Workshops Report 2004

A Joint Program of the Bishop Museum
& Conservation International's
Marine Programs Division

Living Archipelagos
Workshops Report 2004

A Joint Program of the Bishop Museum
& Conservation International's
Marine Programs Division

Bishop Museum Technical Report No. 29

Honolulu, Hawaii
September 2004

Published by
Bishop Museum
1525 Bernice Street
Honolulu, Hawai‘i 96817-2704, USA

Report prepared for the Beneficia Foundation, Gunzenhauser-Chapin Fund,
JiJi Foundation, Lynn R. & Karl E. Prickett Fund, and
Missouri Botanical Garden

ISSN 1085-455X

TABLE OF CONTENTS

Living Archipelagos Program
Final Workshops Report

September 2004

Living Archipelagos Background

The *Living Archipelagos* Program is an initiative currently being led by the Bishop Museum in collaboration with Conservation International's Marine Programs Division. *Living Archipelagos* was conceived and designed to accelerate the establishment of protective management regimes for particularly important island ecosystems worldwide.

In 2003, *Living Archipelagos* was launched with an initial focus on the Pacific region, particularly the island and atoll ecosystems of Polynesia and Micronesia. Tropical Polynesia and Micronesia, a region which encompasses 24 million square kilometers of the Pacific Ocean, includes over 1400 islands and atolls and represents 11 countries, 8 territories, and 1 U.S. state (Hawai'i). The region is home to a diverse range of marine and terrestrial habitats and an enormous number of endemic species. However, human population growth and development in the region has severely endangered many species of plants and animals, and today less than a fifth of the original vegetation remains in natural condition.

The **mission** of the *Living Archipelagos* Polynesia/Micronesia Program is to identify and help protect a select group of priority sites (about 10) of high ecological value that face imminent threat and that can be quickly saved with relatively modest amounts of effort and money. Priority will be given to those sites with significant biological resources and immediate conservation needs, but which also provide political opportunities for and conditions conducive to near-term implementation of protective management regimes.

Living Archipelagos benefits from the strong scientific expertise of the Bishop Museum, which is the leading source of biological and cultural diversity information in the region. Currently, a major goal of the Museum is to document and to protect the unique diversity of marine and terrestrial plants and animals in the Pacific Region. The Museum's Pacific Biological Survey (PBS) is focused on efforts to comprehensively document the biota of the Pacific Region, and was modeled on the Museum's highly successful Hawaii Biological Survey (HBS). Both HBS and PBS are important components in the development of the Pacific Basin Information Forum (PBIF), a Pacific-wide information utility that is forming in partnership with the Museum's Pacific Science Association, the Pacific Basin Information Node of the U.S. Geological Survey, and related efforts in various Pacific nations. These survey efforts and the compilation of biodiversity databases and GIS systems enable the Museum to play an important role in informing conservation action. By establishing *Living Archipelagos*, the Bishop Museum can directly catalyze needed action to protect the region's biota.

Living Archipelagos is intended to complement and will in turn benefit from the broader effort of the Critical Ecosystem Partnership Fund (CEPF – a joint alliance of Conservation International (CI), the Global Environmental Facility (GEF), the Macarthur Foundation, the Government of Japan and the World Bank) in the region. CEPF has developed a detailed and highly valuable Ecosystem Profile for the Polynesian/Micronesian hotspot, a summary of which was presented at each of the *LA* workshops. The profile and other CEPF actions in the region will inform *LA's* priorities for conservation projects and help build critical capacity at a regional scale.

Although science will drive *LA*'s priorities, successful conservation action in the Pacific requires a full understanding of not only the ecology of an area, but also the social, political, and economic realities of the region as well. To help integrate these oft-competing concerns into our priorities and to expedite our on-the-ground/water action to save these ecological gems before it is too late, *Living Archipelagos* will build upon the ongoing priority-setting efforts in the region, such as the National Biological Strategy and Action Plans.

In addition, *Living Archipelagos*' unique "surgical strike" approach (rapid identification and implementation for short-term initiatives) will complement the longer-term, ongoing conservation efforts in the region, including (but not limited to) the Critical Ecosystem Partnership Fund (CEPF – a joint alliance of Conservation International (CI), the Global Environmental Facility (GEF), the Macarthur Foundation, the Government of Japan and the World Bank). CEPF has developed a detailed and highly valuable Ecosystem Profile for the Polynesian/Micronesian hotspot, a summary of which was presented at each of the *LA* workshops. The profile and other CEPF actions in the region, as well as established groups like the Wildlife Conservation Society and the Nature Conservancy, will inform *LA's* priorities for conservation projects and help build critical capacity at a regional scale.

Whereas *LA* can bring the scientific capacity to an area, we are now seeking partnerships with local governments, community leaders, and NGOs to assist in the implementation of conservation actions at the priority *LA* sites.

Priority-setting for *Living Archipelagos* was done through a two-step process that began in mid 2003. In the first step, nomination of appropriate sites for *LA* action was done by e-mail solicitation from about 40 regional experts. This was followed in April 2004 by two regional workshops: a science-focused workshop was held in Honolulu, Hawaii, and a conservation-focused workshop was held the following week in Apia, Samoa.

This report summarizes the wealth of information shared at these two workshops, including the evaluation and prioritization of the nominated *LA* sites. It is intended to serve as an informational and outreach tool for governments, conservation partners, and donors to further the development and implementation phase of the *Living Archipelagos* Program.

Living Archipelagos Site Selection

Site selection for *Living Archipelagos* is being done on the basis of expert consensus at our workshops and through follow-up consultation with decision-makers rather than through the application of specific or quantitative selection criteria. Nominations for potential *Living*

Archipelagos sites were sought from a broad array of Pacific-based scientists and conservationists during the summer of 2003. Sites were originally nominated based on four factors: (1) Significance of biological resources; (2) Potential for effective action; (3) Vulnerability of resources; and (4) Replication potential.

Ultimately, 55 sites were nominated for further consideration and future evaluation by workshop participants.[1] Site profiles were drafted for each of these 55 sites, and included maps, information on species diversity and endangerment, threats, cultural importance, and conservation needs. The profiles were circulated among workshop participants prior to the workshop for background and input. Once amended, they will be posted on the Living Archipelagos website (www.livingarchipelagos.org) that is under development.

At the workshops, additional guidelines were provided to help participants narrow their list of preferred sites. We emphasized that we were seeking to identify sites with high ecological value that face imminent threat, but can be quickly saved with relatively small amounts of time, effort, and money. As such, practicality is a key element. The following factors for consideration were also discussed:

• **Ecological significance:** Priority is given to sites with high endemism and diversity, threatened species or habitats, rare or representative ecosystem, and/or sites supporting unique and/or sustaining critical biological processes (e.g., large nesting aggregations).
• **Size:** No limits were established. However, smaller, discrete sites that fall within a single political jurisdiction will facilitate more rapid action.
• **Terrestrial and Marine:** A strong representation of marine sites is sought for the final list, so workshop participants were encouraged to consider sites that are entirely below the high tide line, as well as inclusion of marine conservation efforts even for sites that are primarily terrestrial.
• **Time horizon:** Project implementation should be limited to about three years from *LA* site designation to the time that protective action is taken.[2]
• **Cost:** Opportunities for funding are also critically important. Projects that can be done for $100,000-$200,000 or less over the three-year period are preferable to larger, more costly projects.

These additional factors were also considered to help set priorities for *Living Archipelagos* site and project selection:
• **Current protections:** Sites that are ecological gems but already under relatively good protection may be of lower priority.
• **Value-added:** If effective conservation will proceed without *LA* involvement, then the site probably should not be an *LA* priority site.
• **Strong potential for effective action:** Seeking sites where the political will, capacity and local community support are in place, and where in-country conservation partners can be identified.

[1] Additional sites were nominated by workshop participants and discussed during the workshops themselves.
[2] Although we seek to achieve our conservation goals within three years from the point of *LA* site designation, we are aware that conservation planning in some areas of the region has taken place over the past two decades. Identification of appropriate *LA* sites is indebted to these ongoing conservation efforts.

To expedite conservation action, it is also important that *LA* remains **project-oriented**. During the workshops, participants were reminded that it was not enough to just identify a site in need. Clear guidance was also sought on potential projects that could achieve the identified conservation goals within the above guidelines.

Living Archipelagos is keen to maintain a strong focus on marine conservation. This is due to a number of factors including the backgrounds of the principal investigators, the importance of the marine realm to Pacific Island communities, the tendency for conservation efforts to focus on terrestrial systems, and to the pending threats that the ongoing expansion of marine fisheries in the region will sow. In addition, a major funding initiative, the Critical Ecosystem Partnership Fund's CEPF) funding for the Polynesia-Micronesia hotspot (which will provide about US$6 million over the next 5 years) is restricted to terrestrial and freshwater initiatives. *LA*'s focus on marine sites may help fill a funding gap to ensure the protection of ecologically important marine systems and species in the region.

Although there was general consensus among workshop participants that all nominated sites were worthy of protection, to be realistic, *Living Archipelagos* has chosen to limit the number of priority sites to about ten within the Polynesia-Micronesia region. The chosen sites will be those where various elements of ecological value, need, expertise, political will, and funding most intersect. Other worthy sites may be considered for a future round of *LA* site selection, pending the success and growth of the *LA* initiative.

Honolulu Workshop

The purpose of the Honolulu workshop was to convene a group of scientists with extensive expertise in flora and fauna and conservation needs of Polynesia and Micronesia to provide guidance in the selection of potential *Living Archipelagos* sites. The 2.5 day workshop was hosted at the Bishop Museum on April 14-16, and was attended by 27 of the region's top zoologists, botanists, marine scientists, and conservationists[3] (see Appendix 3 for participants list).

The objectives of the Honolulu workshop were to:

- Introduce regional experts to the *Living Archipelagos* initiative;
- Solicit scientific expertise on the ecological value of nominated sites;
- Identify species and ecosystems most at risk from human disturbance in the Polynesia-Micronesia region;
- Seek expert input in the selection of *Living Archipelagos* priority sites for conservation action, in the hopes of narrowing the nominations list to ~10 sites;
- Discuss the management and political capacity, as well as the challenges for effective conservation action, for the priority sites; and
- Identify potential projects and in-country partners to achieve intended conservation goals.

[3] The majority of the invited participants to the Honolulu workshop were Hawaii-based due to budget limitations.

During the first day of the workshop, the vision behind and goals of the *Living Archipelagos* Program were discussed. This was followed by presentations on climate change/sea level rise, population and development, and fisheries in the region, along with a visual tour of many of the nominated sites and an overview of the Critical Ecosystem Partnership Fund's (CEPF) Polynesia-Micronesia Ecosystem Profile. The workshop agenda and abstracts may be found in the Appendices 1 and 2.

In addition, there was extensive discussion about the factors or criteria for site selection, and the process itself. Some concern was expressed over inadequate participation from the countries representatives at the workshop, creating a perception that those in the room were setting domestic conservation priorities. This is not the case: workshop participants were assured that the Honolulu workshop was a first step of many in the site selection and project identification process, and that government and local conservation guidance and support was the focus of the planned Apia workshop. It was also noted that the extent of scientific expertise present in the room varied widely (e.g., there was little direct knowledge of French Polynesia's needs). Again, the Apia workshop was designed to help fill these knowledge gaps, as will follow-up consultations.

The value of IUCN's Red List of Threatened Plants and Animals as a priority setting tool was also discussed. Although it was decided that the Red List and endangered species were an important factor in site selection, other factors could be just as important. For example, sites of high biodiversity with relatively intact biota and undisturbed habitats should also be protected as examples of what the region once looked like, as source populations, or because they provide some other critical ecological function.

The remainder of the workshop focused on a country-by-country discussion and prioritization of the 55 nominated sites (some were eventually removed from the list), along with additional sites proposed by workshop participants.

Each site considered had its unique set of values, threats, and potential for conservation. In general, however, priority sites were distinguished by supporting one or more of the following ecological values:

- seabird populations of global significance whether due to high diversity, rare species, large populations, or important breeding assemblages
- important site for endemics, especially land birds and plants
- healthy populations and/or important nesting beaches for sea turtles
- presence of IUCN Red Listed species (endangered, threatened, and vulnerable)
- healthy or at risk populations of coconut crabs
- pristine reefs and lagoons with high marine diversity
- free from invasive species including rats (especially *Rattus rattus*), cats, and/or ants
- representative examples of disappearing habitats, such as *Pisonia* forests, makatea forests, pristine lagoons, and others

These sites, which were considered ecological gems, were then subject to a second consideration: the potential for conservation success where focused *Living Archipelagos* attention would indeed make a difference. Success potential was considered contingent on

national support and political will, buy-in from local community leaders, and on-the-ground conservation partners to oversee project implementation. Although more work is needed to determine the extent these factors are present, sites that made this cut based on the knowledge of workshop participants were elevated in priority. Sites considered to already have a strong conservation presence, where *LA* involvement would not add significantly to the outcome, were given lower priority or dropped from the list. For example, some of the U.S. Line Islands, such as Palmyra and Jarvis, although amazing ecological treasures, are considered to be well protected under the watchful eyes of the US Fish and Wildlife Service and The Nature Conservancy (for Palmyra). They therefore were eliminated for consideration by *Living Archipelagos* at this time.

A wide variety of potential actions were discussed during the workshop that fit within *LA*'s guidelines, which could help mitigate the identified threats at given sites. These include among others:

- measures to prevent introduction of alien species and invasive species control such as rat, cat and weed removal;
- livestock control through fencing;
- development of controlled ecotourism;
- measures to monitor and mitigate against the potential impacts of current ecotourism;
- assistance in drafting and implementing a management plan for already protected areas;
- signage and posters to inform locals of conservation needs and protections;
- remote site cameras to help monitor and enforce against poaching;
- educating government decision-makers about the conservation values and needs of *LA* sites;
- establish a protected area with local support; and
- build support for other conservation efforts in the region, such as endorsing designation of UNESCO's proposed Central Pacific World Heritage Site.

Although the need for baseline surveys and ongoing monitoring are urgently needed at some of the proposed sites, *LA* will be focused on relatively short-term action that puts a site under immediate protection or eliminates the current threat. These efforts by *LA* will be complemented by other efforts of the Bishop Museum and its partners to collect biodiversity and status data, compile and maintain species databases, and support complementary efforts of partner organizations.

After each site was evaluated for its ecological value, threats, conservation potential, and possible projects, an effort was made to rank the top priority site from each country (assigned "1" in the Hawaii Rank column of Appendix 6) The remaining sites either received a "2" ranking, or were not ranked, indicating lower priority. Approximately 25 sites were elevated to priority status for further study and consideration. Both the initial site nominations list (without rankings) and the ranked list were presented to participants at the Apia workshop for further evaluation.

The following is a summary of discussions and recommendations from the Honolulu workshop:

- Sea level rise as well as the variability in weather associated with climate change may pose severe threats to low-lying sites. Despite their ecological value, *LA* may do best to avoid these sites unless there is international action to mitigate climate change.

- More in-country representatives at this meeting would have helped to fill some information gaps.
- Although *LA* is focused on rapid action, official protocols may slow things down.
- Support from both national and local decision-makers (e.g., local chiefs and community groups) is critical to the success of any *LA* project.
- Partnering with community groups or local NGOs will be necessary for the implementation phase of each project.
- Money begets money: it is important for *LA* to focus on gaps in conservation coverage.
- Saving things while they are still in good shape is also critically important, so effort was made to include globally significant populations and ecosystems as representatives of what the Pacific used to be like.
- A regional-scale review that addresses issues of representation, habitat variability, and resiliency should complement *LA*'s predominantly bottom-up priority-setting approach.
- As desalination techniques improve "dry islands" (without freshwater) will become inhabitable, posing additional conservation challenges on some islands that currently support unique and important wildlife assemblages.
- *LA* should support efforts to approve and implement UNESCO's Central Pacific Islands World Heritage Site.
- The *LA* website should consider including a discussion forum to facilitate communication and transfer of knowledge among *LA* projects.

Apia Workshop

A second priority-setting exercise was undertaken in Apia, Samoa, on April 24th and 26th. The Apia workshop was held at the headquarters of the South Pacific Regional Environment Program (SPREP), which provided excellent facilities and support by staff. Whereas the Honolulu workshop sought the expert advice of pre-eminent regional scientists on the biological value of the sites, the Apia workshop was designed to ascertain guidance and support from national conservation representatives and other conservation NGOs in the final selection of priority *LA* sites. It was scheduled for April to take advantage of the regional expertise gathered in Apia for a joint meeting hosted by SPREP of the National Biodiversity Strategy and Action Plan Coordinators and the Pacific Islands Roundtable for Nature Conservation Working Group. As a result, 32 participants representing 15 nations were in attendance at this two-day *Living Archipelagos* workshop (see Appendices 4 and 5 for the agenda and participants list).

Following introductions, an overview of the *Living Archipelagos* initiative, the nominated site list, site profiles, and guidelines for site selection were presented. This was followed by a visual tour (slide show) of many of the nominated sites. In addition, there were presentations on the Critical Ecosystem Partnership Fund's (CEPF) Polynesia-Micronesia Ecosystem Profile (by James Atherton) and on the proposed Central Pacific Islands World Heritage Site by a representative of UNESCO (by Hans Thulsrup).

The objectives of the Apia workshop were similar to the Honolulu meeting. However rather than focusing on science or region-wide patterns of biodiversity, the aim in Apia was to receive expert input from government representatives and on-the-ground conservationists on the *LA* mission,

approach, and site selection. This workshop was intended as a ground-truthing, and as a first step toward building in-country support and identifying potential partners for *LA* projects.

The 55 sites with written profiles, as well as an additional 18 sites nominated at the Honolulu workshop, were open for discussion at the Apia workshop. Whereas some of these sites were removed from the list after discussion, a few other sites were added for consideration by Apia workshop participants (see Appendix 6).

After some initial discussion of the sites, the priority site list coming out of the Honolulu workshop was distributed to Apia participants. Initially, it was anticipated that the Apia workshop would provide a reality check for which of these 25 priority sites identified in Honolulu (while fitting within *LA* guidelines) meshed well with national conservation priorities and were doable given current capacities within their respective countries. Unfortunately, few participants were empowered to set conservation priorities for their governments during this workshop; some preferred not to even comment on the site list at this time. Therefore, although previously nominated sites were discussed and new ones added for some countries, a final priority site list was not generated. Instead, we are currently undertaking consultations with each of the countries for which priority sites have been identified so to obtain national and local guidance in the final selection of sites and official endorsement for subsequent *LA* action at the chosen sites. A discussion of the decision-making process in each country represented and of national priorities coming out of the NBSAPs followed.

One of the most exciting things coming out of the Apia workshop was the tremendous progress made toward identifying potential *LA* sites for French Polynesia. The Honolulu workshop had deferred consideration of French Polynesia to the Apia workshop where additional expertise was available to review identified sites for further consideration based on biological value, as well as potential projects and local partners.

The following is a summary of the perspectives and recommendations coming out of the Apia workshop:

- A great deal of effort and money has gone into conservation planning in the region, less into implementation. *LA* will benefit from these planning efforts.[4]
- Although there is concern about competition for limited funding, all would welcome *LA* involvement, especially if accompanied by an influx of new funding.
- *LA* should be cautious about raising expectations in the region.
- *LA* must be attentive to national and local priorities, as well as our own. The Biodiversity Strategy and Action Plans will be helpful guidance to *LA* for those countries that have completed one.
- *LA* should tap the tremendous local knowledge available, and community support is critical to success.
- There is interest in extending the *LA* initiative to Melanesia, and to the Solomon Islands in particular.
- Invasive species are a huge issue in the region. Eradication of rats, cats, and other invasives may ultimately comprise a large part of *LA*'s project portfolio.

[4] LA organizers had the opportunity to attend the first session of the NBSAP/RTWG meeting, which provided a useful summary of the lessons learned in each country in drafting its biodiversity strategies.

- Funding and technical capacity (staff size as well as expertise) are limiting factors for implementation of national conservation priorities.
- The presence, capacity, and authority of conservation NGOs vary greatly through the region.
- One size does not fit all. Protocols for site selection, approval, and project implementation will vary from country to country, and possibly from island to island.

LA Priority Sites[5]

As mentioned above, sites were ranked at the Honolulu workshop on the basis of their biological value, and with consideration of their conservation needs. In some cases, multiple islands/sites that were in close proximity and that faced the same threat were grouped into a single priority site. For example, Scilly, Mopelia, and Bellinghausen in French Polynesia were treated as one *LA* site, as were Enderbury, McKean, Phoenix, and Rawaki in Kirbati. As a result and based on the expertise in the room, ~25 islands/sites were grouped into 16 top priority *LA* sites (ranking = 1) for further consideration.

The original nomination list as well as the Honolulu priority list were further discussed in Apia. Additional sites were added for consideration. In particular, seven sites were given top priority for French Polynesia based on a recent priority-setting exercise conducted there. In addition, eight potential sites were proposed for Palau for further evaluation, a new site was added for consideration in Tonga, and new sites were elevated for Kiribati.

Although 23 sites are on the final nominations list coming out of both workshops, *this list remains **preliminary*** (Appendix 6). A draft document has also been prepared that provides justifications for why each site was elevated to a #1 rank (although not for the Palau sites), based on discussions at both workshops (Appendix 7). This draft will be amended as input is received from governments and local partners. Further consultations are needed. For example, there were no representatives from Fiji or the Marshall Islands in Apia to provide feedback on the nominated sites. In addition, government endorsement must be sought for each priority site before it can be finalized. Following this final round of consultation, the list of *Living Archipelagos* sites will be pared back to about ten priority sites based on a combination of ecological value, need, potential NGO partners, and political will and government endorsement. Site-specific fundraising and project development will ensue.

Next Steps

The two workshops represented the successful launch of the *Living Archipelagos* program. They also resulted in the nomination and then narrowing of the list of priority sites for initial *LA* action. A further priority-setting exercise must now be undertaken within the countries themselves to further refine the site selection, to identify appropriate conservation projects, to

[5] *LA* site selection has not been finalized. The sites that are highlighted herein represent those sites that rose to the top of the priority list during the workshops. However, these sites should still be considered **preliminary**, as they must be vetted through the appropriate authorities within their respective countries for approval.

seek the support from national and local authorities, and to form partnerships with communities and NGOs for *LA* project development, funding, and implementation. These efforts include the following steps:

- Inform and work with national governments to solicit interest and gain support of *LA*'s objectives through the distribution of this report, a Powerpoint presentation about the *Living Archipelagos Program*, and the launching of the *LA* website to provide additional resources;
- Cross check proposed *LA* sites and actions against the country-specific National Biodiversity Strategy and Action Plans (NBSAP) and other documents to ensure alignment with domestic priorities and regional strategies;
- Further reduce the number of priority sites to about ten, around which project development and fund-raising efforts will be focused;
- Identify and solicit local partners for proposed sites and projects to assist in the implementation of on-the-ground conservation actions, such as fencing, alien species control, designations of protected areas, etc.;
- Develop site-specific projects and funding proposals that incorporate appropriate indicators of project success;
- Solicit donors, draft proposals, and work to raise money for core support and the various *LA* projects;
- For the chosen *LA* sites, hold in-country visits to meet with government officials, local community leaders, and NGO partners and others to further build support and begin the implementation of the *LA* projects;
- Expand the site profiles to include newly nominated sites, update and edit the 55 existing profiles, and print for distribution; and
- Build more widespread support for the *LA* initiative through the development of a regional media and information campaign.

Living Archipelagos represents a complementary approach to nature conservation in the Pacific Islands region. By focusing on targeted, smaller-scale, short-term actions with abbreviated planning phases, *LA* seeks to provide a mechanism for protecting ecological gems in Polynesia and Micronesia that are at risk of loss if action is not taken quickly.

APPENDIX 1

Living Archipelagos
Honolulu Workshop Agenda
Bishop Museum

April 14-16, 2004

DAY 1: Wednesday, April 14th

8:30 – 9:00 REGISTRATION in Atherton Halau

9:00 – 10:00 Introductions

- Welcome
- Introductions
- *Living Archipelagos* Program Goals and Approaches

10:00 – 12:00 Presentations

- Population growth – *Dr. Nancy Davis Lewis, East-West Center*

10:20 – 10:40 Coffee break

10:40 – 12:00 Presentations (continued)

- Fisheries – *Dr. Charles Birkeland, University of Hawaii*
- Climate change and sea level rise – *Dr. Michael Hamnett, University of Hawaii*

12:00 – 1:00 LUNCH at Bishop Museum

1:00 – 3:00 Introduction to Nominated *Living Archipelago* Sites

- Nominated sites & profile booklets
- Presentation: A visual tour of the *LA* nominations – *Dr. Jim Maragos, USFWS*
- Methodology & criteria to be used for site evaluation
- Making the cut: the top 25 sites for further evaluation

3:00 – 3:20 Coffee Break

3:20 – 5:15 *LA* site Evaluations

5:15 – 5:30 Wrap-up and Adjourn

5:30 – 7:30 DINNER RECEPTION at the Bishop Museum's Hawaiian Hall Courtyard

DAY 2: Thursday, April 15th

9:00 – 9:20	Welcome and Summary of Day 1 • Evaluate progress; address questions/concerns about process
9:20 – 10:10	*LA* site evaluations (continued)
10:10 – 10:30	Coffee Break
10:30 – 12:00	*LA* site evaluations (continued)
12:00 – 1:00	LUNCH at Bishop Museum
1:00 – 1:30	Behind-the-Scenes at the Bishop Museum (1/2 hr tour)
1:30 – 1:50	Presentation: CEPF Ecosystem Profile for the Polynesia-Micronesia Hotspot – *James Atherton, CEPF*
1:50 – 3:00	*LA* site evaluations (continued)
3:00 – 3:20	Coffee Break
3:20 – 5:00	Complete *LA* site evaluations
5:00	Adjourn – DINNER ON YOUR OWN

DAY 3: Friday, April 16th

9:00 – 10:10	Discussion to determine Top 10 Priority *LA* sites
10:10 – 10:30	Coffee Break
10:30 – 12:30	Continue Top 10 discussion and brainstorm projects/contacts/funding/next steps
12:30 – 2:00	LUNCH & Adjourn: Complementary passes to the Bishop Museum

APPENDIX 2

Living Archipelagos Presentation Abstracts

Population and Development in the Pacific Islands
(Honolulu Workshop)

Nancy D. Lewis, Director
Research Program
East-West Center

The twenty-two nations, states and territories (excluding Hawaii and New Zealand) span a vast distance across the Pacific. They are variously endowed with natural resources and fall in different places on the continuum of economic "development." The island types range from continental islands like the large, mountainous half of the island of New Guinea, which Papua New Guinea shares with Irian Jaya, to volcanic islands, like the main islands of Fiji, to the tiny coral atolls of the central and eastern Pacific, e.g., Kiribati. The populations of the Pacific vary to from 1537 people in Tokelau to 5,190 786 in Papua New Guinea. 86% of the population of the region and 98% of the land area is in Melanesia, 8% of the population and 1.4% of the land area is in Polynesia and 6% of the population is in Micronesia. Political instability characterizes several of the island states, particularly in Melanesia. A brief overview of the population and development issues will be presented with some elaboration of the environmental and political context for Small Island Developing States (SIDS) run up to Barbados Plus Ten to be held in Mauritius next September. A focus of that discussion will be the islands in the context of a changing climate.

Technology and Global Economics Have Broadscale Effects on Pacific Island Fisheries
(Honolulu Workshop)

Charles Birkeland
University of Hawaii

Although information from middens show that Pacific Islanders reduced the easily accessible bird and nearshore invertebrate resources in the past, they also show the nearshore fisheries have been stable over millennia, probably because of constraints of traditional technology. In the late 1970s and early 1980s, there was an approximately 80% reduction in many fisheries standing stocks in some locations because of the development of technology and global economics. Coral-reef fisheries are especially vulnerable to harvest because of life-history characteristics of reef fishes: right-angle size-age distributions, extensive longevity, increase in fecundity with body size, multiple reproductions, and predictable times and locations of spawning aggregations. These are in striking contrast to characteristics of pelagic fisheries. These allow individual

fishermen with modern technology to have a substantial influence on reef-fish populations in a very short time. These substantial effects on fisheries led to "ecosystem overfishing". Before the early 1980s, coral-reef ecosystems were in a perpetual state of recovery from natural disturbances. But now some of these coral reefs have stopped recovering and are continuing to deteriorate after the disturbance is relieved. It is a common misconception that after the fishing is stopped, the fisheries stocks will always recover. Local community stewardship has been shown in some Hawaiian cases to maintain stocks as high as in no-take reserves.

Climate Change and Sea Level Rise in the Pacific Islands
(Honolulu Workshop)

Michael P. Hamnett, PhD
Social Science Research Institute
University of Hawaii

Long-term climate change, seasonal to inter-annual climate variability such as El Niño events, and weather are on a time continuum from days to decades. Solar and lunar tides, changes in sea level over the year and long-term sea level rise are on a similar continuum. The potential impact of long-term climate change and sea level rise must be understood in terms of decadal, seasonal to inter-annual, annual and shorter-term variability. And, some of the most significant impacts on Pacific Island people and their environment are going to be made by extreme weather and oceanographic events: droughts, floods, tropical cyclones, storm surge, tsunamis, and spikes in sea surface temperatures.

The International Panel on Climate Change has agreed that we can expect a 2°-4° C increase in mean global temperatures and a 0.5 meter increase in mean sea level by 2050. A 2°-4° C change in temperature is less of an than we see on a daily basis. Tides in most parts of the Pacific vary more than 0.5 meters on a monthly basis. But, these increases will be added to the changes that take place from season to season, during El Niño and La Niña events, and during storms and tsunamis. And, variability in rainfall (e.g., droughts and floods) over seasons and during ENSO events is in many ways more significant than variations in sea levels and temperature.

As the IPCC has stated:

"Global climate change will affect the physical, biological and biogeochemical characteristics of the oceans and coasts, modifying their ecological structure, their functions, and the goods and services they provide" (*IPCC-TAR, p. 345, Chapter 6, Coastal Zones and Marine Ecosystems"*). In the case of small islands, coastal vulnerability to climate change will be enhanced as a consequence of:

- Sea-level rise
- Accelerated erosion
- Increased risk of storm flooding and inundation
- In increase in the frequency of droughts
- Elevated sea-surface temperatures

The most significant impacts on Pacific people and their environment will be water shortages, agricultural losses, changes in fisheries, an increase in other disaster losses, coastal inundation, an increase in the risk of some diseases, and ecological changes that will affect island ecosystems. These in turn will have other environmental and social consequences.

Visual Journey Through the Living Archipelagos of Oceania
(Honolulu and Apia Workshops)

Jim Maragos
U.S. Fish and Wildlife Service, Honolulu

This photo essay covers the seascapes, landscapes, and peoples of more than 35 sites and years of visits to selected atolls, reefs and archipelagos in the broad central Pacific region of Oceania, proposed or suggested as Living Archipelagos. The archipelagos cover 10 nations or territories in the Line, Phoenix, Marshall, Caroline, Samoan, Fiji, and Solomon islands. The selected individual islands, atolls or submerged reefs include Ailinginae, Angaur, Aunu‘u, Babeldaob, Baker, Bikar, Bokaak, Chelbacheb, Chuuk, Erikub, Helen, Howland, Jarvis, Kayangel, Kingman, Kiritimati, Koror, Kosrae, Marovo, Mborokua, Minto, Ngeruangl, Ofu, Olosega, Oroluk, Palmyra, Pohnpei, Rongerik, Rose, Swains, Taveuni, Ta‘u, Tobi, Upolu, Vanua Levu, Viti Levu, and Wotto. Additional photos and information about these and other candidate sites are found at website www.livingarchipelagos.org .

The Polynesia-Micronesia Hotspot and Ecosystem Profile
(Honolulu and Apia Workshops)

James Atherton
Critical Ecosystem Partnership Fund

The Polynesia-Micronesia hotspot is one of 25 global biodiversity “hotspots”. Together, these hotspots contain more than 60 percent of the Earth’s terrestrial species diversity in just 1.4 percent of the land surface. A special fund, termed the Critical Ecosystem Partnership Fund (CEPF) has been established to improve protection of the world's threatened biodiversity hotspots. Over the past year, the CEPF have sponsored the development of an Ecosystem Profile (EP) for the Polynesia-Micronesia hotspot. The EP provides an overview of biodiversity values, conservation targets or “outcomes” and causes of biodiversity loss coupled with an assessment of existing and planned conservation activities in the hotspot. This information is then used to identify the niche where CEPF investment can provide the greatest incremental value for conservation in the hotspot.

The EP process for the Polynesia-Micronesia region is now nearing completion. A major finding of the analysis is that the biodiversity of the hotspot is highly threatened. There are currently 476 globally threatened terrestrial species in the hotspot and species extinction rates for some groups,

such as birds and land snails, are amongst the highest in the world, especially when calculated per unit of land area or per capita. Furthermore, only about 20% of the vegetation remains in a natural state, the rest is highly degraded. The major threats to Pacific biota are anthropogenic and include invasive alien species, habitat alteration and loss, destructive harvesting and the over-exploitation of natural resources. Unfortunately however, current terrestrial species and site conservation efforts in the hotspot are not well supported.

Conservation targets have been developed to conserve threatened terrestrial species in the hotspot, including a prioritised list of 244 species and 150 sites where they occur. Furthermore, a number of conservation strategies have been developed including: the prevention, control and eradication of invasive species in key biodiversity sites; improvements in the conservation status and management of a prioritised set of key biodiversity sites; safeguarding and restoring a prioritised set of threatened species; and supporting civil society capacity to conserve prioritised species and sites. It is hoped that funds will be available from the CEPF for conservation actions in the hotspot, later in 2004.

APPENDIX 3

Living Archipelagos Honolulu Workshop Participants

(April 14-16, 2004)

Allen Allison
Vice President for Science
Bishop Museum
Executive Offices
1525 Bernice Street
Honolulu, Hawaii 96817
Work: (808) 848-4145
Fax: (808) 847-8252
E-Mail: allison@hawaii.edu

James Atherton
GIS & Environmental Consultant
P.O. Box 1922
Apia, Samoa
Work: (+685) 70787
Fax: (+685) 2084
E-mail: jatherton@samoa.ws

Scott Atkinson
Director of Hawaii Programs
International Program Associate
The Community Conservation Network
212 Merchant St. Suite 200
Honolulu, HI 96813
tel - 808-528-3700
direct - 808-528-3705
fax-808-528-3701
email: scott@conservationpractice.org

Charles Birkeland
Department of Zoology
University of Hawaii
Honolulu, Hawaii 96822
Work: (808) 956-8350
Fax: (808) 956-4238
E-mail: birkelan@hawaii.edu

Kim Bridges
University of Hawaii at Manoa
Department of Botany
Honolulu, Hawaii 96822
Work: (808) 956-6429
Fax: (808) 956-3923
E-Mail: kim@hawaii.edu

William Yancy Brown
President and Director
Bishop Museum
1525 Bernice Street
Honolulu, Hawaii 96817
Work : (808) 848-4141
Fax : (808) 841-8968
E-Mail: bbrown@bishopmuseum.org

Burke Burnett
Pacific Science Association
Bishop Museum
1525 Bernice Street
Honolulu, Hawaii 96817
Work: (808) 848-4124
Fax: (808) 847-8252
E-mail: burnett@indopacific.org

Merry Camhi
Consultant and Workshop Coordinator
126 Raymond St.
Islip, NY 11751
Work: 631-581-9011
Fax: 631-581-9011
E-mail: mcamhi@optonline.net

Lu Eldredge
Invertebrate Zoologist
Bishop Museum
1525 Bernice Street
Honolulu, Hawaii 96817-2704
Work: (808) 848-4139
Fax: (808) 847-8252
E-Mail: psa@bishopmuseum.org

Katherine Ewel
Senior Scientist
Institute of Pacific Islands Forestry
U.S. Forest Service
1151 Punchbowl Street, Room 323
Honolulu, Hawaii 96813
Work: (808) 522-8231
Fax: (808) 522-8236
E-Mail: kewel@gte.net

Linda Farley
Project Director, Fiji Forest Conservation
Wildlife Conservation Society – South Pacific
11 Ma'afu Street
Suva
Fiji
Work: [679] 331-5174
Home: [679] 330-1745
E-Mail: lfarley@wcs.org

Elizabeth N. Flint
Supervisory Wildlife Biologist
Remote Pacific Islands National Wildlife Refuge Complex
U.S. Fish and Wildlife Service
300 Ala Moana Boulevard
Room 5-231
Box 50167
P.O. Box 50167
Honolulu, Hawaii 96850
Work: (808) 792-9553
Fax: (808) 792-9585
E-Mail: Beth_Flint@fws.gov

Mark Fornwall
USGS
Pacific Basin Information Node
310 W. Ka'ahumanu Avenue
Hahulului, Hawaii 96732
Work: (808) 984-3724
Fax: (808) 242-1128
E-Mail: mark_fornwall@usgs.gov

Michael D. Guilbeaux
Community Conservation Network
P.O. Box 4674
Honolulu, HI 96812
Work: (808) 528-3700
Fax: (808) 528-3701
E-mail: mike@conservationpractice.org

Matthews Hamabata
Executive Director
The Kohala Center
P.O. Box 437462
Kamuela, Hawaii 96743
Work: (808) 887-6411
Fax: (808) 885-6707
E-mail: mhamabata@kohalacenter.org

Michael Hamnett
Director
Social Science Research Institute
University of Hawaii, Manoa
Honolulu, Hawaii 96821
Work: (808) 956-7469
Fax: (808) 956-2884
E-mail: hamnett@hawaii.edu

Ranya Henson
Program Assistant
Bishop Museum
1525 Bernice Street
Honolulu, Hawaii 96817
Work: (808) 847-8273
E-mail: rhenson@bishopmuseum.org

Angela Kay Kepler
Pacific-wide Ecological Consulting
P.O. Box 1298
Haiku, Maui, Hawaii 96708
Work: (808) 573-5847
Fax: (808) 572-1242
E-Mail:
AngelaKay@Pacificwideconsulting.com

Nancy Davis Lewis
Director, Research Program
East-West Center
1601 East-West Road
Honolulu, HI 96848-1601
Work: (808) 944-7245
Fax: (808) 944-7399
E-mail: LewisN@EastWestCenter.org

Jim Maragos
Coral Reef Biologist
Remote Pacific Islands National Wildlife Refuge Complex
U.S. Fish and Wildlife Service
300 Ala Moana Blvd., Room 5-231
P.O. Box 50167
Honolulu, Hawaii 96850
Work: (808) 792-9557
Main: (808) 792-9550
Fax: (808) 792-9585
E-mail: jim_maragos@fws.gov
E-mail (H): maragosje@hawaii.rr.com

Gerald McCormack
Director
Natural Heritage Trust
P.O. Box 781
Rarotonga
Cook Islands
Work: [682] 20-959
E-Mail: gerald@nature.gov.ck

Roger McManus
Senior Director, Marine Programs Division
Conservation International
1919 M Street, NW
Washington, DC 20037
Work: 202-912-1323
Fax: 202-912-1030
E-Mail: r.mcmanus@conservation.org

Mark Merlin
University of Hawaii
Biology Program
Honolulu, Hawaii 96822
Work: (808) 956-6038
Fax: (808) 942-9008
E-Mail: merlin@hawaii.edu

Robert Richmond
Research Professor
Kewalo Marine Lab
University of Hawaii
Honolulu, Hawaii 96822
Work: (808) 539-7331
Fax: (808) 599-4817
E-mail: richmond@hawaii.edu

Pamela Seeto
Regional Advisor, Western Pacific Program
David and Lucile Packard Foundation
3230 Collins Ave.
Honolulu, HI 96815
Work: (808) 732-4146
Fax: (+675) 325-6586
Mobile: (631) 220-2342
E:mail: PSeeto@packard.org

Art Whistler
2814 Kalauao St.
Honolulu, HI 96822
Work: (808) 945-9334
Fax: (808) 945-9334
E-mail: whistler@hawaii.edu

APPENDIX 4

Living Archipelagos
Apia Workshop Agenda
SPREP Offices
April 23 & 25, 2004

DAY 1: Saturday, April 24th

8:00 – 9:00	REGISTRATION in
9:00 – 10:00	Introductions

- Welcome
- Introductions
- *Living Archipelagos* Program Goals and Approaches

10:00 – 12:00	Introduction to Nominated *Living Archipelago* Sites

- Nominated sites & profile booklets
- Presentation: A visual tour of the *LA* nominations – *Dr. Jim Maragos, USFWS & Dr. Angela Kay Keppler, Consultant*
- Methodology & criteria to be used for site evaluation
- Making the cut: the top 25 sites for further evaluation

10:20 – 10:40	Coffee break
12:00 – 1:00	LUNCH at SPRET
1:00 – 3:00	*LA* site Evaluations
3:00 – 3:20	Coffee Break
3:20 – 5:15	*LA* site Evaluations
5:15 – 5:30	Wrap-up and Adjourn
5:30 – 9:00	DINNER RECEPTION at SPREP

DAY 2: Monday, April 26th

9:00 – 9:20	Welcome and Summary of Day 1 • Evaluate progress; address questions/concerns about process
9:20 – 10:10	*LA* site evaluations (continued)
10:10 – 10:30	Coffee Break
10:30 – 12:00	*LA* site evaluations (continued)
12:00 – 1:00	LUNCH at SPREP
1:00 – 1:20	Presentation: CEPF Ecosystem Profile for the Polynesia-Micronesia Hotspot *–Francois Martel / James Atherton, CEPF*
1:20 –2:50	Complete *LA* site evaluations
2:50 – 3:10	Coffee Break
3:20 – 5:00	Discussion to determine Top 10 Priority *LA* sites
5:00 – 5:30	Wrap-Up and Adjourn

APPENDIX 5

Living Archipelagos Apia Workshop Participants

(April 23 & 25, 2004)

American Samoa

Mr. Peter Peshut
Acting Director
American Samoa Environmental Protection Agency
PO Box PPA
Pago Pago 96799
American Samoa
Ph: (684) 633 2304
Fax: (684) 633 5801
Email: ppeshut@yahoo.com

Australia

Mr. Peter Thomas
Director
Pacific Island Countries Program
The Nature Conservancy
14 Lockhart St
Woolloongabba
Brisbane 4102
Australia
Ph: (61) 7 3834 5900
Fax: (61) 7 3391-4805
Email: pthomas@tnc.org

Cook Islands

Mr. Gerald McCormack
Director, Natural Heritage Trust
PO Box 781
Rarotonga
Cook Islands
Ph: (682) 20-959
Fax:
E-mail: Gerald@nature.gov.ck

Ms. Elizabeth Munro
BD Coordinator
PO Box 371
Rarotonga
Cook Islands
Ph: (682) 21-256
Fax: (682) 22-256
Email: ipukarea@environment.org.ck or resources@environment.org.ck

Federated States of Micronesia

Mr. Okean Ehmes
Project Manager
Department of Economic Affairs
PO Box PS-12
96941 Palakir
Pohnpei
Federated States of Micronesia
Ph: (691) 320 5133
Fax: (691) 320 5854
Email: biodiv@mail.fm or fsmdea@mail.fm

French Polynesia

Dr. Jean-Yves Meyer
Research Officer
Delegation A La Recherche
PO Box 20981
Papeete
Tahiti
Ph: (689) 501 555
Fax: (689) 433 400
Email: jean-yves-meyer@recherche.gov.pf

Kiribati

Mr. Bwere Eritaia
PO Box 234
Bikenibeu
Tarawa,
Kiribati
Ph: (686) 28 000
Fax: (686) 28 334
E-mail: mesd2@ecd.gov.ki or
mesd2@tsk1.net.ki

Niue

Mr. Sauni Tongatule
Director
Department of Environment
Niue Government
Alofi
Niue
Ph: (683) 4019
Fax:
Email: tongatules@mail.gov.nu

Palau

Dr. Joel Miles
Chief, Terrestrial Unit
Office of Environmental Response & Coordination (DERC)
Office of the President
PO Box 7086
Koror, PW 96940
Palau
Ph: (680) 488-6950
Fax: (680) 488-8638
E-mail: jmiles@palau-oerc.net

Samoa

Mr. Lui Bell
Principal Marine Conservation Officer
Division of Environment & Conservation
Private Mail Bag
Apia
Samoa
Ph: (685) 31 197
Fax: (685) 25 869
Email: lui.bell@mnre.gov.ws

Mr. Toni Tipama'a
Principal NPER Officer
MNRE/DEC
Private Mail Bag
Apia
Samoa
Ph: (685) 28 680
Fax: (685) 25 869
Email: nationalparks@lesamoa.net or
Toni.Tipamaa@mnre.gov.ws

Mr. Tepa Suaesi
Project Coordinator
Ministry of Natural Resources & Environment
Private Mail Bag
Apia
Samoa
Ph: (685) 31 197/75 616/53 800
Fax: (685) 23 176
Email: teparsuaesi@yahoo.com or
Tepa.Suaesi@mnre.gov.ws or
temajayo@lesamoa.net

Solomon Islands

Mr. Moses Biliki
Director
Environment & Conservation
ECD, DFEC
PO Box G24 (or 624?)
Honiara
Solomon Is.
Ph: (677) 28 611/28 735
Fax: (677) 28 735
Email: mbiliki@hotmail.com

Tonga

Mrs. Patisepa Saafi-Folaumoetu'i
NBSAP Project Coordinator
Department of Environment
PO Box 917
Nukualofa
Tonga
Ph: (676) 27 644
Fax: (676) 25 051
Email: patisepa_saafi@hotmail.com

Tuvalu

Mr. Mataio Tekinene
Director Environment
Office of the Prime Minister
Vaiaku
Funafuti
Tuvalu
Phone: (688) 20 128/136 or 20 179
Fax: (688) 20 133 or 20 114
Email: Uale2001@yahoo.co.nz or enviro@tuvalu.tv

United States of America

Dr. Allen Allison*
Bishop Museum
610 Bernice St
Honolulu, Hawaii
USA
Ph: (808) 848-4145
Fax: (808) 847-8252
Email: allison@hawaii.edu

Dr. Merry Camhi*
Consultant & Workshop Coordinator
126 Raymond St
Islip, New York 11751
USA
Ph: (631) 581-9011
Fax: (631) 581-9011
Email: mcamhi@optonline.net

Dr. Lucius Eldredge*
Biologist
Bishop Museum
610 Bernice St
Honolulu, Hawaii
USA
Ph: (808) 848 4139
Fax: (808) 847-8252
Email: psa@bishopmuseum.org

Mark Fornwall
USGS, Pacific Basin Information Node
310 W. Ka'ahumanu Avenue
Hahulului (Maui), Hawaii 96732
USA
Ph: (808) 984-3724
Fax: (808) 242-1128
E-mail: mark_fornwall@usgs.gov

Dr. Angela Kay Kepler
Pacific Island Consultant
Pacific-Wide Consulting
PO Box 1298
Haiku, Island of Maui, Hawaii 96708
USA
Ph: (808) 573 5847
Fax: (808) 572 1242
Email: angela@pacificwideconsulting.com

Dr. James Maragos
Coral Reef Biologist
U.S. Fish & Wildlife Service
300 ALA Moana BLVD RM 5-231
PO Box 50167
Honolulu
HI 96850
USA
Ph: (808) 792 9557
Fax: (808) 792 9585
Email: jim_maragos@fws.gov

Ms. Audrey Newman
Senior Conservation Advisor
The Nature Conservancy, Asia Pacific Region
PO Box 535
Hoolekua, HI 96729
USA
Ph: (808) 567 6834
Fax: (808) 545 2019
Email: anewman@tns.org

* Workshop Organizer

Vanuatu

Ms. Donna Kalfatak
NBSAP Project
Environment Unit
C/o PMP 9063
Port Vila
Vanuatu
Ph: (678) 23 565/25 302
Fax: (678) 23 565
Email: environ@vanuatu.com.vu or
donna_kalfatak@hotmail.com

OBSERVERS

Australia

Mr. Jonas Rupp
Assistant Director, Natural & Overseas
Heritage Management
Heritage Division
John Gorton Building
King Edward Terrace Parkes ACT 2600
GPO Box 787
Canberra ACT 2601
Australia
Ph: (61) 2-6274-2002
Fax: (61) 2-6274-2000
E-mail: Jonas.Rupp@deh.gov.au

New Zealand

Mr. Andrew Bignell
Manager, International Relations
Department of Conservation
59 Boulcott Street
PO Box 10420
Wellington
New Zealand
Ph: (064) 447 131 91
Fax: (064) 447 1 30 49
Email: abignell@doc.govt.nz

Samoa

Mr. James Atherton
GIS & Environmental Consultant
PO Box 1922
Apia
Samoa
Ph: (685) 70787 or (685) 91929
Fax: (+685) 2084
E-mail: Jatherton@samoa.ws

Ms. Sue Taei (Miller)
IUCN Project Manager
Aleipata & Saluafata MPA Project
PO Box 1386
C/- MNRE/DEC
Apia
Samoa
Ph: (685) 30100 ext 20, 20541
Fax: (685) 25856
Email: sue_taei@yahoo.com or
taeiconstruction@ipasifika.net

Mr. Francois Martel
Team Leader – Polynesia Micronesia
Hotspot
Conservation International
SPREP
PO Box 240
Apia
Samoa
Ph: (685) 21593
Fax: (685) 21593
Email: fmartel@conservation.org

SPREP

Ms. Kate Brown
Action Strategy Adviser
SPREP
PO Box 240
Apia
Samoa
Ph: (685) 21929
Fax: (685) 20231
E-mail: kateb@sprep.org.ws

Ms. Mary Power
Acting Coordinator/Coastal Management Adviser
SPREP
PO Box 240
Apia
Samoa
Ph: (685) 21929
Fax: (685) 20231
E-mail: maryp@sprep.org.ws

Ms. Suzy Randall
Support Officer Bird Conservation & Invasive Species
SPREP
PO Box 240
Apia
Samoa
Ph: (685) 21929
Fax: (685) 20231
Email: suzyr@sprep.org.ws

UNESCO

Hans Dencker Thulstrup
Science Programme Specialist
UNESCO Office for the Pacific States
PO Box 615
Apia
Samoa
Ph: (685) 24276
Fax: (685) 26593
E-mail: Hans@unesco.org.ws

University of the South Pacific (USP)

Mr. Randy Thaman
Professor of Pacific Islands Biogeography
Department of Geography
PO Box 1168
SSED
University of the South Pacific
Suva
Fiji
Ph: (679) 21 2546
Fax: (679) 30 1487
E-mail: thaman_r@usp.ac.fj

APPENDIX 6

Living Archipelagos Site Nominations – Honolulu + Apia

Country	Nominated Island or Site	Hawaii Rank	Apia Rank	Comments
POLYNESIA				
American Samoa*	Rose Atoll	1	--	All AS sites removed from list in Apia because *LA* probably cannot add much and government representative thought *LA* funds would be better spent on other sites.
	Manu'a	2	--	
	Swains	3	--	
	~~Ofu~~		--	
	~~Olosega~~		--	
Samoa*	Aleipata Islands, Upolu	2	1	
	Savaii upland forest	1	2	
Pacific Islands of Chile	~~Sala y Gomez~~	2	--	Discussed in HI then removed from list
Cook Islands*	Atiu + Takutea	1	1	
	Suwarrow	2	2	
	Pukapuka	3	--	
	~~Palmerston~~		--	Discussed in HI then removed from list
	~~Rarotonga~~		--	Discussed in HI then removed from list
French Polynesia*	Scilly + Mopelia + Bellingshausen	1	1	All sites receiving "1" in Apia will be further considered based on government consultations.
	Tahanea		1	
	Rapa (3 sites)		1	
	Mohotani		1	
	Reitoru or Tenararo		1	
	Niau or Makatea		1	
	Raiatea (Temehani)		1	
	Mangareva		1	
	Morane	3	--	
	~~Ua Pou~~	2	--	Removed from list in Apia
	~~Pukapuka~~	4	--	Removed from list in Apia
Kiribati*	Birnie	1		
	Flint + Millennium Island+ Vostok	2		
	Manra (Sydney)	1		
	Starbuck	--		
	Kiritimati		1	There was endorsement for further pursuing these "1" sites by a government representative at the Apia workshop.
	Malden		1	
	Millennium		1	
	Enderbury + McKean + Phoenix + Rawaki		1	

Country	Nominated Island or Site	Hawaii Rank	Apia Rank	Comments
Niue*	Beveridge Reef	2		Although interest in *LA* was expressed by a government representative at the Apia workshop, specific sites were not discussed.
	Forest + pigeon?			
Pitcairn Islands	Ducie	2		None of these islands were discussed in Apia, nor were they considered a top priority in Hawaii.
	Henderson	2		
	Oeno	2		
Tonga*	The "Niuas"			
	Vava'u Group	1	1	
	'Eua	1		
	Hapai Group	1	1	
US-Affiliated Sites	~~Jarvis~~	--	--	All Hawaii sites discussed in HI then removed from list, as they are under good conservation care and *LA* could add little more protection.
	~~Kingman~~	--	--	
	~~Palmyra~~	--	--	

Fiji	Vanua Levu (Netewa Penisula + Vat I Ra Watershed + seascape)	1		Fiji sites were not discussed in Apia because no government or NGO representative was present.
	Vatuvaru			
	Viti Levu			
	Vuaqava + Fulaga + Ogea	2		
	Yadua Taba Island			
	Kandavu	2		

MICRONESIA				
Federated States of Micronesia*	East Fayu			Although a representative from FSM was at the Apia workshop, the decision was made to delay further discussion on sites until formal government consultation.
	Kosrae	1		
	Olimarao			
	Pohnpei	1		
	Sorol			
	West Fayu			
	Tol upland forest	2		
	Oroluk			
	Gaferut			
	~~Minto~~			Discussed in HI then removed from list
Marshall Islands	Ailinginae	1		Marshall Island sites were not discussed in Apia because no government or NGO representative was present.
	Bikar + Pokak	2		
	Pokak			
	Wotho			
	Rodrik			

Country	Nominated Island or Site	Hawaii Rank	Apia Rank	Comments
Northern Mariana Islands	~~Ascuncion~~			All NMI sites, which were added to the list at the HI workshop, were then removed from further consideration after discussion.
	~~Guguan~~			
	~~Maug~~			
	~~Uracas~~			
	~~Rota~~	1		
Palau*	Kayangel (Ngeruangel)		1	Islands of Babeldaob, Kayangel, Rock and Southwest Islands were all ranked "1" at HI workshop. Then individual sites were nominated on each of these island groups at the Apia workshop (without discussion) for further government consultation.
	Babeldoab (Ngardok Lake)		1	
	Babeldoab (Ngerikiil Watershed)		1	
	Babeldoab (several other sites)		1	
	Rock Islands (Ngerukewid)		1	
	Rock Islands (several other sites)		1	
	Southwest Islands (Helen)		1	
	Southwest Islands (Merir)		1	

* Country representative present at Apia workshop

APPENDIX 7

Living Archipelagos Site Nomination Justifications

Why Protect Them & What's Needed

CAVEAT: For information purposes only. Although all of these sites were discussed at one or both of the *LA* workshops, their inclusion here does not imply official endorsement from any Pacific Island government. Numbers in the parentheses following the site name represent the priority ranking by workshop participants for sites within that country, as discussed at one or both workshops. In some cases, no rankings were applied. In addition, these justifications will be updated and amended as additional information is received from in-country representatives.

Samoa Islands

Rose Atoll – American Samoa
Note: Removed from priority list in Apia.

Aleipata Islands, Upolu -- Samoa (1)
Note: added as the top priority for Samoa at Apia meeting by Sue Taei (Miller).
Value:

- Important habitat for land birds. Can serve as sanctuaries/refuge for these and endangered species, as extension to surrounding MPA.
- Potential as undisturbed breeding site for Samoan seabirds such as White Tern and Brown Noddy.

Threats: Problems with invasive plants and rats.
Potential action: Rat removal: well studied and government prepared to take action. Plan to minimize new introductions. Public education in village to show importance of these islands to wildlife.
Conservation presence: Although villages own the lands, the government has good access to the islands and probably will get good cooperation from local communities. An NGO has been established for each of the two islands. Government of Samoa would be primary partner, working in cooperation with the communities. Funding-limited.

Savai'i upland and lowland forest – Samoa (2)
Value:

- Largest remaining primary rainforest in Polynesia with a diverse assemblage of threatened endemic plants, land birds, and invertebrates.
- Home to at least 11 Red Listed species, including endemic Tooth-billed Pigeon and Ma'o (large, dark honeyeater).

- North site supports 30 of Samoa's 35 land birds; South site supports highest density of Tooth-billed Pigeons and Friendly Ground Doves.

Threats: Some logging (lowland and mid-slope forests) and land clearance for agriculture; invasives (plants and land birds), pigeon hunting.

Potential action: Identify sustainable alternatives to replace logging and land clearing, ecotourism, and forest restoration. Assist in forest reserve monitoring and enforcement.

Conservation presence: Ministry of Natural Resources & Environment (MNRE) working here, political will and potential for funding (from CEPF and GEF). Communal land owned by four villages on N coast, and three villages on S coast (total pop'n 4,600). Faasao Savaii is the NGO on Savaii; METI and O le Siosiomaga Society Inc (OLSSI) are two national NGOs based in Apia. Staff and resource limited.

Cook Islands

Atiu + Takutea (1)

Value:

- Significant coconut crab population (which is not stable).
- Takutea: Largest Red-tailed Tropicbird nesting colony in the Central Pacific (1,000-1,500 pairs).
- Takutea: Small to moderate breeding populations of other seabirds (e.g., Great Frigatebird, Red-footed Booby, Black and Brown Noddies, White Terns).
- Takutea: Wintering grounds for the Vulnerable Bristle-Thighed Curlew, an Arctic breeder migrating through in significant numbers (50-200 birds), as well as other migrant shorebirds (Ruddy Turnstone, Wandering Tattler, Pacific Golden-Plover primarily).
- Takutea: Nesting green turtles.
- Takutea: Pristine *Pisonia grandis* forest (although small it is one of the few remaining groves in the Pacific).
- (Takutea) Chinese-lantern tree (*Hernandia nymphaeifolia*) also present. Takutea is within the eastern edge of its Pacific range.
- Atiu: Several Cook Islands endemic birds, including the single-island Atui Swiftlet and the extremely rare, translocated Rarotonga Flycatcher.
- Atiu: Rough,upraised limestone terrain (makatea) yields some protection for coconut crabs from human predation.
- Atiu: is unusual in being free of *Rattus rattus*, a situation that needs every effort to maintain.

Threats: Invasive plants and insects. Ecotourism potential threat to swiftlets & other birds. Rats (Pacific) on Takutea. Coconut crab collecting by locals.

Potential actions: Quarantine against *Rattus rattus,* including public education, and removal of smaller Pacific rats. Establish protections for crab (such as restricting times of collection) and producing educational poster about the coconut crab, including info on how to distinguish males from females. Observation platform to protect frigatebirds from tourists, along with development & implementation of an ecotourism management plan. Provide monitoring for the translocated, Cook Island endemic Rarotonga Flycatcher on Atiu.

Conservation presence: Management is under the control of local chiefs and the Atiu Island Council.

Suwarrow (2)

Value:

- Regionally significant populations of Sooty Tern (c.100,000 pairs) and Least Frigatebird (2000+ pairs, possibly c.3000 pairs). One of the three largest colonies of Red-tailed Tropicbird (c.400 pairs) in the Cook Islands. The only Cook Islands colony of Masked Booby (c.20 pairs).
- Wintering grounds for the Vulnerable Bristle-Thighed Curlew.
- One of the two most significant coconut crab populations in the Cook Islands, c.1000.
- Nesting Green Turtles.
- Near-pristine atoll forest on Motu Tou.

Threats: Introduction of invasive animals (especially cats and rats) by visiting yachts and inter-island ships. (Cats and *Rattus exulans* have been recently removed.) Collecting of coconut crabs, Green Turtles, seabirds, and Sooty Tern eggs by visitors. Future ecotourism could disturb nesting seabirds. Future developments in fisheries in lagoon could threaten wildlife in the lagoon and on the land.

Potential actions: Develop a management plan, including public education and procedures to handle visitors – ecotourists, passengers on inter-island ships, and yachties. Undertake detailed surveys of seabirds, turtles, and coconut crabs and establish simplified methods for future monitoring. Increase quarantine against rats and cats. Establish suitable collecting regimes for wildlife, including a ban on taking any Green Turtles. Survey the biodiversity of the lagoon.

Conservation presence: Suwarrow is the only Cook Islands national park. Management is under the control of the Cook Islands Environment Service. The National Workshop on Biodiversity to develop the NBSAP concluded that Suwarrow should be managed by a dedicated ad hoc body, and this option is being pursued under the Biodiversity Add-on Activity.

Leeward Society Island Atolls -- French Polynesia

Scilly (Manuae, Fenua Ura) + Mopelia + Bellinghausen (Motu One)

Value:

- All three islands are major breeding grounds for Green Turtles in the Central & Eastern Pacific, and possibly the most important Green Turtle hotspot in all the Pacific.
- Bellingshausen: May be the largest remaining Blue Lorikeet population in the world (~1/2 the world's population of this endemic). Vulnerable and protected endemic bird (*Vini*), which lives on the nectar and flowers of coconut palms, providing a rare example where coconut palms are an excellent habitat for wildlife.
- Mopelia: Significant *Pisonia* forests, favored by tree-nesting seabirds.
- Mopelia and Bellingshausen: Seabird colonies, especially for the ground-nesting Masked, Red-footed and Brown Boobies, and Great Frigatebirds.

- All three: Beautiful, clear, large lagoons and outer reefs, with good coral and fish populations.
- Threatened and protected endemic bird (*Vini*).

Threats: Turtle poaching, which can effect Green Turtle populations Pacific-wide, Pacific rats and cats

Potential actions: Rat and cat eradication. Control turtle poaching, possibly by preventing turtle poaching boats from leaving the harbor in Papeete. Assist government in enforcement of turtle protections and produce public education materials on sea turtles.

Conservation presence: Government is behind these efforts: Scilly and Bellingshausen protected since 1971 (paper park without monitoring). Seek support from international sea turtle organizations. Project by UNESCO to include these three atolls into the Central Pacific World Heritage Project. Difficult logistics (access by boat only).

Raiatea: Temehani Plateau

Value:

- Unique dwarf Cloud Forest and Motane Scrub.
- High number of endemic (50% of Raiatea endemics are here) and threatened plants, two of them are legally protected.
- Home to one of French Polynesia's most famous endemic plants, the tiare apetahi *Apetahia raiateensis*.

Threats: Invasive plants; tourism activities; overexploitation (collection of the flowers and stems of tiare apetahi; rats and other predatory animals.

Potential action: Weed control (coco-plum *Chrysobalanus icaco* and rose-myrtle *Rhodomyrtus tomentosa*).

Conservation presence: Land in public and private holdings. Group of locals recently expressed interest in removing two invasive plants from the Temehani Plateau, which are still in the early phase of invasion. Difficult logistics.

Marquesas – French Polynesia

Mohotani (Motane)

Value:

- Considered "of inestimable scientific value for avifauna and vegetation" by Dr. Ray Fosberg.
- Threatened and legally protected endemic plants.
- Unique Marquesan coastal and mesic forest: Only island in the Marquesas with outstanding, old, tall native trees, including *Pisonia grandis* forest with some trees > 120+ feet tall and diameters >5 feet, and large *Thespesia populnea* trees traditionally used for carving. The largest wild population of the endangered and protected endemic tree *Lebronnecia kokioides*.
- Colonies of some of the larger seabirds – declining elsewhere – still exist here on L'Ilot Terihi, a small seabird rock just to the south of Mohotani. These are Great and Lesser Frigatebird, Red-footed Booby, Brown Booby, as well as more common seabirds such as

Brown and Black Noddy, and Sooty Tern. The Little Fairy-Tern, a Marquesan endemic seabird, also breeds here.

- Mohotani provides an opportunity to save some of the last remaining land bird island endemics in the world, including the White-capped Fruit-Dove and the Threatened Marquesan Monarch *Pomarea mendozae*, which now appears to be extirpated on neighboring islands. This is basically the last place in the world for this species.

Threats: Grazing sheep, which prevent establishment of native plants. Some cutting of large rosewood trees for carving, a popular Marquesan craft.
Potential action: Fencing to keep out sheep (~1,000), weed control, rat and cat control.
Conservation presence: Area already protected as reserve since 1971 indicating government support for conservation. Difficult logistics (access by boat only).

Austral Islands – French Polynesia

Rapa (3 sites): (1) Karapoo Rahi, Karapo Iti offshore islet; (2) Pariati valley, Erepau mount; (3) Perau mount
Value:

- Last remnants of dry forest (2% of island surface) with only 20% of total forest left.
- Highest number of island endemic plants in French Polynesia.
- The extremely rare, Vulnerable endemic bird, the Rapa Fruit-Dove (*Ptilinopus huttoni*).
- Major seabird colonies of international importance on Karapoo-iti and Karapoo-rahi for Kermadec Petrel, Murphy's Petrel, Black-winged Petrel, Little Shearwater, Christmas Shearwater, White-bellied Storm-Petrel (titan race), Polynesian Storm-Petrel, Blue-grey Noddy.
- Only patch of cloud forest (Perau) for the Austral Islands (20 hectares): a unique habitat in French Polynesia with high number of endemic species and genera (*Apetahia, Fitchia, Haroldiella, Oparanthus, Pacifigeron*) and very rare or threatened plants with floristic affinities with New-Zealand and Australia. Protected endemic bird (*Ptilinopus*) and tree snails (*Samoana*).

Threats: Grazing mammals (recently introduced goats, cattle, horses). Fires.
Potential action: (1) Black rat control; (2) Fencing and weed control; (3) Fencing and goat control.
Conservation presence: Land held by community. Locals OK with moving goats to main islands. There is a local association in Rapa to receive funding.

Gambier Islands – French Polynesia

Mangareva: Mokoto-Duff mounts
Value:

- Only island in the Tumotu-Gambier Group with remains of volcanic basalt; isolated by long distances from other high islands, therefore high endemism in plants & land snails (latter near extinct).
- Very small patches of mesic forest.

- High number of threatened endemic plants, some of them considered extinct, especially near summit.
- Breeding seabirds, primarily the rare Tahiti Petrel.
- Lagoon has many soft corals, a most unusual feature so far east in the Pacific, and is of good quality.

Threats: Invasive plants, forestry and agriculture, mammal grazing, and fire. Land privately held.

Potential action: Fencing areas to keep out goats and land clearing. French Polynesia will survey area in 2005. Assist ongoing rat control on small lagoon islets where seabirds breed.

Conservation presence: Island is origin of a former French Polynesian president.

Tuamotu Islands – French Polynesia

Niau (raised atoll)

Value:

- Raised limestone (*makatea*) forest.
- High numbers of rare endemic plants (the island endemic *Myrsine niauensis*, the Tuamotu endemics *Pritchardia pericularum, Glochidion tuamotense, Sesbania coccinea subsp. atollensis*).
- Threatened and protected birds: harbors the last remaining population of Tuamotu Kingfisher in the world. Also the Near-Threatened Atoll (Tuamotu) Fruit-Dove (*Ptilinopus coralensis*), called *O'o* in the Tuamotus and Critical Polynesian Ground-Dove (*Gallicolumba erhtyoptera*).
- Seabird colonies.
- Abundant fish associated with fringing reef and deeper waters off the *makatea* cliffs.

Threats: Proposed airport and rats.

Potential action: Weed and rat control. Public education regarding the kingfisher.

Conservation presence: Private land with one village (Tupana). Logistics very difficult. Manu Society works on Niau on Ground Doves.

Reitoru Atoll

Value:

- Uninhabited island.
- Excellent seabird colonies with 10 breeding species.
    - Large Lesser Frigatebird colony (>1,200 pairs) of global significance and perhaps largest colony east of Phoenix Islands.
    - Very large White/Fairy Tern colony (~1,200 pairs).
    - Great Frigatebirds (>650 prs), Red-footed Booby (>600 prs), Black & Brown Noddies, Red-Tailed Tropicbird; Murphy's Petrel, Great Crested Tern, Masked Booby.
- Endangered Tuamotu Sandpiper found in very good numbers (~57) and Vulnerable Bristle-thighed Curlew in excellent numbers (~40). Long-tailed Cuckoo, a long-distance, transoceanic migrant from New Zealand and endemic Tuamotu Reed-Warbler, now only found on a few atolls in the world, are present.
- Coconut crabs, possibly in large numbers.

- Green Turtle nesting in area free from human predation.

Threats: Pacific rat but no large rats or cats.

Potential action: Establish bird sanctuary or reserve for both seabirds and threatened land birds. Pacific rat eradication and possible threatened species translocations.

Conservation presence: Difficult logistics (access by boat only).

Southern Line Islands – Kiribati

Flint + Millennium Island (Caroline Atoll) + Vostok – Kiribati

Value:

- All three islands are uninhabited havens for a diversity of marine and terrestrial wildlife (the latter two near pristine).
- All three support highly significant breeding seabird populations of global significance (11 species, 1.5-2.0 million).
    - Millennium provides critical feeding and breeding grounds for seabirds that forage across the Central and South Pacific.
    - Millennium supports one of world's largest Red-footed Booby populations (3,500 prs) and White/Fairy Terns (4,000 prs).
- All three serve as important wintering refuges for 5 species of Arctic-Pacific migrants including Vulnerable Bristle-thighed Curlew.
- Globally significant reefs.
- Millennium : Near-pristine lagoon with stunning waters of crystalline clarity.
- Millennium and Flint: Small but important Green Turtle nesting beaches.
- All three islands support substantial groves of atoll forests (*Pisonia grandis, Cordia subcordata, Tournefortia argentea*)
- Flint: ~1 million coconut crabs within 2 sq km – the largest population in the world.
- Flint: ~2 million blue-tailed skinks, highest densities in the world.
- Millennium: With Vostok, the most unspoiled Line Island and one of most unspoiled islands in all tropical and subtropical seas. Pristine lagoons of exceptional clarity support large, dense (in 1988 average 43/sq m) giant clam populations of global significance (important reserve for pelagic larval recruitment) and turtles (small numbers but undisturbed). Also, filagree *Acropora* coral reefs. One of the oldest and largest *Pisonia* forests in world. Globally and nationally significant seabird populations.

Threats: Landings possible with potential poaching. Pacific rats.

Potential actions: Rat eradication on Millennium. Promote UNESCO Line Islands World Heritage Site designation. Work with government to control poaching along with public education and sign boards in multiple languages. Set up camera surveillance system to address poaching. Co-ordinate with French Polynesian government and Papeete harbormaster to continue to prevent poaching boats from leaving the harbor to poach at Millennium and Flint. Work to establish marine reserve to protect inshore seabird foraging areas.

Conservation presence: All three islands recommended to the Kiribati Government for urgent preservation since 1988. Government is working with UNESCO toward World Heritage Site designation. All three islands are wildlife sanctuaries (on paper from 30 yrs ago).

Kiritimati (Christmas) – Kiribati*

Value:

- World's largest area for a coral atoll, supporting a wide variety of habitats.
- High bird diversity: 37 species have been recorded, including 19 resident breeding seabirds, endemic landbirds, and important wintering habitat for migrants.
- Home to some of the world's largest tropical seabird populations (>5 million nest annually), including the rare Phoenix Petrel (12,000 prs) and the Polynesian Storm Petrel, which are among the largest populations in the world along with the Sooty Tern.
- Green Turtles nest regularly.
- Impportant recreational and subsistence bonefish stocks in the lagoon.
- High reef habitat and fish variety outside the lagoon (in 1997).
- Approximately 90 species of corals reported at Kiritimati in 1997.

Threats: At least 50 introduced plant species; poaching of seabird eggs and feathers, export fisheries developing. Feral pigs threaten ground-nesting birds (but have been reduced), whereas cats pose the most serious threat to seabirds (may be as many as 2000). Increasing human population is putting pressure on marine and other resources. Possible residual impacts of high atmospheric nuclear tests in the late 1950s and early 1960s by the British and U.S.?

Potential actions: Help produce strategic management plan and capacity building for enforcement. Develop public education campaign (materials, radio program, signage) to teach students and adults about fish and wildlife protection, trash, poaching, predator control etc. Immigration policy needed.

Conservation presence: Cook Island is a Wildlife Sanctuary, and the atoll as a whole includes 5 closed areas; Wildlife Unit has one boat and vehicle to patrol Cook Island. Active eradication program is in place for cats and rats. A number of active NGOs present, considerable international support, and NBSAP has been completed.

Malden -- Kiribati*

Value:

- Abundant seabirds with 14 nesting species; supports some of the largest concentrations of Lesser Frigatebirds, Grey-backed Terns, and probably Masked and Brown Boobies in the Line Islands.
- 16 plant species recorded, of which 9 are indigenous.
- Pristine coral reefs.
- Impressive shark population.
- Currently uninhabited and uninhabitable.
- Incomparable sacred Polynesian marae (temple) sites; 19 archeological sites.

Threats: Cats have reduced seabird populations. House mouse remain from days of phosphate mining. Poaching of fish and birds, with enforcement difficult because of isolation. Potential for gypsum exploitation. Possible development of shark fisheries. Possible residual impacts of British high atmospheric nuclear tests at Malden in the late 1950s.

Potential actions: Cat and mice eradication. Capacity building for better monitoring and enforcement against poaching.

Conservation presence: Malden was declared a Wildlife Sanctuary and Closed Area in 1975; wardens visit 1-2 times/year.

***** These two islands were mentioned at Apia by Kiribati representative. Surveys of both are being undertaken by the government (to be completed this year) and are considered suitable for inclusion into the proposed Central Pacific Islands World Heritage Site. All Kiribati Phoenix and Line Islands are owned by the government. More information will be added to these sites.

Dry Phoenix Islands

Enderbury + McKean + Rawaki – Kiribati Phoenix Islands
Value:

- Most globally significant, intact atoll ecosystems in the world
- Dry seabird islands of high global significance (more than 40 breeding colonies with several of the world's largest seabird breeding populations)
    - Lesser Frigatebirds (up to 100,000), Blue-gray Noddy (to 25,000); rare Phoenix Petrel (>200), and rare Polynesian Storm-Petrel (~13,000).
    - Largest colony of White/Fairy Terns in world (>10,000)
- Important wintering ground for migratory shorebirds from Arctic.
- Pristine coral reef ecosystems.
- Virtually weed-free.
- All islands remote, rarely visited, never inhabited, and free of all large rats and feral cats.
- Represent a glimpse into the Pacific's past, and a true modern-day tropical wilderness.

Threats: Dry islands but technology may eventually allow habitation and Kiribati has need for translocation. Invasive plants, insects, pathogens and mammals.

Potential actions: Survey for signs of introductions. Have warden visit 1-2 times/year thereafter to check. Sign boards in multiple languages to advertise protective status. Coordinate with Conservation International, who is very interested in surveying these islands.

Conservation presence: Already protected on paper as Kiribati Wildlife Reserves. Promote designation /implementation as future World Heritage Sites.

The "Niuas" – Tonga

Niuatoputapu Group + Niuafo'ou – Tonga
Value:

- Critically endangered Niuafo'o megapode (*Megapodius pritchardii*) on Nuiafo'ou – last population of this species.
- Cloud forest on Niuafo'ou, with extensive tracks of primary rainforest, marsh habitats and reed swamp.
- Forests extend from mountaintops to sea – a rare occurrence anywhere in the world today.
- Many endemic plants including epiphytic orchids.

- Three seabirds breed here including the Great Crested Tern, which has only a few colonies in the Pacific, and islands are home to 12 land birds including the Purple-capped Fruit-Dove, Fiji Shrikebill, Blue-crowned Lorikeet, Banded Rail, Polynesian Starling, and Wattled Honeyeater.

Threats: Pigs and feral cats on some of the islands. People eating the endangered megapode. Potential expansion of kava farming will cut forest.

Potential actions: Pig and cat control/eradication. Education concerning the megapode, and possible megapode translocation project to appropriate islands in other countries.

Conservation presence: To be determined.

'Eua – Tonga

Value:

- Ten major plant communities, including unique, intact forests with very high plant endemism and diversity (>300 vascular plant species).
    - 11 of the 32 Tongan endemic plants found only on 'Eua, including sandalwoods (*Santalum yasi*), native treeferns (S*phaeropteris lunulata*).
- Terrestrial land snails.
- Endemic skink, plus 10 more reptiles.
- 11 species of land birds (high endemism), including large pigeons, the Many-colored Fruit-Dove and the Red Shining Parrot.
- Very isolated.
- Gondwana-derived as reflected in its flora of great biogeographical interest.
- Two species of flying foxes, dwindling elsewhere in the Pacific.

Threats: Invasive species. Slash and burn agriculture: little forest left. Action to protect National Park.

Potential actions: National Park is threatened and needs help with invasive problem and enforcement. Protection for Kalau, an offshore island with good forests, coconut crabs, and representative seabirds, fruit bats, and Pacific Pigeon/*Lupe*, Fiji Shrikebill (a remnant population in Tonga), Red-footed and Brown Boobies and various other land birds. Public education regarding pigeons.

Conservation presence: National Park already established.

Vava'u Group – Tonga (1)**

Value:

- Vava'u is the only island in the Tongan group with extensive rain forests on several habitat types, much of which is raised limestone (*makatea*).
- Relatively small human population and few roads.
- Important wintering habitat for the South Pacific population of humpback whales, which summer in Antarctica.
- Many land birds with good populations, including the White-rumped Swiftlet of the famous "Swallows Cave."
- A tall tree, the motou *(Cryptocarya glaucescens),* evidently endemic to Vava'u, and a dominant in the forests of Mt. Talau National Park.

Ha'apai Group – Tonga (1)**
Value:

- One of the few Pacific archipelagos where Green Turtles still have a chance to breed.
- Several good, uninhabited seabird islands, including Hunga Ha'apai, Hunga Tonga, and Nuku.
- Excellent lowland rain forest on uninhabited Tofua (with remarkable volcano) and Kao (recommended forest reserve, with marsh, lake, and lagoon habitats).
- Good coral reefs.

****** These two island groups were mentioned at Apia by the Tongan representative, but there was little discussion about them. Justifications will be produced for those sites that are nominated and endorsed by the Tongan government.

Vanua Levu: Nateua Penisula and Bua forests + Vat I Ra + seascape – Fiji (1)
Value:

- High tree diversity on Nateua: large blocks of distinct Fijian moist forests.
- Endemic Orange Dove, Silktail, and Long-legged Warbler, plus many other endemics or those which have restricted ranges on western Pacific archipelagos.
- Globally outstanding marine and watershed area of World Heritage status.
- Bligh Water to south is important marine area with high diversity and recovering whale population.
- Turtles and high seabird diversity.
- A sandalwood site in the north.
- All watershed forests unique.

Threats: Moist forest is being logged. Need to protect watershed.
Potential actions: Small amount of money could make huge difference.
Conservation presence: Wildlife Conservation Society working on the island but not in this area. Community support possible.

Southern Lau Group

Vuaqava + Fulaga + Ogea – Fiji (1)
Value:

- Excellent representative tropical hardwood forests.
- Fulaga: *Makatea* forests, which have a unique species composition relative to other islands in region, including rare Fijian endemic fan palm (*Prichardia thurstoni*).
- Densely wooded and cliff bound.
- Good diversity and abundance of Fijian land birds, including the Vulnerable Friendly Ground-dove and Blue-crowned Lorikeets.
- Fulaga: Highest ranking conservation priority in Fiji. Largest population of endemic fan palm. Breeding seabirds.
- Ogea: Endemic Ogea flycatcher whose status is Vulnerable but population is stable. Intact forest.

- Vuaqava: Turtles and Vulnerable Friendly Ground Doves.
- Very small human populations.

Threats: Foreign vessels sold fishing rights, which led to overfishing.
Potential actions: Action on Fulaga could stimulate conservation on other islands.
Conservation presence: Government support for Ogea conservation, but must also work with chiefs. A lot of marine work being done.

Caroline Islands

Kosrae – Federated States of Micronesia
Value:

- Vela watershed: 70 ha FW swamp, most significant undisturbed FW habitat left on island.
- Good pigeon habitat.
- Four unique forest zones on Kosrae.
- Good marine ecosystem and important whaling history.

Threats: Land use conversion: pressure to grow row crops threatens subsistence agriculture. Road planned to go through swamp that threatens freshwater-mangrove swamp connection, and will also open up new areas to development.
Potential actions: Potential for Ridge to Reef program. Help support land leases over next 10 years to control development of new road stretch while sustainable management plan is drafted.
Conservation presence: TNC working with new local conservation group on Wela watershed (no funding as of yet). Governor is attuned to conservation needs.

Pohnpei – Federated States of Micronesia
Value:

- Many land birds.
- Many endemics.
- Montane Perched Freshwater Marsh unique to all FSM.
- Extensive primary forest support 36 orchid endemics.

Threats: Agriculture. Poorly planned development. Overfishing and blast fishing threaten food security.
Potential actions: Many opportunities to assist marine, forest, or ridge-to-reef activities.
Conservation presence: Conservation Society of Pohnpei and The Nature Conservancy. This is the National government seat. Commercial fishing excluded out to 12 miles. Pohnpei Coastal Resources Mgt Plan (1987) exists.

Ailinginae – Marshall Islands (1)
Value:

- Relatively pristine, no introduced species yet.
- Reefs are exemplary.

- Good *Pisonia* forest.
- Largest population of *Tridacna gigas* (Vulnerable) anywhere. Large groupers of several species are very abundant.
- Very high coral diversity – may be the highest in all the Marshalls.
- Seabird population very good for the Marshalls on many islets.
- Lots of coconut crabs.
- Uninhabited.

Threats: Rats. Foreign fishing affecting marine fauna. No freshwater but it's only a matter of time before desalination allows for human habitation.

Potential actions: Intervention to keep weeds from neighboring islands away. Train couple to serve as caretakers and provide infrastructure, boats, and radio equipment for surveillance.

Conservation presence: Political will is there – it hosts the 1st National Park in the Marshall Islands. Government is decentralized and the chiefs have a lot of power, even more than the central government. UNESCO interested for World Heritage Site. Plant list and other info available.

Babeldaob + Kayangel + Rock Islands – Palau ***

Value:

- Largest marine diversity in Micronesia.
- Many plant and bird endemics.

Threats: 53-mile road on Babeldaob being built with a lot of effort into erosion control.

Potential actions: To be determined.

Conservation presence: Palau Conservation Society is very active among many other players including TNC. A lot of conservation money and attention to Palau. Current ridge-to-reef efforts. President is relatively open to conservation, but must also work through state governments.

Southwest Islands – Palau ***

Value:

- Significant seabird populations.
    - Largest Crested Terns population in Pacific (in trouble but coming back).
- Remnant coconut crab populations.
- Good *Pisonia* forests, extensive stands of Strand Vegetation, *Tournefortia* Scrub Forest, Mangrove, and Mixed forests.
- Culturally different from rest of Palau (Yap).
- Critical habitat for migratory birds.
    - Islands are critical stopovers for shore and land birds migrating between Australia/Indonesia and Arctic breeding grounds.
    - Surrounding waters invaluable for transoceanic seabird migrants including jaegers, skuas, and cold-water petrels.
- Lizard fauna is exceptionally diverse and abundant: at least 8 species of skinks and geckos (one endemic).
- Important for sea turtle nesting (Green and Hawksbill).

Threats: Turtle poaching (difficult to monitor), especially from nearby Indonesia.

Potential actions: Funds to maintain defense against new rat introductions, including training and surveillance infrastructure. Signage in Palauan and English to educate public about wildlife and preserves. Designation of different islands as wildlife reserves/sanctuaries, possibly on uninhabited Merir, Helen Atoll, and perhaps Fanna Island.

Conservation presence: Helen Reef: rats eradicated from by locals (in 2000) and have conservation officers, speedboats and radios.

*** Many additional sites proposed for possible *LA* consideration at the Apia workshop, but these were not discussed. Justifications will be produced for those sites that are nominated and endorsed by Palau.