

ATKINS

Expert Technical and Support Services

In managing the coastal environments of small islands



Providing innovative solutions to the interactions of man, land and sea

One of the leading providers of professional, technologically-based consultancy and support services in the world

Employs over 15,000 staff in 175 offices worldwide

Our vision is to be the international, first choice supplier of technical services and integrated solutions



What Atkins Water can offer

The coastal zones of small islands are complex and dynamic environments, rich in biodiversity. They provide inhabitants with a wealth of natural resources, creating invaluable food sources and economic security in the form of fisheries, tourism and industry amongst others. Management of these often inter-related and conflicting coastal activities is essential for the sustainable development of islands worldwide.

At Atkins Water we focus on the interface between human activities and the water environment, we are a multi-disciplinary team of scientists, engineers and economists with a breadth of capability, from water resource management through to coastal engineering and environmental assessments. Experienced staff means that Atkins Water can deliver the integrated solutions you need, whatever the issue...

We can deliver:

- Disaster Response Management
- Water Resource Management
- Shoreline Management
- Climate Change Adaptation Planning
- Tourism Development
- Coastal Planning and Policy
- Sustainable Development
- Environmental Assessment (including EIA and SEA)
- Geomorphological Investigation and Modelling
- Economic Analysis
- Detailed Design
- Stakeholder Analysis and Participatory Planning
- Contract Management
- Surveying and Mapping Services
- Coastal Engineering



Project Experience

Atkins has developed a strong reputation for putting together comprehensive teams to undertake the largest and most complex of projects anywhere in the World. The projects below give an indication of our capability from policy development and master planning to detailed site investigations.

Project Experience: Disaster Response & Water Resource Management

Disaster Response

Development Plan for North Montserrat



Atkins were involved in the preparation of a Development Plan for North Montserrat following the eruption of the Soufriere Volcano in 1997. A Physical Planning Specialist was seconded to the Physical Planning Unit of the Ministry of Agriculture, Land Housing and the Environment for a four month period. The work involved data collection, consultation with a wide range of interest groups and government agencies, analysis of opportunities and constraints for development, assessment of land supply and demand, evaluation of different spatial options and formulation of policies for housing, industrial and commercial development, tourism, environmental protection, rural development and service provision. The plan has subsequently been approved by the Government.

Water Resource Management

Ecological Impacts of Watershed Management, Trinidad



Atkins were commissioned to undertake a detailed assessment of existing land use and land management practices in Santa Cruz Valley, Trinidad in order to address socio-economic and environmental issues that were of concern to government agencies. These included loss of forests and wildlife due to accidental fires and slash and burn agriculture, illegal squatting, poor agricultural practices, soil erosion, urbanisation, domestic and industrial pollution of waterways and decreased recharging of important aquifers. Atkins assessed the status of the valley's wildlife and its rivers and streams and identified the causes of pollution and environmental degradation. A package of policies and remedial works were then proposed to improve environmental conditions.

Water Management Study (Irrigation and Drainage) - St Lucia Ministry of Finance, Planning and Sustainable Development



Atkins were appointed by the European Commission to investigate the feasibility of a proposed programme to develop drainage and large-scale irrigation systems in the three valleys, which would improve banana yields and, consequently, incomes to small farmers. Our final recommendations included designs and schedules for implementation of the engineering works, as well as recommendations for meeting the institutional development and training needs of the managers and farmers to ensure long term sustainable operation of the drainage and irrigation systems.

Project Experience: Shoreline Management & Tourism

Shoreline Management

Hayling Island Strategy Flood Defence Plan - Environment Agency, UK



Atkins completed a Strategy Study, to DEFRA guidelines, for Hayling Island on the south coast of England. Hayling Island has some 46km of coastline with many areas of land at risk of flooding. Many of the flood defences are privately owned and the two harbours are European designated conservation sites.

The scope of the study was to take account of all aspects of flood defence. A topographic survey and flood modelling techniques were used to produce predictive flood maps and enable an economic evaluation to be

completed. Atkins is now implementing the Strategy providing detailed design, EIA, Appropriate Assessments, and consents. The implementation also involves the creation of additional intertidal habitat through managed realignment.

Tourism

Resort Master Plan, Southern Seto Nagaura, Oshima Island, Japan



Atkins prepared a master plan for the Southern Seto Nagaura Resort on Oshima Island near Hiroshima, based on the provision of distinctive modes of activity and an emphasis on leisure. Facilities included a championship golf course, marina village and waterfront housing, entertainment centre, yacht harbour and private villa development. The Plan included phasing proposals and an implementation programme. The first phase,

including the hotel, sports centre and golf course, is intended to establish the focus of the resort as a major tourist destination. In parallel we prepared alternative master plans for the golf course. Our work formed the basis of a development licence application with Yamaguchi Prefecture.

Sustainable Livelihoods in Brazil - Pro-Poor Tourism, Bahia Coast



Construction of a new coastal road in the Brazilian state of Bahia opened up a range of tourism opportunities. However, the state authorities are aware of the need to manage the situation to ensure development is sustainable, the ecology of the area is not destroyed, and that local people benefit and are not marginalised by an influx of visitors and workers. The region has been

designated as an environmental protection area, with sensitive and ecologically valuable habitats such as mangroves, coastal dunes, wetlands, and Atlantic forest zones. Accordingly, an environmental management plan (EMP) has been developed. We were appointed to help to identify the problems, expand the EMP to deal with them and put it into practice. Encouraging eco-tourism has played an important part in our thinking.

Project Experience: Climate Change & Coastal Planning

Climate Change

Global Warming and Coastal Management Preliminary Study- PCKK, Japanese Development Bank



Atkins undertook a project to train and educate the Japanese Government about how adaptive counter measures for sea level rise are being implemented in other countries. Through Pacific Consultants in Japan, Atkins undertook short desk studies on coastal protection measures being taken in the UK, Netherlands, the USA, France and the Netherlands. An intensive itinerary in the UK and Netherlands was arranged for

the Japanese visitors, taking in a range of high and low cost techniques currently being used.

Coastal Planning and Policy

Regional planning study, Western Vanua Levu, Fiji - Environmental Defence Fund



With the aim of promoting sustainable economic growth within rural areas, Atkins undertook the initial regional planning study on behalf of the Environmental Defence Fund and prepared suitable projects for the development of the Western part of Vanua Levu. The planning study was used as the key planning policy for potential development activities on the Island by the Fijian Government.

Socotra Archipelago Master Plan, Yemen Republic



The Socotra archipelago is one of the least developed parts of the Yemen Republic and famous worldwide for its fauna and flora. Although, tourism is in its infancy, the islands have enormous appeal, not only for their wildlife, but also for wilderness values and pristine, spectacular landscapes. Atkins was commissioned to prepare a master plan for the islands' development over the next ten

years. We looked at the existing situation in a variety of sectors - environment, population, health, education, fisheries, agriculture, livestock, tourism, economy, infrastructure, utilities, local government administration, water and land use - and devised projects for implementation in each sector, that would not threaten the wildlife. A phased eco-tourism development plan was recommended, based on the building of eco-lodges and training programmes for local people.

Project Experience: Sustainable Development & EIA's

Sustainable Development

Coastal Development in Dubai - Jumeirah Beach Tower Hotel, UAE



Atkins was responsible for the Project Management, concept and detailed design, construction management, handover and operational support of the Jumeirah Beach Tower Hotel as part of this impressive Resort Development. Reaching 321 metres in height, it is the tallest building in the Middle East and the tallest hotel in the world. The concept of the design is of a billowing sail, and together with its unique location, will provide Dubai with a world landmark. Atkins also provided a detailed assessment of the marine environmental effects of the coastal development that included effects on coastal processes and

sediment budgets, recreation, fisheries, ecology and beach processes.

Extensions to Wallblake Airport, Anguilla - DFID



The Department for International Development (DFID) appointed Atkins to undertake a feasibility study into the options for upgrading the airport facilities in Anguilla, to accept the landing of larger aeroplanes and greater through-put of passengers. Two potential options were examined; the expansion of the existing runway or the construction of a new airport at two potential sites. The study demonstrated that it would

be more beneficial to extend the existing runway rather than build a new airport. In addition to providing advice on the most cost-effective option, Atkins also undertook preliminary comparative ecological assessments of the proposed new airport sites. These incorporated both terrestrial assessments and potential impacts on the adjacent coastal environment.

Environmental Impact Assessment

Coastal reclamation EIA, Bahrain - Ministry of Housing



A comprehensive and intensive environmental impact assessment of a proposed large-scale reclamation scheme off the east coast was carried out, prior to the development of new housing areas. Our work included surveys of tides, currents, waves, bathymetry, salinity, temperature and sediment distributions to calibrate a comprehensive modelling study of the proposed reclamation schemes. A detailed

survey of the macroalgae, seagrasses, coral reef communities and overall ecology formed the basis for the final detailed EIA of the overall scheme.