

Summary of Reviewed Fraser Island World Heritage values

This report is the result of a comprehensive review undertaken by the Fraser Island World Heritage Scientific Advisory Committee in conjunction with other scientists. Peer review of this paper has not been completed at the time of going to press.

This report contains a review of the World Heritage value of the Fraser Island World Heritage Area. World Heritage listing is based upon overall "Outstanding Universal Value" and this report represents a consensus of the opinions of a range of scientists selected for their first hand scientific knowledge and experience of the values of Fraser Island which together form this overall Outstanding Universal Value. The report is based upon individual interviews with these scientists and a group workshop held to discuss the values, attributes and threats.

The assessment of World Heritage value has been based on the criteria for World Heritage listing. These have changed since the original listing of Fraser Island and it was decided to use the new criteria, thus ensuring that the review would look at whether, and in what aspects the property would meet the requirements of the Convention today. The project has identified attributes and key locations which demonstrate the values under each criterion as well as threats to these and has made assessments of the condition of integrity (as applied in the Convention).

Natural Criterion I – Ongoing geologic and geomorphic processes

The various landscapes formed on the sandmass of Fraser Island are outstanding examples of major stages in the development of coastal dunes in the subtropics during the Holocene and Late Pleistocene. As at Cooloola, they also provide a chronosequence in soil development and in dune degradation by water erosion. Coeval with the dune formation is the formation of many of the freshwater lakes. This process resulted in numerous dune lakes, probably half of the world's complement, many of which are perched. In the west of the island, there are excellent examples of at least two stages in the degradation of vegetated dunes by water erosion and the development of a fluvial drainage net. All of the preceding processes are ongoing and Fraser Island exhibits several stages in their development.

The dunes and dune lakes are generally robust and the threats are limited providing that the dunes retain their protective vegetation cover. There is some concern regarding infilling of lakes and streams by sand washed from nearby roads. Overall the Fraser Island property meets the conditions of integrity for this criterion however it should be noted that a more complete dune chronosequence could be captured by the inclusion of the Cooloola sandmass.

Natural Criterion ii – Ongoing ecological and biological processes

The infertile sandy soils of Fraser Island support a diversity of plant communities ranging from colonising plants and open woodlands to very tall eucalypt forests and rainforests to low, shrubby heath. The distribution of these communities across the island landscapes is intimately related to the distribution of the soils that have developed on the various dune systems. The Fraser Island and Cooloola dunes together provide at least nine windows in time that show progressive stages in plant succession, including changes in floristics and structure and increasing biomass, followed by stages of decline as access to nutrients decreases (retrogressive succession). Each of these stages has a particular assemblage of species adapted to the nutritional conditions of the site. These processes of ecosystem development and maturation as well as species sifting are continuing. The soil fauna assemblages are not well known for any of these ecosystems but research at Cooloola implies that there is a similar correspondence between these and the dune system chronosequence.

The nature and distribution of the attributes that support this criterion are such that it is robust and not threatened as a whole. The integrity of the present World Heritage property is satisfactorily captured by the present boundaries such that the majority of the attributes that contribute to the World Heritage value are contained within it. Local degradation can occur from the effects of excessive numbers of visitors, inappropriate fire management and the invasion of exotic species and pathogens.

Natural Criterion iii – Natural phenomena and areas of exceptional natural beauty

Fraser Island was inscribed on the World Heritage List in 1992 under Criterion (iii), and it was the unanimous position of workshop delegates that the outstanding international status of associated attributes continue to support the assessment made in 1992. The large scale of Fraser Island and its diversity of landscape elements with vistas and sites of exceptional beauty are of world quality.

The diversity of ecosystems and habitats developed on the sandy substrate contribute to world class opportunities for aesthetic appreciation. The unique "atmosphere" of the Island and a sense of awe capture visitors and wonderment is generated through interaction with a "world of quartzose sand." These subjective feelings are promoted, developed and enhanced through interpretive presentation of the World Heritage Values of the property, and contribute to a powerful visitor experience. Consequently, there was consensus at the workshop that addition of "aesthetic importance" to Criterion (iii) substantially strengthens the rationale for listing under this criterion.

In terms of integrity, Fraser Island, as an essentially self-contained entity, is large enough to include and preserve the diversity of landscape elements that contribute to the outstanding aesthetic value as defined by the attributes supporting this criterion. It was, however, the feeling of the workshop that inclusion of adjacent sand passages, estuaries and islands would serve to reinforce the integrity of the World Heritage Area. From a purely aesthetic point of view, the relevant boundaries would be the limit of visibility.

The overall scenic beauty of the site was not considered to be compromised by current human activities. Some localised degradation of amenity has resulted from identified threatening processes. These include the physical and social impacts associated with increasing visitor numbers, continuing development within Island communities, existing fire regimes, introduction of invasive plants and pathogens, and development of management infrastructure and visitor restrictions. There was, however, consensus within the workshop group that all of the identified threats are currently being, or have the potential to be, ameliorated through pro-active and effective management. The site has a current and effective management plan and receives institutional protection through Commonwealth and State nature conservation and biodiversity legislation. It may be concluded that the overall integrity under Criterion (iii) has changed little since the positive assessment in 1992, and that both the management and legislative status have improved since that time.

This educational supplement is published by the Fraser Island Defenders Organization as a supplement to MOONBI, its newsletter. It is published to enable a wider appreciation of the values which have been identified with Fraser Island and which should be sacrosanct.

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Natural Criterion iv – Biodiversity and threatened species

According to Dr Richard Lindsay, President of the International Mire Conservation Group, the patterned fens of Fraser Island and Cooloola are globally unique. They are the only sub-tropical patterned fens and the only fens flowing into tidal wetlands in the world and they have distinctive faunal inhabitants such as fish, crayfish and earthworms that would not normally be found in such acid environments.

Fraser Island has distinctive assemblages of biota many of which demonstrate unusual characteristics associated with living in a sandy and acidic environment. Fraser Island, in common with Cooloola, has a number of rare and threatened species, including the newly discovered monotypic genus of sand-burrowing skink *Coggeria*, and the island is an important stronghold for a number of species that are declining on the mainland.

The extensive satinay (*Syncarpia hillii*)/brushbox (*Lophostemon confertus*) forests present on Fraser Island represent the best and most extensive stands of this forest type in the world. Together with the blackbutt (*Eucalyptus pilularis*) forests and rainforests, these tall forests are remarkable for the sheer biomass of trees growing on a quartzose sand substrate. The rainforests also contain relict Gondwana flora, such as *Araucaria* and *Agathis* and several primitive plants.

The Great Sandy region as a whole is a lake district of world class. The lakes are particularly well developed on Fraser Island while Cooloola has more extensive heathlands and the Noosa River and its associated tidal lakes. Perched dune lakes are rare elsewhere but there are more than 40 such lakes on Fraser Island, including the largest in the world. The number, diversity and relatively undisturbed state of these lakes makes Fraser Island an outstanding research area for understanding dune lake ecology.

Fraser Island is part of a system that maintains an internationally significant population of trans-equatorial migratory waders. Although much of the RAMSAR site is outside the present World Heritage area there is limited but important habitat for these species within the 500m World Heritage boundary off the Island's western shore.

In terms of integrity, Fraser Island is the largest remaining area of vegetation developed on the aeolian sands in southeastern Australia. Together with Cooloola, it represents the stronghold for the distinctive flora and fauna associated with these nutrient-poor, acidic, sandy soils. It is of sufficient size to maintain viable populations of all of the significant species found in the area. The area is almost entirely within an existing national park. Being an island it is, to some extent, isolated from impacts of surrounding land use, invasion of exotic pests and diseases and similar pressures on the natural values of the area.

A number of current and especially potential threats to the attributes listed under this criterion were identified, varying with the nature of the attribute. Inappropriate fire management was seen as a threat on a broad scale, whilst the impacts of visitors were seen as a significant threat on a more local scale at some sites (especially lakes and streams).

This summary of Fraser Island's World Heritage values is a result of an extensive review involving the leading scientists in a position to contribute to identifying all of the special values of Fraser Island and Cooloola. The process of reviewing the values was overseen by the Fraser Island Scientific Advisory Committee. It included interviews a workshop and further review by the Community Advisory Committee and the Management Committee. The comprehensive document detailing the process and the values was still being undergoing rigorous peer review when this summary went to press. It has been agreed that the primary objective of management is to protect these values.

Cultural heritage values - Cultural Criteria iii and v (relating to the cultural landscape)

The Committee and workshop participants recognised that there is a need for the traditionally affiliated people to have an opportunity to present their cultural values of Fraser Island through a culturally appropriate process. The workshop working group recognised this need and offered its views in a positive spirit in this context.

Present knowledge indicates that Fraser Island's cultural landscape is at least of national significance. A key component of this significance is the size of the intact landscape and its relatively undisturbed nature. Large scale examples of human interaction with the landscape before the modern era are increasingly hard to find, particularly coastal examples. This scale is very much enhanced by the intact and extensive Cooloola sandmass landscape to the immediate south. It is also likely that the cultural record will be significantly enhanced as more research is carried out, this was certainly the case at nearby Cooloola. Thus the significance of the Fraser Island cultural landscape is likely to continue to grow.

Considered in the context of the Island's natural values, the Fraser Island cultural landscape adds significantly to the property's outstanding universal values, although in itself it is unlikely to qualify the area for World Heritage listing based on present knowledge.

In terms of authenticity, the overall landscape of Fraser Island is still relatively intact with modern intrusions being confined to a limited number of small townships. Elsewhere, the built environment generally takes the form of sand tracks and low level visitor infrastructure, such as toilets and viewing platforms. The skyline is essentially free of towers and transmission lines. There are large tracts of pristine or near pristine landscape and each of the components of the landscape has high quality undisturbed examples. Members of the workshop cultural heritage working group were of the view that participants in the Eliza Fraser story would be readily able to recognise the landscape of today. Overall there is a high degree of authenticity to the landscape over large areas encompassing examples of most of the identified components. The key threats to this authenticity were seen as a changed fire regime on a broad scale, and inappropriate buildings and incongruous activities on a more local scale.

Cultural heritage values – Cultural Criterion vi Fraser Island as inspiration for outstanding artistic and literary works

The citing of Patrick White's work from Fraser Island in conferring a Nobel Prize is a clear independent assessment of its international cultural significance and value. The works of Sir Sydney Nolan and Peter Sculthorpe further add to the body of significant works inspired by Fraser Island. With such works having been produced in a relatively short time and with easier access to the area for the creative talents of today and the future the likelihood of further major works is clear.

The landscapes that inspired the works are largely intact and as such, a visitor appreciating the works can have access to an authentic rather than modified experience. In this regard the size and extent of the landscapes are important as well as any specific localities.

As with Cultural Criteria iii and v, Fraser Island is unlikely to qualify for World Heritage listing under this criterion however the attributes identified do enhance the natural values of the property as identified under the natural criteria.

The review process unanimously concluded that Fraser Island and Cooloola together represent outstanding universal value for a coastal sand system environment that is substantially enhanced beyond that of each property separately.