







UHERO THE ECONOMIC RESEARCH ORGANIZATION AT THE UNIVERSITY OF HAWAI'I

ORMP Working Group Meeting

Methodologies to Assess the Value of the Coastal Zone Management (CZM) Special Management Area (SMA) Program

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> > April 4, 2013

Aims and Scope

- Develop a methodology for valuing the resources protected by the SMA program
- Potential applications of techniques are demonstrated through case studies in each of the counties
- The key is linking actions resulting from the program to value changes in coastal and ecosystem services of interest



Environmental Valuation Concepts

- Stated preference techniques: individuals state willingnessto-pay for a specified ecosystem service (e.g. through a survey)
 - Contingent valuation method (CVM)
 - Choice modeling (CM)
- Revealed preference techniques: information is "revealed" through actual actions taken in a market
 - Travel cost method (TCM)
 - Hedonic pricing method (HPM)
 - Ecosystem service approach (ESA)
- Other techniques: values inferred from other studies
 - Benefits transfer method (BTM)

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Summary of Case Studies and Benefits

• Key benefits of the SMA program selected by the Office of Planning include

- Public access
- Beach and shoreline protection
- Marine resources
- Scenic and open space
- Public participation
- Case studies selected with the intent of providing adequate representation of geographical conditions and benefits

County	Site	Key ecosystem service(s) protected	
Hawaiʻi	Puakō Bay	Public beach access, marine resources	
	Kohana'iki Beach Park	Public beach access, scenic amenity, open space, marine resources, cultural value	
	Holualoa Bay	Scenic amenity, marine resources, cultural value	
Kaua'i	Kealia and Donkey Beaches	Public beach access, scenic amenity, open space	
Maui	Makani Sands	Beach recreation (local), marine resources	
	Charley Young Beach	Beach recreation (tourism)	
Honolulu	Moana Surfrider Hotel	Public beach access, erosion control	

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Charley Young Beach (Maui)



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Charley Young Beach (Maui)



Site description

 Homeowners fronting parcel were encroaching on public land existing vegetation impeded viewplanes along the beach

Mitigative actions

- Removal of encroaching vegetation
- Dune restoration with indigenous vegetation such as pohuehue vines (*Ipomea pes-caprae*) and akiaki grass (*Sporobolus virginicus*)

Before

Photos courtesy of Tara Owens, UH Sea Grant, County of Maui Department of Planning

Ecosystem service	Beneficiaries	Recommended valuation method	Data required
Beach recreation	Beach users (locals/tourists)	TCM, CVM	Beach user survey

After

Kohana'iki Beach Park (Hawai'i Island)



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Kohana'iki Beach Park (Hawai'i Island)

• Site description

- Development of 500 homes, and 18-hole golf course, golf clubhouse and related improvements
- Part of the development borders the Kaloko-Honokohau National Historic Park

Mitigative measures

- 30-foot height restriction for makai-most houses and those bordering the National Park
- 109 acres donated to the public for a coastal park
- Construction of a mauka-makai and lateral public access road
- Public parking, restrooms, and showers
- 50-foot buffer maintained on makai side of culturally important Mamalahoa Trail
- Anchialine pool management plan

Ecosystem service	Beneficiaries	Recommended valuation method	Data required
Public beach access	Beach users	CVM, CM	Beach user survey
Scenic amenity and open	Property owners, visitors to	HPM	Real estate data
space	the National Park		
Marine resources	Individuals who value	BTM, CVM	Existing studies, survey
	existence of anchialine ponds		

Kohana'iki Beach Park (Hawai'i Island)



Mamalahoa Trail



Golf course and clubhouse from public access road



Restrooms under construction



Anchialine pools



Popular camping ground



Also used by surfers, fishermen, swimmers, and divers

Kealia Beach and Donkey Beach (Kaua'i)



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Kealia Beach and Donkey Beach (Kaua'i)



Public beach path



Comfort station

Site description

- Development of a 28-lot subdivision
- Part of the land is within the State Conservation District for public use
- Existing cane haul road used for pedestrian and bike access

Mitigative actions

- Grading, clearing, grubbing
- Construction of two public parking lots
- Provision of a mauka-makai pedestrian pathway
- Maintenance of view corridors along Homaikawaa and Kumukumu streams as well as to the ocean
- Dedication of 57 acres to the County of Kaua'i or another government agency for public recreational purposes

Ecosystem service	Beneficiaries	Recommended valuation method	Data required
Public beach access	Beach users	CVM, CM	Beach user survey
Scenic amenity	Highway users and ocean recreationists	CVM, CM	Resident survey



Next steps

- More details on O'ahu case study (Moana Surfrider Hotel in Waikiki)
- Develop appendix that gives step-by-step instructions on how to employ the suggested valuation methodologies
- Consider how estimated values could be applied in a more comprehensive cost-benefit analysis used for decisionmaking

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Mahalo!

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CZM and SMA Programs

• Coastal Zone Management (CZM) Act

- Codified under HRS-205A in 1977
- Objective is to preserve, protect, develop, and where possible enhance coastal zone resources

Special Area Management (SMA) Program

- Established with the enactment of the Shoreline Protection Act (Act 176) in 1976
- Administered by each of the county governments, with the State providing oversight and support
- Ensures that developments within the SMA are carried out in compliance with CZM objectives and policies for the following:
 - Recreational resources
 - Historic resources
 - Coastal ecosystems
 - Public participation
 - Scenic and open space resources
 - Economic uses
 - Coastal hazards
 - Beach protection
 - Marine resources

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