

Status of Proposed Research Permit: Long-Term Tracking of Adult White Sharks

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Gulf of the Farallones National Marine Sanctuary**

***Background and Update to the
Gulf of the Farallones Sanctuary Advisory Council
May 12, 2011***



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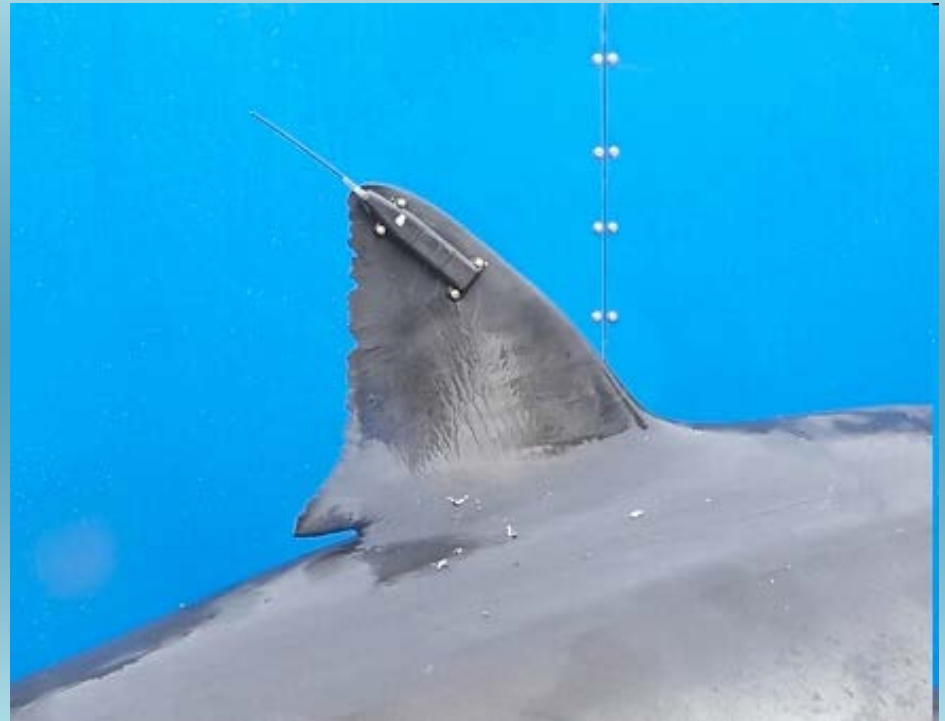
Timeline of Activities

- Sept. 24, 2009 – permit issued to attract white sharks around the Farallon Islands. This allowed Dr. Domeier to:
 - Attach ‘SPOT’ satellite tags to 10 individuals.
 - Collect blood and DNA samples.
- One condition stipulated that all activities would stop and the sanctuary notified if a shark is killed or injured.



Satellite Tag

- 6 inches long
- 1 inch wide
- 0.75 inches thick.

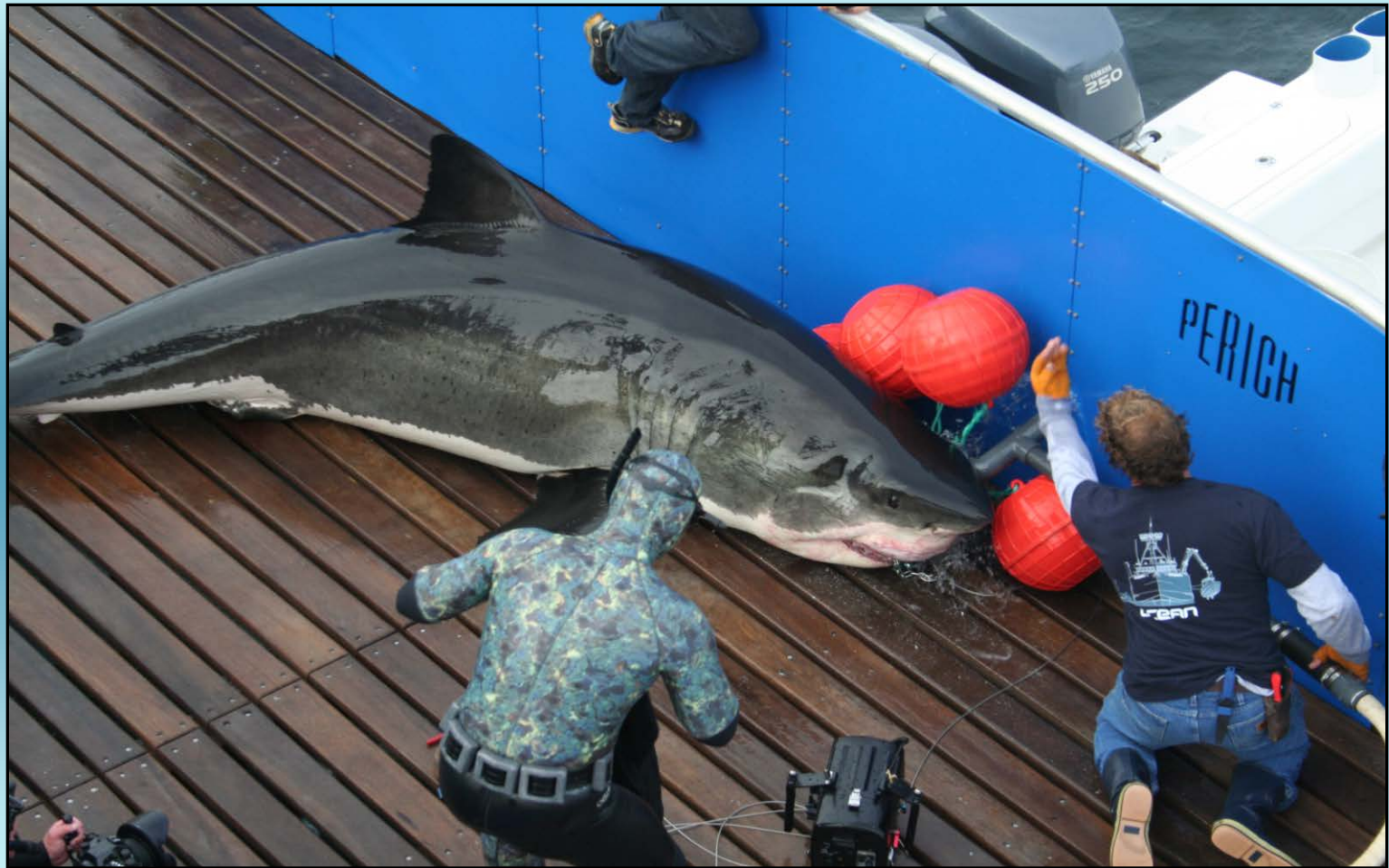


Timeline of Activities

- Oct. 29, 2009 – Dr. Domeier captures first male white shark (14 feet).
- The hook is deep set - not in the jaws but at the back of the mouth.
- A small (7”) buoy is taken into the mouth.
- Following tagging & release, the shark departs the Farallones around Dec. 13.



First Farallon Tagged Shark



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First Farallon Tagged Shark



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First Farallon Tagged Shark



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First Farallon Tagged Shark



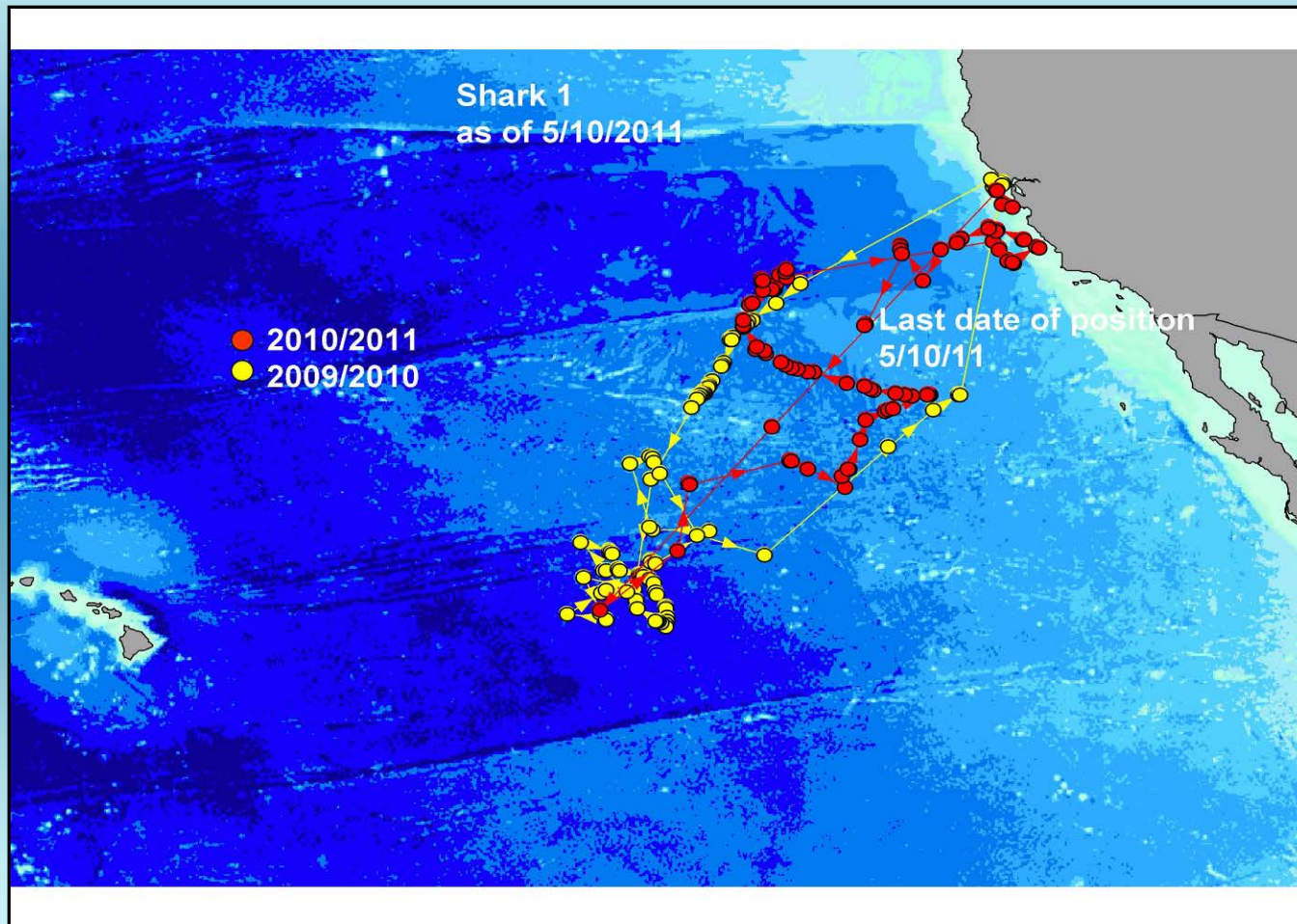
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First Farallon Tagged Shark

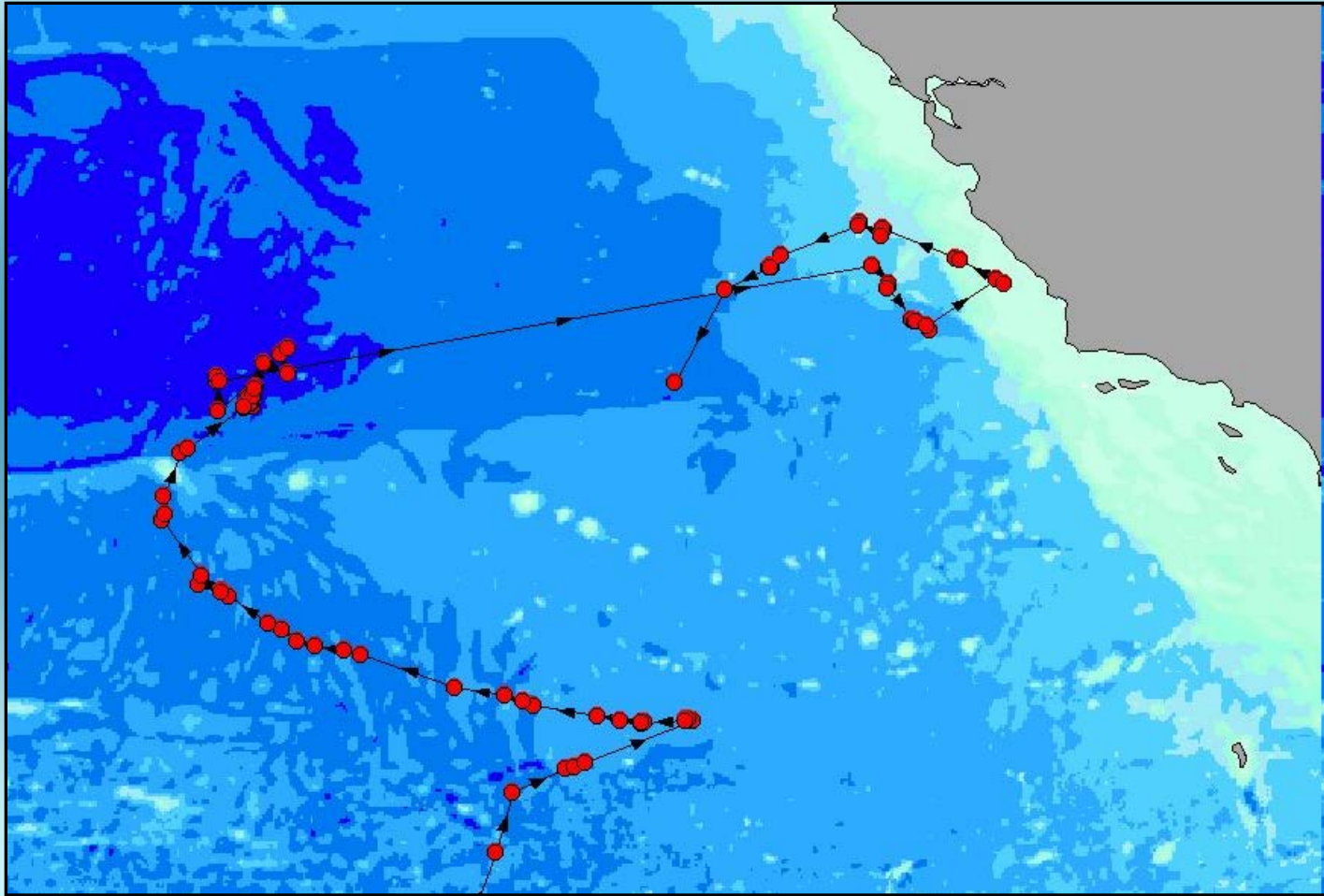


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First Farallon Tagged Shark



First Farallon Tagged Shark



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Permit Suspended

- Dr. Domeier contacted the superintendent about the deep hooking of the first shark.
- Consultations occurred between the research team and sanctuary officials.
- Modifications made to the methods that included using a barbless hook and keeping the hook at the surface.
- Project allowed to resume.

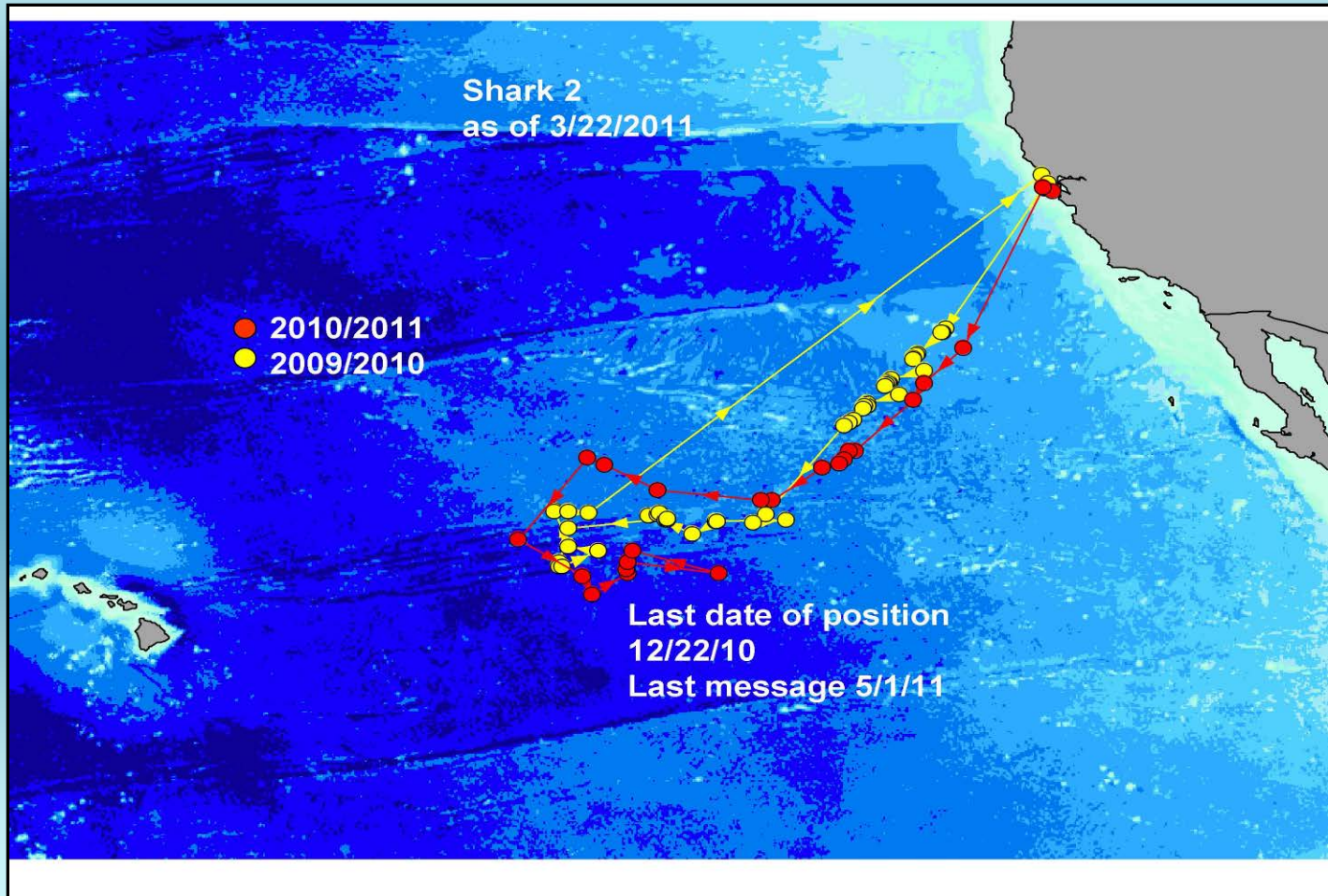


Timeline of Activities

- Nov. 2, 2009 – Dr. Domeier captures second male white shark (14.8 feet).
- Shark is hooked in the corner of the mouth.
- Following tagging & release, the shark departs the Farallones around Nov. 8.
- Orcas present and sightings data indicate no records of sharks after Nov. 8.



Second Farallon Tagged Shark



Independent Review (IR)

- Began dialogue with NMFS SW Fisheries Science Center and SW Regional office.
- Questions posed: Status of the sharks? Any behavioral changes? Long-term effects? Changes to the methods used?
- IR published Sept. 17, 2010 and posted to:

http://farallones.noaa.gov/eco/sharks/pdf/independent_review_sept_2010.pdf



Permit and Application

- May 19, 2010 – GFNMS received request for 4-year extension of the project and the tagging of 8 females and 3 males.
- Decision is made to prepare an environmental assessment (EA).
- Oct. 1 – existing permit expires.



National Environmental Policy Act (NEPA)

- Given the threshold criteria, determine whether an assessment is necessary if:
 - Effects are likely to be highly controversial.
 - The possible effects are highly uncertain or involve unique or unknown risks.
- Prepare the assessment to determine whether an activity is “significant” based on the context and intensity of the effects.



Contributors to the EA

- Carliane Johnson (principal author)
- Michael Domeier (contributing author)
- NOAA Staff (reviewers and contributors)
- Subject Matter Experts
 - Fisheries management scientists
 - Pathologists
 - Veterinarians – specifically large fish specialists
 - Shark tagging researchers on the East and West coasts
 - White shark husbandry
- The public (during review of draft EA) and the blogs

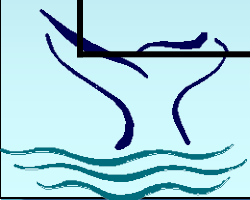


EA Analysis and Process

- Sept. 28, 2010 – draft EA published.
- Oct. 12 – first tagged white shark is video taped near the Farallon Islands.
- Oct. 15 – comment period ends.
- Oct. 27 – A viewing of the video is conducted with NMFS and CA Dept of Fish and Game.
- Feb/Mar. 2011 – additional consultations with white shark researchers and others.



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Public Controversy

- Mar. 9, 2011 – Chapple *et al.* paper on first estimate of abundance is published, which generates media interest.
- ~Mar. 17 – pictures of the 1st tagged shark appear on the web.
- Additional media inquiries and public requests are made to release the video.
- May 2 – Video and narrative posted to GFNMS web site:

http://farallones.noaa.gov/eco/sharks/sharks_video.html



Photos posted to blogs



Video of Shark #1



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Video of Shark #1



Two Sharks with Injuries



Guadalupe Shark in 2003 and 2005



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Shark with Injuries



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What's Next?

- 2nd draft EA is under internal review.
- Will re-issue with new information about the video and additional analysis.
- 30-day public comment.
- Final record of decision.



The Environmental Assessment

- Purpose and need
- Significance of effects
- Assessment of risks
 - To individuals
 - To the population
- Assessment of benefits
 - What is the value from the scientific findings?
- Does it need to happen in a sanctuary?



The Environmental Assessment

- The Farallon Islands are one of the few known white shark aggregation sites in the world.
- Long-term residency in the open ocean has not been documented in other white shark groups.
- The purpose of their long-range (>2,000-mile) migrations is not known.
- Female residency and their pupping sites are not known.
- Spatial distribution of males and females is not known.



The Environmental Assessment

- No protective measures for the conservation of white sharks on the high seas.
- Biological and behavioral information about white sharks remains lacking.
- Environmental factors (such as pollution or habitat loss) might affect the population.
- Lack of information on the vulnerability level and potential threats to the population in all areas of its range.

