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Selecting cultural sites for the UNESCO World Heritage List

Recent work in the Rock Islands–Southern Lagoon area, Republic of Palau

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Introduction

In this paper, we discuss approaches and issues raised by the nomination of cultural properties in the Pacific Islands to the World Heritage List. The World Heritage Committee in 2003 acknowledged the under-representation of the Pacific region on the World Heritage List. In response, the action plan *World Heritage Pacific 2009* (UNESCO World Heritage Centre 2004) was launched to build capacity in the region and encourage nomination of sites to the Tentative List through identification of properties of potential outstanding universal value (OUV), including transboundary and serial site nominations. Since 1992, Pacific cultural-heritage research has taken an active role in reshaping notions of cultural significance and OUV criteria traditionally employed to achieve World Heritage status. Archaeological expertise in partnership with traditional knowledge and local community involvement is increasingly relied on to provide the material necessary for World Heritage site nomination and heritage management in the Pacific. Emerging issues include tensions between traditional/community structures and government/federal organisations over World Heritage cultural and mixed properties, and the means by which Pacific nations can accumulate the resources and expertise necessary for a World Heritage nomination.

World Heritage: The Pacific context

The World Heritage (WH) List is an exceptional success story since the World Heritage Convention was adopted in 1972. The WH List in 2010 has 911 properties (704 cultural, 180 natural, 27 mixed) and 187 state parties have ratified the World Heritage Convention (UNESCO World Heritage Centre 2010a). Balancing the geographic representation of the WH List is a recurring problem which has yet to be fully resolved, as stated in the 2005 analysis by ICOMOS, *Filling the gaps – an action plan for the future* (2005:14):

The idea of ‘balance’ in relation to the World Heritage List should not be seen to refer to a balance between countries or types of properties, but rather to how well a particular type of heritage of outstanding universal value is represented on the List.

An early focus in the WH List on monumental and religious structures has resulted in several site types now being identified as over-represented, including historic towns and religious buildings (particularly of Christian contexts), ‘elitist’ architecture and an overall disproportionate number of properties in Europe (Titchen 1996).

The uneven distribution of WH sites globally is exemplified by the presence of only 15 sites in the wider Pacific area (including sites in New Zealand, Chile and Ecuador), and only five sites nominated by developing Pacific Island nations (Kiribati, the Marshall Islands, Papua New Guinea, the Solomon Islands and Vanuatu). It is perceived that the under-representation of WH sites in the Pacific is caused by the grouping of Pacific Island nations with the more economically developed, resource-rich and densely populated nations of Asia (Smith and Jones 2007). An Asia-Pacific grouping is significant as the submission of Tentative Lists by State Parties should be initiated by local communities, with external experts involved in the process only as facilitators (Aim 1 in ICOMOS 2005:102). In comparison with some Asian countries, many Pacific Island nations are still developing their heritage capacity and have fewer human resources to devote to the site nomination process. Assembling information networks of local communities, external and local archaeologists, anthropologists and other heritage experts is likely to be a key strategy for Pacific Island nations wishing to produce WH cultural-site nominations.

To address low representation in the WH List, the action plan *World Heritage Pacific 2009* (UNESCO World Heritage Centre 2004) was launched. Its aim is to build capacity in the region and to encourage nomination of sites to the Tentative List through identification of individual properties of potential Outstanding Universal Value, along with possible transboundary or serial site nominations. Since its launch in 2003, eight of the 14 independent Pacific Island nations (including New Zealand and Papua New Guinea) have submitted properties to the World Heritage Commission, and in total 38 sites have been registered on the Tentative List.

Six sites have been inscribed from the Pacific region to the WH List since 2003. These include one site, *Lagoons of New Caledonia: Reef Diversity and Associated Ecosystem* (2008), in an overseas French territory and the *Papahānaumokuākea* (2010) property in the US state of Hawai‘i. Whereas the lack of human resources seriously limits the capability of Pacific Islands nations of submitting nomination dossiers for sites now listed on the Tentative List, it is interesting to note that, except for the June 2010 nomination of *Les Iles Marquises* in French Polynesia, none of the Western developed nations with overseas territories in the Pacific have nominated new properties for the Tentative List, although potential cultural sites have been suggested in an ICOMOS thematic study (Smith and Jones 2007).

Since 1992, Pacific cultural-heritage research has taken an active role in the progress of reshaping notions of cultural significance and of OUV criteria traditionally employed to nominate sites for WH status. The incorporation of associative cultural landscapes into the

criteria and the inscription of the *Tongariro National Park*, New Zealand, in 1993 and the *Uluru-Kata Tjuta National Park*, Australia, in 1994 set the foundation for the more than 66 properties (UNESCO World Heritage Centre 2010b) specifically inscribed as cultural landscapes on the WH List. The inclusion of cultural landscapes in the OUV criteria acknowledged the dominance of monumental sites and the under-representation of cultures whose heritage was non-monumental on the WH List (Fowler 2003, 2004). With a large number of properties (26 out of 52 sites on the WH and Tentative Lists) having a cultural-landscape component, this step is particularly important for Pacific Island nations. Associative cultural landscapes were defined as a priority for Pacific Island nominations (Smith and Jones 2007:9).

In this paper, we review the nomination process of a mixed cultural/natural site in the Palau Islands of western Micronesia to the WH List, concentrating on the selection of prehistoric sites in the cultural section of the dossier. The Rock Islands–Southern Lagoon (RISL), the second site submitted by the Republic of Palau, is nominated due to international recognition of its outstanding natural and cultural attributes (Figure 1). In the case of the RISL nomination, archaeological expertise in tandem with traditional knowledge and local community involvement is providing the material necessary for cultural-site nomination and future management plans. The Rock Islands' cultural properties include non-monumental stone structures and ancient cultural deposits dominated by subsistence remains, both of which are attributes of archaeological sites on many Pacific Islands. The selection of OUV criteria and use of scientific data and traditional information in Palau's RISL dossier may be instructive, therefore, for future WH nominations in other parts of the Pacific.

Figure 1. Location of the Rock Island Southern Lagoon area in the Republic of Palau being nominated as a mixed cultural-natural World Heritage site.

Site description

The Rock Island/Southern Lagoon area is located in the Pacific Island archipelago of Palau, 850 km north of West Papua in Indonesia and 900 km east of the island of Mindanao in the southern Philippines. Palau forms the southwestern island group of the Caroline Islands of Micronesia. The RISL site is located in Koror State, one of Palau's 16 states. The RISL site comprises 847 sq km of lagoon in which numerous small raised limestone islands are enclosed by nearly 200 km of barrier reef (Colin 2009).

The first Europeans to visit Palau noted that all of the limestone Rock Islands south of Malakal and north of Peleliu were uninhabited (Keate 1789). Palauans reported, however, that a population numbering in the thousands had once lived in the Southern Lagoon, with traces of their abandoned village sites found on many islands. Oral traditions frequently place the origin of social groups and the invention of customary practices in the limestone islands south of volcanic Babeldaob. The origin stories trace the migration of individuals, families and entire villages from the Rock Islands to contemporary villages on the large islands of Babeldaob, Oreor and Ngerekebesang, many of which have village names, chiefly titles and community deities retained from the original village site.

Archaeological investigation of Rock Island cultural sites began in the Japanese era with the collection of ceramics and artefacts from limestone caves (Suzuki 1938). Recording of Rock Island rock art, ceramics, artefacts and burial caves was included in the first systematic survey and excavation of prehistoric sites in Palau made by Douglas Osborne in 1953–1954 and 1968–1969 (Osborne 1966, 1979). Osborne identified several ancient village sites comprising stonework features such as walls, platforms, wells and trails associated with extensive deposits of marine food remains. The broad overview of prehistoric remains made by Osborne directed subsequent research by Takayama (1979), and extensive research by staff and PhD students from the Southern Illinois University (SIU) on several village sites in the Rock Islands (Masse 1989; Snyder 1989; Carucci 1992).

At the conclusion of the SIU investigations, the antiquity of human occupation in Palau was thought to extend to 2000 years ago, but subsequent projects on human burials and cultural deposits on Chelechol ra Orrak Island and Ulong Island have lengthened Palauan history to 3000 or more years (Fitzpatrick 2003a; Clark 2005; Liston 2005), similar in time to the expansion of early ceramic cultures into Island Southeast Asia and the western Pacific. The rugged terrain and large number of Rock Islands have prohibited complete archaeological survey, and many additional prehistoric sites, including stonework villages, Yapese stone money quarries, burial caves, rock art and early cultural deposits remain to be documented in the Southern Lagoon.

Based on current archaeological and historical investigations, it is possible to tentatively divide the Rock Island culture sequence into five phases, each associated with distinct artefactual remains, human behaviours and sets of environmental interactions (Clark 2005; Liston 2005, 2009; Phear et al. 2003; Masse et al. 2006; for a detailed characterisation of the cultural sequence, see Clark and Reepmeyer 2010). The culture sequence, although based on radiocarbon dates, is tentative, and is used to characterise prehistoric human occupation in the Rock Islands to understand the selection of specific OUV criteria.

Phase I: Colonisation and mobile encampment (3100–2700 years ago)

The first evidence for human activity in the Rock Islands dates to 3100 years ago on Ulong Island. At this time, sea level was declining, after being 1.5–1.8 m higher than it is today. Subsidence of the Palau archipelago (estimated at 0.6 mm/year by Dickinson and Athens 2007) ensured there were relatively few beaches and landing spots suitable for people to access the Rock Islands.

Excavated ceramic vessels consist of medium-sized red-slipped jars made with a mineral temper that was collected from volcanic or volcanic-limestone islands. Marine-resource use focused on the collection of large locally available clams (*Tridacnidae*) and inshore fish species. Island use was short-term and consistent with the presence of mobile camps that skimmed pristine stocks of marine foods from accessible Rock Island locations.

Phase II: Human burials and rock art (2700–1000 years ago)

Caves and shelters in the Rock Islands were consistently used for human burial for almost 2000 years (Osborne 1966; Fitzpatrick 2003a; Berger et al. 2008). Many of the larger caves contain multiple human remains while smaller caves appear to have been used for individual interments. Burials occasionally contain grave goods such as shallow bowls/dishes (grog tempered) marked with a red slip or paint, personal ornaments and knives/scrapers made of pearl shell, stone adzes and painted stones. Territorial rights might be represented in the placement of highly visible rock art in exposed locations, although some art was, like human burials, hidden from view in limestone caves. The most spectacular remaining art site is on Ulong Island where there is a large gallery of red painted art.

Continued use of the marine resources of the Rock Islands is indicated during this phase, but there is no evidence for permanent settlement until about 1300–1000 years ago when large *Strombus* shell middens were deposited. This suggests that the technological and cultural adaptations necessary for occupying harsh limestone landscapes had not yet developed before 1300 years ago and/or that an increasing population and possibly deteriorating social conditions made the Rock Islands appealing settlement locations about this time.

Phase III: Village settlement and intensified use of marine resources (1000–350 years ago)

Permanent villages may have first been established in the Rock Islands about 1000 years ago on indented sand plains, with trails connecting stone terraces, platforms and walls in the rugged limestone landscape. Location was strongly defensive, with high stone walls, some with an additional interior foot ledge, built across beaches that provided canoe access (Clark 2005:353). Defensive walls were also placed across trails connecting the coastal and interior parts of the village. Large or elaborate platforms and stonework consistent with social stratification and activity specialisation were built on high limestone points and ridges. Domestic space was generally focused on coastal sand plains, where house platforms and substantial midden remains were deposited. Burials were also made in sand plains and often in areas with stone structures, although cave burial might also have been practised. Swampy ground at the interface between the limestone bedrock and the coastal sand plain was used to grow swamp taro (*Cyrtosperma chamissonis*), as were damp sink holes, while tree crops such as coconut were grown on sand plains.

The overwhelming components of the prehistoric village deposit are fragments of marine shells and ceramic containers. The ceramic sherds are from large flanged-rim bowls made with crushed pottery temper. Marine shellfish and finfish were taken for food and shell was used to make domestic artefacts. Food shell mostly derives from small taxa, particularly *Strombus*, while large clams were collected from outer reefs and the shell was used to make adzes, pounders, knives and other utensils. The diversity and abundance of fish taxa increases in this phase, with pelagic species such as tuna (*Scombridae*) and mackerel sharks (*Lamnidae*) captured.

As the total Rock Island population size is estimated to have been 4000–6000 during the stonework village phase (Masse et al. 2006), the environmental impact of human occupation on the terrestrial and marine environments of the Southern Lagoon must have been substantial.

Phase IV: Village abandonment and Yapese stone money quarrying (350–100 years ago)

The Rock Islands were depopulated over several centuries, with relocation of groups to the large volcanic island of Babeldaob to the north and to the large platform-like reef islands of Peleliu and Angaur in the south. The tenuous economic conditions of limestone-island occupation are indicated by the inhabitants' dependence on pottery and food staples imported from the nearby volcanic islands. Abandonment of the Rock Islands had significant consequences for the remainder of the Palauan archipelago as village groups were incorporated into already established large and powerful socio-political structures, particularly in Koror.

After the migration of population to the volcanic islands, Yapese voyagers were drawn to the Rock Islands to quarry the limestone islands' calcite deposits to make stone disk money. Yapese stone money was valued according to its shape, weight and colour, and the effort involved in quarrying and transport. The money was displayed in Yap along the front of stone residential platforms to signal the status, power and prestige of the individual and clan (Fitzpatrick 2003b).

During Phase IV, the marine and terrestrial environments in the Southern Lagoon would probably have experienced some rejuvenation with the expansion of indigenous forest on now largely uninhabited limestone islands and less intensive collection of coral reef marine taxa.

Phase V: Colonial era and WWII effects on the Rock Islands (230–65 years ago)

In 1783, the East India packet, the *Antelope*, wrecked on Palau's western barrier reef. On the crew's return to England, the account of the newly 'discovered' Palauan people became, after James Cook's volumes, the most popular voyaging book of the late 18th century (Keate 1789). During its stay on Ulong Island, the *Antelope's* crew assisted the High Chief (*Ibedul*) of Koror to overcome his enemies on Babeldaob and Peleliu. In subsequent years, these favourable relations between the *Ibedul* and the foreigners assisted Koror in becoming Palau's central place, albeit under successive colonial administrations (Spain 1885–1889, Germany 1889–1914, Japan 1914–1945, United States 1945–1981).

As a result of US and Japanese forces garrisoning troops, concealing caches of military supplies, establishing defensive positions and mooring naval and supply ships, World War II had severe impacts on the Rock Island landscapes. Historical remains from the conflict range from small fragments of shrapnel, equipment and unexploded munitions to gun emplacements, troop shelters, sunken ships and planes (Bailey 1991). Many stonework defences constructed by Japanese military affected prehistoric Palauan stonework, and numerous caves and rock shelters were cleared of prehistoric remains by military forces.

Selection criteria for Outstanding Universal Value

The RISL area is nominated by the State Party under the criteria 'iii', 'v', 'vii', 'ix' and 'x', outlined in the operational guidelines for the implementation of the World Heritage Convention (UNESCO World Heritage Centre 2008:20–21). The selected natural criteria ('vii', 'ix' and 'x') focus on the exceptional natural beauty and biological/ecological diversity of the marine ecosystem. The Rock Island's marine lakes have specific ecosystems and endemic species which are emphasised along with the diversity of marine, terrestrial and coastal habitats.

Cultural OUV criteria are defined in the WHC operational guidelines as having 'cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity' (UNESCO World Heritage Centre 2008:14). For the RISL property, this is best represented in criteria 'iii' and 'v'. Although the RISL site was not mentioned in ICOMOS's thematic study on the Pacific (Smith and Jones 2007), it was decided by the State Party that the natural/cultural attributes of the

RISL site and its conservation needs merited nomination to the WH List.

The RISL area is nominated under OUV criterion ‘iii’ as a cultural landscape. The distinct environmental conditions of the raised-reef Rock Islands sustain a range of prehistoric sites (e.g. rock-art sites) and evidence for past cultural behaviour not preserved elsewhere in Palau. They incorporate aspects of an organic evolved relict landscape, as defined in Annex 3 of the operational guidelines (UNESCO World Heritage Centre 2008:86), in that intensive permanent settlement ended in the 17th–18th centuries. Within an archipelago continuously inhabited for at least three millennia, many of the Rock Island’s archaeological sites and culturally significant places are recorded in oral history, myths, dances, proverbs and the traditional place names of its landscapes and seascapes. A connection with the seascape, seen in the archaeological record of human use, adaptation to, and reliance on the marine ecosystem, continues today.

Second, the RISL site is described as an associative cultural landscape in that the significant aesthetic and cultural values of the landscape are integral to the identity of the nation. The cultural landscape is central to national identity as articulated in traditional history, island place names and the origin-migration stories of Palauan people. In these traditional narratives, Palauans originated from ancestral settlements in the Rock Islands. It is from here that their ancestors subsequently moved to the larger volcanic and volcanic-limestone islands, such as Oreor and Babeldaob. Place names of the abandoned Rock Island village sites were retained by the transference of old names to new village sites during the migration. Examples include the association of stonework structures on Uchularois Island with the high chief Uchermelis (‘high chief of the Ngemelis Group’), the transfer of place names from Ngermiich village on Ngeruktabel Island to Ngerekebesang Island after village relocation, and the perpetuation of place names at the abandoned village of Metukeruikull (e.g. Bai era Iechell and Lillebai) on Ngeruktabel Island.

Under cultural criteria ‘v’, the RISL site is nominated for its traditional human use of land and sea as representative of human interaction with the environment, especially when it has become vulnerable under the impact of irreversible change. Three human-environment responses are identified to support the nomination under criterion ‘v’: 1) evidence of climate change in the transition of the ‘Medieval Warm Period’ (MWP) to the ‘Little Ice Age’ (LIA), 2) human impact on the marine ecosystem, and 3) adaptation to a precarious environment. All of the responses are supported by scientific data, particularly the existing archaeological and palaeoclimate records.

Climate change

The abandonment of the Rock Islands in the second millennium AD is probably associated with population growth and climate change affecting a human society living in a marginal environment. The Rock Islands consist of small raised karst landmasses with sparse pockets of sand plains and suitable gardening soil. This terrestrial environment is highly susceptible to climatic fluctuations. Recurrent droughts limit the production of starchy crops in sink holes and on sand plains, while access to potable water is dependent on a high and consistent level of precipitation into the freshwater aquifer (the Ghyben-Herzberg lens). Recent studies on marine lake sediments in the Rock Islands indicate that the transition from the MWP to the LIA was associated with an increase in the frequency of ENSO events (Sachs et al. 2009), with its resulting decrease in precipitation. In addition to changes in precipitation regimes, El Niño/La Niña events disrupted marine organisms – especially subsistence taxa commonly collected by people – due to increased variability in tidal range, sea temperatures and nutrient concentration.

The vulnerability of prehistoric societies to periods of dramatic climate change such as

the climatic optimum in the Medieval Warm Period (MWP) to the Little Ice Age (LIA) is included within the WH criterion 'v' concept of: 'landscape abandonment because of irreversible environmental change' (UNESCO World Heritage Centre 2008:20, Article 77). This is comparable to the relict landscape of the Mapungubwe Cultural Landscape in South Africa (R.S.A. Department of Environmental Affairs and Tourism 2002), where increasing droughts during the LIA in the 14th century limited the agricultural capacity of the land to sustain a large population. The direct consequence of climate change in Mapungubwe was the large-scale migration of people into neighbouring regions, which supported the rise of substantial political entities, particularly that of the World Heritage site of Great Zimbabwe (Zimbabwe). Similarly, in Palau, climate change restricted the subsistence capacity of the Rock Island population to a point where social fragmentation and migration resulted in a relict island landscape and the rise of more powerful political entities in other parts of Palau.

Human impact on the marine ecosystem

Human occupation and population growth has had negative effects on the biota of many islands in the Pacific and elsewhere (e.g. the Hawaiian Islands, Fiji, New Zealand, Mauritius, the Caribbean Islands) (Erlandson and Rick 2010). When combined with climatic factors, such ecosystem changes can have consequences that are catastrophic for human societies (e.g. suggested at Rapa Nui National Park [Chile] WH site) (ICOMOS 1994).

Scientific research on the prehistoric use of Palau's coral reefs has focused on the Rock Islands due to the generally benign preservation conditions of the limestone/calcareous sediments. Two archaeological sites have finfish and shellfish remains that record human use of marine resources for more than 3000 years. Assemblages from several sites date to the past 1000 years when stonework villages briefly flourished in the Rock Islands before the extinction of the stonework village system in the smaller islands. Over-harvesting of local marine resources is witnessed in the progressively smaller size of marine shellfish and inshore finfish remains through time (Masse et al. 2006; Ono and Clark 2010). The archaeological record correlates well with traditional Palauan explanations referring to resource deprivation and warfare as the primary causes of settlement extinction in the Rock Islands (Nero 1987; Masse 1989).

Adaptation to a precarious environment

The Rock Islands' cultural sequence is a three millennia long record of human adaptation to an environmentally depauperate landscape. In this, cultural sites in the Rock Islands can be compared with several other WH sites, such as the 2000-year human sequence of the St Kilda Archipelago in northern Scotland where the small population inhabiting a marginal environment was similarly reliant on a combination of wild foods (fish and sea birds) and small-scale agricultural production for its survival (ICOMOS 1985).

Adaptation to a precarious environment is evidenced by differentiation in the subsistence approach, village architecture and spatial organisation in contemporaneous Rock Island and volcanic island villages. The production of starchy root crops was very limited in the Rock Islands compared with the abundance of the Southern Lagoon's marine food resources. The stonework remains in the Rock Islands are less formal, smaller in scale and less diverse than volcanic-island village remains. Whereas in the volcanic-island villages, house platforms and terraces were largely organised according to a culturally prescribed plan, those in the limestone islands appear to be positioned according to the constraints of the unpredictable and rugged topography. The Rock Island villages were protected from attack by defensive walls guarding beach flats, trails and paths, while thick bands of mangrove forest protected villages on the

volcanic islands. In summary, the differences indicate that the subsistence economy of the Rock Islands was highly specialised on marine foods, while the architectural remains indicate that village social structure was less hierarchical than village systems on volcanic islands.

Boundaries and buffers

The boundaries of the RISL site are defined by the extension of the barrier reef and the adjacent open ocean, or, as in the case of the southern and northern boundaries, through the Koror State's jurisdictional borders, excluding the urban area of Koror, which is Palau's economic and population centre. The RISL is legally owned by Koror State. As defined in Article 1 of the Palau Constitution, land sales and property development inside the RISL area are prohibited. The RISL has historically belonged to the clans of Koror and has been held in stewardship and guarded for the good of all by the Chiefs of Koror State (see below).

The use of buffer zones has been part of the nomination process of WH sites since the first version of the operational guidelines was published in 1977 (Martin and Piatti 2009:25). They were implemented to add an additional layer of protection for core zones of WH properties. Buffer zones are usually areas adjacent to the WH core zone which have defined legal and/or customary restrictions (Martin and Piatti 2009:60–61). In the operational guidelines, buffer zones are still exclusively linked with this function (UNESCO World Heritage Centre 2008:26, Articles 103–105). However, according to an ICOMOS position paper on buffer zones (ICOMOS 2009:23), these zones have evolved from their original context to interaction zones around WH sites which provide a linkage between the OUV of the core area and socio-economic development outside of the WH zone.

Since the recognition of the first WH site involving communal land on East Rennell in the Solomon Islands in 1998, conflict over land rights has been a perpetual issue, particularly in buffer zones. Buffer zones are defined in the operational guidelines as not being part of the WH site, however modifications to this zone are subject to the approval of the World Heritage Committee (UNESCO World Heritage Centre 2008:27, Article 107). Wilson et al. (2007; also Waters 2009) have discussed problems over the sale and related economic development of land surrounding the Chief Roi Mata's Domain WH site in Vanuatu.

In the nomination file of September 2010, no buffer zones were proposed for the RISL as the current boundaries are perceived to be adequate for the protection of the property. The eastern and western boundaries are surrounded by open ocean and the southern boundary borders a conservation zone administered by Peleliu State. The northern boundary, particularly that bordering the highly urbanised area of Koror, is managed through the RISL Area Management Plan 2004–2008, which places restrictions on property development, waste management and pollution, access and infrastructure (cf. Table 1). Key indicators for monitoring conservation and general impacts on the WH sites are defined in Table 2. In general, key indicators are evaluated annually. Exceptions are made for certain indicators, which are evaluated on a five-year frequency.

Stakeholders

An emerging issue for Pacific Island nations is tension between traditional/community structures and government/federal organisations over WH property site/land. The nomination of the RISL area is an example of the necessity of properly informing decision makers about the WH concept and the consequences of implementing UNESCO cultural-heritage values. The RISL area is perceived in Palau as a premier site incorporating both natural and cultural attributes of

Table 1. Management restrictions applicable to all zones.

Prohibition of any new mining and dredging activities
No entry to foreign commercial fishing vessels and other large vessels such as large luxury boats, commercial cruise liners, cargo and military ships (excluding registered live aboard boats), except in designated channels/routes
No entry by foreign yachts and boats, except in designated channels/routes, without a cruising permit from Koror State
Harvesting restrictions (seasons, size limits and methods) designated in national and state laws
No removal of cultural and historical artefacts (protected by national monument legislation)
No damage allowed to any portion of the coral reef ecosystem (e.g. via anchoring, resource harvesting or ship grounding)
No harvest of timber, except for cultural purposes with permit from Koror State
Dumping of trash is prohibited; all litter must be removed from land and marine areas
Use of personal water craft (jet skis) is restricted to designated watersport zones
Tourists require a valid Rock Island Permit to undertake recreational activities in any zone
Only approved structures/facilities in support of flood and erosion prevention, conservation activities, and visitor use as defined in the Koror State 'CD' conservation zone can be built on the Rock Islands
No domestic animals (cats, dogs, monkeys) may be brought to the Rock Islands at any time

Outstanding Universal Value. However, the site nomination was delayed because of uncertainty about the legislative impact of the WH status on public access to the area (an issue addressed at the 2007 Study Tour for Leaders from Micronesia, <http://whc.unesco.org/en/events/346/>) and the relatively recent recognition in OUV of associative cultural landscapes of non-monumental character.

The inscription of the RISL site as a mixed property was initiated and led by Adalbert Eledui of Koror State's Division of Coastal Management, with support of the House of Traditional Leaders, those chiefs traditionally associated with the RISL. The Bureau of Arts and Culture within Palau's Ministry of Community and Cultural Affairs and the Palau National Commission for UNESCO assisted in the process. Participation of traditional landowners in the process of WH nomination, management and conservation is actively encouraged by the World Heritage Convention (UNESCO 1972, Article 14). Acknowledging that many Palauans migrated from the RISL, criterion 'iii' of the operational guidelines featured prominently in the nomination file. A historical connection with ancestral sites in the Rock Islands is preserved in the retention of chiefly titles brought from the Rock Islands to other parts of Palau, especially Koror. The people of Ngerchemai village in Koror, for example, used to live in Rock Island villages, and after assisting Koror to defeat its enemies in the RISL, they were allowed to settle and garden on the fertile volcanic island. The Ngerchemai chiefs kept their former titles, and along with Koror State, have been key stakeholders involved in managing and preserving the Rock Islands.

Uncertainty about the impact of a WH nomination to access and stewardship of the RISL resulted in a series of meetings between Palau's Bureau of Arts and Culture, Koror State and the House of Traditional Leaders, and the chiefs have been seeking legal clarification about the ownership of the RISL. Pacific Islanders have strong ancestral, economic and cultural ties to the environment and are particularly sensitive to potential changes in access and ownership of the land and sea, like those involved in the nomination of a property to the WH List in the Pacific. It is important to note that the traditional chiefs promoted the cultural values of the RISL during its nomination to the WH List as a mixed natural-cultural property. Nomination of Pacific cultural sites to the WH List is likely to coincide with ongoing negotiation, and at times tension, between groups traditionally associated with a nominated area, and the government/

Table 2. Key Indicators for measuring state of conservation.

Indicator	Periodicity	Location of records
Biophysical status		
Coastal habitat coverage (km ²)	Ground truthing/spot annual checks	PALARIS, PICRC
Forest cover (km ²)	Ground truthing/spot checks annual	PALARIS
Marine lake species (list species)	Annual	CRRF
Marine lake species (no. jellyfish/area)	Annual	CRRF
Extent invasive species in marine lakes (no. species / area)	Annual	CRRF
Reef substrate/Benthic community structure (% cover)	Annual	PICRC
Coral recruitment (no./area)	Annual	PICRC
Fish species (no. species/area)	Annual	PICRC
Fish abundance (no./area)	Annual	PICRC
Sea turtles (no./area)	Annual	PICRC
Sea turtle nesting sites	Every five years	Ministry of Natural Resources
Environment and tourism		
Crocodiles (no.)	Every five years	Koror State
Dugong (no.)	Every five years	Koror State
Fruit Bats (no./station)	Annual	Belau National Museum
Birds (no./station)	Annual	Belau National Museum
Plants (no. <i>Ponapea</i>)	Annual	Ministry of Natural Resources
Water quality (turbidity, nutrients)	Annual	EQPB
Cultural site integrity		
No./% sites documented/inventoried	Annual	Koror State/Cultural Affairs
Presence/absence of documented removable artefacts	Annual	Koror State/Cultural Affairs
% sites restored	Annual	Koror State/Cultural Affairs
% sites with documented visitor damage	Annual	Koror State/Cultural Affairs
% sensitive sites with restricted access	Annual	Koror State/Cultural Affairs
Socioeconomic status		
Perception of resource (% categorisation)	Every five years	Koror State
Resource use patterns	Every five years	Koror State
% buy-in	Every five years	Koror State
Household income distribution by source	Annual	Office of Statistics
No. visitors	Monthly	Koror State
Threats		
Invasive species (presence/absence, no.)	Annual	Koror State
Visitor impacts	Annual	Koror State
Management effectiveness		
Level of funding	Annual	Koror State
No. staff/no. empty staff positions	Annual	Koror State
No. citations	Annual	Koror State
Presence/absence authorised management plan	Annual	Koror State

state entities responsible for managing a proposed WH property.

As a relict landscape, the cultural sites in the RISL have high integrity, with several ancient settlements in pristine condition. This is an additional argument for OUV status in the nomination dossier. The rugged terrain of the islands restricts access to many sites, and there is limited knowledge of the location of cultural sites by the general public. Hence, most of these sites receive few visitors and are therefore relatively well preserved. Land use for recreation is largely restricted to selected coastal sites monitored and managed regularly by Koror State; however, in some of these areas there has also been substantial prehistoric human impact.

A concern in promoting the OUV of cultural sites in the RISL area is the possible impact that WH status might have on the preservation of these same sites. It is assumed that limited public knowledge of archaeological sites restricts vandalism and potential illegal antiquity sales. At publicly known sites, both activities occur very occasionally, such as the recent graffiti at the Ulong rock-art site and the illegal removal of Yapese stone money. The nomination dossier proposed three objectives for cultural-heritage management which focus on sustaining the RISL landscape. The first objective involves a detailed survey of prehistoric sites in the RISL, managing access to key sites and providing educational material and general information for RISL cultural sites. The second objective is to strengthen and enhance the cultural aspect of the RISL visitor experience. Actions involved in developing a more sustainable visitor flow include: a) cultural site training for Koror State Rangers, and possibly extending this training to tourist operators, b) upgrading current visitor infrastructure at 'arrival points' with explanatory signage located at cultural sites, and c) construction of guided pathways from 'arrival points' to the periphery of prehistoric sites to avoid visitor impact on the cultural resources. The third objective is to protect sensitive and fragile cultural sites such as rock-art panels and burial caves by prohibiting visitation.

Tourism is a major source of income for Palau's economy. An issue for the future management of the RISL area will be the conflicting economic interests of different stakeholders. The relatively unspoiled nature of the environmental and cultural aspects of the RISL are under threat from an increasing number of tourists, especially package tours from East Asian countries (Marino et al. 2008:516, Table 16.3).

The initiation of the WH bid derived, in part, from recognition of the negative effect that mass tourism is having on the integrity of the RISL area. It is hoped that the branding of the RISL as a WH site, accompanied by a potential increase in entrance fees, might diversify future increases in the package-tour component to other states in the archipelago, subsequently minimising degradation of premier sites in the RISL. This approach might also include marketing of the RISL area as an environmentally sustainable and upmarket tourist experience.

Conclusion

In this paper, we have outlined the recent Rock Islands–Southern Lagoon submission to the World Heritage List. The WH List and criteria of Outstanding Universal Value is a relatively new field for natural and cultural scientists, conservationists and decision makers to comprehend in the developing island nations of the Pacific. Although Pacific heritage research has been directly involved in reshaping notions of OUV, the implications of adding associative cultural landscapes of non-monumental character to the WH List are not yet fully understood, and are seen in the delay of the RISL site submission to the Tentative List.

The main cause for the under-representation of Pacific cultural sites on the WH List lies in the limited human resources available to develop and support site nomination. The past decade of detailed research into the Pacific's prehistory is delivering new evidence about potential WH

properties in the region that might realistically fulfil the OUV criteria, as well as providing significant information about the integrity and authenticity of cultural properties, needed for long-term site management. This mounting knowledge has helped boost the number of sites nominated to the Tentative List by Pacific nations to 38, including the RISL site.

It has been emphasised that archaeological data is required to establish the significance of non-monumental sites, particularly cultural landscapes in the Pacific. The RISL area, with its 3000-year-long history of human occupation, is a prime example of a relict island landscape. The exceptional preservation conditions of the RISL derive from the limestone environment, but also from the abandonment of the islands in the 17th–18th centuries AD, with no later permanent habitation. As a result there was surviving archaeological evidence for the intensification of prehistoric human settlement combined with an increasing reliance on marine resources at the same time that climate data indicated that Rock Island occupation would have been increasingly difficult to sustain. OUV criteria ‘iii’ and ‘v’ were applicable because they focused on the non-monumental character of cultural sites. The importance of migration traditions following the abandonment of the Rock Islands is emphasised as they are fundamental to the national identity of many Palauans.

Our experience suggests that the number of WH sites in the Pacific will grow primarily through the establishment of information networks comprising foreign and local researchers, community groups and government agencies. Such groups can assemble the required WH documentation and develop realistic and sustainable management plans for potential properties. Support of WH nominations in the Pacific might also be encouraged by the greater involvement of developed nations which have long and continuing relationships with the islands and peoples of Oceania, as well as nations such as China and India which are increasingly involved in the region.

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