

# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003

IN REPLY REFER TO:  
08EVEN00-2014-TA-0026

November 5, 2013

Doug Bosco, Chair  
Coastal Conservancy  
1330 Broadway, Suite 1300  
Oakland, California 94612

Dear Mr. Bosco:

The U.S. Fish and Wildlife Service (Service) encourages the California Coastal Conservancy (Conservancy) to fund the research proposal entitled "The dead DO tell tales! Investigating sea otter mortality patterns (1998-2012): Year 2."

The proposed research will update our understanding of disease processes and the major causes of mortality of federally threatened southern sea otters (*Enhydra lutris nereis*) in California and may serve to identify specific high-risk areas for focused mitigation. Anticipated products include: 1) an updated review of mortality trends for sea otters stranding along the California coast; 2) detailed information on novel disease syndromes that have been identified since the last comprehensive mortality review was completed more than a decade ago; 3) identification of high-risk areas for pollution-associated sea otter mortality that could be amenable to environmental mitigation; and 4) investigation of potential synergistic effects between toxins and pathogens that are commonly present concurrently in stranded sea otters.

A more current picture of the causes of mortality of sea otters in California is very much needed. In the absence of such a picture, older analyses continue to be cited even though they may no longer accurately represent mortality trends. Data collected in the course of this study will help us to evaluate more precisely the impacts of land-based pollution on southern sea otter recovery and will provide important information to guide sea otter conservation efforts. We believe that the proposed research represents an important and appropriate use of the sea otter tax check-off funds administered by the Conservancy, and we look forward to facilitating the efforts of Dr. Miller and her team in completing this important work.

Please do not hesitate to contact Lilian Carswell, of my staff, at (805) 612-2793 if you have any questions.

Sincerely,

Stephen P. Henry  
Acting Field Supervisor



Exhibit 2: Project Letters  
U.S. Department of the Interior  
U.S. Geological Survey  
Western Ecological Research Center  
Santa Cruz Field Station



To: Mr. Doug Bosco, Chair  
Coastal Conservancy  
1330 Broadway, Suite 1300  
Oakland, CA 94612

November 01, 2014

Dear Mr. Bosco,

I'm writing to express strong support for the 2013-14 Coastal Conservancy Sea Otter Recovery Program research proposal entitled: "**The dead DO tell tales! Investigating sea otter mortality patterns (1998-2012): Year 2**".

The broad objectives of the proposed research are to update our collective understanding of disease processes and major causes of mortality for Southern sea otters in California and to identify specific high-risk areas for focused mitigation. Anticipated products include 1.) an updated review of mortality trends for sea otters stranding along the California coast; 2) detailed information on novel disease syndromes that have been identified since our last comprehensive mortality review was completed more than 10 years ago (e.g., viruses); 3) identification of high-risk areas for pollution-associated sea otter mortality that could be amenable to environmental mitigation; and 4) investigation of potential synergistic effects between toxins and pathogens that are commonly present concurrently in stranded sea otters.

As the project lead for all federal research on southern sea otters, I strongly support the need for updated research on causes of mortality for threatened sea otters in California. My research team and I look forward to collaborating with Dr Miller and her team in completing this important work. Data collected during the course of this study will provide invaluable information to guide sea otter conservation policy and help us to more precisely evaluate impacts from land-based pollution on Southern sea otter recovery.

Sincerely,

Dr. M. Tim Tinker  
Research Biologist, Field Station Principal Investigator,  
and Adjunct Professor of Ecology and Evolutionary Biology, UC Santa Cruz



State of California - The Natural Resources Agency  
Feasibility and Project Letters  
DEPARTMENT OF FISH AND WILDLIFE  
Office of Spill Prevention and Response  
Marine Wildlife Veterinary Care & Research Center  
1451 Shaffer Road  
Santa Cruz, CA 95060  
<http://www.dfg.ca.gov/ospr>

EDMUND G. BROWN JR., Governor  
CHARLTON H. BONHAM, Director



Mr. Doug Bosco, Chair  
Coastal Conservancy  
1330 Broadway, Suite 1300  
Oakland, CA 94612

October 31, 2013

Dear Mr. Bosco:

I'm writing to express strong support for the 2013-14 Coastal Conservancy Sea Otter Recovery Program research proposal entitled: **"The dead DO tell tales! Investigating sea otter mortality patterns (1998-2012): Year 2."**

The broad objectives of the proposed research are to update our collective understanding of disease processes and major causes of mortality for Southern sea otters in California and to identify specific high-risk areas for focused management actions. Anticipated products include 1) an updated review of mortality trends for sea otters stranding along the California coast; 2) detailed information on novel disease syndromes that have been identified since our last comprehensive mortality review was completed more than 10 years ago (e.g., viruses); 3) identification of high-risk areas for pollution-associated sea otter mortality that could be suitable for restoration or other management actions; and 4) investigation of potential synergistic effects between toxins and pathogens that are commonly present concurrently in stranded sea otters.

As the Director of the CDFW's Marine Wildlife Veterinary Care & Research Center, I strongly support the need for updated research on causes of mortality for threatened sea otters in California. I look forward to collaborating with this research team to complete this important work. Data collected during the course of this study will provide invaluable information to guide sea otter conservation policy and help us to more precisely evaluate impacts from land-based pollution on Southern sea otter recovery.

Sincerely,

Laird Henkel  
Senior Environmental Scientist



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## MONTEREY BAY AQUARIUM

November 01, 2014

Doug Bosco, Chair  
Coastal Conservancy  
1330 Broadway, Suite 1300  
Oakland, CA 94612

Dear Mr. Bosco,

I urge you to fund the research proposal entitled, “The dead DO tell tales! Investigating sea otter mortality patterns (1998–2012): Year 2,” submitted by Melissa Miller, Tim Tinker, and Stori Oates to the 2013–2014 Coastal Conservancy Sea Otter Recovery Program.

This project will update our collective understanding of disease processes and major causes of mortality for southern sea otters in California and will identify specific high-risk areas for focused mitigation. Anticipated products include 1) an updated review of mortality trends for sea otters stranding along the California coast; 2) detailed information on novel disease syndromes (e.g., viruses) that investigators have identified since the completion of the last comprehensive mortality review more than a decade ago 3) identification of high-risk areas for pollution-associated sea otter mortality that policymakers and managers can target for environmental mitigation; and 4) investigation of potential synergistic effects of toxins and pathogens found in stranded sea otters.

As the manager of the Sea Otter Research and Conservation program at the Monterey Bay Aquarium, I understand the importance of having updated research on causes of mortality for threatened sea otters in California. Project investigators have worked hard over the past two years to examine retrospective cases and complete testing on archived tissues. My team will collaborate with and support the project investigators in finishing this vital work so that we have the information we need to guide sea otter conservation policy and priority research.

Sincerely,



Andrew B. Johnson, Manager  
Sea Otter Research and Conservation  
831-648-7934  
[ajohson@mbayaq.org](mailto:ajohson@mbayaq.org)

Exhibit 2: Project Letters



[www.seaotters.org](http://www.seaotters.org)  
[info@seaotters.org](mailto:info@seaotters.org)

Friends of the Sea Otter  
A Nonprofit Organization  
P.O. Box 959  
Moss Landing, CA. 95039  
831-726-9010

Mr. Doug Bosco, Chair  
California Coastal Conservancy  
1330 Broadway, Suite 1300  
Oakland, CA 94612

October 30, 2013

**RE: Support for Sea Otter Proposal**

Dear Mr. Bosco,

I'm writing on behalf of Friends of the Sea Otter (FSO) and our over 5,000 members and supporters to express strong support for the 2013-14 Coastal Conservancy Sea Otter Recovery Program research proposal entitled: **"The dead DO tell tales! Investigating sea otter mortality patterns (1998-2012): Year 2"**.

The broad objectives of the proposed research are to update our collective understanding of disease processes and major causes of mortality for Southern sea otters in California and to identify specific high-risk areas for focused mitigation. Anticipated products include 1.) an updated review of mortality trends for sea otters stranding along the California coast; 2) detailed information on novel disease syndromes that have been identified since our last comprehensive mortality review was completed more than 10 years ago (e.g., viruses); 3) identification of high-risk areas for pollution-associated sea otter mortality that could be amenable to environmental mitigation; and 4) investigation of potential synergistic effects between toxins and pathogens that are commonly present concurrently in stranded sea otters.

FSO has continually advocated for and argued for the need for a program such as the one overseen by Dr. Melissa Miller from the Wildlife Veterinary Care and Research Center through the California Department of Fish and Wildlife. And, we also appreciate and support the work of Dr. Tim Tinker and his team. It is an obvious and critical need to understand what impacts sea otters and to try and use this information to mitigate threats to the sea otter population in California. FSO strongly supports the need for updated research on causes of mortality for threatened sea otters in California. We look forward to the results gained from Dr. Miller, Dr. Tinker and their team in completing this important work. Data collected during the course of this study will provide invaluable information to guide sea otter conservation policy and help us to more precisely evaluate impacts from land-based pollution on Southern sea otter recovery. And, this work is very important to the advocacy and environmental education work that FSO engages in.

Sincerely,

A handwritten signature in black ink that reads "Jim Curland". The signature is written in a cursive, flowing style.

Jim Curland, Advocacy Program Director  
Friends of the Sea Otter  
(831) 726-9010



DEPARTMENT OF FISH AND WILDLIFE  
Office of Spill Prevention and Response  
Marine Wildlife Veterinary Care & Research Center  
1451 Shaffer Road  
Santa Cruz, CA 95060  
<http://www.dfg.ca.gov/ospr>

Mr. Doug Bosco, Chair  
Coastal Conservancy  
1330 Broadway, Suite 1300  
Oakland, CA 94612

November 6, 2013

Dear Mr. Bosco:

I'm writing to express my strong support for the 2013-14 Coastal Conservancy Sea Otter Recovery Program research proposal entitled: **"Using sea otter ecology and habitat use in Elkhorn Slough to inform management."**

Continuing research recently initiated on sea otters in Elkhorn Slough will provide much-needed information on various aspects of sea otter ecology in this unique estuarine habitat. This information, in turn, will help inform specific conservation actions to help address threats to Southern sea otters, out outreach efforts will help in implementing conservation actions. The multi-disciplinary team conducting the project is eminently qualified to conduct this work, and the alliance of researchers and managers involved in Southern sea otter conservation agreed that this is an important project.

As the Director of the CDFW's Marine Wildlife Veterinary Care & Research Center, I strongly support this research and outreach project, which will directly support the goals of the California Sea Otter Fund.

Sincerely,

Laird Henkel  
Senior Environmental Scientist



**Monterey Bay  
Aquarium**

886 CANNERY ROW  
MONTEREY, CA 93940  
831.648.4800

November 7, 2013

Douglas Bosco, Chairman  
California State Coastal Conservancy  
1330 Broadway, 13<sup>th</sup> Floor  
Oakland, CA 94612

Dear Chairman Bosco:

I'm writing in support of Coastal Conservancy funding for phase two of an innovative research project in Elkhorn Slough that is examining the relationship between sea otter health and the health of the entire Slough ecosystem. This project, titled, "Using sea otter ecology and habitat use in Elkhorn Slough to inform management." is already revealing important findings that can be used to enhance the recovery of the threatened population of southern sea otters in California, as well as guide decision-making for a variety of uses that impact California's second-largest remaining salt marsh system.

The Monterey Bay Aquarium is proud to be a member of the multi-disciplinary team of experts that will carry out this effort over the next year, and we will devote significant staffing and other resources to support this important project. The Aquarium was also a proud sponsor of AB 2485, which established a much-needed funding source for research to help speed the recovery of sea otters in our state. This investigation into the health of Elkhorn Slough and its resident sea otters is exactly the kind of meaningful work that was envisioned for these funds.

Thank you for your leadership on behalf of ocean and coastal conservation in California. I respectfully urge your support for this research project.

Sincerely,

A handwritten signature in black ink that reads "Margaret Spring".

Margaret Spring  
Vice President of Conservation and Science  
Monterey Bay Aquarium

Exhibit 2: Project Letters



Mr. Doug Bosco, Chair  
Coastal Conservancy  
1330 Broadway, Suite 130  
Oakland, CA 94612

[www.seaotters.org](http://www.seaotters.org)  
[info@seaotters.org](mailto:info@seaotters.org)

Friends of the Sea Otter  
A Nonprofit Organization  
P.O. Box 959  
Moss Landing, CA. 95039  
831-726-9010

November 6, 2013

**RE: Support for Sea Otter Proposal**

Dear Mr. Bosco,

I'm writing on behalf of Friends of the Sea Otter (FSO) and our over 5,000 members and supporters to express strong support for the 2013-14 Coastal Conservancy Sea Otter Recovery Program research proposal entitled: **"Using sea otter ecology and habitat use in Elkhorn Slough to inform management."**

The multi-disciplinary team that will lead this project possesses the expertise and commitment to accomplish the proposed work, and the resulting data analysis will inform specific conservation-action recommendations—such as managing specific routes of land-sea contamination—that should encourage sea otter population growth and improve ocean health.

The proposed scope of research represents the kind of effort envisioned by the authors of Assembly Bill 2485 and for which the California Sea Otter Fund was established. The alliance of scientists, program managers, and conservationists working on sea otter recovery agrees that the resources available through the California Sea Otter Fund must support the proposed research project, and project investigators realize that the tax funds are critical to the project's success.

FSO has continually advocated for and argued for the need for such programs such as this one. It is an obvious and critical need to understand how sea otters use the Elkhorn Slough area in order to support strong management actions. Data collected during the course of this study will provide invaluable information to guide sea otter conservation policy. And, this work is very important to the advocacy and environmental education work that FSO engages in.

Sincerely,

A handwritten signature in black ink that reads 'Jim Curland'.

Jim Curland, Advocacy Program Director  
Friends of the Sea Otter  
(831) 726-9010