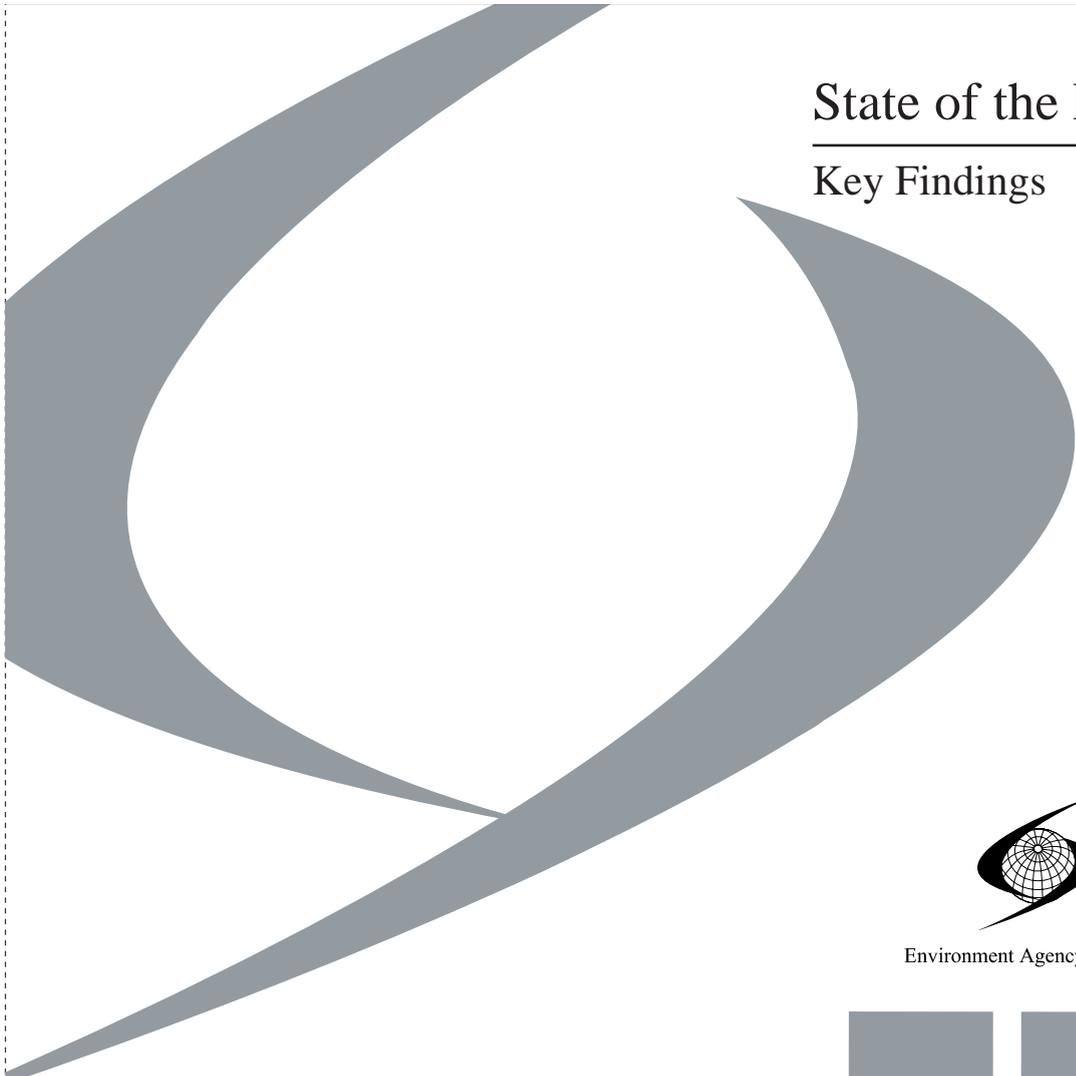
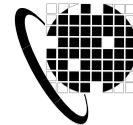


State of the Environment Abu Dhabi

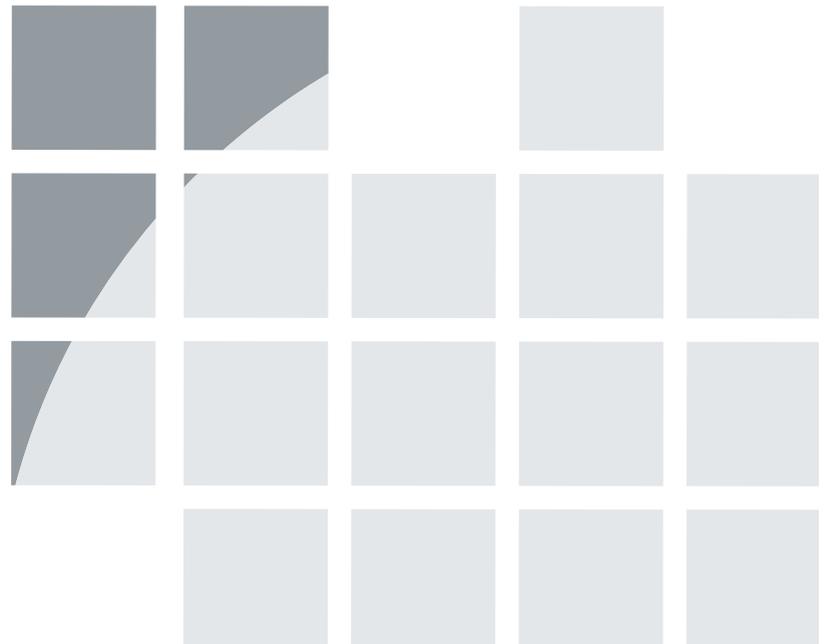
Key Findings



Environment Agency-ABU DHABI



Abu Dhabi Global
Environmental Data Initiative



Executive Summary

2006

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Sugar Paper

Sugar Paper



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With each passing day, our world is increasingly recognizing how crucial it is to integrate environmental and social considerations into our development policies, in order to have a sound and sustainable future.

When the Government of the United Arab Emirates launched the Abu Dhabi Global Environmental Data Initiative, it hoped it would act as a beacon of hope to several global calls to improve the environmental policy processes.

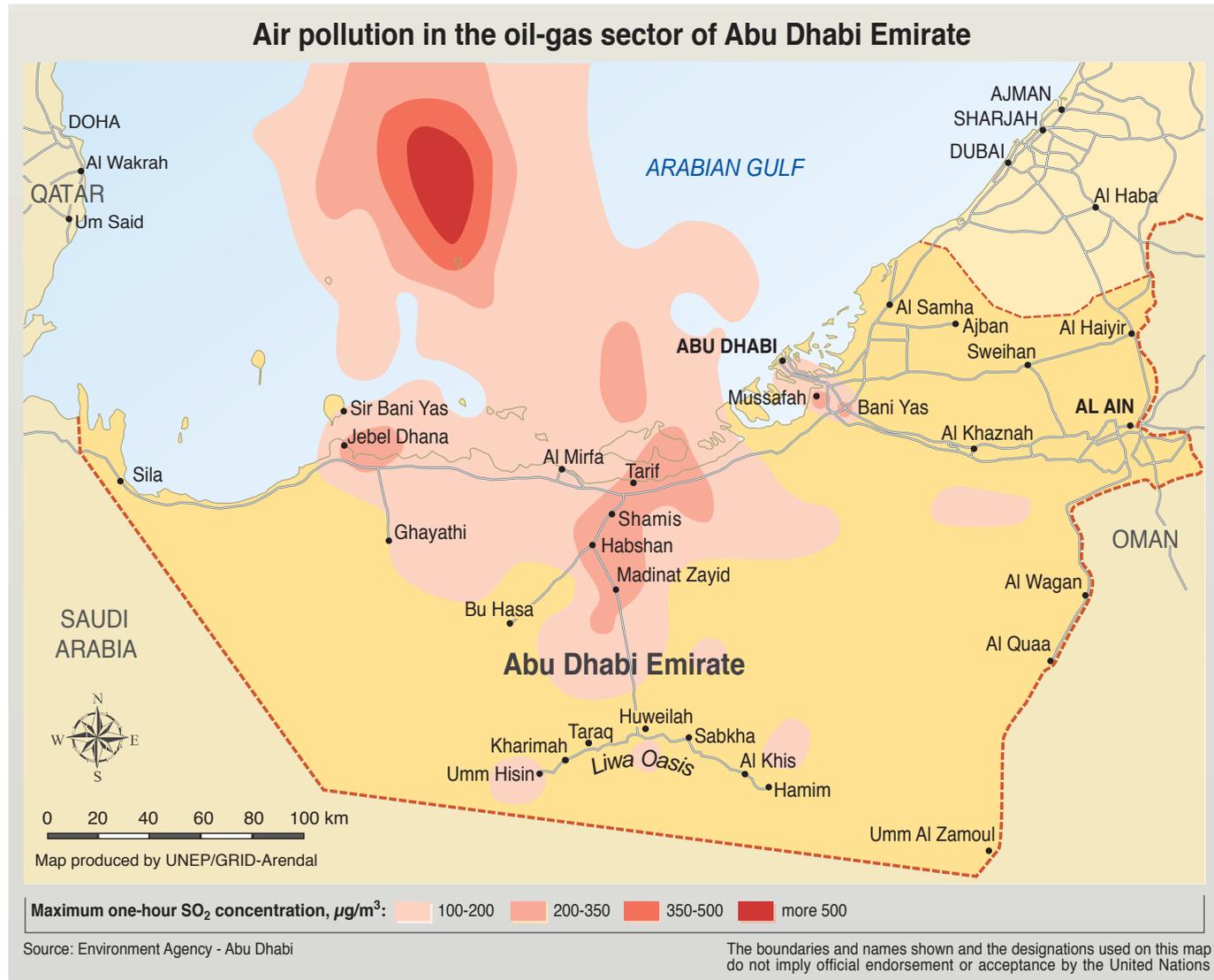
The assessment, carried through this report, is one step further toward achieving a vision. A vision of a world where environmental data is easily, readily and clearly accessible to those making crucial decisions everyday about the future.

We envision it to be a useful tool that links human development, economic activities and environmental issues in a way that enables formulating a participatory, timely, and informed decision making.

We hope this report offers a better opportunity for more sound environmental management and a sustainable future for all.

“The Emirate of Abu Dhabi is entering a new dynamic era and heading towards sustainability and integrating science, policy and decision making. Thanks to this State of Environment Report, gone will be the days when environmental data was inaccessible to those who need it.”

1.0 State of the Environment



1.1 Atmosphere

Key issue: Air pollution

The oil and gas industry is the main source of air pollution, followed by the power and transportation sectors. Sulphur

dioxide (SO₂), nitrogen oxides (NO_x) and particulate matter (PM₁₀) are the air pollutants causing the most concern locally. All three substances pose a health threat as excessive exposure may lead to respiratory complaints and lung disease.

The air quality in Abu Dhabi City is generally adequate. Traffic congestion, however, has caused nitrogen dioxides levels to exceed air quality guidelines in the outskirts and centre of the city. In addition, in the absence of a clear air quality management strategy, air quality may deteriorate in the surrounding industrial areas, such as Musaffah and Mafraq.

In Al-Ain City, SO₂ concentrations are by far the lowest in the Emirate and are well below the air quality guidelines. NOx concentrations are also within the allowable limits, although higher levels have been registered downtown due to increased traffic.

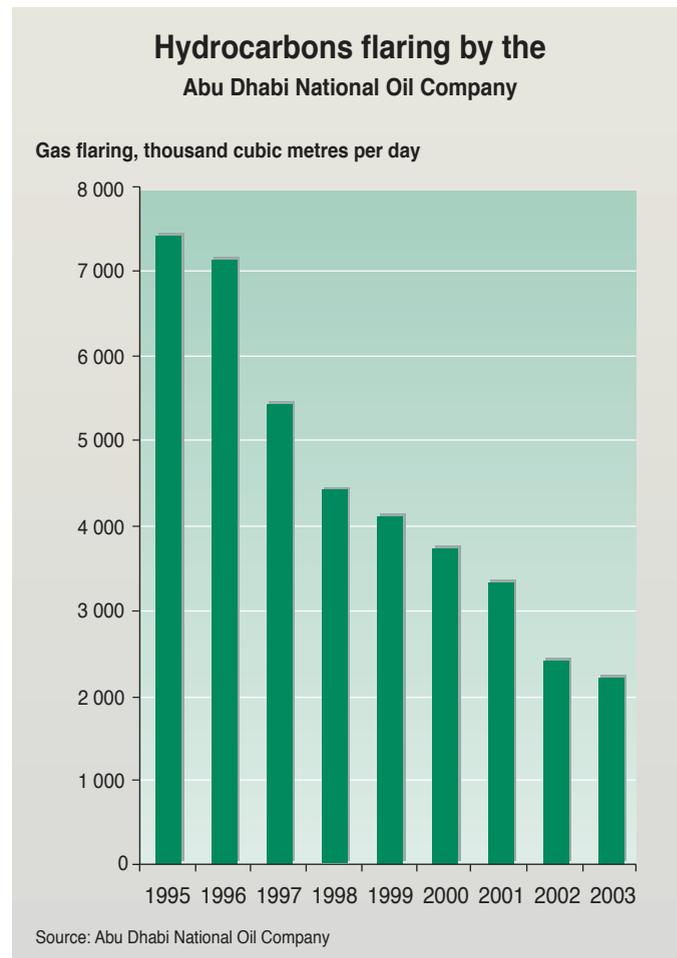
In the areas around Medinat Zayed, Habshan and Ruwais pollution levels are either close to or exceed the air pollution guidelines, and SO₂ levels are a particular problem. The main pollution sources are the region's oil and gas and related heavy industries both on and offshore.

Most of the Emirate, including Mafraq, Shahama, Samha, Sas Al-Nakhl and Al-Ain, experience relatively high, naturally occurring levels of particulate matter that exceed air quality guidelines. Shahama, Samha and Ruwais also experience episodes of high concentrations of ground-level ozone (O₃).

Way forward:

- The Environment Agency-Abu Dhabi (EAD) has taken initiatives to:
 - Introduce compressed natural gas (CNG) vehicles into taxi, bus, truck and government fleets and equip thirty stations with CNG refuelling capacity. This conversion will shift 10 percent of the most polluting fleet in the Emirate to CNG by 2012.
 - Switch the Emirate's diesel fuel supply to only ultra low-sulphur diesel by 2015.
 - Use strategic environmental impact assessment in the management of air quality.
- A monitoring network covering the entire Emirate is expected to be operational by the first quarter of 2007.
- The power sector will rely progressively more on natural gas as a fuel.

- More stringent controls will be explored in the oil and gas sector.
- EAD will continue ongoing efforts to curtail emissions from other sources, such as dust emissions from sand-blasting operations.



Success stories:

Shift to unleaded petrol

On 1 January 2003, the United Arab Emirates (UAE) introduced unleaded petrol on the local market as part of its 'UAE Goes Green' programme. This involved the conversion of 500 filling stations nationwide to unleaded petrol, the training of transport and service station personnel, and an awareness campaign for 750,000 UAE motorists.

Reduced flaring of hydrocarbons

Flaring involves burning off waste gas or oil during testing or production processes. From 1995 to 2004 flaring from oil and gas production was reduced from approximately 7.5 million cubic metres per day to 2.5 million cubic metres per day. Abu Dhabi National Oil Company (ADNOC) has set zero flaring as a strategic objective.

1.2 Biodiversity

Key issue: Many species threatened or extinct

Several of the larger, more spectacular animal species that formerly existed in the Emirate are now almost certainly extinct in their natural environment, largely as a result of hunting. These include the Wolf (*Canis lupus*), Striped Hyena (*Hyena hyaena*), Leopard (*Panthera pardus*) and Arabian Oryx (*Oryx leucoryx*).

Of the remaining 47 mammal species, 15 are on the World Conservation Union's 2004 Red List of Threatened Species in the World. A number of other species are regarded as threatened within the Emirate of Abu Dhabi, but they are not considered globally under threat. These include the Caracal (*Caracal caracal*), the Sand Cat (*Felis margarita*) and the Brandt's Hedgehog (*Hemiechinus hypomelas*). Most animal species naturally occur in low densities, making them particularly vulnerable to activities such as hunting, habitat degradation and competition for grazing from domestic livestock.

Over 430 bird species have been recorded in the Emirate. Fifteen of these are listed as globally threatened by BirdLife International. Four of the threatened species are water birds, the rest are terrestrial species. Abu Dhabi Emirate's islands provide breeding areas for several important seabird species, including the globally threatened Socotra Cormorant (*Phalacrocorax nigrogularis*) and the important Crab Plover (*Dromas ardeola*). Many of the important breeding species are particularly vulnerable to development activities on the islands.

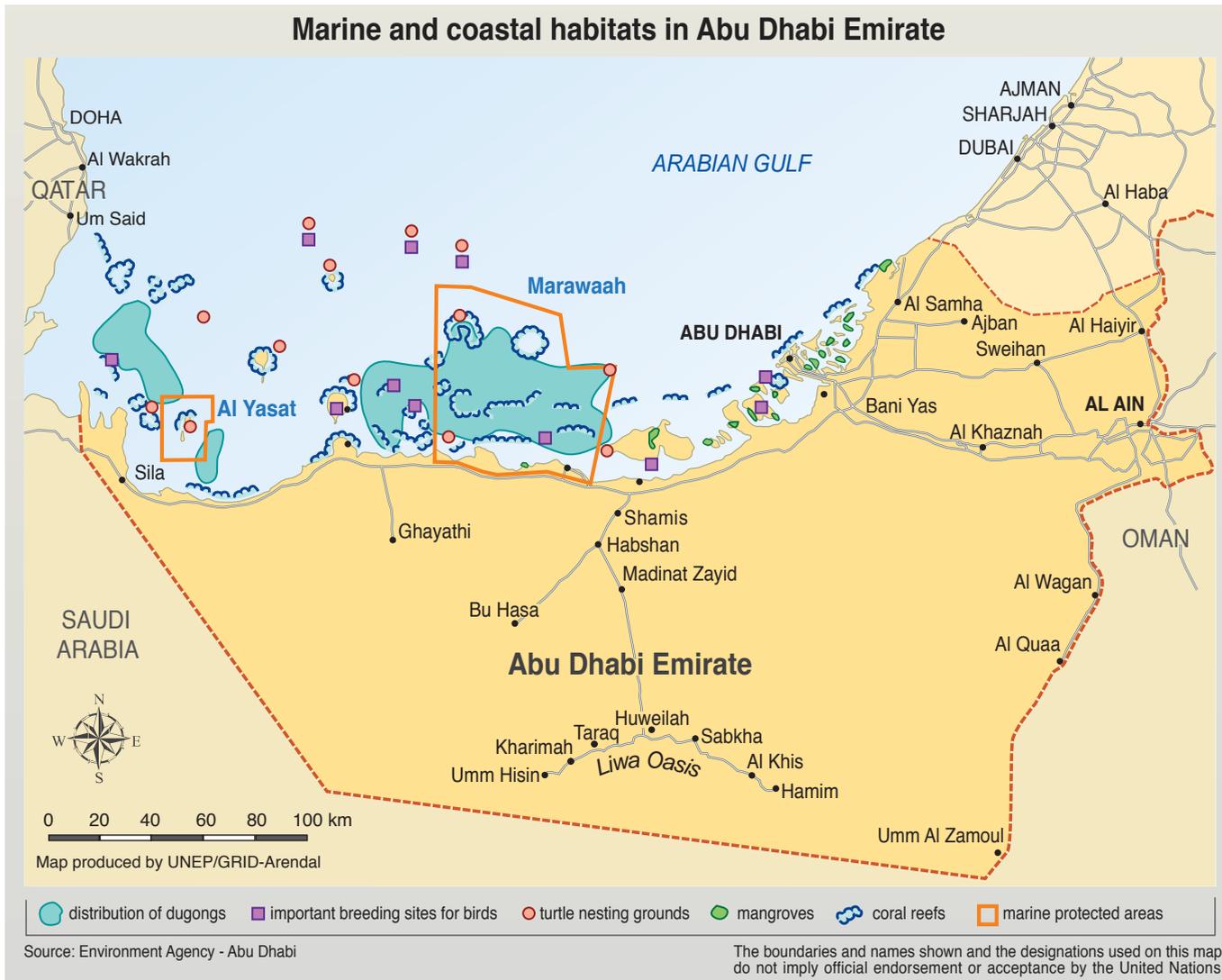
The Gulf region supports part of the largest known population of the vulnerable Dugong (*Dugong dugon*) outside Australia. The waters of Abu Dhabi are also home to 240 fish species, four of which are threatened, and two species of sea turtle, the critically endangered Hawksbill Turtle (*Eretmochelys imbricata*) and the endangered Green Turtle (*Chelonia mydas*).

Way forward:

- EAD is managing three officially designated protected areas: Al Wathba Wetland Reserve, Marawah Marine Protected Area and Al Yasat Marine Protected Area. The areas cover a total of 4,739.9 square kilometres (km²). Three additional protected areas have been proposed:
 1. Jebel Hafit National Park would cover about 100 km².
 2. Umm Al Zamoul National Park has a planned area of over 10,000 km².
 3. Ras Ghanada Coral Reef Reserve is set to cover about 194 km² and will protect the most diverse and abundant coral site in the Emirate.When established these three areas will play a significant part in conserving the Emirate's biodiversity.
- The Emirate of Abu Dhabi needs a biodiversity conservation strategy and action plan. This is especially important because the Emirate is currently undertaking a number of massive economic development projects. There is also an urgent need for a representative protected areas network that will protect the Emirate's diverse ecosystems and habitats.
- Species conservation action plans and ecological monitoring programmes are needed to ensure that the Emir-

- ate's natural heritage is conserved and that conservation measures and efforts are progressing.
- Environmental concerns should be given priority throughout the planning and execution of development projects.
- Diligent enforcement of federal and local laws, especially hunting and grazing laws, would contribute significantly to the conservation of Abu Dhabi Emirate's biodiversity.

Marine and coastal habitats in Abu Dhabi Emirate



Success stories:

Habitat restoration

One of the largest artificial mangrove plantations in the world, covering some eight km², has been established at Al Sammaliah Island.

Captive-breeding and reintroduction programmes

Houbara Bustards are the subject of a focused captive breeding and reintroduction programme operated by the National Avian Research Centre. Nearly 650 chicks were reared in 2006. Birds released (79) in the UAE in recent years have shown a high survival rate.

EAD is also working on a reintroduction programme for the Arabian Oryx. In cooperation with Al Ain Zoo, three main release sites have been identified. The first official release is expected in December 2006.

1.3 Cultural heritage

Key issue: Development puts heritage sites under pressure

Rapid social and economic development in the last four decades has placed considerable stress on the cultural heritage sector. Urban sprawl and coastal development have put a considerable strain on palaeontological and archaeological sites.

The lack of adequate legislation at local as well as federal levels has hindered the protection of cultural resources. Until very recently, no single authority has had the mandate to manage cultural resources. Instead, various organisations undertook this work largely on an *ad hoc* and unplanned basis.

Way forward:

The Abu Dhabi Authority for Culture and Heritage (ADACH) is currently undertaking a number of activities including:

- Creating detailed and reliable baseline information about Abu Dhabi's cultural heritage in order to assess its condition and establish appropriate planning and protection

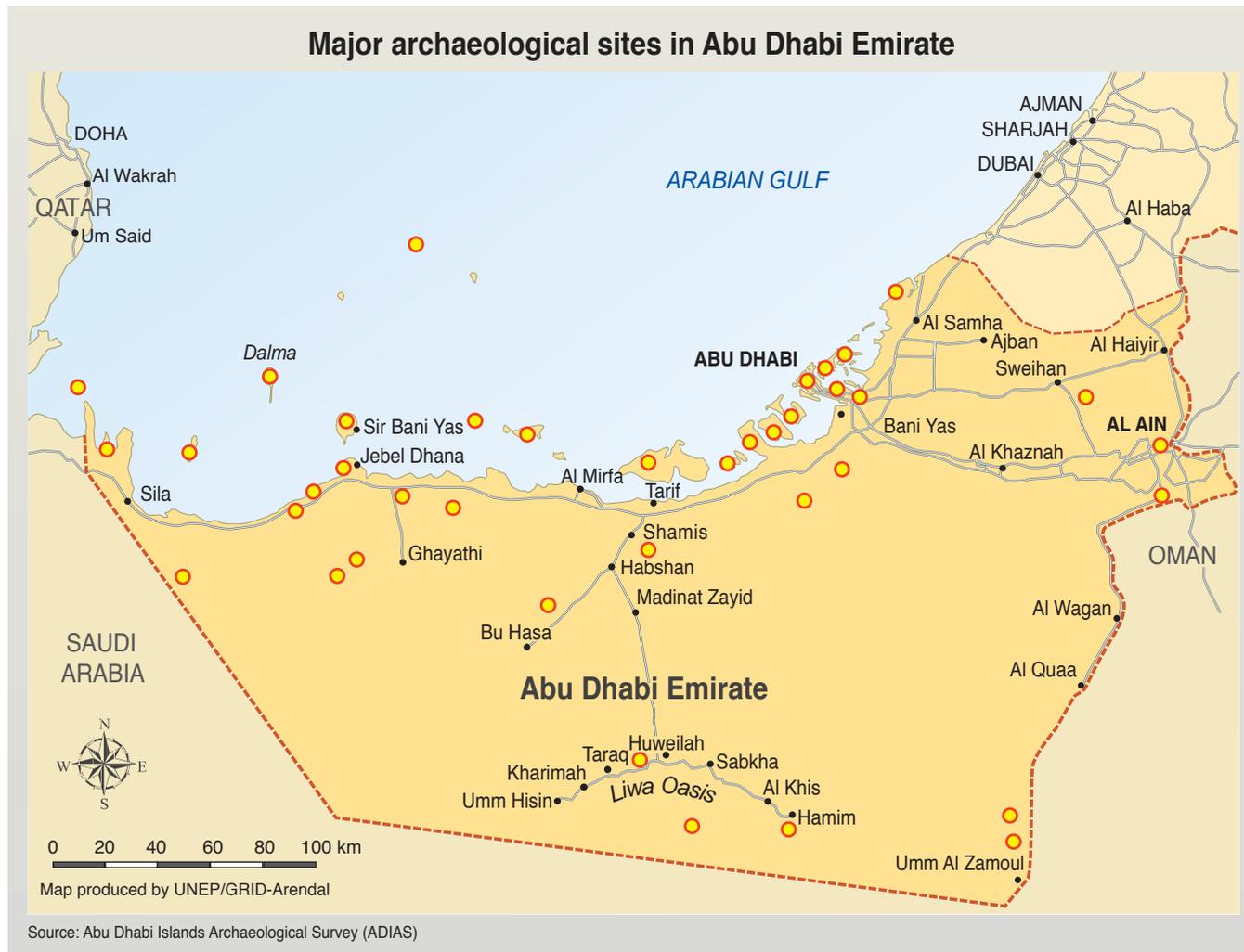
mechanisms.

- Recommending further laws and regulations to protect, promote and preserve cultural heritage.
- Increasing the implementation and effective use of archaeological baseline surveys in the form of Preliminary Cultural Reviews (PCRs) and Cultural Heritage Impact Assessments (CHIAs) and other planning tools and processes.
- Conducting archaeological surveys and excavations, conserving archaeological artefacts and relics, and issuing licenses for excavations.
- Establishing organisational structures and procedures to manage, develop and supervise museums and other buildings where cultural heritage collections are kept.
- Providing support for training and educational activities in the Authority's field of specialisation.
- Developing human and cultural resources in the fields of documentation, management, archiving and preservation of cultural heritage.
- Checking for violations of and damage to the cultural heritage and antiquities of the emirate and taking the necessary legal action in association with the relevant authorities.
- Exercising control over heritage and cultural property, whether public or private.

Success story:

Improved management of heritage

In October 2005, Local Law No. 28 established ADACH and assigned it total responsibility for the management of the cultural heritage sector. The ADACH's formation has created the opportunity for improved integrated cultural resource management and, in so doing, has brightened the sector's outlook.



1.4 Land use

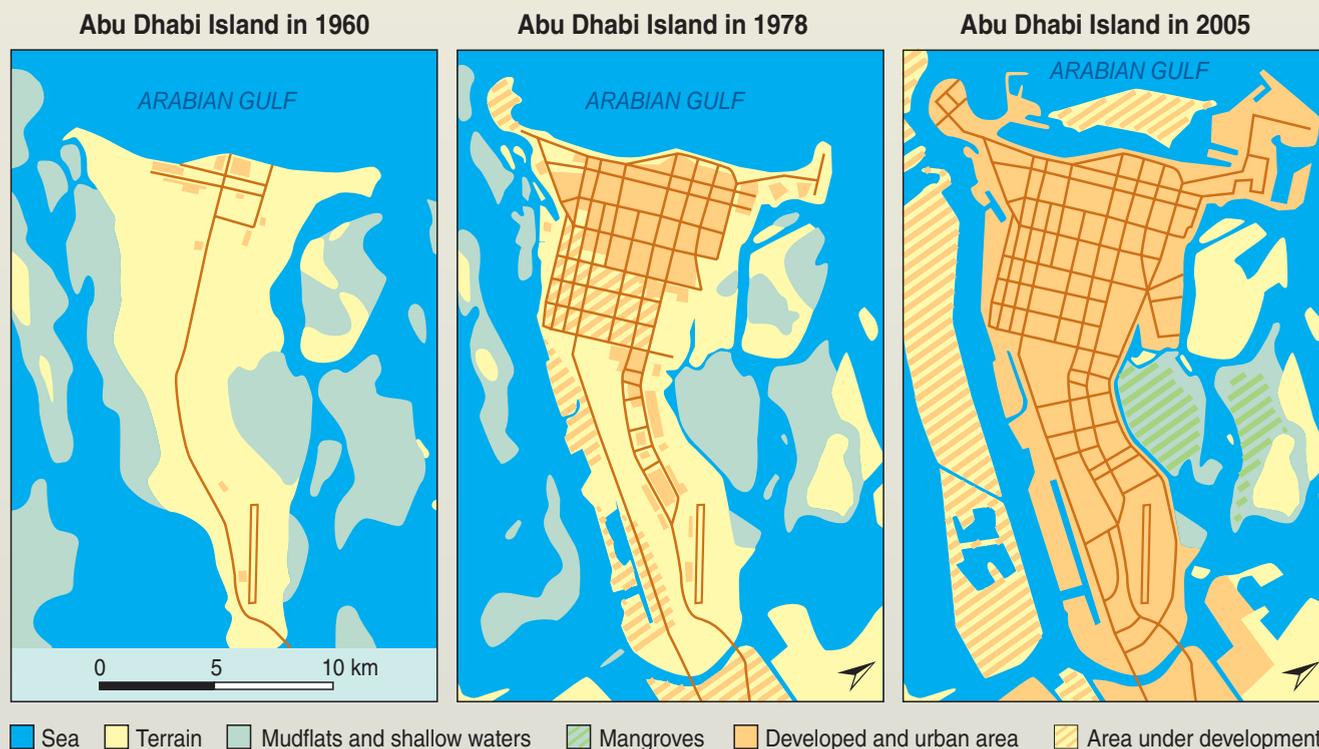
Key issue: Land use change threatens habitats

Most of the development in the Emirate is taking place in coastal areas, which are urbanising rapidly and serving as centres of industrial and tourist activity. Coastal landfill is widespread,

and a significant proportion of the shoreline, particularly in Abu Dhabi city, is artificial.

The interior has also experienced major changes in land use over the last decades. By 2003, cultivated areas had increased to approximately 750 km². As of 2006, irrigation has enabled over 25,000 farms to cultivate about six percent of the Emirate's total area.

Abu Dhabi Island and urban development over 40 years



Adopted from: Population, Development and Economy Sector Paper; Marine Atlas of Abu Dhabi; Google Earth

Overgrazing is an increasing problem. Traditionally pastoralists were nomadic. Today, water is widely available from boreholes, and herders can afford to import supplementary fodder for their livestock. As a result, large herds remain in relatively small areas for long periods, having a major impact on natural vegetation.

Way forward:

- Integrated land use planning and management legislation is urgently needed, especially for coastal areas. Environmental impact assessment requirements should be enforced for all coastal development projects, and environmental mitigation measures should be adopted for small projects.
- New agricultural laws and regulations should be issued to control and monitor the Emirate's agricultural activities and products. A strategy for sustainable agriculture should be developed and implemented to maximise economic return while minimising environmental impacts.
- Enforcing existing laws and regulations regarding grazing would minimise the impacts on land resources by increasing vegetation cover and biodiversity. Alternatives to grazing, such as fattening projects that offer high economic return, should be considered.

Success story:

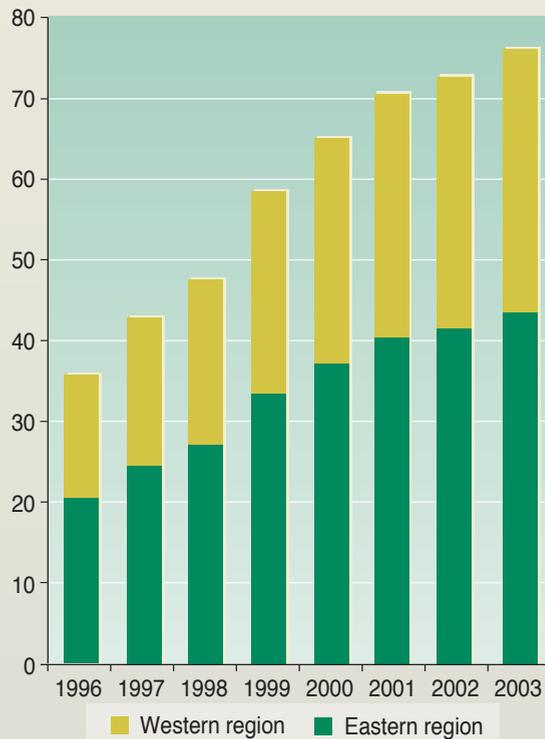
New law on grazing

A new law governing grazing is now in effect. The use of bicycles, vehicles and automobiles is prohibited in grazing activities. The regulations also restrict cutting or burning plants, littering, hunting or harming animals and birds, collecting eggs, destroying nests, and bringing animals infected with communicable diseases to pastoral areas.



Agricultural land expansion in Abu Dhabi Emirate

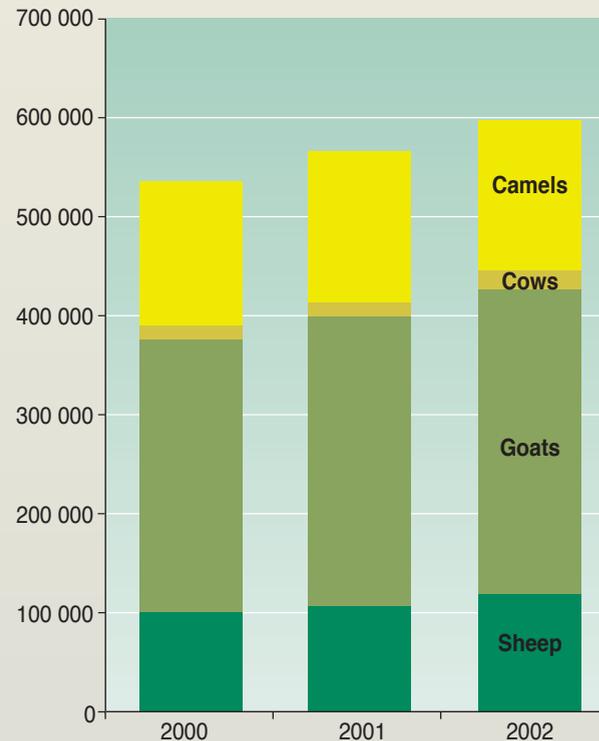
Land area, thousand hectares



Source: Environment Agency - Abu Dhabi

Livestock population in Abu Dhabi Emirate

Number of animals



Source: Abu Dhabi SoE indicators

1.5 Marine resources

Key issue: Overfishing

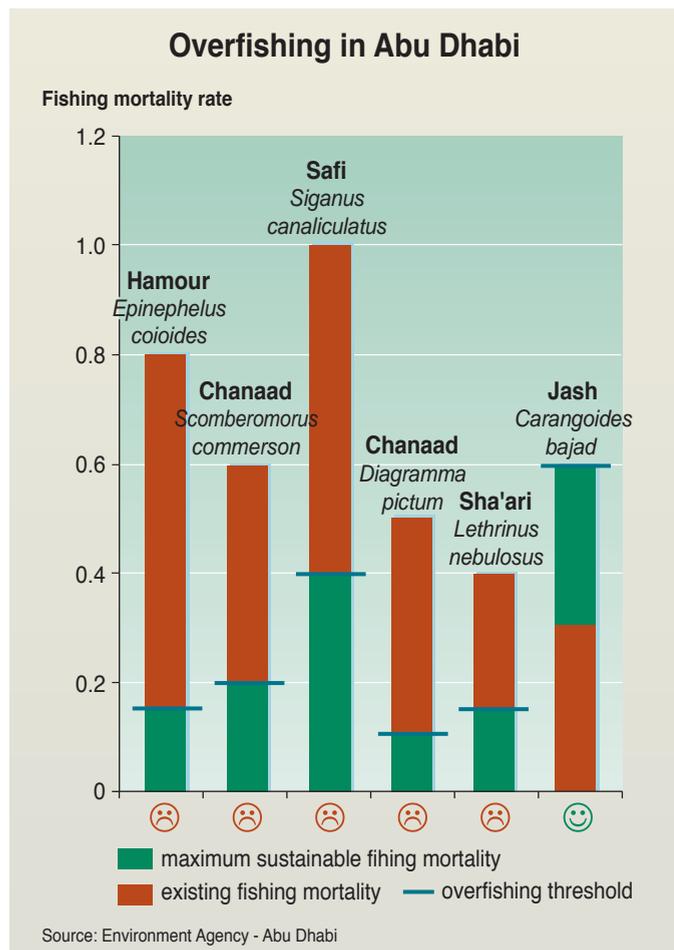
The majority of commercially exploited bottom dwelling species and the most important surface dwelling species are being exploited well in excess of sustainable levels. Some stocks have been depleted by 80 percent over the past 30 years.

A large proportion of catches is composed of immature fish. In the case of the kingfish, for example, an estimated 95 percent of the landed catches have not reached sexual maturity. Further-

more, the reproductive capacity of the most important stocks has been impaired because adult stock sizes have been reduced below critical threshold levels.

Way forward:

- Legislation that provides a comprehensive framework for integrated planning and management of the coastal zone is required. Some of the most important institutional issues that need to be addressed include the need for increased monitoring, control and surveillance, the duplication of mandates and poor communication, and coordination and follow-up among agencies.
- Strategic environmental goals and actions and specific economic and regulatory mechanisms are needed in the areas of urbanisation, pollution and water quality, biodiversity, shore erosion, coastal modifications, tourism, recreation and fisheries.



Success stories:

Protection of threatened and endangered species

Abu Dhabi Emirate supports the largest known population of Dugong (*Dugong dugon*) outside Australia. The population has remained steady over the past five years. This stability may be attributed to management measures the government has taken to protect the Dugong:

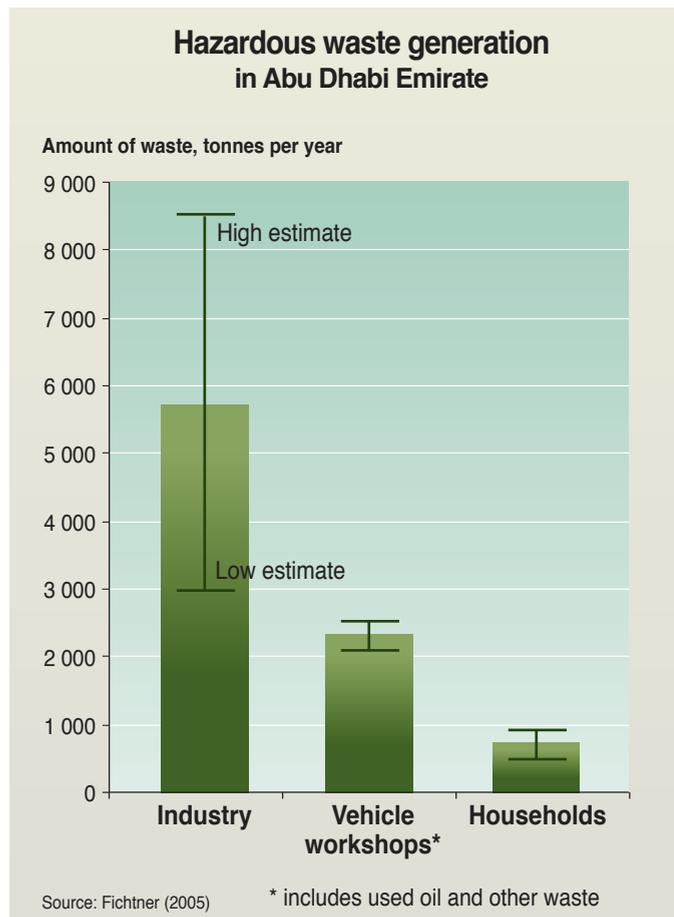
- Full protection of the species and their habitats.
- Declaration of marine protected areas in areas of high Dugong density.
- Banning the use of drift nets, locally known as *Al hay-ali*, which used to constitute a major cause of Dugong mortality.

The graph showing fish landings could include the 5387 tonnes of demersal species and 1103 tonnes of pelagic species caught during 2005.

1.6 Waste

Key issue: Hazardous waste is not handled

In 2004, the Emirate produced an estimated 10 tonnes of infectious medical waste per day. Two private companies used non-incineration techniques to treat most of it. The performance of these companies has been below international standards and their replacement is imminent. Two medical waste incinerators established by Al-Ain Municipality are pending permitting and commissioning by the concerned authorities. Two modern facilities to serve the Greater Abu Dhabi and the Western Region will also be put out to tender by the Health Authority.



Hazardous wastes from the oil and gas industry, such as drill cuttings and sludge, are temporarily stored at a facility in Ruwais. The oil companies are planning to commission waste treatment and disposal units by early 2007.

In 2004, non-oil industries and other sources generated an estimated 6,000–12,000 tonnes of hazardous wastes. This amount is expected to increase to 22,000 tonnes by 2015 unless waste management practices are changed. Currently, solid hazardous wastes are mostly deposited in landfills, although some are illegally dumped.

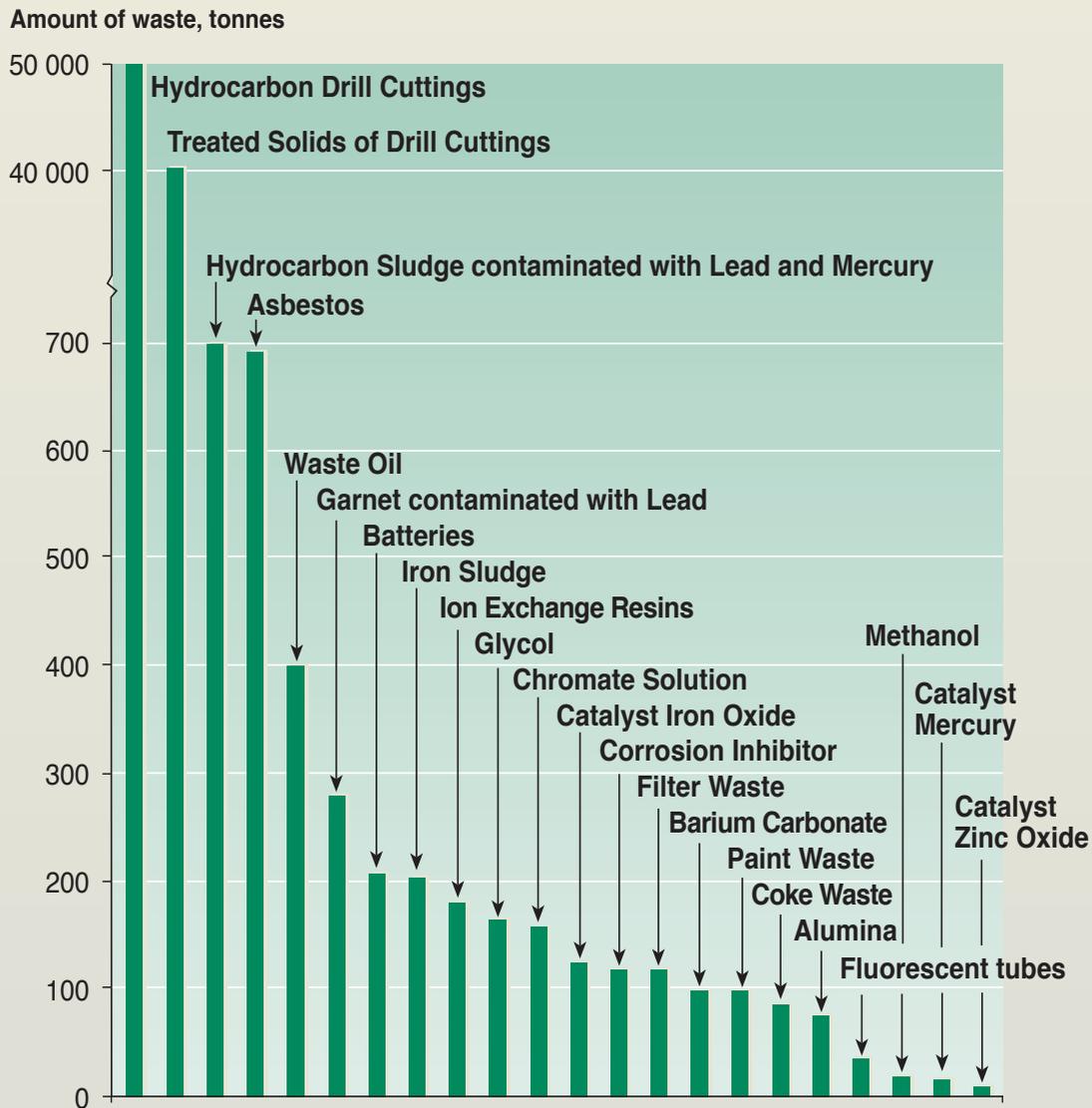
Liquid industrial wastes are treated *in situ* before being discharged into the sewerage network or given to private companies for treatment and disposal. Some liquid waste finds its way to landfills, such as Al-Dhafra. Al-Ain and Abu Dhabi Municipalities are in the process of establishing facilities for the proper treatment and disposal of liquid wastes.

Way forward:

Shortcomings in the waste management system and the cost of upgrading facilities have led the government to initiate steps to enhance the regulatory system, seek to develop new waste disposal facilities, and encourage private sector participation in waste management.

- EAD is in the process of developing relevant bylaws concerning waste management.
- Hazardous waste treatment facilities for wastes from the oil sector will be commissioned in late 2006 or early 2007.
- A committee set up by the Executive Council is preparing tenders for the private sector to establish and operate new facilities for municipal and medical wastes and industrial wastes from the non-oil sector.
- Responsibility for sewerage networks and treatment plants has been transferred to a private company.
- Tariff systems required for effective management of waste and operations of waste facilities are being developed.

Hazardous wastes stored at the Ruwais interim facility in Abu Dhabi Emirate



Source: Abu Dhabi National Oil Company 2005

Success stories:

New Beginnings for Waste Management

EAD proposed, coordinated with other concerned agencies, and followed up the finalisation of the new Law No. (21) of 2005 on Waste Management for the Emirate of Abu Dhabi.

New strategies for the management of municipal waste, medical waste and hazardous waste from the non-oil sector were also prepared in 2005-2006. These strategies will provide the basis for tenders for new waste facilities, some of which are already in progress.

1.7 Water resources

Key issue: Unsustainable water consumption

Abu Dhabi Emirate's daily water consumption rate of 350 litres per person is one of the world's highest domestic water consumption rates. The agriculture and forestry sectors, however, still consume the vast majority, 76 percent, of all the Emirate's water.

Groundwater sources supply approximately 80 percent of all water used in Abu Dhabi Emirate. Only three percent of the remaining resource is fresh. Uncontrolled groundwater extraction has adversely affected water quantity and water quality in many areas. Continued extraction at current levels will deplete the fresh and brackish groundwater resources within 50 years.

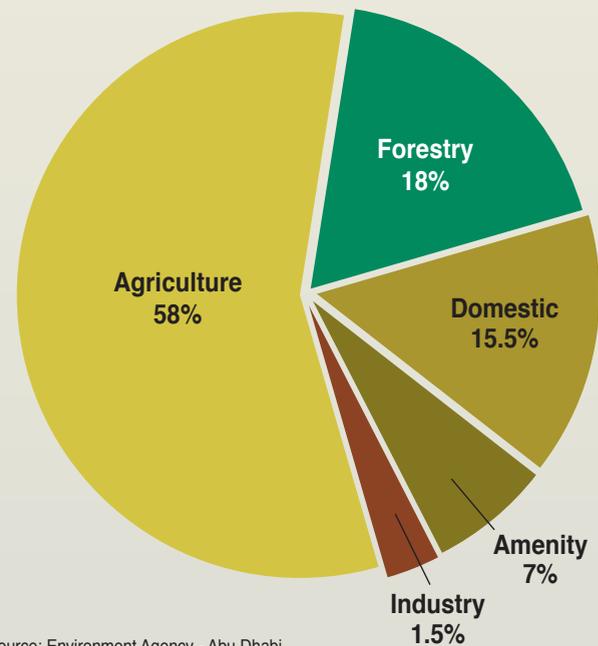
As increasingly saline groundwater supply has been used for irrigation. Soil salinity has increased to the extent that, in many areas, only a few salt-tolerant crops are now grown, such as, Rhodes grass and dates. Excessive and improper use of inorganic fertilisers by farmers has also resulted in widespread nitrate leaching and contamination of the groundwater.

Water policy in the Emirate has principally emphasized increasing supply rather than efficiency gains through improved demand management. Water consumption is heavily sub-

sidised and is projected to almost double by 2015 if water continues to be provided free of charge or at low cost to the consumers.

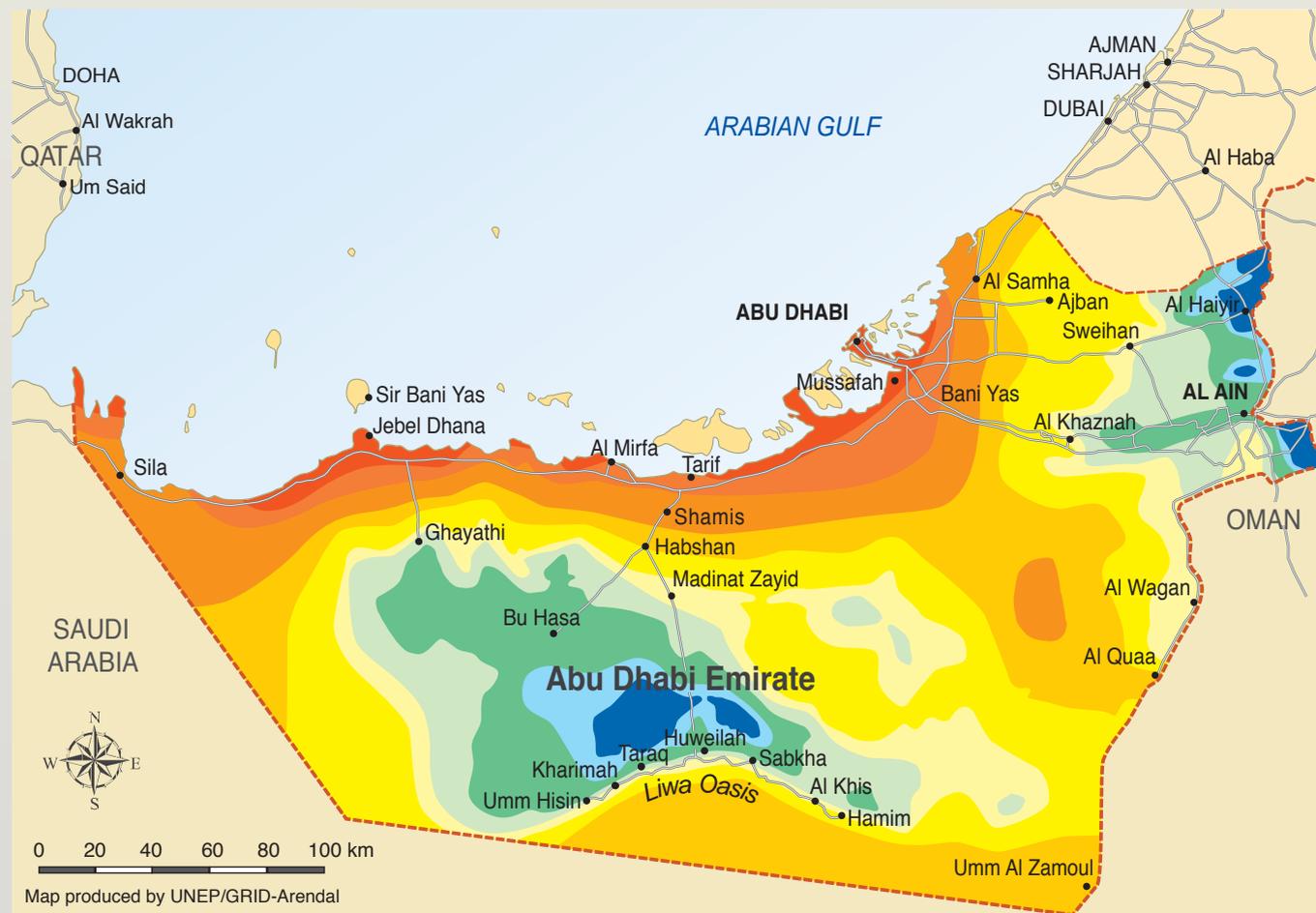
The Emirate's desalination industry can produce around 750 million cubic metres per year, but this is an extremely costly and energy consuming process. Almost total reliance on desalination for drinking water carries high risks. There is an urgent need to develop alternative, strategic water resources in case of emergency.

Water consumption by sector
in Abu Dhabi Emirate in 2003



Source: Environment Agency - Abu Dhabi

Salinity of the shallow aquifer in Abu Dhabi Emirate



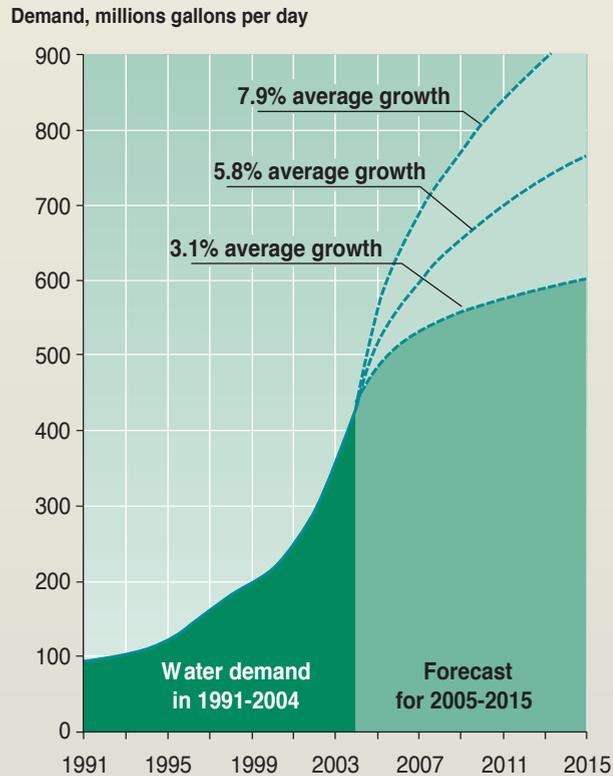
Map produced by UNEP/GRID-Arendal



Source: Ground Water Assessment for Abu Dhabi Emirate (GTZ 2005)

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

Water demand forecast for Abu Dhabi Emirate



Source: Abu Dhabi Water and Electricity Company 2005

Way forward

Important priority actions to be considered in order to improve the current water are:

- Replacing the use of inorganic fertilisers with organic farming.
- Revising and making more sustainable the Emirate's agriculture and forestry policies in light of dwindling groundwater resources and increasing reliance on desalinated water.
- Increasing tariffs in order to curb water waste and reduce per capita consumption.

Success stories:

Improved groundwater management

In 2005, EAD was assigned total responsibility for groundwater management, creating an opportunity for improved integrated water resources management. In late 2005, EAD established a groundwater monitoring network.

The Emirate took a major step towards managing groundwater resources in March 2006, when it established a water well drilling law that strengthened EAD's role in permitting policy. Since that time, EAD has begun to develop a comprehensive water resources database for the Emirate and an Emirate-wide water well inventory and registration programme.



2.0 Socio-economic development

2.1 Economic development

Abu Dhabi Emirate's economy has grown by over 15 percent annually in the past five years, making it the wealthiest emirate and the region's second largest commercial centre.

2.1.1 Oil and gas

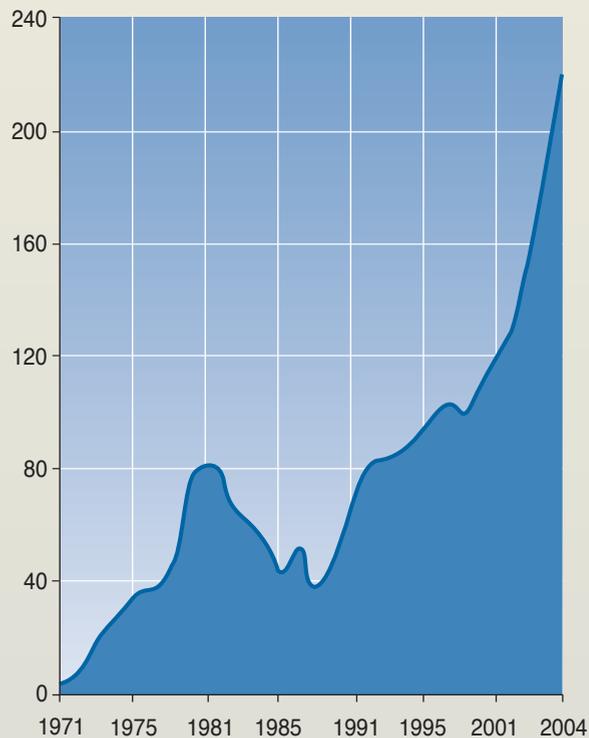
UAE controls approximately 10 percent of global conventional oil reserves, making it the world's fourth largest supply. Abu Dhabi, the most richly endowed, currently accounts for 94 per-

cent of the UAE's petroleum reserves and 85 percent of the UAE's oil production. At present output levels the supply will last over 100 years.

Abu Dhabi's gas reserves equal five percent of the world total. These reserves are forecast to last at least another 150 years. Oil and gas combined account for about 90 percent of Abu Dhabi's exports.

Gross Domestic Product in Abu Dhabi Emirate

Billions Arab Emirate Dirham (AED)*

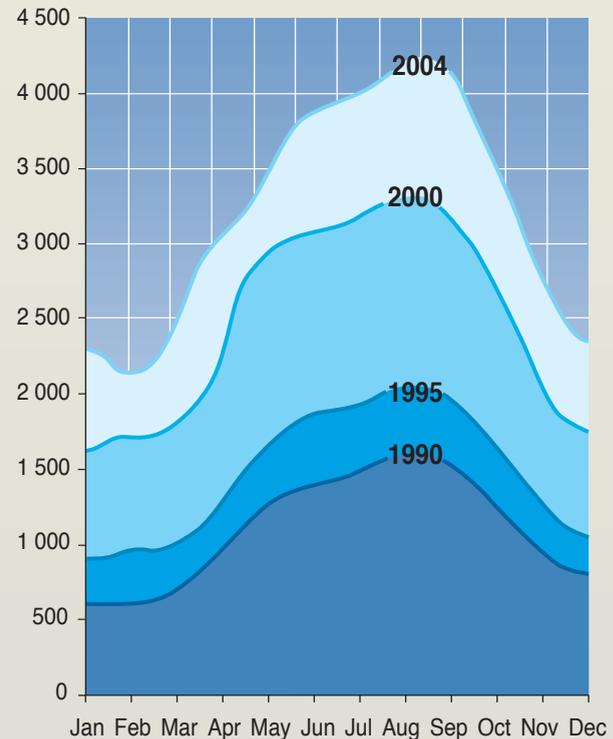


Source: Abu Dhabi Statistics

* 1 US dollar = 3.67 UAE Dirham

Monthly electricity demand peak in Abu Dhabi Emirate

Electricity demand, MW



Source: Abu Dhabi Water and Electricity Company 2005



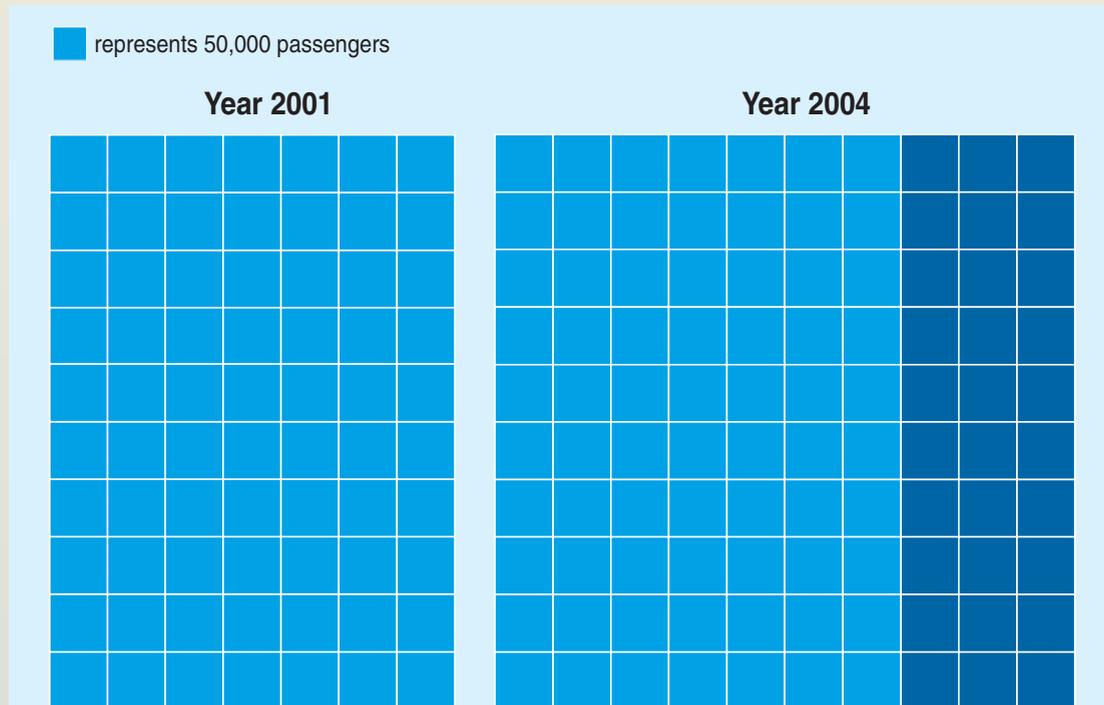
2.1.2 Electricity

Most of the Emirate's electricity is generated by gas-fired power stations. The domestic, industrial and commercial sectors' increased need for desalinated water has caused electricity demand to surge during recent years from, e.g., 1,766 MW in 1994 to 4,320 MW in 2004. Demand is expected to double by 2015.

2.1.3 Industry

Because of the pre-eminence of petroleum in the economy, development of the non-oil sector has lagged. Much of the Emirate's efforts to diversify national income have been concentrated in the Industrial City of Abu Dhabi (ICAD), at Mus-safah. More than 350 companies have established operations there, employing over 30,000 workers.

Number of the passengers at the Abu Dhabi International Airport



Source: Abu Dhabi Department of Civil Aviation

2.1.4 Tourism

Tourism is a key component of the government's plan to diversify the economy from its petroleum base. A central goal is to take advantage of the country's convenient location, inviting weather and security to boost foreign arrivals from the 800,000 reached in 2003 to 3 million visitors by 2015.

At present most visitors are businessmen, but more tourists are expected in the future. Over 100 new hotels and 17,000 new rooms are expected to be built in the next ten years. The private sector will play a principal role in tourism development.

2.1.5 Agriculture and forestry

Agriculture and forestry consume about 76 percent of all water in the Emirate.

Agriculture has developed rapidly in the last few decades despite the Emirate's highly arid climate. The number of farms has drastically increased from 8,866 in 1996 to 25,000 in 2003. While there are a few large state fodder farms, most farms are privately owned.

Between 2001 and 2003, Abu Dhabi increased its forested area by nearly 60 percent, from 190,733 hectares to 305,243 hectares. The Emirate now has approximately 337,000 hectares of forests, excluding public parks, which are irrigated by recycled wastewater.

2.2 Population dynamics

Abu Dhabi has experienced a population growth rate of 200 percent during the past 20 years. As of 2005, Abu Dhabi is estimated to have a population of 1.85 million, with 650,000 in Abu Dhabi City and over 400,000 in Al-Ain City and several smaller towns and villages in the Western Region.

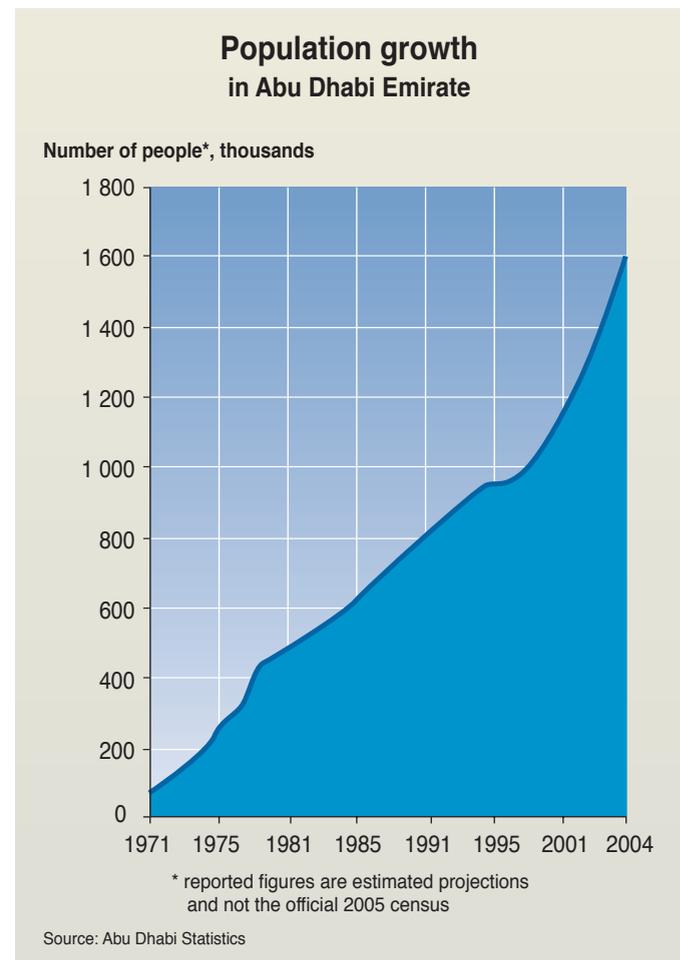
Nationals account for only about 20 percent of Abu Dhabi's population. About two thirds of the Emirate's expatriates are Asians, mainly from India, Pakistan, Iran, Sri Lanka, Bangladesh, and the Philippines. The remaining expatriates are of Arabic, European, and North American origin.

Rapid growth has been accompanied by disparities between income and expenses for families in Abu Dhabi. The overall average family expenditure in Abu Dhabi is approximately AED 17,000 (\$ 4,346), whereas family income averages approximately AED 15,575 (\$ 3,835), reflecting a gap of nine percent.

Between 2000-2005, the average income of a UAE national family increased by 20 percent to AED 30,199 (\$7720). That same family spent an average of AED 30,628 (\$7,830). By con-

trast, in 2000, family income had exceeded expenditures by 19 percent.

The average estimated monthly income of an expatriate family in 2004 was AED 9,890 (\$ 2,528). In 2005, however, expenses for expatriate families averaged AED 11,377 (\$ 2,909), producing a significant gap between income and expenses.



3.0 Environmental management

3.1 Communication and outreach

Since the mid-1990s, Abu Dhabi Emirate has witnessed a sharp increase in the number and diversity of its environmental education programmes and activities. Almost all agencies are involved in awareness raising, and most environmental groups have contributed at some stage. Although awareness has significantly increased among students, educators and the corporate sector, outreach campaigns have yet to communicate with all sections of society.

Outreach efforts encompass many topics. Waste management is the most widely addressed issue in environmental education. Biodiversity is also well covered, especially in schools and formal programmes. Activities include field trips and training sessions by organized by EAD and the Emirate Heritage Club (EHC). Water and pollution issues have also been addressed repeatedly. Available tools for environmental education include books, journals, posters, videos and magazines.

EAD began its environmental education efforts in 1996 and established an Environment Education and Awareness Division in 2002. Since then, EAD has won regional and international accolades for its educational and awareness programmes. Two of the most successful ones involve field trips to different habitats and the Enviro-Spellathon programme.

The Ministry of Agriculture and Fisheries (MAF) has targeted its training efforts at fishermen and farmers in order to promote sustainable agriculture and fisheries.

Several environmental organisations operate in Abu Dhabi. Although their projects cover a broad range of issues, recycling and clean-up campaigns have been the most visible activities.

The media has also played a pivotal role in environmental communication and outreach throughout the Abu Dhabi community. So far, the print media appears to be the most effective form of mass media for promoting environmental awareness.

3.2 Laws and regulations

The environment in Abu Dhabi Emirate is governed by a series of federal and local laws. Federal laws are promulgated at the UAE level. Local laws, which are generally more stringent, are promulgated at the emirate level.

The Ministry of Justice and Islamic Affairs (AWQAF, Justice Sector) reviews the UAE's federal laws and executive orders prior to their final approval.

<i>Federal Law</i>	<i>Description</i>
No. (23) of 1999	Exploitation, Protection and Development of Living Aquatic Resources (17 October 1999). This Law aims to conserve and develop aquatic resources in UAE through a set of regulatory procedures including the establishment of a committee for registration.
No. (24) of 1999	Protection and Development of the Environment (17 October 1999). This Law was the first comprehensive environmental law in the UAE at Federal Level and it entered into force in February 2000.
No. (1) of 2002	Regulation and Control of the Use of Radioactive Sources and Control against its Hazards (6 January 2002). This law was initially the responsibility of the Ministry of Energy (Water and Electricity Sector). Decree No. (39/4) dated 17 January 2005 then transferred responsibility to the Federal Environmental Agency (FEA).
No. (11) of 2002	Concerning Regulation and Control of International Trade in Endangered Species of Wild Fauna and Flora (26 October 2002).

Local laws are drafted by local governmental entities or concerned parties. Draft laws are submitted to the Executive Council for revision prior to their endorsement. If approved by the Executive Council, the law is submitted to the Emirate ruler for his final approval and signature. When a law has been approved, the General Secretary of the Executive Council disseminates it to local government agencies and publishes it in the Emirate's official gazette. Once published, the concerned party that initiated the law prepares the Executive Order and/or administrative order required for its implementation.



Local Laws affecting the Environment in Abu Dhabi

<i>Local Law</i>	<i>Description</i>
No. (5) of 1970	Regulates Hunting of Birds and Animals, amended by Local Law No. (1) of 1978.
No. (4) of 1989	Establishment of the National Avian Research Center (NARC). This law was incorporated into Local Law No. (16) of 2005 concerning the Responsibilities of the Environment Agency of Abu Dhabi.
No. (2) of 1999	Protection of Human Health and conservation of Agricultural Environment from the misuse of Chemical Pesticides and Fertilizers.
No. (13) of 2005	Regulates Grazing in Abu Dhabi Emirate
No. (16) of 2005	Responsibilities of the Environment Agency of Abu Dhabi
No. (21) of 2005	Waste Management in Abu Dhabi Emirate
No. (22) of 2005	Animal Hunting in Abu Dhabi Emirate
No. (28) of 2005	Establishment of the Abu Dhabi Authority for Culture and Heritage, which is responsible for the management of the the Emirate's cultural heritage sector..
Emirate Decree No. (33) of 2005	Declares Al Yasat Marine Protected Area.

Contributor list

Abu Dhabi Authority for Cultural Heritage
Abu Dhabi Chamber of Commerce and Industry
Abu Dhabi Company for Onshore Operations (ADCO)
Abu Dhabi Department of Planning and Economic (ADDOPE)
Abu Dhabi Food Control Authority (ADFCA)
Abu Dhabi Islands Archaeological Survey (ADIAS)
Abu Dhabi Municipality
Abu Dhabi National Oil Company (ADNOC)
Abu Dhabi Tourism Authority
Abu Dhabi Water and Electricity Authority (ADWEA)
Ajman Municipality
Al Ain Municipality
Al Ain Zoo
Arabian Gulf University- Kingdom of Bahrain
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Civil Aviation Department
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Department of Antiquities & Tourism-Abu Dhabi Authority for Culture and Heritage (ADACH)
Department of Atmospheric Studies
Dubai Municipality
Emirates Environment Group (EEG)
Emirates Heritage Club
Emirates Natural History Group
Environment Friends Society
Environment Protected Areas Authority-Sharjah
Environment Protection & Industrial Development Commission-RAK
Federal Environment Agency

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