Exhibit H.2.e
Public Comment
March 2004

# Alliance of Communities for Sustainable Fisheries

P O Box 1309, Carmel Valley, CA 93924 (831) 659-2838

October 22, 2003



San Luis Obispo County Board of Supervisors
Room 370 County Government Center
San Luis Obispo, CA 93408

RE: Recommendation to not support expansion of the Monterey Bay National Marine Sanctuary into San Luis Obispo County at this time

Dear Chairman Mike Ryan and Board Members:

The Alliance of Communities for Sustainable Fisheries (Alliance), has been following the question as to whether the Monterey Bay National Marine Sanctuary will expand its boundaries southward. Our organization represents primarily the men and women of recreational and commercial fishing who use the ocean waters from Port San Luis to San Francisco. We are unique in that we bridge the fishing community with the greater community that supports them, and particularly emphasize the culture, heritage, and economic contribution of fishing in our region. Further, as our name implies, we are committed to the sustainable use of ocean resources. To that end, we have worked very hard to improve the science used in resource management, utilizing the knowledge that fishermen have.

Since our organization has worked closely with the staff and Sanctuary Advisory Council for the MBNMS on a variety of issues, we feel that we have a valid perspective to share on the good works and problems we have seen in this organization.

There is no doubt that the Federal Government can bring additional resources to the study and management of offshore waters. The Sanctuary Program is at its best when it works cooperatively with agencies and industries to educate and coordinate towards mutual goals. Accomplishments such as the extension of the oil tanker traffic lanes farther offshore, the water quality protection program, and the four county agricultural plan are examples of this cooperative effort. Perhaps the biggest benefit in the public's mind lies in the regulation that prevents oil and gas development. We would, at this time, venture to say that the situation with potential oil development is not clear as to whether Sanctuary status will actually prevent future development in new areas, or that such development cannot be prevented through other local means. The other regulations of the MBNMS, we must point out, could be, or are, equally accomplished by local authorities. The fact is, California's offshore waters are among the most heavily managed and regulated of any in the world even without Sanctuary status.

With that being said, we believe that this Program has no business expanding until it can solve some basic governance issues and can better manage the resources in the 5300 square miles it already has. Indeed, we in the fishing community have strongly sought to work cooperatively with the Sanctuary Program to develop far better fish stock abundance assessments than are presently utilized by either the Department of Fish & Game or by NOAA Fisheries. We also point out that critical work areas named in the MBNMS Management Plan, such as developing real-life oil spill contingency plans which will utilize the resources of the fishing community, have not even begun after eleven years. Moreover, there are significant governance problems inherent in Sanctuary status:

- The National Marine Sanctuary Act is overly broad and vague on key concepts, and does not provide proper guidance to staff for administration. One conflict of National Policy is that the "protection" (an undefined term) of sanctuary resources, such as fish stocks, takes precedence over the sustainable management of an important food source for the nation. Congress needs to step in and provide guidance to sort this out.

- The role of the Sanctuary Advisory Council (SAC), which was intended originally to provide a strong, local voice to give local perspective to the federal agency on resource matters, is not working as intended. In fact, the Association of Monterey Bay Area Governments (AMBAG), representing Santa Cruz, San Benito, and Monterey Counties recently voted to formally study and make recommendations about the governance issues in the SAC after hearing continuing complaints about how the SAC is managed and limited by NOAA. AMBAG is represented by all elected officials. Their fact-finding report will be presented in a few months.

- Experience has shown that despite promises made to a variety of local communities about how things would be under Sanctuary Management, it appears the Sanctuary Program has little ability to keep its promises. There was clearly the promise made to the fishing community that the Sanctuary would not represent another bureaucracy that fishermen would have to deal with. This has not proven to be the case. Fishermen do have to worry about the Sanctuary bureaucracy and its assertions of regulatory power, even over the Department of Fish & Game and the Pacific Fishery Management Council. As mentioned above, community members believed that they would have a vehicle in the SAC for strong local representation. This, however, has not proven to be the case thus far. Lastly, our harbor members tell us that promises were made that the Sanctuary would not be in a regulatory role over dredging operations. However, the Sanctuary has asserted this authority, with the result being added time and cost delays in dredging permitting with no added value. Numerous federal, state and local agencies already weigh in on dredge material disposal.

It is therefore our recommendation to the San Luis Obispo County Board of Supervisors that the MBNMS is not ready to expand. Many of our concerns apply to the National Marine Sanctuary Program as a whole. If citizens want to work toward a superior ocean

resources management agency, they would be best served by focusing on the problems in the Program as they exist today, and solving those problems. Or, alternatively, support the fledgling Marine Interests Group as a non-regulatory, coordinating body to improve resource management. We deeply hope that the Sanctuary Program will outgrow its difficulties and be the partner with the fishing community that we had originally envisioned. Until that time, our organization cannot support Sanctuary expansion and we urge the San Luis Obispo County Board of Supervisors to establish the same position.

Thank you for considering these thoughts.

Sincerely,

Mike Ricketts
Co-Chair, ACSF

Kathy Fosmark
Co-Chair, ACSF

Supporting Associations & Organizations

Pacific Coast Federation of Fishermen's Association
Port San Luis Commercial Fishermen's Association
Morro Bay Commercial Fishermen's Association
Monterey Commercial Fishermen's Association
Fishermen's Association of Moss Landing
Santa Cruz Commercial Fishermen's Marketing Association
Half Moon Bay Fishermen's Marketing Association
Fishermen's Alliance
Western Fishboat Owners Association
Ventura County Commercial Fishermen's Association
Federation of Independent Seafood Harvesters
Golden Gate Fishermen's Association

C: The Honorable Sam Farr
The Honorable Anna Eshoo
The Honorable Lois Capps
The Honorable Elton Gallegly
The Honorable Richard Pombo
The Honorable Bruce McPherson
Admiral Conrad Lautenbacher, USN (ret.)
Dr. William Hogarth, National Marine Fisheries Service
Don Hanson, Chair, PFMC
Dan Basta, Director, Office of National Marine Sanctuaries
Bill Douros, Superintendent, Monterey Bay National Marine Sanctuary
SAC for Monterey Bay National Marine Sanctuary
SAC for Channel Islands National Marine Sanctuary
SAC for Gulf of the Farallones National Marine Sanctuary

**Alliance of Communities for Sustainable Fisheries**
**P O Box 1309, Carmel Valley, CA 93924 (831) 659-2838**

October 13, 2003

Dan Basta, Director
Office of National Marine Sanctuaries
1305 East-West Highway, Room 11523
Silver Spring, Maryland 20910

Bill Douros, Superintendent
Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, CA 93940

Dear Director Basta and Superintendent Douros:

We are writing to advise you that the fishing community does not support the inclusion of the Davidson Seamount into the boundaries of the Monterey Bay National Marine Sanctuary, or any other sanctuary.

We continue to believe that there are mechanisms available through the Pacific Fishery Management Council to assure that any destructive extractive practices on the bottom of the seamount may be prevented. We are convinced that the Program has no ability to provide the guarantees that we need into the future that sanctuary status will not be used as a justification to lead to ever-increasing restrictions on fishing, including fishing at or near the surface. We further observe that the problems which we have experienced in the management of the Monterey Bay National Marine Sanctuary, which really stem from a lack of clarity in the Management Plan and the National Marine Sanctuary Act, must be substantially addressed before the Sanctuary Program could credibly entertain the idea of expanding its territory. Lastly, at some 5300 square miles, the Monterey Bay National Marine Sanctuary is already too large by many measures for thorough management.

If the Sanctuary Program is looking for more to do, may we respectfully suggest that there is significant work to be done on resource abundance assessments, which we hope the Monterey Bay National Marine Sanctuary will do in partnership with the fishing industry. This information could be provided to the fishery management agencies, providing a basis for improved decision-making - a goal we all share.

In addition to the Alliance of Communities for Sustainable Fisheries, we want to point out the list of supporting members of our organization. In addition to this general support, this letter has been specifically endorsed by:

- Western Fishboat Owners Association
- Ventura County Commercial Fishermen's Association
- Santa Barbara Commercial Fishermen's Association, Inc.
- Port San Luis Commercial Fishermen's Association
- Morro Bay Commercial Fishermen's Association
- Monterey Commercial Fishermen's Association
- Fishermen's Association of Moss Landing
- Santa Cruz Commercial Fishermen's Marketing Association
- Half Moon Bay Fishermen's Marketing Association

- Federation of Independent Seafood Harvesters
- The Fishermen's Alliance
- Coastside Fishing Club (recreational)
- Recreational Fishing Alliance
- Pacific Coast Federation of Fishermen's Associations (PCFFA)
- United Anglers of California, Inc.

Please be very clear that recreational and commercial fishermen do not support the inclusion of the Davidson Seamount into the Monterey Bay National Marine Sanctuary.

Sincerely,

Mike Ricketts
Co-Chair, ACSF

Kathy Fosmark
Co-Chair, ACSF

Supporting Associations & Organizations

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Port San Luis Commercial Fishermen's Association
Morro Bay Commercial Fishermen's Association
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Santa Cruz Commercial Fishermen's Marketing Association
Half Moon Bay Fishermen's Marketing Association
Fishermen's Alliance
Western Fishboat Owners Association
Ventura County Commercial Fishermen's Association
Federation of Independent Seafood Harvesters
Golden Gate Fishermen's Association
Port San Luis Harbor District
City of Morro Bay Harbor
City of Monterey Harbor
Moss Landing Harbor District
Santa Cruz Port District
Pillar Pt. Harbor, San Mateo County Harbor District

C: The Honorable Sam Farr
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Public Comment
March 2004

# Alliance of Communities for Sustainable Fisheries

**P O Box 1309, Carmel Valley, CA 93924 (831) 659-2838**

December 1, 2003

Stephanie Harlan, Chair, Sanctuary Advisory Council
Bill Douros, Superintendent
Monterey Bay National Marine Sanctuary Advisory Council
299 Foam Street
Monterey, CA 93940

Dear Chair Harlan and Superintendent Douros,

We are writing to express our qualified support for the Special MPA workplan that will be considered by the Sanctuary Advisory Council on December 5, 2003. We also want to provide some background information which we greatly hope the members of the Sanctuary Advisory Council will read thoroughly.

A total of seven Alliance members participated in the SMPA workgroup to develop this draft plan. The workgroup effort began with what appeared to be an assumption that there would be additional MPAs supported by and placed within the Sanctuary, and the workgroup process is one in which the location and size would be identified. Through a large effort by all involved, the workgroup effort shifted to address a concern that it be more of a fair scientific inquiry as to the need, if any, for additional MPAs within the Sanctuary, and fairly evaluate both potential benefits and potential harms that might occur from these MPAs. You should be aware that there are still elements of the plan which make us nervous, such as the goal statement which seems overly broad, and the lack of identification of the role and authority of the Sanctuary Program. However, it was in the desire to constructively move forward that the Alliance members voiced their consensus, but importantly, at the lowest level of comfort for the final workgroup plan.

In addition to the contribution of individual Alliance members, the Alliance does formally also give its guarded endorsement for this workplan. We request that our level of endorsement be passed on at every stage of decision-making as this draft plan moves through the Sanctuary Program and NOAA towards adoption. We do not want to have our consensus statement characterized as fishermen being "wildly supportive" of MPAs or this process.

You should also be aware that the fundamental basis for our support of this plan is to provide the Sanctuary Program a sound method of commenting to the appropriate state and federal agencies on the MPA issue. Any comments would, of course, come from the perspective of the goals of the Sanctuary Program, and after consulting with our industry, but they would be just that – comments. It has never been intended by the Alliance or its members that the Sanctuary Program take a leadership role in the MPA question. Further, in the scenario that the Sanctuary would ever want to use its own authority to create a fishing regulation, then a change in the Designation Document of the Sanctuary would be required. For fishermen to support such a change in the Designation Document, there would need to be ample evidence that the change would be good for them, and that the change would not lead to unintended consequences. Short of that, the fishing community

is likely to actively resist any effort to change the Designation Document, as we believe it contains the inherent promise made to us that the Sanctuary would not regulate fishing or be in fishery management.

It was understood from the beginning of the SMPA workgroup process that the effort would be focused mostly on establishing MPAs for conservation, biodiversity, and science study goals. However, a point that was raised numerous times was that even if established for such goals, MPAs will have inherent and significant fishery management implications. In fact, the most current science available now shows what fishermen have intuited for awhile, that because MPAs essentially just shift fishing effort from one area to another, overfishing the outside areas, which includes damage to spawning and recruitment cycles, is a distinct possibility. The irony of this is huge, as it could be that permanent MPAs, unless carefully sized and placed, could actually have a net overall negative consequence on the environment. More critical thinking within the science community needs to occur before the MPA experiment is conducted to any great degree. We predict that there will continue to be a place for MPAs in the toolbags of both the fishery manager and the conservationist. However, the actual application of this tool will be very specific and limited if it is to stay in the positive environmental realm.

As background to these concerns, and for the SAC's knowledge of current MPA thinking, we have attached three short articles that recently appeared in the publication of the Ecological Society of America. These articles generally address the question "Marine Reserves: the best option for our oceans?" Also attached is a letter dated March 8, 2002, responding to a number of Alliance members participation in a forum on MPAs held in Portland, Oregon. This letter still serves as a good summary of fishermen's questions and concerns about the use of MPAs from a biological, social, economic, and even ethical perspective. We hope that SAC members will give all of these attached documents a careful review.

Sincerely,

Mike Ricketts
Co-Chair, ACSF

Kathy Fosmark
Co-Chair, ACSF

Supporting Associations & Organizations

- Pacific Coast Federation of Fishermen's Association
- Port San Luis Commercial Fishermen's Association
- Morro Bay Commercial Fishermen's Association
- Monterey Commercial Fishermen's Association
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- Federation of Independent Seafood Harvesters
- Golden Gate Fishermen's Association
- Port San Luis Harbor District
- City of Morro Bay Harbor
- City of Monterey Harbor
- Moss Landing Harbor District
- Santa Cruz Port District
- Pillar Pt. Harbor, San Mateo County Harbor District

Churchill B Grimes and Stephen Ralston
*National Marine Fisheries Service, Santa Cruz, CA, USA*

In his opening statement Norse writes, "Ideas and epidemics have intriguing similarities." So too, we believe, do epidemics and the sudden advocacy of (MPAs) as a panacea for the ocean's ills. Epidemic is exactly how we would describe the onslaught of information supporting the use of MPAs to save the imperiled seas from, among other things, the adverse effects of fishing (NRC 2001; Lubchenco *et al.* 2003). While we don't quibble with the assertion that, globally, the oceans are in dire need of increased protection, we would argue that some of the touted benefits of MPAs are controversial and have not been conclusively demonstrated.

Unfortunately, the debate concerning the use of MPAs to achieve sustainable fisheries has become polarized, and is rife with scientific advocacy and oversimplification (Lubchenco *et al.* 2003; Shipp 2003). Most egregious to us is the naiveté of some people regarding the accomplishments of fishery science. For example, Norse states that prior to 1997, "fisheries biology...had generally treated the sea as being uniform". Such a statement, at best, ignores the rich and long-standing contributions of fisheries science to our understanding of ocean ecosystems (Hjort, Cushing, Harden-Jones, and Sinclair) and, at worst, subliminally casts blame on fisheries science for bringing us to our current state of affairs. In fact, 50 years ago two pre-eminent fisheries biologists, Ray Beverton and Sidney Holt, modeled the impact of spatial closures on fishery yields (Guénette *et al.* 1998). As to the quality of government fishery science, several National Research Council studies (eg NRC 2002) concluded that US National Marine Fisheries Service (NMFS) stock assessment techniques are second to none among government fishery management agencies worldwide.

The justification that is most often cited for establishing domestic MPAs is that traditional fisheries management in the US is a failure. However, this is ill-informed. The present low levels of many fish stocks reflect poor management decisions made many years ago. A closer look at current exploitation rates reveals that current management is doing far better. Although many fisheries (eg cod in the northwest Atlantic and certain rockfish stocks along the west coast of the US) are in severe decline, many others, such as king mackerel in the Gulf of Mexico, summer and yellowtail flounder, Atlantic mackerel, and sea scallop along the US Atlantic coast, are at sustainable levels. In fact, of the 283 (25%) of 905 fish stocks managed by NMFS for which the status is known, only 15% are overfished and 39% are fished at or near their long-term potential yield (NRC 2002). Moreover, many US fisheries are already managed under severe spatial management regimes; for example, virtually the entire continental shelf of the west coast is presently closed to groundfishing.

While we are aware of evidence of the conservation benefits of biodiversity enhancement, population growth, attenuated size/age composition, and habitat recovery inside reserve boundaries, as well as adult spillover outside reserve boundaries, there are other critical scientific issues that are poorly understood. One simplistic generalization being touted by MPA advocates is that, at a minimum, 20% of a species' habitat needs to be protected to realize the benefits of an MPA (Agardy 2003). This figure is apparently based upon theoretical results showing that when fishing mortality is excessive, overall fishery yields could be enhanced by substantial area closures. However, many studies also show that traditional fishery management controls on fishing effort correspond directly to area controls, and that it is possible to manage fisheries optimally just using effort controls (Mangel 1998; Hastings and Botsford 1999), which has been the general paradigm practiced within the US. Moreover, the claim has been frequently made that MPAs will promote sustainable fisheries and enhance fishery yields (Nowlis and Roberts 1998), but density-dependent theory tells us that per-capita production is lowest at carrying capacity (ie in the absence of fishing), and that compensation at lower population levels produces a surplus that can be sustainably harvested. How will overall stock dynamics (eg potential yield, spawning stock-recruitment relations, spawning biomass targets and rebuilding trajectories) be affected by declining compensation within reserve boundaries, and how will the time-delayed impact of MPAs affect ecological and stock dynamics both inside and outside the reserve? Equally important, how will fishing effort displaced by MPAs affect catch rates, yields, and habitats outside reserve boundaries?

We are certainly not opposed to the use of MPAs to attain the conservation benefits pointed out above to provide insurance against errors in traditional fishery management, and as natural research and reference areas. However, we believe there are important unresolved issues that need to be answered before claims that MPAs will improve fishery management can be fully accepted. In addition, managing fisheries with MPAs needs to be placed in the context of existing management controls, which requires a case-by-case consideration of all available options.

## References

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Ray Hilborn
*School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA, USA*

Amidst the concerted rush of ecologists to push for the establishment of networks of MPAs, we need to brush off a little old-fashioned scientific skepticism and look carefully at the potential benefits and costs of MPA networks. As a conservation tool, MPAs move fishing effort out of some areas and shift it to others. It is not too surprising that abundance increases where fewer fish are removed, but the displaced fishing effort goes elsewhere. We need to ask whether the biodiversity benefits inside the protected area are more valuable than the biodiversity costs of additional fishing pressure outside. Once we realize that MPAs are effort-shifting programs, we recognize that the comparison of abundance inside and outside protected areas is flawed; the benefits estimated by comparing abundance inside and outside reserves, or before and after reserves are established (Halpern and Warner 2002) will be exaggerated.

Most MPA literature begins with a litany of the failures of fisheries management and MPA advocates have often used the fisheries management benefits of MPAs as a major selling point. MPAs can only benefit the yield of managed species if the species is overfished and if the movement rate of the spawning population is low enough relative to the size of the MPAs that spawning populations can build up inside them. Shipp (2002) points out that these two circumstances are rather unusual. Only 30% of the major fisheries in the US are classified as overfished, and for most of those species the movement of adults is great enough that only large MPAs would have much effect. Since current yield of US fisheries is over 80% of its potential yield (Hilborn *et al.* in press), there is little room for MPAs to increase fish yields.

For MPAs to be effective in increasing sustainable yield for a species, the sizes of the protected areas must be carefully matched to the movement of that species. If the MPAs are very large relative to movement, then yield is reduced because the fish are locked up. If the MPAs are too small, then there is insignificant buildup inside the reserves. No pattern of MPAs will be optimal, or even suitable, for all species; having different areas closed for different species would provide better yield and conservation benefits than blanket MPAs. Such areas are steps forward in the management of fisheries because they recognize the need for spatial management, but they are very blunt tools and we can do much better than one-size-fits-all networks if our objective is to maximize sustainable yield. Rather than broadly improving fisheries yields, a network of MPAs might improve yield in a few instances.

MPAs must be integrated into the fisheries management system. It is easily demonstrated that adding an MPA to a fishery regulated by catch quotas will generally require that the quota be reduced. While advocates argue that MPAs will increase fish yields (PISCO 2002), they rarely, if ever, do the quantitative work necessary to determine how regulations will need to change when an MPA is put in place.

Despite my skepticism, I believe that the establishment of MPAs is indeed a good idea, and when done with very specific objectives can benefit specific fisheries. I have no doubt that the abundance of many species will be higher in protected areas, and would like to see more marine areas protected in the same way that I wish more of the terrestrial habitat had been protected in parks.

I do see MPAs having an important role in fisheries management. First, in some places it may be possible to enforce protected areas where other forms of fisheries regulation are not practical. Second, in the US and other intensively managed countries, the vast majority of species are not regulated. Several hundred species are caught in the west coast trawl fishery, yet fewer than 20 are assessed (Hilborn *et al.* in press.). The vast majority of species are generally not of major commercial interest, but conservation concern for all species is currently driving management regulations; the west coast fishery is largely closed at present to protect several species classified as overfished. I see that MPA networks can be established to protect the biodiversity of marine communities, so that exploitation of the commercially important and healthy species can take place outside reserves. Essentially, the reserves would guarantee the protection of overfished or unassessed species. This will probably mean less (not more) yield of the healthy species compared to their potential yield, but it would allow commercial exploitation to continue in some places while providing for protection of a broad range of species.

Dave Fraser
*Captain, FV Muir Milach*
*Adak, AK, USA*

Elliot Norse would have managers unleash a virtual epidemic of MPAs, but not just any strain. His prescription calls for a particularly virulent genus: "marine reserves", also known as "no take zones" (NTZs). As Tundi Agardy (2003) wrote, "The enthusiastic prescription of simplistic solutions to marine conservation problems risks polarization of interests and ultimately threatens bona fide progress in marine conservation. The blanket assignment and advocacy of empirically unsubstantiated rules of thumb in marine protection creates potentially dangerous targets for conservation science."

No one benefits from sound fisheries management more than those dependent upon commercial, subsistence, and sport fishing. Good management requires finding the right tool for the job. What is missing from the current MPA/NTZ campaign is the critical need to carefully define the problem before reaching for a tool.

If overfishing is the problem, then as Andrew Rosenberg (2003) said in this journal, "The only way to end overfishing is to fish less." In Alaska, as the Chairman of the Pew Commission acknowledged, we've seen the wisdom in that all along (Panetta 2002), which is perhaps why we have no overfished groundfish stocks.

Time and gear closures of huge tracts of ocean have long been facts of life in the North Pacific. In the Bering Sea, year-round bottom trawl closures encompass about 30 000 square nautical miles, an area larger than Indiana. Trawl closures in the Gulf of Alaska encompass 60 000 square nautical miles. Large expanses of the North Pacific are closed seasonally for bycatch reduction or to protect marine mammal habitat and feeding areas. Together, these closures comprise some 25% of the continental shelf. More importantly, catch and bycatch are limited and closely monitored through an observer program – without a network of permanent NTZs. In Alaska, in short, fisheries management already proceeds from the assumption that the entire ocean should be a marine protected area.

Despite our experience in Alaska, Norse concludes, "the case for reserves is so strong that it seems imprudent to wait until implacable opponents of marine conservation are convinced by the evidence". As an implacable supporter of marine conservation – though a skeptic on the value of NTZs as tools for fisheries management – I prefer policy based on evidence.

So what is the evidence? Norse dismisses a study by Shipp (2002) because it was funded by sport fishers. If funding is an appropriate criterion for assessing validity of scientific research, Norse's conclusions as a Pew-funded author, citing a Pew commission report that cites Pew-funded scholars, including himself, are also suspect. In any case, let's review their evidence. The Pew Commission's report on marine reserves (Palumbi 2003) cites a variety of studies indicating that:

- proof of augmented reproductive capacity via larval transport is rare, except with extremely over-exploited species
- there are few US studies of NTZs (except for "boutique-size" closures)
- most studies are mathematical models
- effort control can achieve the same purposes
- reserve networks are poorly studied
- studies of reserves show beneficial results in specific circumstances, where there are heavily exploited species, that the benefits are stronger within reserve borders, and that the effect is clearer for sedentary species.

The evidence that NTZs offer substantial incremental benefit to well-managed fisheries outside the NTZ is less than compelling. In advocating NTZs, supporters should clearly differentiate between NTZs as a fisheries management tool and NTZs as parks. Where NTZs can be demonstrated to increase yields at a lower cost to fishers than other management tools, fishers will accept the price of lost fishing grounds. However, were the public to decide that it wanted to create a new national park in the grasslands of Iowa, we wouldn't simply evict the farmers. Society as a whole would shoulder the cost.

Scientifically-based closures, carefully designed to accomplish specific goals, are part of a broader set of management tools that together provide sustainable fish populations and sustainable fisheries with the economically important jobs they provide. But habitat protection measures are not simple; there are endless gradations between totally open and completely closed. From the perspective of the fishing community, any measure should meet four critical tests. MPAs must be scientifically justified, have clearly articulated goals, incorporate provisions for continued monitoring to ensure that those goals are being achieved, and their creation must take into account existing closures.

The Northwest Indian Fisheries Commission (Franks 2003) and Pacific Coast Federation of Fishermen's Associations (PCFFA 2002) have thoughtful online policy statements on MPAs, NTZs, and sustainable fisheries, which articulate the concerns of the broader fishing community. Due to space restrictions, I have posted links to their sites and further discussion of the fishing community's perspective on MPAs and NTZs at www.olympus.net/personal/dfraser/mpalinks.htm.

"For every complex problem", wrote HL Mencken, "there is an answer that is clear, simple, and wrong". Properly considered, researched, and implemented, various types of MPAs adapted to specific circumstances may prove useful. Applied broadly without meaningful participation by stakeholders in the fishing community and other interest groups, they will engender conflict and resistance. Let's get it right before we unleash an epidemic of NTZs.

## References

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