

16 February 2010

Assistant Regional Administrator  
Protected Resources Division  
NMFS

**Comment on petition to list 82 species of coral under the ESA**

To Whom it May Concern,

I am writing as an academic expert on the biology and ecology of reef corals (Scleractinia) and coral reefs, and bring >25 years of professional experience on the topic from both the Caribbean and the Pacific. With regard to the 82 species listed, I am most familiar with the Caribbean representatives and, to a lesser extent, those from the Pacific (but not from the Hawaii context). In short, I have misgivings regarding the petition to list 82 species of scleractinians under the US Endangered Species Act. I do not believe this effort is justified by the scientific evidence, I am not convinced it can offer protection beyond that which is provided through existing MPAs and international convention and, critically, I fear it will stifle scientific investigation at a time when such studies are critically needed.

My misgivings stem from four origins:

First, I do not believe there is robust scientific evidence that the populations of these species are endangered to the point of extinction, although I do believe that their populations have been seriously depleted. Depletion does not beget extinction, and care is needed in extrapolating serious losses of coral cover to demographic implications. The sad fact is that the population biology of tropical reef corals is a seriously neglected field, and there is detailed demographic information on only a handful of species. For virtually all other species, it is virtually unknown over what area individual populations range, the extent of population growth (defined at the level of individual colonies or genotypes), the rate of recruitment, or the death rates of colonies; critically, the demographic framework to relate these processes in a cohesive model is almost non-existent. I do not believe that these species can be reliably categorized as endangered when so little is known about their population biology. When casual snorkeling in the Virgin Islands, or the Florida Keys, can reveal numerous colonies of some of the listed Caribbean species (although far less than might have been found 50 y ago), I believe it challenges the notion of an “endangered species”, and possibly will affect the ability to use this important tool to protect other, more threatened taxa.

Second, the assertion that Caribbean and Pacific reefs have lost a huge proportion of their coral cover is absolutely correct, but it is less clear how this relates to the probabilities of extinction for individual species. Again, I do not believe the scientific facts are available to support the extinction inference derived from loss of coral cover. While 2005 was certainly a bad year for coral cover in the Caribbean, my 23 years of

time series data from the reefs of St. John, US Virgin Islands, record this event as a relatively small blip on a depressing decadal-scale decline in coral cover. I do not believe that 2005 represents a watershed event that should galvanize the community into listing coral species as endangered.

Third, it is unclear how the categorization of 82 species of coral will assist in their protection, over and beyond that offered through the existing framework of strong MPAs and international conventions (e.g., CITES). If these mechanisms are not working effectively to protect coral reefs, then I would favor enhancing the enforcement of existing regulations rather than categorizing corals as endangered. One of the great dangers of taking this step is that research into critical coral problems – which already is greatly impacted by stringent permitting and regulation requirements – will be made virtually impossible.

Fourth, I doubt very much whether the species listed can be enforced by anyone other than the world's leading authorities in coral taxonomy. These are not corals that are readily identified by morphology; these are taxa that require a highly skilled eye to identify. Thus, I do not believe that the ESA protection of these taxa is enforceable.

In summary, I have spent my entire career working on coral reefs, and have devoted my life to the study and protection of corals. In this case, I do not believe that the scientific data support the notion that these species are endangered; worse, establishment of ESA status will not assist in the much-needed research necessary to understand and protect these important organisms.

Respectfully,

A handwritten signature in black ink that reads "Peter J. Edmunds". The signature is written in a cursive, slightly slanted style.

Peter J. Edmunds PhD  
Professor