MEMORANDUM

To: U.S. Commission on Ocean Policy
From: Doug Hopkins, Program Director, Oceans Program, Environmental Defense
Re: Responses to follow-up questions from the Commissioners
Date: January 28, 2002

Below, please find Environmental Defense's responses to the questions from the Commissioners that followed up my testimony presented at the November 13, 2001 hearing in Washington, D.C. Please do not hesitate to contact me if you would like further clarification of these responses.

1.) Have you done any studies to measure the economic impacts of your recommendations to limit the utilization of marine resources?

Environmental Defense is committed to "finding the ways that work" at the lowest possible cost to society. Our regulatory proposals for the marine environment aim to preserve and restore critical habitats and conserve biodiversity by reducing the impacts of human exploitation to acceptable levels. Wherever possible, we advocate regulations that reward resource users for efficiency and conservation, which, in turn, serve the public's interest in a healthy marine environment.

A good example is ocean fisheries. Today, over 50 percent of assessed U.S. fish stocks are officially overfished or are fished at a level that is driving them toward an overfished condition due to excessive fishing effort. Environmental Defense considers this to be a very serious environmental problem. Therefore, a primary objective of our Oceans Program is to help rebuild overfished stocks and implement new fishing management tools for the benefit of fishermen and others who depend on a healthy marine environment.

Failure to stop overfishing and limit fishing effort has resulted in damage to fish populations and marine communities, pushed fishery yields far below their potential, and deprived the fishing industry, related businesses and the general economy of millions of dollars each year. Recent performance of the once hugely productive Atlantic Cod fishery demonstrates all of these unfortunate outcomes. The cod fishery is, without exaggeration, our modern-day Dust Bowl.

Recognizing there is a huge diversity among fisheries that needs to be reflected in the design of management programs, Environmental Defense believes that the overfishing and excessive fishing effort problem is best tackled using two fishery management tools – marine protected areas (MPAs) and Individual transferable Fishing Quotas (IFQ's). MPAs can protect critical habitats and spawning aggregations and provide "safe haven" for fish populations. The benefits of MPAs can spill-over to other fishing grounds. IFQs, which partition a sustainable catch set by fishery managers into discrete quota shares, help fishermen do their job without resorting to excessive fishing effort and create a financial stake for fishermen in future harvests. Properly designed, MPAs and IFQs can

complement each other in solving environmental and economic problems that trouble fisheries and, perhaps, in winning constituent support for their adoption.

In the Gulf of Mexico red snapper fishery, it is estimated that IFQ management would boost ex-vessel revenue about $5.3 million per year (Waters, 2001) because fishermen could land their catch when the value is high and would not be restricted to current government-set "micro-seasons." This represents a 40 percent gain in annual revenue that would go directly to the fisherman and the coastal economy. There would also be a huge reduction in the incidental by-catch and killing of red snapper – saving over 1.5 million pounds of fish per year that are now discarded due to minimum size limits and the long closed season (Schrippa et al., 1999). This would help rebuild the red snapper stock which has been overfished since 1988.

The Gulf of Mexico shrimp fishery is the nation's most valuable fishery. It is estimated that the "Texas Closure" – a seasonal MPA where shrimping is banned off the Texas Coast each year during the summer – helps produce higher yields of shrimp and boosts the ex-vessel value of the shrimp catch Gulf-wide by up to $60 million per year (Klima 1989).

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Waters, J.R. 2001. Quota management in the commercial red snapper fishery. *Marine Resource Economics*. Vol. 16:65-78.

2.a.) What has been the greatest obstacle to establishing a quota system in the US?

Political disputes about allocation of fishery resources off Alaska and concerns about the social and economic implications of Individual Fishing Quotas (IFQs) led Congress in 1996 to impose a moratorium on new IFQ programs and in 2000 to extend the moratorium through 2002. This Congressional moratorium and the concerns contributing to its imposition present the greatest obstacles for establishing new Individual Fishing Quota management systems in the U.S.

There are already three Individual Fishing Quota systems operating in the US – one for surf clams (Mid-Atlantic Fishery Management Council), one for wreckfish (South Atlantic Fishery Management Council), and one for halibut and sablefish (North Pacific Fishery Management Council). The policy concerns leading to the moratorium and

presenting the greatest obstacles to establishing more of these quota systems have included: (1) disputes over the initial allocation of quota shares; (2) fears that IFQs would lead to excessive consolidation of fishing and/or processing operations; and (3) fears that IFQs would allow individuals or corporations outside a fishing community to buy up and control the fishery.

The first U.S. IFQ program, for surf clams, suffered from a lack of any constraints on transferability of quota shares whatsoever. In addition, this fishery was tending toward vertical integration of catcher boats and processors before IFQs were implemented. Consequently, IFQs accelerated the trend toward consolidation and vertical integration, leaving many fishermen embittered and changing the nature of the fishery. Nevertheless, this IFQ plan achieved its objective of better matching overall fishing capacity with the available resource, while enforcing scientifically recommended sustainable catch limits.

The wreckfish IFQ program has met with greater success in preserving desired fishery characteristics. Moreover, prior to IFQ implementation, fishermen testified against a precautionary cut in allowable catch that managers and scientists proposed as a result of great uncertainty about the biology of wreckfish. After IFQ implementation, fishermen testified for the precautionary cut in allowable catch in order to protect their long-term investment in the productivity of the wreckfish population.

The North Pacific sablefish and halibut IFQ program incorporates many mechanisms to prevent adverse social and economic impacts, such as caps on how much quota share an individual or firm can own, and a requirement that the owner of the quota be on board a fishing vessel. As a result, this IFQ program has exhibited very good conservation and economic outcomes. The allowable catch limits have not been exceeded; in fact, less catch has been taken. Bycatch has gone down considerably, as has "ghost fishing", which is fish mortality caused by lost gear. Fishermen credit the IFQ program with removing incentives to over-invest and to fish ever farther from shore in increasingly deep waters. IFQs also apparently ended fishing on seamounts, which often harbor populations of other fish species that are extremely vulnerable to overfishing due to their long lives and late onset of reproduction. Profits and job stability increased greatly, and consumers benefit from a supply of fresh fish, as opposed to the gluts and frozen fish characteristic of the derby fishery. Safety at sea also increased considerably.

These case studies of U.S. IFQ implementation illustrate that the major concerns with IFQs can be addressed successfully by modifying program design. Major remaining obstacles to lifting the Congressional moratorium and implementing new IFQ plans are (1) ideological opposition to "privatization" of a public trust resource; (2) disputes over the initial allocation of quota shares; and (3) a political struggle between Alaska and Washington State economic interests over dominance of Gulf of Alaska and Bering Sea fisheries.

Ideological opposition to privatization can be countered by showing that IFQs do not really constitute "privatization". The government retains control over the public trust. Legally binding assurances that quota shares do not constitute a Constitutionally

compensable property right, and so can be "taken" by the government without compensation in response to contingencies, may help address this concern.

Disputes over initial allocation of quota share often arise because allocations are made solely on the basis of catch history, which rewards large operations that catch lots of fish without regard to the quality of that catch or the environmental performance of those fishermen. These disputes can be resolved by negotiating more equitable allocation formulas that reward good environmental performance, economic efficiency, and other "social goods" regardless of size of catch.

The political struggle between Alaska and Washington State could be addressed with a negotiated political settlement that effectively allocates interests in the total allowable catch.

To remove the major obstacles to individual fishing quota systems, we urge the Commission to support replacing the Congressional IFQ moratorium with national guidelines for IFQs. These national guidelines should support use of IFQs with equitable allocation formulas, limits on share accumulation, and other measures designed to prevent adverse impacts such as excessive consolidation or undesirable changes in the nature of a fishing fleet and dependent communities.

2.b.) Are quotas used successfully in other nations?

There are more than 60 IFQ programs in over 15 countries, including Canada (British Columbia sablefish and halibut), and New Zealand (multispecies groundfish fishery). The most robust effect of IFQs has been in ending races for fish and overcapitalization. This has occurred in almost every IFQ program. For a thorough evaluation of IFQ programs in the US and worldwide, we recommend the National Academy of Sciences National Research Council publication on IFQs, *Sharing the Fish: Toward a National Policy on Individual Fishing Quotas (1999).*

IFQ programs vary greatly in their social and economic impacts, depending on how they are designed and implemented. For example, the New Zealand IFQ program, one of the first in the world, suffered from number of design flaws. IFQs were granted on the basis of poundage allocations, rather than percentages of the allowable catch. When scientists discovered that catch limits for orange roughy were set much too high to be sustainable, the government had to buy the allocations back. However, with percentage rather than poundage allocations and clear definitions of the nature of the catch privilege represented by IFQs, the government can adjust the catch limits without fear of valid "taking" claims. New Zealand also opted to set very high accumulation limits, allowing firms to accumulate up to 30% of the allowable catch. This of course resulted in a great degree of consolidation. New Zealand has also allowed the fishing industry to influence stock assessments and the setting of catch limits with industry-sponsored scientific work, which may be biased toward higher allowable catches These international examples illustrate that adverse social and economic impacts of IFQs can be addressed through sound program design.

3.) Please provide specific recommendations on how to "fix" the present fisheries management structure and policies.

The following recommended "fix" would solve a profound and corrosive flaw in the federal fishery management regime established under the Magnuson-Stevens Fishery Conservation and Management Act (M-S Act). Most of the regional fishery management councils established under the M-S Act frequently do a poor job of dealing with scientific uncertainty and inappropriately weigh non-scientific, political considerations in making what are essentially scientific determinations.

The M-S Act allows and in fact directs fishermen and others economically dependent on fishing to be appointed as regional fishery management council members. It also gives the regional councils a central role in making a range of scientific determinations that affect council members' short-term economic interests, but that also affect the public's long term interests in sustainable fisheries and healthy marine ecosystems. In doing so the M-S Act has put the fox in charge of the hen house.

This role for the councils has led to overfishing and depletion of fish populations and to the degradation of marine ecosystems on which healthy, sustainable fisheries depend. It may make good sense to structure the regional council membership in this way to facilitate decionmaking about how to fairly allocate the available fish among competing economic interests; these are essentially and appropriately political decisions. But it makes no sense to empower regional councils comprised of fishermen, processors and others who are economically dependent on fishing to make the scientific determinations that affect them economically as well as affect the public's larger interest in these resources. These scientific decisions should be insulated from political considerations.

As one typical example of this problem, swayed by concerns about short-term economic impacts of catch limits on fishermen, regional councils often set annual total allowable catch (TAC) levels for a fish population too high, at a level equal to or even significantly above the high end of a range recommended by the scientific advisors. As another typical example, regional councils frequently respond to the significant scientific uncertainty in estimating the reductions in catch that will result from various proposed fishing input controls, such as trip limits, recreational bag limits, allowable days at sea, closed areas and maximum mesh size, by overestimating the expected reductions. This leads consistently to overruns of target total allowable catch levels in fisheries managed with input controls rather than output controls (TACs).

To fix this flaw in the M-S Act we recommend removing the regional fishery management councils from any formal role in assessing or applying scientific advice. Thus, to summarize, we recommend the following:

- NMFS should conduct all biological and ecological assessments and set all biological and ecological fishery management objectives, including TACs; NMFS should also project the catch and estimate the other biological and ecological impacts that are

likely to result from specific management measures, including from restrictions on fishing inputs.

- The role of the regional fishery management councils should be limited to advising NMFS on allocation decisions affecting competing economic interests. This would include, for example, having the councils develop recommendations to NMFS for allocating a scientifically determined TAC among competing participants in a fishery, such as competing gear sectors or to the fishing vessels from competing ports.

- The regional councils should have no responsibility for conducting or evaluating fish population biomass assessments, setting target population rebuilding thresholds and targets or determining maximum possible rebuilding rates for depleted fish populations which are currently below biomass targets.

- Once NMFS has set biological and ecological performance standards, the regional councils should have authority to advise NMFS on a range of other issues, e.g., how to spread out fishing effort geographically and over time so as to minimize the potential for derby fisheries, how to minimize the net economic cost of fishery management plan restrictions, how to enhance safety, how to increase efficiency, how to reduce the costs of monitoring and enforcement and how to fairly allocate the available fish.

- The regional councils should also retain their role as advisors to NMFS on decisions NMFS must make under the M-S Act that explicitly require the balancing of social and economic considerations with scientific advice. An example would be the M-S Act requirement that bycatch be minimized <u>to the extent practicable</u>. To make the practicability determination, NMFS appropriately must consider the economic and social impacts of alternative possible bycatch reduction measures as well as their biological efficacy. In this case NMFS should continue to be required to weigh the advice of the regional councils before determining which alternative bycatch reduction measures to require.

4.) Please provide specific recommendations on sustainable economic development and stimulus for coastal communities.

Sustainable development of coastal communities is often discussed theoretically, but examples of real-world applications are limited. In order to ensure that the prospects for sustainable development are maximized, it is critical that the foreseeable cumulative impacts from construction activities be addressed and mitigated, if not prevented. .

<u>Sustainability and Cumulative Impacts of Coastal Construction: Five Recommendations</u>

Sustainable development implies that coastal ecosystems are managed to maintain long-term integrity. The National Environmental Policy Act (NEPA) and other federal and state laws provide for impact assessment during the project permitting process, but many problems within these assessments limit the ability to ensure that long-term impacts from multiple projects are sustainable (Odum, 1982; Spaling and Smit, 1993; Hilton, 1994). In addition, NEPA documents are often prepared by private or government entities that may

ultimately benefit from the granting of permits. In an effort to identify feasible project alternatives, resulting conclusions are often oriented toward why the project will have acceptable impacts instead of detailed consideration of the uncertainties of longer term impacts, and the direct or indirect impacts on key populations and overall ecosystem structure.

The frequent lack of cumulative impact analyses (Spaling and Smit, 1993, Dixon and Montz, 1995, Burris and Canter, 1997), occurs despite literature demonstrations of the profound effects that multiple projects within a coastal community can have (Cocklin et al. 1992; Rothschild et al. 1994; Vestal and Reiser, 1995). Such cumulative effects can develop even when the effects of one project alone (the scale of the typical assessment) are subtle, and therefore administratively acceptable. Administrative momentum can build from one NEPA document to the next - reinforcing an optimistic hypothesis, with little data, as an acceptable conclusion and, eventually, a "fact" - often with little or no new impact data between the successive assessments (Lindeman, 1997). These issues and others (e.g., Odum, 1982, Burris and Canter, 1997), undercut the scientific value of many environmental assessments at the scale of both individual projects and entire communities, and therefore limit opportunities for sustainable development.

Most large-scale coastal construction permitting decisions rest with the Army Corps of Engineers. The Clean Water Act, Rivers and Harbors Act, NEPA and other legislation give this agency final authority - not EPA, NMFS, or USFWS - over the permitting of thousands of coastal projects annually that eliminate wetlands, modify watersheds at many scales, and degrade water quality and nearshore marine habitats. Appeals for greater oversight of Corps permitting activities are broad-based and a new bill with bipartisan support (the Reform the Corps of Engineers Act) is now on Capitol Hill. This is particularly germane as the Corps is now processing hundreds of Essential Fish Habitat consultations around the country resulting from the 1996 Sustainable Fisheries Act to conserve ocean fisheries.

The rigor of NEPA environmental assessments must be improved in order to achieve sustainable development objectives. We recommend the following for your consideration:

- The cumulative effects sections of NEPA assessments should include more than simply several paragraphs of positive text, absent analysis, that is often recycled from prior documents.

- Existing and new methods of cumulative effects analyses should be employed with detail on negative, as well as best-case scenarios. This follows logically from many existing "ecosystem management" and "precautionary approach" guidelines at both the state and federal scale.

- Mitigation projects are a common silver-bullet to obtain construction permits, but follow-up research is rarely conducted to see if the mitigation has been effective. This situation contradicts the frequency with which mitigation is employed, particularly since many projects do not even mitigate on-site or with in-kind habitats.

- We suggest that the Commission examine the Reform the Corps legislation currently under consideration by Congress and support the legislation’s emphasis on increased peer review and improved scientific standards in impact analysis, particularly for the analysis of cumulative impacts.

- An independent advisory/oversight panel of Corps permitting activities has long been needed and could be modeled after the Science Advisory Board of the Environmental Protection Agency (EPA).

Economic Incentives for Sustainability: Four Recommendations

Improving the quality of the coastal-development permitting process as outlined above is critical, but not enough. Developing market-based incentives is essential to encouraging sustainable development. A variety of businesses associated directly with ecotourism, or that strive for a growing number of ecosustainablity certifications, have proven successful in some instances. Such activities can balance environment protection and economic revenue. We focus here on initiatives that formally certify environmental sustainability - these can foster solutions to constrain environmental impacts while improving the bottom line.

Examples of successful environmental sustainability initiatives were in part pioneered by coastal ecotourism activities in the Caribbean in the early 1990s. Such approaches are now becoming more common in the U.S. Many of these examples were driven by institutional standards that rated environmental sustainability and awarded leading businesses with Green Certifications of various forms. Certification programs include Ecotel (pursued by leading U.S. and Japanese hotels), Green Globe (endorsed by the Caribbean Alliance for Sustainable Tourism trade group), and the Certificate of Sustainable Tourism program in Costa Rica which has influenced many similar initiatives. Various organizations such as the Green Hotel Association also promote sustainability methods without formal certifications.

To achieve high environmental sustainability ratings, streamline management practices, and improve marketing, businesses pursuing green certifications are internally and independently assessed according to guidelines within categories such as landscape, energy, water and guest management practices. These areas often contain large lists of criteria that are rated for positive/negative impacts generated by business activities. International chains that have many large coastal resorts, such as Hilton, Ramada and Melia, have all recently pursued, obtained, and then advertised, various level of environmental sustainability achievements.

Given the proven success and future potential of these and future market-based incentives, we recommend to the Commission the following:

- The Commission should endorse these initiatives with the caveat that they be substance-driven and not simple marketing ploys.

- Sustainability certifications be expanded beyond the scale of ecotourism or individual businesses (the individual foot-print scale). Entire coastal neighborhoods and communities, including a suite of differing businesses can benefit from more explicit environmental business management standards.

- Regional planning agencies with many state and locally-derived growth management and land use plans should build sustainability guidelines and perhaps, Regional Sustainability Certifications, into their planning activities.

- Practical opportunities to interface land-based sustainability certifications with new sustainable seafood certifications (e.g, the Marine Stewardship Council) should be identified and pursued via market-based mechanisms.

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