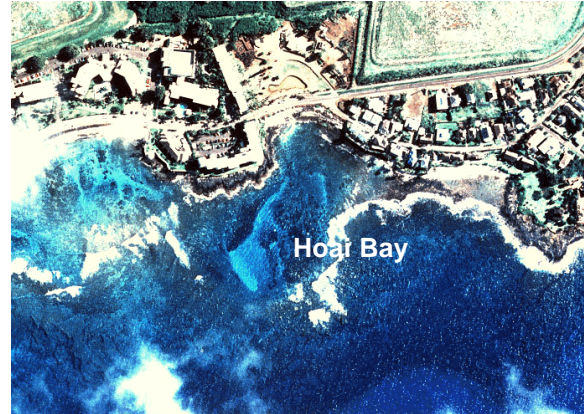


Hoai Bay, Kauai

21° 52.775' N 159° 28.452' W

Management Status: Open Access

Area Description: Residential and resort development in close proximity to coastline. Shallows protected consisting of colonized volcanic rock and carbonate reef structure. High density *Fungia scutaria* population noted outside transected area. Green turtles (*Chelonia mydas*) resident in shallows. Deep site exposed volcanic rock/boulder habitat with low-level coral colonization. Exposure south. Status related to recent regional hurricane impact under investigation.

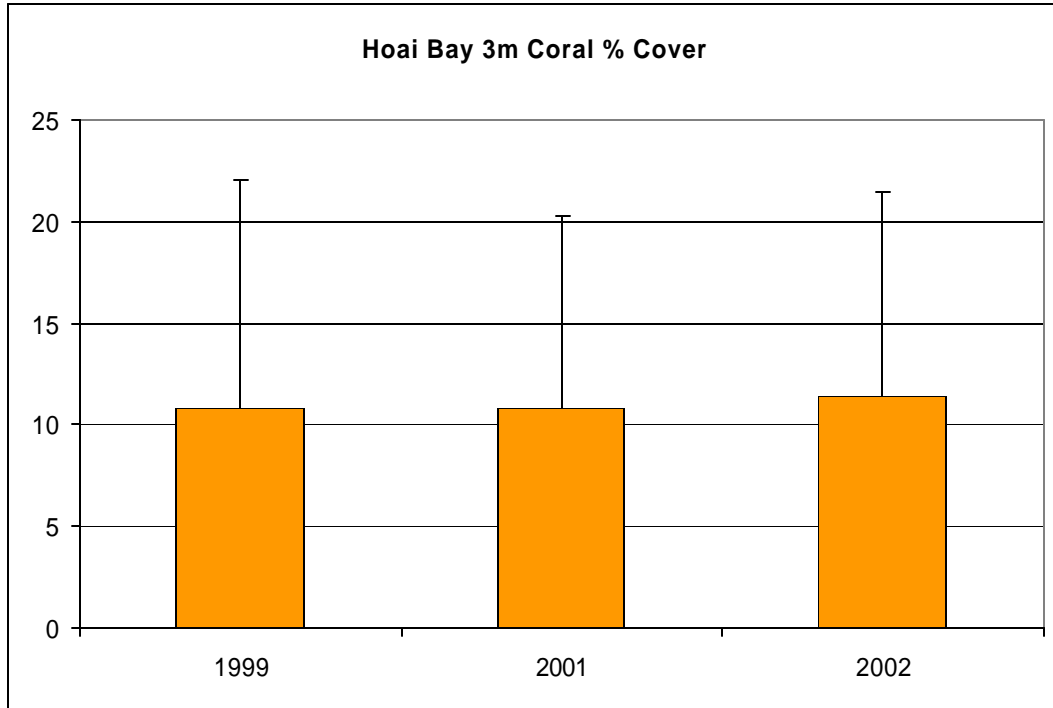


Benthic Habitat Data: 3 m

	Depth (m)	Rugosity	Sediment Composition (% wt.)		Sediment Grain Size (% wt.)			
			LOI	H ₂ CO ₃	Gravel	Coarse	Fine	Silt
Mean	3	1.61	3.11	93.24	34.27	60.59	4.95	0.18
S.D.		0.37	0.49	1.01	0.79	0.34	0.44	0.11

Video Transect data (3 m):

Species	% Cover:		1999		2001		2002	
	Mean	SD	Mean	SD	Mean	SD		
<i>Cyphastrea ocellina</i>	0	0	0	0	0	0		
<i>Fungia scutaria</i>	0	0	0	0	0	0		
<i>Leptastrea purpurea</i>	0	0	0	0	0	0		
<i>Montipora flabellata</i>	0.1	0.1	0	0	0.0	0.1		
<i>Montipora patula</i>	0	0	0.2	0.1	0.1	0.2		
<i>Montipora studeri</i>	0	0	0	0	0	0		
<i>Montipora capitata</i>	0	0	0.0	0.1	0	0		
<i>Pavona duerdeni</i>	0	0	0	0	0.0	0.1		
<i>Pavona maldivensis</i>	0	0	0	0	0	0		
<i>Pavona varians</i>	0	0	0.1	0.1	0	0		
<i>Pocillopora damicornis</i>	0	0	0	0	0	0		
<i>Pocillopora eydouxi</i>	0	0	0	0	0	0		
<i>Pocillopora ligulata</i>	0	0	0	0	0	0		
<i>Pocillopora meandrina</i>	0.1	0.3	0.2	0.2	0.2	0.3		
<i>Porites brighami</i>	0	0	0	0	0	0		
<i>Porites compressa</i>	2.6	4.8	3.8	5.0	4.1	5.7		
<i>Porites evermanni</i>	0	0	0	0	0	0		
<i>Porites lichen</i>	0	0	0	0	0	0		
<i>Porites lobata</i>	8.0	7.5	6.6	6.4	7.0	5.6		
<i>Porites rus</i>	0	0	0	0	0	0		
<i>Psammocora nierstraszi</i>	0	0	0	0	0	0		
Unknown Coral	0	0	0.1	0.1	0	0		
Total Coral	10.8	11.3	10.8	9.5	11.4	10.0		
Species Richness:	4		7		6			
Macroalgae	0	0	0	0	0	0		



Photoquadrat Data (3 m): Photo analysis pending

Findings: Initial coral cover rank is 43 among 60 reefs. Coral cover stayed roughly the same between the 2 sampling periods. No significant macroalgae cover and moderate level of macroinvertebrates (e.g. *Echinometra mathaei*). High percentage of crustose coralline algae and turf algae. Low percentage of fine sediments with low content of terrigenous material. No rare or unusual species observed. High density *Fungia scutaria* bed off transects in shallows.

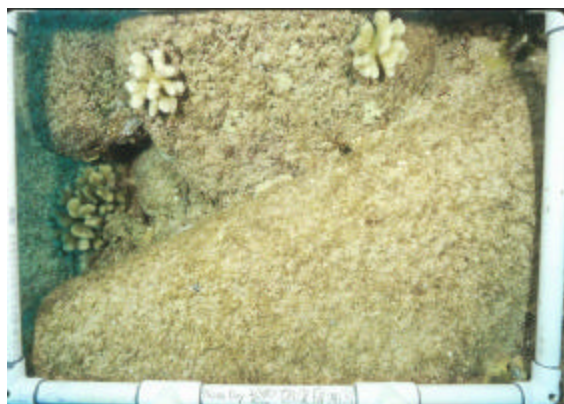
Hoai Bay, Kauai

Benthic Habitat Data: 10 m

	Depth (m)	Rugosity	Sediment Composition (% wt.)		Sediment Grain Size (% wt.)			
			LOI	H ₂ CO ₃	Gravel	Coarse	Fine	Silt
Mean	10	1.50	2.64	92.63	88.28	10.77	1.97	0.32
S.D.		0.35	0.40	1.29	3.70	2.90	0.77	0.23

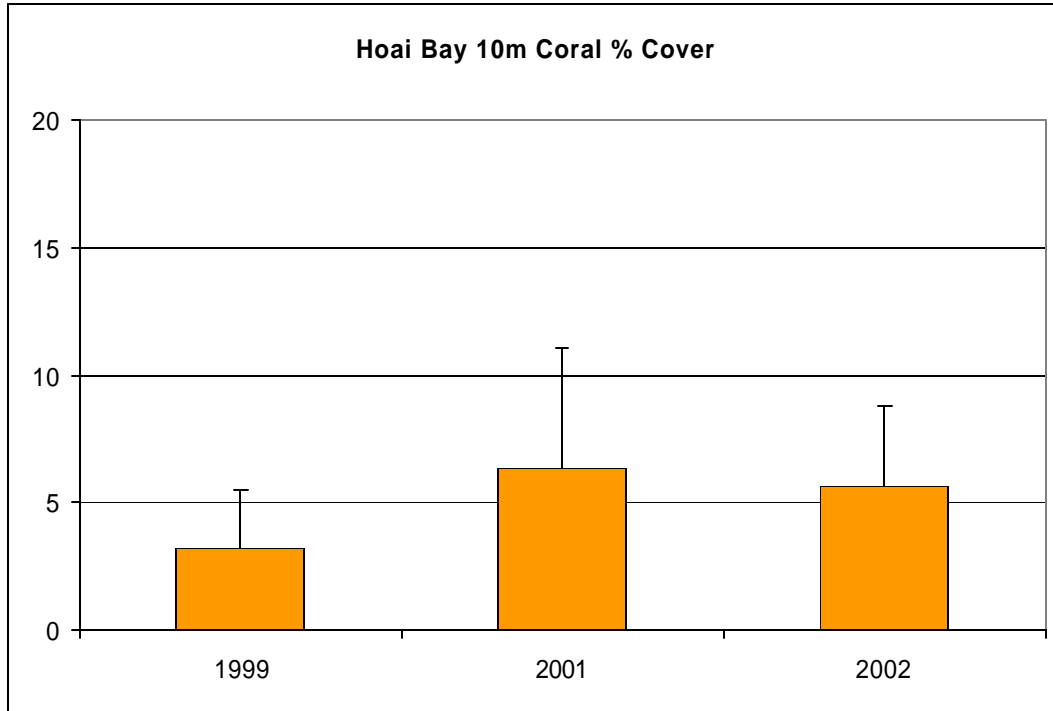
Video Transect data (10 m):

Species	% Cover:		1999		2001		2002	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Cyphastrea ocellina</i>	0	0	0	0	0	0	0	0
<i>Fungia scutaria</i>	0	0	0	0	0	0	0	0
<i>Leptastrea purpurea</i>	0	0	0.0	0.1	0	0	0	0
<i>Montipora flabellata</i>	0	0	0.1	0.3	0.0	0.1	0	0
<i>Montipora patula</i>	0.0	0.1	0.5	0.4	0.5	0.4	0.5	0.4
<i>Montipora studeri</i>	0	0	0	0	0	0	0	0
<i>Montipora capitata</i>	0	0	0.1	0.2	0.1	0.1	0.1	0.1
<i>Pavona duerdeni</i>	0	0	0	0	0	0	0	0
<i>Pavona maldivensis</i>	0	0	0	0	0	0	0	0
<i>Pavona varians</i>	0	0	0.1	0.2	0	0	0	0
<i>Pocillopora damicornis</i>	0	0	0	0	0	0	0	0
<i>Pocillopora eydouxi</i>	0.3	0.8	0	0	0.2	0.6	0.2	0.6
<i>Pocillopora ligulata</i>	0	0	0	0	0	0	0	0
<i>Pocillopora meandrina</i>	2.4	1.6	4.8	4.2	3.8	2.4	3.8	2.4
<i>Porites brighami</i>	0	0	0.0	0.1	0	0	0	0
<i>Porites compressa</i>	0.1	0.1	0.0	0.1	0	0	0	0
<i>Porites evermanni</i>	0	0	0	0	0	0	0	0
<i>Porites lichen</i>	0	0	0	0	0	0	0	0
<i>Porites lobata</i>	0.5	0.4	0.6	0.5	1.1	0.7	1.1	0.7
<i>Porites rus</i>	0	0	0	0	0	0	0	0
<i>Psammocora nierstraszi</i>	0	0	0	0	0	0	0	0
Unknown Coral	0	0	0.1	0.1	0	0	0	0
Total Coral	3.2	2.3	6.3	4.8	5.6	3.1	5.6	3.1
Species Richness:	5		10		6		6	
Macroalgae	0.0	0.1	0	0	0.5	0.5	0.5	0.5



Photoquadrat Data (10 m): Photo analysis pending

Findings: Initial coral cover rank is 56 among 60 reefs. No statistically significant change in coral cover observed between the 2 sampling periods. Low macroalgae coverage. High percentage of crustose coralline algae and turf algae. Low percentage of fine sediments with low content of terrigenous material. No rare or unusual species observed.



**Hoai Bay, Kauai
Fish Data: 3 and 10 m**

Species	Density (#/125m ²)				Biomass (g/125m ²)			
	3 m		10 m		3 m		10 m	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Acanthurus achilles</i>	1.5	1.9	0.5	1.0	89.6	114.4	29.9	59.8
<i>Acanthurus blochii</i>			4.5	6.6			841.3	1045.8
<i>Acanthurus nigricans</i>	0.5	1.0			26.7	53.3		
<i>Acanthurus nigrofuscus</i>	8.5	7.9	43.5	15.5	317.7	318.2	1565.3	526.7
<i>Acanthurus nigroris</i>	0.5	1.0			36.4	72.8		
<i>Acanthurus olivaceus</i>			4.0	3.7			1040.9	1007.8
<i>Acanthurus triostegus</i>	8.0	16.0			655.6	1311.2		
<i>Aphareus furca</i>			0.5	1.0			35.8	71.5
<i>Bodianus bilunulatus</i>			0.5	1.0			39.2	78.4
<i>Calotomus carolinus</i>			0.5	1.0			54.9	109.8
<i>Canthigaster amboinensis</i>	1.5	1.9			45.8	60.5		
<i>Canthigaster jactator</i>	3.0	2.6	7.5	4.1	16.2	14.5	53.9	24.9
<i>Chaetodon auriga</i>	1.0	2.0	1.0	2.0	80.7	161.5	100.1	200.3
<i>Chaetodon ephippium</i>	1.0	2.0			103.4	206.8		
<i>Chaetodon fremblii</i>			1.5	1.9			67.4	86.1
<i>Chaetodon multicinctus</i>			4.5	3.4			131.8	100.0
<i>Chromis hanui</i>			1.5	3.0			5.2	10.5
<i>Chromis vanderbilti</i>	7.0	9.5	168.0	81.9	19.5	26.1	2792.3	4176.6
<i>Cirrhitoys fasciatus</i>	0.5	1.0	0.5	1.0	7.6	15.2	7.6	15.2
<i>Cirrhitoys pinnulatus</i>	1.0	2.0	0.5	1.0	100.2	200.4	45.1	90.3

<i>Cirripectes vanderbilti</i>	1.5	1.0			5.0	3.6		
<i>Coris gaimard</i>	0.5	1.0			1.2	2.4		
<i>Ctenochaetus strigosus</i>	0.5	1.0	12.0	11.0	44.5	89.1	1047.3	951.8
<i>Echidna nebulosa</i>	0.5	1.0			93.4	186.8		
<i>Fistularia commersonii</i>	0.5	1.0			30.4	60.9		
<i>Gomphosus varius</i>	4.0	5.4			52.6	59.5		
<i>Gymnothorax meleagris</i>	0.5	1.0			118.5	236.9		
<i>Halichoeres ornatissimus</i>			2.5	5.0			36.6	73.2
<i>Labroides phthirophagus</i>	3.5	3.4	0.5	1.0	7.9	7.5	1.0	2.1
<i>Lutjanus kasmira</i>			8.5	15.7			874.1	1466.5
<i>Macropharyngodon geoffroyi</i>	0.5	1.0			19.6	39.1		
<i>Melichthys niger</i>	3.0	4.8	0.5	1.0	1258.2	2005.8	183.3	366.6
<i>Melichthys vidua</i>	0.5	1.0	3.5	1.9	166.9	333.8	1216.8	721.5
<i>Monotaxis grandoculis</i>			0.5	1.0			205.5	410.9
<i>Naso lituratus</i>	0.5	1.0	4.0	3.3	108.6	217.1	1615.6	1249.6
<i>Ostracion meleagris</i>	1.0	1.2			14.4	21.4		
<i>Paracirrhites arcatus</i>	1.0	1.2	14.0	2.8	69.1	93.5	301.3	91.1
<i>Parupeneus cyclostomus</i>	0.5	1.0	0.5	1.0	20.9	41.9	60.2	120.5
<i>Parupeneus multifasciatus</i>	5.5	4.4	5.0	4.2	830.8	726.0	573.1	508.8
<i>Parupeneus pleurostigma</i>			1.0	2.0			176.7	353.4

Hoai Bay, Kauai Fish Data: 3 and 10 m

Species	Density (#/125m ²)				Biomass (g/125m ²)			
	3 m		10 m		3 m		10 m	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Pervagor spilosoma</i>	0.5	1.0			16.5	33.1		
<i>Plagiotremus goslinei</i>	1.0	2.0	0.5	1.0	1.4	2.8	0.7	1.4
<i>Plectroglyphidodon imparipennis</i>	1.0	2.0			3.5	7.0		
<i>Plectroglyphidodon johnstonianus</i>	2.5	2.5	3.0	4.8	18.8	14.5	19.7	27.7
<i>Scarus rubroviolaceus</i>			1.5	3.0			722.5	1444.9
<i>Stegastes fasciolatus</i>	21.0	3.8	3.0	2.6	437.4	122.9	58.4	56.6
<i>Stethojulis balteata</i>	20.5	16.5	5.0	6.0	236.4	201.2	114.7	132.6
<i>Sufflamen bursa</i>			5.5	3.8			671.0	466.3
<i>Sufflamen fraenatus</i>			1.0	1.2			331.0	428.6
<i>Thalassoma ballieui</i>	1.0	1.2			60.5	89.6		
<i>Thalassoma duperrey</i>	25.0	11.1	8.0	1.6	643.1	317.0	216.5	123.1
<i>Zanclus cornutus</i>			3.0	1.2			403.8	119.6
<i>Zebрасoma flavescens</i>			1.5	3.0			219.5	439.1
Total/Depth Avg ± SD:	130.5	3.3	323.5	5.6	5759.0	207.5	15859.8	463.8
Species Richness	36		37					
Species Diversity	2.26		1.91					

Findings: Among 60 reefs, Hoai Bay 3m ranked 39 in species richness, 46 in density, 46 in biomass, and 24 in diversity. Hoai Bay 10m ranked 30 in species richness, 14 in density, 28 in biomass, and 51 in diversity. The most abundant species were the Saddle wrasse (*Talassoma duperrey*) and the Blackfin chromis (*Chromis vanderbilti*) at the 3m and 10m reefs respectively. The species with the highest biomass were the Black durgon (*Melichthys niger*) and the Blackfin chromis (*Chromis vanderbilti*) at the 3m and 10m reefs respectively. No rare or unusual species observed.