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Resort Environmental History

QUEENSLAND: Kingfisher Bay Resort - at North White Cliffs on the western side of Fraser Island - is built to strict environmental guidelines offering all the amenities of an island eco resort while blending harmoniously with the island's sensitive ecological system. The resort has been designed and built to integrate with the environment, not impose upon it.

It is estimated some 57 person years of research, including environmental impact assessment, landscape and architectural planning, energy and waste minimisation techniques, went into the project to ensure that Kingfisher Bay Resort was at the cutting edge of environmental management and design when it opened in 1992.

Research - Prior to development, comprehensive surveys were undertaken, including a detailed site survey dealing with topography and vegetation (including major trees); an archaeological survey indicating previous Aboriginal use and habitation and European use of the site; a comprehensive inventory of all flora and fauna; and a hydrological survey.

Design - The resort was designed by Queensland architects, Guymer Bailey, constructed from local materials; and built by local builders and artisans. The timber is Australian and most of it comes from the local timber species. Buildings are below the tree line and are limited to two levels, and where possible, designed around major trees.

The resort blends with its natural bush surrounds and the Queensland-style wooden buildings with open verandas have curving tin roofs reflecting the rolling sand dunes. The colours, greens, burgundy and golden browns, are those of the surrounding vegetation. The main swimming pool is designed to look like one of Fraser's most beautiful spots, Lake McKenzie.

Construction - The construction of the resort jetty started in January 1989 and building materials were barged to the beach. The jetty was built from mixed eucalypt piles, mainly spotted gum, with satinay planks and beams. Its 250-metre length takes it out to the nearest navigable channel.

The jetty is built over sand flats with the barge ramp set in the sea where it does not obstruct the natural movement of sand and tide. Rock for the barge ramp was brought by barge from a mainland quarry.

Early in 1991, prior to resort construction, the road system was completed and sealed to stop the erosion of the sand and provide access for construction.



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The main resort buildings float on 1600 piles sunk to a depth of 16 metres.

The piles are hardwood with treated pine at ground level for termite protection.

During the construction of the resort, around 150 workers lived on site, but the majority commuted. Each morning at sunrise a flotilla of boats left Hervey Bay carrying anything from 160 to 480 workmen.

At the peak of construction there were over 600 workers on site. All materials were barged from nearby River Heads, a fifty minute ferry ride from the Fraser Coast mainland, and the barge worked day and night. Two cyclones in 1991 did thousands of dollars' worth of water damage, but construction was completed on time and on budget and the resort opened its doors to guests on 16 July 1992.

Power - Generators provided the power supply to the resort when it was opened, but this was replaced by mainland power in 1997 (as the property grew in size). The use of natural convection currents to warm and cool the main resort complex area minimises the need for air-conditioning.

In summer, windows and vents are kept open to generate the induction of cool air from the lower level of the main building and expel warmer air through loft vents. In winter, windows and vents are closed and create a glasshouse effect trapping warm air inside the building. The design saves 480,000 kW hours of electricity per year.

An active energy efficiency program was adopted in the design of the resort including an automatic power shut-off system when the key is removed in the hotel rooms (the technology was a market leader at its inception). The use of low energy fluorescent bulbs in rooms, landscape and street lighting utilises less than 15% of the power required by conventional lighting saving 375,000 kW hours of electricity per year.

Water - The resort drinking water is some of the worlds purest and is drawn from the island's huge ground water reserves. It is estimated that the fresh water stored on Fraser Island is 20 times that of Brisbane's Wivenhoe Dam and it takes in the vicinity of 60 to 100 years for this water to filter through the sand dunes into the streams.

Waste Management - All solid waste is separated into recyclable and non-recyclable materials and then compacted and removed to the mainland for disposal. Paper, glass, aluminium, tin and plastics are all recycled.

Sewage - Stringent restrictions are placed on sewage discharge. The resort's intermittent, extended aeration plant's capabilities exceed Queensland's strict environmental legislation on waste water requirements. Resultant sludge is dried and composted along with waste paper and kitchen preparation scraps through an on-site worm farm.



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Landscaping - The impact of human visitation on the dunal system in and around the resort is minimised through the use of either hardwood boardwalks or woodchip walking tracks. Resort landscaping mirrors the native vegetation of Fraser Island and ensures the protection of the gene pool.

Many thousands of plants were removed prior to construction and held in an on-site nursery for replanting later. A further 150,000 plants were raised from seeds and cuttings.

Queensland Forestry Services were contracted to raise 60,000 seedlings for the project. The nursery continues to provide for the resort's landscaping needs. The success of revegetation in the area can be judged by the abundance of wildflowers and native wildlife nesting and feeding in the bush around the resort.

Environmental Activities - Interpretation of the environment is seen as a critically important component of the total environmental program at Kingfisher Bay Resort. Interpretive rangers conduct a wide range of eco-tours - bird watching, frog and bat walks, forest-by-night spotlighting, bush tucker talks and mangrove identification paddles - provide information about the island and strive to promote a strong environmental ethic. Almost all of the rangers have tertiary qualifications in various scientific disciplines and specialist training in the natural and cultural history of Fraser Island.

The resort also operates daily off-road 4WD eco-tours to explore Fraser Island, its flora and fauna and to look at the European and Aboriginal history of the island. For those, who aren't confident four-wheel-driving, the team at Australian Offroad Academy conducts regular training sessions for driving in sand at the resort's 4WD training track and on island.

Guided marine tours and Whale Watch interpretive cruises to view the migrating Humpback Whales run from August to October in the calm waters of the Great Sandy Strait and round out the touring experience.

Closer to home, walking trails around the resort feature permanent interpretive signs highlighting environmental and cultural features. A bird watching field guide for visitors to the island has been prepared by the resort team as well as information on the natural and cultural features of Fraser Island.

Education is an integral part of Kingfisher Bay's interpretive program. A Junior Eco Ranger program for children focuses on environmental activities and games and creates a fun learning environment.

Further, environmental education programs for school students provide the opportunity to learn about the ecological, biological, scientific and environmental aspects of

WORLD HERITAGE FRASER ISLAND Kingfisher Bay Resort

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Fraser Island with the help of the resort's Ranger team.

Environmentally-related programs, covering a broad range of natural and cultural heritage topics, are hosted by guest presenters - who are specialists in a range of natural science disciplines.

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