Overview

To provide members of the International Coral Reef Initiative (ICRI) with improved access to information on coral reef economics, we are pleased to submit this proposal to develop a user friendly searchable database of coral reef economic values, accessible on-line through the Coral Reef Economics Community of Practice (Coral CoP). The proposal presented in this document responds to the request for the ICRI Ad Hoc Committee on Coral Reef Economic Valuation to develop cost estimates for four activities detailed below to assist the work of the Committee, made during the Florida ICRI General Meeting in July 2008.

UNEP-WCMC, COVC, and its technical consultant OCI, together are well positioned to assist the ICRI Ad Hoc Committee in meeting these needs. As part of the ICRI Ad-Hoc Committee, the UNEP-WCMC has already made substantial progress towards developing the database of coral reef economic values. At the same time, the Coral CoP, with its technical consultant OCI, has already produced on on-line forum for coral reef researchers to access and share information including published reports and journal articles available (with permissions as required) in its password protected Documents Library. The Coral CoP also allows members to communicate with each other and experts through forums and 'webinars' (web seminars). More information on each of these organizations is included in appendices B, C, and D.

Need: Access to Information on Coral Reef Economic Values

To better assist research and conservation efforts, the ICRI Ad Hoc Committee on Economic Valuation of Coral Reefs has identified the need A) to expand its existing compilation of coral reef economic valuation literature, B) to develop a searchable database of the literature on coral reef economic values, C) to develop the existing on-line Coral CoP with additional literature and

references on coral reef economic valuation, including published journal articles, and D) to facilitate and host web based seminars (webinars) led by experts in coral reef economics. UNEP-WCMC, COVC, and OCI can assist with these all of these efforts combined in an economically strategic manner. The cost is detailed below and in Appendices A, B, and C.

Initial Six Month Cost

A) Expand the current on-line compilation $3,900

B) Develop an on-line searchable database* $45,444

* To take advantage of individual accomplished efforts including those with existing coral reef economics databases, UNEP-WCMC, COVC, and OCI will together develop an online searchable database that will be accessible through the Coral CoP. UNEP-WCMC will work alongside OCI to build, test and deploy the document library section of the website at a cost of $22,744 (see Appendix A). However, to develop the Coral CoP any further with integrity and security, it must be upgraded. Based on conversations with UNEP-WCMC, COVC, and OCI propose to migrate the Coral CoP to a new platform at a cost of $22,700 (see Appendix B and Appendix C, Section B).

C) Develop the on-line Coral CoP with additional literature
and references on coral reef economic valuation $8,800

D) Facilitate and host web based seminars (webinars)
led by experts in coral reef economics $8,610

Sub-total A, B, C, and D $68,254
15% overhead on work performed by COVC/OCI ($45,510) $6,827

    Total Initial Six Month Cost (A, B, C, and D)   **$75,081**
    On-going Yearly Costs (A, B, C, and D)**   **$74,863**

** This is a reflection of the real costs necessary in order to provide an ongoing tool and could possibly be funded by sources other than ICRI.

We believe that once initial funding is received, this project will attract funds from other sources. Work can begin by mid to late September or early October, 2008. Progress towards the completion of the activities identified in A, B, C, and D will be reported at the next ICRI General Meeting in early 2009, as per the adopted Terms of Reference for the Ad Hoc Committee on Coral Reef Economic Valuation.

For more information, please contact Sharon Khan at sharon@coastalvalues.org.

ICRI Terms of Reference	Budget Details	Initial Six Month Cost (US$)	Notes	On-going Yearly Costs	Notes
A) Expand the current online compilation …	labor to search and review new references and update compilation	3,900.00	SK time: 5 hours/week @$30/hour for 26 weeks	6,900.00	SK time: 5 hours/week @$30/hour for 46 weeks
	Sub-total A)	3,900.00		6,900.00	
B) Develop an online searchable database…	Database design by UNEP-WCMC	22,744.00	plus maintenance (if needed): $56.66 - $89.88 per hour); see attached from UNEP-WCMC	2,160.00	
	Coral CoP migration by OCI	14,950.00	plus ongoing yearly costs: $7,200/year	7,200.00	
	labor to design database with WCMC	1,050.00	SK time: 5 hours/week@$30/hour for 7 weeks (i.e Sept 15 to Oct 31, 2008); SUBJECT TO NEED BY WCMC		
	labor to migrate content and members from old Coral CoP website to new	2,100.00	SK time: 10 hours/week@$30/hour for 7 weeks (i.e. Nov 3 to Dec 19)		
	labor to summarize key economic valuation literature and input into database	3,600.00	SK time: 10 hours/week @ $30/hour for 12 weeks (i.e. Jan 5 to March 27, 2009); START DATE SUBJECT TO COMPLETION OF DATABASE DESIGN	13,800.00	SK time: 10 hours/week @ $30/hour for 46 weeks
	office equipment and supplies	1,500.00		1,500.00	
	Oversight by COVC Director Linwood Pendleton	1,000.00		2,000.00	
	Sub-total B)	46,944.00		26,660.00	
C) Develop a web-based site to access additional literature and references on economic valuation within the user community, including copyrighted journals with permission of the publishers	website development	pre-existing Coral CoP migrated to new platform achieved in B) above			

	labor to seek permissions to post copyrighted articles, post technical papers	3,900.00	SK time: 5 hours/week @ $30/hour for 26 weeks	6,900.00	SK time: 5 hours/week @ $30/hour for 46 weeks
	labor to support and increase Coral CoP membership	3,900.00	SK time: 5 hours/week @ $30/hour for 26 weeks	6,900.00	SK time: 5 hours/week @ $30/hour for 46 weeks
	Oversight by COVC Director, Linwood Pendleton	1,000.00		2,000.00	
	Sub-total C)	8,800.00		15,800.00	
D) Host web-based seminars ("webinars")	labor to secure presenters, invite participants, and schedule and host webinar	3,600.00	SK time: 20 hours per month for 6 months (1 month prep and 5webinars)	6,000.00	SK time: 20 hours per month for 10 months
	Webex	510.00	$85/month for 6 months	1,020.00	$85/month for 12 months
	honorariums	2,500.00	$500 honorarium to one expert facilitator a month for 5 months i.e beginning in October 2008 to present one webinar, write one blog, and lead on-line discussion in the Coral CoP	5,000.00	$500 honorarium to one expert facilitator a month for 10 months to present one webinar, write one blog, and lead on-line discussion in the Coral CoP
	Oversight by COVC Director, Linwood Pendleton	2,000.00		4,000.00	
	Sub-total D)	8,610.00		16,020.00	

Sub-total Initial Six Month Cost (A, B, C and D)	68254
15% overhead on COVC sub-total of $45,510	6826.5
Total Initial Six Month Cost	**$75,080.50**

On-going Yearly Costs	65,380.00
15% overhead (COVC)	9,483.00
Total On-going Yearly Costs	**$ 74,863.00**

Appendix B: Coral Reef Economics Community of Practice Migration Proposal

Overview
UNEP-WCMC will work alongside Objective Consulting Inc. (OCI) to build, test and deploy the document library section of the website using C#.Net (ASP.Net) and "DotNetNuke" a Microsoft .Net Content Management System, ready to be integrated with the new .Net version of the Coral CoP website that OCI will implement using the aforementioned technologies.

The Informatics Programme team at UNEP-WCMC has knowledge & experience in building advanced & simple search forms. These forms range from searches with 25+ fields that dynamically build results as the search criteria is changed, to small scale searches consisting of 4-6 fields for 'Quick Searches'. We also have heavy experience using AJAX.Net within our .Net Web Applications, that allows us to provide a more user-friendly experience, and extra functionality to our search controls (such as autocomplete textboxes, cascading drop-down lists etc.). We have also previously created 'Document Libraries' for other areas within our organisation.

What is needed?
As OCI pointed out in their proposal, the following would be needed to host the document library:

- .Net Framework 2.0 or 3.5
- DotNetNuke CMS System
- Microsoft SQLServer 2005
- If possible, the entire website should be built in the C#.Net language to ensure the website is consistent across the OCI implemented pages and the UNEP-WCMC document library

Implementation
The tasks that UNEP-WCMC will perform (in basic terms) consist of:

- Design & build the database to store all data referring to the documents.
- Design & build a document upload form that captures the metadata related to the document and allows for the document itself to be uploaded.
- Design & build an approval system for admin users to be given the option of editing and/or approving an uploaded document.
- Design & build a search form for users to use to quickly and effectively find the documents related to their search criteria.

Testing & Debugging
UNEP-WCMC will fully test and debug the document library at our end before it is integrated and tested by OCI at their end. UNEP-WCMC is also happy to be involved in testing and debugging of the whole site where needed before and after deployment.

Ongoing Maintenance

UNEP-WCMC is happy to provide ongoing maintenance of the document library where/if needed.

Costs

- Design & Build Database: $3325.54
- Design & Build Web Interface: $9976.62
- Debugging & Integration of Database to CoP site: $2022.29
- Input & Consultation with OCI for set up and debug of website: $2022.29
- Technical input from UNEP-WCMC One Ocean (Oct – Dec design phase and integration to CoP website): $1845
- Technical input from UNEP-WCMC One Ocean (assist with input etc. Dec – Mar): $3552

Total: $22,743.74

- Maintenance (if needed): $56.66 - $89.88 per hour

objective consulting, inc.

OC

Project:	Coral Reef Economics Community of Practice Migration

Prepared by:	Gene W. Homicki Objective Consulting, Inc. 200 White Plains Road Tarrytown, NY 10591 Phone: +1.914.524.4151 Email: gwh@spiders.com
Date:	August 5, 2008

Overview

The existing Coral Reef Economics Community of Practice (Coral CoP) was implemented on a shoestring budget using the PHP-based content management system Joomla. The existing site is difficult to use, manage, update and support using software engineering best practices.

Based on conversations with UNEP/WCMC and COVC staff, Objective Consulting, Inc. (OCI) proposes to migrate the Coral CoP to a new platform. UNEP/WCMC has suggested a Microsoft .NET content management and "portal" system called "DotNetNuke." OCI has experience with this product, having implemented a number of systems with it. While DotNetNuke is also not a perfect option, the price (free) is right and will provide for a more professional, maintainable and extendable development environment for the Coral CoP moving forward.

While OCI plans to coordinate the development and migration of the project, we are very flexible. If UNEP/WCMC or another group wants to play a larger role in this project, we can modify this proposal as needed. OCI understands the important role coral reefs play worldwide and will do what it can to help ensure the success of this project.

Assumptions

This document makes the following assumptions:
1. This proposal is being provided on relatively short notice, so minor changes to scope may be needed when final implementation takes place.
2. Data migration (both users and content) will be done "by hand" by COVC or other staff.
3. While DotNetNuke includes a simple "document library", the UNEP/WCMC developers will create a more advanced document library database application in .NET.
4. We will only need about 1Gig of space for files (used for hosting estimates)
5. Access to a "real" database like SQL server will be needed.
6. Graphic design will be very basic and based on the existing design or an existing DotNetNuke "skin".

Advantages to Migration

The built-in community tools are superior and easier to use than those found in Joomla. Third party add-ons (typically free or inexpensive if not free) can also be used to extend the functionality of the site.

The Content Management System (CMS) chosen provides much better tools for adding and editing new content than the existing site. COVC staff will be able to make updates more easily and in a more timely fashion. Editing content can be as easy as logging in, clicking an "edit" button on the portion of the page which

needs to be changed, and simply editing the content in a browser-based WYSIWYG interface.

Most importantly, the CMS is written using the .NET framework, and provides a good foundation for future growth. As noted, both OCI and the UNEP/WCMC development teams have .NET development experience and OCI has worked with, and customized, the CMS for other projects. This migration will therefore allow the UNEP/WCMC team (or OCI if desired) to do the development of the searchable document database.

Implementation

OCI will install, and configure DotNetNuke. Tasks will include:
1. Install DotNetNuke software on chosen host
2. Configure the database and setup initial security roles
3. Customize a standard "skin" (or "look and feel") for the site, and setup page templates
4. Configure the standard modules for the following services:
     a. Blog
     b. News
     c. Events/Calendar
     d. Forums
5. Work with UNEP/WCMC developers to integrate their work into the site
6. Install and configure any third-party modules that are needed (in a case where a "standard" DotNetNuke is found to not meet requirements).
7. Assist COVC staff with the migration of users and content.

Additionally, OCI will provide source code for any custom code written as part of this project.

Testing and debugging

The system will be tested by OCI, UNEP/WCMC and COVC staff prior final migration and launch planned for December of 2008. OCI will manage the overall integration and deployment of UNEP/WCMC/WCMC and OCI code.

Ongoing Maintenance

OCI will provide maintenance and support after the new Coral CoP goes live. This support will consist of performing tasks such as security updates to the DotNetNuke system, answering questions from COVC staff, coordinating with the hosting provided on software or operating systems updates and changes, and minor tweaks or changes which fit into the maintenance budget if possible.

Hosting

OCI does not provide hosting directly, but can make recommendations for hosting the new Coral CoP. The existing server will not be suitable since the existing server is running Linux and DotNetNuke requires a Windows-based host.

Adding a second GoDaddy.com Windows-based server is an option, or OCI has had good experience with AISO.net, which is a "solar PV powered hosting

company". All of AISO's power comes from renewable energy generated by their on site photovoltaic array, and stored in large banks of batteries for overnight operation.

Whatever host we chose should allow for the following:
1. Shared or virtual server (to reduce costs)
2. Access to a SQL server database
3. At least nightly data backups

Costs

Technical implementation, testing and debugging: $7,750
Maintenance: $ 500/month
Hosting: Estimated to be about $100/mon

Total 1st year cost: $14,950
Ongoing yearly costs: $7,200/year

The Objective Consulting, Inc. Advantage

OCI has expertise in the development of custom, reliable, and interactive web presences. Our senior staff members are integrally involved in every project, and they are hands-on throughout the process. We are accessible, responsive and accountable. In short, we're professionals who know what it means to deliver superior results on time and within budget.

Founded in 1993, OCI has been delivering cutting edge web sites since 1994 when we launched the first web presence for the Economist Group, in London. For this project, OCI developed one of the first web-based content management and community building systems and has been a leading web development company ever since.

We have approached each new project with enthusiasm, and have honed our methods client-by-client, project-by-project. We've gathered an impressive team of professionals at OCI, and with the benefit of their talent and dedication we have a proven track record of successes of which we are proud.

Having worked with numerous non-profits, museums and governmental organizations like COVC, the National Academies, National Parks Service, Waterkeeper Alliance, the Smithsonian, the NSF and others, OCI understands the challenges projects like this one can face and how to overcome them. We promote sustainability, both within our organization and through our projects, whenever possible.

THE OCEAN FOUNDATION

Coastal Ocean Values Center

Appendix D: Coral Reef Economics Community of Practice (Coral CoP)
www.communities.coastalvalues.org/coralreef

The on-line Coral Reef Economics Community of Practice (Coral CoP) is a voluntary community of scholars and practitioners through which researchers can improve their data collection and analysis skills, their communication, and the impact of their research. The objectives of the Coral CoP are to:

- improve the socio-economic research on coral reefs,
- improve the availability of research results to the public, and
- improve the usefulness of coral reef socio-economic research in coral reef conservation.

The Coral CoP consists of two parts, as follows:

1) The password-protected Coral CoP encourages a culture of sharing and technical support among coral reef economic researchers and economic experts by allowing members to:

- access journal articles and technical reports,
- communicate with each other and with coral reef economics experts directly and through on-line discussions, and
- participate in on-line web-meetings led by coral reef economics experts.

2) The open forum Coral CoP allows policymakers, conservation professionals, and the media to access the most up to date findings on the economics and human uses of coral reefs. Open forum resources include:

- blogs written by experts in coral reef economics,
- a place for researchers to post media releases,
- coral reef economics news, and
- more on-line resources.

Currently, the Coral CoP has over two dozen members conducting research in the U.S., Mesoamerica, the Pacific, Asia, Africa, and globally. Partners include Conservation Strategy Fund, World Resources Institute, NOAA's Global Coral Reef Program and Socioeconomic Monitoring Program, and Conservation International. For more information, please contact Dr. Linwood Pendleton.