



Overview of the Western Pacific Ecosystem Social Science Workshop

January 17-20, 2006
Honolulu HI

Stewart Allen
Pacific Islands Fisheries Science Center
Susan Abbott-Jamieson
Office of Science and Technology

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Ecosystem Social Science Workshop
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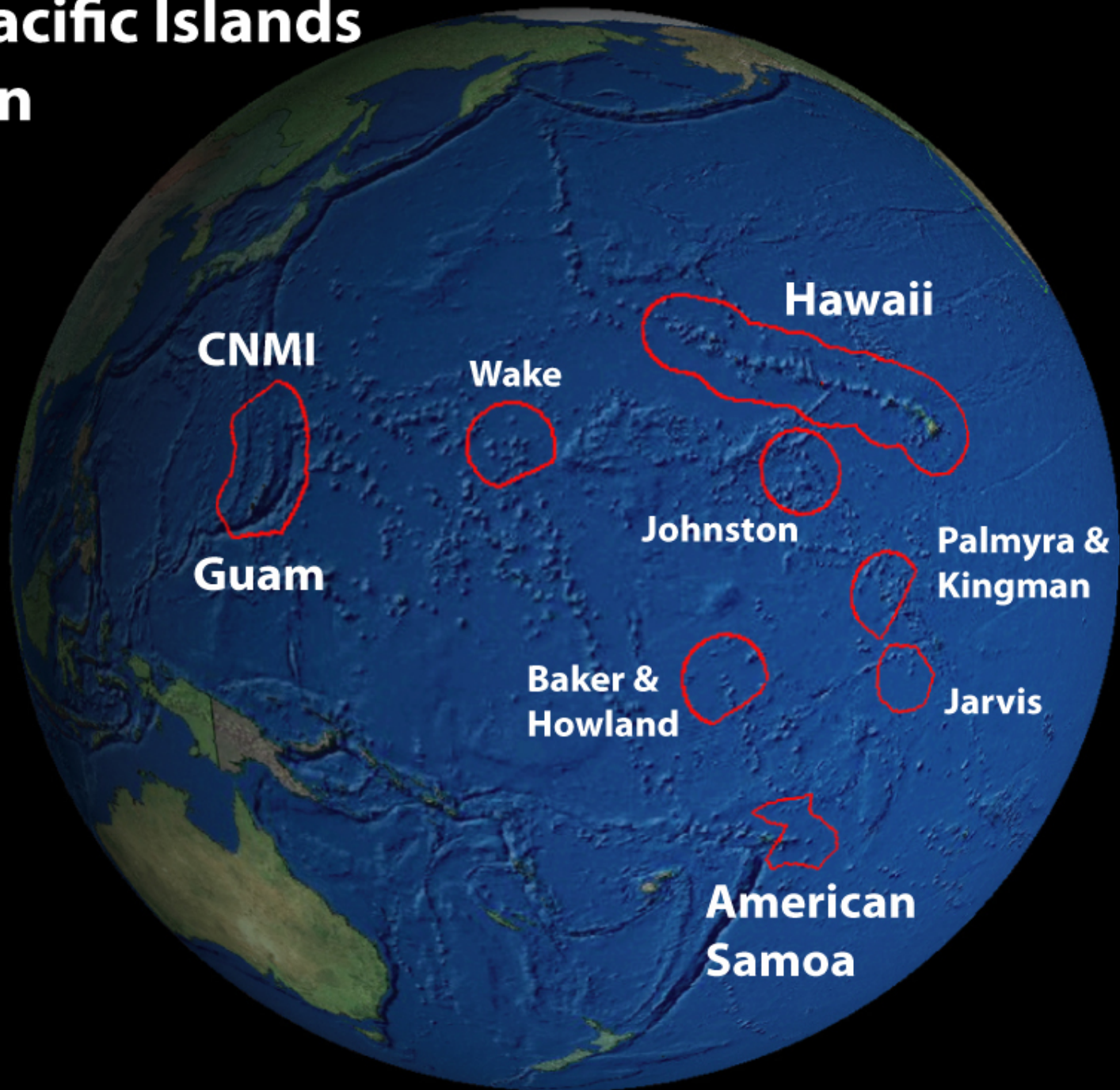
Outline

- Policy context
- Workshop objectives and content
- A few interesting observations
- What happens next



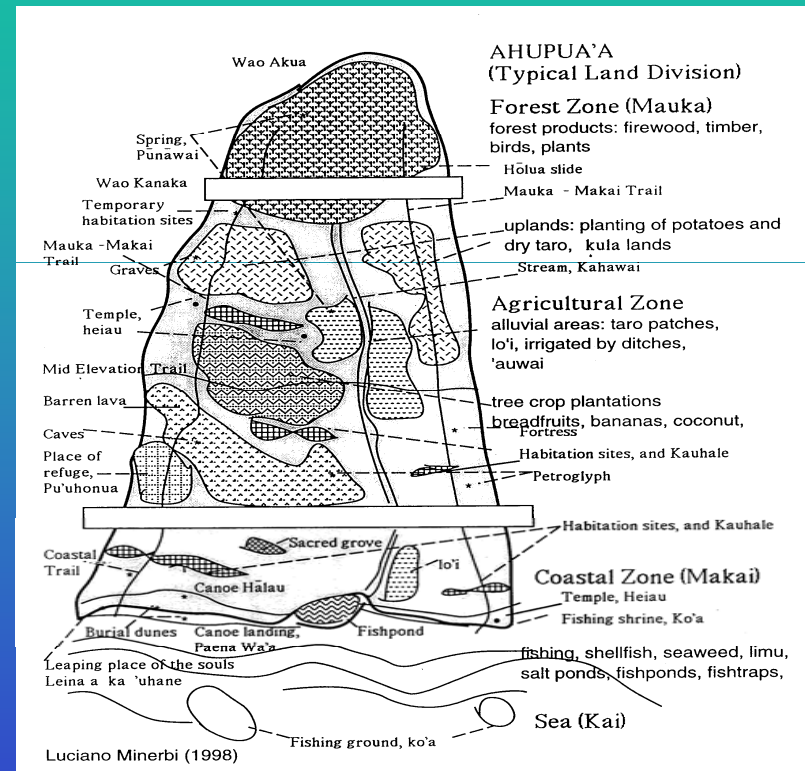
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The Pacific Islands Region



Policy Context

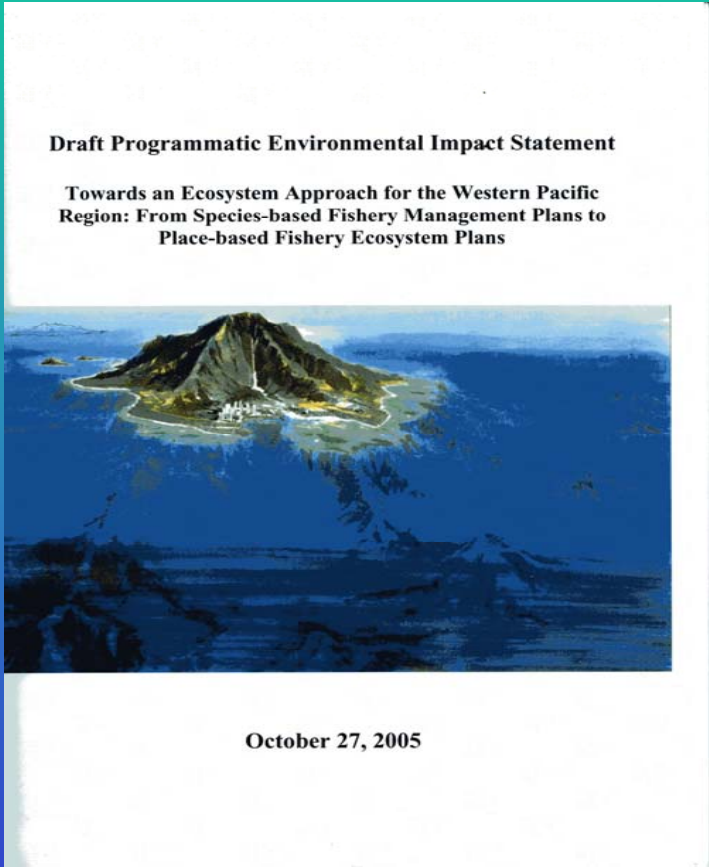
- Western Pacific Regional Fisheries Management Council adopts ecosystem-based management
- *Ahupua'a*, community-based approach
- Three workshops
- Programmatic environmental impact statement (PEIS)





PEIS Alternatives Considered

- Ecosystem boundaries
- Management unit species list
- Council advisory structure
- International coordination
- Regional collaboration; new institution proposed



Draft Programmatic Environmental Impact Statement

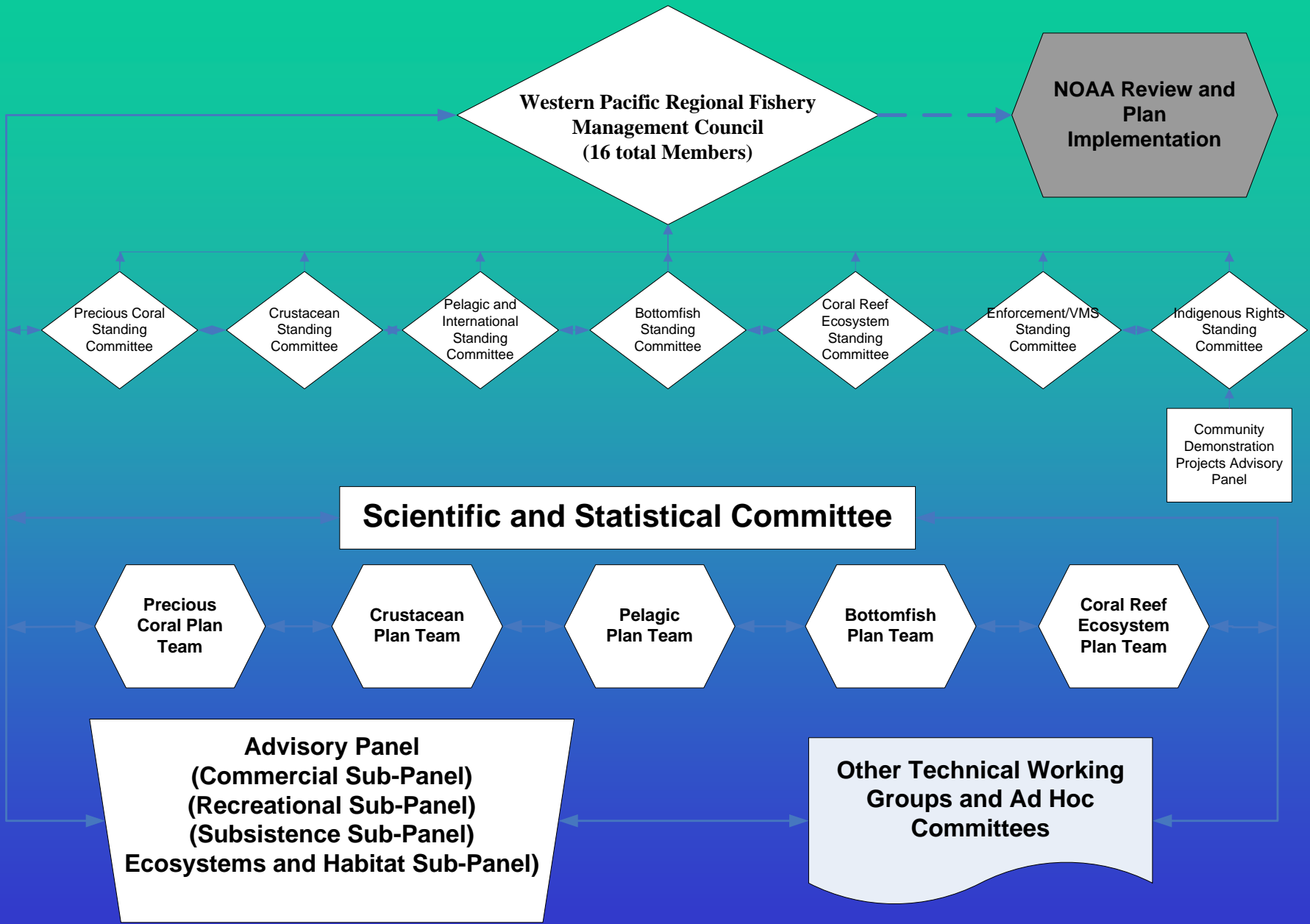
Towards an Ecosystem Approach for the Western Pacific Region: From Species-based Fishery Management Plans to Place-based Fishery Ecosystem Plans



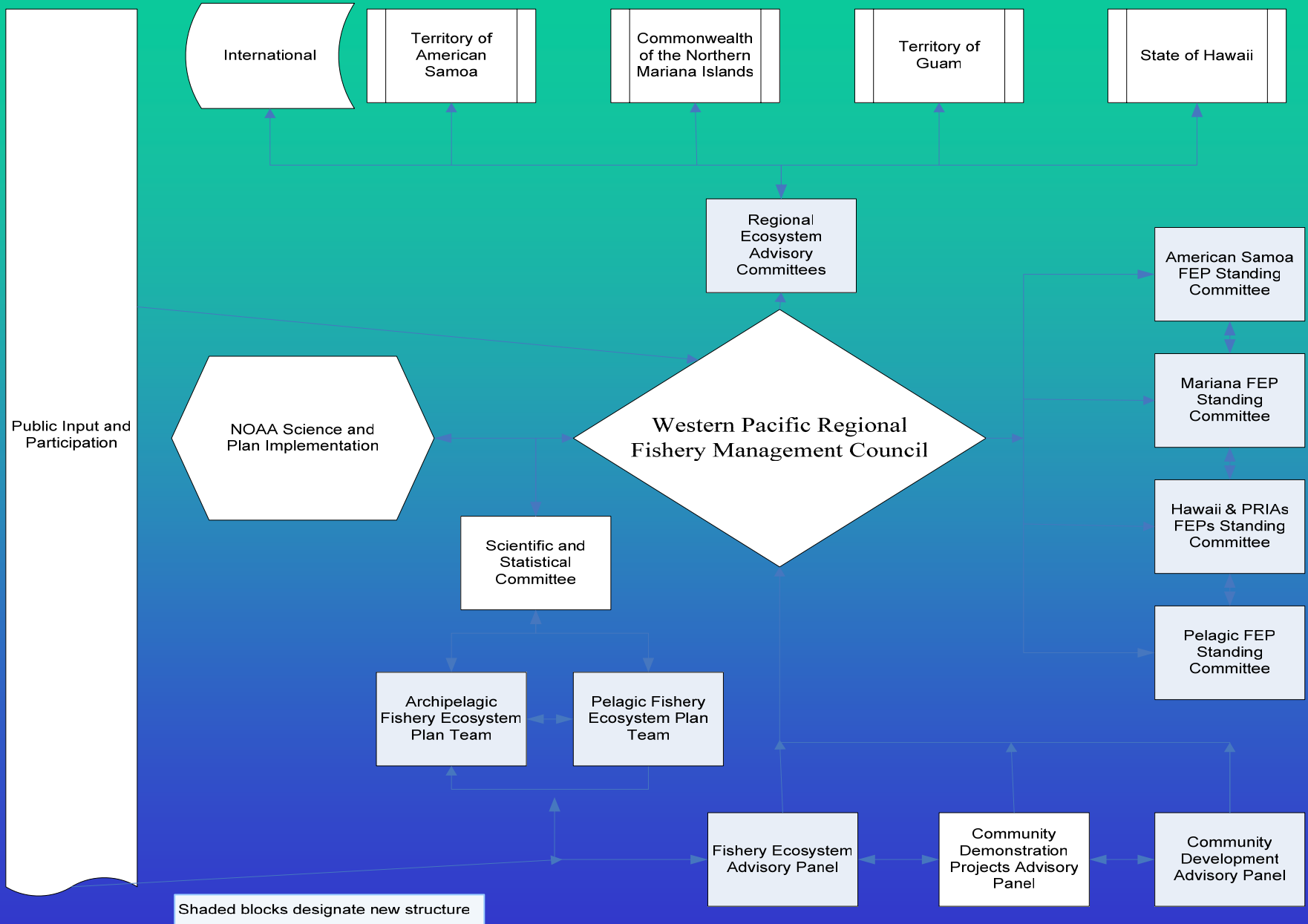
October 27, 2005

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Current Council Decision Making Process (Public Participation Throughout Process)



Proposed Council Process and Institutional Linkages Under FEPs

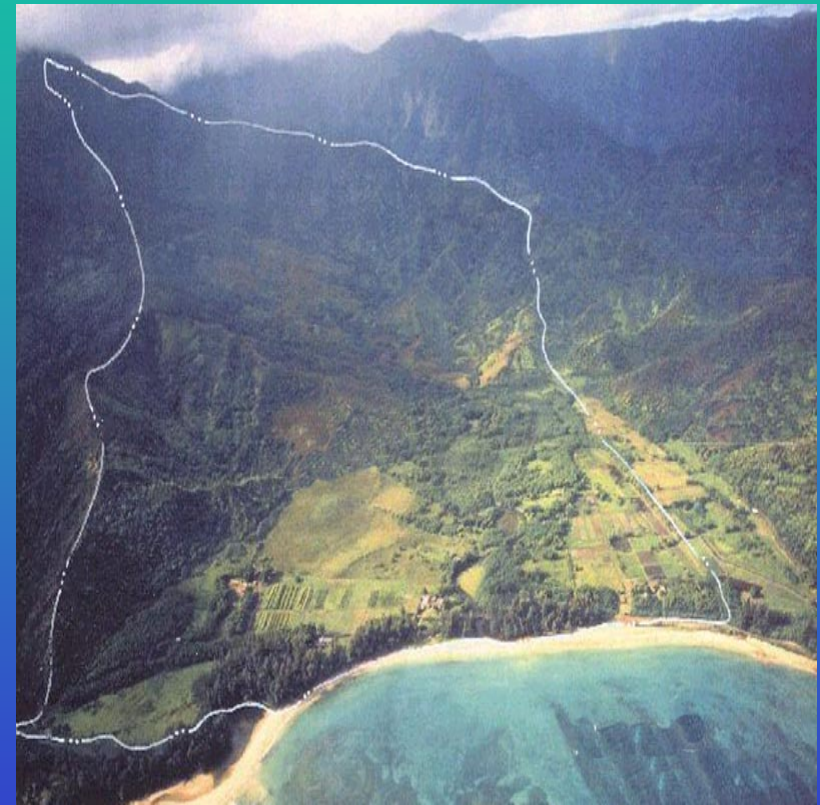




Regional Ecosystem Advisory Committees



- Mountain to Sea approach
- Multiple jurisdictions
- Non-fishing activities
- Council members, federal, state, local, businesses, NGOs
- Share information, coordinate management, support community initiatives



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Workshop Objectives

- Review social science applications (data, models, frameworks) relevant to ecosystem-based management of marine resources
- Review resource management issues and initiatives in the Western Pacific
- Identify suite of indicators related to human and institutional ecology of marine ecosystems
- Short-term and long-term approaches to incorporating human dimension components of marine ecosystems

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Content Overview

- Background material on Western Pacific fisheries, cultures, policy, management and research
- Presentations were case studies focused on places, programs, and/or models
- 25 presentations plus two time slots for facilitated discussion
- Reception at Council, dinner at Duc's
- Closing

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Humans in Ecosystems



- An important human ecosystem-based management role is governance
- Institutional issues were particularly highlighted by two speakers
 - Susan Hanna (Oregon State University)
 - Tim Hennessey (U Rhode Island)

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Humans in Ecosystems: Governance

Hanna's talk emphasized attributes of ecosystem management specific to complex institutions that will affect what is possible for ecosystem-based management institutions.

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Humans in Ecosystems: Governance

Key economic principles Hanna highlighted:

- Incentive problems can limit effectiveness of complex organizations
- Transaction costs will go up
- *Williamson Puzzle*: The gains from integration (e.g., people & biophysical ecosystems) will also carry losses because incentives will be impaired when transactions are transferred out of the market into the organization



Humans in Ecosystems: Social Science Models

Speakers also presented **Ecosystem Social Science Models** integrating human sociocultural, economic and biophysical systems

- Traditional Ecological Knowledge (TEK) & Local Ecological Knowledge (LEK) was featured in some of these presentations

Hawaiian Moon Calendar

Moku of Ka'u – November 2005

Sunday	Monday	Tuesday	Wed	Thursday	Friday	Saturday
		1 HOAKA Good Fishing No Planting	2 KUKAHI Good Fishing Plant Kalo, Uala, Maia 1 shoot	3 KULUA Good Fishing Plant kalo Uala & Maia 2 shoots	4 KUKOLU Good Fishing Plant Kalo Uala & Maia 3 shoots	5 KUPAU No fishing No planting
6 OLEKUKAHI No fishing No planting	7 OLEKULUA No fishing No Planting	8 OLEKUKOLU No Fishing No Planting	9 OLEPAU No Fishing No Planting	10 HUNA Good Fishing Plant gourds & root plants	11 MOHALU Good Fishing Limu Picking Plant flowers	12 HUA Good Fishing Good Planting
13 AKUA Good Fishing Good Planting	14 HOKU Good Fishing Good Planting	15 MAHEALANI Good Fishing Good Planting Fruits small	16 KULU Good Fish Strong currents Plant potatoes	17 LAAUKUKA-HI Good Fishing Ulu, melons	18 LAAUKULUA Good Fishing Ulu, gourds	19 LAAUPAU Good Fishing Good Planting
20 OLEKUKAHI No fishing No planting	21 OLEKULUA No Fishing No Planting	22 OLEPAU No Fishing No Planting	23 KALOAKUKA-HI Plenty shellfish Good Planting	24 KALOAKU-LUA Plenty shellfish Plant maia	25 KALOAPAU Fish & shellfish Plant ko, wauke	26 KANE Good Fishing Good Planting
27 LONO Good Fishing Plant melons & gourds	28 MAULI Good Fishing Good Planting	29 MUKU Good Fishing Plant trees	30 HILO Deepsea Fishing No planting			



Humans in Ecosystems: Social Science Models

- Jeff Johnson's (East Carolina U) current collaborative work with fisheries biologists is intriguing
- Some highlights from Johnson's talk included

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Ecosystem Feedback Processes





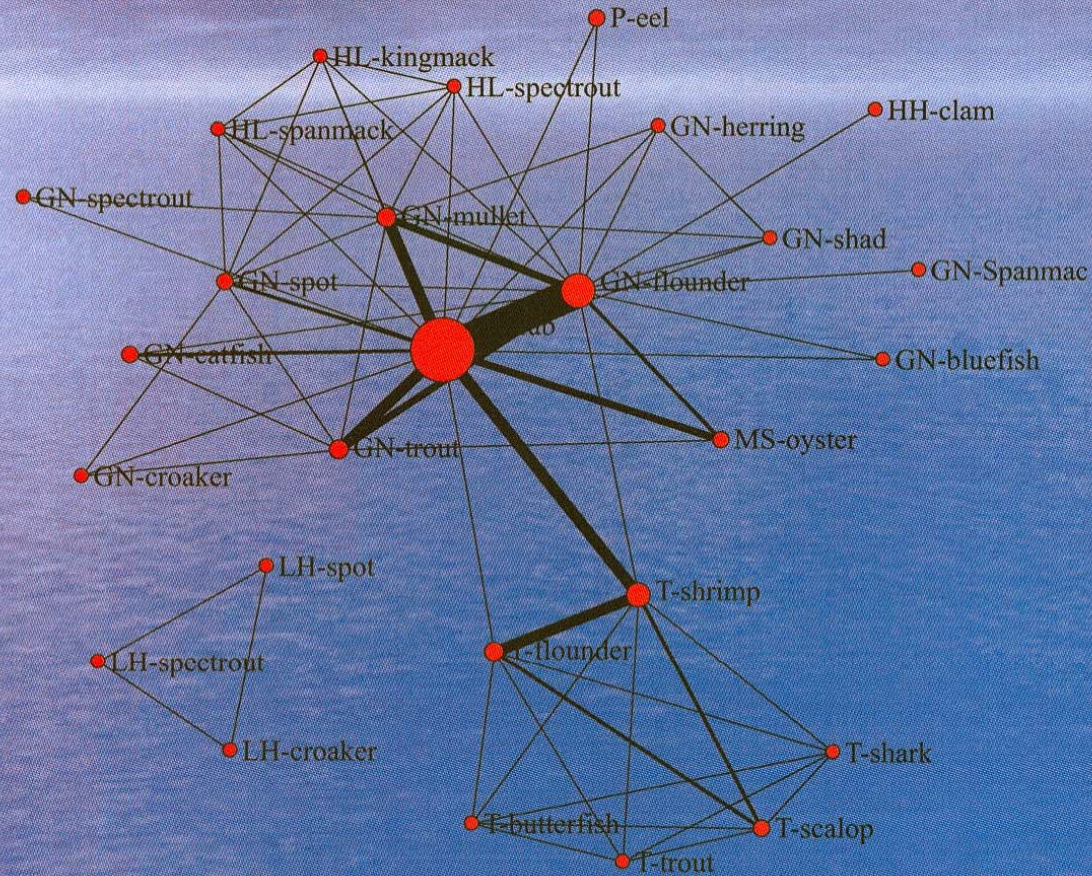
Humans in Ecosystems: Social Science Models

Johnson is using idea of keystone behaviors (species/gear combinations) in the human behavioral system

- There are keystone species in food webs, there are keystone behaviors in fishing behavioral networks
- Keystone behaviors can be mathematically identified
- Behavioral network robustness can be related to keystone elimination or reduction

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Fishing Behavioral Network





Humans in Ecosystems: Social Science Models

This new work is unique in:

- Application of network models to both food webs and fishermen's behavior
- Direct determination of changes in species richness & potentially predator/prey linkages as result of changing fishing pressure
- Simultaneous collection of social & natural science information

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What Happens Next

- Workshop report this summer
- Synthesis workshop this fall
- Council implementation of workshop content
 - Western Pacific region model exists
 - Incremental improvements in social science data and procedures
 - Increased effort to make sure information is available, understood, incorporated into management

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