

3/04/04

I have reviewed the following letter from Carroll Muffett. It is quite lengthy, but I have tried to quickly address the main points with which I have some disagreement – my comments are appended with the letter in *this blue text*. This has been a quick look for a fast turnaround - please excuse any spelling errors, etc. I do not presently have time to offer a formal, scientific critique with relevant references, etc. If you believe a more formal critique would be useful I can do so in the future, though I will be very busy for the next several weeks.

I can tell you that if the regulations described here are the implementing regulations in the Norma – and the gear requirements, etc are used instead of gear prohibitions in areas needing conservation and bycatch protection – I would easily be able to offer expert testimony as to the extremely high probability that these actions would be unenforceable (and I don't mean in Mexico – but in almost any fisheries jurisdiction with which I have had experience) and provide little to no conservation benefits to bycatch species.

Russell Nelson

December 10, 2003

John R. Brakey, Executive Director
Amigos del Mar de Cortes, Inc.
1645 West Valencia #109
PMB #183
Tucson, Arizona 85746

Dear Mr. Brakey:

In August of this year, representatives of Amigos del Mar contacted Defenders of Wildlife to express concern regarding Defenders' participation in the *PROYECTO DE NORMA OFICIAL MEXICANA PROY-NOM-029-PESC-2003* to amend NOM-029, the official regulation governing Mexico's shark fisheries. In the succeeding months, representatives from our two organizations have spoken many times in an effort to address Amigos' concerns. Unfortunately, our collective efforts have been unable to close what appears to be a growing ideological rift. As a foundation for further discussions, this letter explains in detail Defenders' current position with respect to NOM-029, the process through which we reached that position, and our objectives for future work on this issue.

Defenders and Mexico

Before recounting the history of this particular issue, however, I believe it would be constructive to address some misconceptions about the nature of Defenders' work in Mexico. In our last phone conversation, you voiced the concern that large U.S. groups like Defenders drain millions of dollars in grants and contributions from Mexico without any interest in working with Mexican NGOs or benefitting the Mexican environment. While this statement may or may not reflect the official position of Amigos, I consider it sufficiently serious to warrant a response.

In recent years, Defenders has invested hundreds of thousands of dollars of staff resources and direct financial support in on-the-ground conservation efforts throughout Mexico. Among many

other projects, Defenders has: supported wolf and jaguar conservation efforts and provided critical field training opportunities for Mexican biologists in the border region; provided training and equipment to protect sea turtle nesting beaches in Veracruz; funded parrot reintroduction programs in Nuevo Leon and parrot population surveys in Nayarit; supported shade coffee research and shade coffee cooperatives in Oaxaca and Veracruz; provided materials and training to help Mexican wildlife officials identify illegally traded wild birds; produced educational comic books to reduce turtle poaching by fishermen in Baja California Sur and sustainable tourism passports to encourage more responsible tourism in the Yucatan; and litigated in U.S. courts for more than a decade to secure greater water flows for the Lower Colorado River and Upper Gulf ecosystems. Throughout these efforts, we have consistently partnered with local NGOs to achieve our conservation objectives. In fact, I'm unaware of any instance in which Defenders has acted in Mexico without local NGOs playing a major--and usually primary role--in our work. Despite this growing level of engagement, Defenders does not actively fundraise in Mexico. Instead, we have funded our work in Mexico through the same individual member contributions and grants that fund most of our work in the United States. In short, our organization's interest in Mexico arises not from any prospect of financial gain, but from our long-term commitment to conserving Mexico's remarkable biological diversity. I believe our record in the country reflects that commitment.

Defenders and the Marine Environment

Defenders is equally committed to the survival of marine species and ecosystems. We are a longtime member of the Marine Fish Conservation Network, a coalition of 155 environmental organizations, commercial and recreational fishing groups, aquariums and marine science groups dedicated to conserving marine fish and promoting their long-term sustainability. *As such a member, the Defenders recently supported a prohibition on the use of all longlines in the 200 mile U.S. EEZ off the west coast. Further, they supported severe restrictions on longline use on the high seas beyond the U.S. EEZ, because of demonstrated sea turtle and seabird bycatch. I would think that Mexican waters deserve the same level of protection.* Defenders was a leader in the international campaign that won a global moratorium on high seas driftnetting in 1992. We supported adoption of the U.S. Shark Finning Prohibition Act of 2000 and are currently supporting the draft United Nations ban on shark finning. Defenders is among the most active proponents of increased protections for shark species under the Convention on International Trade in Endangered Species (CITES). We were instrumental in the campaign that led to the landmark protection of whale sharks and basking sharks under CITES last fall; and we are seeking protections for still more shark species at the next CITES meeting. In recent years, we have gone to court to control the use of harmful low frequency sonars in waters around the world and sought global action to end overfishing and reduce bycatch within the FAO, the Convention on Biological Diversity, the Inter-American Tropical Tuna Commission, the Inter-American Convention for the Protection of Sea Turtles, and many other fora.

As an organization dedicated to the protection of wild species in all their varied forms and particularly committed to the survival of keystone predators like sharks, we are acutely aware of the environmental impacts of non-selective fishing gears and techniques. Hundreds of millions of sharks, sea birds, sea turtles and marine mammals and other non-target species are killed every year by gillnets, longlines, purse seines, trawlers and discarded fishing line. Like many other Defenders staff, I have witnessed these tragic impacts first hand, and with deep regret. Not surprisingly then, in April of this year, Defenders joined the international call for a United Nations moratorium on Pacific pelagic longline, gillnet and other fishing techniques that harm leatherback sea turtles until such activities can be conducted without harm to the species. *If this group supports a moratorium*

on all longline fishing in the Pacific, how can they credibly advocate for less stringent Mexican longline controls than those called for by Ramon Corral last December.... This seems inconsistent from a policy perspective. That letter also called on fishing nations to assess the impact of their gillnet and longline fisheries and reduce their overall quantity of fishing effort to enable the long-term survival of targeted fish populations and the fishers and communities that depend on them. Importantly, it also urged that transitional aid be provided for fishers and communities affected by changes in policy that move the human species toward sustainable use of ocean resources. Implicit in this final element is the recognition that transition away from non-selective fishing gears, while indisputably necessary, entails real human consequences that must be taken into account if the conversion is to succeed. Left unexpressed is the recognition by many signatories, including Defenders, that the road to the U.N. moratorium will likely be a long one—as it was with the driftnet ban—and that a critical step down that road is bringing fishing under more effective control in major fishing nations and demonstrating that countries can successfully move beyond destructive fishing practices without dire economic and human consequences. *If this is the Defenders position why are they supporting the expansion of such destructive fishing practices in Mexico?* Both the long-term objectives of the letter and our recognition that they remain, at this point, long-term objectives have informed Defenders' participation in the revision of NOM-029.

Defenders work on NOM- 029

Defenders of Wildlife Mexico has been involved with the shark regulation NOM-029 since the first version of the regulation was published in the Official Diary on July 12, 2002. Defenders joined many other NGOs in immediately opposing the regulation because it would affect shark species, endangered species such as sea turtles and marine mammals, marine protected areas and species reserved to the sport fishery such as billfish.

On September 11, 2002 Defenders and the Mexican Center of Environmental Law (CEMDA) presented a detailed legal analysis of the irregularities and inadequacies of the new shark regulation. That analysis was accompanied by a series of proposals to modify the norm. Among those proposals were:

- Increasing protected areas for whales and establishing new protected areas for threatened, endangered and reserved species.
- Increasing the number of sea turtle nesting beaches to be protected under the regulation.
- Reducing maximum permissible longline length from 85km to 5km and decreasing the allowable number of hooks to avoid interactions with sea turtles.
- Using big circle hooks, blue dyed bait, and reconfigured buoys to reduce sea turtle bycatch.
- Prohibiting shark fishing inside Marine Protected Areas unless permitted under the Management Program of the Area after consultation with the Environment Ministry.
- Reducing or eliminating some types of nets, like drift nets.
- Prohibiting medium sized vessels within 50 miles of the coast, based on an interpretation of the Fishery Law.¹

¹ Article 13 of the Fishery Law establishes that six species of fish are reserved for the sport fishery within a 50 mile band from the coast and cannot be fished commercially in that zone. In its current form, however, the law does not expressly prohibit bycatch, even “targeted bycatch”. For any important species, fishery authorities are required by law to establish a legally permissible amount of bycatch, but they have yet to specify a permissible amount of bycatch for any of the six listed species. The failure to set limits on permissible bycatch for these species, combined with the legality of commercializing bycaught specimens, creates a significant loophole in the fisheries law. As noted below, that loophole has a significant impact on the debate on NOM-029.

On September 20, 2002, SEMARNAT presented its own proposal on NOM-029, which incorporated many of the recommendations made by Defenders and CEMDA. Two weeks later, on October 4th, the government convened the fourth meeting of Shark Working Group Number 4 (GTT4) and began work on a new version of the shark norm. Beginning with that fourth meeting, Defenders participated in a total of 7 successive meetings of GTT4 between October 2002 and July 2003. During that time Defenders and CEMDA presented 3 more detailed proposals. Together with CEMDA and Comarino, we presented a fifth proposal in July 2003. Representatives of the sport fishing industry, including notably Guillermo Alvarez of the Billfish Foundation, also participated in some meetings of GTT4, but to our knowledge did not submit any proposals. Shark expert Dr. Carlos Villavicencio also participated in GTT4 and did present proposals.

The proposals submitted by Defenders, CEMDA and Comarino were not developed in isolation. In addition to the open discussions within GTT4 itself, Defenders participated in numerous informal meetings and conversations with other NGOs, and attended two major NGO coordinating meetings hosted by CEMDA on the norm—one on December 9, 2002, the other on March 5th. Dr. Villavicencio participated in both meetings. Pronatura, UGAM, IFAW and an advisor from the Senate's Environment Committee also participated. Many other environmental NGOs were invited but did not attend. We do not know whether Guillermo Alvarez was invited to these meetings; however, both meetings were held during an eight month period in which Mr. Alvarez was not participating in the GTT4 process. In addition to discussions with NGO partners, the proposals submitted by Defenders also incorporated recommendations adopted by the International Technical Expert Workshop on Marine Turtle Bycatch in Longline Fisheries, which Defenders attended in February 2003. **Defenders was not aware of the shark expert's meeting held in La Paz earlier this year, and as a result, did not participate in that meeting.** *This was a widely publicized meeting, no?*

The 4th Draft of NOM-029

After more than a year of deliberation and negotiation, the revised text of NOM-029 is now in its fourth draft. As a result of the work of Defenders, CEMDA, Comarino and many other organizations and individuals, the current draft of NOM-029 represents a tremendous improvement over the present state of affairs in Mexican shark fisheries. While some important elements of NOM-029 remain undecided, the NGO, Government, Scientific and Industry participants in GTT4 have reached consensus on several regulatory measures that Defenders considers vital to the long-term sustainability of this fishery and the ecological health of the Gulf of California. Among other improvements adopted by consensus, the current draft of NOM-029 (Attachment 5):

- Mandates use of Vessel Monitoring Systems to allow satellite tracking of medium and large-sized vessels;
- Creates a mandatory fishery observer program;
- Prohibits shark fishing in Marine Protected Areas unless permitted under the management plan for the MPA;
- Increases the number of protected nesting and feeding sites for sea turtles from 17 to 95;
- Creates 5km protected areas around all coral reefs and 5k in front of sea turtle nesting beaches;
- Prohibits shark fishing within 2.5 km of the mouth of rivers and coastal lagoons and in front of the Bahia Banderas in Jalisco, to protect marine mammals;
- Prohibits shark fishing in lagoon systems of the west coast of Baja California from December 1 to April 30;

- Prohibits use of drift nets in artisanal fisheries, which are the largest source of marine mammal bycatch in the Gulf of California and a particular source of sea-turtle mortality;
- Prohibits use of drift nets by large sized vessels in all Mexican waters, and by mid-sized vessels in all Mexican waters except for the west coast of Baja California;
- Prohibits longlining by large sized vessels inside the Gulf of California;
- Decreases from 2000 to 900 the maximum number of hooks allowable on medium sized vessels; *given current enforcement resources available to CONAPESCA & SENARNAP this measure will be almost impossible to enforce....*
- Decreases from 500 to 300 the maximum number of hooks allowable in artisanal fisheries; *same criticism as above*
- Requires use of large (18/0) circle hooks on gangions nearest buoys, to reduce sea turtle and billfish bycatch; *1) again, almost impossible to enforce except where credible observers are onboard – is 100% observer coverage a possibility?*
- Restricts all longline fishing sets to at least 40 meters below the surface; *sets can be designed to fish with the deepest hooks at a specific depth, but the actions of hooked fish and shearing effects of currents almost always force longlines away from a predictable geometric configuration and all hooks actually fish at less than the maximum depth most of the time --- & again this is difficult to enforce ---- many longliners in the Sea of Cortez will wish to target dorado, and such sets would be fished at or near the surface...*
- Requires fishers to record and report bycatch of non-target species by species and quantity; *logbook reporting is almost always inaccurate, particularly when fishers are asked to report on know problems*
- **Requires fishers to use dehookers and line cutters to safely release non-target species;**
- **Requires fishers to resuscitate captured sea turtles;**
- **Requires participation in mandatory training workshops regarding conservation measures for species at risk. *All three of these measures can be effective, but a high level of voluntary compliance is necessary --- enforcement is virtually impossible***

In our view, these measures represent tremendous conservation gains over the status quo. Together, these changes would substantially reduce the allowable levels of fishing effort in Mexican waters and substantially reduce the bycatch associated with the remaining effort. The designation of nearly 80 new protected areas, and the prohibition of shark fishing in or near those areas, will have benefits for threatened and overfished species throughout Mexican waters. Requires use of large (18/0) circle hooks on gangions nearest buoys, *the most recent research conducted by the U.S. NMFS in the north Atlantic shows that requiring these hooks only on the shallowest hooks is not effective – they must be required on all hooks* to reduce sea turtle and billfish bycatch. Significantly, the use of drift gill nets in the Gulf of California will be completely prohibited. The Gulf of California will also be closed to fishing by large longliners; and those longliners remaining must reduce their hook deployments by more than half, and adopt technologies (such as large circle hooks and dehookers) to further reduce bycatch-related mortality. *In fact a specific allowance for the use of longlines in the Sea of Cortez will create an escalation in effort – many shrimp vessels will look to converting to this gear on a part-time or permanent basis – estimates provided elsewhere in this letter of as many as 200 vessels fishing 900 hooks per set would allow maximally up to 180,000 new hooks to be deployed once or twice per day* And most significantly: by mandating the use of vessel monitoring systems and onboard observers, the changes to NOM-029 will make it much easier to enforce the law, and more difficult to violate the law with impunity—as currently happens. *I agree that the use of VMS will work for keeping vessels from closed areas – it will not help enforce hook number limits or other previously discussed proposed regulations...* We see this as a critical, indispensable step toward bringing this fishery under the effective legal control necessary to ensure its long-term sustainability. *With no proposed effort limitation regulations (#*

vessels, # trips per year, etc... *this longline allowance will promote a dramatic increase in fishing mortality within the Sea of Cortes – an increase on stocks which many believe are currently stressed by existing fishing activity...*) Accordingly, Defenders believes we must be extremely cautious about adopting strategies that put the accepted changes at risk.

Additional Changes Proposed by Defenders, CEMDA and Comarino for the 5th Draft

In addition to the amendments that have already been agreed by consensus, Defenders, CEMDA and Comarino proposed several further improvements to NOM-029 in their fifth round of proposals on the NOM in July 2002. If adopted, these proposals would further expand the protections afforded by the new rule. This fifth round of proposals includes measures to:

- Prohibit the use of drift nets, circle nets and trawling nets in Mexican shark fisheries;
- Prohibit shark and ray fishing within 10 km to the front and 5 km to the side of sea turtle nesting beaches; *this would be very effective if turtles swam less than ten miles instead of across the high seas*
- Prohibit shark fishing within 5 km of sea lion colonies on all coastlines, islands, islets and rock outcroppings in the Gulf of California and the Pacific Coast of Baja California year round;
- Prohibit use of gill nets and longlines: within 20km of rivers and lagoons on the west coast of Baja California used as whale nurseries between December 1 and April 30 each year; within 15 km of the west coast of Baja California from November 15 to May 15 each year to protect gray whale migratory routes; and within 25 miles of several islands and bays important as humpback whale reproduction and resting sites, with closures revolving throughout the year.
- Require fishers to change fishing zone when bycatch includes species at risk, annotate the captures in ships logs, and inform nearby ships to avoid the area; *again, this would be utterly unenforceable*
- Require fishers to release all specimens of species reserved to the sport fishery when the percentage of incidental catch allowed for such species has been reached, annotate the captures in ships logs, and inform nearby ships to avoid the area; *most such releases would involve mortality*
- Put vessel observers under joint authority of four ministries, to ensure impartiality;
- Prohibit the use of deep gill nets in artisanal fisheries within three years;
- Require that longlines be removed from the water by 12 a.m.;
- Require exclusive use of large (18/0) circle hooks on medium and large-sized fishing vessels; and require the transition to circle hooks in artisanal fisheries within two years; *the drafters of the Plan need to be aware that manufacturers have no standard for size – one brands 18/0 may be another's 12/0 or 22/0 --- again this 18/0 requirement is based on a single U.S. research project undertaken in the north Atlantic in cold waters and in an ecosystem dramatically less diverse than those in Mexico – as a member of the U.S. Atlantic HMS advisory panel I recently had the opportunity to see a presentation on the latest research --- NMFS scientists cautioned against projecting the same results in longline activities conducted in the S. Atlantic – much less the Sea of Cortes and the EPO...*
- Require the Fisheries Ministry to set maximum allowable levels of bycatch for protected species and species reserved to the sport fishery within one year, including no more than 0.01 sea turtles per 1000 hooks and no more than one leatherback turtle per year (zero quota); *in my experience fisheries management actions which rely on future actions to make them useful seldom meet with success*

- Prohibit the use of longlines in artisanal fisheries within 10 n.m. of the coast; *will these smaller vessels also have VMS?*
- Prohibit longlining in the Gulf of Mexico and Caribbean within 15 n.m. of the coast;
- Extend longline ban zones in the Pacific and Gulf of California to include areas around all Mexican islands (i.e. extend coastal longlining prohibitions to an equivalent distance around all Mexican islands).

Several of these proposals warrant specific mention. With the total number of protected turtle beaches already increased from 17 to 95, the extension of no-fishing zones to 10 km in front of and 5 km to the side of each of these beaches would dramatically expand the area of Mexican waters completely protected from shark fishing. The extension of the shark fishing prohibition within 5 km of sea lion colonies to include not only islands, but also coastlines, islets and rock outcroppings would enlarge that area still further. These restrictions, and the seasonal protected zones created to protecting migrating marine mammals, are significant in that they would apply not only to commercial fishing vessels but also to the artisanal fisheries that account for the majority of fishing effort in the Gulf of California and on the Baja Coast, and which are not currently regulated. Requiring the immediate adoption of large circle hooks in commercial shark fisheries, and the transition to circle hooks in artisanal fisheries, will dramatically reduce both billfish and sea turtle bycatch associated with the remaining operations. *This an entirely speculative conclusion given the current state of research on the subject ...* And requiring fishery authorities to actually set limits on allowable bycatch levels for protected and reserved species (which they have thus far failed to do under Article 13 of the Fisheries Law) will help close the loophole in the existing system that allows fishermen to evade legal restrictions through targeted bycatch of billfish.

Attachment 1 to this letter includes a table comparing the proposals made by Amigos del Mar with the proposals included in the fifth round of proposals from Defenders, CEMDA and Comarino, and the measures that have already been accepted in the 4th version of the draft NOM.

Debate over the width of the exclusion zone

It is in the context of both the accepted changes and the additional improvements proposed during the fifth round of amendments that the debate over the width of the exclusion zone must be viewed. There are, at present, three options for this exclusion zone being considered in the GTT4 process: 12, 30 and 50 nautical miles. To understand the relative impact of these three options, it is important first to understand the current status quo, and the practices that would be excluded under changes already accepted by consensus in the process.

The Status Quo

Based on the information available to us, Defenders believes the status quo to be as follows:

- Artisanal fisheries are almost completely unregulated, despite the fact that such fisheries represent a major component of both fishing effort and bycatch in Mexican waters, particularly in the Gulf of California.
- Drift gillnets are currently permissible in all Mexican waters, including the Gulf of California, despite the tremendous bycatch associated with their use.
- Longline fishing for sharks is permissible and largely unregulated in Mexican waters, including the Gulf of California, despite the significant levels of bycatch associated with its use. *But to my understanding such bycatch of protected sportfishing species taken within the 50 mile or core zone areas cannot legally be sold – thus there is less incentive currently to deploy this gear this needs to be clarified – but in the past ‘experimental fishing*

permits' have been issued to vessels wishing to land swordfish and marlin – it is not the norm ...

- Although Article 13 of the Fishery Law establishes that six species of fish are reserved for the sport fishery within a 50 mile band from the coast and cannot be fished commercially in that zone, the law does not explicitly prohibit longlining anywhere (even within the 50 mile zone) and does not prohibit the commercialization of bycatch, even “targeted bycatch”. Although fishery authorities are required by law to establish a legally permissible amount of bycatch, they have yet to do so for any of the six reserved species. The failure to set limits on permissible bycatch for these species, combined with the legality of commercializing bycaught specimens, creates a significant loophole in the fisheries law that needs to be closed. Until that loophole is closed, and effective monitoring and enforcement mechanisms are established, shark fishermen can continue to target reserved species as “bycatch” and to commercialize any specimen so caught. *I would agree the loophole needs to be closed – but currently such species taken in the conservation zones cannot be legally sold – thus no real incentive to use longlines – with VMS this current prohibition on sale of species taken from these zones will be easier to enforce, however the most effective and cost effective means of achieving this goal is a simple – and enforceable – prohibition on the use of these gears in the 50 mile zone*
- The limited restrictions that currently apply to Mexico’s shark fisheries are easy to evade due to the absence of vessel monitoring, observer programs, and other critical enforcement tools. Thus, fishers have both the opportunity and the incentive to violate the law with relative impunity.

How Accepted Changes Affect the Status Quo

Changes already accepted by consensus in the GTT4 process would affect this status quo in many ways. Importantly, the changes would ban drift gillnetting in most Mexican waters, including the Gulf of California. Thus, it should be emphasized that the debate over the extent of the exclusion zone will have no impact on the use of driftnets in the Gulf of California. In addition, the consensus changes already prohibit longline fishing by large vessels within 50 nautical miles (92.695 km) of the coast. Moreover, large longliners are already completely excluded from the Gulf of California; thus, the debate over the extent of the exclusion zone will have no impact on the operations of large longliners in the Gulf. Nor will the width of the exclusion zone at issue affect the hundreds of artisanal vessels already fishing in the Gulf. None of these significant sources of fishing effort and bycatch in the Gulf of California will be affected by the width of the exclusion zone at issue here.

Rather, the exclusion zone debate is relevant only to fishing activity by medium-sized longliners. If the GTT4 agrees to include protected zones around all Mexican islands, it will dramatically increase the total area protected by any exclusion zone, regardless of the width of the zone that is eventually approved. The additional coverage provided by this measure is particularly important in the Gulf of California, which has hundreds of islands and islets, and in the waters off the west coast of Baja California.

The 12-mile / 30-mile / 50-mile debate

In the 4th draft of NOM-029, three competing options have been presented for the width of the exclusion zone applicable to medium-sized longliners. The three options are 12 nautical miles (22.24 km), 30 nautical miles (55.59 km), or 50 nautical miles (92.695 km).

The 12-mile limit was proposed by the commercial fishing industry at the 11th meeting of GTT4 on July 4th, 2003 to take advantage of uncertainty created by the discussion of the 30 and 50 mile options at that meeting.

Although the Amigos del Mar have repeatedly referred to the 30-mile option as a Defenders proposal, this is incorrect.² The 30 mile ban for medium sized vessels was proposed by members of the National Institute of Fishery (INP) and incorporated into the first project of the regulation of May 5th and on its first version of the working document of May 15th, 2003.³ The 30 mile proposal was maintained unchanged throughout the second and third versions of the project regulations of May 18th and May 30th. Nine meetings of the GTT4 had taken place up to this time. During the meeting of June 6th, the 30 mile limit was discussed and Dr. Santana (shark scientist of INP) confirmed it was their proposal. The Chamber of Industry of Fishery (CANAINPESCA) argued against it without any data to back their arguments. It was agreed that those wanting to modify this proposal should submit information by June 20th (minutes of the meeting 04/03) and thus the 30 mile limit was put in brackets for the 4th version of the project regulation of June 12.⁴

The proposals presented by Defenders, Cemda and Comarino in July incorporated the 30-mile limit for medium-sized vessels, as well as the 50 mile ban for large sized vessels, because these were the limits that had been included throughout the previous versions of the NOM. Our only change to these limits was to create new areas where fishing would be banned for artisanal fisheries and for fisheries on the Gulf of Mexico and Caribbean Sea⁵ and propose that islands be included when measuring the 30 and 50-mile zones.⁶

² See, e.g., Amigos's letter: "The Defenders of Wildlife of Mexico plan creates a third zone that opens up the possibility to drift longline fishing in the Cortes that is illegally killing thousands of turtles just in the Sea of Cortes".

³ *Working Document Version 1 of 15/05/03 PROYECTO DE NORMA OFICIAL MEXICANA PROY-NOM-029-PESC-2003, PESCA RESPONSABLE DE TIBURONES Y RAYAS. ESPECIFICACIONES PARA SU APROVECHAMIENTO*

"Estos equipos de pesca podrán utilizarse en la zona marina afuera de una franja costera de 55.59 km (30 millas náuticas) contados a partir de la línea de base con la cual se mide el Mar Territorial, a lo largo de todo el litoral. Se prohíbe la utilización de estos equipos en la zona marina costera delimitada por 55.59 km (30 millas náuticas) contados a partir de la línea de base con la cual se mide el Mar Territorial"

⁴ *Working Document Version 4 of 12/06/03 PROYECTO DE NORMA OFICIAL MEXICANA PROY-NOM-029-PESC-2003, PESCA RESPONSABLE DE TIBURONES Y RAYAS. ESPECIFICACIONES PARA SU APROVECHAMIENTO*

"[Estos equipos de pesca podrán utilizarse en la zona marina afuera de una franja costera de 55.59 km (30 millas náuticas) contados a partir de la línea de base con la cual se mide el Mar Territorial, a lo largo de todo el litoral, asegurándose que la profundidad mínima de operación de los anzuelos sea de 40 m. Se prohíbe la utilización de estos equipos en la zona marina costera delimitada por [55.59 km (30 millas náuticas)] contados a partir de la línea de base con la cual se mide el Mar Territorial.]"

⁵ *Pesquería ribereña*

4.4.2.1 Se autoriza.....

Before this time, Defenders had consistently advocated application of the 50-mile limit for all vessels, including medium-sized vessels. For reasons detailed below, we withdrew the 50-mile limit from our proposal for medium-sized longliners when it became apparent that we could not win the 50-mile ban. *I find this statement to be strange – near the date that this letter was written the new head of fisheries – Ramon Corral – was publicly announcing that longlines on vessels over 27 feet (medium and large vessels) would not be allowed within 50 miles the Defenders position is less conservation-oriented than that of the head of fisheries ????????*

The 50 mile division

Although Defenders (with other NGOs) had been asking for a 50 mile ban since our first proposal (September 11th 2002), information that arose during the year long process of analysis and discussion of the shark regulation, made it prudent to modify our arguments.

The Legal Argument for a 50-mile limit

Initially, we had argued for the fifty-mile limit based on the interpretation of Article 13 put forth by the Billfish Foundation. However, during the 8th meeting of the GTT4 on May 6th, the 50 mile ban was discussed by lawyers from the Fisheries Commission (CONAPESCA) and the NGO community (including the Mexican Center of Environmental Law CEMDA) and it became evident that there was no legal argument for the 50 mile limit; as a result, that argument could no longer be sustained.

Specifically, we do not believe that Article 13 of the fishery law, as it currently exists, can reasonably be interpreted to create a 50-mile fishing zone exclusively for the sport fishery as opposed to any other commercial fishery (The Amigos's letter states "Mexico Coastal waterways at the present time are divided into two zones the 50 and then the 200 EEZ."). As written, Article 13 of the Fishery Law reserves six species of fish for the sport fishery within 50 miles of the coast;

Estos equipos de pesca podrán utilizarse en la zona marina afuera de una franja costera de 18.53 km (10 millas náuticas) contados a partir de la línea de base con la cual se mide el Mar Territorial.

Pesquería Golfo de México y Mar caribe

4.5.3 *Estos equipos de pesca podrán utilizarse en la zona marina afuera de una franja costera de 27.795 km (15 millas náuticas) contados a partir de la línea de base con la cual se mide el Mar Territorial.*

6 Pesquería de mediana altura

4.6.1 *Se autoriza.....*

Estos equipos de pesca podrán utilizarse en la zona marina afuera de una franja costera de 55.59 km (30 millas náuticas) contados a partir de la línea de base con la cual se mide el Mar Territorial, a lo largo de todo el litoral e incluyendo las islas mexicanas.

Pesquería de altura

4.7.2 *En ningún caso, podrá realizarse pesca dirigida a tiburones, mantas y rayas con embarcaciones tiburonerías de altura, en una franja marina de 92.65 km (50 millas náuticas) de anchura a partir de la línea de base con la cual se mide el Mar Territorial y que incluye a las islas mexicanas.*

however, the law does not forbid commercial fishing activity, even within the 50-mile limit, provided the fishers are not technically targeting the 6 reserved species. Although shark longliners are capturing billfish, billfish captured by shark fishing vessels are considered bycatch under Mexican law. Such bycatch is legally permitted throughout Mexico's 200-mile EEZ. Notwithstanding that the shark fishery is capturing more billfish than sharks, this is not illegal under existing law. *Again – my understanding is that while there is no limit on bycatch – bycatch of the six protected species cannot be sold ---since experimental fishing efforts by longlines in these zones have been as much as 90% picudos – there has been no incentive to fish longline gear and the longline fishery within the 50 mile zone is minimal --- this proposed allowance will dramatically expand the use of this gear – increase fishing mortality – and likely result in the sort o negative impacts on the sport fishing fleets which has been documented from Japanese longline fishing in the past – moreover today's longline fleets have dramatically more efficient electronic gear with which to use in identifying areas of highest fish abundance – the impacts of 48 vessels fishing with longlines in the 50 mile and core zones will probably make the impacts of the 1980s Japanese vessels seem puny* The shrimp trawling fishery captures 10 times more bycatch than the volume of targeted shrimp species and it is not illegal either. **Even though some fishermen are using the shark fishery to hide the illegal activity of targeting billfish, this acknowledges that it is illegal to target these species** ----the shark fishery as a whole is not banned by Article 13 of the Fishery Law. The best way to respond to this illegal behavior is to better regulate the shark fishery and to require (as our proposals would) that Mexican fishery authorities comply with their legal obligation to set maximum allowable limits on bycatch of protected and reserved species. By setting such limits, fisher authorities could prevent or at least dramatically reduce the intentional targeting of billfish in shark fisheries. *The 50 mile and core zones were established to provide special protection for these 6 species – all agree to that --- they have not been as effective as possible because of poaching and 'illegal' or 'semi-legal' or 'experimental' fishing activities --- if the goal is to eliminate the loopholes the only enforceable action thus far proposed by anyone is to prohibit longline and drift gillnet gear in these areas*

The Scientific Argument for a 50-mile limit

Throughout the GTT4 process, the participating government agencies have insisted that the conservation measures adopted in NOM-029 must have a demonstrable basis in science, and that the scientific data presented must be specific to Mexico. This has proven a very high hurdle, particularly with respect to the appropriate width of the exclusion zone.

During the tenth meeting of GTT4 on June 5th and 6th, presentations were made from experts who participated in workshops on fishery technology, sharks, marine mammals and sea turtles. The marine mammal experts' only request was for a protective zone of 10 km in front of coastal lagoons and the mouths of rivers; their request did not mention a ban of 30 or 50 miles. The shark experts requested a seasonal ban and, like the marine mammal experts, made no reference to either the 30 or 50 mile ban. The fishery technology experts didn't mention any area bans.

The sea turtle expert presentation did mention a 50 mile ban but, unfortunately, were unable to offer the technical and scientific information necessary to defend their proposal. Because the sea turtle experts were unable to provide hard data in support of the 50-mile proposal, their position was severely criticized by both fishery authorities and the commercial fishing industry. During the second day of the 10th meeting, the sea turtle experts didn't want to speak at all in support of their proposal and agreed to present data at the next meeting. At the following meeting, Raquel Briceño, spokesperson for the sea turtle experts, stated that they were satisfied and had changed their position. They refused to bring up for discussion the 50 mile proposal. "In her view all of the issues

pertaining to sea turtle had been discussed and they had made adjustments to their initial proposals that had been presented.” (minutes of the 11th meeting).

At this last meeting in July, the CANAINPESCA presented a proposal for a 12 mile ban, with some data to back it. No consensus was reached and the 30 mile-limit remained in brackets. It was agreed by the GTT4 to open up a final round for proposals before sending the project regulation to the Normativity Committee.

At this point, we found ourselves without any data from the marine mammal or sea turtle experts to back the 50 mile proposal. We searched the scientific literature for information on the distribution, feeding and migration patterns of sea turtles in the Mexican Pacific looking for data to support a 50 mile ban. We could only find sketchy information like: “Surveys were conducted up to 30 miles... (on feeding grounds of the loggerhead sea turtle in west coast of Baja California Sur) (Nichols, et al 1999); “Migratory routes of homing adult-sized turtles (East Pacific Green *Chelonia mydas*) follow the mainland Mexico coastline and approximate a straight-line path between feeding and nesting areas with accommodation for land masses. Turtles migrating from feeding grounds on the Pacific coast of Baja California or from southern California likely migrate near the coast, crossing the mouth of the Gulf of California to the mainland and continuing south to Michoacan” (Nichols et al 2000a); Byles et al (1995) reported that most adult female East Pacific green sea turtles dispersing from the Michoacan rookeries follow a movement corridor within 50 km of the continental shore. Some turtles move outside of the coastline, up to 90-280 km (Byles et al. 1995); “...fisheries interactions with turtles in Baja California waters and along the migratory routes, which occur primarily on the continental shelf and pass through areas of intense fishing activities, will clearly impact both juvenile and adult green turtles. The timing of such migrations should be taken into account when managing these fisheries” (Nichols et al. 2000a). *Defenders were part of the Marine Fish Conservation Network (MFCN) – as such they should be aware of the volume of information from U.S. observer programs indicating longline interactions with sea turtles across the EPO and CPO ---- current U.S. regulations close a seasonal 500,000 square mile area in the CPO north of the equator and prohibit all shallow (swordfish) longlines sets in the jurisdiction of the WPFMC due to sea turtle interactions ---- the MFCN reviewed NMFS observer data on sea turtle bycatch outside the U.S. EEZ and concluded that the level of interactions called for stringent regulation or prohibitions on the use of longline gear just last year this paragraph is intellectually disingenuous and quite misleading!!*

Most of the data in Mexico refers to sea turtles in nesting or feeding sites. The protection of sea turtles while congregating to nest or feed had already been taken care of in the project regulation.⁷ This protection includes coral reefs and up to 95 nesting and feeding sites to date. The protection is a 5 km band in front of nesting sites and surrounding feeding areas. All of these sites are inland or very near the coastline, so this data was useless for the 50 mile argument.

Following the 11th meeting of GTT4, it became clear that the Mexican environment ministry (SEMARNAT), which had been the leading institutional advocate for the conservation measures in the rule, would no longer support a 50-mile ban. Without SEMARNAT’s support or a sound legal argument on which to base a 50-mile limit, our case for the 50-mile limit was dependent on the

⁷ **4.3.4** *La pesca dirigida a tiburones, mantas y rayas no podrá realizarse:*

b) En una franja marina de cinco kilómetros de ancho alrededor de las zonas arrecifales coralinas.

d) En una franja marina de cinco kilómetros de ancho frente a las principales playas de anidación de tortuga marina, durante las temporadas en que desovan. Las playas de anidación se especifican en el Apéndice Normativo “B”.

availability of compelling scientific arguments based on clear data. If a 50-mile exclusion zone were adopted in the absence of such data, Mexico's Normativity Committee could readily conclude that NOM-029 was overregulating the fishery, and undo many of the improvements we've worked so hard to win. Since we couldn't find any new data, and no data or support were forthcoming from the marine mammal or sea turtle experts, Defenders decided (along with CEMDA and Comarino) not to press further for a 50 mile exclusion zone and just require that all islands be included in the 30 mile and 50 mile exclusion zones that had already been incorporated to the project regulation since May 5th. Given the hundreds of islands and islets in the Gulf of California, adoption of this proposal would dramatically increase the area covered inside the Gulf.

In order to counteract the 12-mile limit proposed by the fishing industry during the 11th meeting of GTT4, we included all the data we could find that would support a larger exclusion zone.

In the wake of my own phone calls with Amigos staff, I have spent many hours searching for additional data that would support a 50-mile exclusion zone. To date, my efforts have been largely unsuccessful. While the necessary data may well exist somewhere; I've been unable to find it. As I have repeatedly pointed out, however, we would welcome any such data that Amigos can provide.

To sum up: there is no legal division of 50 miles between the area reserved for six species for the sport fishery and the rest of the fisheries, as long as these are not expressly targeting the reserved species. Bycatch of the reserved species by any fishery is not illegal even within 50 miles of the coast. There is thus no persuasive legal argument for the 50 mile ban for the shark fishery based on the law as it currently exists. Experts on sharks, marine mammals and fishing gear offered no support for the 50 mile ban. Experts on sea turtles did propose the 50 mile ban but recanted when they couldn't support their proposal with data. Despite our own efforts, we have been unable to find sufficient data in the existing scientific literatures to create a compelling scientific argument for a 50 mile ban as opposed to the 30-mile ban. SEMARNAT, our most important agency ally in the process, withdrew its support for the 50-mile limit. And the fishing industry has taken advantage of the dispute to propose that the exclusion zone be reduced to 12 miles. Confronted with these facts, Defenders chose to defend the 30-mile exclusion zone for medium-sized vessels because, while not our preferred choice, it is a tremendous improvement over the status quo (no exclusion zone at all) and substantially preferable to the 12-mile limit proposed by the fishing industry.

The map in Attachment 2 represents our best estimate of the geographic coverage of the 30-mile (medium-sized vessels) and 50-mile (large-sized vessels) exclusion zones if islands are included. This map was developed from more than 200 reference points using the 55.59 km and 92.695 km standards specified in NOM-029. Because only a few of the hundreds of islands in the Gulf of California are represented on the map, we believe it substantially understates the size of the exclusion zones and overstates the area left open to longlining. Nonetheless, we believe this map more accurately portrays the coverage of the rule than the corresponding map circulated by Amigos (Attachment 3). As Attachment 4 demonstrates, moreover, there is very little overlap between the areas left open to fishing under the 30-mile exclusion zone and the areas actually fished by shark fishermen according to fishery authorities. In light of this fact we believe the 30-mile exclusion zone will dramatically decrease the area where sharks can be both legally and economically fished, thereby reducing shark fishing effort in the Gulf and the bycatch associated with that effort.

Other issues raised by Amigos

The 20 km protection zone for whales

Amigos is incorrect in suggesting that Defenders believes whales do not travel outside of 20 km from the coastline.⁸ At no point in any of our proposals have we made such a statement. It is important to recall that 5 of the foremost marine mammal experts in Mexico only requested the protection of 10km:

4.34 La pesca dirigida a tiburones, mantas y rayas No podrá realizarse:

*c) En las aguas marinas localizadas frente a la desembocadura de ríos y lagunas costeras, en un área delimitada por un semicírculo que tenga como diámetro una distancia que comprenda la boca del cuerpo de agua y la línea litoral adyacente hasta **10 KM MAR ADENTRO Y 5 KM A CADA LADO DE LOS EXTREMOS DE LA BOCA, CONSIDERANDO QUE LOS CORREDORES MIGRATORIOS DE LAS GRANDES BALLENAS (AZUL, COMÚN, JOROBADA Y GRIS) SON MUCHO MÁS AMPLIOS.** (Dr. David Aurióles, Dr Carlos Alvarez, Dr. Lorenzo Rojas, Dr. Jorge Urbán, Dr. Sergio Flores June 5th, presentation to the tenth meeting of the TWG)*

In fact the Defenders, CEMDA and Comarino proposal requests protective zones far more extensive than those recommended by the marine mammal experts:

4.3.4 Shark and Ray fishing is forbidden:

*In a **5km** band surrounding sea lion colonies in islands, islets, rock outcroppings and beaches in the Gulf of California and west coast of the Baja Peninsula all year long.*

4.3.5 Gill nets and longlines for shark and Ray fishing cannot be used in the following periods and zones:

*a) In the lagoon systems of the west coast of the Baja Peninsula in a **20km** band in front of the reproduction lagoons of the Grey whale from Dec. 1st to April 30th*

*b). All along the west coast of the Baja Peninsula in a **15km** band from November 15th to May 15th to protect the migration route of the Grey whale*

*c) In a **25 mile** band surrounding : Revillagigedo Islands (Dec. 15 to March 15), Isabel and Mariás Islands (Dec. 1st to March 31) Raza Island (April 1st to July 31st), In front of Cabo San Lucas (January 1st April 15th) , Northern area of Banderas Bay surrounding Mita Point (Dec. 1st to March 31st) to protect humpback whale reproduction and resting areas*

Our proposal documents the areas used by whales based upon data on the migration and reproduction habits of the grey and humpback whales from the research done by Mexican and foreign scientists. That documentation is based on the following scientific reports, all of which are referenced in our proposals.⁹

⁸ Amigos's letter: "As to the Defenders statement of whales not traveling off the coast more then 20 miles, I find that to be absurd".

⁹ Calambokidis, J., Steiger, G., Rasmussen, K., Urban, J., Balcomb, K., Ladron de Guevara, P., Salinas, M., Jacobson, J., Baker, S., Herman, L. Cerchio, S. y Darling, J. 2000. Migratory destination of humpback whales that feed off California, Oregon and Washington. *Marine Ecology Progress Series*. Vol. 192: 295-304, 2000

Gordon, D, and Bladridge, A. 1991. *Gray Whales*. Monterey Bay Aquarium Monterey, California 64 pp.,

Maravilla, C. M 1991. *La Ballena Gris de California en La Reserva de la Biosfera El Vizcaino en la Península de Baja California*. Ortega, A. y Arriaga, L. eds. Centro de Investigaciones Biológicas de BCS, Publicación No. 4

Impact of driftnets and longlines on sea turtles and whales

The Amigo's letter states "I can prove to you that drift longlines kill thousands of turtles! And that drift gill nets kill whales. These type fads of fishing must be ban!"

As noted at the beginning of this letter, Defenders is well aware of the tremendous environmental destruction wrought by non-selective fishing gear, including driftnets and longlines. This is an issue we have worked on for many years, and in many different fora. It was our concern with the impacts of driftnets and longlines that has motivated our efforts to improve NOM-029. We believe the 4th version of the NOM reflects those efforts and incorporates more than a dozen measures designed to dramatically reduce bycatch from driftnets and longlines, both in the Gulf of California and throughout Mexican waters.

With respect to whale mortality in drift nets, Defenders is aware of the mortality of marine mammals and sea turtles in drift nets. Drift nets are not selective and cannot be modified substantially to reduce bycatch of species at risk or reserved species. Thus, since the publication of the shark regulation in July of 2002, we have advocated for a total ban of this fishing gear. In every version of the project regulation released thus far, drift nets have been prohibited for the artisanal fisheries, fisheries in the Gulf of Mexico and Caribbean Sea, and medium or large-sized vessels in the Gulf of California and the Pacific.¹⁰ The only exception to this prohibition is that driftnetting is allowed for medium-sized vessels off the west coast of Baja California. Defenders believes that this exception must be eliminated; accordingly our July proposal seeks a total ban on drift nets in the shark fishery, including circle nets and trawling nets.¹¹ Our proposal also requests that bottom gill nets be prohibited in artisanal fisheries within three years.

Mate, B. and J. Harvey. 1984. *Ocean Movements of Radio-Tagged Gray Whales*. In: M.L. Jones, S.L. Swartz, and S. Leatherwood (eds.), *The Gray Whale*. Academic Press, Orlando, FL.

Rugh, D.J., M.M. Muto, S.E. Moore, D.P. DeMaster. 1999. *Status Review of the Eastern Pacific Stock of Gray Whales*. NOAA/National Marine Fisheries Service. Alaska Fisheries Science Center, National Marine Mammal Laboratory. Seattle, WA.

Urban, J y Aguayo, A. 1987. *Spatial and Seasonal distribution of the humpback whale in the Mexican Pacific*. *Marine Mammal Science* 3(4): 333-344 (October 1987)

Urban, J., Aguayo, A. y Balcomb, K. 1990. *The Humpback and other baleen whales in the Sea of Cortez*. *Whalewatcher J. of the American Cetacean Society* Vol 24 No. 2 Summer 1990

Urban, J., Gómez-Gallardo, A., Flores de Sahagún, V., Cifuentes, J., Ludwig, S. y Palmeros, M. 1997 *Gray Whale Studies at Laguna San Ignacio, BCS, Winter 1996*. *Rep. Int. Whal. Commn.* 47, 1997 SC/48/AS19

Urban, J., Alvarez, C., Salinas, M., Jacobsen, J., Balcomb, K., Jaramillo, A., Ladron de Guevara, P. y Aguayo A. 1999 *Population size of humpback whale in waters of the Pacific coast of Mexico*. *Fishery Bulletin* 97(4): 1017-1024 1999

Urban, J., Jaramillo, A. Aguayo, A., Ladron de Guevara, P., Salinas, M., Alvarez, C., Medrano, G., Jacobsen, J., Balcomb, K., Claridge, D., Clambokidis, J., Steiger, G., Straley, J., von Ziegesar, O., Waite, J., Mizroch, S., Dahlheim, M., Darling, J. y Baker, C. *Migratory destinations of humpback whales wintering in the Mexican Pacific*. *Journal of Cetacean Res, Manage.* 2(2)000-000

¹⁰ **4.7.2** *En ningún caso, se podrán usar este tipo de redes en otras zonas del Océano Pacífico, incluyendo el Golfo de California.*

¹¹ **4.3.7** *En ningún caso se autorizará el uso de trasmallos, redes de enmalle de deriva, redes de cerco, redes de arrastre, fisgas, fitoras, tridentes y arpones, excepto los de liga o neumáticos, para la pesca de tiburones y rayas.*

Longline fisheries are also responsible for a huge amount of bycatch affecting a wide array of species. Of particular concern for Defenders is longline bycatch of threatened and endangered species of sharks, sea birds and marine turtles.¹² As a purely technical matter, we believe Amigos is incorrect in suggesting that drift longlines kill “thousands of sea turtles” each year in Mexico. We believe a more accurate estimate of sea turtle mortality from longlines is between 150 and 470 turtles per year.¹³ Nonetheless, we agree with the fundamental point that this level of mortality is unacceptable; and that steps must be taken to reduce sea turtle deaths in the longline fishery.

This has been the primary goal of our work on NOM-029. Unlike drift nets, longlines can be modified in ways that significantly reduce bycatch. Throughout the GTT4 process, we have consistently urged that such modifications be mandated by the new law. Many of our proposals have already been accepted. We are working hard to win still more improvements that will both decrease the rate of bycatch and reduce the number of mortalities resulting from that bycatch.

One important way to reduce bycatch is to decrease the total number of hooks in the water. In addition to advocating for increased numbers of no-fishing zones, Defenders has consistently advocated for reducing the maximum allowable number of hooks on commercial longlines. The project regulation incorporated a reduction to 900 hooks for medium sized vessels and 1,500 hooks for big sized vessels; but these reductions are still being contested.

¹² Although longlines also affect marine mammals, research suggests that they are less significant than other sources of marine mammal mortality. According to an August 2003 report by Dr. Juan Pablo Gallo of the Centro de Investigación en Alimentación y Desarrollo, A.C., most marine mammal mortalities in the region around Guaymas, Sonora are caused by shark nets (52%) and gill nets (24%), with propeller strikes (12%) being somewhat less significant, and fishing line (6%) and longlines (6%) being least significant.

¹³ Data derived from longline bycatch in 4 Mexican shark vessels from 1983-2002 in the Mexican Pacific points to an average capture per unit of effort (CPUE) of 0.25 sea turtles per 1000 hooks for a total of 148 sea turtles (Santana y Valdez 2003). Capture of sea turtles during research cruises to evaluate longline use for the swordfish fishery in the Mexican Pacific from 1999-2000 showed a CPUE of 0.39. INP has provided the following information regarding sea turtle CPUE on shark longlines in the Mexican Pacific: 1994—0.69/1000; 1995—0.15/1000; 1997—0.25/1000; 1998--0.17/1000; 2000—0.24/1000; 2001—0.02/1000; 2002—0.24/1000; 2003—0.60/1000.

Assuming that all shark vessels captured sea turtles and have an average CPUE of 0.25/1000, and using the number of medium sized vessels believed to be operating in the Gulf shark fishery (93), there would be an annual capture of 3,952 sea turtles. Mind you, this is a very gross extrapolation that assumes that all 93 vessels are using the same fishing gear, same number of hooks and sets, fish in the same general areas and have the same CPUE.

Capture of sea turtles by longlines does not mean mortality. The mortality estimated in the Hawaii tuna and swordfish longline fishery was on average 17.5 of all marine turtle encounters (Kleiber, 1998; McCracken, 2000). In the data by Santana (2003) the mortality in 1994 was 12% of the total. The swordfish longlines in Mexico presented a mortality of 0 for a total of 44 sea turtles captured during 132 sets (INP 2001). A total of 189 sea turtles were caught during the 8 years of the INP data for shark longlines with a mortality rate of 3.7% (INP 2001)

Using the mortality rates from the data for Mexico (3.7% - 12%) and extrapolating it to the estimated 3,952 sea turtles, would give a mortality in the range of 153- 470. Some people argue there are 200 vessels, which would mean doubling this last estimate. These estimates give us a rough idea of how many sea turtles are being captured and how many die in longlines.

The capture of sea turtles in the shark fishery will be further decreased by the use of big circle hooks in the gangions nearest to the bouys and setting the hooks below the 40 meter depth line. Circle hooks of 18/0 decrease bycatch of sea turtles by 88% and billfish by 33% (Watson 2002 and 2003). **Research in the U.S. shows that a combination of all hooks being 18/0 circles and the use of mackerel bait (North Atlantic waters) to get redux --- not just hooks nearest bouys ..note previous comments!** Juvenile loggerheads spent 99% of the time in the 40 meter range of the water column, with 50-67% of their time in the 2 meter range (Morreale and Ryder 2003) Sea turtles spent 90% of their time in the 40 meter layer of the sea (Boggs 2003). The use of circle hooks and fishing depth of 40 meters were proposed by Defenders and were incorporated to the project regulation during the 9th and 10th meeting in May and June respectively for the medium and big sized vessels. The proposal by Defenders, CEMDA and Comarino of July requests that these measures be mandatory for artisanal fisheries as well. Just with these two measures, sea turtle captures can be decreased by around 90%. **Longlines @ 40 meters will fish at a maximum of 40 m. for a couple of the deepest hooks per set only some of the time ---- the line will actually be mostly at less than 40 M. because it will react to fish captures and current shearing to drift to shallower depths – this is a very overly optimistic scenario --- and it ignores the fact that the 30 mile longline allowance will increase turtle interactions above present levels by increasing the use of this gear ---- ANYWAY ---- despite the best possible enforcement efforts by Mexican authorities sea turtles are still easily available in the market place at prices of ~ \$100 - \$200 per turtle. This financial incentive is very strong and many fishers will likely keep every turtle they catch unless a credible observer is onboard --- the creation of a new longline fishery in the Gulf of California alone will allow for an increase in sea turtle mortality --- perhaps if the catch is high enough prices will go down, but it is unlikely that the black market demand will diminish --- the only effective way to prevent an increase in sea turtle mortality is to not allow the use of this gear to increase turtle catches above current levels...**

The mortality of captured sea turtles will also be decreased by the use of circle hooks. Research in the Atlantic demonstrated that circle hooks caught on the lower mandible in 90% of the cases (Bolten 2003). J or Norwegian hooks will hook most of the time in the upper mandible or the esophagus of sea turtles where they can cause serious damage that can lead to the death of the animal. By using circle hooks, extraction is easier in the lower mandible and it causes no serious damage, thus reducing direct mortality and post release mortality.

Direct and post release mortality will also be reduced by using special dehooking and line cutting tools, use of resuscitation and liberation techniques and the training of the crew in the use of these tools and techniques through the mandatory participation in training workshops. We believe that providing adequate training and equipment to fishers is one of the most important methods for reducing sea turtle mortality associated with bycatch. Defenders proposed the incorporation of these provisions in NOM-029 and we are actively working to provide the training and dehooking equipment necessary to make the provisions work.

In conclusion, extrapolations from available data suggest that thousands of sea turtles may be captured in longlines but total mortality levels are low. With the use of gear modifications, fishing methodology, liberation and handling of captured sea turtles, there will be a very significant decrease in captures and mortalities of at least 90%. By adding the area protections for nesting and feeding sites, as well as those for marine mammals where sea turtles are also found, bycatch will be further reduced. And by adding the area bans for the different fisheries already included in the project regulation, a further reduction can be expected. Together, we believe these measures will bring Mexico much closer to the ultimate goal of zero mortality for leatherbacks and very low mortality for other sea turtle species.

Conclusion

Defenders of Wildlife is committed to the conservation of Mexico's remarkable biological diversity. Over the last several years, we have invested tremendous resources to fulfill that commitment. In so doing, we have consistently worked in close collaboration with local NGO partners and constantly strived to build new partnerships with organizations that share our conservation goals and philosophy. To date, we have been proud of our accomplishments in this regard. For that reason, I consider it deeply unfortunate that our relationship with Amigos del Mar has had such a rocky beginning.

Having invested many years in the protection of the marine environment generally, and the upper Gulf particularly, Defenders is dedicated to finding workable, achievable solutions to the conservation challenges facing those environments. I believe our work on NOM-029 reflects that dedication. Through NOM-029, we have worked to bring Mexico's destructive shark fisheries within the comprehensive and effective management framework that it sorely needs but currently lacks. As I hope this letter demonstrates, we have made great progress in this regard. We are not deceived that NOM-029 is perfect, or even nearly-perfect; but the changes that have been made to date represent a vast improvement on the status quo. Defenders has proposed still more changes we believe are necessary to make NOM-029 workable and sustainable. But with each new measure we propose, we must be increasingly conscious of the trade-offs that may be required to achieve it. Should it decide that the shark fishery is being regulated beyond what is strictly required by law and science, Mexico's Normativity Committee will begin cutting away provisions it feels unnecessary. In this regulatory and political environment, we must consider carefully whether the risks of proposing any new measure could outweigh its potential benefits. The proposals set out in our fifth proposal document and explained in this letter represent our best thinking on that difficult balance.

In writing this letter, I have tried to address fully the concerns of Amigos as I understand them. I have also explained in the greatest possible detail the nature of our current position regarding NOM-029, and the process by which we arrived at that position. I hope that, in doing so, I have provided a foundation from which we may move forward in a more collegial and constructive manner.

Sincerely,

Carroll Muffett
Director of International Programs