Version 1.0: Preliminary Working Notes only

The Huon Peninsula

Towards a Tentative Listing for World Heritage Nomination

Latitude and Longitude

To be assessed

Criteria met

(Please tick the box corresponding to the proposed criteria and justify the use of each below)

(i) (ii) (iii) √ (iv) (v) (vi) (vii) √ (viii) √ (ix) √ (x) √

Description

This portion of New Guinea has a complex geologic history, being located on the junction between the Australian and Pacific crustal plates. The surface geology of this ecoregion is a combination of Miocene siltstone, conglomerate, volcanics, and limestone. It has been subject to a long history of volcanism, earthquakes, faulting and other fragmentation. In turn, this has fragmented the biodiversity, although that remains of predominantly Australian origin.

The Pacific plate is subducted beneath the Australian, and land is one of the most rapidly rising areas of the world. The Finisterre Range in particular consists of one ridge of limestone that dips steeply to the ocean. The most significant feature of the region is the remarkable sequence of coastal terraces that are not only spectacular, but have proven to be of immense value as testimony to the geo-climatic history of the Pacific region. This is probably the finest sequence of such terraces in the world, and so they have attracted a great deal of attention and continuing research. Further, as the land has emerged, the surface is generally covered with tephra – a layer of volcanic dist and rock shards, often referred to as volcanic ash. This serves to protect the emerging landscapes and to preserve the landscape history to a remarkable degree. There is clearly extensive underground drainage, with springs occurring both on the terraces and at sea level.

Earth Sciences

It seems that this region is on the most rapidly rising crystal plate in the world and this can be accurately dated from the various coastal terraces. There have been exhaustive studies of the coastal terraces which have yielded an immense understanding of quaternary tectonic movements and sea-levels, the character of coral reef growth, and the climatic changes which have occurred since the end of the tertiary. The higher lands have provided an opportunity for study of the role of landslides in landscape evolution. The details of this research are too complex to document here, but there is an extensive bibliography available and a more detailed statement will be prepared for the tentative listing.

The earliest evidence for human occupation in Melanesia consists of waisted stone axe/adzes embedded in a tephra deposit on a raised coral terrace at Bobongara on the Huon Terraces. Dating of the tephra and the coral terrace indicate that these artefacts are at least 40,000 years old. Waisted stone artefacts have been found at other locations on the terraces, e.g., in the bed of a drainage channel adjacent to that previously documented, and are not restricted to one site. More recent archaeological evidence, dating to the mid and late Holocene, has been documented across the terraces during surveys and excavations. Ethnoarchaeological excavations have also been conducted, and these have sought to understand community interpretations of various archaeological remains, as well as the archaeological implications of present-day practices.

So investigations have documented varying layers of cultural significance from the Pleistocene to the present. However, one of the most significant facets of the Huon terraces is that they are mantled with tephras of varying age - thereby preserving buried landscapes of varying age on newly emergent (at the time) surfaces. There is great potential for excavations and palaeoecological work (in associated lagoonal deposits and such like) to understand human-environment interactions at various points in time and through time. Although some work has been undertaken to this end - it is piecemeal, not fully integrated and dwarfed by the geomorphological and geological investigations.

Biodiversity

The Huon Peninsula Montane Rain Forests are made up of the tropical montane moist forests (from 1,000 m to 3,000 m) The vegetation of this ecoregion is mostly tropical wet evergreen forest (hill type), with a large percentage of tropical montane evergreen forest and a small amount of limestone forest. Some of the higher peaks also contain ecologically fragile high alpine areas, which are part of the adjoining Central Ranges sub-alpine grassland ecoregion. The somewhat low-canopy, closed lowland hill forest contains a more open shrub layer but a denser herbaceous layer than lower-elevation alluvial forest. Palms are fewer in number. The dominant canopy trees include species of *Pometia, Canarium, Anisoptera, Cryptocarya, Terminalia, Syzygium, Ficus, Celtis, Dysoxylum,* and *Buchanania. Koompassia, Dillenia, Eucalyptopsis, Vatica,* and *Hopea* are locally abundant. Dense stands of *Araucaria,* the tallest tropical trees in the world, are present in scattered locations.

Although they are subject to variable climates and topography, montane forests are smaller crowned and have more even canopies than lowland hill forest. Tree densities can be high, and the shrub density is also high. Predominant canopy trees include *Nothofagus,* Lauraceae, Cunoniaceae, Elaeocarpaceae, *Lithocarpus, Castanopsis, Syzygium, Ilex,* and southern conifers. *Nothofagus* and *Araucaria* may grow in pure, dense stands. The levels of Myrtaceae, Elaeocarpaceae, and conifers increase with altitude. The conifers, which are generally found above 2,000 m, include *Dacrycarpus, Podocarpus, Phyllocladus,* and *Papuacedrus* in the canopy and emergent layer.

The Finisterre Range supports more mainland endemic species of warm-blooded vertebrates than any similar-sized area in PNG. This fauna consists of a wide variety

of tropical Australasian marsupials, including tree kangaroos with eighty-one mammal species in this ecoregion, including six species that are endemic or near endemic. The spectacular Huon tree-kangaroo (*Dendrolagus matschiei*) is found nowhere else on Earth and is considered endangered. The ecoregion also contains the widespread but endangered Papuan long-beaked echidna. Similarly, the avifauna has a clear Australasian flavour, although there has only been limited ornithological research.

A consortium of zoological institutions has given special attention to protection of and research upon the Matschie's Tree-Kangaroo, and a special Conservation Area is currently in the process of being established.

Justification

The spectacular coastal landscape is in itself, a further example of a sublime landscape.

The remarkable range of geological research indicates the importance of the site. Perhaps even more importantly, the research is providing new insights into both climatic history and contemporary regional climatic phenomena including global warming and El Nino occurrences. Further, this site also provides a valuable opportunity to examine the impacts of crustal plate subduction.

The investigation of the palaentological and archaeological values of the terraces is still in an early stage of investigation, but it is clearly again of immense importance. The importance of the endemic species of flora, medium-sized mammals and birds cannot be underestimated. Known and identified species are probably an incomplete and biased (by constrained accessibility) sample of the total biodiversity that will be revealed by further surveys.

Assurances of authenticity or integrity

Except for some forest loss along the southern part and the Buweng Timber Rights Purchase (using helicopters), most of the ecoregion's natural habitat is intact). The Huon Highlands are a major wilderness area. The two large protected areas (Finisterre and Mt. Bangeta) cover about 18 percent of the ecoregion area.

Comparison with other similar properties

The only comparable World Heritage property is the Cuban Desembarco del Granma National Park with the marine terraces of Cabo Cruz. The two sites are relatively similar, but that in Cuba has not had the exhaustive geo-climatic research that demonstrates the exceptionally high importance of the Huon Peninsula. Conversely, it has far more adequate data on biodiversity (but that comprises totally different biotic communities).