low	-	-	-	-	-	-	-	High	Medium	-	Medium
Threat status for each value	*High*	*Medium*	*High*	*Medium*	*High*	*Low*	*High*	*High*	*High*	*High*	*High*	*Very high*	**High**

Overall Status

Value	Status
1. Biodiversity/Natural Resources/Cultural Resources:	⇧
Fossils/World Heritage Site	⇧
Springs oasis (Gazelle)	⇧
Lakes (wetlands, shoreline, aquatic)	⇩
Desert	⇔
2. Ecotourism/Recreational Resources:	
Main visitor area (waterfalls, beach)	⇩
Visitor centre	⇩
Safary camp	⇩
Campsites and bird hides	⇩
Tracks	⇩

⇩

Value	Status
3. Community Well-being (socio-economic):	
Land reclamation villages (Lower Lake)	⇔
Other communities within WRPA (fishermen, salt miners, cafeterias, boat owners, oil extraction, monastery)	⇔
Local communities outside WRPA (Yousef Sadeek & area, Rayan, Hana Habbib (solid waste site), Hamouli, Shaalin, Tunis)	⇔

Improved condition or situation over the last five years ⇧

Stable condition or situation over the last five years ⇔

Worsened condition or situation over the last five years ⇩

Example Indicators for Coral reef

Category	Key Attribute	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition	Structure: Butterfly fish	Number of species of butterfly fish per 500 square meters	< 2	**2-3**	4-6	>6	Survey; every 6 months; previous studies
Condition	Structure: Butterfly fish	Abundance of butterfly fish per 500 square meters (no. of individual fish)	<15	**15-29**	30-40	>40	Survey; every 6 months; previous studies
Condition	Structure: Coral cover	Cover (%) per unit area	<5	5-24	**25-60**	>60	
Threat	Mass tourism	Number of visitors/month	>40,000	**20,000-40,000**	20,000-10,000	<10,000	

Poor: Requires intervention; may not be feasible

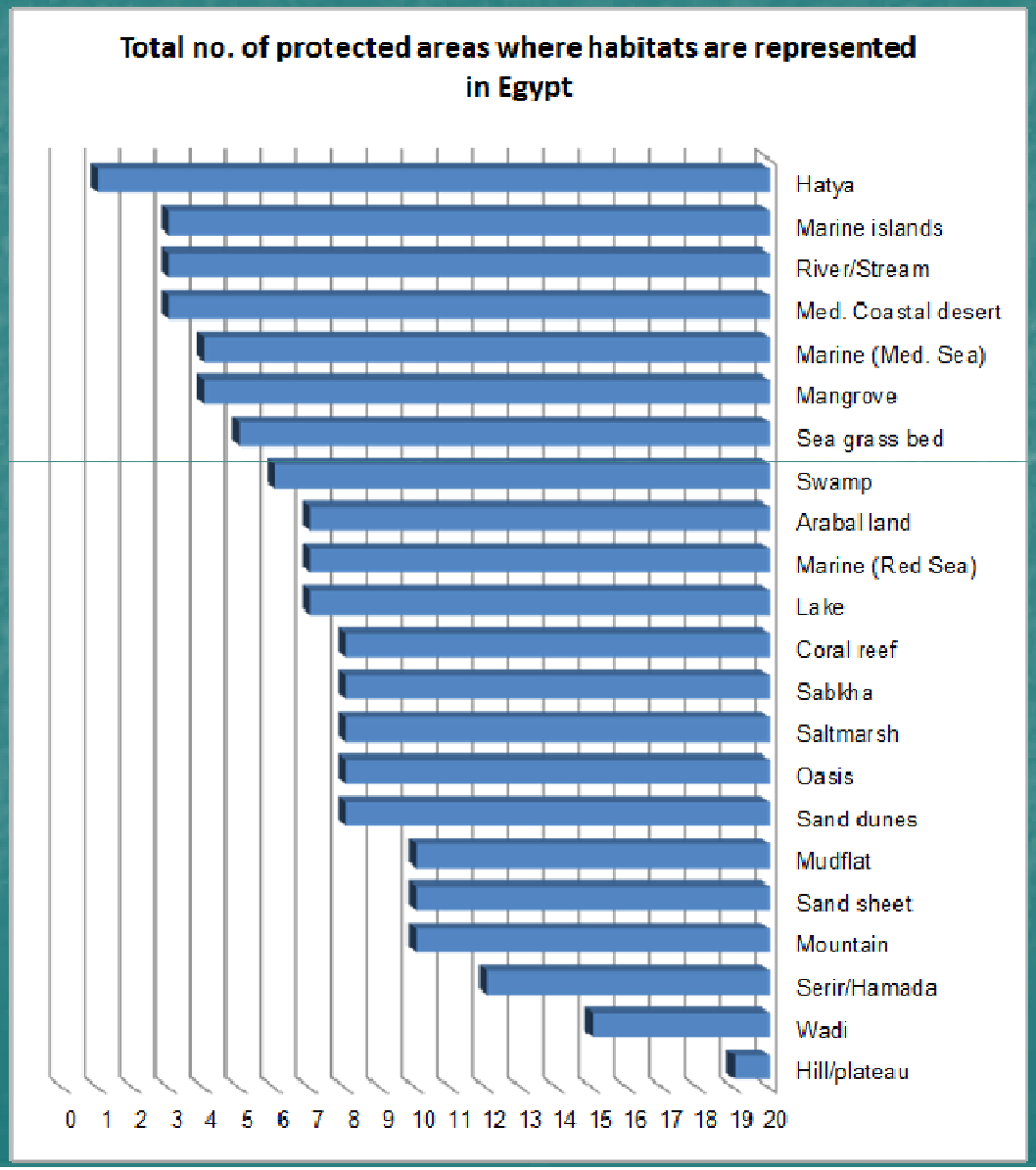
Fair: Outside range: requires intervention

Good: Within acceptable range; maintain

V Good: Desirable; little intervention

Key implementation Actions of NBSAP

1. Habitat representativeness assessment within PAs system



Key implementation Actions of NBSAP

2. Restoration and rehabilitation

- El-Omayed PA takes successful steps toward restoration of range lands where effective management measures are undertaken with the local communities.
- There are some restoration programs for marine turtles along the Red Sea islands as well as the Mediterranean Sea.
- Existence of more than 1000 moorings around the diving sites in the Red Sea, help the restoration efforts of coral reefs in the Red Sea.
- Mangroves rehabilitation programme, lead to plantation of about 50 Acres of mangroves trees over the last two years.
- There are some activities related to restoration of sooty falcon population in Wadi El-Gemal Island where exist the largest breeding colony in the world.
- Another programme is successful efforts in planting more than 60 000 Acacia trees in St. Katherine, Zaranik, Al-Omayed and Wadi Al-Allaqi.
- Implementing restoration and management program of natural medicinal plants in cooperation with local communities where training programs for Bedouins on methods of plantation and cultivating medicinal plants, post harvesting techniques and how to extract aromatic oils are implemented.
- NCS has continuous efforts to restore the Sinai baton blue (pseudophilotes) which is one of the smallest butterflies in the world. It is endemic to St. Katherine Mountains and cannot be found in any place in the world except in this area. The restoration efforts not only concentrated on the Sinai baton blue butterfly but also on its habitats, where its larva feed on buds of Sinai Thyme (Thymus decussates),
- Some restoration activities have been implemented to restore gazelle's populations in Elba National Park.

Key implementation Actions of NBSAP

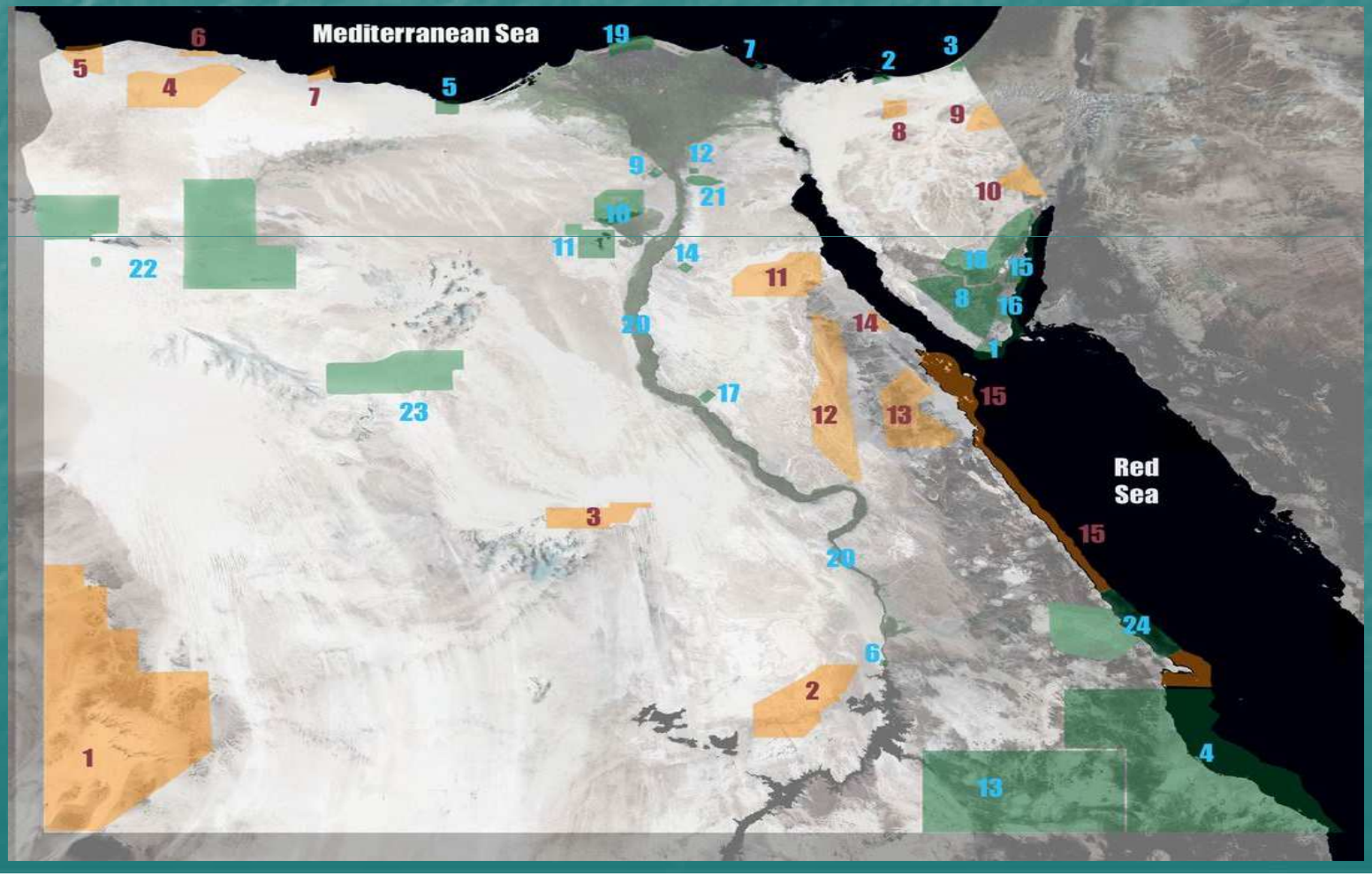
3. Economic valuation of some ecosystems

- Lake Brullus PA (typical of wetlands) produces goods and services (capture fisheries, aquaculture, agriculture and animal husbandry) worth of more than $ 300 million annually.
- At the species level, individual shark value was estimated at $ 200 000, dolphin at $ 500. 000 and dugong more than $ one million annually. (these estimates were based on only one factor, tourist travel cost).
- Economic recreation value of coral reefs at Ras Mohamed National Park varied between $ 141 to 190 million, depending on individual nationalities.
- Mangrove ecosystem services, also at Ras Moahmed, were estimated at $ 200 000/ha/yr.

Key implementation Actions of NBSAP

4. Protected areas system percentage coverage

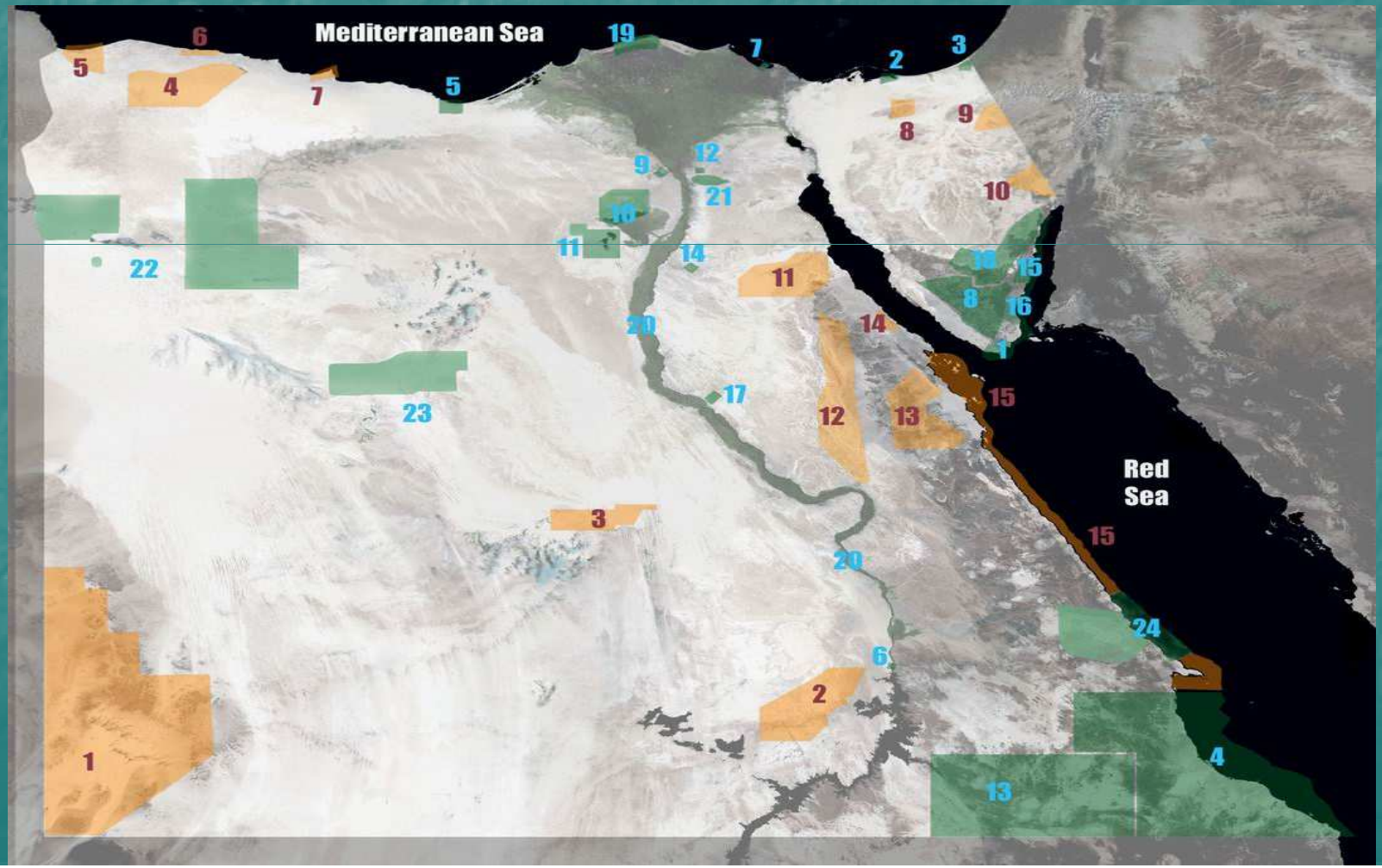
- Egypt has now 30 protected areas represent 15% from the total area of Egypt and cover 150,000 km2 (5.9% terrestrial – 9.1% coastal and marine).
- Future plan (according to old NBSAP) 40 PAs representing 18% of Egypt.



Key implementation Actions of NBSAP

5. Protected areas management planning

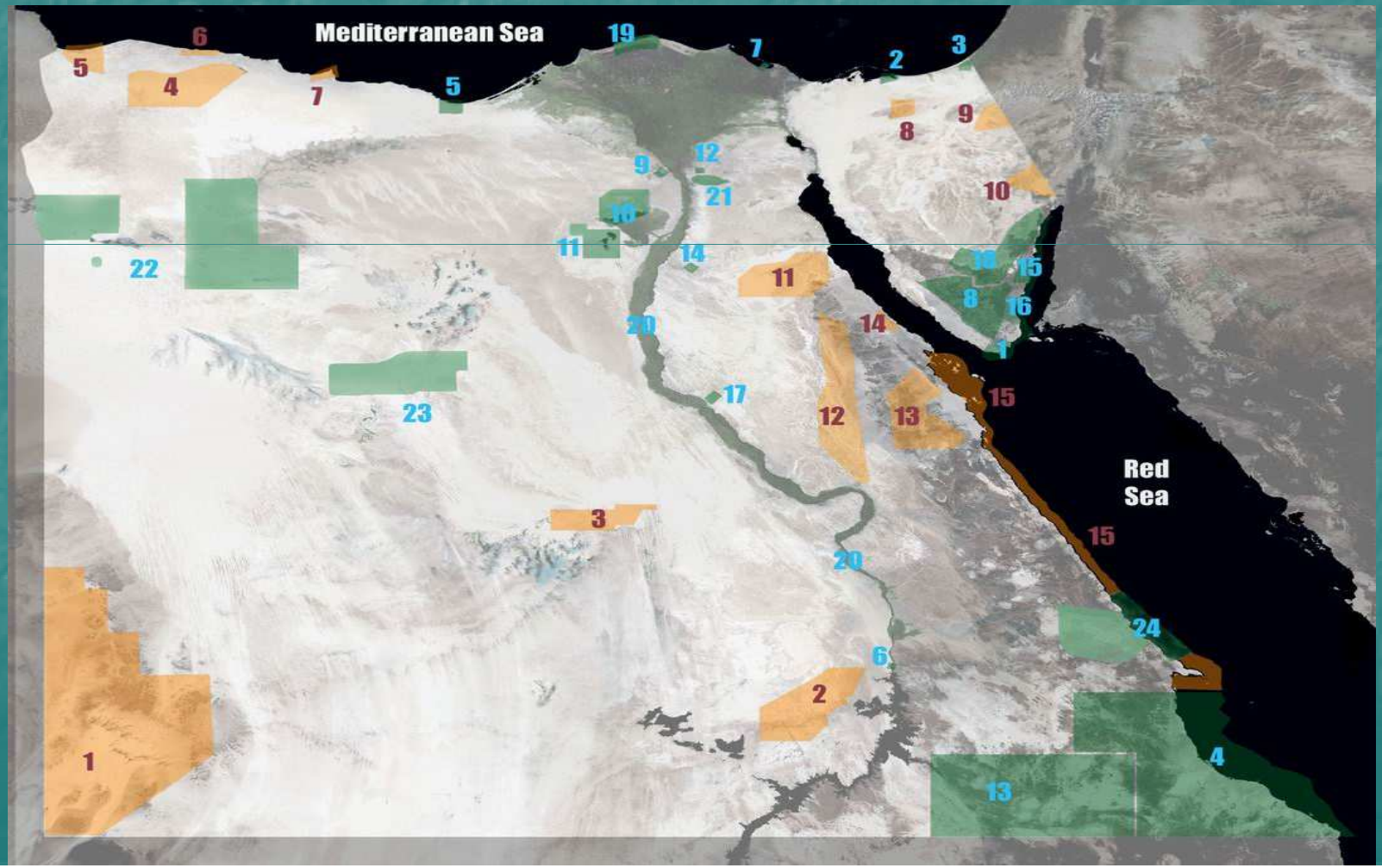
- 44% of PAs have a management plan + 80% of PAs have 5 years management logframe system



Key implementation Actions of NBSAP

6. Effective Protected areas system

- Conduct management effectiveness evaluation for PAs system.
- Egypt conducted management effectiveness evaluation for 40% of its current protected areas.



Key implementation Actions of NBSAP

7. Appropriate technology and information exchange

- develop CHM mechanism for biological diversity,
- GIS/RS
- Database
- landuse planning
- prediction model
- camera trap
- mooring system
- model for water quality assessment,
- low-cost sewage treatment technology, improve recycling of industrial waste water);

Key implementation Actions of NBSAP

8. Mainstreaming of biodiversity

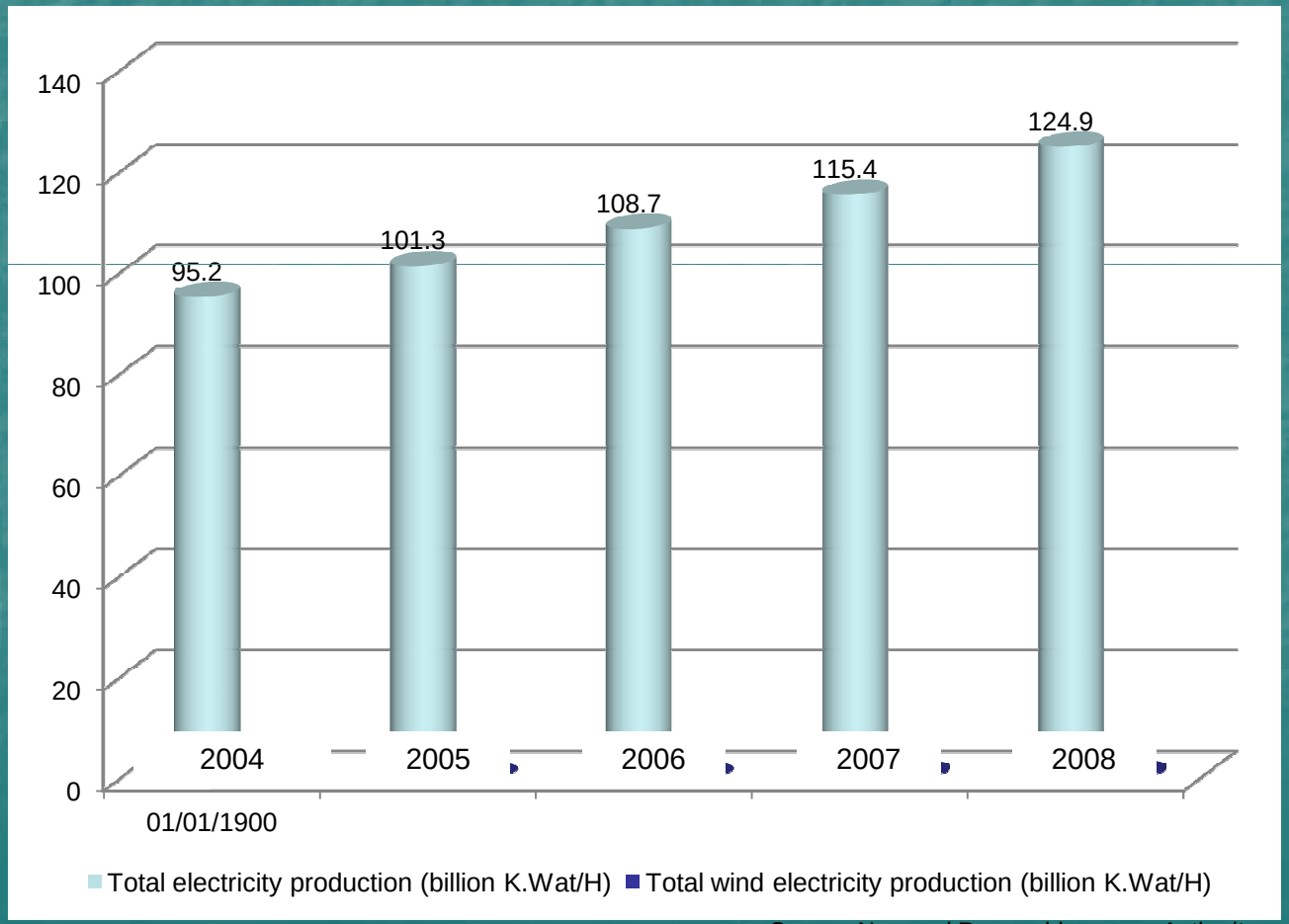
- National Centre for Landuse planning (National Investment Map),
- A responsible about environment is designated in each ministry
- EEAA has an environmental department in every governorate
- Environmental national committee,
- Legislations,
- Establish environmental court,
- Environmental impact assessment,




Specific example in Egypt

1. Energy sector

wind electricity production in Egypt still limited

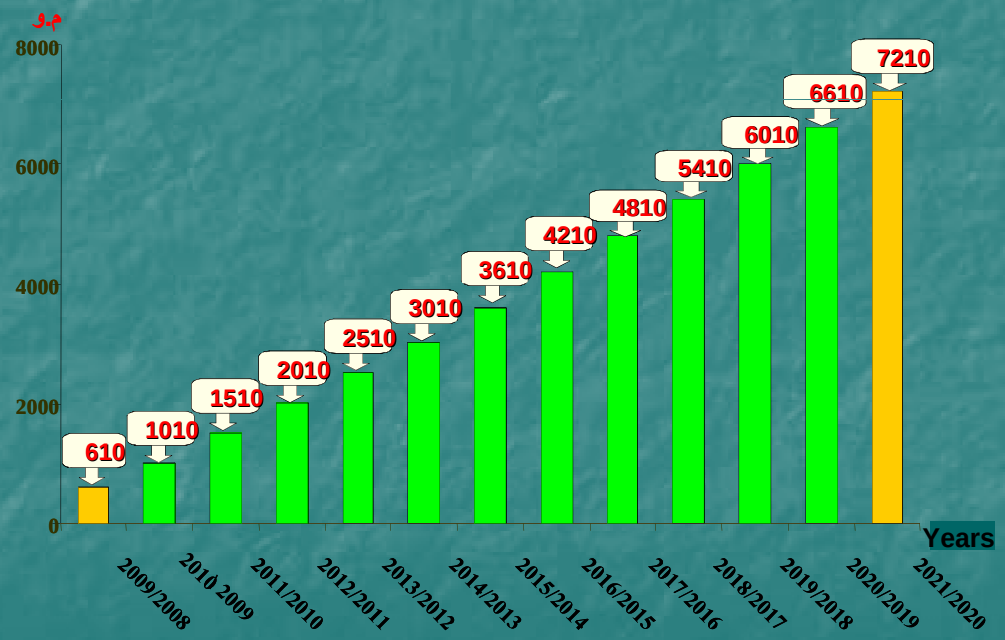


Source: New and Renewable energy Authority

But

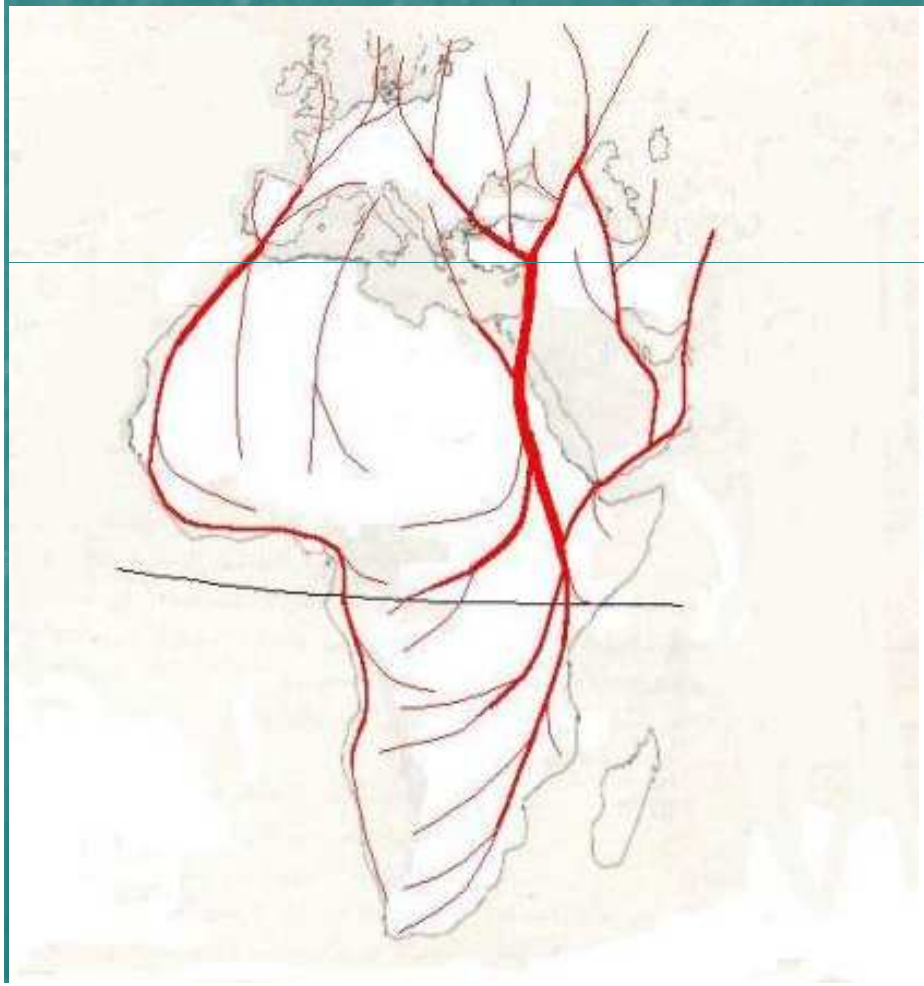
Energy sector is affecting conservation of migratory birds in Egypt

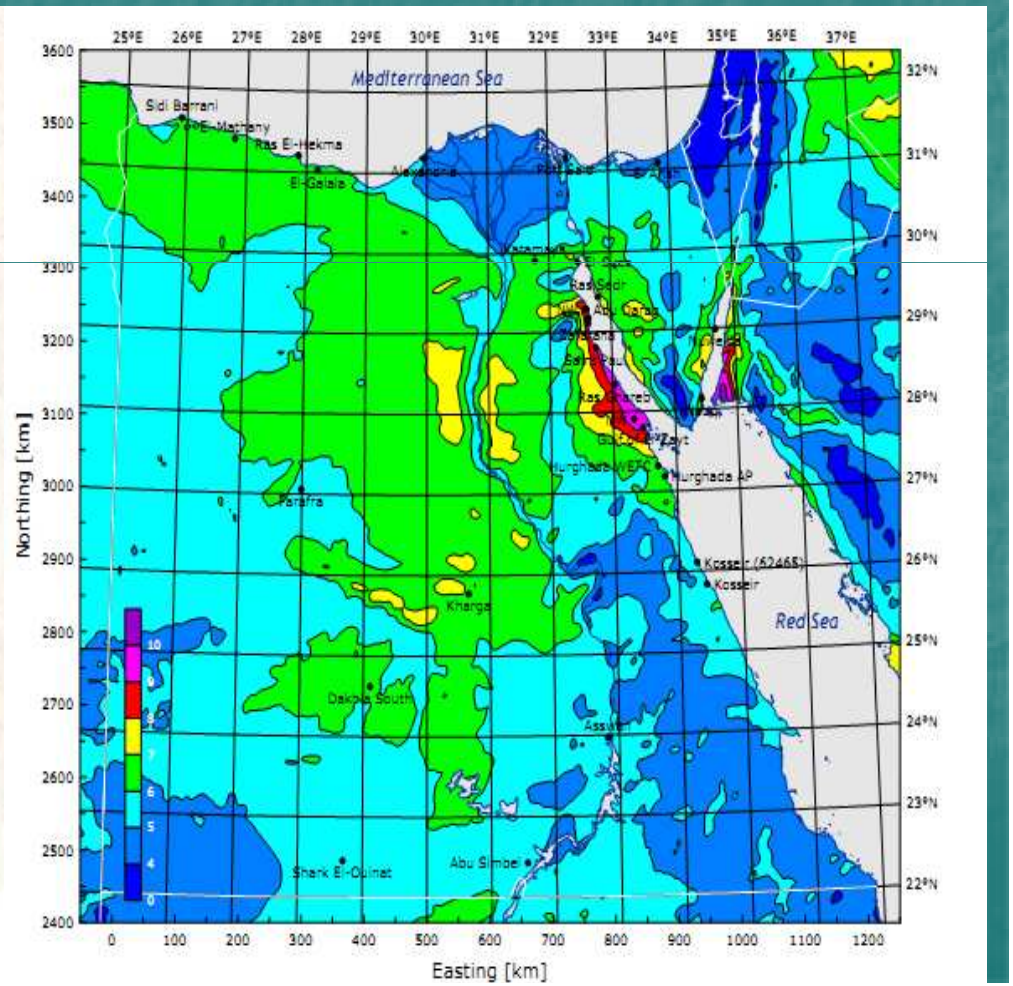
The New and Renewable Energy Authority has its future plan???



Source: New and Renewable energy Authority

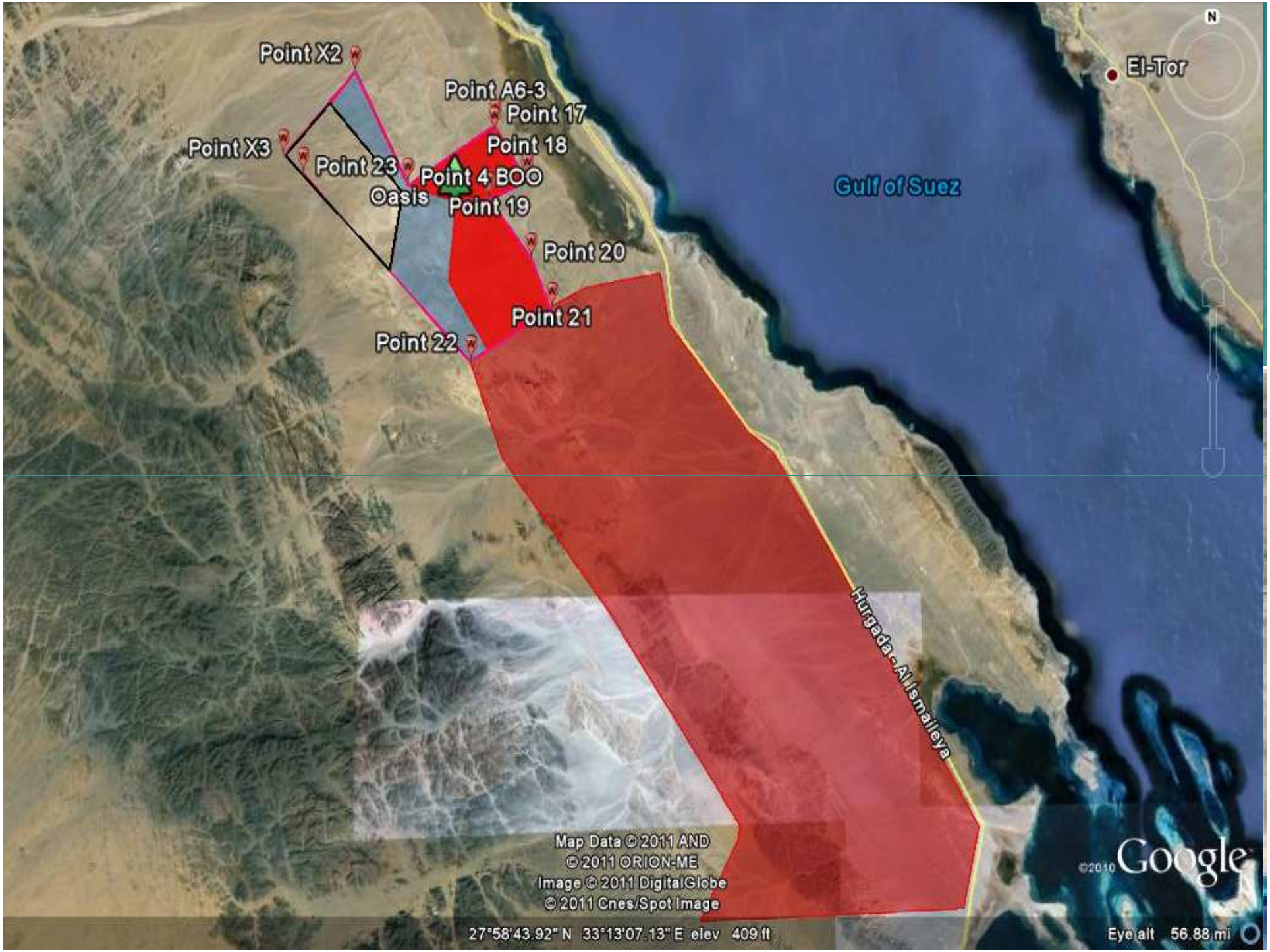
Atlas concluded that there are many promising areas with high wind speeds in the Gulf of Suez, some areas located on both sides of the Nile River, and some areas in Sinai. These areas are qualified for the establishment of large-scale wind energy projects.





- In May 10th 2006, Red Sea Governor decree No. 136 was issued allocating about 656 km^2 to NREA for establishment of wind farm projects.
- In May 30th 2009 a presidential decree No. 138 was issued to allocate about 1229km^2 at west of Suez Gulf.

Source: New and Renewable energy Authority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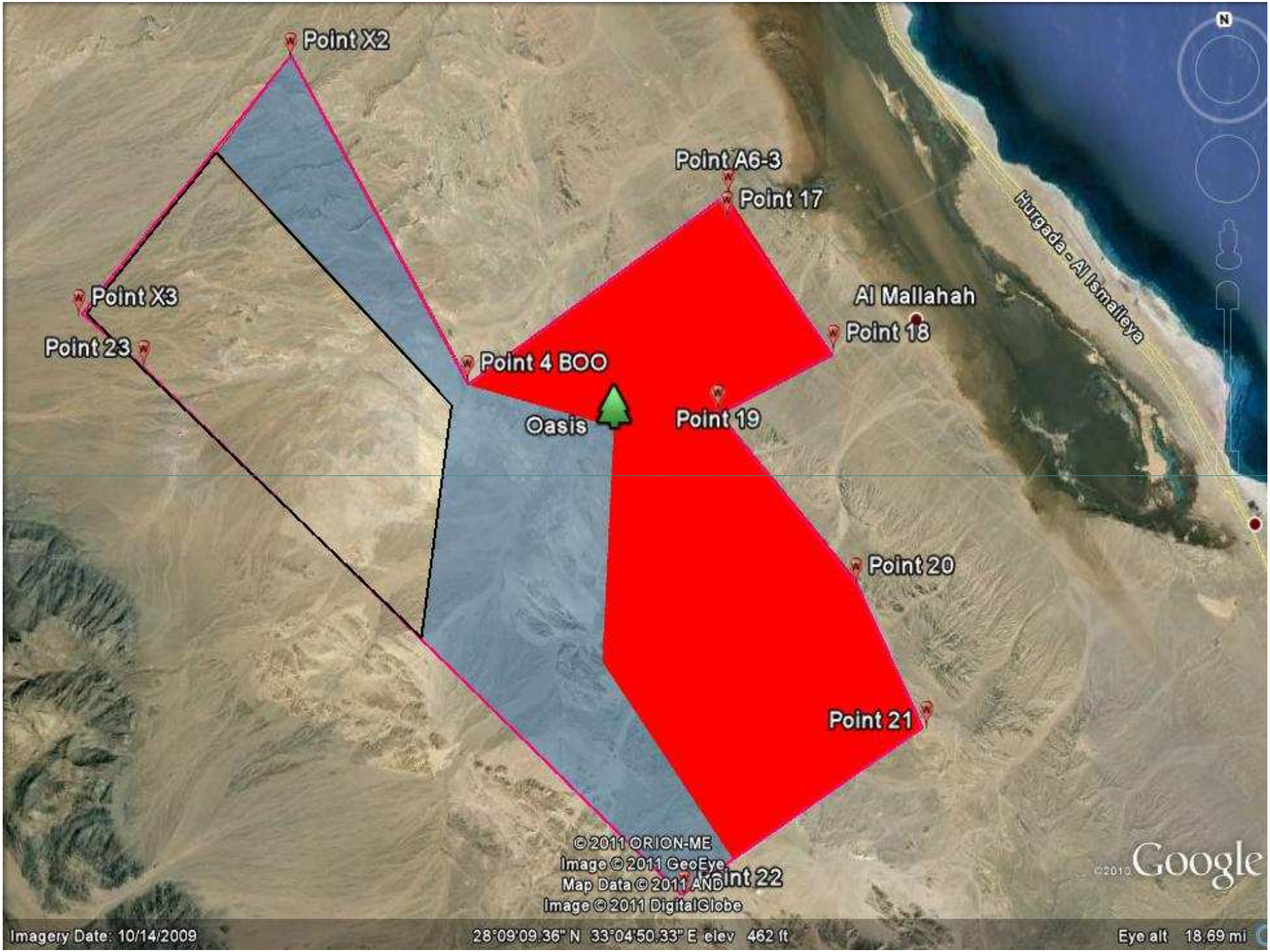
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Imagery Date: 10/14/2009
28°09'09.36" N 33°04'50.33" E elev 462 ft
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Wind farms mitigation measures

Wind farm activity	Mitigation measures	Estimated cost (€)
Bidding and planning phase	• Limit the maximum tip height of wind turbines to 120m. • Minimum distance between wind turbines not less than 3 x 12 rotor-diameters. • Paint turbine blades (black & white) to increase blade visibility. • Build internal underground cables network. • Use the guidelines "Protecting birds from power-lines, Nature and Environment No. 140, Council of Europe Publishing" during planning process.	• No cost • No cost • 10,000 • Included • To be estimated
Wind farm activity	**Mitigation measures**	**Estimated cost (€)**
Construction phase	• For implementation of a shutdown programme the technical design has to consider a central control facility for all wind farms in the area, which allows a central shutdown and restart operation.	• 1 Million

Wind farms mitigation measures

Wind farm activity	Mitigation measures	Estimated cost (€)
Operation and maintenance phase	• Carry out post-construction ornithological monitoring programme for the at least two years in Zone I and Zone II in cooperation with national and international organizations to accurately verify the applied mitigation measures. • Supervision and central control of a fixed shutdown programme during spring migration season for wind farms in Zone II (and optionally in Zone I).	• 800,000 for two years • 150,000 per year
	• Develop, test and establish a (radar based) shutdown-on-demand programme at two sites during spring migration season in Zone II. • Carry out a shutdown-on-demand programme at two sites (two radars) during spring migration season in Zone II.	• 1 Million for two years • 300,000 per year for Zone II
Estimated cost (€)	**Average of 3,750,000**	

Barriers for effective implementation of NBSAP in Egypt

1. Inadequate means of ensuring effective public participation;
2. Limited presence of instrumental processes to evaluate the economic value of biodiversity and the true costs of ecosystem degradation;
3. Limited integrated approach in national policies;
4. Limited integration between biodiversity, climate change and desertification conventions on the national scale;
5. Limited tools and practices for proper law enforcement;
6. Limited sustainable finance mechanisms for mobilizing funds;
7. Limited long-term awareness programs for education;
8. Mechanisms for enhancing citizen participation in community decision making need to be enhanced;
9. Weak capacity among local communities;
10. Linkages between research institutes, policy makers and national implementation agencies progress slowly;
11. Country data, networking system and information exchange that facilitate the acquisition, processing and dissemination of technical knowledge legislations formulation and enforcement, and monitoring and evaluation, need to be integrated;
12. Training and capacity building progressing slowly.


نشکر حسن متابعتکم