Chapter 3

New Golf Courses

Hope Island Resort, Queensland

Hope Island Resort, built on marginal farmland on the Gold Coast, Qld, opened in 1993. The site of the proposed resort and golf course was degraded compared with its pre-settlement biodiversity of dry and estuarine woodlands. Some remnant vegetation remained, such as White Figs (Ficus virens) and Casurinas (Casurina spp).

he course was designed to incorporate the links style into a wetland system. This involved vast earthworks and the removal and reshaping of topsoil. In the words of Ross Perrett, course architect, "Hope Island saw the pioneering use of nutrient stripping ponds in relation to golf courses to process the runoff containing fertilisers and herbicides in order to maintain water quality."

The ponds containing high densities of water plants retain runoff for sufficient time to breakdown and utilise nutrients, and stop them from polluting waterways downstream from the course. Plants are harvested periodically to maintain vigorous growth and reduce the breakdown of dead leaf tissue, which adds nutrients to the system.

A problem which can be associated with wetland systems, the breeding of mosquitos, was averted at Hope Island through the breeding of selected fish species to eat the mosquito eggs.

Landscaping of the course involved the planting of 25 000 native trees and 300 000 shrubs, ground covers, grasses and sedges. Care was taken to develop entire plant associations with 55 species used to provide diverse wildlife habitats.

The created woodlands and wetland areas are a breeding ground for many bird and aquatic species.
Ross Perrett wrote "At Hope Island the result sees golf harmonising with nature, and successfully acting as a catalyst for the reinstatement of a diversity of ecologies and natural systems once prevalent in the area."

Thomson Wolveridge & Perrett

Nutrient stripping ponds are an important feature of Hope Island Resort, Queensland

New golf course developments have a high potential for impact on the environment, but also provide the greatest opportunity to incorporate best practice environmental management. The design and planning phase must involve consideration of environmental impacts of both the construction and maintenance of the course

The greatest ability to incorporate the environmental considerations outlined in this document lies with the designers of new golf courses. Existing courses designed and built in the past were not constructed with the amount of knowledge that is now available about the environment. Therefore turf managers of conventional courses need to be very creative to convert common features such as drained wetlands, all areas mown and non-indigenous trees to more wildlife-friendly places, without compromising the game of golf. Sometimes, due to space constraints, changes are only possible on a very small scale.

The siting of new golf courses is one of the greatest concerns that environmental groups have about golf courses. The concern rises from the clearing of native bushland or pristine, undeveloped land, and the loss of native vegetation and wildlife habitat. Some sites do contain unique and fragile environments and should not have any type of development

Benefits of golf courses to the community

- Provide wildlife sanctuaries
- Preserve open space and remnant vegetation within urban environments
- Protect topsoil from degradation
- Protect water resources
- Rehabilitate degraded landscapes
- Promote physical and mental well-being
- Promote indigenous flora and fauna
- Improve air quality and moderate temperature
- Utilise and treat water resources
- Beautify the environment and provide community education
- Heritage site conservation
- Bushfire protection

(adapted from: "Benefits to the Community and Environment", Society of Australian Golf Course Architects and the Australian Golf Union, 1996.)

on them. In most cases there are more suitable sites which will involve less ecosystem disruption.

Many new golf courses are sited on land which has already been developed for farming or as a landfill site, and so often the land is cleared and degraded. Building a golf course on this type of land has great environmental benefits. Native vegetation communities can be planted and wetland systems developed, which will encourage wildlife back into these degraded areas.

Strict environmental guidelines are now imposed on developers of land for uses such as golf courses. In NSW, Section III of the Environmental Planning and Assessment Act 1979 provides that a determining authority in its consideration of an activity on land must "examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity". For that purpose, the developer must prepare a detailed Environmental Impact Statement (EIS) to ensure that impacts on the environment by the proposed activity are addressed.

Construction of new golf courses will involve large amounts of earthworks. Follow the recommendations in the construction sections of this document.

Design – Environmental considerations

- Plant native indigenous plants from seed collected on site
- Plant or retain communities of adequate size, with upper and lower storeys and ground covers
- Link bushland areas on the course with surrounding parks and green spaces
- Plant in corridors to allow the movement of wildlife
- Utilise natural landforms to reduce soil moving and retain natural watersheds
- Incorporate well vegetated wetlands and waterways where appropriate
- Compile lists of native flora and fauna and incorporate these into the course design
- Incorporate low risk pesticide and fuel storage and usage areas
- Investigate contaminated and acid sulphate soil
- Use climatically adapted turf species
- Form links with the local community and environmental groups to obtain their support and advice

Port Kennedy Resort, WA

Port Kennedy Resort is a large tourist development on the coast, 50km south of Perth, WA. The resort came about through a joint venture between the WA Government and the construction company to build a resort consisting of two 18 hole golf courses, two hotels, a marina, and 900 villas and townhouses.

The site is very environmentally sensitive. The sand dune system encompasses valuable wetland and remnant vegetation areas. In order to maintain the native indigenous plant population, consisting of Melaleuca, Acacia and Xanthorrhoea species, the development staff have worked closely with the local community through the Men of the Trees group. This group has been involved in on-site seed collection, and growing tubestock plants. 22 500 of these were planted out in 1996, with this number still to come in the next two years of development.

The course superintendent, Trevor Strachan, said that the program had been very successful, and that the involvement of the community was a great benefit for the resort. He said that all of the plants were propagated from stock on site, to avoid the importation of disease.

T. Strachan/Port Kennedy Resort

Members of the conservation group 'Men of the Trees' collected local seed for the revegetation programmes at Port Kennedy Resort, Western Australia.