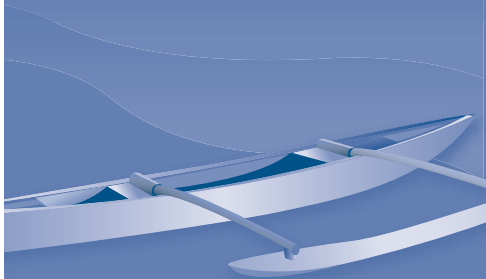


Regional Priorities for Social Science Research on Marine Protected Areas:

U.S. Pacific Islands

Final Workshop Report



*Marriott Waikaloa, Big Island of Hawai'i
March 30 - April 1, 2004*

The National Social Science Research Strategy, developed in August 2003, identifies high priority needs for social science information that are fundamental to the planning, management and evaluation of MPAs at a national level. It also recommends practical ways to meet these needs through research, assessment, capacity building and leveraged funding. For the full text of the National Social Science Research Strategy please visit: http://www.mpa.gov/virtual_library/Publications/Strategy_11504.pdf

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I. INTRODUCTION

This document is the result of the third regional social science research workshop, which covered the U.S. Pacific Islands: Hawai`i, American Samoa, Guam and the Commonwealth of the Northern Mariana Islands (CNMI).

The workshop was held at the Waikoloa Beach Marriott on the Big Island of Hawai`i from March 30 – April 1, 2004, and included 38 participants from federal and state agencies, academic institutions, regional governing bodies and non-profit organizations.

II. WORKSHOP GOALS: Crafting a Regional Research Plan

The National Marine Protected Areas (MPA) Center was established in late 2000 by the National Oceanic and Atmospheric Administration (NOAA), in partnership with the Department of the Interior. The mission of the National MPA Center is to facilitate the effective use of science, technology, training and information in the planning, management and evaluation of the nation's system of MPAs.

In an effort to strengthen our understanding of the human context of MPAs, the National MPA Center Science Institute developed the National MPA Social Science Research Strategy and subsequent regional MPA social science research plans. The National MPA Social Science Research Strategy is a conceptual piece that reflects, at the national level, the growing interest in the application of social science information in the planning, management and evaluation of MPAs. The Strategy identifies the following six priority research themes that encompass a broad range of disciplines and address pressing social science needs for MPAs:

- 1. Governance, institutions and processes:** This theme covers the formal and informal institutions (federal, tribal, state, local and non-governmental) responsible for managing the resources in marine protected areas. Component research topics include determining and assessing these institutions' respective capacities, funding sources, jurisdictions, management strategies and implementation approaches, as well as the role of social capital in each institution's interactions with the public and other institutions.
- 2. Use patterns:** This theme addresses the ways stakeholders use resources in and around marine protected areas. It includes extractive uses such as harvesting fish or invertebrates, and non-extractive uses such as boating and diving.
- 3. Attitudes, perceptions and beliefs:** This theme covers the underlying motivations that may influence human preferences, choices and actions. It examines the factors that shape human behavior and how these behaviors affect and are affected by marine protected areas. It includes constituents' and stakeholders' social and cultural attitudes, values, beliefs, perceptions and preferences related to MPA issues.
- 4. Economics:** This theme deals with economic conditions and trends associated with marine protected areas. Subjects of interest include, but are not limited to, market and non-market values, costs and benefits, and positive and negative impacts associated with marine protected areas.

5. Communities: This theme examines the characteristics of geographic and stakeholder communities associated with marine protected areas and the ways these communities function, particularly as they relate to the use and conservation of marine resources.

6. Cultural heritage and resources: This theme covers the historical and traditional artifacts within marine protected areas. These may include, but are not limited to, nautical history (wrecks, replicas, etc.), maritime infrastructure (piers, lighthouses, locks, ports, forts, etc.), and historical documents (books, photographs, music, recipes, etc.) of MPAs. This theme addresses primarily the physical manifestation of historical and traditional uses of marine resources; their social and cultural underpinnings are addressed by other themes.

Recognizing the need for more detailed, locally oriented research plans, the National MPA Center Science Institute designed a series of workshops to prioritize social science information needs at the regional and local level and create regional social science research plans to address those needs. Workshop results include:

- A list of priority social science research projects for each region; and
- Tools for building regional capacity through the identification of potential partners and funding resources to promote and establish coordination within the region among agencies, social scientists and stakeholders.

These results are intended to inform MPA managers, agency decision-makers, researchers, funding sources and affected stakeholder groups about priorities for social science research. These workshops are also designed to stimulate and encourage collaboration and coordination within the region among agencies, social scientists and stakeholders.

III. WORKSHOP PROCESS

The National MPA Center Science Institute developed the following process, to be used for all regional workshops:

WHEN	ACTION	WHO
<i>Pre-Workshop</i>	Compile the following background documents: list of existing social science research efforts, list of MPA-related resources and institutions, and regulatory framework within/pertaining to each region	MPA Center
	Coordinate logistics: Develop worksheet templates, budget, invitations, etc.	MPA Center
<i>At Workshop</i>	Identify priority information needs (research questions) for each relevant research theme, across each phase of the MPA cycle	Workshop participants
	Determine strategies (research projects) to address each information need	Workshop participants
	Develop project details for high priority projects	Workshop participants
	Discuss methods for building and strengthening the regional capacity	Workshop participants and MPA Center
<i>Post Workshop</i>	Compile and post/publish/distribute information for each region	MPA Center and facilitators

In preparation for each workshop the National MPA Center Science Institute compiles the following background documents for each region: a list of existing social science research efforts (see Appendix C); a list of research institutions and information resources (see Appendix D); and a regional regulatory framework with a list of statutes and regulations related to MPAs (see Appendix E). The list of current and existing research is presented during the workshop to encourage discussion about the research that has already been done in the region and to stimulate the participants to think about information gaps and priority research needs. The list of local institutions and resources provides a basis for the discussion on building the regional capacity as it identifies potential partners and funding sources for the implementation of proposed social science projects. Finally, the regulatory framework serves primarily to show the MPA policy structure within which each region functions.

During the workshop, participants address the six thematic priorities outlined in the National Social Science Research Strategy on a regional level. Figure 1 illustrates the transition from the broad national thematic priorities, to the identification of regional research priorities.

Figure 1: Identification of regional social science research priorities



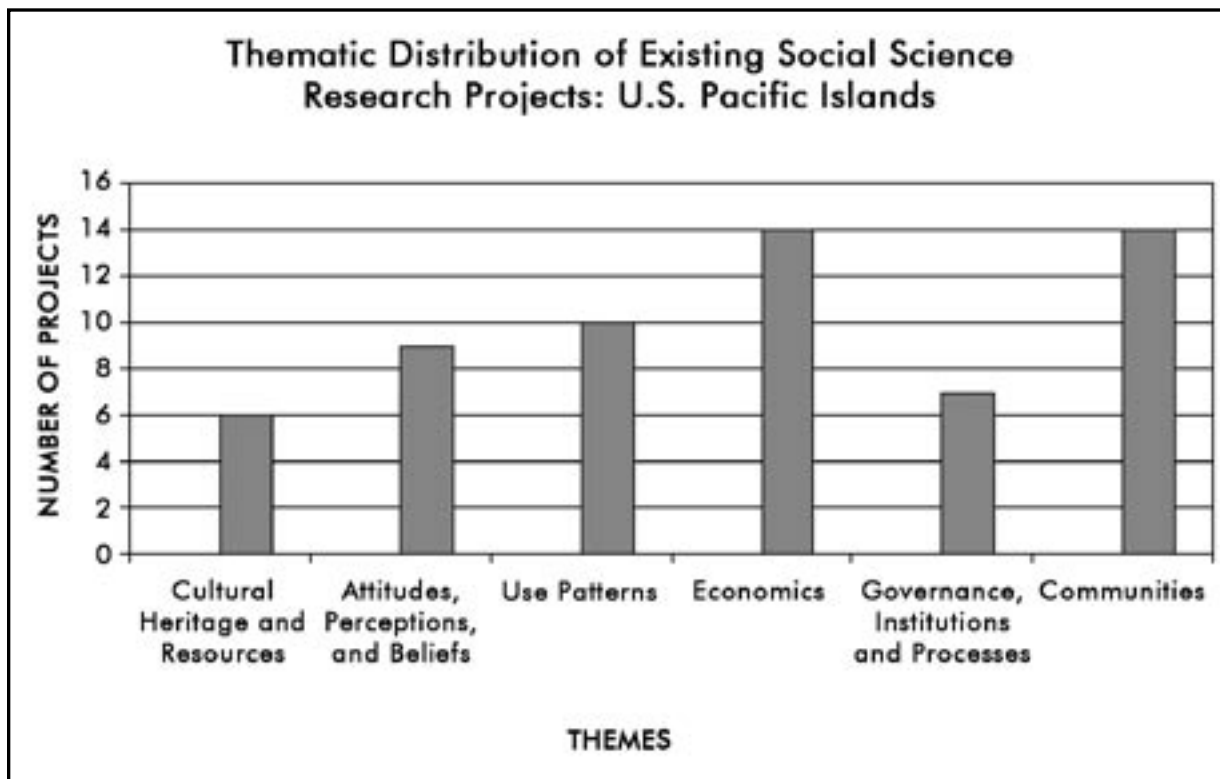
Workshop participants generate an initial list of priority needs and issues in the form of research questions for each theme (see Appendix B), ultimately choosing the twelve most pressing questions. Strategies, in the form of projects, are then developed to address the priority research questions (see Appendix A). These research projects are developed in detail and include information such as geographic coverage, applicability to MPA policy cycles (planning, management and/or evaluation), expected outcomes/outputs, challenges, estimated duration, estimated cost, potential partners, and linkages with existing efforts and natural science.

IV. SUMMARY OF EXISTING SOCIAL SCIENCE RESEARCH IN THE REGION

Prior to the Hawai'i workshop, the National MPA Center Science Institute compiled a list of existing social science research efforts that relate to MPAs in the Pacific Islands region in order to stimulate discussion on information gaps and research needs. Whenever possible, the principal investigators of the projects were contacted to ensure complete and accurate information. For the Pacific Islands region, it is important to note that of the 46 existing social science research projects, 27 focused directly on MPAs, while 19 projects were related to marine areas that are managed for or include specific uses such as oil and gas activities.

Based on the National Social Science Research Strategy themes, Figure 2 summarizes the thematic distribution of the existing research within the region (see Appendix C for details of each of these projects). The existing efforts in this region focused on the following themes: economics; communities; and use patterns. Studies ranged from valuation and cost benefit analyses of different MPA sites and types, to assessments of community-based management structures and traditional uses in the region.

Figure 2: Summary of existing social science research efforts by theme

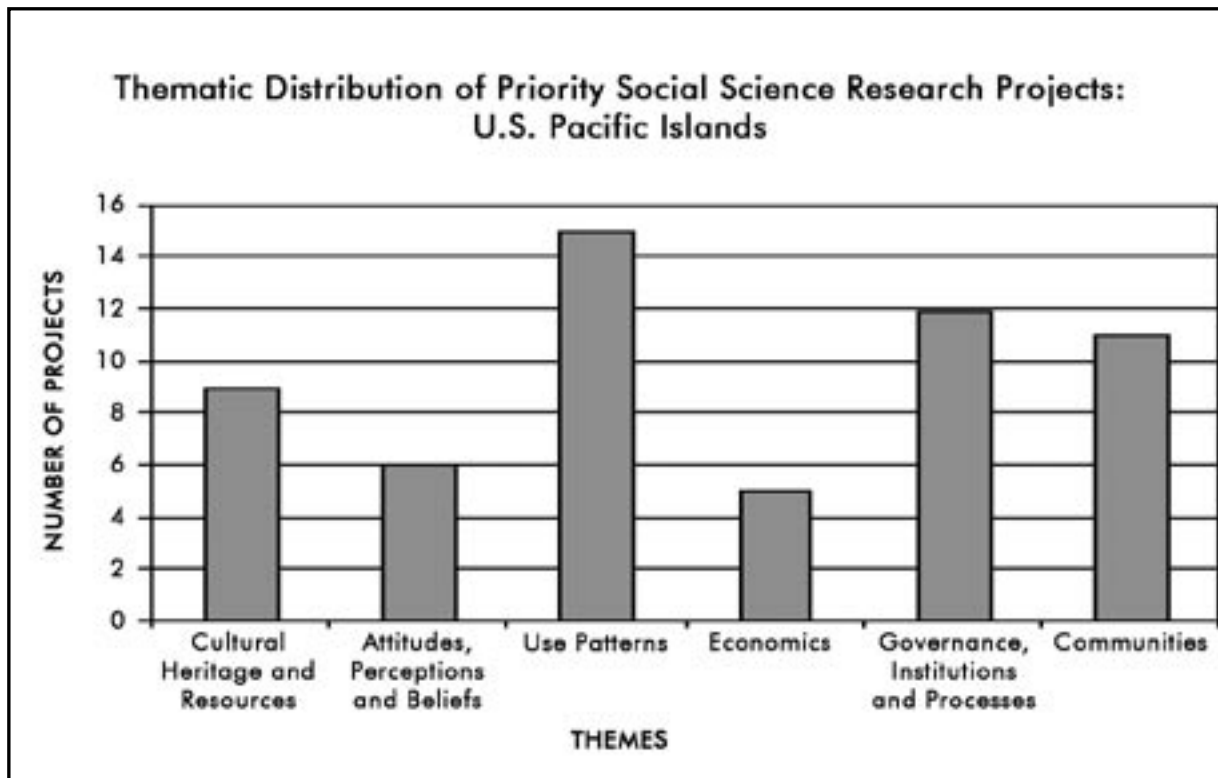


NOTE: Some projects cover more than one theme. Of a total of 46 current and existing research projects in the region: 2% are planned, 22% are ongoing, and 74% are complete.

V. PRIORITY RESEARCH QUESTIONS AND PROJECTS

At the Hawai`i workshop, participants identified twelve research questions and 58 projects as priority social science information needs in the region. Figure 3 summarizes the distribution of these projects by the broad research themes laid out in the National Social Science Research Strategy.

Figure 3: Summary of priority social science research projects



Although many of the existing projects relating to social science of MPAs in the region focused on the use patterns and communities themes, workshop results point out the need for more information in both thematic areas. Priority projects in these themes range from general understanding of patterns of human use and community needs, to more specific information on the role of community enforcement mechanisms on MPA effectiveness, to temporal changes in use patterns according to MPA siting and management. In addition, information needs regarding governance, institutions and processes, the theme with the second highest number of priority projects, focused on a general understanding of government structures that promote or allow for successful MPAs, and how community needs are integrated into these government structures.

Following is a list of all questions and projects by theme:

Governance, Institutions and Processes

Effective ways to communicate social science information into management decision makeup. How effectively can you carry on the message to communities?

- How can comparisons be made using performance measures to evaluate political administrations with regards to resource management?
- The role of social science in MPA planning, success and failure.

- How do you integrate cultural values and traditional knowledge into natural science to make it easy to understand and communicate to communities?
- Evaluating current tools to communicate social science: What are they? How well are they working? What things most influence decisions (including media)? Identify where people get information.

What processes have been effective in establishing management for MPAs?

- Case studies of successful and unsuccessful protected areas in the Pacific Region: Evaluating MPA process and effectiveness.
- A generalized analysis of conflict and conflict resolution mechanisms in the MPA process focusing on key proponents and opponents.
- A comparative study of stakeholder driven vs. science driven MPA processes.
- Assessment and analysis of the communication of the effectiveness of MPAs.
- Successful protected areas demonstration program: Using “successful” protected areas to demonstrate the value of protected areas to communities involved in designating new areas.
- Assessment and analysis of attitude and perception of the process of establishing MPAs.
- Political ecology of stakeholders at different scales (local, regional, national and international).
- Integrating local ecological knowledge (LEK) of species/habitats/biological events with marine science (MS) to inform management decisions.

Use Patterns

What are the broad-based use patterns (conduct surveys, etc.) inside and outside MPAs: who, what, when, where and why? (E.g., what percent of people do what?)

- Statewide survey of coastal marine use.
- Developing a standard protocol to document catch and marine use, at relevant marine environment.
- Developing and implementing a standard protocol to document human use patterns, including catch per unit effort (CPUE), by gear and habitat type.
- Developing guidelines for sustainable traditional uses.
- Mapping human use patterns throughout the region.

How do use patterns change related to MPA placement and management? What are the social, economic and ecological impacts within MPAs and outside areas?

- Comparative study of use patterns inside and outside an existing MPA over time.
- Assessing current management structure and rules to see if they are being met.
- Examining use behaviors at MPA borders to better understand spillover effects.
- Examining overall ecological effects (biological and chemical) of use, both in situ and shoreline (land and sea).
- Changes in user behavior and their effects on the resource and community perceptions over time.
- A cross-comparison of island/archipelago MPA use patterns and their social/ economic/ ecological impacts.
- Determining who are being impacted socially and economically by changes in use caused by the implementation of the MPA.
- Examining social, economic and ecological impacts of different management decisions in MPAs.
- Assessing methodologies for characterizing baseline and current traditional cultural uses and values related to current and proposed MPA sites.
- Developing a methodology to capture best possible retrospective baseline information.

Attitudes, Perceptions and Beliefs

What are the critical factors that influence people's perceptions of MPA success?

- Comparative analysis of management objective(s) success vs. "community" perception of success of MPAs in a given location.
- Determining how to measure success.
- Where do people get their information about MPAs? ("People" include users, general public, politicians, and managers).

Within communities, what knowledge, attitudes, values, perceptions and beliefs do people have about marine resources and conditions of management, and how do they vary through time across age, gender, etc.?

- Assessing community knowledge, values, attitudes and beliefs on nearshore marine resources within the Hawaiian Islands (Main Islands).
- Assessing knowledge, beliefs, attitudes and values on marine resource condition and management (nearshore environment) (Commonwealth of the Northern Mariana Islands [CNMI] and Guam).
- Assessing village communities' knowledge, attitudes, beliefs and values on their nearshore and offshore marine resource conditions and management (American Samoa).

Economics

What is the economic value and non-economic value of coral reef and coastal marine resources and how have they changed over time under different management regimes?

- What is the value of coral reefs going to bring to people in Hawaii, Guam and CNMI?
- Developing methods for assessing non-economic values of coastal marine resources.
- Replicating an economic valuation study.

Compare costs and benefits of local (community) enforcement vs. federal, state or territory.

- Study of trade-off between investment in education/outreach vs. enforcement.
- A comparative study of community based approaches to marine resource protection through education, outreach and enforcement (study will also identify costs and benefits).

Communities

Effectiveness of community based monitoring and enforcement. What is current effectiveness? How can we increase effectiveness?

- Assessing the effectiveness of community-based marine management in the Pacific Region.
- Developing a monitoring program that provides a measure of success of a community MPA based on the management plan goals. Program must satisfy both community success criteria and provide useful data for scientific analysis.
- Assessing the inventory of social institutions, level of existing monitoring, current problems and needs, and opportunities for enhancing monitoring process and results.
- Identifying local structures to study ways of creating institutions for the enhancement of MPA management and enforcement.
- Assessing current community-based monitoring (formal and informal).
- Factors influencing the effectiveness of community based monitoring and enforcement in the Pacific Islands.
- Assessing social and economic value of participation in the Northwest Hawaiian Islands (NWHI) Limited Entry (LE) Bottomfish fishery by impacted community of current and recent permittees.

What do communities really want? Do MPAs serve a function for communities?

- Identifying, evaluating and developing legal mechanisms for community based marine managed areas (MMAs).
- Political ecology of coastal community where MPA may or may not be designated.
- Methodologies for effective community development around coastal marine resource management and issues.
- How to identify conditions where local demand was effective? Can this translate to the marine environment?

Cultural Heritage and Resources

What, where, who are the traditional and dynamic cultural practices and properties within the region?

- Baseline of current use of resources to direct historical and cultural research and establish a framework for management of an MPA.
- Documenting past and present local marine practices and indigenous marine ecological knowledge.
- Developing a rapid survey technique to identify sea tenure stakeholders.
- Investigating linkages between land-based degradation (pollution) and MPAs using Ahupia'a – watershed approach.
- Documenting and evaluate the transformation (DYNAMICS) of customary sea tenure systems (formal and informal) in the Pacific Region.
- Pacific Island marine resources management practices: Identifying drivers of change, post European contact.

What role can traditional ecological knowledge play in the design of MPAs?

- The role of traditional ecological and spiritual knowledge in designing MPAs.
- Mapping of geographical and mental boundaries of traditional resource use.
- Community involvement in the design and implementation of an MPA.

VI. BUILDING REGIONAL CAPACITY

The last session at the workshop consisted of a discussion on building the regional capacity to conduct social science research and incorporate it into the planning, management and evaluation of MPAs. Participants exchanged thoughts on the creation of regional networks for information sharing, and the identification of potential funding sources. Following is a brief synopsis of the main points discussed at the workshop:

A. Network for information sharing

The workshop participants discussed various existing mechanisms that may be leveraged for scientists to coordinate and collaborate with each other and with MPA practitioners, and for managers to include the appropriate research in their annual operating plans. While the existing mechanisms are valuable, none focus specifically on the generation or inclusion of social science in MPA processes. Therefore, the participants also considered potential mechanisms for the creation of new networks to share MPA social science information in the region.

Existing information sharing networks

- **Locally Managed Marine Area (LMMA) Network:** Collection of marine conservation projects and practitioners (community members, traditional leaders, conservation staff, academics and donors) working in Southeast Asia, Melanesia, Micronesia, Polynesia and the Americas. Members have joined together to share knowledge, skills, resources and information with one another in order to learn collectively how to improve marine management activities and thereby measurably increase their conservation impact.
- **South Pacific Regional Environmental Programme (SPREP):** Regional governmental entity focused on coordinating environmental conservation efforts in the Pacific Islands.
- **Coral Reef Task Force (CRTF):** U.S.-led initiative aimed at strengthening processes and providing funding for conservation of important coral reef areas.
- **Cooperative Ecosystems Studies Unit (CESU):** U.S. academic-led initiative to promote research, education and application of knowledge to protect natural systems. Participants include NOAA, National Parks System (NPS), U.S. Fish and Wildlife Service (USFWS), National Energy Lab, Universities in Guam, Hawaii and American Samoa, The Nature Conservancy (TNC), etc.

Potential mechanisms for information sharing networks

- **Pacific Islands MPA Community (PIMPAC):** Coordination hub between Community Conservation Network, NOAA, and University of Guam's Marine Protected Area Research Group, to include mechanisms such as list-serves, websites and local meetings. The planning for this project is currently in progress.
- **Hosting social science session at 1st International MPA conference in Australia, 2005, and other related conferences.**
- **Facilitating meeting of regional partners after regional social science research workshops to formally establish and create working networks based on priorities identified during the workshops.**

B. Funding Sources

Research plans accomplish little without funding. The potential sources listed below include grant programs, agencies and offices that may be able to include projects in their annual operating plans. Many of these funding sources include efforts to develop and strengthen the academic capacity by funding local students, channeling funds through academic institutions, and training local managers and practitioners.

Potential Funding Sources

- **Federal:**
 - NOAA Programs: National MPA Center, National Marine Sanctuaries (NMS) Program, National Center for Coastal Ocean Science (NCCOS) proposals to develop careers in marine science
 - USFWS and Coastal Zone Management (CZM) programs to fund local undergraduate students
 - Sea Grant
 - Coral Reef Task Force
- **State:**
 - Hawaii Tourism Authority
- **Non-governmental:**
 - Hawaiian Community Foundation
 - Save our Seas Group
 - Moore Foundation
 - McArthur Foundation
 - Packard Foundation
- **Industry:**
 - Cruise and large ship industry (mitigation, violation fees)

Workshop participants also discussed a series of opportunities and strategies to obtain funds for the implementation of social science research projects. Some of the strategies suggested included: leveraging funding through local community-based networks for conservation; presenting findings of workshops at MPA social science sessions at international conferences; and gaining approval and backing from the Marine Protected Areas Federal Advisory Committee (MPAFAC) to elevate social science research priorities and get support from other federal agencies. For the latter, the workshop participants developed a resolution to be presented to the MPAFAC at the April 2004 meeting in Key Largo, Florida (see Appendix F).

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Appendix A. Proposed Priority Research Projects

Governance, Institutions and Processes

This theme covers the formal and informal institutions (federal, tribal, state, local and non-governmental) responsible for managing the resources in marine protected areas. Component topics include determining and assessing these institutions' respective capacities, funding sources, jurisdictions, management strategies and implementation approaches, as well as the role of social capital in each institution's interactions with the public and other institutions.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Theme: Governance, Institutions and Processes							
Question: Effective ways to communicate social science information into management decision makeup. How effectively can you							
How can comparisons be made using performance measures to evaluate political administrations with regards to resource management?	<ol style="list-style-type: none"> 1. A set of objective measures will be developed by a neutral contractor that will evaluate and compare environmental successes and failures over 50 years. 2. These successes and failures will be linked to the contemporary political administration. 3. Analysis will include: "What rules were enacted; what criteria were used to develop the rules; what funding was allocated to support rules & was it adequate?" 4. Which office/department implemented the rule? 5. What evaluation criteria were used? 6. What were the fishery status and environmental trends? 		•			•	<ol style="list-style-type: none"> 1. "Report card" successes/failures of an administration 2. Accountability
The role of social science in MPA planning, success and failure	<ol style="list-style-type: none"> 1. Literature review to determine extent of social-science approaches & analysis in existing MPA programs and relation of social science to success and failure. 2. E-mail and phone interviews with agencies to assess social-science composition of personnel & mission & relation to success/failure of MPA programs. 3. Intensive fieldwork-interviews with agency practitioners at specific sites, as well as interviews w/ community members to determine how social science has been effectively used/communicated in local process. 		Methodologically but w/ regional variations	•	•	Improve future planning & mgmt	<ol style="list-style-type: none"> 1. Identification of successful & unsuccessful programs and analysis of social-science factors involved w/ recommendations for future programs 2. Development of better planning process 3. Realization among agencies that they need to hire more social scientists! 4. Identification and addressing of gaps that we don't know yet that are influencing success and failure

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Theme: Governance, Institutions and Processes												
carry on the message to communities?												
1. Getting the data 2. Political resistance to performance evaluation/ accountability 3. Developing objective metrics 4. Agency resistance to revealing failures		•			•		•				1. Universities 2. Private consultants 3. Neutral non-governmental organizations (NGOs)	Forcing political will to focus on environmental issues & effective resource management.
Buy-in by bio-physical scientists and agencies		Initial data collection			Intensive field work research			For one year		Ongoing	1. All the agencies involved 2. Communities 3. University researchers/students	The Role of Social Science in MPA planning, success and failure.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
How do you integrate cultural values and traditional knowledge into natural science to make it easy to understand and communicate to communities?	<p>This project will:</p> <ol style="list-style-type: none"> 1. Determine what criteria are currently used (institutional ethnology) of an agency to designate MPAs. 2. Identify natural science tools and techniques that could be applied to answer social-science questions. 3. Work with resource managers and community groups to train them on new techniques and apply these techniques to decision make-up. 4. Identify traditional knowledge techniques used to measure resources and impacts. 5. Identify current social science and natural tools to reflect and measure traditional knowledge. 6. Integrate this information into management decision-making. 		•	•	•	•	<ol style="list-style-type: none"> 1. Better communication among policy makers, management agencies and communities 2. Better understanding of how agencies use data in decision making 3. Better understanding of gaps in current techniques 4. New methodologies to engage natural scientists in social science information gathering 5. Elevation of the role of social science in decision making 6. Incorporation of traditional knowledge information gathering as a component of decision makeup
<p>Evaluating current tools to communicate social science: What are they? How well are they working? What things most influence decisions (including media)? Identify where people get information</p>	<p>This project will:</p> <ol style="list-style-type: none"> 1. Identify stakeholders, assess where they get their information and look at other ways information can be provided. 2. Identify new tools that are being used elsewhere that have potential to be applied. 3. Identify existing underutilized avenues of communication, such as: live, radio, fishing magazines, websites, local TV programs, hotel, TV programs, theatrical productions, field trips for policy makers that are also video taped. 4. Understand political structure to build an appropriate coalition. 5. Identify effective proactive media strategies. 		•	•	•	•	<ol style="list-style-type: none"> 1. More effective management of MPAs 2. Policy reform 3. More funding

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Getting natural scientists to use social science tools 2. Accepting social science data as lead component of decision making 3. Having resource management accept data collected by communities				To develop & incorporate techniques	Once adopted for other projects			•			1. Resource managers 2. Natural and social scientist researchers to design techniques 3. Local communities	
Misinformation, disparage between political terms, social scientist opinions, cultural diversities					•		•				1. Media 2. Universities 3. Professional community associations 4. Drama theater groups	Governance, Attitudes, Perceptions and Beliefs (APBs), Communities, Economics, etc.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Question: What processes have been effective in establishing management for MPAs?							
Case studies of successful and unsuccessful protected areas in the Pacific Region: Evaluating MPA process and effectiveness	<p>This project will research and document histories of existing protected areas. It will:</p> <ol style="list-style-type: none"> 1. Develop a protocol/template for case studies - starting with those known to workshop participants - including both marine and terrestrial examples (using the National Research Council study to develop a template). 2. Have volunteer authors complete write-ups. 3. Conduct workshop to review case studies and develop recommendations for future MPA development. <p>Protected area candidates: American Samoa National Park; Hawaii Humpback Whale Sanctuary; Solomon Island MPAs; Fagatele Bay; thirty locally managed marine areas, (Fiji); Kalapapa Water Park; seven community-based Fisheries Management Areas (Samoa); Fisheries Replenishment Areas (Hawaii); MPAs in Guam.</p>						<ol style="list-style-type: none"> 1. Collected volume of case studies and findings and recommendations 2. Lessons learned summary
A general-ized analysis of conflict and conflict resolution mechanisms in the MPA process focusing on key proponents and opponents	<p>A comparison of successful and unsuccessful MPA designations with an emphasis on the public and potential process, various stakeholder groups, and key proponents and opponents. The project will include an analysis of conflict and conflict resolution processes in MPA designation - to touch on roles of key figures (heroes & champions), staying power, timing, and opportunities.</p> <p>This project could begin with interviewing key decision makers in a sample of MPA designations and attempted designations on the topic of what timing was used, etc. A sample of such individuals could be brought together in a series of focus groups out of which could be developed a broader survey instrument. The survey instrument could then be distributed to a randomized stratified sub-sample of people involved in both successful and failed processes.</p>						<ol style="list-style-type: none"> 1. A model for how to approach stakeholder groups 2. A model for how to label and promote the process, in step by step fashion 3. A model for recognizing potential pitfalls and resistances

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Getting authors to actually complete case studies 2. Making the process simple enough		•				•					MPA workshop participants: Ray Tulafono & Fatima Bryan Harry Jodi Veitayaki Mike Hamnett Gerry Davis Nancy Daschback Sarah Peck & Bill Walsh Shankar Aswani	
1. Cultural and personal sensitivities 2. Human subjects issues largely covered by fact that process has a public record though more useful info may be gained if interviews can be "off record" and confidential 3. Language/communication barriers			•					•			1. Local government 2. Regional organizations & NGOs 3. Universities & Colleges	1. Attitudes and perceptions questions 2. User group perceptions

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
A comparative study of stakeholder driven vs. science driven MPA processes	A historical study of both successful and unsuccessful MPA designation processes that looks at bottom-up stakeholder-initiated MPAs vs. science driven (middle-up and middle-down) processes. The study will be based on interviews with participants, focus groups, and a survey to look at how stakeholders, scientists, and politicians did or did not communicate and work collectively or in opposition to the MPA process. It will include some emphasis of communication of science assessments to the public.		•	Planning for community education			<ol style="list-style-type: none"> 1. A model of what works and what doesn't in the designation process 2. A model for incorporating a science base that can feed into community and stakeholder processes and education
Assessment and analysis of the communication of the effectiveness of MPAs	This project will determine the dissemination of information on the effectiveness of MPAs, capturing conditions for the receptiveness and acceptance of the idea of MPAs by a given community.		•	•			<ol style="list-style-type: none"> 1. An appreciation for the effectiveness of the diffusion of ideas 2. Understanding of how ideas are shared 3. Community support for MPAs
Successful protected areas demonstration program: Using "successful" protected areas to demonstrate the value of protected areas to communities involved in designating new areas	<p>This project will:</p> <ol style="list-style-type: none"> 1. Identify "successful" protected areas; 2. Have a strategy to raise money for field trips; and 3. Develop videos and web pages that demonstrate success. <p>Based on case study project, this project will select a sample of "successful projects" and develop public information materials for use by MPA planners.</p>		•	•			Web site containing photos and videos and the case studies from the case studies project.
Assessment and analysis of attitude and perception of the process of establishing MPAs	Attitudes and perceptions change during the process to establish MPAs. This project will document the changes and the factors that cause the change. There exists the need to understand the state of perception at the outset of the MPA process and analyze the factors/influences that inform the perception. This project will develop a rapid survey method/guide to assess and analyze the change in attitude and perception.		•	•		•	<ol style="list-style-type: none"> 1. Better understanding of ways to implement marine protected areas 2. Stronger community support for the MPA process 3. Guide/methods for the implementation of MPAs 4. Rapid survey techniques for assessing perception

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Defining a science base and assessing the public's real understanding of this science base 2. Cultural, time and travel constraints to finding and assessing stakeholder perceptions - especially in American Samoa, CNMI and Guam among Chamorros and Corotinians 3. Language and communication barriers			•					•			1. NGOs and local and federal government 2. Regional organizations 3. University of Hawaii (UH) Social Science Research Institute (SSRI), Pacific Islands Fisheries Science Center (PIFSC) - Social Scientists!	Attitudes/perceptions, user groups, etc.
1. Values are not easily observed or measured 2. Takes an investigator with knowledge of culture and community and special interpretive skills 3. Cause and effect is not clear so context must be holistic					•		Per site/per year				1. Federal, state, local government 2. Community	
		•						•			1. MPA Center 2. Case study authors	
1. Not been done before 2. Teasing out the range of issues important for implementation of MPAs 3. Methodology for the rapid survey			2 to 3 years					•			Needs to be done by investigation with intimate understanding of the community where the work is to be done.	

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Political ecology of stakeholders at different scales (local, regional, national and international)	This is a kind of political ecology study of the political dynamics between various local, national and international stakeholders. Emphasis should be placed on the local and national levels, and how different political aims amongst key political players structure the MPA designation process (or lack thereof). At the local level this study will examine political aims and strategies of different key players and how such strategies influence the MPA designation process (or the maintenance of if in existence). The idea is to identify the political conditions at all levels that would facilitate/sustain MPAs (or their establishment). To distill this study, need to stratify sample by looking at case studies of MPAs that have been set bottom-up or top-down and examine political processes in each case.		•	To ID conflicts/manipulations	To ID "heroes"/ "detractors"	To ID political/ social/economic asymmetries between players	<ol style="list-style-type: none"> 1. Understanding of local/ regional political dynamics 2. Better MPA designation (and/ or long-term sustainability) 3. Address different political fears/concerns amongst players (government, local, NGOs, etc.)
Integrating local ecological knowledge (LEK) of species/ habitats/biological events with marine science (MS) to inform management decisions	This project will study the effectiveness of combining LEK and MS in a cost-effective (fairly rapidly done) manner to inform the MPA designation process in a "data-less" (Johannes 1998) context (which is common in tropical multi-species fisheries). The project will conduct particular studies (e.g., Solomons) to evaluate the effectiveness of this approach at various locales (e.g., Hawaii, Samoa, Micronesia) to make them general. Planning and management are essential to identify critical species (e.g., lifecycles) and habitats in need of management and their geographical extent in a local area to identify MPA sites and to make locals direct participants in the designation process.		•	•	•		<ol style="list-style-type: none"> 1. Effective MPA designation (biologically and socially) 2. Truly participatory management that respects local knowledge 3. Cost-effective way that integrates social and natural science for management

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
<ol style="list-style-type: none"> Difficulties with opposition groups Resistance of informants Political interface/ manipulation Lack of national cooperation Scales are different levels (local/national/ international) and have to be reconciled 		Per locale				Local				Regional	<ol style="list-style-type: none"> National governments NGOs Researchers 	Political ecology/ extensive literature.
<ol style="list-style-type: none"> Sensitive issues when dealing with LEK/ ethical issues when utilizing LEK Local resistance LEK eroded and difficult to articulate with marine science Conflict between practitioners (scientists/ anthropologists and local people) 					•	Local				Regional	<ol style="list-style-type: none"> Local people (a must) National fishery offices Marine scientists (a must)/social scientists 	Link between natural science and social science.

Use Patterns

This theme addresses the ways stakeholders use resources in and around marine protected areas. It includes extractive uses such as harvesting fish or invertebrates, and non-extractive uses such as boating and diving.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Theme: Use Patterns							
Question: What are the broad-based use patterns (conduct surveys, etc.) inside and outside MPAs: who, what, when, where, and							
State-wide survey of coastal marine use	Random-sample telephone survey of 1000 households on coastal marine use including fishing and gathering, ocean recreation (snorkeling, diving, surfing, windsailing) and family activities (going to the beach). Questions on geographic location of activities in relation to MPAs. Questions could be included on the value of MPAs for activities in which members of households participate.		probably Hawaii and Guam	•		Can be used to evaluate value of existing MPAs and potential support for new MPAs	<ol style="list-style-type: none"> 1. Report to relevant marine resource management agencies and legislatures on marine resource use and MPAs 2. May be useful for design of public information and awareness campaign
Developing a standard protocol to document catch and marine use, at relevant marine environment	This project aims to get agencies, NGOs, private operators, etc. (Department of Land and Natural Resources [DLNR], NOAA, FWS, NPS, counties, village chiefs, UH, Cooperative Ecosystem Study Unit [CESU], TNC, etc.), to agree on standard data templates, definitions, observation techniques, recording methods, and willingness to share data. As a start, the project will get sample protocol from: Caribbean (NOAA & NPS); Alaska (NOAA & NPS); and UH.		HI, Samoa, Guam, CNMI			•	<ol style="list-style-type: none"> 1. Understanding of undesirable trends (decline or stability) in valued species 2. Understanding of changes in public use 3. May define better place for MPAs and possibly develop public perception support

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Theme: Use Patterns												
why? (E.g., what percent of people do what?)												
1. Capturing enough marine resource uses to get meaningful results 2. May need to have a short form for occasional marine resource use and longer form for active marine resource users	•					•					1. Hawaii Coral Reef Initiative (HCRI) 2. Department of Aquatic Resources (DAR) 3. NOAA, NPS, National Marine Fisheries Service (NMFS)	
												Existing "watershed partnerships" in HI.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Developing and implementing a standard protocol to document human use patterns, including CPUE, by gear and habitat type	This project will: <ol style="list-style-type: none"> 1. Work with responsible agencies and NGOs to develop simple, repeatable survey instruments to document use levels by access mode, fishing gear and habitat type, and non-consumptive activity, location (IC-SD GIS compatible), and catch per unit effort (CPUE) by species and undersized-illegal harvest levels. 2. Develop collaborative implementation strategy. 3. Train participants and coordinate/supervise data collection and analysis. 4. Maintain funding for long-term data collection, and use results for education, outreach and adaptive management. 		Region-wide in stratified random sample	•	•	•	<ol style="list-style-type: none"> 1. Increased knowledge of human use patterns allowing for more effective management 2. Development of GIS maps with all the information 3. Increased public compliance with state, territory and federal fishing and MPA rules
Developing guidelines for sustainable traditional uses	This project will document indigenous knowledge and values of resource stewardship and use – the who, what, where, when, how and why of fishing – to inform, educate and promote sustainable-wise use-of MPA resources in present and future generations.		Tailored to specific groups & regions	•	•	•	<ol style="list-style-type: none"> 1. Increased awareness and stewardship of resources 2. Documentation of past practices – changes in MPA resources, and recommendations for long-term management 3. Healthy resources and perpetuation of traditionally based, sustainable practices and knowledge
Mapping human use patterns throughout the region	<ol style="list-style-type: none"> 1. Intensive field-based effort to collect qualitative information from the public about areas important to them for the use of marine resources, by type of activity. 2. The project will involve development of a GIS database with information. 						
Question: How do use patterns change related to MPA placement and management? What are the social, economic and ecological							
Comparative study of use patterns inside and outside an existing MPA over time	This study will compare use patterns to determine the effect of MPA placement within and outside the MPA designated area and see how those patterns change over time. The study will inform and advise MPA management authorities AND the local community of user groups. The project design would include all seasonal comparisons, and would be repeated at appropriate intervals of 3 or 5 years.		•		•	•	<ol style="list-style-type: none"> 1. Graphical (map/GIS) presentation of user activity by demographics and activity type inside and outside MPA 2. Overlays, physical or computer generated, comparing activities and user group demographics over time 3. For management purposes the info could be triaged to present major uses for demographic groups

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Cooperation from those surveyed and local community stakeholders 2. Funding for long-term monitoring 3. Finding and training individuals to implement survey in effective manner					•				•		1. Local communities and NGOs 2. Federal, state and territory resource agencies 3. Museums, universities, etc.	1. Help understand biological monitoring results and habitats 2. Enforcement efforts 3. Public education outreach
1. Time and funding to synthesize and develop from existing resources 2. Conducting review of synthesis for elder/ practitioner review	•					•					1. Bishop Museum 2. UH and agencies 3. Communities	Promotes wise use and long-term care of MPAs.
impacts within MPAs and outside areas?												
The area outside the MPA should be comparable (i.e., if the MPA delineates a coral reef area and includes it entirely, the adjacent area may have different physical conditions). The nearest similar place may be better used for a comparative study.					•						1. State authorities 2. Universities 3. Consultants 4. Students/interns 5. Trained community members (part of project would be to establish a workshop to train community members to perform studies within their communities)	It is crucial that socio-economic studies are not done in isolation. Environmental impacts and consequent feedbacks direct to user or via management changes need to be considered.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Assessing current management structure and rules to see if they are being met	This project will: select a variety of existing MPAs for comparative purposes; list management structures and rules; and for each rule, determine its purpose, measure ground effect of compliance and compare actual compliance with idealized 100% compliance.		•	Asses other areas	•	•	Effectiveness of each rule can be assessed in terms of acceptability by users, ease or difficulty of enforcement, need for adjustment and change, if any.
Examining use behaviors at MPA borders to better understand spillover effects	<p>Questions to be answered:</p> <ol style="list-style-type: none"> 1. What are the perceptions of fish catch at MPA edges? of MPA effectiveness? 2. Where do edge fishers come from? Displaced fishers from MPAs or attracted from other areas? 3. What differences exist between effective and non-effective sites? <p>This project will observe uses and survey users at edges of MPAs, using both sites that are well enforced and have proven to increase fish biomass inside borders, as well as at sites that have not been well enforced and/or have not shown significant increases in fish abundance inside borders. This would be a focus on user behaviors and perceptions and not on CPUE or other fishing effort indicators.</p>		Guam and other well-established and enforced MPAs	Impetus for new site development	If spillover is real, data can be used to support	Perceived and real spillover effects	<ol style="list-style-type: none"> 1. Data on user perceptions of spillover 2. Comparison of effective vs. non-effective sites

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Rules are for humans only: method of assessment is critical. Need to take into account any natural impacts that may affect usage (e.g., seasonal effects, such as storms, runoff, current changes, infrastructural impositions - nearby parks, recreation facilities, etc.)			•			Each site					<ol style="list-style-type: none"> 1. Local MPA authority 2. Land use authority (local and regional) 3. External authorities (Department of Defense [DOD], marine and air transportation, tourism boards, etc.) 	<ol style="list-style-type: none"> 1. Links to use patterns of local and regional sites of interest that are NOT MPAs 2. Links to natural changes that may take place with or without rules 3. Links to similar sites for comparison 4. Links to other similar or dissimilar communities (inter-regional, inter-island, etc.)
			•					•			<ol style="list-style-type: none"> 1. University of Guam (UOG) Marine Lab 2. Community Conservation Network (CCN) 3. NOAA 	Link to regional work implementing the "How is your MPA doing?" management effectiveness indicators by Mark Tupper at UOG Marine Lab and by NOAA.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Examining overall ecological effects (biological and chemical) of use, both in situ and shoreline (land and sea)	<p>For new sites only: This project will determine baseline users: subsistence, gathering and recreational, as well as commercial uses of a site prior to designation.</p> <p>For current and new sites: This project will determine current use by monitoring water quality, patterns and types of uses during time of day, seasonal, and weekday/weekend uses. It will: map access points and high use areas; map access to the site with patterns of parking; and monitor impacts of trash, use of (or lack of) facilities, and presence/absence of education of visitors.</p> <p>For new sites after designation: This project will determine: Where do people go when they have been displaced? based on direct observation, fuel costs, distance to site, differences in quality of the experience, etc., specific to each island/archipelago.</p> <p>To determine ecological impacts in situ the only known method is through direct observation of contact with benthos and changes in fish behaviors over time, noting anchor damage, etc.</p>		•	Who is using the site and how they will be affected	•	•	<ol style="list-style-type: none"> 1. Baseline data on use for any site (planned or existing) 2. Opportunity to track changes in use over time and levels of use at a particular site 3. Ability to potentially model displacement of groups upon designation
Changes in user behavior and their effects on the resource and community perceptions over time	This project will determine current user behavior of the various users and groups (e.g., divers touching reefs vs. not touching, anchoring vs. mooring) and examine, at 5-year intervals, social perceptions and management effectiveness to determine use behavioral changes and how those changes impact the resources.		•	Baseline	Establishing rules for users	•	<ol style="list-style-type: none"> 1. Definitions/ identification of user behaviors in various user categories (e.g., diving, snorkeling, boat tours) 2. Over-time comparisons of behavioral changes 3. Identification of behavioral changes due to technological changes
A cross-comparison of island/ archipelago MPA use patterns and their social/economic/ ecological impacts	This study will be a broad comparison that utilizes information gathered from other projects in this "use patterns" group that are site specific. This information includes: "measure of displacement"; "social/ economic/ecological impacts of different management decisions"; and "use patterns over time". This information will be combined with background information from each site (management regime, location, size, etc.). A comparison of sites would provide managers with an overview of factors that influence use patterns and their social/economic/ecological impacts.		•	Predict impacts of new site	•		<ol style="list-style-type: none"> 1. Better planning of new sites with information on how placement and management may change use patterns 2. A means for managers to examine which factors (type of management, location of site) might be most influential in reducing social/ecological impacts

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Direct observation can be costly 2. Determining displacement of users is not an exact methodology unless specific subjects are tracked through time 3. Carrying capacity is still difficult to determine and should not be based solely on biological attributes					At least quarterly for 1st year, then every 3 – 5 years	Per site					1. Resource management agency 2. Researchers 3. Volunteers of user groups at each site to assist with recording uses	This is an integrated research question.
Getting data from various users/different seasons					•	Variable costs: interval and sample size					1. Ocean user organization 2. Resource managers – government 3. Educational programs	1. Provides information on carrying capacity 2. Ecological impacts 3. Identification of education/outreach programs
It will be hard to determine exactly what factors influenced changes or impacts in sites because each site will have so many varying factors (e.g., size, access, enforcement).		•					•				1. All social scientists that conduct other research questions developed in this “use patterns” group 2. Consultant that could collect information and conduct the comparison study	This would basically be an effort to link all site-specific information, provide a bigger picture, and capture patterns occurring in similar areas and factors that influence them.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Determining who are being impacted socially and economically by changes in use caused by the implementation of the MPA	<p>This project will:</p> <ol style="list-style-type: none"> Determine who are impacted socially and economically by changes in use caused by the implementation of the MPA: <ol style="list-style-type: none"> Identify user groups or stakeholders – including local community, commercial interests, fishers, users, etc. – both inside and outside the MPA, but who use the MPA. Construct survey instrument to document current social and economic conditions. If not pre-MPA data, ask retrospective questions regarding conditions before (either absolute or comparative). Questions to capture: economic conditions, social conditions, personal account of impacts of MPAs, and satisfaction with MPA. Determine how user groups are being impacted. Based on afore-mentioned data, determine difference in social and economic responses to MPA. Determine why some user groups are being negatively or positively affected by the MPA. Assess if and how management prescriptions should be adjusted. Project should be repeated every 3 – 5 years (at min.). 		•	•		•	<ol style="list-style-type: none"> Clearly defined list of user groups that are or have the potential to be impacted (positively or negatively) by the establishment of or existing MPA A clearly defined picture of how user groups are being positively and negatively affected by the MPA Identification of the key social and economic issues that should be managed for in the MPA prescriptions
Examining social, economic and ecological impacts of different management decisions in MPAs	<p>This project will:</p> <ol style="list-style-type: none"> Assess the social, economic and ecological impacts of specific management decisions on users' behavior. Assess the social, economic and ecological impacts of specific management decisions on communities. Assess the social, economic and ecological impacts of specific management decisions on the MPA and areas around it. 		•	Planning new sites	Comparing with similar sites	Monitoring	<ol style="list-style-type: none"> Data on social, economic and ecological impacts of management decisions Development of conditions, trends and scenarios relating to impacts of management decisions

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
<ol style="list-style-type: none"> 1. Creating a sound sampling strategy that is large enough to include a representative example of all users from all groups, but still a manageable and feasible size 2. Ensuring all user groups are being included in the survey (managers must be open minded at the potential list and do a thorough/ exhaustive assessment of potential users) <ul style="list-style-type: none"> - The base of users may change over the years 3. No baseline data - The retrospective set of questions will help gather data on conditions pre-MPA but the data may not be comprehensive or 100% scientifically sound (accurate) 					Every 3-5 years						<ol style="list-style-type: none"> 1. Local community (help with interviews and acceptance to area) 2. Local NGOs (perhaps able to carry out much of the monitoring) 3. Various cooperatives and associations for fishermen and business (if they exist) 	<p>This question ties to a number of the other projects raised for this question. In particular: what are the impacts of different management decisions? And how have users of resources changed over time? In addition, the project must be linked to changes in the resource base.</p>
<ol style="list-style-type: none"> 1. Need to use a common methodology for examining/assessing impacts 2. Complicated cause-effect relation of management decision 3. Demand on capacity and resource to conduct research 					•						<ol style="list-style-type: none"> 1. Universities 2. User groups 	<p>Review of work that has been done.</p>

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Assessing methodologies for characterizing baseline and current traditional cultural uses and values related to current and proposed MPA sites	A pilot project to assess both approaches and methods for characterizing information on traditional (past and current) knowledge about customary practices, uses and values of MPA sites and adjacent areas. Will emphasize oral histories, elder testimonies, issues of cultural sensitivities and language and translation to determine "best practices" for getting such data. Will include sample sites where such data is expected and where no data is expected.		In each subregion	Incl. native comm. reactions to MPA	Incl. tradition in mgmt regime		<ol style="list-style-type: none"> 1. A model of appropriate social science methodologies for this kind of work 2. Cultural/ traditional baselines for site areas sampled 3. Respect and buy-in from "native", "indigenous" sector 4. Enhancement of community research capacity
Developing a methodology to capture best possible retrospective baseline information	<p>For existing MPAs where there is no baseline social, economic and use pattern data, this project will develop a methodology for capturing these data retrospectively in order to understand changes over time.</p> <p>Methods include:</p> <ol style="list-style-type: none"> 1. Survey stratified by user/ non-user groups and other demographic factors to ask questions regarding past social, economic status/use patterns. 2. Historical research on census/economic indicators to understand broader community/regional shifts. 3. Analysis of historical aerial photographs and/or maps to try to identify past use patterns. 4. Analysis of past government/agency records relevant to use (e.g., catch data for fishers, revenue and numbers of patrons for tourism operators, etc.) for each stakeholder group. 		Existing MPAs	Designing improved mgmt strategies	Assessing changes in management and evaluating successes		<ol style="list-style-type: none"> 1. Report on historical socio-economic information and use patterns for users, non-users and community, related to a given MPA 2. Some data sets which can be directly compared with current data collection for "BACIPS" (Before-After/Control-Impact Paired Series) analysis

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
<p>1. Cultural sensitivity and uncertainty about re-research intentions, impacts</p> <p>2. Possibility of "manufactured" data</p>		•				•					<p>Carefully chosen independent contractors, fluent in appropriate languages and willing to work with local agency personnel. Need to have successful track record in ethnographic research.</p>	<p>1. Potential links to submerged and adjacent cultural resources</p> <p>2. Links to understanding of community attitudes and perceptions of the value and desired future state of the site</p>
<p>1. Need to decide on optimal timeframe at which to collect past data, balancing useful retrospective scale and amount of useful information (Should focus on time just prior to MPA designation, but this may be too long ago. In other cases, additional changes besides MPAs may require study to go farther back in time.)</p> <p>2. Need to understand that people's memories are not perfect - Use established sociological/ anthropological/ ethnographic methods to design effective survey protocols.</p>		•				•					<p>1. State and non-governmental agencies with relevant data sets</p> <p>2. University researchers/ students to conduct surveys</p>	<p>Could be conducted in tandem with ecological studies, which attempt to establish retrospective baselines.</p>

Attitudes, Perceptions and Beliefs

This theme covers the underlying motivations that may influence human preferences, choices and actions. It examines the factors that shape human behavior and how these behaviors affect and are affected by marine protected areas. It includes constituents' and stakeholders' social and cultural attitudes, values, beliefs, perceptions and preferences related to MPA issues.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Theme: Attitudes, Perceptions and Beliefs							
Question: What are the critical factors that influence people's perceptions of MPA success?							
Comparative analysis of management objective(s) success vs. "community" perception of success of MPAs in a given location	<p>This project will:</p> <ol style="list-style-type: none"> Determine who are managers; what are the management objectives (e.g., conservation of diversity, livelihoods, etc.); who sets the objectives and via what process; what expectations are set; and involvement of community in MPA over time (e.g., outreach). Determine the real success of MPA in meeting goals/objectives - choose sites that have evaluated the biological, ecological, socioeconomic success/ effectiveness. There may be disparity between data collected regarding management effectiveness. Pull in "community" perceptions of success from other study developed under attitudes, perceptions and beliefs (APBs) section. Compare results from community perception to management objectives and their success. Results from comparison can aid in outreach campaigns, effectiveness-monitoring regime, and refining of management. 		On a replicable basis- multiple studies, not one			• •	See section 3 under description
Determining how to measure success	<p>This project will:</p> <ol style="list-style-type: none"> Summarize what is in the literature about what has been used to measure success for different user groups. Identify user groups in the study areas. Organize workshop; include stakeholders and social scientists to design the measures of success. Implement recommendations from the workshop. 		•	•	•	•	<ol style="list-style-type: none"> Measurements of success Contribution to more cooperative management process

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Theme: Attitudes, Perceptions and Beliefs												
Selecting management/ finding sites with enough effectiveness data					•			•			1. Management agencies 2. Researchers 3. "Communities"	Must be linked to the survey of influence/ success factor perceptions under this category.
1. Getting stakeholders' participation in design workshops 2. Getting stakeholders' participation in providing information			•					•			1. NOAA Coral Reef Conservation Program 2. State, territorial government agencies 3. NGOs, private businesses	Broadening socioeconomic and ecological monitoring.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Where do people get their information about MPAs? ("People" include users, general public, politicians, and managers)	This project will conduct a survey about where people get information about MPAs, including users, general public, politicians, managers, etc. Must rank influences to determine which have most weight.			Provides info for future MPA	Provides info on target group	Identify gaps	A list of the major determining factors of people's perceptions of MPAs (what influences different sectors and the source of information)
Question: Within communities, what knowledge, attitudes, values, perceptions and beliefs do people have about marine resources							
Assessing community knowledge, values, attitudes and beliefs on nearshore marine resources within the Hawaiian Islands (Main Islands)	This project aims to provide baseline data on existing knowledge and values, attitudes and beliefs (VABs) in regard to nearshore marine resource conditions and management. The first part of this project will clearly identify and define the relevant stakeholders in the Main Island communities. The second part of this project will provide information to the following questions through a suite of methods: a) What is the state of the marine resources? What are the current trends and status? Where do you think it will be in the future? b) What do people think of the effectiveness of the current management efforts? What other needs? c) Where are the perceived problems/issues? Threats? d) Do people value conservation-focused measures? Why or why not? (motivations) e) What options/trade-offs would sit with people in terms of management? f) What difficulties with increased protection? g) Motivational needs assessment h) Compliance (perceived) by others? i) Opinions on proposed rule packages/measures – how to change attitudes and willingness to support and comply?				Evaluate current and potential (new) management strategies/trade-offs/options	Identify what managers can do now to fill existing gaps/needs	Outputs: <ol style="list-style-type: none"> 1. Identification of receptive stakeholder groups 2. Documentation of people's attitudes toward current/prospective efforts 3. Identification of where disconnects and gaps are Outcomes: <ol style="list-style-type: none"> 1. Knowledge of how to approach and talk with different groups 2. Knowledge of where to target outreach and education efforts 3. Knowledge of how to make public outreach efforts more effective 4. Knowledge of who will support state-wide MPAs

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Design and sampling of a viable and usable tool 2. Determination of the appropriate area to survey												Political polling experts.
and conditions of management, and how do they vary through time across age, gender, etc.?												
1. Defining the community/communities 2. Creating a feasible, appropriate survey instrument 3. Contentious issue: jaded/apprehensive respondent group			•						•		1. States 2. Universities 3. NGOs 4. Fishing/user interest/association groups 5. Market research firm 6. Community leader who can galvanize participation	

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Assessing knowledge, beliefs, attitudes and values on marine resource condition and management (nearshore environment) (CNMI and Guam)	<p>This project will:</p> <ol style="list-style-type: none"> 1. Do a literature review of cultural narratives, etc; 2. Design a survey to collect information via questions; 3. Conduct tests with focus groups; 4. Stratify by demographics and relation to types of marine management; 5. Analyze power relationships, demographics, etc. related to beliefs, etc.; and 6. Key informant interviews to triangulate information. 		•	Baseline most important	Monitoring important	Monitoring important	<ol style="list-style-type: none"> 1. Dissemination meetings 2. Analysis of "community" perspectives 3. Ongoing demographics data set 4. Report on recommendation for best fit of management to communities
Assessing village communities' knowledge, attitudes, beliefs and values on their nearshore and offshore marine resource conditions and management (American Samoa)	<p>This project will:</p> <ol style="list-style-type: none"> 1. Conduct a baseline attitude survey (one-time); 2. Conduct a creel survey (sample productivity over time); 3. Assess people's VABs of effectiveness of existing management; and 4. Assess communities' perception of resources to increase management effectiveness. 		•	•			<ol style="list-style-type: none"> 1. Results of survey – baseline data on knowledge VABs of resource condition 2. Attitudes toward effective management strategies 3. Attitudes toward future management regimes from communities and local agencies about nearshore and offshore resources 4. Updated and expanded baseline

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Multiple languages (5+, Philippino, Tagalog, Micronesian, Chamurro, Carolinian, Korean, English, Chinese) 2. Proprietary knowledge issues					Baseline 1st yr. every 3 yrs for monitoring				•		1. Micronesian Archaeological Research Services 2. University of Guam 3. International foundations that focus on this issue	This assessment survey project should be linked to community mapping work that should/ could be done under use research and practices to complement knowledge.
1. Cultural challenges (responding to questionnaires) to formalized assessment methods to be dealt with by local personnel 2. Human subjects issues – anticipate expedited review – will take about 2 years			•				•				1. NMFS, Fishery Councils 2. American Samoa Government (ASG), American Samoa Community College (ASCC), Coral Reef Advisory Group (CRAG), agencies 3. UH, SPREP, University of the South Pacific (USP), Secretariat of the Pacific Community (SPC) 4. Regional organizations, Fiji, LMMA 5. Department of Commerce (DOC), CZM programs, NMS, NPS	1. Evaluating attitudes toward ongoing creel census efforts and linking to stock assessments data from creel surveys 2. Evaluating stock condition in relationship to current management strategies

Economics of MPAs

This theme deals with economic conditions and trends associated with marine protected areas. Subjects of interest include, but are not limited to, market and non-market values, costs and benefits, and positive and negative impacts associated with marine protected areas.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Theme: Economics							
Question: What is the economic value and non-economic value of coral reef and coastal marine resources and how have they							
What is the value of coral reefs going to bring to people in Hawaii, Guam and CNMI?	<p>This project will measure (via either surveys or return-by-mail survey) importance of coral reefs in people's decision to visit or reside in each of these areas.</p> <p>Possible measures:</p> <ol style="list-style-type: none"> 1. Survey at points of entry regarding reasons for coming, with one question asking importance of healthy coral reef/ beach ocean front ecosystem (on planes, at harbors, driver's license office); 2. % or frequency of marketing articles highlighting healthy coastal resources; 3. % of tourism-related businesses/hotels on "beach" or selling ocean recreation/ fishing experiences; 4. Relative value of oceanfront property vs. inland properties; and 5. Relative property values of waterfront property on severely degraded coastline vs. pristine coastal area. 		•	•	•	•	<p>Research would probably validate extremely high values of coral reef/pristine ocean environment – outweighing the value of fisheries.</p> <ol style="list-style-type: none"> 1. Quantitative measure of importance to people's decision to come 2. Increased public support for more MPAs – forcing politicians to protect this valuable resource
Developing methods for assessing non-economic values of coastal marine resources	<p>This project will:</p> <ol style="list-style-type: none"> 1. Convene a workshop to: <ol style="list-style-type: none"> a. Identify non-economic values of coastal marine resources; and b. Identify methods for assessing/measuring the non-economic value. 2. Field test the identification/ assessment methods. 3. Prepare a handbook/ guidelines for identification assessment of non-economic values. 		HI & GU done separately	•	•	•	<ol style="list-style-type: none"> 1. Handbook for resource management entities on assessing/ valuing non-economic uses 2. Report to decision makers and public concerning non-economic values of projects and/or resources

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Theme: Economics												
changed over time under different management regimes?												
1. Designing appropriate surveys (perhaps 1 - 2 questions added to state's agricultural declaration) 2. Getting cooperation from airlines, airports, cruise ships, etc., in implementing survey		•					•				1. Hawaii Department of Economic Development and Tourism 2. NOAA, NPS 3. TNC 4. University of Hawaii 5. Hawaii DLNR-DAR	Earlier HI coral reef valuation study (e.g., Kihei-algae).
Disagreement among researchers concerning non-economic valuation		•					•				1. HERI (w/ John Dixon) 2. NOAA; Ocean Service, Special Projects 3. DAR Workshop should include social scientists from anthropology, sociology and psychology, oral historians and "cultural practitioners"	Should be done in parallel with economic valuation study in Guam.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Replicating an economic valuation study	This project will replicate the Cesar et al. 2004 study on the six no-take areas in the Main Hawaiian Islands. It will replicate the study in 5 to 10 years and test if no-take areas increase economic values to support adaptive management.	•			•		Changed economic values associated with no-take area management strategy
Question: Compare costs and benefits of local (community) enforcement vs. federal, state or territory.							
Study of trade-off between investment in education/ outreach vs. enforcement	Benefit-cost analysis of education/outreach vs. enforcement in achieving compliance with rules and regulations. This project will evaluate full range of enforcement, including self-enforcement by industry. It will evaluate duration of education/ outreach that may instill values affecting rate of compliance, taking into account institutional legal frameworks in existence.		•	•	•	•	<ol style="list-style-type: none"> 1. Provides manager the justification for choices in allocating budget between education/ outreach and enforcement 2. Tool on guidance on prioritize 3. Tool to evaluate different options for the future. Tells manager what to track
A comparative study of community based approaches to marine resource protection through education, outreach and enforcement (study will also identify costs and benefits)	<p>This project will be a literature review (Asia-Pacific), supplemented with rapid appraisals of undocumented cases/ programs, historic and current. Sub-projects would include:</p> <ol style="list-style-type: none"> 1. Developing rapid appraisal tools/techniques (evaluation sheet for workshop); 2. Identifying and characterizing by community-based, top-down, high education/ outreach, high enforcement, cultural heterogeneity, degree of marine tenure, and type of marine tenure; 3. Using sub-projects 1 and 2, to compare approaches to marine resource protection and develop effectiveness rankings. 		•	•	•	•	<ol style="list-style-type: none"> 1. Development of rapid appraisal/ evaluation tools 2. Characterization of existing sites and activities 3. A site specific ranking of approaches to marine protection and management 4. Development of a matrix of subsystems to identify most effective combinations of factors

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Because it has never been done before, we don't know if we can reliably detect changes in measured economic values (variances in measurement)			•					•			<ol style="list-style-type: none"> 1. NOAA Coral Conservation Research Program 2. Hawaii Coral Reef Initiative 3. Hawaii Department of Land and Natural Resources 	<ol style="list-style-type: none"> 1. HI Coral Reef Initiative and HI Lands and Natural Resources funded work (Cesar et al. 2004) valuation of Hawaii MPAs 2. Possibly American Samoa study by Spurgeon
How to measure compliance - Simple enforcement measures (tickets, warnings) not sufficient; different places will require different time durations to evaluate compliance			•		•				•		<ol style="list-style-type: none"> 1. NOAA's Coral Reef Conservation Program 2. States and Territories 3. NGOs 	<ol style="list-style-type: none"> 1. How compliance is related to effective resource protection (improved resource conditions) 2. Comparative community-based analysis
<ol style="list-style-type: none"> 1. Availability of case studies applicable to the region 2. Preparation of rapid appraisal/ evaluation talks need to be tested 								•		•	<ol style="list-style-type: none"> 1. UH, UOG 2. USP, SPC 3. NGOs (international) 4. South Pacific Applied Geoscience Commission (SOPAC) 5. United Nations Environmental Program (UNEP) 6. United Nations Development Program (UNDP) 7. States/governments 	Question 1. and 1a. Round for economics.

Communities

This theme examines the characteristics of geographic and stakeholder communities associated with marine protected areas and the way these communities function, particularly as they relate to the use and conservation of marine resources.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Theme: Communities							
Question: Effectiveness of community based monitoring and enforcement. What is current effectiveness? How can we increase							
Assessing the effectiveness of community-based marine management in the Pacific Region	This project will look at the effectiveness of existing community-based (CB)-MPA/marine management efforts. It will focus on consulting and evaluating with local community representatives on two areas: (1) whether or not the community perceives the effort being effective at meeting the stated goals/objectives and community needs; and (2) whether or not the MPA/MMA (Marine Managed Area) is effective from accepted MPA evaluation perspectives. Also, the project will look closely at how much local community needs and expectations are being effectively addressed by the efforts. The focus will be only on actively ongoing sites/efforts.		HI, A. Samoa, Guam/Saipan/CNMI				<p>Outputs:</p> <ol style="list-style-type: none"> 1. Documented results as to whether or not programs are meeting needs of community, short and long term 2. Determination of the degree to which these areas contribute toward meeting national/state plans/needs 3. Determination as to how local expectations may have changed over time and the degree to which they are being met currently under existing plan <p>Outcomes:</p> <ol style="list-style-type: none"> 1. Recommendations on how to improve local/community programs are to be implemented, lending to increased effectiveness of site and national efforts 2. New/adapted management plans put into place to strengthen local management efforts and address changing community needs/expectations 3. Results allowing national/state decision-makers to build in community-based management (CBM) efforts into national/state planning efforts, if existing

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Theme: Communities												
effectiveness?												
<ul style="list-style-type: none"> 1. Getting community support/access to evaluation efforts 2. Getting government support to consider/permit/incorporate findings 3. Language barrier (esp. w/ indigenous dialects) 4. Different levels of capacity and familiarity with evaluation at communities being evaluated and ability of local participation in leading evaluation (can't bring in only outsiders so need internal capacity to do project) 5. Communities are busy! May not see need or have time 											<ul style="list-style-type: none"> 1. Local/host communities 2. Government (esp. local, but also state/national) 3. Universities 4. Regional organizations 	<ul style="list-style-type: none"> 1. In HI, LMMA network efforts; DAR support/review of CBM programs; and Marine Life Conservation Districts (MLCDs) 2. In Samoa, once at 10 villages, will be an evaluation review of 10 areas/efforts by Department of Marine and Wildlife 3. In Guam, UOG MPA center efforts to evaluate management effectiveness

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Developing a monitoring program that provides a measure of success of a community MPA based on the management plan goals. Program must satisfy both community success criteria and provide useful data for scientific analysis	External institutions will work with communities to identify key criteria and tools to measure them. Training will be provided to appropriate monitoring team (mix of external and local). Sampling will be conducted at least semi-annually (catch reports data can be collected as a criterion of fishing permit on a routine basis) and a baseline will be established to measure against. Status and trend reports will be provided to the community annually for their review.		•		•	•	<ol style="list-style-type: none"> 1. Monitoring plan (site specific) and appropriate tools/techniques 2. Evaluation process that can inform management plan revision, and can assist in legal and policy amendments
Assessing the inventory of social institutions, level of existing monitoring, current problems and needs, and opportunities for enhancing monitoring process and results	This project will: <ol style="list-style-type: none"> 1. Define overall objectives; 2. Determine what questions we are trying to answer; 3. Determine who will do the work; 4. Determine the training needs; 5. Conduct comparisons for monitoring; 6. Determine who will analyze the data; and 7. Determine to who the data is to be reported. 		•	•	•	•	<ol style="list-style-type: none"> 1. If done well, increased buy-in by the community 2. Increased monitoring skills and capabilities in the community (through training) 3. More and better data available for science/ecological analyses
Identifying local structures to study ways of creating institutions for the enhancement of MPA management and enforcement	This project will hold a workshop with the communities (same with government) to identify the following: <ol style="list-style-type: none"> 1. Existing management regimes; 2. Problems regarding regulations; 3. Are regulations enforceable? 4. Limits of regulations; 5. Ways to work w/ partners; 6. Ways to improve enforcement of management regulations; and 7. Workshops and enforcement training for government and one workshop for communities. 	•				•	<ol style="list-style-type: none"> 1. A report that identifies perceptions from the community and government on ways to work together and improve mgmt. Mgmt includes strengthening of regulations to improve enforcement 2. Strengthening community regulations (villages) by incorporating them within territorial regulations

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Resources 2. Distance from academic institutions 3. Training must be at level lay person can fully understand and embrace 4. Establishing baselines after MPA has been operating 5. Continuing support of program 6. Delivering the data/information in a useful format to the community					•	•					1. Local government 2. Universities 3. NGOs 4. Villages	
1. Variability of community organizations in different areas 2. Variability of resource and area values 3. May take time to develop relationship w/ community		Initial assessment			Monitoring	Per year per site					1. Community and private organizations 2. NOAA/NMFS/ National Ocean Services (NOS) 3. Local government	Need to assess the levels of monitoring, interest, and values by community and its linkage to science/ ecological needs.
1. Community motivation 2. Limited resources (e.g., technical assistance, funding, equipment) 3. Willingness to participate from both government and community			•			•					1. DOC, Environmental Protection Agency (EPA), Department of Marine and Wildlife Resources (DMWR), Marine Patrol 2. SPREP, NMFS, ASCC, USA 3. MPA advisory committees, CRAG	

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Assessing current community-based monitoring (formal and informal)	This project will: 1. Identify monitoring processes and species; 2. Assess opportunities for sharing information between fishermen and scientists (not scientists treating resource users as “informants”); 3. Avoid “know it all”, top-down, confrontational approaches from biologists; and 4. Develop a framework for assessing effectiveness (from a social viewpoint and MPA perspective).		•	•	•	•	1. Better understanding of MPA processes and links to different types of monitoring 2. Identification of opportunities for local capacity building 3. Better relationships between scientists and resource users/managers
Factors influencing the effectiveness of community based monitoring and enforcement in the Pacific Islands	Phase 1: This project will identify demographic, social, economic, ecological and project activity variables hypothesized to impact effective monitoring and enforcement of MPAs in the Pacific Islands. This can be done by literature reviews and focus group meetings with Pacific Island MPA practitioners. The project will develop an inventory (unless already completed) of MPAs in the Pacific Islands. Phase 2: This project will develop research protocols for collecting data on all variables identified (dependent and independent). It will select a sample (~40) of MPA communities in the Pacific. Phase 3: Collection, analysis, and write up of data. Phase 4: Preparation of guidelines (based on analysis) for use by decision makers involved in developing and assessing MPAs.		•	•	•	•	1. Identification of probabilities of effective monitoring and enforcement associated with specific combinations of predictor variables 2. Establishment of a data set of demographic, social, ecological, and project activities for a sample of MPAs in the Pacific
Assessing social and economic value of participation in the NWHI limited entry (LE) Bottomfish fishery by impacted community of current and recent permittees	A focused assessment of the social and cultural values of the bottomfish fishing experience for current and recent LE permittees including those who have recently left the fishery, with an analysis of the economic impacts of restrictions, potential phasing out, and the loss of fresh “Hawaii product” for upscale Hawaii restaurant market. This is intended as an independent check on any NEPA process .	NWHI Reserve		•	•	•	1. Baseline profile of current users/permittees and potential Community Development Program (CDP) permittees, and social and economic value of continued participation (by families, etc.) in the NWHI Bottomfish fishery 2. Assessment of attitudes towards proposed management regimes by most affected fishery dependent community 3. Clearer definition of fishery dependent communities

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Financial constraints 2. Openness to cooperation 3. Attitudes of scientists and resource users				•	•			•			1. NGOs, government, private sector 2. Selected communities and local institutions (e.g., fishing clubs) 3. Federal partners	Great opportunity for linkages to natural sciences.
Finding people with the will to go to the field and collect this data in a relatively large sample of MPAs spread over a large area		•						•			Pollnac, Aswani, Parks	1. Research conducted in Philippines and Indonesia by Pollnac and colleagues 2. Research by Shankar Aswani, John Parks 3. See Polluck et. al 2001, 2004, etc. – research already completed in Philippines/Indonesia
1. Getting permittees to participate, given their sense of exclusion from the process to date. 2. Contrived power contest between two currently active councils: the Western Pacific Regional Fishery Management Council (WPRFMC) and the Regional Advisory Council (RAC), and the jurisdictional issues		•					•				1. PIFSC 2. UH system, SSRI and others 3. NGOs, fishermen groups	Attitudes, Perceptions and Beliefs, user groups, environmental justice, moral fairness.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Question: What do communities really want? Do MPAs serve a function for communities?							
Identifying, evaluating and developing legal mechanisms for community based marine managed areas	This project will involve: 1. Series of case studies on how locally initiated marine managed areas have been legitimized through local, state, and territorial legal processes.. 2. Getting authority to enforce and prosecute - getting capacity and resources to enforce and prosecute. 3. Moving into administrative law? Or civil law? Criminal law? 4. Workshop to look at cases: will include lawyers, judges, and case studies in Fiji (look at legal regimes that may cover the U.S. affiliated island), Hawaii (Mo'omomi), Samoa, Philippines and Indonesia (University of Rhode Island).		•	•	•	•	1. Case study reports 2. Handbook, guidebook- legal options for each jurisdiction
Political ecology of coastal community where MPA may or may not be designated	This project will evaluate the process and degree to which communities support/resist MPAs. It will seek to understand power structure, political process, and where support and resistance lies, and develop creative problem solving to harness public participation in the decision-making process. It will conduct a historical analysis of how local, regional and international economic/political factors shaped establishment of MPAs.		•	Develop ways to sell conservation. include comm. needs and values into decision-making process	Develop ways to maintain public part. and support in ongoing adaptive management of resources		1. Recommendations on how to improve public participation, which increases community buy-in in process 2. Education component (score card, brochure, etc.) of basic environmental data, which will help stakeholders' participation 3. Identification of continuum of public participation strategies (key decision-makers to total consensus) and success/failure rates for effective public participation 4. Score card on rates of public participation and opportunities for public participation in decision-making process to bring legitimacy

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Changing current legal regimes 2. Developing effective enforcement programs 3. Support from judiciary		•				•					1. Community groups, local, state and territorial government 2. University of Rhode Island - Pollnac, Crawford	
1. Community is diverse/divided/ stratified/political and this must be addressed 2. "Community" is a moving target - needs and values change based on a variety of complicated environmental, political, economic and social factors 3. Difficult to link/ determine social/ecological drivers and casual relationships		Initial evaluation								•	1. Managers of areas 2. Community participants 3. University researchers/students 4. State/federal governments	1. Historical charge of ecological factors 2. Review of MPA processes and what worked and what didn't work related to different political, economic times and social attitudes, leading to best practice examples for future decision-making process

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Methodologies for effective community development around coastal marine resource management and issues	<p>This project will:</p> <ol style="list-style-type: none"> 1. Identify methodologies to engage communities in managing marine resources and other environmental issues. 2. Evaluate community awareness to determine knowledge and perceptions, values of marine resources and other environmental issues. 3. Conduct studies to link marine resources and other environmental issues to community social and economic needs and values. 4. Identify community projects and outreach programs that will increase participation, motivation and support for managing coastal resources. 5. Develop long term monitoring to evaluate stock assessment, fishing effort (CPUE) and abundance, and evaluate community perceptions and changes over time. 6. Evaluate perceptions of management to ensure management is responsive to community needs 7. Conduct meetings with various groups, with sensitivity to status within groups (i.e., gender, status, tenure and use). 		•	Issues			<ol style="list-style-type: none"> 1. Report evaluating community perceptions about marine resources and environmental conditions 2. Identification to increase more effective community participation and support 3. Ways found to empower communities and increase sharing of information amongst community members
How to identify conditions where local demand was effective? Can this translate to the marine environment?	<p>Project to assess a range of examples where this has worked or not worked. Examples:</p> <ol style="list-style-type: none"> 1. It worked in the Philippines: Environmental Legal Assistance Centre (ELAC) works entirely on community driven projects, where the community identifies its needs and approaches a NGO. The NGO provides information, training and advice, and reacts to the community responses. They have continued to support communities since 1996 and this stimulates more community involvement in every sector and is expanding. 2. Channel Islands. 		•	Develop marine mgmt tools to be applied when planning marine mgmt strategy			<ol style="list-style-type: none"> 1. Tools for identifying community potential for effective participation in any given community-based marine management project 2. Identification of criteria that may “flag” community willingness to participate in any given community-based marine management project

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Funding, time consuming, community commitment, other more pressing community issues					•					•	1. Community organizations 2. Government (federal, state, local) 3. User groups	Cultural Heritage and Resources, Economics, Community development organizations.
Contested evidence of prior effective participatory planning		•					•				1. NGOs 2. UOG 3. SSRI (UH) 4. PIRSC	1. Links to attitudes and values 2. Links to political, ecological questions

Cultural Heritage and Resources

This theme covers the historical and traditional artifacts within marine protected areas. These may include, but are not limited to, nautical history (wrecks, replicas, etc.), maritime infrastructure (piers, light-houses, locks, ports, forts, etc.), and historical documents (books, photographs, music, recipes, etc.) of MPAs. This theme addresses primarily the physical manifestation of historical and traditional uses of marine resources; their social and cultural underpinnings are addressed by other themes.

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Theme: Cultural Heritage and Resources							
Question: What, where, who are the traditional and dynamic cultural practices and properties within the region?							
Baseline of current use of resources to direct historical and cultural research and establish a framework for management of an MPA	<p>This project will establish a baseline of information on resource use in proposed MPA:</p> <ol style="list-style-type: none"> 1. Begin time series for data and information; 2. Look for areas of non-use as a control; 3. Current use establishes a baseline and comparative point to measure effects and impacts. <p>For planning:</p> <ol style="list-style-type: none"> 1. Scope community for description of current use; 2. Direct observation of current practices; 3. Map current use areas and uses; 4. Develop seasonal cycles of use (and other user descriptions); 5. Develop report with description of uses and proposed management rules (allows, disallows or abbreviates use); 6. Scope again for community buy-in and participation. 		•	•			<ol style="list-style-type: none"> 1. Workshop series to establish community participation and buy-in 2. Framework for establishment of MPA 3. Development of consensus for MPA
Documenting past and present local marine practices and indigenous marine ecological knowledge	Documentation of past cultural practices through archaeological excavation and analysis, and synthesis of previous archaeological research: ethno-historical documentation. Will involve interviews with practitioners familiar with recent past and current marine practices with emphasis on indigenous marine ecological knowledge, and synthesis of ethnographies.		•	•	•	•	<ol style="list-style-type: none"> 1. Better relations and understanding of local community use of resources 2. Increased knowledge of health and status of marine resources 3. Development of culturally appropriate regulations and guidelines for MPAs 4. Passing on of elder knowledge and environmental resources to future generations 5. Relating of sacred practices to ecological understanding

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
Theme: Cultural Heritage and Resources												
Achieving consensus for MPA that allows use and achieves community buy-in			•		Ongoing review						1. NOAA 2. NOS 3. Regional fishery council 4. PIFSC 5. State or territory	1. Ongoing efforts to establish cultural rights in HI 2. Community-based fishery management in American Samoa 3. Community-based fishery management in SPC
1. Access to appropriate sites/resources 2. Procreation of deposits and resources 3. Loss of elder members of community 4. Language barriers 5. Cultural background/sensitivity 6. Identification of interviews 7. Interviewee willingness to release information			•						•		1. Local universities and regional/ national schools 2. NPS & other federal organizations 3. Regional/local museums and historical societies 4. Tribal heads of households/ districts	1. Links with community efforts 2. Links with agency and planning efforts 3. Links with use patterns

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Developing a rapid survey technique to identify sea tenure stakeholders	This project will develop a method for rapid assessment of the existence or not of customary sea tenure (CST) and the identification of people with rights to a particular area (e.g., reefs, etc.). For instance, the RACST method could be used to identify the spatial distribution of right holders in relation to a resource. This is key to knowing where transaction costs of making or keeping agreements will be low. In order for a MPA to work in an area that CST exists, it is key to identify the spatial distribution of all users.		American Samoa, HI, Micronesia	•	•		<ol style="list-style-type: none"> 1. Better management 2. Better decision in where to establish a MPA beyond relying on biological parameters alone
Investigating linkages between land-based degradation (pollution) and MPAs using Ahupia'a – watershed approach	This project will document the influence of land use change within selected watersheds in relation to cultural practices and properties within the region. Methodology: select specific sites that represent different types of land use practices that influence the marine environment, cultural heritage and gathering rights, to conduct comparison studies within and across regions. Select indicator species, sites (e.g., fishponds, fish traps) to document changes in these areas. Effort should include broad scale methods (e.g., aerial photo analysis), assessment of population harvested species, oral histories, and land and resource tenure systems.		•	Linkage between watershed and MPA	Developers to address mitigation measures	To reflect planning success	<ol style="list-style-type: none"> 1. Healthy water quality 2. Reduction of sedimentation and eutrophication 3. Increase of fish stock

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. No CST existent (formally or not) 2. Loss of indigenous knowledge	•					For specific site			For all region		1. Government agencies 2. NGOs/Indigenous groups 3. Academic institutions	See CST proposal.
Political will - objection by land developers, lack of education and lack of data to make sound decisions to further inform stakeholders			2-3 years						•		1. Universities, NGOs (local, national, international) 2. Federal government, state government, local government 3. Local community organizations	1. Economics addressing land use types 2. Link to natural science efforts such as coral reef coring studies

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Documenting and evaluating the transformation (DYNAMICS) of customary sea tenure systems (formal and informal) in the Pacific Region	Over the last 2 decades a number of researchers have documented the existence of CST institutions around the Pacific Region (Johanness, Hviding, Ruddle, etc.) and have acknowledged that these are flexible and dynamic governance and management institutions. Less attention, however, has been placed on understanding the actual independent variables that transform these systems and forms of measuring them (e.g., demographic shifts, settlement patterns, changing consumption patterns, etc.). Understanding how CST systems are transformed and what the historical, economic, political, sociocultural, and ecological parameters are that transform this system is of paramount importance to the successful implementation of MPAs in places of the Pacific in which CST systems are part of the design of community-based MPAs in the Pacific Region. Note that there are areas in which CST is considered dead/non-existent and yet they are still informally practiced by local populations. Not only do we need to identify and recognize these, but develop a set of sociological tools to understand their dynamics. GIS and other methods such as consensus analysis, income/expense analysis, etc., need to be employed in this endeavor.		•	Identify conditions for successful MPA under successful CST regime	Appropriate governance infrastructure for successful MPA		<ol style="list-style-type: none"> 1. Set of predictor variables that will predict whether or not an area in which CST is recognized is able to accommodate an MPA 2. Recognition of indigenous rights 3. Easier implementation of MPAs 4. Revival of traditional practices and their integration with western approaches to resource management 5. Empowerment of local communities 6. GIS maps of sea/land tenure systems from an emic perspective (indigenous)
Pacific Island marine resources management practices: Identifying drivers of change, post European contact	Identification and analysis of PIMRMP (Pacific Island marine resources management practices) both pre- and post Western contact, with emphasis on social, political, religious, and legal drivers that forced changes in pre-contact practices. Analysis will focus on perceived and actual effectiveness of the different regimes, and their applicability to current MPA design and implementation.		•	Engage local comm., demonstrate effective mgmt	Develop adaptive mgmt regime	ID successes and needs of mgmt regime	<ol style="list-style-type: none"> 1. Identification of historical marine management regimes and change agents. Analysis of how these changes may have affected loss of marine resources 2. Evaluation of historic management practices that may be useful in current or planned management regimes

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. No baseline data for many areas, official denial of their existence, resistance of local people to explain their right, loss of knowledge, etc. 2. Skills to conduct the research 3. Language capacity for specialized knowledge	For area specific project					For single project					1. Indigenous group organizations 2. Government – if willing to recognize indigenous rights 3. NGOs	1. Indigenous ecological knowledge 2. Globalization process 3. Political ecology 4. Studying conflict 5. Archaeology
1. Time needed to adequately document and analyze the information 2. Politicization of this subject 3. Intellectual property question				•					•		1. Social research institutions/ specialists 2. Cultural specialists/ historians/ practitioners 3. Local government agencies 4. Federal government agencies 5. Regional cultural/ environmental institutions/NGOs	

Project Title	Description	One site	Many sites	Planning	Management	Evaluation	Outputs/Outcomes
		Geographic Coverage		Applicability			
Question: What role can traditional ecological knowledge play in the design of MPAs?							
The role of traditional ecological and spiritual knowledge in designing MPAs	This project will: 1. Synthesize existing information from diverse resources; 2. Gather knowledge, identify gaps; 3. Determine current traditional cultural practices; and 4. Conduct a literature review and oral history interviews.		•	•	•	•	1. Body of knowledge of traditional ecological and critical knowledge – educational curriculum 2. Information that will assist in implementation and management of MPAs 3. Revival of traditional practices – cultural restoration
Mapping of geographical and mental boundaries of traditional resource use	Based on/extension of collected knowledge. This project will prepare maps (GIS) of marine resource use areas of various temporal and spatial scales. It will elicit information on mental maps of marine resource users.		•	•	•	•	1. Maps at various scales 2. Historical and contemporary use maps 3. Improved planning and designation of MPAs
Community involvement in the design and implementation of an MPA	Beginning with an inventory of community organization – formal and informal – this project will have each group contribute a member/members to a planning and working group. The MPA scientists/management need to be linked to the local community on a regular basis to keep people informed. The project will determine where community conflicts exist and mitigate or develop compromises to deal with these conflicts. It will establish executives where appropriate; make sure the plan is adaptable and can evolve over time as needed; and develop community census for the design and management plan.		•	•	•		1. Collection of community perspectives and support for the MPA 2. Mitigation of conflicts of values and issues 3. Better compliance with MPA rules, regulations

Challenges	1 Quarter	1 year	2 years	5 years	Ongoing	<50	50-100	100-250	250-500	>500	Potential Partners	Linkages
	Estimated Duration					Estimated Cost (\$K)						
1. Almost too late to gather knowledge from elders 2. Release of proprietary information 3. Community cooperation 4. Language barrier			•							All areas	1. Local governments, universities 2. NGOs, regional, elders 3. Federal agencies	Site mapping.
1. Almost too late to gather knowledge from elders 2. Release of proprietary info 3. Community cooperation 4. Language barrier			*						•		1. Universities, NGOs, elders 2. Government agencies	Traditional ecological knowledge.
			Initial plan		Management over time		•				Community, federal, state and local government and agencies	

Appendix B. Additional Proposed Research Questions

Following is a list of all the questions that were developed in the initial brainstorming session. These questions were prioritized by the workshop participants in terms of their perceived importance for the generation of social science information for MPAs in the region. The number in parenthesis after each question represents the number of votes received during the prioritization process. The bolded questions comprise the final twelve questions that the participants developed in detail in Appendix A.

GOVERNANCE, INSTITUTIONS AND PROCESSES

- **Effective ways to communicate social science information into management decision makeup. How effectively can you carry on the message to communities? (5 votes)**
- **What processes have been effective in establishing management for MPAs? (6 votes)**
- Are we coordinating internationally? How? And learning from international experience? (2 votes)
- What is capacity within existing governance structures? (2 votes)
- Where indigenous knowledge & practices have been effective, how to apply in context of modern management legal structures? (2 votes)
- What is baseline for governance processes? Define jurisdictions (1 vote)
- What is the experience, background, and bias of current management agencies relative to MPAs?
- Who are the leaders/heroes committed to MPA processes? And who's opposed?
- How can federal government influence local level and vice-versa?
- How can government and academia get involved effectively? What has worked? (lessons learned)
- How can government promote long-term management by communities?
- How to successfully transition to community management?
- How transfer historical use of kapu into modern management without presuming they were beneficial? Be critical of concept, understand how used
- What's the most cost efficient management structure for MPAs?
- Look at existing connections and opposition to expand ecosystem scale
- Explore systematic conservation planning and important protocols
- How does participatory monitoring impact community participation? How does scientific monitoring impact community participation? (being exposed to science)
- What is relation between historical/traditional boundaries of current/scientific (bathy) –based boundaries?

USE PATTERNS

- **What are the broad-based use patterns (conduct surveys, etc.) inside and outside MPAs: who, what, when, where and why? (e.g., what percent of people do what?) (8 votes)**
- **How do use patterns change related to MPA placement and management? What are the social, economic and ecological impacts within MPAs and outside areas? (7 votes)**
- How does MPA designation affect user groups? (e.g., does it reduce/create conflict? (2 votes)
- How can MPAs enhance/change traditional uses and management? (1 vote)
- How are technological advances reconciled with traditional and cultural uses of MPAs? (1 vote)

- Who determines use patterns within a community and how does it change over time? (1 vote)
- Why are people using marine resources? (protected or not protected)
- What are the ecological impacts of MPAs?
- Evaluate use patterns of nearshore/offshore fisheries; characterize use patterns.
- How do transportation corridors affect MPAs and marine resources?
- What role does federal and local government play in enforcing MPAs?
- What are current subsistence use patterns? (methods, participants, locations)

ATTITUDES, PERCEPTIONS AND BELIEFS

- **Within communities, what knowledge, attitudes, values, perceptions and beliefs do people have about marine resources and conditions of management, and how do they vary through time across age, gender, etc.? (11 votes)**
- **What are the critical factors that influence people's perceptions of MPA success? (6 votes)**
- What are the environmental ethics and beliefs of immigrant and native populations? (5 votes)
- What is the difference between community perceptions/beliefs of impacts and scientifically evaluated impacts? (2 votes)
- How much do people's attitudes, perceptions and beliefs actually predict their behavior to comply with MPAs? (2 votes)
- How do people value MPAs and why? (2 votes)
- What are the attitudes, perceptions and beliefs that impede the success of MPAs? (use and non-use) (1 vote)
- What are the conflicts created by common access versus open access? (1 vote)
- What is the local perception by stakeholders of MPAs?
- What are the major factors influencing people's attitudes, perceptions and beliefs of MPAs?
- What are the national and international attitudes, perceptions and beliefs of MPAs in this region?
- How can attitudes, perceptions and beliefs of MPAs be utilized to increase marine resource protection?

ECONOMICS

- **What is economic value and non-economic value of coral reef and coastal marine resources and how have they changed over time under different management regimes? (11 votes)**
- **Compare costs and benefits of local (community) enforcement vs. federal, state or territory (6 votes)**
- What are economic impacts of land management/use on marine resources? (also compare to economic value of land use) (5 votes)
- Identify micro-economic communities. What are the micro-economic use patterns? (2 votes)
- How do you evaluate non-material values relative to economic values? (2 votes)
- Compare cost benefit of education/outreach compared to enforcement (1 vote)
- What impacts do mineral resources have on the economy? (1 vote)
- How does the establishment of MPAs fit into broader economic imperatives such as tourist development? (1 vote)
- What is the trade off and market values of designating an MPA? (e.g., what is the cost of loss of business, loss of fish, non-material values, market destination, etc.?) (1 vote)
- Conduct a subsistence economic analysis; include definition of subsistence (1 vote)
- What are the non market values? (focus on whole range of types of protection)

- How to compare quantitative values and qualitative values?
- What is the value added by incorporating science into a traditional MPA framework and vice versa?
- How do you mitigate economic impacts in affected users?

COMMUNITIES

- **Effectiveness of community based monitoring and enforcement. What is current effectiveness? How can we increase effectiveness? (9 votes)**
- **What do communities really want? Do MPAs serve a function for communities? (6 votes)**
- What are characteristics of communities where community-based fisheries management will work? (5 votes)
- Identify economic, social, historical and ethnic/cultural asymmetries in communities (3 votes)
- How do communities get their information? What is most effective way to communicate within and between communities? (2 votes)
- How to develop adaptive management strategies at the community level? (2 votes)
- How does the way a community views their world influence how they act? (community psychology) (1 vote)
- What are conflicts between and within communities? (need people within the communities to study this) (1 vote)
- How do we define communities? How do different areas define communities? Define spatial distribution of communities.
- What are the conditions under which communities come together?
- Evaluate models of community participation.
- How are communities already organizing for/against MPAs?

CULTURAL HERITAGE AND RESOURCES

- **What, where, who are the traditional and dynamic cultural practices and properties within the region? (11 votes)**
- **What role can traditional ecological knowledge play in the design of MPAs? (6 votes)**
- What can archaeological sites tell us about past conditions? (3 votes)
- What is the genealogical responsibility of pacific islands & cultures to care for marine resources and how can genealogical heritage support MPAs? (2 votes)
- How are culturally appropriate uses determined and how are limits set on those uses? (2 votes)
- What are the cultural values of culturally critical species? (i.e., food, tourism, aesthetic, spiritual) (1 vote)
- What are the existing formal and informal customary sea tenure systems? And what are the archeological sites associated within those systems?
- What are the implications of mineral resources?
- What are the cultural implications of bioprospecting?
- What is the cultural value of MPAs?
- How, where and why are customary laws (including tenure rights) and cultural values being eroded by economic interests (groups) and values?

Appendix C. Existing Social Science Research Efforts

Existing Social Science Research Efforts							
Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
MPA Social Science							
University of California Santa Barbara, Anthropology Department; University of Otago (New Zealand)	The value of many small vs. few large marine protected areas in the Western Solomons. SPC Traditional Marine Resource Management and Knowledge Information Bulletin #16	Describes effort to establish a network of marine protected areas in the Western Solomon Islands and summarizes the biological and social rationale employed for setting multiple small reserves within a biogeographical region. The authors argue that in the case of the Western Solomons, a network of small MPAs is a more biologically effective and socially attainable strategy than establishing a few large reserves.	Attitudes, Perceptions and Beliefs			•	Shankar Aswani: aswani@anth.ucsb.edu
University of California Santa Barbara, Anthropology Department; University of Otago (New Zealand); and The John D. and Catherine T. MacArthur Foundation	The Roviana and Vonavona Lagoons Marine Resource Management (1994-2002)	Research objectives of the project are: investigate regional spatial patterns of settlement and their resulting impact on property configurations; investigate the transformation of regional demographic patterns and their effect on common-property institutions, particularly sea tenure regimes; determine the impact of economic development on sea tenure institutions; explore regional differences in cultural knowledge regarding tenure rules and their social and environmental consequences; investigate documentation and correlation of indigenous ecological knowledge with Western scientific knowledge (e.g., spawning aggregations); and investigate a longitudinal analysis of marine harvest effort patterns.	Attitudes, Perceptions and Beliefs; Use Patterns; Communities			•	Shankar Aswani: aswani@anth.ucsb.edu

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of California Santa Barbara, Anthropology Department; University of Otago (New Zealand)	Integrating indigenous ecological knowledge and customary sea tenure with marine and social science for conservation of bumphead parrotfish (<i>Bolbometopon muricatum</i>) in the Roviana Lagoon, Solomon Islands. Environmental Conservation 31 (1): 1-15	Three aspects of indigenous ecological knowledge in Roviana were identified as most relevant for the management and conservation of bumphead parrotfish, and studied through a combination of marine science and anthropological methods. The information obtained from this research was used to establish two marine protected areas in the region for bumphead parrotfish conservation.	Attitudes, Perceptions and Beliefs; Use Patterns; Communities			•	Shankar Aswani: aswani@anth.ucsb.edu
University of California Santa Barbara, Anthropology Department	Women, rural development and community-based resource management in the Roviana Lagoon, Solomon Islands: establishing marine invertebrate refugia. SPC Traditional Marine Resource Management and Knowledge Information Bulletin #12	This paper examines which institutional arrangements are best able to produce precautionary management programs such as marine reserves and spatio-temporal refugia. The author summarizes a case study from Roviana Lagoon, in the Solomon Islands. He also examines a small-scale women's rural development project that is involved in the establishment of spatio-temporal refugia and a marine reserve in a mangrove habitat.	Attitudes, Perceptions and Beliefs; Communities			•	Shankar Aswani: aswani@anth.ucsb.edu
University of California Santa Barbara, Anthropology Department	Scientific evaluation in women's participatory management: monitoring marine invertebrate refugia in the Solomon Islands. Human Organization (forthcoming summer 2004)	This paper summarizes the results of a women's community-based marine protected area that has been successful in sustaining invertebrate biological resources and in promoting strong community support. The authors outline the project and the associated biological results, describe the processes involved in attaining a committed level of community participation, and review the lessons learned during the project's implementation.	Attitudes Perceptions and Beliefs; Communities			•	Shankar Aswani: aswani@anth.ucsb.edu; and Pam Weiant: pweiant@umail.ucsb.edu

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of Guam, Marine Protected Area Research Group (MPARG)	MPA Economics: Determining the Non-Extractive Values of Coral Reef “Icon Species”	This research proposes to use both contingent valuation and the conjoint theory in Guam to assess the economic value that divers derive from select improvements in environmental quality and less crowded dive sites. This value will be assessed using both CV and CJ formats to determine if estimates are significantly different and, if so, to explore the source of the difference.	Economics			•	Mark Tupper: mtupper@guam.uog.edu; http://www.uog.edu/marinelab/mpa/valuation.pdf
University of Guam, Marine Protected Area Research Group (MPARG); IUCN, World Commission on Protected Areas (WCPA) - Marine; and World Wildlife Fund for Nature (WWF)	Testing Predictive and Deterministic Indicators of MPA Management Effectiveness (2001-2002)	The objective of this project is to assess the management effectiveness of MPAs in the U.S. Pacific Islands (Guam, CNMI, Palau) by crafting and measuring a suite of biophysical, socioeconomic and governance variables (“indicators”) appropriate to regional conditions that influence the performance of MPAs.	Economics; Governance, Institutions and Processes			•	Mark Tupper: mtupper@guam.uog.edu; http://www.uog.edu/marinelab/mpa/mei.pdf
University of Hawaii’s Social Science Research Institute (Hawaii Coral Reef Initiative Research Program)	Assessment of Economic Benefits and Costs of Marine Managed Areas in Hawaii	Evaluates the economic value of selected MPAs in Hawaii, including the costs and benefits of their various management and financing regimes. Examines how to make MPAs potentially self-financing and how to pay for enforcement.	Economics		•		Mike Hamnett: hamnett@hawaii.edu
University of Hawaii at Manoa - Pelagic Fisheries Research Program	Evaluating Closed-Area Management Regimes in the Gulf of Mexico, Northwest Atlantic, and Central Pacific Highly Migratory Species Longline Fisheries (2001-2003)	The purpose of this study is to examine four areas with management measures that closed or severely restricted longline fishing (with the target protected species noted in parentheses). All four closures are examined for effectiveness, while future analyses will assess the effects of the closure on the respective fishery.	Economics			•	David Kerstetter, Virginia Institute of Marine Science: bailey@vims.edu; http://www.soest.hawaii.edu/PFRP/allprojects.html

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of Hawaii at Manoa - Pelagic Fisheries Research Program	Regulatory Impact Analysis Framework for Hawaii Pelagic Fishery Management: A Multilevel and Multiobjective Programming Model (2001- present)	Since area closure is a common practice in fishery management, this project aims to modify the existing allocation models by incorporating a flexible area classification to meet the unique management needs for the Hawaii pelagic fishery, while at the same time incorporating the advantages of the existing allocation model to meet the specific needs of fisheries management in Hawaii.	Economics		•		Sam Pooley: Samuel.Pooley@noaa.gov; http://www.soest.hawaii.edu/PFRP/allprojects.html
NOAA - Hawaiian Islands Humpback Whale National Marine Sanctuary	Valuing Hawai`i's Humpback Whales: The Economic Impact of Humpbacks on Hawai`i's Ocean Tour Industry (1998-1999)	This study quantifies the economic impact of commercial whale-watching and other humpback-related ocean touring in Hawai`i. It also quantifies the broader economic impact of the ocean tour industry.	Use Patterns				Dan Utech: http://hawaiihumpbackwhale.noaa.gov/research/project_list.html
NOAA - Hawaiian Islands Humpback Whale National Marine Sanctuary; Kaho`olawe Island Reserve Commission	Native Hawaiian Fishing Rights and Traditional Practices Study	N/A	Use Patterns			•	Naomi McIntosh: Naomi.Mcintosh@noaa.gov; http://hawaiihumpbackwhale.noaa.gov/research/project_list.html
University of Hawaii, Sea Grant College Program	A Site Characterization Study for the Hawaiian Islands Humpback Whale National Marine Sanctuary (1994)	N/A	Use Patterns			•	Sara Peck: peck@hawaii.edu

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of Guam, Marine Protected Area Research Group (MPARG); University of Hawaii, Social Sciences Research Institute; Australian Institute of Marine Sciences	Integrating Coral Reef Ecosystem Integrity and Restoration Options with Watershed-Based Activities and MPAs in the Tropical Pacific Islands (2002-2005)	The objectives of the proposed research are: apply the knowledge gained from previous studies determining the classes and concentrations of coastal pollutants; collect quantitative data on physical and chemical characteristics of coastal waters affected by watershed discharge and apply these to developing integrated management schemes; provide an accurate assessment of the societal costs of insufficient environmental protection measures; determine if coral reef restoration activities are practical if coupled with watershed restoration efforts, establishment of MPAs and pollution abatement; and make this information readily accessible to stakeholders.	Use Patterns		•		Mike Hamnett: hamnett@hawaii.edu; Mark Tupper: mtupper@guam.uog.edu; Robert Richmond: richmond@uog9.uog.edu; http://www.uog.edu/marinelab/mpa/cres.pdf
NOAA; University of Guam Marine Lab; Community Conservation Network	Pacific Islands Marine Protected Area Community Project	Project aims at laying the groundwork and implementing a platform for regional discussion, information and experience sharing, and action, to address current and emerging MPA challenges in Hawaii, Guam, CNMI, American Samoa, Palau, Federated States of Micronesia, and Marshall Islands.	Communities		•		Meghan Gombos: Meghan.Gombos@noaa.gov

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
Western Pacific Fishery Management Council	Western Pacific Community Demonstration Project	The program goals are: promote the involvement of Western Pacific communities in Western Pacific fisheries; promote the development of social, cultural and commercial initiatives that enhance opportunities for Western Pacific communities to participate in fisheries, fishery management or conversation; and benefit the indigenous communities who have not had capability for substantial participation in the fisheries or marine resource management in their native lands.	Communities		•		Charles Kaaiai: Charles.Kaaiai@noaa.gov
University of California Santa Barbara, Anthropology Department; and The David and Lucile Packard Foundation	Rural Development and Community-Based Resource Management in the Solomon Islands	This initiative, funded by The David and Lucile Packard Foundation, has established a network of community-based Marine Protected Areas (MPAs) and spatio-temporal refugia under customary sea tenure in the Roviana and Vonavona Lagoons, Western Province, Solomon Islands.	Communities		•		Shankar Aswani: aswani@anth.ucsb.edu
Community Conservation Network	Enhanced Marine Resource Management in Hawaii through Outreach and Planning with Fishing Communities	Expected outcomes include: 1) improved understanding of fishers' interests and goals in marine resource management; 2) development of new, locally-focused marine resource management projects and Island-wide initiatives based on the overlapping interests of fishing communities, conservation stakeholder groups, and the State; and 3) exploration of local interest in the creation of a "fishers' network".	Communities			•	John Parks: john@conservationpractice.org; http://www.conservationpractice.org/

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
Community Conservation Network	The Locally Managed Marine Area Network	A group of management practitioners and projects linked together to facilitate the exchange and development of information, learning, and best practices in support of locally managed marine areas.	Communities			•	John Parks: john@conservationpractice.org; http://www.conservationpractice.org/
Community Conservation Network (CCN)	Helen Reef Natural Resource Management Project	In partnership with the Hatohebei State Government and citizenry, CCN supplied expertise and resources to design steps to address major threats to Helen Reef and build the capacity for ongoing management by the local community. Training and capacity building in enforcement and resource monitoring has led to the implementation of a locally directed management program, and external threats have been largely minimized. Trained conservation officers, supported in part by state government resources, are now located on site and are actively managing and protecting reef resources.	Communities; Governance, Institutions and Processes			•	John Parks: john@conservationpractice.org; http://www.conservationpractice.org/

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
World Resources Institute and Foundations of Success	Fish For the Future? A Collaborative Test of Locally-Managed Marine Areas as a Biodiversity Conservation and Fisheries Management Tool in the Indo-Pacific Region	Summary of three Learning Portfolio Workshops (Fiji, Philippines, Indonesia) about establishment of MPAs by local communities. Project teams first presented what they are doing at their sites, then used a common conceptual language to analyze the conditions at each of their sites and outline the challenges they are each facing using a Locally Managed Marine Area (LMMA) tool. The teams then began to discuss what common data they might collect at each of their sites in order to test the conditions under which this tool does and does not work. Finally, the teams began to negotiate a “social contract” outlining how they might work together in the future and what their mutual obligations and expectations might be.	Communities			•	John Parks: john@conservationpractice.org; http://www.immanetwork.org/documents/LMMAportfolio_report.pdf
United States Department of the Interior; National Park Service; Denver Service Center	A Cultural History of Three Traditional Hawaiian Sites on the West Coast of Hawai’i Island: Pu’ukohola Heiau Nhs • Kaloko-Honokohau Nhp • Pu’uhonua O Honaunau Nhp (1993)	The primary purpose of this study was to ascertain the appearance of Pu’ukohola Heiau and any structures that rested on its platform during the late eighteenth and early nineteenth centuries. Additionally important was any evidence concerning the location and appearance of buildings on the John Young homestead. The study also provides narrative histories of each park area, supplemented by historical maps, photos and drawings.	Cultural Heritage and Resources			•	Linda Wedel Greene; http://www.cr.nps.gov/history/online_books/kona/history.htm

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of Guam, Marine Protected Area Research Group (MPARG); Guam Division of Aquatic Wildlife Resources	Impacts of Subsistence Fisheries on Coral Reef Resources in the War in the Pacific National Historic Park, Guam (2003-2004)	The objectives of this project are: identify historical fisheries research conducted in park waters; determine the spatial and temporal pattern of fishing in park waters; identify the species exploited in the subsistence fishery; measure the biomass of all species harvested; determine the catch per unit effort (CPUE) of different fishing methods; determine the contribution of each fishing method to the indirect impact of marine debris (e.g., incidence and amount of lost line or net, floats, etc.); and conduct population assessments of key fishery species within the park, comparing no-take MPA areas to adjacent open fishing areas.	Cultural Heritage and Resources		•		Mark Tupper: mtupper@guam.uog.edu; http://www.uog.edu/marinelab/mpa/wapa.pdf
NOAA - Coral Reef Conservation Program	Status of Coral Reef Protected Areas	Goals of this project are: summarize the management status, goals and challenges of existing coral reef MMAs; identify possible solutions to these challenges; and document the status of MMA efforts relating to U.S. Coral Reef Task Force goal of strengthening network of coral reef marine protected areas.	Governance, Institutions and Processes		•		Dana Wusinich-Mendez: Dana.Wusinich-Mendez@noaa.gov
World Conservation Union (IUCN); the World Wide Fund for Nature (WWF); and NOAA, Community Conservation Network (CCN)	World Commission on Protected Areas (WCPA) Marine Protected Area Effectiveness Program	Assistance is being provided primarily through development and testing of a practitioner guidebook for evaluating the effectiveness of marine protected areas (MPAs) world-wide, entitled: How Is Your MPA Doing? Guidebook for Evaluating Effectiveness of Marine Protected Areas.	Governance, Institutions and Processes			•	John Parks: john@conservationpractice.org; http://www.conservationpractice.org/

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of Guam, Marine Protected Area Research Group (MPARG)	Testing the Effectiveness of MPAs and Other Reef Fish Management Strategies Using Agent-Based Models	Proposes the development of agent-based models (ABMs) to compare the effectiveness of MPAs versus alternative management strategies (e.g., commercial trade bans) and more "traditional" approaches to regulating catch and effort (e.g., quotas, gear restrictions, size limits, etc.).	Governance, Institutions and Processes			•	Mark Tupper: mtupper@guam.uog.edu; http://www.uog.edu/marinelab/mpa/abm.pdf
Coral Reef Advisory Group of American Samoa	Marine Protected Areas in American Samoa: Status of Current Efforts and Analysis of Needs	List of current efforts related to MPAs in American Samoa with analysis of needs to improve their resource conservation and community development goals.	Governance, Institutions and Processes			•	Risa Oram: risaoram@hotmail.com
Marine and Coastal Area Social Science							
Hawaii Sea Grant; and University of Hawaii, School of Travel Industry Management	Sustainability of Coastal/Marine Recreation: Modeling Social Carrying Capacity	This work will establish a framework for a baseline model to detail the cross-sectional analysis of attitudes, contingent valuation of the resource, and indicators of social carrying capacity. Opportunities to determine temporal monitoring of changes in perceptions and conditions of the indicators will be presented in a workshop and publication for ocean recreation resource managers.	Attitudes, Perceptions and Beliefs			•	Pauline Sheldon: psheldon@hawaii.edu
Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii - Pelagic Fisheries Research Program	Local Fishers Knowledge: The Application of Cultural Consensus Analysis to the Management and Development of Small-Scale Pelagic Fisheries	The study investigated the use of cultural consensus analysis to determine the local resource knowledge held by fishermen. Elicited information relevant to HI's yellowfin handline fishery, HI's bigeye longline fishery, Guam's blue marlin troll fishery, and the management and development of Samoa's (Western and American) albacore alia longline fishery.	Attitudes, Perceptions and Beliefs			•	John Kaneko: pacusa@pixi.net; http://www.soest.hawaii.edu/PFRP/socio/kaneko.html

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
JNOAA, NMFS-Pacific Fisheries Science Center	Fishery Monitoring and Economics Program (specific projects include: Bio-Economics of Hawaii Lobster Fishery (1984), Small Versus Large Fishing Vessels (1985), Competitive Seafood Markets in Hawaii (1986), Bottomfish Market Demand in Hawaii (1987), Hawaii Longline Fishing Controversy (1990), Economics of Hawaii's Fisheries (1993), Managing Longline fishing in Hawaii (1994), Community Management of Fisheries (1998), Issues and Options in Designing and Implementing Limited Access Programs in Marine Fisheries (1998), System for Classifying Small-Boat Fishermen in Hawaii (1999))	Collects and processes fishery-dependent information (e.g., logbooks), conducts economics research on federally-managed fisheries, issues quarterly and annual reports on federally-managed fisheries (including longline, bottomfish, and lobsters), and develops computer-based data quality control and summarization programs.	Economics; Use Patterns		•		David Hamm: David.Hamm@noaa.gov
NOAA	Hawaii Coral Reef Valuation Study: Understanding Public Preferences for Coral Reef Management and Approaches	Study aims to understand social and economic factors that may affect coral reef ecosystems, improve the use of marine protected areas, and improve outreach and education about coral reef ecosystems.	Economics; Attitudes, Perceptions and Beliefs			•	Bob Leeworthy: Bob.Leeworthy@noaa.gov
NOAA - National Marine Sanctuaries Office	Economic Analysis of the Northwest Hawaiian Islands Commercial Bottomfish Industry	Complete analysis of the commercial bottomfish industry in the Northwest Hawaiian Islands. Includes a cost-benefit analyses of these fishermen and will also look at the social importance of the fishery.	Economics		•		Rod Ehler: Rod.Ehler@noaa.gov

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of Hawaii at Manoa - Pelagic Fisheries Research Program	Analysis of Alternatives for Participation in International Management of Pelagic Fisheries	The purpose of this project is to identify a variety of approaches to international fishery management, and their advantages/disadvantages in Hawaii. Project researchers want to examine various decision-support approaches and the implications of such models on bargaining theory, strategic planning, participatory management, etc.	Economics; Governance, Institutions and Processes			•	Sam Pooley: Samuel.Pooley@noaa.gov; http://www.soest.hawaii.edu/PFRP/allprojects.html
Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii - Pelagic Fisheries Research Program	Economic Contributions of Hawaii's Fisheries	Study aims to integrate all the baseline cost-earnings data of HI's commercial, recreational/expense, and charter fleets being gathered by the HI Fishing Industry and Vessel Economics (HIFIVE) project under the Pelagic Fisheries Research Program into the 1992 HI Input-Output (I-O) model, to compute output, income and employment multipliers for HI's fishery sectors, and to estimate their output, income, and employment contributions to the state economy.	Economics			•	Dr. PingSun Leung: psleung@hawaii.edu; http://www.soest.hawaii.edu/PFRP/economics/leung.html
Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii - Pelagic Fisheries Research Program	Small Boat Fishing in Hawaii: Choice and Economic Values	Primary objectives of this project include: estimation of the marginal economic value of catching pelagic fish by small boat anglers in the marine recreational sector of the Main Hawaiian Islands; understanding of the substitution between pelagics and other fish sought by small boat anglers; and assessment of the magnitude of the aggregate economic value of small boat fishing by sport anglers.	Economics			•	Dr. Kenneth McConnell: tedm@arec.umd.edu; http://www.soest.hawaii.edu/PFRP/economics/mcconnell.html

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
Community Conservation Network; Marine Aquarium Council; The Nature Conservancy - Hawaii	Enhancing Sustainability and Economic Opportunities in the Hawaii Aquarium Fish Trade	The goal of this project is to enhance the conservation of Hawaii's coral reef ecosystems and biodiversity by facilitating companies that collect live coral reef organisms for the marine ornamental trade to achieve ecological sustainability, economic security, and environmental responsibility through "best practices" certification by the Marine Aquarium Council (MAC).	Economics; Use Patterns			•	John Parks: john@conservationpractice.org; or Scott Atkinson: satkinson@tnc.org; http://www.conservationpractice.org/
East-West Center; and Bank of Hawaii	Commonwealth of the Northern Mariana Islands Economic Report (2003)	This report provides an analysis of the economic and financial forces influencing the Commonwealth of the Northern Mariana Islands (CNMI), the Western Pacific, and the surrounding region.	Economics			•	Wali M. Osman: OsmanW@EastWestCenter.org; http://www.eastwestcenter.org/res-rp-publicationdetails.asp?pub_ID=1420
East-West Center	Pacific Islands Regional Assessment of the Consequences of Climate Variability and Change	The goals of this project are: develop a more complete understanding of the regional consequences of climate variability for Pacific Island jurisdictions, considering economic, social and other environmental stresses; and support a dialogue among scientists, governments, businesses and communities in the Pacific Region that promotes the use of climate information to support decision-making.	Economics			•	Eileen Shea: sheae@EastWestCenter.org; http://www.eastwestcenter.org/about-dy-detail.asp?staff_ID=69

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of the South Pacific (USP) - Marine Studies Program; USP - Institute of Education; Canada South Pacific Ocean Development; AusAID; New Zealand Overseas Development Assistance; International Ocean Institute - Pacific Islands; The Secretariat of the Pacific Community	Post Harvest Fisheries Development Project (1999-2001)	This project aims to improve the utilization of in-shore and nearshore fisheries resources important to local food security in Pacific Island Communities (Cook Islands, Fiji Islands, Kiribati, Marshall Islands, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Palau and the Federated States of Micronesia), with a needs assessment and strategy development component followed by the actual project implementation.	Use Patterns; Communities			•	Joeli Veitayaki: veitayaki_j@usp.ac.fj; Tony Chamberlain: chamberlain@usp.ac.fj; http://www.usp.ac.fj/marine/
Micronesian Archaeological Research Services; and Guam Humanities Council	Harvesting and Conservation of Reef Resources	Conducted interviews with elders in Guam about harvesting and conserving reef resources.	Use Patterns			•	Judith Amesbury: judyamesbury@kuentos.guam.net
Secretariat of the Pacific Community-Coastal Fisheries Program	Technical Reports on Community Fisheries Management: Fiji, Marshall Islands, Nauru, Niue, Palau, Tokelau, Federated States of Micronesia (Pohnpei, Chuuk, Yap, Kosrae), Samoa	Reports include an assessment of the role of women in fisheries development, development of tuna longlining with community involvement, and a profile of village fisheries.	Communities			•	http://www.spc.int/coastfish/Reports/Technical-reports.htm
Community Conservation Network (CCN)	Documenting the Traditions of a West Hawaii Fishing Community	This project focuses on documenting and sharing traditional knowledge and contemporary practices related to marine resource use and management. The "Kupuna of Miloli'i" is a broadcast-quality documentary sponsored by CCN in cooperation with the community of Miloli'i in South Kona, Hawaii and The Nature Conservancy of Hawaii.	Communities; Attitudes, Perceptions and Beliefs			•	John Parks: john@conservationpractice.org http://www.conservationpractice.org/

Existing Social Science Research Efforts

Institution	Project	Description	Theme	Planned	Ongoing	Complete	Contact
				Project Status			
University of California Santa Barbara, Anthropology Department; University of Auckland; Massey University, New Zealand; and The National Geographic Society	Human Paleoeecology in the Marquesas Islands, French Polynesia	Resolving the chronology of Marquesan prehistory ultimately requires further work at new sites within the archipelago. To this end, the project includes an archaeological and ecological study of a prime locality for early settlement, Anaho Bay, NE Nuku Hiva Island and palynological coring in the island's interior. Determining the chronology of Marquesan settlement, with settlement dates currently varying from 1000 to 2000 BP, is important not only to regional cultural histories but also to understanding processes of adaptation, rates of human impact, and cultural differentiation.	Cultural Heritage and Resources			•	Shankar Aswani: aswani@anth.ucsb.edu
Micronesian Archaeological Research Services; and Western Pacific Fisheries Management Council	Archaeological and Historical Data on Reef Fishing - CNMI	Report on the archaeological and historical data on reef fishing in the Marianas.	Cultural Heritage and Resources			•	Judith Amesbury: judyamesbury@kuentos.guam.net
Micronesian Archaeological Research Services; and University of Hawaii - Pelagic Fisheries Research Program	Archaeological and Historical Data on Pelagic Fishing - CNMI	Report on the archaeological and historical data on pelagic fishing in the Marianas.	Cultural Heritage and Resources	• (2005)			Judith Amesbury: judyamesbury@kuentos.guam.net
Group 70 International	Mauna Kea Science Reserve and Hale Pohaku Complex Development Plan Update: Oral History and Consultation Study and Archival Literature Research (Ahupua'a of - Ka'ohe [Hāmākua District] and Humu'ula [Hilo District], Island of Hawai'i) (1996-1998)	This study was conducted to help document some of the traditions and practices associated with Mauna Kea, and to identify some of the significant features of the landscape, including natural and man-made cultural resources on Mauna Kea, so that they can be protected, preserved, and appropriately managed in the future.	Cultural Heritage and Resources			•	Kepa Maly: kepa@interpac.net

Appendix D. Research Institutions and Information Resources

Research Institutions and Information Resources									
Institution/ Resource	Program	Description and/or Mission	Contact	Coordination	Governance	Training/ Education	Research	Outreach	Funding
				Primary Functions					
NOAA National Marine Fisheries Service (NMFS)	Pacific Islands Fisheries Science Center (PIFSC)	The Pacific Islands Fisheries Science Center Mission is linked to the NOAA Strategic Plan to build sustainable fisheries, recover protected species, maintain healthy living marine resource habitats, and manage international fisheries of highly migratory species in the Pacific (Department of State priority).	http://www.pifsc.noaa.gov/		•		•		•
NOAA Pacific Services Center (PSC)		The NOAA Pacific Services Center (PSC) develops and delivers coastal management information and services to the State of Hawai`i, Territories of American Samoa and Guam, and the Commonwealth of the Northern Mariana Islands.	http://www.psc.noaa.gov/psc/	•		•		•	
Western Pacific Fisheries Information Network (WPacFIN)		Collects and processes Pacific island agency data (Territories of Guam and American Samoa, Commonwealth of the Northern Mariana Islands, and State of Hawaii data from Hawaii Division of Aquatic Resources) and develops computer-based data quality control and summarization programs for these island agencies.	http://wpacfin.nmfs.hawaii.edu/	•			•		

Research Institutions and Information Resources

Institution/ Resource	Program	Description and/or Mission	Contact	Coordination	Governance	Training/ Education	Research	Outreach	Funding
				Primary Functions					
Western Pacific Fishery Management Council (WPFMC)	Social Science Working Group; Western Pacific Community Demonstration Project Program; and Western Pacific Community Development Program	The WPFMC is responsible for the conservation and management of fish stocks within the federal fishery conservation zone of 3 to 200 miles around the Territory of American Samoa, Territory of Guam, State of Hawaii, Commonwealth of the Northern Mariana Islands, and U.S. Pacific island possessions, an area of nearly 1.5 million square miles. The Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended, provides the United States with exclusive management authority over fisheries in these zones, except for highly migratory species of tuna. The 1996 amendments allow a stronger voice for local governments to control their fishing waters and authorized two additional community-based programs for the Council's implementation: the Western Pacific Community Development Program and the Western Pacific Community Demonstration Project Program. Objectives of these programs are to promote the involvement and development of social, cultural and commercial initiatives, and to benefit the Western Pacific indigenous communities through participation in the fisheries or marine resource management.	http://www.wpcouncil.org	•	•		•	•	•

Research Institutions and Information Resources

Institution/ Resource	Program	Description and/or Mission	Contact	Coordination	Governance	Training/ Education	Research	Outreach	Funding
				Primary Functions					
University of the South Pacific (USP)	Marine Studies Program and Seafood Project	Mission is: to provide the necessary opportunities for Pacific Islanders to understand, conserve, develop, manage and utilize their living and non-living resources in a rapidly changing world; to provide Pacific Islanders with the widest possible range of opportunities for research, education, training and employment in the marine sector; and to provide for improved collaboration between the University of the South Pacific, island nations, and regional and international bodies in their common goals in the marine sector. The Seafood Project aims to improve the utilization of inshore and nearshore fisheries resources important to local food security in Pacific Island Communities.	http://www.usp.ac.fj/marine/			•	•		
University of Guam (UOG)	Marine Protected Areas Research Group	The goal of this research group is to objectively investigate the ecological, oceanographic and socioeconomic processes related to the design, implementation, monitoring and management of MPAs, and their success or failure in meeting their stated objectives. The group is interested in determining the utility of MPAs as a tool for marine conservation and resource management under a variety of environmental and socioeconomic conditions.	http://www.uog.edu/marinelab/mpa/				•		
University of Hawaii Sea Grant		The Hawai'i Sea Grant College Program is housed within the School of Ocean and Earth Science and Technology on the campus of the University of Hawai'i at Manoa. The program is part of a nationwide network of 29 institutional programs of the NOAA National Sea Grant College Program, U.S. Department of Commerce, that promote the understanding, development, sustainable use and conservation of marine resources through university-based research, education, community outreach and communication services.	http://www.soest.hawaii.edu/SEAGRANT/			•	•	•	•

Research Institutions and Information Resources

Institution/ Resource	Program	Description and/or Mission	Contact	Coordination	Governance	Training/ Education	Research	Outreach	Funding
				Primary Functions					
University of California Santa Barbara; and National Science Foundation Faculty Early Career Development Program	The Pacific Islands Field Training Program	The Pacific Islands Field Training Program is for undergraduate and graduate college/university students primarily of Pacific Island descent and offers financial support for the participants. The program consists of training in ethnographic and marine science field methods, cross-cultural understanding, basic Hawaiian language classes, and the development and completion of individual research projects.	http://www.anth.ucsb.edu/faculty/aswani/Field_school/index.htm			•	•		
Bishop Museum		The Bishop Museum is a non-profit organization whose mission is to record, preserve and tell the stories of Hawai'i and the Pacific through a network of public museums and learning centers that provide personal experiences. To present these stories, the Museum uses collections, research, information, educational programs, and publications in collaboration with expertise available in the community.	http://www.bishopmuseum.org/						
Kumu Pono Associates		Historical & Archival Documentary Research; Oral History Studies; Partnerships in Cultural Resources Management; Developing Preservation Plans and Interpretive Programs; Māhele 'Āina, Boundary Commission, & Land History Records.	http://www.kumupono.com/				•		
Community Conservation Network (CCN)		The Community Conservation Network assists local communities and their partners to sustain vital ecosystems and resources by fostering relationships and building capacity that results in improved long-term conservation, management effectiveness, and human security.	www.conservationpractice.org	•			•		

Research Institutions and Information Resources

Institution/ Resource	Program	Description and/or Mission	Contact	Coordination	Governance	Training/ Education	Research	Outreach	Funding
				Primary Functions					
The Nature Conservancy (TNC)		The Asia Pacific Region includes Australia, China, Federated States of Micronesia, Indonesia, Japan, Palau, Palmyra Atoll, Papua New Guinea and the Solomon Islands. The Nature Conservancy works through its Asia-Pacific Country Programs in Arlington, VA, and its Pacific Island Countries Program in Australia, to help preserve the natural resources of this region.	http://nature.org/wherewework/asia_pacific/	•	•		•	•	
Palau Conservation Society (PCS)		The mission of PCS is “to work with the community to preserve the nation’s unique natural environment and perpetuate its conservation ethic for the economic and social benefit of present and future generations of all Palauans and for the enjoyment and education of all.”	http://www.palau_pcs.org/		•		•	•	
East West Center	Pacific Islands Development Program	The East-West Center’s mission is to build understanding, relations and a sense of community among the nations of Asia and the Pacific. The Center’s Research Program addresses issues of contemporary policy significance in a comparative context, such as: Politics, Governance and Security; Economics; Environmental Change, Vulnerability and Governance; and Population and Health.	http://www.eastwestcenter.org/	•	•	•	•		•
World Conservation Union’s World Commission on Protected Areas (IUCN – WCPA), supported by the IUCN’s Program on Protected Areas (PPA)		WCPA’s international mission is to promote the establishment and effective management of a worldwide representative network of terrestrial and marine protected areas, as an integral contribution to the IUCN mission.	http://www.iucn.org/themes/wcpa/	•	•	•			

Research Institutions and Information Resources

Institution/ Resource	Program	Description and/or Mission	Contact	Coordination	Governance	Training/ Education	Research	Outreach	Funding
				Primary Functions					
South Pacific Regional Environmental Program (SPREP)		SPREP is a regional organization established by the governments and administrations of the Pacific Region to look after its environment. Established in 1980, SPREP's mandate is to promote cooperation in the Pacific Islands Region and to provide assistance in order to protect and improve the environment and to ensure sustainable development for present and future generations.	http://www.sprep.org.ws/sprep/about.htm	•	•	•	•		
Secretariat of the Pacific Community (SPC)	Coastal Fisheries Program (CFP)	The Secretariat of the Pacific Community (SPC) is an inter-governmental technical advisory and networking organization founded in 1947 under the Canberra Agreement. The Coastal Fisheries Program (CFP) is one of the four constituent programs of the SPC Marine Resources Division, and it is strongly oriented towards the publication of practical resource materials, on-the-job attachment training within member countries, and applied research.	http://spc.int/coastfish/index.html			•	•	•	

Appendix E. Regional Regulatory Framework

INTERNATIONAL OVERVIEW

Regulatory Framework		
Title	Summary	Social Science
Ramsar Convention on Wetlands, 1971	Intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The Convention's mission is the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.	
UNESCO's World Heritage Convention, 1972	The most significant feature of the Convention is the linking together into a single document the concepts of nature conservation and preservation of cultural sites. Nature and culture are complementary and cultural identity is strongly related to the natural environment in which it develops.	•
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973	Establishes system of regulations and/or prohibitions in the trade of species, both plant and animal, or any specimen part thereof. See Appendix I of the Convention for species threatened with extinction as a result of trade; see Appendix II of the Convention for species in which trade control is necessary for survival; and see Appendix III of the Convention for species subject to regulation in the host nation.	
United Nations Convention on the Law of the Sea (UNCLOS), 1982	UNCLOS lays down a comprehensive regime of law and order in the world's oceans and seas, establishing rules governing all uses of the oceans and their resources. It enshrines the notion that all problems of ocean space are closely interrelated and need to be addressed as a whole.	
United Nations Conference on the Environment and Development (UNCED), 1992	UNCED was an international gathering on human activities in relationship to the environment, during which five major agreements on global environmental issues were signed: Agenda 21; Rio Declaration of Principles; Convention on Biological Diversity; Framework Convention on Climate Change; and Barbados Program of Action.	•
• Agenda 21 Chapter 17 - Oceans and Coasts	Agenda 21 sets out comprehensive strategies and programs to counter coastal environmental degradation and promote sustainable development.	•
• Rio Declaration of Principles	The goal of this Declaration is to establish cooperation among member states to reach agreement on laws and principles promoting sustainable development. The Declaration addresses the following areas: natural resources; environmental impact of development; poverty; ecosystem protection; the sharing of scientific ideas; public participation/public access to information; implementation of legislation; economic policies, internalization of environmental costs and the 'polluter pays' principle; notification of pollution incidents; Environmental Impact Statements; and indigenous cultures.	•
• Convention on Biological Diversity (CBD)	The objective of the CBD is to conserve biological diversity, promote the sustainable use of its components, and encourage equitable sharing of the benefits arising out of the utilization of genetic resources.	
• Framework Convention on Climate Change	The Convention's objective is to achieve the stabilization of production of greenhouse gasses. It sets out principles to achieve a greater understanding of global warming and includes the sharing of research and development and technology transfer.	

Regulatory Framework

Title	Summary	Social Science
<ul style="list-style-type: none"> Barbados Program of Action (BPoA), 1994 	<p>BPoA specifically addresses the priority issues within developing countries by reaffirming the commitments and principles embodied in the Rio Declaration on Environment and Development (Agenda 21). Primarily, it remodeled these commitments and principles into a program for Small Island Developing State (SIDS) countries by classifying the areas of vulnerability in SIDS countries as either economic or environmental. The BPoA presents a basis for action in 14 agreed priority areas: climate change; natural and environmental disasters; management of wastes; coastal and marine resources; freshwater resources; land resources; energy resources; tourism resources; biodiversity resources; national institutions and administrative capacity; regional institutions and technical co-operation; transport and communication; science and technology; and human resource development.</p>	
<p>United Nations Environment Program’s Global Program of Action for the Protection of the Marine Environment from Land-based Activities (UNEP – GPA), 1995</p>	<p>The GPA is designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities for devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities.</p>	<ul style="list-style-type: none">

REGIONAL OVERVIEW

Regulatory Framework		
Title	Summary	Social Science
Agreement Establishing the South Pacific Commission, 1947	The Commission is a consultative and advisory body to the participating governments and has powers and functions in many fields of development and social rights and welfare of peoples and territories. Specifically mentioned are fisheries, agriculture and forestry.	
Convention on Conservation of Nature in the South Pacific, 1976	Each Contracting Party shall, to the extent that it is itself involved, encourage the creation of protected areas, which together with existing protected areas will safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations, and regions and objects of aesthetic interest or historic, cultural or scientific value.	
Convention for the Protection of Natural Resources and Environment of the South Pacific Region (Noumea Convention), 1986	The Convention's objective is to protect and manage the natural resources and environment of the South Pacific Region.	
Agreement establishing the South Pacific Regional Environment Program (SPREP), 1993	SPREP is a major intergovernmental organization established, through the Noumea Convention, by the governments and administrations of the Pacific Region charged with protecting and managing their environment and natural resources. It serves as the conduit for concerted environmental action at the regional level, and is committed to following and complying with the outcomes of the World Summit on Sustainable Development in the form of: the Plan of Implementation; the Millennium Development Goals and Declaration; the Barbados Plan of Action; and Agenda 21.	

NATIONAL OVERVIEW

Regulatory Framework		
Title	Summary	Social Science
National Parks Service Organic Act of 1916	Established the National Parks Service within the Department of the Interior to promote and regulate the use of the federal areas known as national parks, monuments and reservations hereinafter specified, except such as are under the jurisdiction of the Secretary of the Army, as provided by law, by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.	•
Historic Sites Act of 1935	Declares that it is a national policy to preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States. The regulating agency is the National Parks Service (NPS), Department of the Interior.	•
Outer Continental Shelf Lands Act of 1953	Defines the Outer Continental Shelf (OCS) as all submerged lands lying seaward of state coastal waters (3 miles offshore) which are under U.S. jurisdiction. The statute authorized the Secretary of Interior to promulgate regulations to lease the OCS in an effort to prevent waste and conserve natural resources and to grant leases to the highest responsible qualified bidder as determined by competitive bidding procedures.	
National Wildlife Refuge System Administration Act of 1966	This section of law consolidates the authorities relating to the various categories of areas administered by the Secretary of the Interior for the conservation of fish and wildlife by designating all such areas as part of the National Wildlife Refuge System (the System).	
National Environmental Policy Act of 1969	The purposes of this Act are: to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enrich the understanding of the ecological systems and natural resources important to the Nation; and establish a Council on Environmental Quality.	•
Marine Protection, Research, and Sanctuaries Act of 1972	The Marine Protection, Research, and Sanctuaries Act (MPRSA) regulates the ocean dumping of waste, provides for a research program on ocean dumping, and provides for the designation and regulation of marine sanctuaries. Often known as the Ocean Dumping Act, the act regulates the ocean dumping of all material beyond the territorial limit (three miles from shore) and prevents or strictly limits dumping material that “would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.” The regulating agency is the EPA for permitting and setting of environmental criteria and the U.S. Army Core of Engineers for dumping of dredged materials.	•
National Marine Sanctuaries Act of 1972	Allows the regulating agency to designate and manage areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as National Marine Sanctuaries. The primary objective of this law is to protect marine resources, such as coral reefs, sunken historical vessels or unique habitats. The regulating agency is NOAA, Department of Commerce.	•
Clean Water Act of 1972	Established the basic structure for regulating discharges of pollutants into the waters of the United States, and deals primarily with surface water quality protection. The regulating agency is the EPA.	

Regulatory Framework		
Title	Summary	Social Science
Coastal Zone Management Act of 1972	Established a voluntary national program within the Department of Commerce to encourage coastal states to develop and implement coastal zone management plans. Funds were authorized for cost-sharing grants to states to develop their programs. Subsequent to federal approval of their plans, grants would be awarded for implementation purposes. The regulating agency is NOAA, Department of Commerce.	
Marine Mammal Protection Act of 1972	The Marine Mammal Protection Act (MMPA) was enacted in 1972 to protect and manage marine mammals and their products (e.g., the use of hides and meat). The regulating agencies are the Fish and Wildlife Service (FWS), Department of the Interior; and NOAA's National Marine Fisheries Service (NMFS), Department of Commerce. The FWS manages walruses, polar bears, sea otters, dugongs, marine otters, and West Indian, Amazonian and West African manatees. The NMFS manages whales, porpoises, seals and sea lions.	
Endangered Species Act of 1973	The purpose of this Act is to protect endangered and threatened species and to provide the means to conserve their ecosystems. The regulating agencies are the Fish and Wildlife Service (FWS), Department of the Interior; and NOAA's National Marine Fisheries Service (NMFS), Department of Commerce.	
Magnuson-Stevens Fishery Conservation and Management Act of 1976	This Act governs the conservation and management of ocean fishing. It establishes exclusive U.S. management authority over all fishing within the exclusive economic zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the Continental Shelf. The Act also establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans to achieve the optimum yield from U.S. fisheries in their regions. The Magnuson Fishery Conservation and Management Act is now the Magnuson-Stevens Fishery Conservation and Management Act, and is also known as the Sustainable Fisheries Act. The regulating agency is NOAA's National Marine Fisheries Service (NMFS), Department of Commerce.	•
The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)	Created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.	

LOCAL OVERVIEW

Regulatory Framework		
Title	Summary	Social Science
Hawaii		
Chapter 188-22.6 Hawaii Revised Statutes - Designation of Community-Based Subsistence Fishing Area	The Department of Land and Natural Resources may designate community based subsistence fishing areas and carry out fishery management strategies for such areas, through administrative rules adopted pursuant to Chapter 91, for the purpose of reaffirming and protecting fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture and religion.	
Chapter 188-35 Hawaii Revised Statutes - Fishing in Certain Waters	Except as otherwise provided in this section, it is unlawful for any person to fish in or take aquatic life from the waters: (1) Of the Waikiki reclamation canal, Oahu; (2) Of the drainage canal constructed in connection with Kapiolani Boulevard, Oahu; (3) Of the Kapalama drainage canal, Oahu; (4) Off Heeia-Kea wharf, Oahu; (5) Within that portion of Waialua Bay; (6) Within that portion of Pokai Bay including the Pokai Boat Harbor and the Waianae Small Boat Harbor; (7) Of the Kapaa and Waikaea canals, Kauai.	
Chapter 188-53 Hawaii Revised Statutes - Fishing Reserves, Refuges, and Public Fishing Areas	For the purposes of managing, preserving, protecting, conserving and propagating introduced freshwater fishes, and other freshwater or marine life, the Department of Land and Natural Resources may establish, maintain, manage and operate freshwater or marine fishing reserves, refuges and public fishing areas in areas under its control as it may deem desirable and may enter into agreements for the taking of control of privately owned waters, lands or fisheries for such purposes.	
Chapter 190-1 Hawaii Revised Statutes - Marine Life Conservation Program	All marine waters of the State are hereby constituted a marine life conservation area to be administered by the Department of Land and Natural Resources subject to this chapter and any other applicable laws not inconsistent herewith or with any rules adopted pursuant hereto. No person shall fish for or take any fish, crustacean, mollusk, live coral, algae or other marine life, or take or alter any rock, coral, sand or other geological feature within any conservation district established pursuant to this chapter except in accordance with section 190-4 and rules adopted by the department pursuant hereto.	
Chapter 195 Hawaii Revised Statutes - Natural Area Reserve System	There shall be a Hawaii natural area reserves system, hereinafter called the "reserves system", which shall consist of areas in the State of Hawaii which are designated in the manner hereinafter provided as natural area reserves. The reserve system shall be managed by the Department of Land and Natural Resources.	
Chapter 6K Hawaiian Revised Statutes - Kaho`olawe Island Reserve Commission	(a) The Kaho`olawe island reserve shall be used solely and exclusively for the following purposes: (1) Preservation and practice of all rights customarily and traditionally exercised by native Hawaiians for cultural, spiritual and subsistence purposes; (2) Preservation and protection of its archaeological, historical and environmental resources; (3) Rehabilitation, revegetation, habitat restoration and preservation; and (4) Education. (b) The island shall be reserved in perpetuity for the uses enumerated in subsection (a). Commercial uses shall be strictly prohibited.	

Regulatory Framework		
Title	Summary	Social Science
American Samoa		
ASAC 18.0214 Establishment of Ofu Vaoto Marine Park	This Act creates the Ofu Vaoto marine park in the island of Ofu, American Samoa. The boundaries of the park shall extend approximately one half mile from Fatuana point to the west end of the Ofu airport runway and from the mean high water line seaward to the ten fathom depth.	
ASAC 26.0221 American Samoa Coastal Management Program Administrative Rules - Special Management Areas	Special Management Areas mean those areas duly designated by the Act or the provisions of this chapter that possess unique and irreplaceable habitat, possess products or materials, offer beneficial functions or affect the cultural values or quality of life significant to the general population of the Territory of Samoa.	
Executive Order No. 005-2003	In order to demonstrate support for and cooperation with other South Pacific Island countries that restoration of sea turtles and marine mammals is an important regional goal, and in order to increase public awareness that populations of our sea turtle and whale species in American Samoa are in jeopardy, there is hereby established the territorial waters of American Samoa as a Sanctuary for Sea Turtles and Marine Mammals.	
Agreement between DMWR and Village Council *	<p>The Community-Based Fisheries Management Program of Alofau includes the entire population of Alofau, Vatia, Amaua & Auto, Aua, Paloa, and Masausi. Official community consultations have been completed with the Department of Marine and Wildlife Resources (DMWR) to discuss and review the project proposed by the DMWR, and agree on the village of Alofau, Vatia, Amaua & Auto, Aua, Paloa, and Masausi to be one of the sites for the Community-Based Management Program. The DMWR has given a clear understanding of the Community-Based Fisheries Management Program to the village of Alofau, Vatia, Amaua & Auto, Aua, Paloa, and Masausi. The DMWR given that its mission is to preserve, protect, perpetuate and manage the marine and wildlife resources within the Territory, is fully aware of its duties and obligations to the project. The DMWR understands that the village of Alofau, Vatia, Amaua & Auto, Aua, Paloa, and Masausi will undertake the protection and managing of their reserved area and oversee all undertakings agreed to in their Management Plan.</p> <p>* At time of compilation of document, information was under review by DMWR legal advisory.</p>	•
Commonwealth of the Northern Mariana Islands		
Public Law 2-51 Fish, Game and Endangered Species Act	Provides for the conservation of fish, game and endangered species.	
Public Law 12-12 Managaha Marine Conservation Act	The Island and its surrounding waters will exist as protected recreational and educational areas; safe habitats for fish and other marine life to exist and propagate for the continued use and enjoyment of the people of the CNMI. No fishing, harvesting, taking, anchoring, vessel activity, deleterious activity or human activity is allowed except as permitted by regulation.	
Public Law 12-46 Bird Island Marine Sanctuary	Designates Bird Island and Forbidden Island as sanctuaries for the conservation of wildlife and marine life.	
Article XIV: Natural Resources, Commonwealth Constitution Second Constitution. Section 1: Marine Resources	The marine resources in waters off the coast of the Commonwealth over which the Commonwealth now or hereafter may have any jurisdiction under United States law shall be managed, controlled, protected and preserved by the legislature for the benefit of the people.	

Regulatory Framework		
Title	Summary	Social Science
Article XIV: Natural Resources, Commonwealth Constitution Second Constitution. Section 2: Uninhabited Islands	The Island of Managaha shall be maintained as an uninhabited place and used only for cultural and recreational purposes. The islands of Maug, Uracas, Asuncion, Guguan and other islands specified by law shall be maintained as uninhabited places and used only for the preservation and protection of natural resources, including but not limited to bird, wildlife and plant species.	
Article XIV: Natural Resources, Commonwealth Constitution Second Constitution. Section 3: Places and Things of Cultural and Historical Significance	Places of importance to the culture, traditions and history of the people of the Northern Mariana Islands shall be protected and preserved and public access to these places shall be maintained as provided by law. Artifacts and other things of cultural or historical significance shall be protected, preserved and maintained in the Commonwealth as provided by law.	•
Rota Local Law No. 9-2 Sasanhaya Fish Reserve Act	This Act shall create a fish reserve, to be located in the Sasanhaya Bay of Rota, between and including Puña Point and the Coral Gardens. Killing or removing, or attempting to remove, any marine animal, including, but not limited to, any fishes, coral (live or dead), lobster, shellfish, clams or octopus, shall be prohibited within this reserve. Shell removal shall also be prohibited. Any other activities that are exploitive or destructive to the marine life and/or the World War II wrecks, shall be strictly prohibited within this fish reserve.	
Guam		
Chapter 63 Findings: §63102 - Guam Territorial Seashore Protection Act of 1974	The people of the territory of Guam hereby find and declare: "it is the policy of this territory to preserve and protect the resources of the seashore reserve for the enjoyment of the current and succeeding generations, and that to protect the seashore reserve, it is necessary: (a) to study the seashore reserve to determine the ecological planning principles and assumptions needed to ensure conservation of its resources; (b) to prepare, based upon such study and in full consultation with all affected governmental agencies and departments, private interests and the general public, a comprehensive, coordinated, enforceable plan for the orderly, long-range conservation, management, and development of the seashore reserve; (c) to ensure that any development which occurs in the seashore reserve during the study and planning period will be consistent with the objects of this Chapter; (d) that the Board of Directors, Territorial Sea-shore Protection Commission, is hereby charged with the responsibility of implementing the provisions of this Chapter."	•
Chapter 63 Article 4 - Conservation Reserves: §63401. Reserves	The Department, in cooperation with the Department of Parks and Recreation and other agencies of the Government of Guam, shall control and manage land and waters that have been set aside by the Government of Guam as Conservation Reserves. Such control and management shall have as its objective: the wise use of the soil, water, plants and animals of the reserves. Consistent with this objective, the Director, with the concurrence of the Director of the Department of Parks and Recreation, may establish and enforce rules for economic use.	
Chapter 76 Article 2 - Conservation of Archaeological Resources: §76205. Prehistoric and Historic Sites and Remains	The Department shall locate, identify and preserve in the Guam Register of Historic Places information regarding prehistoric and historic sites, locations and remains. The Department of Land Management shall clearly designate on its records and cadastral maps of the territory, the location of all prehistoric and historic sites, or locations and remains.	
Chapter 76 Article 3 - Protection and Recovery of Underwater Historic Property and Sites: §76304. Custody of Underwater Historic Property	The custodian of underwater historic properties as defined in §76301 and §76302 shall be the Department which shall administer the preservation and protection of these properties as hereinafter directed by this article. The Department is empowered to prescribe such rules and regulations as may be necessary to preserve, protect and recover any or all underwater historic properties.	

Regulatory Framework

Title	Summary	Social Science
<p>Guam Public Law No. 24-21. Bill No. 49 (COR) "An Act to Establish Rules and Regulations for the Control of Fisheries by the Department of Agriculture"</p>	<p>Section 15311.0 Marine Preserves. The Director of Agriculture will determine the need to establish Marine Preserves, which are areas in which the take of aquatic animals will be restricted to protect coral reefs and/or related fauna. The restrictions established for such an area shall always govern the allowable activities within the designated Marine Preserve.</p> <p>Section 15311.2 Designate Marine Preserves. The following areas have been designated as Marine Preserves, as described in Subsection 15310.0: (1) Tumon Bay; (2) Piti Bomb Holes; (3) Sasa Bay; (4) Achang Reef Flat; (5) Pati Point.</p> <p>Subsection 15310.0 states that "Marine Preserve" is defined as a well delineated area in which certain activities or uses are permanently restricted or prohibited.</p>	

Appendix F.

Pacific Islands Regional MPA Social Science Research Workshop Participants' Resolution to MPA FAC

The following resolution was created solely by the participants of the Pacific Islands Regional Social Science Research Workshop. Workshop participants presented the resolution to the National Marine Protected Areas Federal Advisory Committee on April 6 to 8, 2004 at Key Largo, Florida:

Whereas participants in the Pacific Islands Regional MPA Social Science Research workshop met in Waikoloa, Hawai`i from March 30 to April 1, 2004 and have highlighted the critical importance of social science in the interdisciplinary planning, management and evaluation of Marine Protected Areas in the Pacific Islands;

And whereas workshop participants identified social science research projects focusing on governance, institutions and processes, economics, attitudes, perceptions and beliefs, cultural heritage and resources, use patterns, and communities;

And whereas most resource management is largely people management, the findings of the projects will be invaluable to resource managers, resource users and decision makers, and to the success of marine protected areas ensuring the conservation of our marine resources;

And, whereas effective Marine Protected Areas management is becoming increasingly recognized as essential to ensuring the sustainability of marine resources and the livelihood of those who depend on those resources;

Now, therefore be it resolved that the recommendations from this workshop, when finalized, be formally transmitted to the MPA Federal Advisory Committee (MPA FAC) for their information, consideration and endorsement.

And, therefore be it further resolved, that participants request the endorsement from the MPA FAC for funding support for projects identified by the workshop.

Finally, be it further resolved, that participants request that the recommendations of the workshop be included in the MPA FAC report to the Secretaries of Commerce and the Interior.