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Carliane Johnson, Acting Permit Coordinator
Gulf of the Farallones National Marine Sanctuary
The Presidio, 991 Marine Drive, San Francisco, CA 94129

Dear Coordinator Johnson:

I am writing in regards to the two documents published; Independent Review of 2009 white shark tagging and the Draft Environmental Assessment. On August 12th of this year I wrote and submitted in person to the GFNMS a comprehensive letter addressing concerns regarding continued Great White Shark research being done by MarineCSI and Dr. Domeier. That letter in addition to presenting detailed concerns also doubled as a public petition. I have attached it for your reference and urge you to familiarize yourself with it prior to reading this letter.

I have read both documents and would like to address them and the information they present. Unfortunately, because of the short time frame of being notified of these documents to when a response is due, I will need to summarize much more than provide a fully comprehensive and detailed letter outlining each point in the EA. Please take the few examples I will give as a sampling of my overall thoughts on the document in whole.

The Independent Review of the 2009 white shark tagging

This document addresses the 4 questions presented effectively. It is written in a scientific, detailed, comprehensive, and unbiased manner. It fully answers the questions it was presented and outlines the knowns and unknowns clearly. This document is a valuable asset and should hold much weight in consideration to the permitting process. It should be the model for future documentation for similar concerns and issues in the future.

The Draft Environmental Assessment

I will preface my comments with the fact that I have written a comprehensive EIR myself and have much experience in writing factual unbiased reports.

My initial overall impression of this document is it has been written in a manner biased towards favoring the permitting. There are numerous statements, references, grammatical usage, and lack of fact equality that keep it from being a "neutrally fact presenting document". Additionally, the fact that an Environmental Assessment on Dr. Domeier's permitting was co-written by Dr. Domeier himself invalidates its neutrality in itself. Although Dr. Domeier has provided a thorough amount of factual research in the studies of Great White Sharks, this document provides both his own verified data sources but also his own unverified facts and information are used to validate favoring the permitting.

Additionally, it is important that the preparers are not themselves biased towards the focus of the EA. I do not know what relationship or knowledge of Dr. Domeier the other preparers have, but it would be extremely important to make sure there was no pre-EA biased opinions or other type business or scientific relationship between the preparers and the subject. This would be the same as a Judge giving sentence to a family friend.

In writing an EA, this document should have been written without Dr. Domeier's assistance as well as kept his data sources out of the assessment to maintain neutrality. A separate page should have been attached as an addendum outlining his verified data sources as reference only, not used as a basis for hypothesis formulation or overall recommendation.

I. Examples

1) The biasing can be seen in the very beginning of the document on page 5:

In total, Dr. Domeier has deployed more than 500 pop-up satellite tags, 78 of these on white sharks. He has also surgically implanted over 100 electronic tags (both acoustic and archival tags) on marlin, white seabass, giant sea bass, bluefin tuna, tiger sharks, kelp bass, California sheephead, goliath grouper and California halibut. He

has attached near real-time satellite transmitters, the type of tag that would be used for this project in the GFNMS, on dozens of marlin and white sharks (Domeier, unpubl. data).

This statement is unverified and makes Dr. Domeier sound like his experience should leave his methods and decisions unquestionable. To lead a paper with this instantly biases the reader.

To provide a true neutral background, it would have needed to be worded something like this…

Dr. Domeier has been documented with deploying more than 500 pop-up satellite tags, 78 of these on white sharks, for 'X' number of years. He has been documented with deploying 'X' number of satellite tags, 'X' of these on white sharks, for 'X' number of years. Two of these satellite tags were deployed on white sharks within the GFNMS. He has recorded data from 'X'% of these tags for 'X' number of years. 'X' number of these tags are still operational. He is still tracking and recording data on 'X' number of these tags.
END

This information is irrelevant:

He has also surgically implanted over 100 electronic tags (both acoustic and archival tags) on marlin, white seabass, giant sea bass, bluefin tuna, tiger sharks, kelp bass, California sheephead, goliath grouper and California halibut.

His experience surgically implanting electronic tags in fish is irrelevant to the current capture and tagging technique for the sharks in the GFNMS and should not be presented, at least in this portion or format.

The following portion should not be presented:

He has attached near real-time satellite transmitters, the type of tag that would be used for this project in the GFNMS, on dozens of marlin and white sharks (Domeier, unpubl. data).

It is unpublished and unverified.

If an accurate background of Dr. Domeier is to be presented, it should be done in a separate section dedicated to the "Permitee Background and Experience". Present all of this info AND his complaints, failures, and controversies to provide a fully comprehensive picture.

2) On page 34 a segment on risk to pregnant females shows again biasing towards the permitting.

If a female with a late-term pregnancy were captured there could be a risk of causing the fetal sharks to be aborted due to the pressure of the shark's own weight out of water, but pupping is documented to occur in early summer (Klimley, 1985). Unpublished reproductive hormone data indicate that the females tested at the Guadalupe Island adult aggregation sites are not pregnant. It is unlikely but not conclusive that females would be pregnant during the season of capture and tagging. It is also unlikely that female white sharks at the Farallon Islands are carrying late-term embryos given that they do not arrive until after the expected time of pupping. Hormonal analysis from blood samples taken from the sharks during the study would be useful information to confirm the females' pregnancy status.

It should have been written something like this...

Pupping has been documented to occur in early summer in (Locations). Unpublished and unverified reproductive hormone data indicate that the females tested at the Guadalupe Island adult aggregation sites are not pregnant. There is no known factual pupping season for Great Whites at Farallones. There is no known factual breeding season or grounds known for the population at Farallones. There is not enough evidence to provide probability of capturing a pregnant Great White shark in the specific region of the Farallones. If a female with a late term pregnancy were captured there could be a risk of causing the fetal sharks to be aborted due to the pressure of the sharks own weight out of water.

3) On page 38 incomplete assessment and data can be read.

Photographic data of SPOT-tagged sharks, taken years after tagging, show there has been very little fouling and no necrosis on the fin.

It should have been written something like this…

To accurately assess the impact of the tags on the fins, they must be compared to known data. The structure of the fin of an adult Great White Shark can be most similarly compared to the structure of a female Orca, Whale Shark, and Basking Sharks. Data involving fin necrosis with these species shows it can take up to 'X' number of years to visualize necrosis from defects. Photographic data of SPOT-tagged sharks were taken 'X' number of years after the tags were placed. Photos show there has been no necrosis on the fin. Minimal fouling to the tag in the form of ?(paint chips, rust, etc.) was observed. To properly assess the potential for necrosis, photographic assessment should be conducted at 'X' number of years after tag placement based on similar species models.

This provides a true comparison and validates timeframes. It provides a mark for when proper assessment of necrosis should occur or has occurred.

4) On page 40 incomplete assessment and data can be read:

Existing permitted white shark research activities are not capable of determining the location of females in the years they are absent from the GFNMS.

It should have been written something like this…

Existing permitted white shark research activities are not capable of determining the location of females in the years they are absent from the GFNMS with current technology. Based on progressive data of technological advancements, this data could be acquired with alternative methods to SPOT tagging within the next 'X' years.

This provides a clear picture that the advancement of technology could provide alternatives to SPOT tagging within a timeframe that could alter the decision making process for prioritizing and permitting SPOT tags.

Although there is a great deal of valid, unbiased, complete data provided in this draft EA, there is also too much biasing, incomplete data, incomplete comparisons, and incomplete and/or biased assessment to make this document a true neutral EA. Not being a neutral EA invalidates it as reference document that could be used to make a critical decision affecting the population of Great Whites in the GFNMS. With as specialized and fragile a creature as the White Shark, it is imperative that decisions made are based on complete and accurate data. This EA should be re-written by writers unbiased and unconnected with Dr. Domeier (the same writers if this is the case now) and devoid of all parts Dr. Domeier had part in writing or formulating. All references using Domeier's sources should be excluded and added as an addendum. True models of X vs. Y should be made. Predictions and theories should be made using complete X vs. Y comparisons. All X vs. Y comparisons should be kept complete in summaries and recommendations as well.

This document is not a true neutral EA and should be written to represent one. It should not be considered in Dr. Domeier's permitting in its current form.

-Chris Hartzell