

**RARE OR CHARISMATIC AQ SPECIES, WHERE THERE ARE CLEAR SIGNS OF POPULATION DECLINE – and where catch value is trivial compared to other values  
(Justification: protecting species, where clear sign of vulnerability to fishing AND where fishery value is trivial compared to other values)**

Taxa	Abundance	FY 04-06 Statewide AQ Catch W. Hawai_i Catch (2005\$)			Endemic?	Charisma Factor	Other Comments
		Reported Catch/yr	Tot \$	\$ ea			
<b>Bandit Angelfish</b>	Uncommon	65 41	\$4,214 \$2,254	\$60.45 \$54.99	Y	HIGH	Price shooting up (from around \$20/ea. 10 years ago to around \$100/ea. now). Catches have dramatically dropped off though – from 1-2,000/yr in late 1970s, when price was around \$10/ea. Clear indication of declines in LT data. Much anecdotal evidence that abundance is much higher in diving depths at remote spots. Deeper water population may quite possibly still be healthy – issue here is abundance in mid-depth reefs
<b>HI Turkeyfish</b> ( <i>P. sphex</i> )	V. Rare	19 1	\$174 \$9.58	\$3.77 \$9.58	Y	V HIGH	Catches have always been low, -100 or so-few peaks of around 400/yr in mid 90s. Prices trending upwards since late 90s (from \$5ish to \$15ish of late). Plenty of anecdotal evidence that these species used to be more common at sites in W Hawai_i. Value to fishery is TINY.
<b>Bluestripe Butterflyfish</b>	V. low W Hawai_i No idea _Oahu	261 30	\$766 \$25	\$3.03 \$0.84	Y	SOME?	Definite signs this species has hugely declined in abundance in W Hawai_i (based on historical surveys at Puak_ and H_naunau – this species was quite common in multiple habitats in 70s and 80s but is now very rare in W. Hawai_i. Almost all recent catch coming from _Oahu, where DAR more generally has no abundance data. Catch has cratered over the years we have data from though -was several thousand a year in 70s, 80s, early 90s.
<b>Cowfish</b>	Rare	10 0	\$28 (!!) 0	\$2-3 0	N	HIGH	THIS IS A DIFFICULT ONE TO JUDGE. AQ DATA DOESN'T SEEM THAT GOOD, AND ONLY POPULATION STATUS AND TRENDS DATA DAR IS AWARE OF COMES FROM THE PUAKE_ STUDY in 70s/80s. Reported AQ catches much higher in 80s,90s (several hundred/yr, one year nearly 1000, but seems to have been quite a bit of misreporting of what were probably boxfish. Cowfish were regularly reported by several collectors over several years however, so hard to know how meaningful or not these apparent catch declines are. However, no sign at all that this has ever been a valuable fish. Cowfish were recorded on surveys at Puak_ in 70s/80s – at 4 of 12 transects (so not that rare! – likely to be very different now)

**TOTAL VALUE OF CATCH OF ALL 4 COMBINED WORTH APPROX \$5,000 TO STATE'S AQ FISHERS. For all we can make some kind of case that they are much rarer now than previously. All are fairly charismatic – 3 of 4 are endemic.**

**CHARISMATIC AND RARE AQ-SPECIES - TOTAL VALUE OF CURRENT AND FUTURE CATCH IS PROBABLY MARGINAL COMPARED TO OTHER VALUES**

**(Justification: precautionary protection of rare and valuable species)**

Taxa	Abundance	FY 04-06 Statewide AQ Catch W. Hawaii Catch (2005\$)			Endemic?	Charisma Factor	Other Comments
		Reported Catch/yr	Tot \$	\$ ea			
<b>Frogfishes</b>	V rare	62 13	\$1024 \$166	\$16.57 \$12.50	N	HIGH	Trivial catch – max ever was 200/yr. DAR has no data on abundance or decent grounds for speculation on trends. Also can't say with any confidence at all that fishing at current levels has any impact. Presume they are valuable to tourism industry.
<b>Longnose Hawkfish</b>	V rare	21 13	\$277 \$222	\$12.46 \$17	N	MED-HIGH	Catch bumped along at low level throughout – no sign of a trend. Also no clear price trend over last 10 years or so. Believed to be mostly deepish – so very hard to comment on their abundance or population trends with any confidence whatsoever.
<b>Flame Wrasse</b>	Rare	452 \$222	\$6,101 \$222	\$13.28 \$18	Y	MED-HIGH	Catch has varied from a few hundred to about 1800/yr – with several ups and downs. Until 2006 was on a downward trend. Most catch from _Oahu (Portlock area particularly)
<b>Dragon Moray</b>	Rare	27 3	\$6,485 \$620	\$222.03 \$233	N	HIGH?	Highest catch ever was <200/yr. Price taking off in last few years (\$276 in 2006, \$98 in 1996). DAR has seen no information or even a feel for their current abundance or long term trends, so may be difficult to justify closing off such high-value species when total statewide catch is so low.
<b>HI Lionfish</b> <i>(D. barberi)</i>	V. Rare	63 0	\$233 0	\$10.76 0	Y	MOD?	Catches 200-400/yr throughout the 90s, have tanked since around 97. Mostly taken from W _Oahu, so difficult to say what current abundance is
<b>Whitley's Boxfish</b>	V. Rare	20 9	\$215 \$139	\$10.44 \$15	N	LOW-MOD?	Reported catch was around 100/yr up to 400/yr in late 1980s, but <100/yr since. Catches have dropped off across all areas where this was taken from. Price somewhat trending up. Males much more valuable than females
<b>Hawaiian Anthias</b> <i>P. hawaiiensis</i>	Rare	38 37	\$501 \$497	\$14.21 \$13.50	N	?	Mostly taken from W Hawai_i. Highest ever catch was 398 in 1997 - fishery started with a bang in mid-late 90s, but has dropped off steadily since

**POTENTIALLY IMPORTANT ECOSYSTEM VALUE**

<b>Cleaner Wrasse</b>	Common	1,238 501	\$4,782 \$1,804	\$3.87 \$3.50	Y	LOW	Potentially very important ecosystem value.
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**OTHERS –TAKE IS SMALL, AND OTHER VALUES ARE LIKELY MORE.**  
**(Justification: marginal return to fishery and some uncertainty about impacts, so VERY precautionary protection with little downside)**

Taxa	Abundance	FY 04-06 Statewide AQ Catch			Endemic?	Charisma Factor	Other Comments
		Reported Catch/yr	Tot \$	\$ ea			
<i>Coris venusta</i>	?	85	\$251	\$2.51	Y	LOW	Catches never high – under 200 nearly always, one year 600 were reported. Included here because they seem rareish and they are endemic
<i>Cheilio inermis</i>	Rare	42	\$111	\$2.71	N	LOW-MOD	Always a small part of catch (highest ever was 164 in 1997). No clear catch trends. Most catch from Portlock area.
<i>Chaetodon ephippium</i>	Rare	7	\$38	\$5.37	N	MOD?	Not many taken ever (99 in 1991 is max year)- very few at all of late
<i>Chaetodon reticulatus</i>	Rare	67	\$206	\$3.06	N	MOD?	Not many taken ever (most ever 167 in 1997)
<b>Snowflake Moray</b>	??	102	\$716	\$7.02	N	MOD?	Catch never more than 400/yr – pretty flat for last 20 years
<b>Zebra Moray</b>	??	83	\$784	\$9.52	N	MOD?	Catch 200-400/yr in 80s and 90s, but mostly under 100 since about 2000. 116 in FY2006
<b>Bicolor Anthias</b>	??	2,727	\$11,130	\$4.10	N	MOD?	Mostly taken from W Oahu. Fishery only took off at all around 1990. Last 2 years was highest catch ever reported. No data at all on status or abundance trends.
<b>Thompson's Anthias</b>	??	613	\$2,457	\$4.08	N	MOD?	Mostly taken from W Oahu. Over 1000/yr for several years through 90s and early 2000s; catch has dropped off somewhat since.
<b>No, or very very little catch reported for these, but they might be worth considering</b>							
<i>Coris ballieui</i>	Rare	4	\$27	\$9.46	Y	LOW	From 1988-96, 100-400/yr reported; since then almost none. Seems quite a few from earlier years were misreported, but hard to be sure
<b>Masked Angelfish</b>	VVV Rare	0	0	HIGH	Y	?	Presumably, AQ trade is irrelevant for these species in MHI – they are anyway much more common in NWHI – those in MHI much deeper, so we have almost no info on their abundance in MHI. 25 reported taken from Oahu in 2001 (>\$100/ea, so price is at least possible-was this a special order and taken from deeper water??)
<b>Fire Dartfish</b>	Rare	0	0	?	N	HIGH?	No DAR code for this species – none ever reported in AQ catch.
<b>Pipefish/ Seahorses</b>	V. Rare ?	14	\$129	\$5-10	some	HIGH	There is no DAR code specifically for seahorses, but is one for pipefishes/seahorses. Assume most or all of the catch is pipefishes, and no idea whatsoever what their population status/trends are. Only a handful of these (pipefish or seahorses) ever reported as caught in any year.

<b>Velvetfish</b> <i>Caracanthus</i> spp.	??	4	\$13	\$3.50-\$4	some	MOD?	Virtually none reported taken ever. May be reasonably common (but hardly seen by DAR).
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**Weird One – not sure if these are mis-IDs, but if not, they are rare species, so might be worth considering**

<i>Thalassoma lunare</i>	??	94	\$231	\$2.46	N	?	Suspect these are misreported by collectors. According to Randall (so I read somewhere, possibly FISHBASE), this species not confirmed as present in Hawaii. Somehow DAR has a code for this species. Worth looking into further perhaps, but likely to be something else
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