

Coral Listers:

I'm going to take some heat for this, so as a pre-ambule I'm a private sector environmental consultant, who has worked in Hawaii for 35 years, was one of the first proponents of widespread MPAs in Hawaii, and consider myself a staunch protector of the environment.

The NOAA funded study "Total Economic Value for Protecting and Restoring Hawaiian Coral Reef Ecosystems" which places a total value of the reefs in the Main Hawaiian Islands at \$33.5B is seriously flawed due to some basic assumptions it has made. As scientists with expertise in coral reefs and likely a great love of these ecosystems it is very important that we critically examine all studies - even those that appear to place a high value towards an argument we'd personally like to believe. Poor science will do little to forward this important environmental cause.

First, I'd like to put the study into perspective. \$33.5B per Year is a lot of money. A prior study (Cesar, 2002) examined the value of the fishing, recreation, research, boating, and intrinsic value of these same reefs came up with a value roughly 1% of the NOAA study. The Hawaii State budget for 2009 was about \$22B, and the Gross State Economic Product for 2009 was \$66B. Does it make sense that the value of protecting and restoring "only" the reefs is more than the entire state budget and about half the total economic output of the entire State? \$33.5B over 300,000 acres of reef works out to about \$2.50 per square foot/year.

For those interested in mitigation for reef damage this figure will lead to some interesting calculations.

The study conducted 3277 surveys, primarily by computer, to individuals in the contiguous 48 States. Hawaii residents and Alaska residents were excluded from the study. 40% of those surveyed had no more than a high school education. Half had never been to a coral reef. Think about that. The first part of the survey educates the survey taker about the degraded condition of reefs in Hawaii, including a statement that 5-acres of reef are damaged every year by boat groundings (false) and that closing 25% of the reef to fishing would result in an increase from the present day 10% to 50% of historical fish stocks within 10 years (unsubstantiated). The survey asks a bunch of questions to help characterize the survey taker and then asks two key questions (paraphrased):

- 1) Would you pay an additional \$X in Federal taxes to increase the MPAs in Hawaii to 25% coverage?
- 2) Would you pay an additional \$Y in Federal taxes to repair the annual 5-acres of reef damage?

The study allows a choice between \$0 (no fix) to values from \$45 to \$170 per year per household to develop MPAs (X value), and a similar choice for reef repair varying from \$35 to \$135 (Y-value). The average X and Y are then added together for a total willingness to pay of \$287 per household. This value times the number of households in the US (~117M) = \$33.5B per year.

There are two problems with the numbers used to estimate X and Y.

A) these represent Monopoly Money figures for respondents. They know this isn't really going to result in an increase to their taxes & these nice people have just shown lots of pretty pictures showing that things really need to get fixed, so "Why not select some value to fix their problem?".

To anyone who believes these values mirror real choices, I suggest you look at what has been happening to taxes across the country for causes (such as education) that are much more important and closer to home.

B) the choices given, even at the lowest levels, are much higher than reasonable.

Assuming that 5-acres of coral really did get damaged each year (an unsubstantiated claim), the lowest selective choice of a \$35 per year tax increase to fix the problem would result in annual tax revenues of (\$35 x 117M families) \$6.4B, or roughly \$18,000 per square foot of

reef repaired!

The study appears to have been designed in such a way that it is almost guaranteed to yield an unrealistically high value for the coral reef resources.

Aloha

Bob Bourke

Robert's post inspired me to check and compare real figures. \$33.5 billions match about the 2010 earnings of corporations such as Exxon Mobile or Nestlè.

Wallmart 2010 revenue was \$421 trillions...as far as contributions to the GDP god, it sounds like we are better off sticking with corporations protected areas...

Greetings

Francesca

I like the way Robert Bourke presents this view of hypocrisy in government funded reports to support NGO Funding proposals. It is well known that (some) NGO's need critical issues to support their funding in order to find a solution to a problem that may not be as bad (or even exist at all) as they propose. I am not saying that all NGO's follow this path but it is sad to say that there are many I have encountered dealing with issues similar to this.

Can it be possible for this kind of thinking to be applied to the Aquarium industry in Hawaii to keep it from being shut down based on the lies and inaccurate reporting led by some groups of emotional and highly misinformed activist spearheaded by "Snorkel Bob"?

These groups are about to succeed in shutting down a viable and sustainable industry with highly inaccurate information being used based on convincing the public to support them. The sad truth is that everyone wants to protect the environment (especially including us in the trade) but the general public who have been denied the real facts (and have been lied to) will strike the emotional vote every time thinking and believing they have actually done some good for the planet.

Walt Smith

Walt;

As a former fish collector - (I pre-date even Bruce Carlson !) - and one-time fish biologist I support regulatory actions to properly manage any fishery.

The short term economic incentives to any individual that promote overharvest far overwhelm the socio-economic pressure for conservation in the lack of a strong regulatory authority.

The "tragedy of the commons" is alive and well in tropical fisheries. Unfortunately for those who promote even well regulated extractive fisheries, the value of an un-harvested aquarium fish is likely much greater to the economy as a whole (or at least Snorkel Bob) than it's comparative one-time value to the aquarium trade.

It is this type of question that must be fairly examined by economists.

Regardless of my opinion on the value of the recent NOAA study, economists do have a very valid role to play in how we manage our public resources.

What is the comparative value of a Yellow Tang to the State's economy from the aquarium trade, vrs the non-extractive dive industry?

What balance of the two industries is likely to yield the greatest benefit to the State and National economy in 20 years?

Sounds like the type of a question that our legislature should fund to help them properly address management issues.

Bob

Following Bob's line of reasoning wouldn't this also be true:  
the value of an un-harvested parrot fish is likely much greater to the economy as a whole (or at least Snorkel Bob) than it's comparative one-time value to a fisherman.  
So that makes it unfortunate for those who promote well regulated extractive fisheries???  
Say what?  
Bill

Hi I don't think Bob is wrong. The parrot fish you speak of when only analyzed based on the value of Snorkle Bob type non consumptive fish activities has one value.  
However another value that has not been considered is what is the value of that parrot fish in a stable island community in which people eat the fish that they catch or that they purchase from neighbors.  
Because we have not fully measured the value of fish to the local social structure in terms of a healthy activity, lack of people on drugs, family cohesian etc.  
it is hard to say.  
You can't make a decision from only one set of numbers.  
Mike

Following Mike's line of reasoning wouldn't this also be true: another value that has not been considered is what is the value of that aquarium fish in a stable island community in which people sell the fish they catch so that they can feed their families.  
Because we have not fully measured the value of fish to the local social structure in terms of a healthy activity, lack of people on drugs, family cohesion, gainful employment etc.  
it is hard to say.  
Bottom line - fisheries are fisheries to the fishes - aquarium or otherwise.  
Bill

Bill (& All)

Yes, possibly, but that's part of the problem. As resource managers it is important to make decision that optimize the benefit to society as a whole. Societal values change over time and we are not adept at keeping track of these values. This is why I believe it is important to have social scientists and economists occasionally take the pulse of our system and give us an unbiased view of where the relative values lay. Even NOAA, in their Mission Statement, recognizes that the goal is to (paraphrased) meet our economic, social, and environmental needs. That's a multi-parametric and certainly non-linear equation to solve. A parrot fish has values to many systems within our society and it is important to be able to manage that resource in such a way that optimizes the gain to society in the long term without alienating any of the users. I have enjoyed watching many parrot fish while diving, captured and kept more than a few in aquariums for the enjoyment and education of others, and delighted in their savory flesh steamed over charcoal and wrapped in ti-leaves with ginger and oyster sauce. Guilty on all counts!  
Bob

Hi Robert and all,

Thanks for your response and interesting point of view.

However, I must argue that the value of a very small (miniscule) amount of aquarium fish collected does create value to the economy in terms of revenue to support local business and services. Does that same fish collected create a void in tourism or consumable fishery? The problem here is that Snorkel Bob would like you to believe that ALL the fish have been depleted from the resource or are about to be which is untrue but does secure the desired emotional response from the uneducated (in this sense) public to support his crusade.

It could also be argued that the long term negative effect of the tourism trade is far greater than a controlled sustainable harvest of rapidly reproducing reef fish which are not harvested for food. With millions of unskilled and unprepared tourist jumping off the boats and kicking, breaking, urinating and touching everything in sight, no matter what the guides tell them, the tourism industry should really understand that we are not the main cause (if any) of resource depletion.

I have been to several sites in Hawaii and especially Fiji that are daily tourist destinations and it is very sad to see what happens to a reef pounded by tourist day after day compared to a similar reef just a few hundred meters away .... night and day. But of course we cannot attack the high revenue earning tourist trade so we just sacrifice more than a few reefs. Those tropical fish guys are much easier to attack with their high visibility and extraction of beautiful fish.

Has anyone stopped to consider that it could be those very fish that created an interest and awareness in the coral reef issues to begin with.

I am a great supporter of careful, sustainable harvest that has a positive socio-economic impact on local economy and am not ignorant to the fact that there could be some bad apples among our group. However, the Aquarium fishery has come a long way in recent years to insure proper and sustainable harvest techniques are in place and practiced.

Please excuse my defensive stance but there does not seem to be enough evidence presented from our side.

Fiji is a great case study of socio-economic value to the community from our industry with possible actual positive effect on the reef related to some of our aquaculture activities.

Walt