My name is Bob Shipp and I am chair of the Department of Marine Sciences at the University of South Alabama and a member and vice chair of the Gulf of Mexico Fishery Management Council.

I have performed research on red snapper for more than 30 years. This includes from eight to twelve research cruises annually, during which time I and my students have tagged more than 10,000 red snapper, many of which were recaptured as far as 300 miles away. We have placed hundreds of artificial reefs off Alabama, testing various designs for productivity and durability. I have also published some thirty peer reviewed publications, about a third on red snapper. My graduate students hold research positions in academic institutions, and state and federal agencies, including the National Marine Fisheries Service (NMFS).

I'm here to talk about red snapper, the most valuable finfish in the Gulf of Mexico, and the urgent need to afford some flexibility to the Council in their management of red snapper.

I'd like to begin with a bit of a reality check. The current stock assessment model predicts that if overfishing is ended, we can ultimately have a snapper fishery with a maximum sustainable yield of between 16 and 20 million pounds. But we've never harvested anywhere near that number, and in fact have rarely harvested even half that amount. One has to wonder how a stock can be overfished if it has never yielded even half of its potential. But let me explain how this has come about and why the NMFS and Councils must have some flexibility in managing stocks.

We must look at the history of this fishery. It began in the mid nineteenth century off Mobile and Pensacola. With catches of only about two million pounds annually, the stocks were rapidly depleted and the fishery moved south and became centered off Vera Cruz Mexico. In the 1880s, there were numerous exploratory voyages between the mouth of the Mississippi River and South Padre Island in search of additional snapper. These cruises proved fruitless, and virtually no snapper were found there.

Today 60% of the commercial harvest of red snapper is from that same area of the Gulf where previously there were virtually no snapper. Forty percent of the recreational harvest is taken from the 5% of the US Gulf coast off Alabama. Why? Because of habitat. Red snapper are dependent on structure and hard bottom. Today there are 4500 petroleum platforms located in the northwestern Gulf. There have been more than 20,000 artificial reefs placed off the Alabama coast. In a recent analysis performed by Dr. Benny Galloway of LGL Ecological Research Associates, based on examination of more than 230,000 snapper samples taken from shrimp trawls since1998, he has calculated that there is only 1 chance in 10,000 that snapper are not habitat dependent.

There remains a popular view that artificial structures only attract fishes, and don't actually increase their stock size. This may be true where a very small structure is deployed. But when there are expansive changes in an ecosystem resulting in comparable habitat changes, the flora and fauna also change. In the Gulf of Mexico, mud/sand bottom fauna is replaced with reef fauna when reefs are contructed. This has occurred in the 1,200 square mile permit area off Alabama, and the entire northwestern Gulf off the Texas/Louisana.

Why is this important? Because the stock assessment of snapper does not have a habitat component. Responding to a recent letter sent by me and Mr. Vernon Minton of the Alabama Department of Conservation, to the Gulf Council regarding this, Dr. Alex Chester from the NMFS Science Center in Miami, said, and I quote "Given the absence of detailed information on how habitat limits this population, habitat cannot be modeled explicitly."

This is the dilemma in which the Service and Council finds themselves: a stock assessment model which lacks the most fundamental parameter. And yet that same model relies on catch data based on memory dependent angler interviews that have been termed "fatally flawed" the National Research Council. In addition, this is the fourth model employed since I first became a Council member in 1992. At that time the prevailing model predicted that unless shrimp bycatch were reduced by 60% and the annual catch of red snapper was reduced to 1,000,000 pounds, the stocks would collapse. At that time harvest was about 9,000,000 pounds.

During the subsequent decade harvest stayed at that 9,000,000 pound level, and there was virtually no reduction in shrimp bycatch. But rather than collapse, the stocks continued to increase. Model after model predicted dire consequences, but based on the fishery independent data sources, the stocks of red snapper continued to increase to the present day.

It is worth describing these fishery independent data sources. Perhaps the most valuable is the recruitment index. This is derived from annual trawl samples in the northern Gulf. For fifteen straight years, this index has exceeded the model projections. If this index were used to estimate red snapper stocks, they would be far larger than that described by the current model.

The second is the NMFS longline survey. This survey has revealed extensive deep water populations from the northwestern Gulf consisting of very large snapper. The absence of large snapper in the currently employed model is one of the reasons that the spawning potential ratio (SPR) is projected to be so low. Despite this, the current model cannot include these data because the time series is considered to be too short.

The third fishery independent data source is from direct visual surveys taken by scientists at the NMFS laboratory in Pascagoula. This is probably least reliable because they are limited in geographic coverage, and subject to annual variations. Nevertheless, this survey during the last five years has indicated red snapper stocks are increasing off the west Florida shelf in numbers not seen previously, and confirmed by responsible longtime commercial and recreational reef fishermen.

Another factor to consider is the life span of red snapper. When the first management measures were put in place, the life span of red snapper was thought to be about 12 years. It is now known that they can exceed fifty years. This extended life span is an additional reason that argues for flexibility in setting restrictive time frames for management.

I have consulted numerous fishery colleagues about the management options facing the NMFS and Gulf Council. We know of no instance in the history of fisheries management where the stocks may be greater than virgin levels, but the constraints on harvest continue to become more stringent.

As a Council member, I am continually appraised of the socioeconomic hardships a continued reduction in quota of red snapper will incur. Given the unique status of this stock, as described above, best practice is certainly to allow the Councils and NMFS the flexibility to manage the stock in a manner which ensures that it realizes its long term potential while allowing the stakeholders to continue to benefit from a reasonable harvest.

Put in perspective, NOAA has orders of magnitude of more and more reliable data points with which to predict hurricanes. Yet about a five day forecast is the longest for which they feel comfortable, and that with a large cone of uncertainty. How then can we, with such flawed and imperfect data sources, predict ten or thirty years into the future for snapper stocks? What we do know from all sources is the stocks are increasing and have been during all of this decade. Thus, as we learn more and get better data sources, the Council and the Service should be allowed discretion in managing red snapper.