

# Conservation of Fijian Forests: Building Conservation Landscapes into Forestry Operations & Forest Certification

Final Narrative Report to USAID East Asia and Pacific  
Environmental Initiative (EAPEI)



**Wildlife Conservation Society–South Pacific Program**

**October 2004**



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# **Conservation of Fijian Forests: Building Conservation Landscapes into Forestry Operations & Forest Certification**

## **Narrative Report**

This narrative report provides a detailed synopsis of the East Asia and Pacific Environmental Initiative (EAPEI) “Conservation of Fijian Forests” project. Accompanying this report are scientific and technical papers, workshop reports, financial reports, and other products generated over the course of the project. We attempt to paint a candid picture of the project, apart from actual data and specific technical reports that will facilitate a rapid and thorough understanding of the project’s scope and achievements, along with lessons learned along the way.

## **Aspirations**

The Wildlife Conservation Society’s (WCS) Conservation of Fijian Forests (CFF) project sought to achieve a better understanding of the status and conservation value of the forested areas of Fiji. The foundation of this knowledge is the scientific analysis of endemism and biodiversity patterns observed in key taxa, an understanding of key ecological processes and ecosystem services, the resolution of ecological questions (for example, minimum-area requirements for species and ecological processes), and the assessment of forest intactness and habitat types on the larger islands through field studies and the examination of existing data. Many of the project activities were centered on these analyses, particularly for the first year. Based on our findings, and working with key partners in the Fijian government, the University of the South Pacific, industry, and other NGOs, WCS has established a meaningful dialogue on conservation actions necessary to protect Fiji’s forests from the short-sighted and destructive logging practices that have obliterated other significant forest systems and species in the region.

One proposed mechanism of conserving Fiji’s forests is forestry certification, and our contribution to the ongoing debate generated by the CFF project focuses on the concept of ‘landscape certification’. Typical certification schemes attempt to reduce the impact of logging on the natural forest, and the social and economic state of local communities, by developing guidelines for individually-owned concessions. Small forest reserves embedded within harvested landscapes are often designated as a condition of the certification process. These small reserves usually exist apart from any overarching conservation strategy at the landscape level, which is ultimately critical for their long-term persistence. Landscape certification seeks to ensure that protection is afforded to an entire network of inter-connected forest reserves; a network designed to enhance biodiversity conservation, provide resilience and persistence in the face of disease, natural disaster, and climate change, provide corridors to ensure migration and adequate genetic exchange, and maximize ecosystem services the forest provides. Landscape certification sets guidelines on ‘where’ logging can take place, that is, which areas should be avoided to allow nations to achieve National Biodiversity Strategy and Action Plan goals, rather than just ‘how’ to conduct logging within individual concession to reduce local environmental and social impacts. Fiji’s Department of Forestry and independent industries

involved with plantation grown mahogany and pine are currently discussing the benefits and drawbacks of various certification approaches. Fiji's limited forest area and relatively controlled forest industry provides a tractable system with which to design and implement a functional landscape certification program for natural forests as well as plantations.

## **Evolution**

WCS' first year working in a country where land is owned by communities of people, not individuals, brought many surprises, both in the form of ecological and sociological discoveries. New species were described and ranges expanded, biotic provinces were delineated, and information was gained on the natural history of some key species. Noteworthy scientific findings include solid evidence that: 1) Fiji's biota is likely to be derived, in part, from continental biotas, as opposed to being purely oceanic/volcanic in origin, and 2) invasive predators, rats and mongoose, are not as active in the deep, roadless and undisturbed forest as they are on forest edges. This last finding has profound implications for Fiji and other oceanic islands, as much of the South Pacific's fauna, mainly birds, invertebrates and certain palms have been severely impacted by the introduction of rats. Protecting these 'core' or 'remote' forest areas may be the best hope, and most cost-effective conservation strategy, for many threatened island species.

Partner organizations Birdlife International, the University of the South Pacific, and the Schlinger Foundation contributed to the knowledge base by funding extensive surveys in coordination with CFF. The South Pacific Geoscience Commission (SOPAC) provided spatial data and, in exchange, WCS trained staff members in new GIS technologies and conservation analyses. Wetlands International documented important fresh water diversity and several specialists made contributions toward understanding the life history of Fiji's Musk Parrots and Giant Forest Honeyeaters, and the archipelagic biogeography of a range of taxa including plants, invertebrates, birds, reptiles, and amphibians.

As unique and charismatic as many of the Fijian species may be, conservation of the forest for biodiversity's sake alone has not been viewed as a strong compelling argument by the Department of Forestry and Fijian landowning communities who desire cash for school fees, medicine, etc. What seemed to resonate with Fijians in respect to forest conservation was the message that forests protect their agricultural fields, their freshwater resources, and their reefs. An estimated 60% of all Fijians are still dependent on subsistence farming and fishing to some degree. Many Fijians we talked to linked local rainfall generation to forest cover, and all Fijians who had experienced cyclones understood the role forests play in diminishing floods. They could relate to the idea that it was important to "spread the risk" of cyclone damage to forests, freshwater resources, and reefs by maintaining multiple forest blocks spaced over entire islands, wherever possible.

Additionally, we found that landowners seldom realized the actual economic value of the timber on their forests and were seldom making informed business decisions regarding logging contracts. More often than not, communities received only a miniscule percentage of the true value of their timber, and were left with highly degraded landscapes after the loggers were through the extraction process. Thus, relatively early in the project we realized that 1) making

an argument for biodiversity conservation did not resonate as well as ecosystem services and other direct benefits from forest conservation, and 2) landowners had a poor understanding of the true value of their forests and often regretted logging their lands. This realization led to a shift in our approach, from an emphasis of biodiversity value of the forest to ecosystem services and importance of intact forests to other sectors of the economy such as tourism and fisheries. This shift represents a major evolution in the project, and established a new activity, a forest education program aimed at landowners of high conservation value forests (HCVF), which started first in Namosi Province, Viti Levu. We felt this new emphasis was necessary if the ultimate goal of the project, conservation of Fiji's forests through certification at the landscape level, was to be achieved. This reinforced an initial belief that landscape conservation would become a reality only through a combination of top-down and bottom-up awareness and support.

Finally, a synthesis of GIS analyses, ecological studies, aerial photos, observations from field expeditions, and results from the vertebrate invasive species surveys, we concluded that Fiji is very near the limit (extent and degree of fragmentation of natural forests) where continued logging of its natural forest will significantly compromise ecosystem services, have negative impact on other economic sectors, or prevent Fiji from achieving biodiversity conservation goals legislated in their National Biodiversity Strategy and Action Plan. Given that Fiji has two profitable plantation timber industries—pine and mahogany—we chose to concentrate initially on influencing the development of their certification programs so that they might, in turn, generate interest within the sector of the industry logging natural forests. The primary condition for certification of plantation timber is the restriction of conversion of native forest to plantation species.

## **Results**

Fieldwork to identify high conservation value forests proceeded throughout the entire length of the project, some are ongoing. Most of the studies are currently in the write-up stage for drafts for technical publications (see Technical Publication in prep. file). Expeditions into Fiji's forested areas revealed that small-scale logging was occurring in remote areas, much of it in violation of Fiji's National Code of Logging Practices and not in accordance with Fiji's Forest Function zones based on a Forestry Department effort several years ago to delineate forest 'reserves' and guide licensing decisions. Existing maps of logging roads greatly underestimated the reality on the ground. We believe that time is of the essence to conserve many HCVF forests and the first step was to get the word out on the state and trajectories of natural forest loss. We determined that in order to maximize our potential audience, we needed to implement conservation awareness activities aimed mainly at the communities who owned high conservation value forests, in addition to various government departments. The first awareness event was the "Heritage Tree" workshop, held in 2003 (see Heritage Tree Report). Participants from all major land units in Fiji worked together to map older, larger heritage trees, or forest blocks which likely contained these trees. Presentations on the role of large trees as the major seed source for forest regeneration, nest trees for wildlife, the trees most likely to withstand cyclones, a source of pride as Fiji's natural heritage, and the potential value of heritage trees in the business of ecotourism, set the stage prior to the mapping exercises.

We also conducted a pilot project that brought forest conservation and awareness programs to schoolchildren and communities of the landowners of a high conservation value forest area in Namosi (southern Viti Levu) (see Environmental Education Report). This province supports forests full of unique species, but which are threatened by a combination of low levels of economic development in the local communities, numerous illegal or poorly managed logging operations, and several proposed mining and hydropower schemes. This activity was favorably received by the Namosi Provincial government and by the Minister of Education and will likely be continued through an EU grant to a collaboration of individuals, government departments, and NGOs (including WCS). WCS will be submitting the grant early in 2005, and we hope to initially target other provinces with high conservation value forests (see “Walking the Talk” 2004 EAPEI Proposal from WCS). WCS has been contacted by four other provincial government education officials asking if the program could be implemented in their areas.

### **New Support/Funding Leveraged through the CFF Project**

The CFF project is the largest and most comprehensive study on Fiji’s forest to date. Its undertaking, knowledge gained, and capacity-building in Fiji leveraged several important projects. The largest of these is a grant through the Packard Foundation and the Gordon and Betty Moore Foundation which examines the science behind a conservation approach called Ecosystem-Based Management (EBM), for 1.25 million USD over a two year period beginning March 2005. The ability to integrate the management of the watersheds overlying coastal waters and reefs into management plans for marine protected areas is crucial to ongoing marine conservation efforts. This project will, among other things, examine the relationship between forested and degraded-forest watersheds adjacent to important marine areas in Fiji. Key watersheds would be integrated into areas that would be protected from logging under a landscape certification scheme.

A smaller grant awarded to WCS by the US State Department in 2004 assisted in leveraging this significant grant through Packard and Moore. The US Department of State grant expanded the work of the CFF project to include the identification of high conservation value forest watersheds adjacent to high conservation value reefs and marine ecosystems, which set the stage for a major study funded in the EBM project.

During the meeting and presentation phase of our work, WCS made presentation to key provincial offices, and all relevant national government agencies including Planning, Environment, Forestry, Native Land Trust Board, South Pacific Commission, Fijian Affairs Board, and Tourism. In addition, we met with Fiji Hardwoods and Fiji Pine who run the plantation industries. WWF, BirdLife, Wetlands, and University of South Pacific Biology Department were also given presentations. We presented the results of our research and recommendations for landscape certification and further work to be undertaken. WCS also made a presentation to the Minister of Forestry at the Food and Agriculture Organization (FAO) Asia-Pacific Forestry Regional Meeting in 2004. As a result, World Bank representatives suggested with a formal letter to the Fijian Ministry of Forestry that they would fund a project development grant (\$25,000) and consider a larger implementation up to \$1,000,000 USD to further examine landscape level certification in Fiji (See attached World Bank correspondence.) This project has been forwarded to the GEF focal point within the

Fijian Department of Environment and it is hoped that a combination of Environment and Forestry officials will collaborate in planning and implementing the study, which WCS has been asked to a key partner.

Three project proposals have been submitted to the Australian government's Regional Natural Heritage Program. All three of these proposals are based on studies from the CFF project:

- "Protecting Fiji's Forest Hotspots" which will concentrate on protecting four high conservation value forests identified through our CFF analyses.
- "Conserving Fiji's Crested Iguana" which focuses on conservation and reforestation of dry forest sites. The project was initiated when a WCS CFF dry forest survey team discovered a large population of crested iguanas on a small uninhabited island.
- "Endangered Bird Conservation on Samoa" which will apply the same analyses used in Fiji to Samoa's forests in an effort to provide conservation measures for two distinctive and endangered Samoan bird species, the Tooth-billed Pigeon, the closest living relative to the Dodo, and the Maomao.

### **Influence**

WCS has been asked by the Biodiversity Director of the Global Conservation Fund to make comments on a proposed trust fund for the landowners of the Sovi Basin in Viti Levu. Sovi Basin is one of the five core forest areas found on Viti Levu and, while it is a large and important block of forest, higher levels of endemism and degrees of threat are found in other forest blocks in Viti Levu. Our suggestion to Conservation International was that the Trust Fund be expanded to conserve an entire network of forest reserves on Viti Levu, based on our findings from the CFF project. Maps, data, and drafts of scientific papers, all which had previously been presented to the Fiji government and local NGO partners, were submitted to the Global Conservation Fund in Washington DC for their review during the decision-making process for the trust fund.

WCS is currently reviewing Fiji Hardwood Corporation's (FHC) plan for certification of its plantation mahogany groves. FHC manages 67,000 hectares of plantation mahogany and mixed hardwood forests. As WCS was initiating activities on the CFF project in 2002, FHC was not considering certification for its timber. We believe that we positively influenced FHC to pursue certification and will continue to work with FHC and other stakeholders (Smartwood) to develop their approach.

The Fiji Department of Forestry is considering certification for its wood product industries. It seems there are diverse views within the department regarding the optimal certification approach, some preferring some Fiji-tailored program similar to an ITTO certification scheme used in Malaysia, and others preferring one closer to the Forest Stewardship Council (FSC). We have hesitated on publishing our technical paper on landscape certification in Fiji in order to see how the ongoing debate will be resolved, as this will influence the tone and message of the paper. We view this technical paper as a key product and one that has the potential to have a large influence on certification in Fiji and the evolution of FSC certification elsewhere in the world. We hope that it will set a new standard by which certification schemes are judged in relationship to their ability to link with National Biodiversity Strategy goals.

WCS has submitted a concept proposal to the Fiji Ministry of Culture and the World Heritage Secretariat detailing a “cluster approach” in nominating important forests in Fiji as World Heritage Sites. This approach has been successfully used in New Zealand and Australia thereby offering a useful model within the region. WCS has presented the concept paper to the National Trust, and a committee will be formed to explore it more fully. WCS believes that World Heritage status will assist the Fijian government in establishing a permanent forest reserve network and in leveraging the funding necessary for its sustainable management.

Scientific studies and surveys funded by the EAPEI CFF project provided data to be incorporated into Fiji’s National Biodiversity Strategy and Action Plan. In addition, WCS was chosen as an NGO representative on the Scientific Authority for the Committee on the Convention of International Trade in Exotic Species (CITES). Data from the CFF project has influenced and informed CITES activities within Fiji. Projects results have been presented to the Asian Development Bank’s (ADB) Country Environmental Profile (environmental sustainability is the focus) which will guide their lending activities as well as for the Global Environment Facility (GEF) grants that are now being facilitated by ADB for the region.

## **Products**

Landscape certification offers a new way to link forestry certification with National Biodiversity Strategies and Action Plans. It demands a new way of thinking about the scale and goals of certification and requires additional short-term sacrifices for those involved in the wood products industry. For these reasons, we anticipate that it will take, unfortunately given the pace of forest destruction, a decade before it goes through the typical evolution of ‘crazy’ idea to ‘annoying’ idea to having some ‘good’ elements, and eventually to ‘business as usual’. The sooner we can infuse the concept of landscape certification, into certification debates and planning processes the better in order to speed up this evolution of paradigms. We believe our products, particularly the first discussed below, will act as a catalyst for this paradigm shift to occur, at least to raise the standards for certification programs that formally state biodiversity conservation as a goal.

- The Fiji Forest analysis provides a real-world example of how a landscape certification program could be designed and implemented, with specific recommendations and linkages of certification to real National Biodiversity Strategy goals. While not yet adopted by the Fiji government, this work is influencing the ongoing discussions within the Fiji government of whether to implement a certification program and which combination of approaches to use (Landscape, FSC, ITTO Malaysia). A well-placed and promoted technical paper on landscape certification for Fiji can also influence developing certification programs throughout the region, show how the evolving FSC approach can realize its stated principle of addressing National Biodiversity Strategy and Action Plan goals, and provide an example of how to better address biodiversity concerns for World Bank, GEF, and ADB forestry initiatives. Real-world examples, with economic analyses, are required to compel a wide range of forestry practitioners to take new approaches seriously. Effectively promoted landscape certification work in Fiji may raise standards and expectations for consumers, as well.

- We have researched and compiled a new body of information relating to patterns of diversity, natural history, biogeography, and conservation status of Fiji's terrestrial ecosystems. This information includes a first set of biotic provinces, minimum-area and habitat requirements for several threatened species that likely require larger forest blocks to survive, an assessment of the forest cover of watersheds and outer islands, key landscape features (e.g., corridors, buffers) that are priority for maintaining functional natural landscapes. We have documented the phenomena of rat-free remote forests which can act as a cost-effective refugia for endangered native species. Remote forests in Fiji have been mapped and candidate remote forests for Samoa, Hawai'i, New Caledonia, Vanuatu, and the Solomon Islands are being estimated. We are estimating the economic and quality of life benefits resulting from the ecosystem services provided by intact watersheds and forested landscapes. Our results are being made available in technical papers, information packets and CDs for the Fiji government and local universities, posters, and forest awareness programs. The results have already been integrated into the Critical Ecosystem Partnership Fund Fiji Ecosystem Profile that will guide grant making for CEPF as the funding becomes available for this Hotspot region. WCS edited the Fiji Ecosystem Profile.
- We have worked with over 40 Fijian students and Forestry staff on various projects and have provided training and capacity-building for a wide range of forestry and conservation-related skills and issues. We introduced many new and innovative ideas and approaches for conservation planning and implementation into the conservation community and resource agency discussions in Fiji.
- Project analyses and activities are influencing several conservation-related initiatives for Fiji, including the \$10 million USD Forest Conservation Trust Fund being considered by the Global Conservation Fund, the National Science Foundation Fiji Invertebrate Survey, and the EU Education Program for Fiji.

## **Conclusion**

Overall, we feel that this project was highly successful (although not achieving full adoption or implementation of landscape certification which is unrealistic in two years) and will continue to be useful to environmental, development, and scientific agencies and individuals for years to come. We have recommendations for future work, and will be active in ensuring that this work is accomplished toward the end goal of establishing a nation-wide network of permanent forest reserves. Many of these recommendations can be readily financed through the GEF mid-size grant suggested by the World Bank, some activities such as outreach and dissemination of results will be undertaken by WCS past the period of the project as we are committed to achieving a sustainable timber industry for Fiji, while conserving biodiversity and ecosystem services. Some future work includes:

- Areas of degraded forest within landholding units need to be reassessed. Recommendations should be made toward plantation logging options or alternative development, particularly agricultural and non-timber forest products.
- An economic analysis is urgently needed of the short-term value of logging in native forests as compared with long-term costs of loss of ecosystem services affecting



agriculture, fisheries, tourism, local climate regimes, and overall stability during natural disaster and climate change.

- We plan further communications with the US Embassy to bring awareness to Fiji's government and communities of US involvement and assistance in Fiji's development. Site visits with Embassy personnel and high-ranking Fijian government officials are planned for April 2005.
- Wide dissemination of scientific papers and maps resulting from the project is planned.
- We are proceeding with World Heritage nomination for Fijian forests of high conservation value.
- We are seeking funding for expansion of forest conservation awareness programs for landowners of high conservation value forests.
- We will disseminate our remote forest rat-refugia finding and promote its application to other Pacific island forests for integration into National Biodiversity Strategy and Action Plans and real world action.
- We will promote landscape certification as the optimal approach for making forest exploitation compatible with National Biodiversity Strategy and Action Plan goals, and for ensuring that multiple uses and benefits of natural forests are sustained.
- We hope that our technical paper on landscape certification in Fiji will set a new standard for biodiversity-compatible certification schemes such as FSC.