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COASTAL POLICY SOLUTIONS

WITH

MERKEL & ASSOCIATES



*An aerial view of Richardson Bay's eelgrass bed (Photo credit - 111th Air Squadron)*

# Statement of Qualifications

Richardson Bay Eelgrass Restoration Project

Prepared for: Brad Gross, Executive Director, Richardson Bay Regional Agency

Prepared by: Rebecca Schwartz Lesberg, President, Coastal Policy Solutions

Keith Merkel, Vice President, Merkel & Associates

August 11, 2023

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Dear Mr. Gross,

We are pleased to submit this statement of qualifications (SOQ) in response to the request for qualifications (RFQ) recently released by the Richardson Bay Regional Agency (RBRA). Coastal Policy Solutions (CPS) and Merkel & Associates (M&A) have joined together to provide you with the needed policy, planning, and technical expertise to achieve the project goals.

Over the past several years, RBRA has worked diligently to improve environmental and safety conditions within the Richardson Bay anchorage, including removing abandoned and derelict vessels, working collaboratively with social services agencies to relocate illegally anchored liveaboards (known locally as “anchor outs”), and establishing an Eelgrass Protection Zone (EPZ)/no anchor area within the bay. These efforts have created the largest eelgrass restoration opportunity in the San Francisco Bay Area. Damage from anchors, chains, and other ground tackle removed up to 80 acres of eelgrass in Richardson Bay. With vessels no longer allowed to anchor in eelgrass, the damage can be restored.

We commend RBRA and its partners for creating this restoration opportunity and congratulate you on being awarded nearly \$2.8 million from the US EPA’s San Francisco Bay Water Quality Improvement Fund for the “Richardson Bay Eelgrass Restoration Project” (the Project). From our understanding of the RFQ, RBRA is now in need of an expert consultant team to implement all aspects of the project – including, but not limited to, developing work plans, implementing restoration and engagement activities, processing invoices and reports to the funder, collaborating with partners, and overall serving as the face of the Project on behalf of and in close coordination with RBRA’s small staff.

We believe that, together, Coastal Policy Solutions and Merkel & Associates is unequivocally the most experienced team for implementing this historic project. A bit about us:

**Coastal Policy Solutions** has been working to protect eelgrass and other environmental resources in Richardson Bay since 2017 – first as a policy consultant with Audubon California on its project “Securing Pacific Herring and Eelgrass in San Francisco Bay” (with funding from the Gordon and Betty Moore Foundation) and most recently as the project lead for implementing RBRA’s Eelgrass Protection and Management Plan (EPMP), funded by the California Ocean Protection Council. Coastal Policy Solutions’ president, Rebecca Schwartz Lesberg, would serve as the primary consultant for this project. Ms. Lesberg is a marine scientist and policy specialist with over 15 years’ experience leading environmental conservation projects throughout California. She has raised and managed over \$5 million in state and federal funding, maintains an extensive network of collaborative relationships with Bay Area conservation professionals (including by serving on the Citizens Advisory Committee of the San Francisco Bay

Restoration Authority and as the Vice Chair of the San Francisco Bay Joint Venture), and excels at working with multidisciplinary partners to achieve lasting conservation success.

**Merkel & Associates** is nationally recognized for its eelgrass management and restoration expertise and has an unparalleled record with eelgrass restoration on the Pacific coast of North America. Merkel & Associates has completed over 100 successful eelgrass restoration projects through California involving planting 302 acres of eelgrass that has yielded over 640 acres of new eelgrass. The firm prepared the Ecologically-based Mooring Feasibility Assessment and Planning Study for RBRA and has completed five comprehensive eelgrass surveys in Richardson Bay since 2003. Over the past decade, Merkel & Associates has led considerable eelgrass restoration efforts in Richardson Bay and elsewhere in San Francisco Bay. These efforts led to a peak eelgrass restoration of 75.32 acres bay wide, with 58.61 acres being restored in Richardson Bay (including planting of 22 vacated vessel mooring scars since spring 2021). M&A's eelgrass restoration work within Richardson Bay has principally been conducted for federal and state agencies with funding through National Marine Fisheries Service and National Fish and Wildlife Foundation administering Cosco Busan Oil Spill Damage Assessment, Remediation, and Restoration Program (DARRP) funding for the Trustee Council. Presently, Merkel & Associates is working on redeveloping the San Francisco Bay eelgrass habitat suitability model in collaboration with Audubon California and Dr. Kathy Boyer, to replace the prior Ecological Limits, Viability and Sustainability (ELVS) eelgrass model that was developed by M&A in 2003 and used for the San Francisco Bay Subtidal Habitat Goals Project.

The proposed team provides the combination of knowledge of the project needs, experience, and expertise completing the type of work required, and a long history of performing similar services within Richardson Bay and for the RBRA. Further, the team has on-going and long-standing collaborative relationships with RBRA and its partners in the project effort, SFSU Estuary and Ocean Science Center's Boyer Laboratory and Audubon California, which will provide for a well-coordinated execution of the required work.

Thank you for taking the time to review this SOQ. We would love the opportunity to work on this historic project. Please do not hesitate to reach out if you have any questions. Rebecca (project manager) can be reached at 310-433-8410 or [rebecca@coastalpolycysolutions.com](mailto:rebecca@coastalpolycysolutions.com).

Sincerely,



Rebecca Schwartz Lesberg  
President, Coastal Policy Solutions



Keith Merkel  
Vice President, Merkel & Associates

Primary Consultant: Coastal Policy Solutions (105 Shoal Drive West, Vallejo, CA 94591)

Project Manager: Rebecca Schwartz Lesberg (310-433-8410; [rebecca@coastalpolycysolutions.com](mailto:rebecca@coastalpolycysolutions.com))

Note: No exceptions to the Insurance requirements and/or the Professional Services Agreement are anticipated.

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# TEAM ORGANIZATION AND EXPERIENCE

## Team Organization and Responsibilities

The project team for this effort will be Coastal Policy Solutions, led by Rebecca Schwartz Lesberg, working in close partnership with subconsultant Merkel & Associates, headed up by Keith Merkel. The resumes for Ms. Lesberg and Mr. Merkel are attached (Appendix 1). Ms. Lesberg will serve as the project manager and overall project coordinator as well as the policy and stakeholder engagement lead. She will be responsible for activities including but not limited to: invoicing the EPA and managing RBRA's ASAP.gov account, writing quarterly reports for the funder, facilitating coordination meetings with project partners (RBRA, Boyer Lab, Audubon), developing and implementing an Outreach and Engagement Plan (including facilitating necessary workshops) in close coordination with Audubon California, conducting any necessary policy review and writing, and engaging with external partners (e.g., U.S. Coast Guard, BCDC Enforcement Committee).

Mr. Merkel will serve as the lead for eelgrass restoration, remote sensing, and non-vessel marine debris removal. Mr. Merkel will be assisted by highly qualified field team leaders, including Kathy Rogers (Field Coordinator - 20 years eelgrass restoration experience, 52 eelgrass transplant projects), Jordan Volker (Dive Safety Officer, Senior Field Operations Manager, UAV Pilot - 16 years eelgrass restoration experience, 53 eelgrass transplant projects), Kees Schipper (Field Team Leader, UAV Pilot, USCG Captain - 14 years eelgrass restoration experience, 22 eelgrass transplant projects), and Shelley Petruccelli (Senior Sonar Specialist/GIS Specialist - 8 years eelgrass restoration experience, 14 eelgrass transplant projects). In addition, Merkel & Associates has a large marine division of 18 staff members with eelgrass restoration experience, including within Richardson Bay.

Mr. Merkel will lead activities including: preparation of the Restoration and Adaptive Management Plan (RAMP), eelgrass planting, including pre-planting season survey and planting site identification, CDFW permitting for restoration, transplant program planning and execution, semiannual (spring and fall) sidescan sonar surveys of the restoration site and other monitoring as outlined in the RAMP, identifying and removing non-vessel marine debris from the bay bottom to support restoration efforts, and incorporating adaptive management actions into annual restoration activities.

Coastal Policy Solutions and Merkel & Associates team have considerable experience working with the project partners of RBRA, Boyer Lab, and Audubon on similar activities. We can seamlessly integrate into the program.

## About Coastal Policy Solutions

Coastal Policy Solutions is a boutique consulting firm (and woman-owned small business) specializing in helping partners achieve meaningful, lasting conservation success. Established in 2017, we focus on collaborative solutions to complicated, multi-stakeholder issues. By identifying shared goals, despite sometimes differing motivations, we identify implementable actions for protecting California's natural resources for future generations. Our experience includes engaging with agency staff and elected officials to advance legislation, working with landowners to implement habitat management plans through community-based restoration, and more.

We have experience working with the California Coastal Commission, California State Coastal Conservancy, California Ocean Protection Council, San Diego Association of Governments, San Francisco Bay Conservation and Development Commission, Pacific Fisheries Management Council, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and more. We have worked on projects ranging from coastal dune and salt marsh habitat restoration to regional conservation planning, and have experience in grant writing, policy analysis, and stakeholder engagement.

Rebecca Schwartz Lesberg is the president and founder of Coastal Policy Solutions. For nearly a decade, Ms. Lesberg led on-the-ground conservation, restoration, and policy work with the Audubon Society, first as the Director of Conservation at San Diego Audubon and more recently as the San Francisco Bay Program Director for Audubon California. Prior to this, Rebecca served as Adjunct Faculty at the University of San Diego and was a Field Biologist for AMEC Foster Wheeler, an environmental consulting firm. With this varied background, Rebecca focuses on the intersection of science, policy, restoration, and community engagement to protect California's coastal environments. Since 2010, Rebecca has helped raise over \$5 million in grant funds to support conservation efforts across the state.

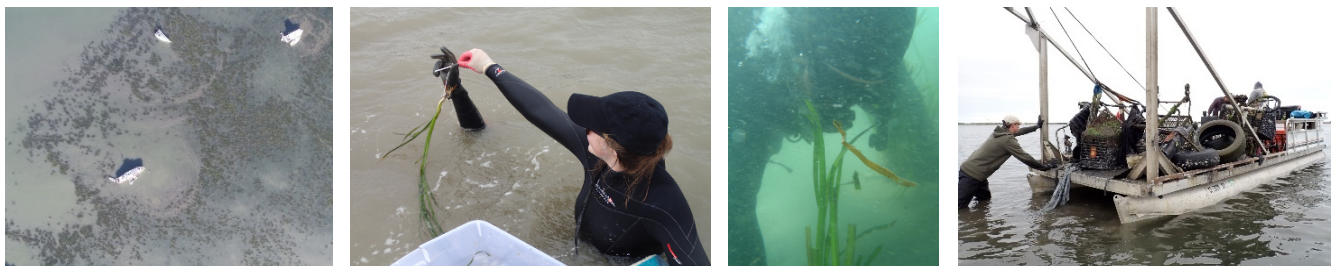
She holds a Bachelor of Science in Ecology from UC San Diego and a Master of Science in Marine Science from the University of San Diego. Rebecca has been published in the [San Diego Union Tribune](#) and featured in the [Los Angeles Times](#), and was awarded a 2014 President's Volunteer Service Award from President Barack Obama.

### About Merkel & Associates

Merkel & Associates is a woman-owned small business incorporated in California in 1994. The firm has extensive marine science and restoration expertise and has been working with eelgrass resources in San Francisco Bay since 1996. M&A has experience in preparation of multiple eelgrass restoration and management plans, including plans such as the EPA-funded Humboldt Bay Eelgrass Comprehensive Management Plan. The firm has unparalleled eelgrass restoration expertise and has led extensive and successful eelgrass restoration in Richardson Bay since 2013, working alongside its partner the Boyer Laboratory at the SFSU Estuary and Ocean Science Center. Further, M&A has experience conducting marine debris surveys and removal projects and has completed several such projects funded by NMFS, California Boating and Waterways, municipalities, and ports.

M&A has experience in survey, analysis, and restoration of vessel mooring scars in eelgrass. In addition to having completed planting within mooring scars in Richardson Bay over the past three years, M&A has also completed assessment of mooring damage, restoration potential, and recovery of mooring scars within Tomales Bay for the Greater Farallones National Marine Sanctuary and in Mission Bay for the City of San Diego. M&A is well staffed and equipped for the restoration work required and performs many acres of eelgrass restoration in any given year. Because of the extent of eelgrass restoration completed by M&A, the firm maintains an annually reauthorized permit with the California Department of Fish & Wildlife for eelgrass restoration in San Francisco Bay.

The work effort for Merkel & Associates will be led by Keith Merkel, who brings considerable expertise with marine habitat restoration and monitoring with a particular strength being with eelgrass habitat restoration and management. He leads the current restoration of eelgrass within Richardson Bay under funding from National Marine Fisheries Service and the NOAA Restoration Center. He is also leading eelgrass restoration and monitoring elsewhere in San Francisco Bay for the Army Corps of Engineers, California Coastal Conservancy, the interagency Cosco Busan Trustee Council, and various public and private clients. Keith has experience working with RBRA to advance water management efforts, coordinate with BCDC, and restore eelgrass in vacated mooring scars.

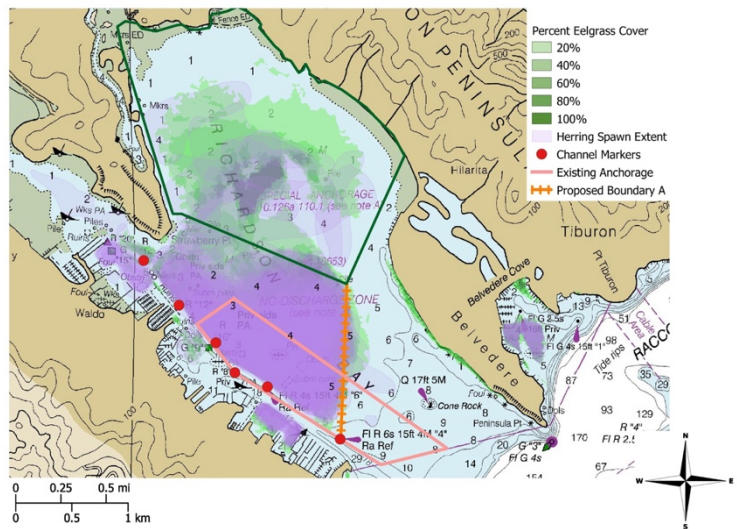


# RELEVANT WORK EXPERIENCE

## Coastal Policy Solutions – Relevant Work Experience

### Eelgrass Protection and Management Plan – Richardson Bay Regional Agency (2020-present)

Coastal Policy Solutions was retained by RBRA to implement eelgrass-related actions identified in the Agency's 2020 Transition Plan. For this work, CPS conducted a nine-month outreach and spatial planning process to develop an Eelgrass Protection and Management Plan (EPMP) for Richardson Bay. The goal of the EPMP was to establish boundaries for where anchoring can or cannot occur in Richardson Bay in order to protect eelgrass resources and prevent further damage to the bed from anchor scour. To develop the EPMP, CPS facilitated robust stakeholder engagement, including five 1.5-hr Zoom listening sessions targeting environmental groups, scientists, elected officials, marina operators, resource/regulatory agencies, and Richardson Bay mariners. These sessions engaged 40+ people from 20+ organizations, including the Bay Conservation and Development Commission, City of Sausalito, Regional Water Quality Control Board, Waldo Point Harbor, San Francisco State University, and others. From there, CPS conducted a robust policy analysis to understand the regulatory framework for developing a no anchor area in Richardson Bay. CPS then retained subconsultant experts to spatially map eelgrass and herring resources in Richardson Bay to identify priority areas for protection.



*Spatial planning map created for RBRA's EPMP, outlining the new eelgrass protection zone.*

The primary outcome achieved by this project was the 2021 adoption by the RBRA board of an official “Eelgrass Protection Zone” in Richardson Bay, the first of its kind on the west coast. This work led directly to RBRA being awarded over \$300,000 to implement the EPMP, including updating policy documents, baseline and annual habitat and waterbird monitoring, and conducting significant community outreach. CPS was retained by RBRA for this implementation, during which CPS has delivered all work on time and within budget. The implementation phase of this project has included all aspects of grant management for RBRA's state funder (CA Ocean Protection Council), including writing quarterly reports, preparing requests for disbursement to drawdown funds, and managing subcontractors.

### Abandoned and Derelict Vessel Removal in Richardson's Bay to Support Eelgrass Habitat Recovery – RBRA (2021-present)

Coastal Policy Solutions was retained by RBRA to provide project management services for this \$330,000 federal grant from the National Oceanographic and Atmospheric Administration. The purpose of this project is to remove at least 30 abandoned and derelict vessels (ADVs) and other large marine debris (e.g., docks, floats, floating homes, and other detritus) from Richardson Bay to support ongoing efforts by RBRA to improve conditions for eelgrass and wildlife in the bay. CPS was also retained to coordinate all project-related wildlife and habitat

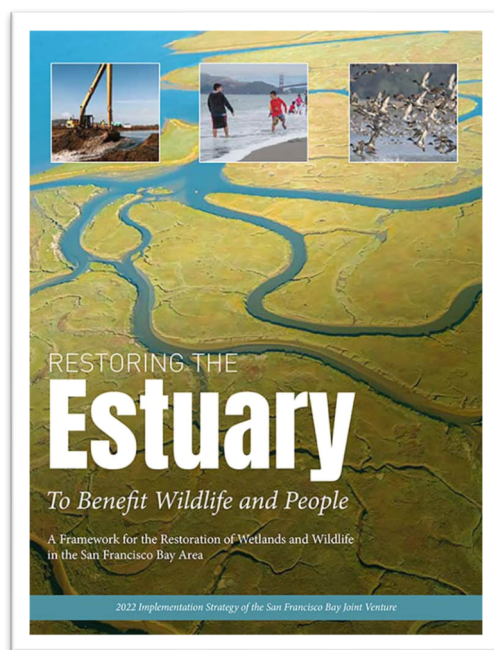
monitoring for the project. CPS's project management responsibilities include overseeing the project budget, processing drawdowns from RBRA's ASAP.gov account, preparing and submitting semi-annual financial and progress reports via grants.gov, and facilitating bi-monthly team meetings with RBRA and NOAA staff. CPS's wildlife and habitat monitoring responsibilities for the project include working with subconsultants Merkel & Associates and Audubon California to implement sidescan sonar surveys of the Richardson Bay eelgrass bed, annual aerial photography and eelgrass damage assessment, and drone surveys of rafting waterbirds in the bay. CPS synthesizes all wildlife and habitat monitoring data and results in presentations to the RBRA board of directors, BCDC Enforcement Committee, and other partners as needed.

### Conservation of Essential Nearshore Marine Ecosystems in California – Audubon California (2022-2023)

CPS was retained by Audubon California to provide policy advocacy services to advance statewide eelgrass protections for eelgrass in California as part of Audubon's overall Nearshore Marine Ecosystem project funded by the Pew Charitable Trust. CPS's responsibilities included reviewing monthly agenda from state wildlife and resource agencies (e.g., CA State Coastal Commission, CA Fish and Game Commission, CA Ocean Protection Council, CA State Coastal Conservancy) to identify opportunities for engaging on relevant policy items, writing detailed comment letters on proposed or pending policies and/or legislation, drafting talking points for partners to deliver in person at commission hearings and delivering additional public comments at these hearings. In addition, CPS conducted direct outreach to relevant state and federal agencies to advocate for coastal and estuarine habitat conservation priorities including updating and strengthening the California Eelgrass Mitigation Policy and implementation of the CA Ocean Protection Council's strategic plan. The primary outcomes of this project were substantive improvements to the CA State Coastal Conservancy's updated Strategic Plan, improvements to the Fish and Game Commission's Public Interest Criteria for aquaculture projects, among other items.

### Restoring the Estuary to Benefit Wildlife and People – San Francisco Bay Joint Venture (2020-2021)

CPS served as lead content developer and writer for policy-related content in the SFBJV's Implementation Plan Revision. Responsibilities included analyzing the conservation landscape in the San Francisco Bay Area by reviewing policy documents (e.g., the SF Bay Blueprint/Comprehensive Conservation Management Plan for San Francisco Bay, updates to the USFWS North American Waterfowl Management Plan, SF Bay National Equity Atlas, and others), and conducting interviews and facilitated listening sessions with stakeholders. From there, we developed recommendations for policy priorities for the SFBJV to focus on over the next 15 years and fleshed out written descriptions of these priorities, along with specific actions the SFBJV can take to advance them. We then worked with the SFBJV Policy Committee and Management Board members (e.g., representatives from the US EPA, USFWS, BCDC, and others) to refine the priorities and associated actions. The primary outcome of this project was policy-related written content for the SFBJV's updated implementation plan, titled, "Restoring the Estuary to Benefit Wildlife and People."





## ReWild Mission Bay (2014-2018) – San Diego Audubon

CPS president Rebecca Schwartz Lesberg served as the inaugural project manager of ReWild Mission Bay, a collaborative effort of San Diego Audubon and their partners to protect and restore crucial wetlands in San Diego’s Mission Bay. Ms. Lesberg managed the development of the ReWild Mission Bay Feasibility Study, funded by the California State Coastal Conservancy and US Fish and Wildlife Coastal Program, which aimed to develop, analyze, and evaluate a range of wetlands restoration alternatives for the northeastern corner of Mission Bay via a transparent, public involvement process. This Study provides a vision for site-specific restoration alternatives that are capable of garnering public support, agency approval, and implementation funding. Ms. Lesberg’s responsibilities on this project included stakeholder engagement, land management plan development, policy analyses, technical content review, and contractor oversight.



### **Merkel & Associates – Relevant Work Experience**

Merkel & Associates is nationally recognized for its expertise with eelgrass management issues and has been heavily involved in nearly all facets of work within Pacific coast eelgrass beds. This includes planning and impact assessment, research, monitoring, restoration, and modeling. In addition, M&A has completed other diverse work that is well aligned with the needs of the present project. Particularly relevant examples are provided below.

Cosco Busan Damage Assessment, Remediation, and Restoration Program (DARRP) Eelgrass Restoration Program (2013-present) – Cosco Busan Trustee Council with restoration element administered by NOAA Restoration Center

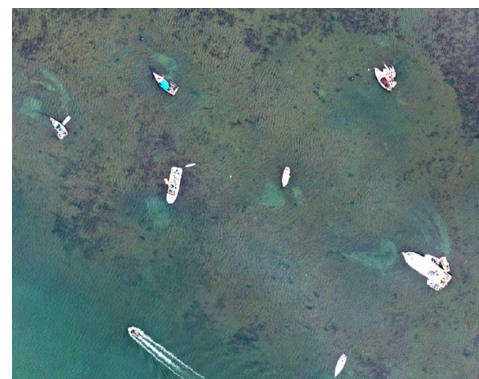
Merkel & Associates is leading a multi-year eelgrass restoration effort to offset impacts to Pacific herring that occurred as a result of the Cosco Busan oil spill in 2007. This work is being performed under the direction of the Cosco Busan Trustee Council (CBTC) comprised of NOAA, USFWS, NPS, BLM, CDFW, and CSLC. The project targets the development of 70 acres of new eelgrass over a 9-year period to support herring spawning. Because of the objective to provide benefits to herring that spawn on eelgrass, much of this restoration has occurred within Richardson Bay where the most substantial herring spawning in San Francisco Bay occurs. In 2019, an extension of the original multi-year contract was awarded with the addition of a provision developed to allow for eelgrass restoration within vacated mooring scars, should the eelgrass protection planning work of the RBRA provide for access to these areas to accelerate recovery of damaged eelgrass. This has allowed M&A and its teaming partner, the Boyer Lab at SFSU’s Estuary and Ocean Science Center, to plant 18 vacated mooring scars since 2021. These mooring scars are serving as pilot restoration elements to inform further restoration of scars as vessels vacate the eelgrass beds.



*Tended diver planting team restoring eelgrass within Richardson Bay using Merkel bareroot planting units.*

## Ecologically-based Mooring Feasibility Assessment and Planning Study (2018-2019) – Richardson Bay Regional Agency

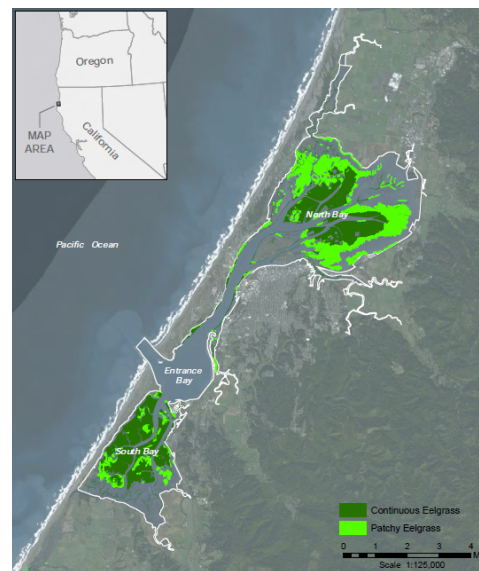
Merkel & Associates was retained by RBRA to complete a mooring feasibility and planning study is to provide informed recommendations regarding the feasibility of retaining moorings while resolving conflicts between moorings and natural resources within Richardson Bay. The study identified a sustainable mooring capacity within the bay, but further identified the need to relocate moorings to the south within the bay to fully protect eelgrass resources. In completing the mooring study, M&A conducted more than 20 interviews of members of the broader Richardson Bay community, including anchor outs, City and RBRA officials, law enforcement, and marine safety experts. The program included a deep dive into the history of natural resources and mooring distributions in Richardson Bay. It also resulted in a detailed review and analysis of moorings in use within Richardson Bay and allowed for a detailed investigation into the characteristics of mooring scar damage in the bay, including excavations, detrital and debris accumulations, secondary turbidity and biotic damage, and differences between types of moorings employed. The investigation and planning study resulted in recommendations regarding mooring locations, types, and sustainable mooring design and capacity. This document served as an informational tool in the RBRA decision making processes that have followed. M&A has continued to support RBRA with technical assistance on eelgrass management needs within the bay.



*Mooring damage Richardson Bay June 2019*

## Humboldt Bay Comprehensive Eelgrass Management Plan (2015-2017) – Humboldt Bay Harbor, Recreation, and Conservation District

Merkel & Associates was retained by the Humboldt Bay Harbor, Recreation, and Conservation District using funding through the USEPA Regional Wetlands Program, Development Grant Program to develop a comprehensive eelgrass management plan for Humboldt Bay. The Comprehensive Management Plan (CMP) is a means of developing an alternative approach to eelgrass conservation that meets the objectives of the CEMP, but which fits local area needs and opportunities better than does a statewide policy. Humboldt Bay is of critical importance in the context of eelgrass conservation as it holds approximately 31% of the eelgrass in California. The adoption of the California Eelgrass Mitigation Policy (CEMP) put a heavy burden on the economically depressed north coast region with respect to eelgrass mitigation standards. Due to low overall success rates with eelgrass restoration in northern California, eelgrass restoration planting must be done at a rate of 4.82:1 yet the statewide mitigation success obligation remains 1.2:1. Further, significant factional interest has developed in the region over eelgrass habitat area uses and concerns over eelgrass future under changing climatic conditions. The comprehensive eelgrass management plan provides a tool to manage eelgrass on a baywide scale allowing for eelgrass tracking, accommodating necessary eelgrass impacts, while providing for large-scale programmatic mitigation sites to be established.



*Eelgrass bed distribution in Humboldt Bay*

## San Diego Bay Marine Debris Removals (2015-2023) – San Diego Unified Port District

Using funding derived from grants from NOAA’s Marine Debris Program, California Boating and Waterway, as well as the Port’s Environmental Fund, Merkel & Associates has conducted five major marine debris clean-up projects in San Diego Bay. These include removal of discharged debris and sunken vessel debris from within the closed A-8 Anchorage in south-central San Diego Bay. The 160-acre anchorage was closed in 2008, at which time, M&A commenced a detailed debris mapping effort for the anchorage using sonar. The firm commenced debris removals and provided tracking for the clean-up program progress. When completed in 2013, 447 metric tons of debris had been removed.

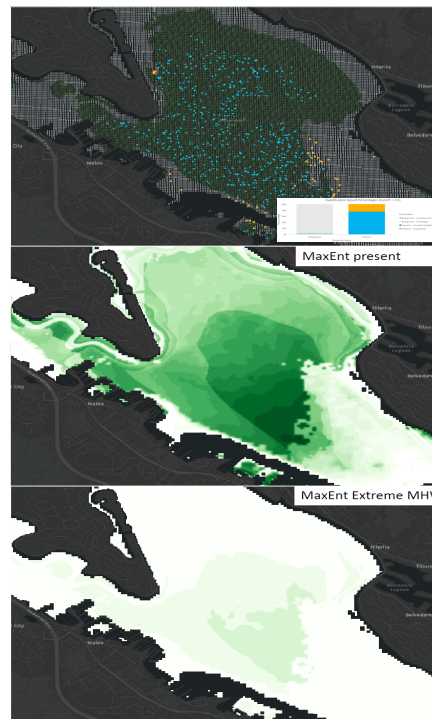


*San Diego Bay Debris Removal (May 2023)*

In 2007, M&A conducted derelict fishing gear removals on the multiple artificial fishing reefs in San Diego Bay. The clean-up resulted in the removal of 4,361 pounds of fishing gear including 1,526 pounds of lead weight and 647 miles of monofilament line. In 2008, 2017 and 2023, M&A conducted marine debris removals in San Diego Bay associated with fluvial discharges. These removals have been conducted with dive and in-water teams using a combination of interferometric sidescan sonar, UAV, and diver draglines to locate debris. Once found, debris is marked with floats so that it can be winched out of the water onto flat deck barges and pontoon boats for landfill disposal. To date, these debris removals have extracted over 44 tons of debris from the waters of the bay.

## Eelgrass Habitat Suitability Model Update for Targeted, Climate-Smart Eelgrass Restoration in San Francisco Bay (2020-Present) – Audubon California and California Ocean Protection Council

Merkel & Associates is collaborating with Audubon California and the Boyer Lab at SFSU to update eelgrass habitat suitability modeling for San Francisco Bay. This work is a follow up to an original eelgrass habitat suitability model prepared by Merkel two decades ago using the framework of the Ecological Limits, Viability and Sustainability (ELVS) model developed by Merkel in the 1990s. With newer machine learning tools, better base data layers and submodeling elements, and increasing understanding of the drivers of eelgrass distribution and dynamics, the team has been working to advance an enhanced baywide eelgrass model that will better predict eelgrass changes over short, and long-term climatic conditions, including evaluation of sea level rise scenarios and extreme events such as marine heat waves (e.g., 2014-2016) and freshwater flood events (e.g., 1997, 2005, and 2017). This modeling is providing considerable insight into what can be expected from eelgrass in San Francisco Bay on an interannual and long-term basis with the goal of informing management decisions, efforts, and expectations under current and predicted conditions. The work is both valuable to restoration and management planning for Richardson Bay, as well as demonstrating the positive synergies of the teaming partners on eelgrass issues and agency interactions.



*Preliminary habitat suitability verification and extreme event analysis modeling runs*

# REFERENCES

## Coastal Policy Solutions References

1. Stephen McGrath, former Interim RBRA Executive Director, Regional Government Services (805-550-8269; [smcgrath805@gmail.com](mailto:smcgrath805@gmail.com)) – Oversaw Coastal Policy Solutions' implementation of RBRA's Eelgrass Protection and Management Plan.
2. Andrea Jones, Director of Bird Conservation, Audubon California (805-748-0501) – Oversaw Coastal Policy Solutions' contract with National Audubon Society to conduct eelgrass conservation policy advocacy in California (funded by the Pew Charitable Trust).
3. Sandra Scoggin, former Coordinator, San Francisco Bay Joint Venture (415-699-3586; [sandy.scoggin@gmail.com](mailto:sandy.scoggin@gmail.com)) – Manager for updated the JV's Implementation Strategy, for which Coastal Policy Solutions developed policy-related content through facilitated stakeholder engagement and plan writing.

## Merkel & Associates References

1. Natalie Cosentino-Manning, Habitat Restoration Specialist, NOAA Fisheries, Office of Habitat Conservation /Restoration Center (707-206-1642; [Natalie.c-manning@noaa.gov](mailto:Natalie.c-manning@noaa.gov)) – Manager of the Cosco Busan DARRP eelgrass restoration project that is being conducted under the leadership of Merkel & Associates.
2. Natalie Martinez-Takeshita, Biologist Ecosystems Planning Section, Planning Division, Los Angeles District US Army Corps of Engineers (213-703-8894; [Natalie.M.Martinez-Takeshita@usace.army.mil](mailto:Natalie.M.Martinez-Takeshita@usace.army.mil)) – Army Corps manager for multiple eelgrass restoration projects as well as other marine biological and water quality investigation, T&E species and marine mammal monitoring, marine habitat surveys and impact assessments.
3. Jessica Curran, Navy Region Southwest Marine Biologist, U.S. Navy (661-309-3148; [jessica.j.curran.civ@us.navy.mil](mailto:jessica.j.curran.civ@us.navy.mil)) – Navy marine biologist and technical leader for multiple eelgrass restoration planning, implementation, and monitoring projects conducted by Merkel & Associates.

# UNDERSTANDING AND APPROACH

## Understanding

The project team has a deep understanding of the project needs, having conducted field work within Richardson Bay for over two decades, as well as working with RBRA on multiple technical analyses ([Ecologically-based Mooring Feasibility Study](#)), management framework ([Eelgrass Protection and Management Plan](#)), and policy support documents ([Petition from RBRA to the US Coast Guard](#) to amend anchorage boundaries). These efforts have included activities very closely aligned with the present work requirements and provided the project team with an essential understanding of both the field conditions as well as the RBRA organizational framework and stakeholder relations that are critical to the development and implementation of restoration plans.

Among the work that will be instrumental in the restoration success has been Merkel & Associates long-term monitoring of eelgrass within Richardson Bay, history of eelgrass restoration in the bay, extensive diving and sonar survey within the moorings that has resulted in an understanding of the distribution, nature, and extent of non-vessel marine debris, and focused research on prior mooring scar recovery processes and timelines. The teams'

knowledge of the environment and history of conducting the same type of work in the same region, provides us with an exceptional ability to plan and execute work within established budgets.

Additionally, the policy and stakeholder engagement work completed by Coastal Policy Solutions in Richardson Bay and with RBRA over the past six years has provided the firm with a unique understanding of the way RBRA functions, the agency's goals, and the socio-political landscape within which RBRA functions. Staff from CPS and M&A maintain strong existing relationships with Project partners (Audubon California and the Boyer Lab) and are well-connected throughout the Bay Area conservation community.

The services requested by RBRA describe a comprehensive eelgrass restoration project, with robust, transparent stakeholder engagement, and targeted community outreach to provide opportunities for early career scientists from underserved communities. The work calls for completion of 15 acres of eelgrass restoration within four years. This work effort is comparable to that conducted by M&A and its partner, the Boyer Lab, within Richardson Bay over the past many years. The document also requests full-service project management services, including drafting and processing reports and invoices to the project funder, coordinating project partners, managing subcontracts, and tracking budgets by task and deliverables.

## Approach

Historically, eelgrass restoration work in Richardson Bay has targeted an even distribution of planting effort across years to balance workload. However, we have allowed for year-to-year variation in the amount of planting to capitalize on favorable climatic conditions while avoiding unfavorable conditions when establishment success would be lower. This has been beneficial during periods when the bay was affected by a strong marine heat wave, during the 2017 high flooding period when eelgrass donor sites were heavily impacted by depressed salinity, and during the 2020 COVID year. As a result, the planned approach to the Project would be expected to average a planting effort of 3.75 acres per year over 4 years, with a possibility of more or fewer acres according to environmental conditions. This scale of effort is well within M&A's workload capacity for eelgrass restoration in that M&A has averaged 6.62 acres of eelgrass restoration since the firm's inception in 1994 and 7.76 acres of eelgrass restoration per year over the past decade.

Work also calls for non-vessel marine debris removal. This will be conducted using small shallow deck boats with winch hoists and divers to collect and load debris into lifting baskets. The deck boats will be unloaded onto the ramp at the Corps of Engineers, San Francisco District operations yard in Sausalito where debris would be loaded into haul-away dumpsters for landfill disposal. M&A regularly completes marine debris removals using remote sensing equipment of sidescan sonar, magnetometers, UAV, as well as divers to locate debris and then using dive teams and winch equipped deck barges and pontoon vessels to pull debris up for disposal.

The approach for the development of the RAMP is to develop a streamlined, technical document describing specific restoration actions, planting locations, and adaptive management actions to be undertaken over the next ten years. This technical document will be based on existing survey data (including the sidescan sonar survey of Richardson Bay completed by M&A in 2022, for which data are on hand and already analyzed by the project team), experience of the project team with restoration in the bay, as well as existing policy direction from the 2021 agreement between BCDC and RBRA. The draft RAMP will be circulated to necessary project partners and outside experts for review and will be finalized by the December deadline. The project team's approach for the project management and stakeholder outreach efforts will build off existing processes already in place, including continued implementation of RBRA's EPMP Stakeholder Outreach and Engagement Plan, as well as conducting monthly team meetings with project partners.

# SCOPE OF SERVICES

## Project Tasks

Based on our understanding of the scope of services described in the RFQ, as well as other publicly available documents, we propose the following scope of work, gleaned from the EPA-approved work plan.

Task 1: Continued implementation of EPMP. CPS will assist with implementation of RBRA’s EPMP, including completion of annual reporting to include results of habitat surveys to be completed by M&A and waterbird monitoring performed by Audubon and will support permitting of signage to demarcate the EPZ that will be fabricated and installed by RBRA.

Task 2: Restoration and Adaptive Management Plan (RAMP) Development. M&A will develop the RAMP which will include schedules for implementing restoration, monitoring, research, reporting, and documenting how adaptive management decisions will be made, in addition to planning post-project monitoring. The 10-year RAMP will target 75 acres of restoration, including that presently being conducted by M&A and Boyer Lab.

Task 3: Marine Debris Removal. M&A will complete a focused removal of non-vessel marine debris from the Richardson Bay bottom as needed to support successful restoration of eelgrass within anchor scars. Much of this debris has been derived from material falling off or jettisoned from anchored vessels and would conflict with restoration of eelgrass.

Task 4: Restoration Implementation. M&A will lead restoration within Richardson Bay’s EPZ and sites within the Audubon Sanctuary, resulting in at least 15 acres of additional eelgrass restored by June 2027. Eelgrass planting and annual restoration monitoring will be conducted in close partnership with the Boyer Lab at SFSU.

Task 5: Community and stakeholder engagement. CPS will work with the project team to coordinate robust community engagement focused on historically excluded communities entitled to environmental justice in Marin County, including working closely with Audubon California’s Community Conservation Fellow at the Richardson Bay Audubon Center. The team will facilitate all necessary stakeholder engagement sessions/workshops necessary for project activities.

Task 6: Project management. CPS will lead management activities including invoicing, reports as required by the funder, processing of funding drawdowns, and coordinating partner relations.

## Project Schedule

<u>Task</u>	<u>Start/End Dates</u>
Task 1: Continue implementation of the Richardson Bay EPMP	9/15/2023 – 2/28/2027
Task 2: Restoration and Adaptive Management Plan (RAMP) development	4/15/2023 – 6/30/2023
Task 3: Marine debris removal	4/15/2023 – 2/28/2027
Task 4: Restoration implementation	Fall 2023 – 2/28/2027
Task 5: Community engagement and support	4/15/2023 – 2/28/2027
Task 6: Project management	4/15/2023 – 6/30/2027

# Rebecca Schwartz Lesberg

rebecca@coastalpolycysolutions.com  
310-433-8410

## PROFILE

I work at the intersection of science and policy to protect California's sensitive habitats and natural resources, understand the ecology of wildlife and their environment, and integrate habitat restoration with community engagement and landscape-scale conservation planning.

## RELEVANT WORK EXPERIENCE

### **Coastal Policy Solutions; San Francisco Bay Area (2017-present)**

#### *President/Founder*

- Consulting firm focused on protecting California's habitats and natural resources for future generations by working with government and non-profit partners to solve complex conservation problems
- Current and Past Clients include:
  - **Richardson's Bay Regional Agency (2020-present)**: Project lead for developing and implementing the Agency's Eelgrass Management Plan
  - **San Francisco Bay Joint Venture (2020-2021)**: Lead writer for policy-related content in the SFBJV's Implementation Plan Revision
  - **Audubon CA (2017)**: Coastal Policy Specialist on work to improve conditions for eelgrass, herring, and waterbirds in San Francisco Bay

### **National Audubon Society; Tiburon, CA (2017-2020)**

#### *San Francisco Bay Program Director*

- Oversaw conservation program to advance protections for priority habitat in Richardson's Bay through negotiations with diverse stakeholders (law enforcement, elected officials, vulnerable community members) to reduce damage from illegally anchored/moored vessels
- Developed spatial analysis identifying overlap between socially vulnerable communities, sea level rise, and priority bird habitat to inform future conservation actions
- Supervised program staff, community volunteers, and project contractors for implementation of large scale land management and habitat restoration efforts at Aramburu Island Enhancement Project and Sonoma Creek Salt Marsh Enhancement Project
- Managed operational, program, and project budgets, including purchasing, invoicing, contracting; identified and pursued funding opportunities through state, federal, and foundation grant programs; developed communications materials for internal and external partners

### **San Diego Audubon Society; San Diego, CA (2012-2017)**

#### *Director of Conservation (2016-2017)*

- Led all aspects of ReWild Mission Bay, an effort to protect and restore wetland habitat in partnership with CA Coastal Conservancy and US Fish and Wildlife Service, including stakeholder engagement, land management plan development, legal analyses, and contractor oversight
- Oversaw the chapter's environmental policy efforts, focused on natural resources management and coastal land use to protect Southern California wildlife
- Implemented habitat restoration program, including supervision of staff and community science volunteers in conducting invasive control, native plant revegetation, and predator monitoring

- Directed conservation communications needs, including writing feature articles for the chapter's monthly newsletter, creating content for social media, and press relations

*Conservation Program Manager (2012-2016)*

- Adaptively managed coastal dune and salt marsh habitat in support of federally-listed endangered sea/shorebirds through community based restoration (>2,500 volunteer hours/year)
- Coordinated with Education Staff in planning and implementing education programs focused on ecological principles and outdoor education in backcountry and canyon habitats
- Created "Conservation Team Leaders" volunteer program (recruitment, field protocol development, training) to increase on-the-ground capacity, coordinated restoration events with >150 attendees, and expanded program from 30 to over 600 volunteers in under three years

**AMEC Foster Wheeler Environmental Consulting; San Diego, CA (2012) - Field Biologist**

- Conducted protocol surveys of federally-endangered Quino checkerspot butterfly (*Euphydryas editha quino*), including identifying co-occurring species in eastern San Diego County

**UC San Diego Outback Adventures; San Diego, CA (2010-2012) - Lead Facilitator**

- Designed outdoor education and leadership programs for corporate, college, and youth groups consisting of 5-100 participants, including ropes course and "alpine tower" initiatives

EDUCATION

**Master of Science in Marine Science** — University of San Diego

Thesis: Historical ecology of the San Diego sport fishery- Catch composition, species trends, and fishing effort from 1959-2011

GPA: 3.92

**Bachelor of Science** — University of California, San Diego

Major: Ecology, Behavior, and Evolution (Biology); Minor: Environmental Studies

Honors: Provost Honors (2004, 2007)

SELECT AWARDS & ASSOCIATIONS

**Grant Funding** - Served as lead or co-lead in securing over \$2.5 million in conservation funding (grants, donations, etc) since 2010. Funders include National Oceanic and Atmospheric Administration, California Ocean Protection Council, CA State Coastal Conservancy, Marin Community Foundation, San Diego Association of Governments, and more

**President's Volunteer Service Award, 2014** - Awarded by U.S. President Barack Obama for efforts leading volunteers in the protection of San Diego's wildlife

**Vallejo Watershed Alliance**- Alliance partner (2021-present)

**UC Santa Cruz Seymour Marine Discovery Center** - Advisory Board member (2021-present)

**San Francisco Bay Restoration Authority**- Citizen's Advisory Committee (2019-present)

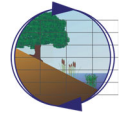
**San Francisco Bay Joint Venture Management Board**- Currently serve as Vice Chair of the Management Board and Chair of the Policy Committee (2017-present)

**San Diego Audubon** - Wetlands Working Group founding member (2017-present)

**PADI**- Advanced SCUBA diver

**FOOSH Improv Comedy Team**- Board Member (2005-2008), Alumni Member (present)





### **EXPERTISE**

Estuarine Ecology,  
Wetland Regulation,  
Seagrass Ecology and  
Management, Marine  
Habitat and Tidal  
Wetland Restoration

### **EDUCATION**

San Diego State  
University, M.S.  
Program, Marine  
Ecology. 1992

Oregon State  
University, B.S.,  
Biology, Emphasis on  
Marine Ecology and  
Aquatic, Biology 1985

### **CERTIFICATIONS**

Wetland Delineation  
Instructor, USACE  
WES, 1990

ESA Section  
10(a)(1)(A) permit for  
multiple species

American Academy of  
Underwater Scientists  
(AAUS) Certified  
Scientific Diver, 1998

NMFS/CDFW  
Caulerpa Certified  
Surveyor

### **SUMMARY OF QUALIFICATIONS**

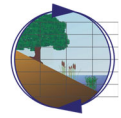
Keith Merkel has over 41 years of experience as a professional environmental biologist and has coordinated, conducted, or assisted in ecological and zoological work on over 6,000 projects involving biological or water quality investigations, environmental regulatory permitting, or habitat restoration and management. He provides services to a range of public agencies, private industries, and non-governmental organizations.

Keith is widely recognized as an expert on the federal Clean Water Act and has further expertise with practices under the Coastal Zone Management Act, National Environmental Policy Act, California Environmental Quality Act, Magnuson-Stevens Fisheries Conservation and Management Act, Marine Mammal Protection Act, and state and federal Endangered Species Acts. He has also been instrumental in the development of numerous creative techniques to provide increased flexibility in construction timing and environmentally sound construction methods. He has served as a technical advisor and consultant to the U.S. Army Corps of Engineers, Portland, Seattle, San Francisco and Los Angeles Districts, National Marine Fisheries Service, West Coast Region, Fish & Wildlife Service, the State Water Resources Control Board, and State Lands Commission.

Mr. Merkel served as consultant to the National Marine Fisheries Service in the development of the California Eelgrass Mitigation Policy and served as a consultant to the National Research Council's Marine Board in deliberations on the Role of Technology and Engineering in Marine Habitat Protection and Enhancement. He was congressionally nominated to serve on the environmental sub-committee for Department of Defense Base Realignment and Closures (BRAC) in California. Mr. Merkel is a Corps of Engineers identified wetland delineation instructor. He served as co-editor for the Proceedings of the California Eelgrass Symposium, was a collaborator on the San Francisco Bay Subtidal Habitat Goals Project and co-authored the Humboldt Bay Eelgrass Comprehensive Management Plan. He has developed predictive eelgrass models for multiple bays and estuaries, including San Francisco Bay and San Diego Bay in order to evaluate how the system is likely to respond to changes in environmental controls. Keith has also been a leader in mapping eelgrass on the U.S. Pacific coast and has been tracking the spread of eelgrass wasting disease since the early 2000s.

Mr. Merkel has an educational and professional background in marine community ecology, ecological assessment, and habitat restoration. He has conducted hundreds of projects relating to coastal resource evaluation and mapping, impact assessment, restoration designs, restoration implementation and monitoring. He is nationally recognized for his coastal marine resource inventory and seagrass restoration achievements. Keith pioneered development of sidescan sonar methods for mapping eelgrass in the early 1980s. He has led 101 eelgrass restoration projects since 1984, including direct planting of 301.75 acres of eelgrass with a restoration yield of more than 640 acres of new eelgrass. Among the projects he has led is the largest single eelgrass planting project undertaken, a 74.3-acre planting in San Diego, California and two systemwide reintroductions of eelgrass.

Mr. Merkel manages several regulatory agency coordination and environmental policy development efforts for public agency clients. These include development of mitigation banking programs, habitat-based programmatic mitigation, and resource management plans, providing third party consistency review, and preparation of internal guidance manuals for compliance with existing regulatory programs.



## **SELECTED PROJECT EXPERIENCE**

### **COSCO Busan Damage Assessment, Remediation, and Restoration Program (DARRP) Eelgrass/Herring Habitat Restoration Project (NOAA Restoration Center for Cosco Busan Trustee Council [NOAA, USFWS, NPS, BLM, CDFW, CSLC]). 2013-present.**

Mr. Merkel is leading the restoration of eelgrass habitat within San Francisco Bay in association with the recovery of impacted resource values associated with the COSCO Busan oil spill. This work includes site selection and eelgrass restoration planting and monitoring of multiple sites within the Bay with the goal of establishing approximately 70 acres of eelgrass within 9 years. This work has included considerable eelgrass restoration within Richardson Bay, including planting within 21 vacated mooring scars between 2021 and 2023. High degrees of restoration success for herring impact damages, has resulted in the CBTC working to expand the eelgrass restoration in future years to fulfill additional DARRP objectives.

### **San Francisco-Oakland Bay Bridge (SFOBB) Mitigation Fund Baywide Eelgrass Inventory and Restoration (NOAA National Marine Fisheries Service, West Coast Region). 2014-2022.**

Keith led a multi-year program to inventory and restore eelgrass in San Francisco Bay. This work included completion of a baywide eelgrass survey in 2014 as well as a targeted restoration of 10.8 acres of eelgrass, based on anticipated impacts to eelgrass from the east span of the SFOBB replacement. The restoration program has achieved 30.0 acres of restored eelgrass, exceeding the restoration objectives by 178 percent. This included 24.3 acres of eelgrass restoration within Richardson Bay

### **Ecologically based Mooring Feasibility Assessment and Planning Study (Richardson Bay Regional Agency). 2018-2019**

Keith served as the principal ecologist for the completion of the RBRA mooring feasibility and planning study to evaluate moorings to determine the feasibility of retaining moorings while resolving conflicts between moorings and natural resources within Richardson Bay, most particularly eelgrass habitat. The investigation resulted in recommendations regarding mooring locations, types, and sustainable mooring design and capacity. This document served as an informational tool in the RBRA decision making processes that have followed.

### **Pilot Creosote Pile Removal and Pacific Herring Habitat Restoration Program and Red Rock Warehouse Removal Project (California Coastal Conservancy). 2014-present.**

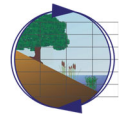
Mr. Merkel was the principal ecologist for the site selection and restoration planning for a creosote pile removal and herring habitat restoration project in San Francisco Bay. In this role, Mr. Merkel led the evaluation of potential pile removal sites based on historic herring use, pile counts, habitat presence and restoration potential, and other criteria established for the project. In addition, he led the restoration design efforts to develop suitable restoration options and to establish restoration methodologies for eelgrass, living shoreline reefs, and rockweed bed restoration. He led eelgrass restoration and is presently leading physical and biological monitoring of the restoration, including site geomorphology, eelgrass habitat, reef community development, and native oysters.

### **Eelgrass Habitat Suitability Model Update for Targeted, Climate-Smart Eelgrass Restoration in San Francisco Bay (Audubon California and California Ocean Protection Council) – 2020-Present 2016-2017**

Mr. Merkel serves as the principal ecologist for eelgrass habitat suitability modeling in a collaborative partnership effort with California Audubon and the Boyer Lab at the Estuary and Ocean Science Center of San Francisco State University to develop a refined habitat suitability model for eelgrass for San Francisco Bay. This model is being developed as a next generation replacement to the currently in use eelgrass suitability model that was developed Merkel in 2003 to drive eelgrass habitat conservation and restoration planning within San Francisco Bay. The new model integrates additional data layers and submodel elements within a machine learning framework to be responsive to changing environmental conditions providing capabilities to explore climate change and sea level rise scenarios.

### **Humboldt Bay Eelgrass Comprehensive Management Plan, (Humboldt Bay CA, Humboldt Bay Harbor, Recreation and Conservation District). 2016-2017**

Keith served as principal ecologist for the development of the EPA funded Humboldt Bay Eelgrass Comprehensive Management Plan (HBECMP). Throughout the plan development process, a broad range of stakeholders including state and federal regulatory agencies, local governments, tribes, environmental advocacy groups and representatives of the oyster mariculture industry worked together to identify strategies to promote eelgrass conservation and address deferred maintenance needs of Humboldt Bay's port and harbor infrastructure.



**Oakland Harbor Middle Harbor Enhancement Area Eelgrass Habitat Suitability Analysis and Restoration (U.S. Army Corps of Engineers, San Francisco District). 2017-present.**

Keith led field monitoring and the spatial-numeric modeling and analysis of site suitability of the Oakland Middle Harbor Enhancement Area to support eelgrass. In addition, he has led the planting and establishment of eelgrass within the area that was restored from deep harbor to a shallow water environment suited to supporting eelgrass. This has been a follow up to work conducted by Mr. Merkel from 1996 through 2015 for this first of its kind large-scale in bay beneficial reuse project to utilize approximately 6 million cubic yards of sediment derived from the Oakland Harbor Deepening Project. Over this period, Keith led habitat restoration design, multi-agency and broad stakeholder workshops, biological surveys, pilot eelgrass planting and experimental investigations in developing appropriate transplant methods for San Francisco Bay. He also worked on the development of park land interface design elements, physical sampling to examine placement strata, and verification investigations regarding suitability to support eelgrass.

**Tomales Bay Eelgrass Habitat Evaluation and Site Monitoring in Areas Affected by Vessel Moorings and Baywide Eelgrass Surveys, (Greater Farallones and Cordell Bank National Marine Sanctuaries). 2015, 2017, and 2022**

Mr. Merkel served as the lead investigator and principal ecologist for evaluation of mooring impacts and recovery following removal of moorings in Tomales Bay. This work was conducted for the Greater Farallones and Cordell Bank National Marine Sanctuaries. Work included comprehensive eelgrass surveys in 2017 and 2022, as well as assessment of eelgrass damage by moorings prior to and following mooring removals. Insights from this monitoring program both support and benefit from similar monitoring of mooring removal and scar development observed within Richardson Bay.

**San Diego Bay Navy Eelgrass Mitigation Bank Expansion (U.S. Navy Facilities Engineering Command SW). 2021-present.**

Mr. Merkel is presently leading the consulting team in the development of four eelgrass mitigation sites to augment eelgrass assets within a formal eelgrass mitigation bank that was established meet Navy eelgrass mitigation needs. The work effort has included planned siting of 18 potential habitat expansion sites within San Diego Bay. These were screened down to four sites that met constraining screening factors. The identified mitigation sites total approximately 42 acres and include both species of eelgrass native to California (common eelgrass and Pacific eelgrass). Keith is leading the site planning and biological investigations team and is the overall project principal for the environmental analysis and permitting.

**Coast Seafoods Humboldt Bay Aquaculture Eelgrass Monitoring Program (Coast Seafoods). 2018-2023**

Keith is the project principal for a manipulative investigation to assess effects of shellfish mariculture additions and removals on eelgrass habitat in Humboldt Bay. M&A was selected as an independent third-party monitor in a joint effort with Coast Seafood and resource and regulatory agencies. The tools and analysis techniques employed in this compliance-driven but research-based monitoring program are revealing and documenting variable spatial and temporal interactions between eelgrass and mariculture operations across tidal elevation gradients, and under varying interannual climatic conditions.

**Eelgrass Restoration Program in Support of the Mouth of the Columbia River (MCR) Jetty A Rehabilitation Project Baker Bay, Pacific County, Washington, (Army Corps of Engineers, Portland District). 2017-2019.**

Mr. Merkel led the development of an eelgrass restoration plan to offset temporary adverse impacts to non-eelgrass habitat associated with Jetty A repairs. The work included development of a spatio-numeric model to investigate controlling factors to eelgrass distribution and dynamics within Baker Bay and to use this model to identify sites best suited to support eelgrass restoration. Because the bay is subjected to two strong stressor gradients (salinity and wave energy), multiple sites were selected that mitigated one or the other of these factors more effectively. Sites were planted across the controlling gradients and eelgrass was effectively established in excess of the restoration objectives.

**Bolsa Chica Wetlands Restoration Project, Long-term Monitoring and Maintenance Program (California State Lands Commission and Bolsa Chica Steering Committee [USACE, NMFS, USFWS, CSLC, CDFW]). 2006-present.**

Mr. Merkel serves as Program Manager for the long-term monitoring and maintenance program for the restored Bolsa Chica Wetlands. He is responsible for the physical and biological monitoring of upland, wetland, and marine environments within this 1,000-acre State Ecological Reserve complex. Work includes biological monitoring, water quality, surface and groundwater monitoring and management, and T&E species management actions. He is responsible for maintenance programs including inlet dredging/beach nourishment planning, permitting, construction management, and emergency response needs. He also led eelgrass and cordgrass restoration that has resulted in establishment of 166 acres eelgrass in the newly restored system. He is presently focused on issues of water management under sea level rise scenarios.

August 31, 2023

Brad Gross, Executive Director  
Richardson Bay Regional Agency (RBRA)  
3501 Civic Center Drive, Room 308  
San Rafael, CA 94903-4157

Re: Fee proposal for Richardson Bay Eelgrass Project

Dear Mr. Gross,

On behalf of myself and Keith Merkel of Merkel and Associates, thank you for the opportunity to submit the attached fee proposal associated with our previously submitted Statement of Qualifications (SOQ) for RBRA's Richardson Bay Eelgrass Project.

The proposed fees will remain in place for a time period of no less than thirty six months, with the following notes:

- Labor rates include one 3% rate escalation every twelve months to accommodate for inflation, as reflected in the fee proposal.
- Fees with a government rate (e.g., mileage, per diem) will be adjusted annually to match federally designated rates; the rates for these items included in the proposal are assumptions of what future rates will likely be but will be updated to match actual rates in future project years.
- We are not proposing any indirect costs.

If you have any questions, please do not hesitate to reach out.

Best,



Rebecca Schwartz Lesberg  
President, Coastal Policy Solutions

## Project Budget - Richardson Bay Eelgrass Project

Effective August 30, 2023

- Project total: \$1,129,000
- We propose the project contract be divided into the following tasks:

Task 1: Continue EPMP Implementation	\$ 50,000.00
Task 2: Develop RAMP document	\$ 45,000.00
Task 3: Marine Debris Removal	\$ 87,500.00
Task 4: Restoration, Monitoring, and Adaptive Management	\$ 597,500.00
Task 5: Community Engagement and Support	\$ 109,000.00
Task 6: Project Management	\$ 240,000.00
Total proposal:	\$1,129,000.00

Tasks 1, 5, and 6 are expected to be completed by Coastal Policy Solutions, for a total of \$399,000. Tasks 2, 3, and 4 are expected to be completed by Merkel and Associates, for a total of \$730,000.

## Fee Schedules

- Coastal Policy Solutions:

Item Description	Cost/Unit
<b>Labor</b>	
Rebecca Schwartz Lesberg	Year 1: \$165/hour Year 2: \$169.95 Year 3: \$175.05 Year 4: \$180.29
<b>Travel</b>	
Mileage	Government rate (currently \$0.65/mile) + tolls
Hotel	1.5x government rate for the applicable county
Per diem	1.5x government rate for the applicable county
<b>Other</b>	
Incidental out of pocket expenses	Actual cost

- Merkel and Associates: see Attachment 1

