WORLD HERITAGE NOMINATION - IUCN SUMMARY

630: FRASER ISLAND AND THE GREAT SANDY REGION (AUSTRALIA)

Summary prepared by WCMC/IUCN (March 1992) based on the original and the revised nomination submitted by the Government of Australia. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

---

1. LOCATION

On the south-eastern coast of Queensland. Fraser Island and the mainland Cooloola sand mass together make up part of the Great Sandy region.

2. JURIDICAL DATA

In 1860 the whole of Fraser Island was gazetted as an Aboriginal reserve. Cooloola was declared a forestry reserve in 1881. After the Aborigines were removed from Fraser Island, the remnant Aboriginal reserve was revoked in 1906. In 1908 the central part of Fraser Island was declared a forestry reserve, and by 1925 most of the island had been set aside as state forest. The land is under state, federal and private tenure.

3. IDENTIFICATION

Covering approximately 239,000ha the major geological elements of the region are the sandmasses of Fraser Island and Cooloola. Fraser Island is 122km long, 5-25km wide and reaches 235m, the depth of the sand extending 30-60m below present sea level. Dunes on Cooloola reach 260m, cover 40km of coastline and extend 10km inland. Notable features are the sandmass aquifers, the dune lakes, the Noosa River system and associated plains lakes. The closed forests of Fraser Island and Cooloola, covering some 10,500ha of high dunes, largely distinguish these sandmasses.

Aboriginal people are thought to have first occupied the region about 40,000 years ago. Currently, the earliest date for the occupation of Fraser Island is 1,500-2,000 years, although it is possible that further archaeological work may reveal evidence of earlier occupation. Four main groups of Aborigines dominated the Great Sandy region before the arrival of Europeans, but none now remains. Visible remains of

Aboriginal settlement include middens, canoe and gunyah trees, and a few other markings such as scars where bees nests have been removed.

4. STATE OF PRESERVATION / CONSERVATION

The forests of Fraser Island and Cooloola have been subject to logging for around 130 years. The mainland rain forests were largely cleared for timber and then agriculture, but the forests of the sandmassses have fared considerably better. Many of the largest and oldest trees were removed, and the resource of scrub timber declined to unsustainable levels, in some instances after less than 30 years of logging. Agreement has been reached between the Queensland Government and the timber industry to cease all logging on Fraser Island by 31 December 1991. Although there is no evidence that any species have been eliminated from the region due to logging, the forest structure, floristic composition and relative species abundance have been altered.

Comparatively small areas of land on Fraser Island have been mined to extract the valuable heavy minerals which occur in ore bodies throughout the sandmasses. Mining ceased in 1976 and rehabilitation was undertaken in the areas mined. Sandmining in the 1970s affected 350ha, but no further sandmining will take place. The topography of the 150ha of mined dunes of Fraser Island has been irreversibly simplified by mining and the original forest removed. Invasion by weeds, pathogens and feral animals is minimal and controllable, and the impacts of recreational use and vehicular access are already under active management to ensure resource conservation.

Several resorts, as well as camping areas, forestry camps, roads, jetties, and airstrips lie within the nominated area. There are additional development proposals both within and adjacent to the nominated area, several of which have already received approval. Around 200,000 tourists visit Fraser Island annually, numbers having increased rapidly since 1975. Cooloola is estimated to receive around 120,000 visitors annually.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

Natural property

(ii) **Outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment.** Complex coastal dune formations are still evolving. The array of dune lakes is exceptional in terms of number, diversity, age and the evidence provided of dynamic and developmental stages.

(iii) **Contains unique, rare or superlative natural phenomena, formations or features of exceptional natural beauty.** Fraser Island is the largest sand island in the world, and the Cooloola sandmass is recognised as the largest deposit of wind blown sand on mainland Australia. The combination of rain forests growing on tall sand dunes is believed to be unique in the world. The area includes over 250km of clear sandy beaches with long, uninterrupted sweeps of ocean beach, including more than40km of strikingly coloured sand cliffs, as well as spectacular blowouts.

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

630: FRASER ISLAND AND THE GREAT SANDY REGION (AUSTRALIA)

---

1. DOCUMENTATION

   i) IUCN/WCMC Data Sheet (2 references)

   ii) Additional Literature Consulted: Wallis, D. Fraser Island. Aust.Geog. July-Sept. 1991; Queensland N.P.W.S. Cooloola Tour Operator Workshop Papers, 1991; Nordstrom K. et.al. Coastal Dunes 1990; Bird, E.C. and Schwartz, M.L. The World's Coastline 1985.

   iii) Consultations: Queensland and DASET Government officials, Fraser Island Interim Management Board, local residents (Noosa), J. Sinclair, G. Mosely, A.G. Harrold, W. Huxley, A. Gilmour, P. Valentine, 2 anonymous reviewers.

   iv) Field Visit: January 1992, Jim Thorsell

2. COMPARISON WITH OTHER AREAS

The Great Sandy region is one of a number of coastal sand accumulations along Australia's east coast extending from the Croajingolong National Park in Victoria to Cape York in northern Queensland (see map). Impressive deposits in the latter exist at Cape Flattery (600 sq km), Temple Bay (400 sq km), Newcastle and Orford Bays. Other less significant but comparable areas include Myall Lakes in NSW and several coastal sites in western Australia. The phenomena of rainforest on sand is also evident in part of the NSW Forest World Heritage site (Iluka) but this is of more limited extent. The Great Sandy has certain similarities with the Shark Bay World Heritage site in Western Australia. This site, also on the coast, is an embayment and contains predominantly marine values interwoven with some terrestrial features. Shark Bay excised the major urbanized and mining area from the nomination.

The Great Sandy "system" extends several hundred kilometers to the south and includes other sand islands (Moreton, Bribie and Stadbroke). Fraser Island and Cooloola, however, are the northern terminus of this system and are where the most outstanding sand landforms occur.

Beyond Australia there exist a number of other coastal sand masses, for example, along the coasts of Oregon, Oman, Kenya, Namibia (Skeleton coast), Peru and

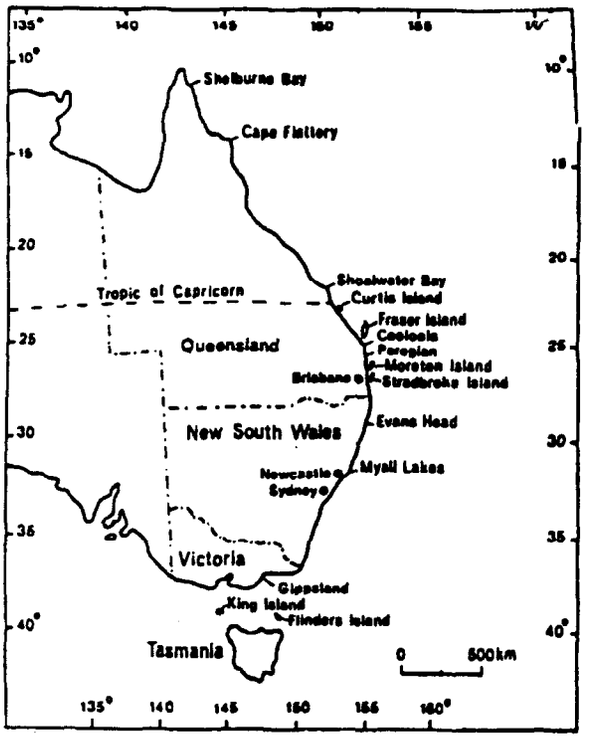
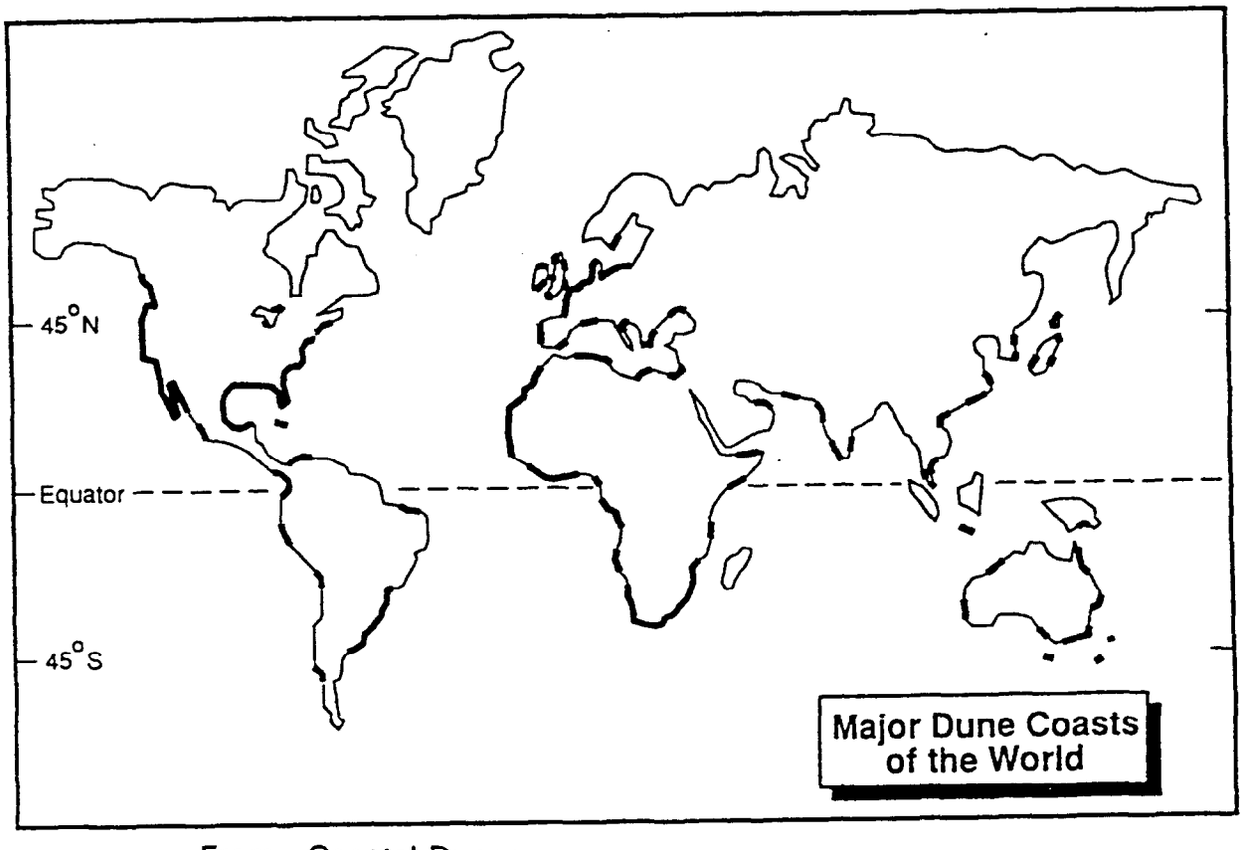


Figure 1. Main areas of large parabolic dune systems along the east coast of Australia (after Thompson 1983).



From: Coastal Dunes
K. Nordstrom and N. Psuty, 1990

South Africa (St. Lucia). (See map) Several parks and reserves along the east coast of the USA (Cape Cod and Cape Hatteras) are similar and the White Sands National Monument in New Mexico is a prime example of an inland site. Other protected areas with major sand dune features and sand islands are Kouchibouguac National Park in New Brunswick and Kobuk Valley National Park in Alaska. Existing World Heritage sites that contain extensive sand features are Banc d'Arguin (Mauritania), Tassilli (Algeria) and Aïr Ténéré (Niger) but neither of these have geomorphic affinities with the Great Sandy.

Another feature of the nomination is the vegetation but its uniqueness has been questioned by reviewers. The significance of the extensive area of heath vegetation is not established but heathland is widespread in Australia and the ground parrots and other fauna associated with it are common outside the nominated site. Various statements on certain plant species may also not be as important as suggested. Certainly the nominated area is one of considerable biodiversity but the concentration of local endemics is not greater than for other regions of Australia. Once again, although there are important values related to vegetation, it is not demonstrated that the plants are universally outstanding and they appear to be a secondary feature of the nominated area.

The conclusion reached after a comparative overview of the natural heritage of the Great Sandy area is that its most outstanding features relate to its geomorphic and geologic aspects. The accumulation of massive sand deposits and the processes that led to dune building, soil podsolisation, and perched lakes have resulted in an intact and significant coastal sand formation. Fraser Island itself is the largest sand island in the world. It is the best known part of the region and contains the majority of the unique natural features that make up the Great Sandy.

3. INTEGRITY

Three issues are addressed: human impact, management and boundaries.

3.1 Human Impact

Portions of the coastal strip in both Cooloola and on Fraser Island have been subject to sand mining and the forests have been particularly adversly affected by 130 years of logging. Both sand mining and extractive forestry, however, have now ceased. The adjacent marine area is utilized as a commercial and recreational fishery. Recreational use of the area is intensive along the coastal strip and seven resorts cater to visitors. There are a number of proposals for expansion of these areas and one in particular (Eurong) is urgently in need of rehabilitation and some land use planning controls. The southern end of the nominated area is relatively intensively used for watersports and at least one lake is showing signs of eutrophication. Effects of heavy 4WD traffic on the beaches have unknown impacts on littoral fauna and control measures may soon be needed. The legal

status of the portion of Fraser Island that is not a national park is under review and many changes in favour of conservation are anticipated.

3.2 Management

A major turning point in conservation of the area was the report of a Commission of Inquiry in 1990-1991. This resulted in recommendations for World Heritage nomination, cessation of forestry, expansion of national park lands, and a proposal for a Regional Park Authority to manage the entire Great Sandy Region. An Interim Management Board for the region has been established, in part modelled after similar structures in other Australian World Heritage sites. A management plan for the entire region is now being prepared and is due for completion in 1993. Management plans for the two national parks already exist.

3.3 Boundaries

The original nomination from Australia consisted of the entire Great Sandy Region as reviewed by the Commission of Inquiry. After the field inspection and subsequent discussion with the Australian authorities, however, a reduced boundary for the site was submitted. This smaller and more simplified nomination has a more unified theme and excludes a number of inappropriate areas. It now consists of two sections, Fraser Island and Cooloola National Park. The boundary on the marine border is 500m below the high water mark which corresponds to the digital cadastral survey line and also incorporates the beaches and some wetlands and mangroves.

The question of the inclusion of Cooloola National Park within the site has been given considerable attention. Dune systems on Cooloola and on Fraser Island are closely correlated and are linked geomorphologically as the northern "sinks" of a coastal sand transport system. Cooloola's mainland dune system is more complex and better studied and may be the largest sand mass along the coast of Australia. It also contains excellent examples of vegetation succession on dunes and contains some important choked coastal lagoons.

Cooloola, however, is separated by a gap of 12 km from Fraser Island. The southern portion (south of Lake Cooloola) is at the limit of the sand system and World Heritage values are affected by other land uses. Because of these problems and in light of the fact that World Heritage values are at their most outstanding on Fraser Island, the case for the inclusion of Cooloola is less clear. This park is clearly important on a State and National level and deserves the increased conservation attention it has been receiving in recent years. As the maps from the Commission of Inquiry suggest, however, it is of secondary importance to Fraser Island in terms of its World Heritage values.

Finally, the inclusion of Cooloola was not called for in the Perth IUCN General Assembly Resolution 18.71 which promoted only the nomination of Fraser Island.

4. ADDITIONAL COMMENTS

4.1 The Badtjala and Kabi Kabi groups of Aboriginal people have cultural and other traditional affiliations with the area nominated and have indicated in

correspondance that they are concerned over the consultation process. It would be useful if a clear position from them on the nomination was known.

4.2 The name of the site "Fraser Island and the Great Sandy Region" has been taken from the Fitzgerald Inquiry and could be left only as "The Great Sandy/Kgari" or some less superfluous title in a revised nomination. (Nb. Kgari is the aboriginal name for the island.)

4.3 Bordering Fraser Island to the northwest is a marine area of high natural value. The shoreline and waters of Hervey Bay are very important habitat for dugong, turtle, whales and migrating waders. This adds another natural attraction of the Great Sandy and its inclusion in the management plan for the region is strongly commended.

4.4 The Operational Guidelines for natural sites do not require nomination documents to provide a perspective of the value of the site on a world scale as is required for cultural nominations. The nomination for The Great Sandy thus assumes that its global status in terms of all coastal systems is self-evident. A cursory comparison, however, has shown that, although it is indeed significant, there are comparable sites elsewhere. It would be useful to modify the guidelines accordingly.

5. EVALUATION

The major portion of the area nominated (Fraser Island) is the center piece of the Great Sandy region and clearly meets World Heritage natural site criterion (ii): an outstanding example of significant on-going geological and biological processes. These processes, acting on a sand medium, include:

- longshore marine transport
- coastal beach and lagoonal deposition
- dune building
- soil development (e.g. podsolisation)
- biological adaptation (e.g. rainforest succession)
- biological evolution (e.g. acid frogs)

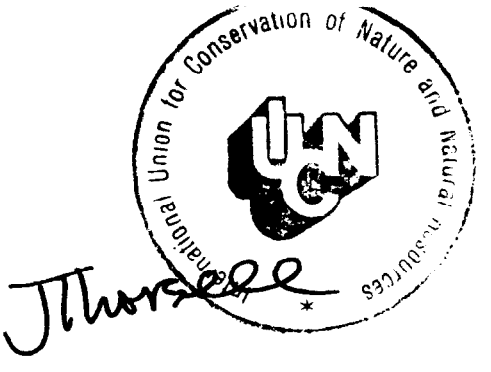
Fraser Island also meets criterion (iii) superlative natural features and exceptional natural beauty. It has long uninterrupted ocean beaches backed in some places by colored sand cliffs. Inland from the beach are found majestic remnants of tall rainforest growing on sand and half the world's perched freshwater dune lakes.

The conditions of integrity are also met as there is no perceptible human threat to longshore transport. All other significant on-going processes cited above are located within the area. Furthermore, land use measures already taken should ensure that these processes will continue. In this regard the Australian authorities should be encouraged in their plans to administer all of Fraser Island as the Great Sandy National Park and to continue the management planning process now well advanced.

As discussed under 3.3 above, the existence of World Heritage values in Cooloola is less convincing. The area is a national park and it has been the site of some important scientific research but it is subject to a number of land use problems in its southern section. Accordingly, the Bureau recommended Cooloola not be considered as part of the property.

6. RECOMMENDATION

The Bureau should recommend inscription of Fraser Island on the basis of criteria (ii) and (iii). To encourage conservation throughout the entire Great Sandy, the Australian and Queensland Government authorities should be encouraged in their efforts to plan and manage Fraser Island in the wider context of the "Regional Park" and to extend statutory protection to all of Fraser Island.



AUSTRALIA - Queensland

NAME Fraser Island

IUCN MANAGEMENT CATEGORY II (National Park)
X (World Heritage Site)

BIOGEOGRAPHICAL PROVINCE 6.01.01 (Queensland Coastal)

GEOGRAPHICAL LOCATION Comprises the whole of Fraser Island, on the south-eastern coast of Queensland. Boundaries of the region follow a line 500m below high water mark. 24º35'-26º20'S, 152º45'-153º30'E.

DATE AND HISTORY OF ESTABLISHMENT In 1860 Fraser Island was gazetted as an Aboriginal reserve. The reserve was largely revoked two years later following the discovery of valuable stands of timber. The remnant Aboriginal reserve was revoked in 1906, after the Aborigines were removed from Fraser Island. In 1908 the central part of Fraser Island was declared a forestry reserve, and by 1925 most of the island had been set aside as state forest. Fraser Island (Great Sandy National Park) (74,900ha), was gazetted in 1971.

The remainder of Fraser Island consists predominantly of vacant Crown land of 78,404ha in public ownership, which has been proposed as a National Park extension subject to resolution of Aboriginal Land interests. Parts of this have been effectively managed for conservation purposes, and prior to the Commission of Inquiry had been proposed for "preservation zoning" (DASET, 1991; A.Turner, pers.comm., 1992).

The Fraser Island (Great Sandy Region) was accepted as a natural World Heritage Site in 1992, on the basis of criteria (ii) and (iii).

Legislation is proposed to cover the whole area nominated, as a regional park (DASET, 1991).

AREA Approximately 166,283ha

LAND TENURE The state of Queensland, private tenure, and the government of Australia.

ALTITUDE 0-235m

PHYSICAL FEATURES The region largely reflects Quaternary geomorphological processes along a fluctuating coastline, influenced by earlier geological history and the continental shelf. Fraser Island, 122km long and 5-25km wide is claimed to be

the biggest sand island in the world. The sandmass is the major geological element, with the sand extending 30-60m below present sea level. The area represents a complete sequence of sand dunes, extending from the Holocene period (less than 10,000 BP) to before the last Pleistocene interglacial period (120,000-140,000 BP). The sand derives from granites, sandstones and metamorphic rocks in river catchments to the south and from the seafloor. Fossiliferous Lower Cretaceous marine charts are exposed in the intertidal zone on the west of Fraser Island (DASET, 1991).

The hydrology of the sandmasses is of considerable interest and importance due to the unique strata and the almost unaltered catchments of the region. Notable features are the sandmass aquifers and the dune lakes. The aquifers consist of an extensive regional freshwater 'lens' within each porous sandmass and perched aquifers associated with more or less impervious organically bound sands. Groundwater on Fraser Island is stored in massive reserves (estimated to be around 10-20 megalitres) within the sandmass, of which almost 6 million megalitres is above sea level. A further 400,000 megalitres may be retained in the perched aquifers. Water may be stored for up to 70-100 years. The 40 perched, window and barrage dune lakes are unusual in the world, due to their number, size, elevation, depth and oligotrophic waters. Some of the perched lakes, formed in wind scoured depressions that later become impermeable due to collection of organic matter, are estimated to be up to 300,000 years old, and contain in their organic sediments a continuous record of changes to the island's hydrology and vegetation through Quaternary glacial and interglacial cycles. Window lakes form in low elevation dune depressions that intersect the Island's regional water table. Barrage lake are thought to originate from groundwater springs, dammed by a wall of landward migrating sand (DASET, 1991; Sinclair and Morrison, 1990).

CLIMATE Conditions are maritime subtropical with mean annual temperatures ranging from 14.1ºC minimum to 28.8ºC maximum. Rainfall is high, reaching 1,800mm on the highest dunes in the centre of Fraser Island (DASET, 1991; Sinclair and Morrison, 1990).

VEGETATION Comprises four main vegetation types, usually clearly separated from one another by narrow boundaries: rain forest, tall eucalypt sclerophyll forest, low sclerophyll forest with grassy woodland, and wet heath. In addition, there are at least six lesser communities, including melaleuca forests, cypress forests, tall dry heaths, coastal pioneer associations, riverine and estuarine fringe associations. There is clear zonation and succession of plant communities according to salinity, water table, age and nutrient status of dune sands, exposure and frequency of fires, creating a generally east-west sequence of vegetation (Sinclair and Morrison, 1990).

The rain forests, dominated by satinay Syncarpia hillii (R), cover some 10,500ha of the high dunes up to elevations of 235m extending mainly down the central sandmass backbone in well protected sites, particularly in interdune corridors. Very little of the rain forest has national park status. The tall eucalypt forests, dominated by pure stands of blackbutt Eucalyptus pilularis, occur mainly on the high dunes adjoining the rain forests. The low sclerophyll forest, behind the foredunes stretching back to the taller eucalypt forest, is dominated by scribbly gum Eucalyptus signata (Sinclair and Morrison, 1990). The boundary of the region is given as 500m below high water mark, in order to include important areas of beaches, wetlands and mangroves, and part of the extensive seagrass beds in the Great Sandy Strait, which extend to more than 12,500ha (DASET, 1991; Sinclair and Morrison, 1990; A. Turner, pers.comm., 1992). The region is particularly important for relict populations of fern species, with around 50 species (including varieties) found on Fraser Island, including nine new species records. A species list is given in DASET (1991).

Internationally threatened species include Key's boronia Boronia keysii (E), stinking cryptocarya Cryptocarya foetida (E), bogrush Schoenus scabripes (V), and Fraser Island creeper Tecomanthe hillii (R) (DASET, 1991; Sinclair and Morrison, 1990).

FAUNA The native plant communities support a significantly diverse fauna, due to the variety and specialisation of a large number of habitats, although diversity within habitats is low. Few species are endemic to the sandy coastal heath areas (DASET, 1991; Sinclair and Morrison, 1990).

The region has a great diversity of birds, more that 230 species having been recorded. Ground parrot Pezoporus wallicus (E), one of the rarest Australian birds whose very specific habitat elsewhere in eastern Australia is rapidly disappearing, is relatively common in the heathlands of the region where its populations are stable. Peregrine falcon Falco peregrinus (V) also occurs. The region provides an important stopover for trans-equatorial migratory wading birds flying between southern Australia and their breeding grounds in Siberia for the northern summer. Twenty-three amphibian species and forty-six reptile species have been recorded, including loggerhead turtle Caretta caretta (V), green turtle Chelonia mydas (E), hawksbill turtle Eretmochelys imbricata (E), olive ridley Lepidochelys olivacea (E) and leatherback Dermochelys coriacea (E) (DASET, 1991; Sinclair, 1990). The low-nutrient acidic freshwater dune lakes, swamps and streams support a characteristic fauna, including four acid frogs and an internationally threatened species of fish, honey blue eye Pseudomugil mellis (V). A species list is given in DASET (1991).

Coral reefs occur within Great Sandy Strait and offshore (DASET,

1991; Sinclair and Morrison, 1990).

CULTURAL HERITAGE Aboriginal people are thought to have first occupied the region about 40,000 years ago. The earliest date for the occupation of Fraser Island is currently 1,500-2,000 years, although it is possible that further archaeological work may reveal evidence of earlier occupation. Four main groups of Aborigines dominated the Great Sandy region before the arrival of Europeans, but none now remains. Visible remains of Aboriginal settlement include middens, canoe and gunyah trees, and a few other markings such as scars where bees nests have been removed. Although examination of the archaeological potential of the region has been restricted, a number of sites have been located, particularly adjacent to the eastern shore. Over 200 shell middens have been found on Fraser Island (Sinclair and Morrison, 1990).

LOCAL HUMAN POPULATION Several towns, settlements and resorts, as well as camping areas, forestry camps, roads, jetties, and airstrips lie within the nominated area. Similar developments border the area to the south and west. There are additional development proposals both within and adjacent to the nominated area, several of which have already received approval.

VISITORS AND VISITOR FACILITIES Fraser Island is currently estimated to receive around 200,000 visitors a year, this number having increased rapidly since 1975. Facilities for visitors include built accommodation for approximately 600 and a further 8-10,000 campers in developed camp sites. Up to 5,000 additional campers may utilise beach areas, fishing camps and other sites at peak times (DASET, 1991).

SCIENTIFIC RESEARCH AND FACILITIES A scientific advisory committee will be set up, under the proposed legislation to be written specifically for the great Sandy Region (DASET, 1991). No information is available of on-going or previous research.

CONSERVATION VALUE Fraser Island is the largest sand island in the world. The combination of rain forests growing on tall sand dunes is believed to be a globally unique ecosystem. The array of dune lakes is exceptional in terms of number, diversity and age and the evidence they provide of dynamic development (DASET, 1991).

CONSERVATION MANAGEMENT At present, planning and management in the region are characterised by complex administrative arrangements containing both a vertical structure, according to the tiers of government, and a horizontal framework, comprising departments, agencies and authorities with different areas of operation and responsibility. A number of local authorities exercise control over portions of the region where several planning instruments apply. Management plans have, therefore,

been prepared, often with a single issue focus or limited resource-use objective, by the different authorities. Access to Fraser Island is subject to the provision of the Recreation Areas Management Act, which provides for the collection of permit fees (DASET, 1991).

A Commission of Inquiry by the Queensland government recommended new state legislation to ensure permanent protection, a management plan, and nomination for inscription on the World Heritage list. Following recent agreements to cease logging on Fraser Island, the conservation status of the 86,400ha state forest will be subject to provisions of the new legislation and proposed management plan (DASET, 1991).

A management plan will be developed for an Aboriginal management area, should a successful claim be made under the Queensland Aboriginal Land Act (DASET, 1991).

A network of roads and tracks exist, with approximately 1,000km of unsealed sand tracks and 44km of gravel roads, most of which are ungazetted and established originally for forestry purposes (DASET, 1991).

MANAGEMENT CONSTRAINTS Invasion by weeds, pathogens and feral animals is minimal and controllable, and the impacts of recreational use and vehicular access are already under active management to ensure resource conservation. However, very little of the rain forest of either sandmass lies within the national parks (DASET, 1991).

The forests of the region have been subject to logging for around 130 years. The mainland rain forests were largely cleared for timber and then agriculture, but the forests of the sandmasses have fared considerably better. Many of the largest and oldest trees were removed, and the resource of scrub timber declined to unsustainable levels in some instances after less than 30 years of logging. Although there is no evidence that any species have been eliminated from the region due to logging, the forest structure, floristic composition and relative species abundance have been altered. Agreement has been reached between the Queensland government and the timber industry to cease all logging on Fraser Island by 31 December 1991, but the situation concerning logging in the rest of the nominated area is not clear (DASET, 1991; Sinclair and Morrison, 1990).

Valuable heavy minerals occur in ore bodies throughout the sandmasses of the region. To extract these, the original forest of a comparatively small (150ha) area of land in the south-east of Fraser Island was removed, and the topography irreversibly simplified, as a result of mining which was permitted up until 1976 (DASET, 1991; Sinclair and Morrison, 1990).

STAFF No information

BUDGET No information

LOCAL ADDRESSES
Queensland National Parks and Wildlife Service, Department of Environment and Heritage, 160 Ann Street (PO Box 155), BRISBANE Qld 4002 (Tel: 7 227 711; Fax: 7 227 6534)

Queensland Forest Service and Queensland Fish Management Authority, Department of Primary Industries, Ann Street (GPO Box 46), BRISBANE Qld 4000

Department of the Arts, Sport, the Environment, Tourism and Territories, GPO Box 787, Canberra ACT 2601 (Tel: 6 250 0222; FAX: 6 250 0339/0228)

Department of Defence, Russell Offices, Canberra ACT 2600 (the principal agency of the Government of Australia responsible for conservation within the Wide Bay Training Area)

REFERENCES
DASET (1991). Nomination of Fraser Island and the Great Sandy Region by the Government of Australia for inclusion in the World Heritage List. Prepared by Department of the Arts, Sport, the Environment, Tourism and Territories. 70 pp.

Sinclair, J. and Morrison, R. (1990). Fraser Island and Cooloola. Weldon Publishing, Sydney, Hong Kong, Chicago, London. 256 pp.

DATE March 1992, revised October 1992, revised February 1993

DOCUMENT 0403W

DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL
RESUME PREPARE PAR L'UICN

630: L'ILE FRASER ET LA GRANDE REGION DE SABLE (AUSTRALIE)

Résumé préparé par le CMSC/UICN (mars 1992) d'après la désignation d'origine et la désignation révisée soumises par le gouvernement de l'Australie. L'original et tous les documents présentés à l'appui de cette désignation seront disponibles pour consultation aux réunions du Bureau et du Comité.

---

1. SITUATION

Sur la côte sud-est du Queensland. L'île Fraser et la masse de sable continentale de Cooloola constituent, ensemble, une partie de la Grande Région de Sable.

2. DONNEES JURIDIQUES

En 1860, l'ensemble de l'île Fraser a été classé Réserve aborigène. Cooloola est devenu Réserve forestière en 1881. Après que les populations aborigènes aient été déplacées de l'île Fraser, la Réserve aborigène restante a été abolie en 1906. En 1908, la partie centrale de l'île Fraser a été déclarée Réserve forestière et, en 1925, la majeure partie de l'île était devenue forêt domaniale. Le territoire appartient à l'Etat, au Gouvernement fédéral et à des privés.

3. IDENTIFICATION

Couvrant environ 239 000 ha, les principaux éléments géologiques de la région sont les étendues de sable de l'île Fraser et de Cooloola. L'île Fraser mesure 122 km de long, 5 à 25 km de large et 235 m d'altitude, le sable s'étendant en profondeur jusqu'à 30 à 60 m au-dessous du niveau actuel de la mer. Les dunes de Cooloola mesurent 260 m de haut, couvrent 40 km de côtes et 10 km à l'intérieur des terres. Les éléments remarquables sont les aquifères sablonneux, les lacs dunaires, le système fluvial Noosa et les lacs de plaine associés. Les forêts denses de l'île Fraser et de Cooloola, poussant sur environ 10 500 ha de hautes dunes, caractérisent principalement ces masses sableuses.

On pense que les Aborigènes furent les premiers occupants de la région, il y a environ 40 000 ans. L'occupation de l'île Fraser remonterait à 1500 à 2000 ans, mais il est possible que de nouveaux travaux archéologiques mettent en évidence une occupation plus ancienne. Quatre groupes principaux d'aborigènes dominaient la Grande Région

de Sable avant l'arrivée des Européens, mais aucun ne subsiste aujourd'hui. Il y a des vestiges évidents de leur présence: foyers, arbres canoe et gunyah ainsi que des marques, là où des nids d'abeilles ont été retirés.

4. ETAT DE PRESERVATION/CONSERVATION

Les forêts de l'île Fraser et de Cooloola ont été exploitées pendant environ 130 ans. Les forêts pluviales du continent ont été essentiellement abattues pour le bois puis pour l'agriculture, mais les forêts des masses de sable s'en sont beaucoup mieux tiré. Bien des arbres les plus grands et les plus anciens ont été coupés et les ressources de bois arbustif ont décliné au point de ne plus être rentables, parfois en moins de 30 ans d'exploitation. Le gouvernement du Queensland est parvenu à un accord avec l'industrie du bois pour que toute exploitation de l'île Fraser cesse au 31 décembre 1991. Bien qu'il n'y ait aucune preuve que des espèces aient disparues de la région à cause de l'exploitation, la structure de la forêt, la composition floristique et l'abondance relative des espèces ont été altérées.

Une région relativement petite de l'île Fraser a été exploitée pour extraire les minerais lourds précieux qui se trouvent dans des gisements à travers les masses sableuses. L'exploitation minière à cessé en 1976 et la restauration des régions exploitées a été entreprise. Dans les années 70, l'exploitation du sable a affecté 350 ha, mais elle a maintenant cessé. La topographie des 150 hectares a de dunes exploités de l'île Fraser a été simplifiée de manière irréversible par les activités minières et la forêt d'origine a été détruite. L'invasion par des plantes exogènes, des pathogènes et des animaux redevenus sauvages est insignifiante et maîtrisable. Quant aux impacts des utilisations de loisir ou des véhicules, ils font déjà l'objet d'une gestion active pour garantir la conservation des ressources.

A l'intérieur de l'aire désignée se trouvent plusieurs stations de loisir ainsi que des zones de camping, des camps forestiers, des routes, des embarcadères et des pistes d'atterrissage. Il existe d'autres projets de développement à l'intérieur de la zone désignée et à proximité et certains d'entre eux ont déjà été approuvés. Environ 200 000 touristes visitent l'île Fraser chaque année et leur nombre croît rapidement depuis 1975. Cooloola reçoit environ 120 000 visiteurs par an.

5. RAISONS JUSTIFIANT LA DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL

Bien naturel

(ii) **Exemples éminemment représentatifs de processus géologiques importants en cours, de l'évolution biologique et de l'intéraction entre l'homme et son environnement naturel.** Les formations dunaires côtières complexes sont encore en évolution. L'éventail des lacs dunaires est exceptionnel par le nombre, la diversité, l'ancienneté et la preuve qu'ils

exceptionnel par le nombre, la diversité, l'ancienneté et la preuve qu'ils donnent d'étapes dynamiques et évolutives.

(iii) **Contient des phénomènes naturels rares ou exceptionnels, des formations et des éléments d'une beauté naturelle exceptionnelle.** L'île Fraser est la plus grande île de sable du monde et la masse de sable de Cooloola est reconnue comme le plus grand dépôt de sable soufflé par le vent sur le continent australien. L'association des forêts pluviales poussant sur de hautes dunes de sable est considérée comme unique au monde. La région comprend plus de 250 km de plages de sable clair, d'étendues ininterrompues de plages océaniques comprenant plus de 40 km de falaises sableuses aux couleurs étonnantes ainsi que des "blowouts" spectaculaires.

DESIGNATION POUR LE PATRIMOINE MONDIAL
EVALUATION TECHNIQUE DE L'UICN

630: L'ILE FRASER ET LA GRANDE REGION DE SABLE (AUSTRALIE)

---

1. DOCUMENTATION:

   i) Fiches descriptives UICN/CMSC (2 références)

   ii) Littérature consultée: Wallis, D. Fraser Island. Aust. Geog. July-Sept. 1991; Queensland N.P.W.S. Cooloola Tour Operator Workshop Papers, 1991; Nordstrom, K., et al., Costal Dunes 1990; Bird, E.C., et Schwartz, M.L., The World's Coastline 1985

   iii) Consultations: Fonctionnaires du gouvernement du Queensland et de la DASETT, Conseil de gestion intérimaire de l'île Fraser, résidents locaux (Noosa), J. Sinclair, G. Mosely, A.G. Harrold, W. Huxley, A. Gilmour, P. Valentine, 2 examinateurs anonymes

   iv) Visite du site: Janvier 1992, Jim Thorsell.

2. COMPARAISON AVEC D'AUTRES AIRES

La Grande Région de Sable est une des nombreuses régions d'accumulation littorale de sable, le long de la côte orientale de l'Australie, s'étendant du Parc national de Croajingolong dans le Victoria, jusqu'à Cape York, dans le nord du Queensland (voir carte). Des dépôts de sable impressionnants existent à Cape Flattery (600 km2), Temple Bay (400 km2), et Newcastle et Orford Bays. Il existe d'autres dépôts moins importants mais de superficie comparable à Myall Lakes en Nouvelle-Galles du Sud et plusieurs sites côtiers en Australie-Occidentale. Le phénomène de forêts pluviales sur sable est également présent dans une partie du Bien du patrimoine mondial des forêts de Nouvelle-Galles du Sud (Iluka), mais il est beaucoup moins étendu. La Grande Région de Sable présente certainement des similitudes avec le Bien du patrimoine mondial de Shark Bay en Australie-Occidentale. Ce site, également situé sur le littoral, est une baie qui présente surtout des valeurs marines entremêlées de caractéristiques terrestres. A Shark Bay, on a exclu les zones les plus urbanisées et les mines de la désignation.

Le "système" de la Grande Région de Sable s'étend sur plusieurs centaines de kilomètres vers le sud et comprend d'autres îles sableuses (Moreton, Bribie et Stadbroke). Toutefois, l'île Fraser et Cooloola sont les extrémités septentrionales de ce système et c'est là que la topographie sableuse est le plus exceptionnelle.

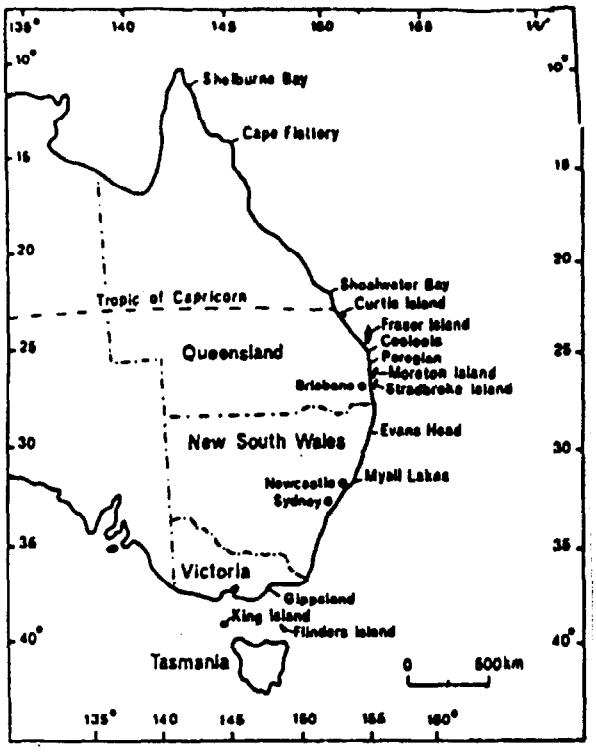
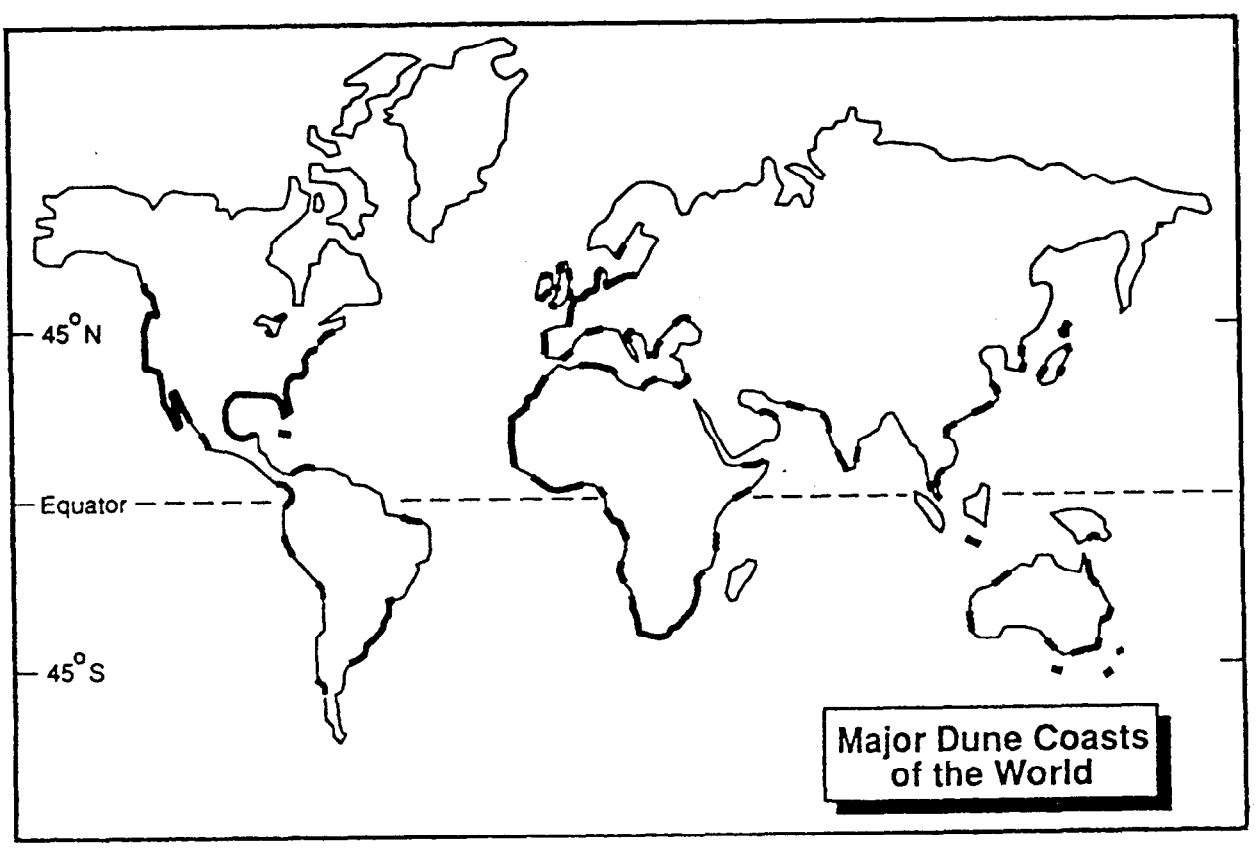


Figure 1. Main areas of large parabolic dune systems along the east coast of Australia (after Thompson 1983).



De: Coastal Dunes
K. Nordstrom et N. Psuty, 1990

En dehors de l'Australie, il existe un certain nombre d'autres masses sableuses littorales, par exemple le long des côtes de l'Orégon, à Oman, au Kenya, en Namibie (Skeleton coast), au Pérou et en Afrique du Sud (St. Lucia). (Voir carte) Plusieurs parcs et réserves se trouvant sur la côte est des Etats-Unis (Cape Cod et Cape Hatteras) sont semblables, et le Monument national des White Sands, au Nouveau-Mexique, est un exemple parfait d'un site insulaire. Parmi les autres aires protégées comprenant des systèmes dunaires et îles sableuses se trouvent le Parc national de Kouchibouguac, au Nouveau-Brunswick et le Parc national de la vallée de Kobuk, en Alaska. Parmi les Biens du patrimoine mondial qui comprennent d'importantes structures de sable, on peut citer le Banc d'Arguin (en Mauritanie), le Tassili (en Algérie) et l'Aïr Ténéré (au Niger), mais aucun d'eux n'a d'affinités géomorphologiques avec la Grande Région de Sable.

Autre caractéristique de cette désignation, la végétation. Toutefois, son caractère unique a été remis en question par certains examinateurs. L'importance de la vaste étendue de bruyère n'est pas établie, mais les landes à bruyère sont largement répandues en Australie, et les perruches terrestres et autres espèces de la faune associées sont communes en dehors du site désigné. Diverses affirmations sur certaines espèces de plantes ne sont peut-être pas aussi importantes que suggéré. Il est certain que la zone désignée comporte une diversité biologique considérable, mais la concentration des espèces endémiques locales n'est pas plus importante que dans d'autres régions d'Australie. Une fois encore, bien que des caractéristiques importantes soient liées à la végétation, il n'est pas évident que les plantes en question aient une importante universelle exceptionnelle. Elles semblent être une caractéristique secondaire de la zone désignée.

Après un examen comparatif du patrimoine naturel de la Grande Région de Sable, on a conclu que ses caractéristiques les plus exceptionnelles sont dues aux aspects géomorphologiques et géologiques. L'accumulation massive de dépôts de sable et les processus de constitution des dunes, la podzolisation des sols et les lacs perchés contribuent à constituer une formation sableuse côtière intacte et importante. L'île Fraser elle-même est la plus grande île sableuse du monde. C'est la partie la plus connue de la région, et qui contient l'essentiel des caractéristiques naturelles uniques qui forment la Grande Région de Sable.

3. INTEGRITE

Les points suivants seront traités: impact de l'homme, gestion et limites.

3.1 Impact de l'homme

Des portions de la bande côtière de Cooloola et de l'île Fraser ont été soumises à l'exploitation du sable, et les forêts ont été particulièrement touchées par 130 années d'exploitation. Toutefois, tant l'exploitation du sable que la foresterie extractive ont cessé. La région marine adjacente est utilisée pour la pêche commerciale et sportive.

L'utilisation de la région pour les loisirs est intense le long de la bande côtière où l'on trouve sept stations touristiques. Il existe plusieurs propositions d'expansion de ces zones, et une en particulier (Eurong) nécessite, de toute urgence, une restauration et le contrôle des formes d'occupation des sols. La partie méridionale de la zone désignée est utilisée de manière assez intensive pour les sports aquatiques, et un lac au moins montre des signes d'eutrophisation. Les répercussions sur la faune du littoral d'un trafic important de véhicules tout-terrain sur les plages n'ont pas été déterminées, etil se peut qu'il faille instaurer des mesures de contrôle dans de brefs délais. Le statut juridique de la portion de l'île Fraser qui n'est pas parc national est à l'examen, et l'on prévoit de nombreuses modifications en faveur de la conservation.

3.2 Gestion

La conservation de la région a connu un tournant décisif, en 1990-1991, avec le rapport d'une Commission d'enquête qui a recommandé la désignation en tant que Bien du patrimoine mondial, la cessation de la foresterie, l'agrandissement du territoire du parc national et la création d'une Autorité régionale du parc pour gérer l'ensemble de la Grande Région de Sable. Un Conseil de gestion intérimaire a été établi, partiellement sur le modèle de structures semblables mises en place pour d'autres biens australiens du patrimoine mondial. Un plan de gestion pour toute la région est actuellement en préparation et devrait être terminé en 1993. Il existe déjà des plans de gestion pour les deux parcs nationaux.

3.3 Limites

La désignation d'origine présentée par l'Australie concernait l'intégralité de la Grande Région de Sable examinée par la Commission d'enquête. Après inspection sur le terrain et discussions ultérieures avec les Autorités australiennes, un site un peu plus petit a été proposé. La désignation, plus petite et simplifiée, a un thème plus unifié et exclut un certain nombre de zones inappropriées. Elle se compose maintenant de deux sections: l'île Fraser et le Parc national de Cooloola. Les limites du côté marin sont fixées à 500 m au-dessous des eaux de la marée haute, ce qui correspond à la ligne cadastrale digitalisée et inclut les plages ainsi que certaines zones humides et mangroves.

La question de l'intégration du Parc national de Cooloola a reçu une attention considérable. Les systèmes dunaires de Cooloola et de l'île Fraser sont en corrélation étroite et sont liés du point de vue géomorphologique, étant les "récepteurs" septentrionaux d'un système de transport de sable côtier. Le système dunaire continental de Cooloola est plus complexe et mieux étudié. Il se pourrait que ce soit la plus grande étendue de sable littorale d'Australie. Il contient également d'excellents exemples de succession végétale sur les dunes et d'importantes lagunes côtières ensablées.

Néanmoins, Cooloola est séparé de l'île Fraser par un espace de 12 km. La portion méridionale (au sud du lac Cooloola) se trouve à la limite du système sableux, et son intérêt pour le patrimoine mondial est affecté par d'autres formes d'utilisation des terres.

En raison de ces problèmes et sachant les valeurs de l'île Fraser pour le patrimoine mondial sont plus importantes, l'inclusion de Cooloola n'est pas clairement justifiée. Ce parc est réellement important au niveau de l'Etat et au niveau national et mérite les mesures de conservation renforcées qui ont été prises ces dernières années. Toutefois, comme le suggèrent les cartes de la Commission d'enquête, il est moins important que l'île Fraser du point de vue du patrimoine mondial.

Enfin, l'inclusion de Cooloola n'est pas demandée dans la Résolution 18. 71 de l'Assemblée générale de l'UICN à Perth qui préconise uniquement la désignation de l'île Fraser.

4. COMMENTAIRES ADDITIONNELS

4.1 Les groupes aborigènes Badtjala et Kabi Kabi ont des affinités culturelles et traditionnelles avec la région désignée et ont indiqué, par correspondance, que le processus de consultation les préoccupe. Il serait bon d'obtenir leur opinion claire et définitive sur la désignation.

4.2 Le nom du site "L'île Fraser et la Grande Région de Sable" est tiré de l'enquête Fitzgerald et pourrait devenir "La Grande Région de Sable/Kgari" ou quelque chose de plus succint, dans une désignation révisée (Nb. Kgari est le nom aborigène de l'île).

4.3 Le long de la côte nord-ouest de l'île Fraser se trouve une région marine d'importance naturelle élevée. Le littoral et les eaux de la baie Hervey sont un habitat très important pour les dugong, les tortues, les cétacés et les échassiers migrateurs. C'est un atout naturel de plus pour la Grande Région de Sable, et l'inclusion de cette zone dans un plan de gestion de la région est fortement recommandée.

4.4 Les Directives opérationnelles n'exigent pas, pour les biens naturels, que les documents de désignation fournissent un aperçu de la valeur du site à l'échelle mondiale, comme c'est le cas pour les désignations culturelles. La désignation de la Grande Région de Sable présume donc que son statut global, par rapport à tous les systèmes côtiers, est évident. Toutefois, une comparaison sommaire a montré que, bien que cette région soit effectivement importante, il existe ailleurs des sites comparables. Il serait utile de modifier les Directives à ce propos.

5. EVALUATION

La majeure portion de la région désignée (l'île Fraser) est le maillon central de la Grande Région de Sable et, de toute évidence, satisfait au critère (ii) du patrimoine mondial: un exemple exceptionnel de processus géologiques et biologiques en cours. Ces processus, dans un milieu sableux, sont les suivants:

- transport marin littoral
- dépôts sur les plages côtières et les lagunes

- édification de dunes
- développement du sol (par ex. podzolisation)
- adaptation biologique (par ex. succession de forêts pluviales)
- évolution biologique (par ex. batraciens acides).

L'île Fraser satisfait également au critère (iii): caractéristiques naturelles exceptionnelles et beauté naturelle exceptionnelle. Elle possède de longues plages océaniques ininterrompues, s'appuyant, par endroits, sur des collines de sable de couleur. En arrière de la plage se trouvent des vestiges majestueux de grandes forêts pluviales poussant sur le sable et la moitié des lacs dunaires d'eau douce perchés du monde.

Les conditions d'intégrité sont également remplies car il n'existe pas de menaces humaines perceptibles au transport côtier. Tous les autres processus importants en cours susmentionnés sont observables dans cette région. En outre, les mesures concernant l'occupation des sols devraient garantir que ces processus puissent continuer. A cet égard, les autorités australiennes devraient être encouragées, dans leurs plans, à administrer l'ensemble de l'île Fraser en tant que Parc national de la Grande Région de Sable et à poursuivre le processus de planification de la gestion qui est déjà bien entamé.

Comme nous en avons discuté au paragraphe 3.3, les valeurs de patrimoine mondial de Cooloola sont beaucoup moins convaincantes. La zone est un parc national et a fait l'objet d'importants travaux de recherches scientifiques, mais est en butte à différents problèmes d'utilisation des sols dans sa partie méridionale. En conséquence, le Bureau a recommandé de ne pas considérer Cooloola comme faisant partie du bien désigné.

6. RECOMMANDATION

Le Comité devrait recommander l'inscription de "L'île Fraser" sur la base des critères (ii) et (iii). Pour favoriser la conservation dans toute la Grande Région de Sable, les Autorités australiennes et celles du Queensland devraient être encouragées dans leurs efforts de planification et de gestion de l'île Fraser dans un cadre élargi de "Parc régional" et à étendre la protection officielle à l'ensemble de l'île Fraser.