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**Central Coast Regional Water Quality Control Board**

July 10, 2018

University of Southern California  
Sea Grant Program  
California Ocean Protection Council  
c/o  
Margaret Zimmer, UCSC  
Email: [margaret.zimmer@ucsc.edu](mailto:margaret.zimmer@ucsc.edu)

***Sent Via Electronic Mail***

Dear Proposal Selection Committee:

**SUPPORT LETTER FOR DR. MARGARET ZIMMER'S SEAGRANT/OPC PROPOSITION 84  
COMPETITIVE GRANT PROGRAM PROPOSAL ENTITLED "LINKING TERRESTRIAL  
POLLUTION TO ESTUARINE WATER QUALITY: QUANTIFICATION OF THE ROLE OF  
GROUNDWATER IN TRANSPORT, TRANSFORMATION, AND REMOVAL OF  
AGRICULTURAL POLLUTANTS IN ELKHORN SLOUGH, CA."**

This letter documents our strong support for Dr. Margaret Zimmer's SeaGrant/OPC Proposition 84 Competitive Grant Program proposal entitled "*Linking terrestrial pollution to estuarine water quality: Quantification of the role of groundwater in the transport, transformation, and removal of agricultural pollutants in Elkhorn Slough, CA*".

Elkhorn Slough is a dynamic and complicated estuarine system with nutrient inputs from multiple surface water sources: ocean water inflow, Old Salinas River, and freshwater tributaries in the upper watershed. Loading from other sources, such as from the slough itself (nutrient flux from the sediment) and from groundwater has not been quantified. Dr. Zimmer's field-based research will help achieve accurate estimates of loading from these unknown nutrient load sources, which will strengthen current efforts to develop [Total Maximum Daily Load \(TMDL\) allocations at Elkhorn Slough](#).

Central Coast Regional Water Quality Control Board staff look forward to participating in phone and in-person meetings throughout various stages of the three-year grant cycle. During an initial meeting, we are committed to providing formative feedback to the project scientists on the details of the design and monitoring of the research project to ensure the outcomes and deliverables help inform current TMDL development and management efforts at Elkhorn Slough. During a mid-cycle meeting, we will provide feedback on the preliminary findings and identify key gaps or questions that could be addressed in the final half of the project duration. Finally, we will participate in a meeting in the final months of the project to learn about the final results and work to relay this information to relevant end-users and incorporate it into current and future water quality work within the Elkhorn Slough watershed.

In summary, we strongly support this research endeavor to both quantify unknown nutrient inputs as well as enhance collaboration among water quality scientists and water management

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DR. JEAN-PIERRE WOLFF, CHAIR | JOHN M. ROBERTSON, EXECUTIVE OFFICER

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practitioners within and beyond the Elkhorn Slough watershed, and will contribute towards its success.

If you have any questions, please feel free to contact Shanta Keeling at (805) 543-3464 or at [Shanta.Keeling@waterboards.ca.gov](mailto:Shanta.Keeling@waterboards.ca.gov).

Sincerely,



Digitally signed by Thea Tryon

Date: 2018.07.10 12:54:34

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for John M. Robertson  
Executive Officer

cc:

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ECM# 827979



July 30, 2018

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Sea Grant Program  
California Ocean Protection Council

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elkhornslough.org

Margaret Zimmer, University of California, Santa Cruz  
Email: Margaret.Zimmer@ucsc.edu

Dear Proposal Selection Committee,

This letter represents my strong support for Dr. Margaret Zimmer's SeaGrant/OPC Proposition 84 Competitive Grant Program proposal entitled "***Linking terrestrial pollution to estuarine water quality: Quantification of the role of groundwater in the transport, transformation, and removal of agricultural pollutants in Elkhorn Slough, CA***".

Elkhorn Slough is a dynamic and complicated estuarine system with nutrient inputs from multiple surface water sources: ocean water inflow, Old Salinas River and freshwater tributaries in the upper watershed. Loading from other sources, such as from the slough itself (nutrient flux from the sediment) and from groundwater has not been quantified. Dr. Zimmer's field-based research will help achieve accurate estimates of loading from these unknown nutrient load sources, which will strengthen current regional efforts to understand surface water-groundwater interactions, and groundwater-derived nitrate pollution into surface water bodies.

Elkhorn Slough Foundation staff has granted permission to conduct research on our property within the Elkhorn Slough watershed and look forward to participating in phone and in-person meetings throughout various stages of the three-year grant cycle. During an initial meeting, we are committed to providing formative feedback to the project scientists on the details of the design and monitoring of the research project to ensure the outcomes and deliverables help motivate and inform current water quality management efforts surrounding Elkhorn Slough. During a mid-cycle meeting, we will provide feedback on the preliminary findings and identify key gaps or questions that could be addressed in the final half of the project duration. Finally, we will participate in a meeting in the final months of the project to learn about the final results and work to relay this information to relevant end-users and incorporate it into current and future water quality work within the Elkhorn Slough watershed.

In summary, we strongly support this research endeavor to both quantify unknown nutrient inputs as well as enhance collaboration among water quality scientists and water management practitioners within and beyond the Elkhorn Slough watershed, and will contribute towards its success.

Sincerely,

*Mark Silberstein*

Mark Silberstein  
Executive Director





***PAJARO VALLEY WATER MANAGEMENT AGENCY***

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August 6, 2018

University of Southern California  
Sea Grant Program  
California Ocean Protection Council

Dear Proposal Selection Committee,

I am writing on behalf of the Pajaro Valley Water Management Agency (PV Water) to express support for Dr. Margaret Zimmer's SeaGrant/OPC Proposition 84 Competitive Grant Program proposal entitled ***"Linking terrestrial pollution to estuarine water quality: Quantification of the role of groundwater in the transport, transformation, and removal of agricultural pollutants in Elkhorn Slough, CA"***.

Elkhorn Slough is a dynamic and complicated estuarine system that receives nutrient inputs from both freshwater and seawater sources. Nutrient loading from the slough itself (nutrient flux from the sediment) and from groundwater has not been quantified. Dr. Zimmer's field-based research will help to quantify nutrient loading from these particular sources, which will strengthen regional efforts to understand surface water-groundwater interactions, and groundwater-derived nitrate pollution into surface water.

PV Water is working to learn more about surface water-groundwater interactions within the Pajaro Valley Groundwater Basin and is supportive of Dr. Zimmer's research proposal. In addition, PV Water will participate in the process, including in meetings throughout the three-year grant cycle to actively support the research. Staff are committed to providing constructive feedback to the project scientists on the details of the design and monitoring of the research project to help ensure the outcomes and deliverables help inform current groundwater management efforts in the Elkhorn Slough area. During a mid-cycle meeting, staff will review and provide feedback on the preliminary findings and identify key gaps or questions that could be addressed in the final half of the project duration. Finally, staff will participate in a meeting near the end of the project to learn about the final results. Staff will assist Dr. Zimmer in her effort to convey the results of the research to relevant stakeholders, and incorporate the results into future water quality work within the Elkhorn Slough watershed as appropriate.

In summary, PV Water supports Dr. Zimmer's research proposal to both quantify unknown nutrient inputs as well as enhance collaboration among water quality scientists and water management practitioners within and beyond the Elkhorn Slough watershed, and will contribute towards its success.

Sincerely,

Brian Lockwood  
General Manager