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Emerging Themes from Conversations with California's Ocean Science Community

Update from the Science Advisor, June 2026

As the California Ocean Protection Council's Science Advisor, I aim to connect the state's ocean and coastal decision-makers with the scientific expertise, partnerships, and insights needed to support effective stewardship of our coast and ocean. In that role, I have OPC's strategic priorities front-of-mind while engaging colleagues broadly across California's ocean science community to identify emerging issues, opportunities, and areas where input from the science community can strengthen the state's ability to ensure a healthy and resilient ocean future.

Connecting California's Ocean Science Community to Emerging Priorities

Over the past several months, I have been meeting with members of OPC's Science Advisory Team (SAT) to strengthen connections across our ocean science community. These conversations have reinforced that California is home to one of the most capable and diverse ocean science communities in the world. Across universities, tribal communities, government agencies, nonprofit organizations, industry, and local partners, there is significant expertise, innovation, and commitment to advancing the science needed to inform stewardship of our ocean and coast.

These conversations also highlighted the need to better connect these assets, strengthen coordination, and ensure that scientific knowledge is available and useful to decision-makers confronting increasingly complex challenges. The observations below represent themes that emerged repeatedly across multiple discussions and will seed future conversations about how California can continue to strengthen science-informed decision-making in service of the state's ocean and coast goals.

California's Strength Is Its Scientific Community

A consistent message from SAT members was that California's ocean science enterprise remains strong and resilient. SAT members described a landscape rich with expertise, long-term monitoring programs, research institutions, community partnerships, and innovative technologies. Amid continuing uncertainty in the federal science landscape, and considerable harm to science and scientists, members nonetheless expressed confidence in

California's ability to continue generating and applying scientific knowledge in support of stewardship, resilience, and economic prosperity.

At the same time, many noted that the state's challenge is not necessarily a lack of scientific activity. Rather, it is how to connect and coordinate the many efforts already underway. Scientific expertise is distributed across institutions, sectors, and knowledge systems. Monitoring programs collect vast amounts of information. New technologies continue to expand what can be observed and understood. Yet these many assets do not always operate as a connected system. Several members noted that California's opportunity may be less about creating entirely new programs and more about improving the ways existing efforts are connected, coordinated, and applied.

Coordination Is Infrastructure

One high-level theme that emerged from these conversations was the importance of investing not only in science itself, but also in the infrastructure that allows ongoing science to be useful. Members described coordination as an underappreciated component of scientific success, saying that while funding often exists for research projects, monitoring activities, and data collection, there are comparatively few resources dedicated to creating the relationships, partnerships, and collaborative spaces necessary to connect those efforts. They emphasized that collaboration rarely happens automatically. Rather, it requires trusted networks, ongoing communication, shared focused goals, and mechanisms for bringing together people who may otherwise be working in parallel.

Updates to the SAT model provide a structure that emphasizes continuous engagement, relationship-building, and connections across institutions rather than relying solely on topic-specific advisory efforts, which its members appreciated. In this way, OPC is moving toward supporting coordination that is not separate from science infrastructure, but an essential component of it.

Unlocking the Value of Existing Investments

Another recurring theme centered on California's substantial investments in monitoring and observing systems. SAT members noted that enormous quantities of environmental information have been collected through state, federal, academic, tribal, and nonprofit efforts. Yet the capacity to integrate, analyze, and apply these datasets often lags behind the pace at which information is generated. Many members saw opportunities to derive greater value from existing investments by improving data accessibility, synthesis, and analysis. Rather than focusing exclusively on collecting more information, future efforts may also

benefit from ensuring that existing information can be more effectively used to answer management questions, identify trends, and support decision-making. The recent Coast and Ocean Assessment—the scientific foundation for the 2026 Coast and Ocean Report—offers a place to start.

We are also encouraged by members to have broader thinking about the scope of a comprehensive observing system for the State. Discussions extended beyond traditional biological monitoring to include acoustic monitoring and ocean soundscapes, vessel activity, ecosystem restoration outcomes, socioeconomic impacts, and emerging technologies that may provide new insights into ocean conditions. Taken together, these conversations suggest that California's future observing enterprise may be most effective when it integrates ecological, social, economic, and operational dimensions of ocean systems.

Strengthening Tribal Science Partnerships

Conversations highlighted that the ongoing focus on developing tribal member expertise in deploying sophisticated sampling and monitoring techniques and datasets—including scientific diving, eDNA sampling, and 3D modeling and visualization of marine habitats and species distribution—creates opportunities to further strengthen tribal participation, leadership, and capacity in ocean science. Members discussed the importance of moving beyond consultation toward more enduring partnerships that support tribal involvement throughout the scientific process—from project design and monitoring to analysis and application. Examples included supporting tribal-led monitoring and restoration programs, creating opportunities for tribal students to participate in research and observing efforts, strengthening analytical capacity within tribal communities, and developing approaches to science that better allow space for the interweaving of multiple knowledge systems. Members emphasized that successful partnerships require long-term trust-building and sustained relationships. They also noted that strengthening tribal science capacity is a way to meaningfully improve California's overall ability to understand and steward ocean and coastal ecosystems.

Workforce Development as a Long-Term Investment

Members discussed opportunities to better align educational and training programs with California's future science and management needs. Ideas included practical training opportunities connected to monitoring programs, microcredentialing approaches, and initiatives that allow students and early-career professionals to work directly with management-relevant datasets and decision-support challenges. These conversations

reflected a broader understanding that scientific capacity is built not only through funding research projects, but also through supporting the people who will carry that work forward.

Looking Ahead

The conversations with SAT members covered a wide range of scientific areas of focus, including whale entanglement and ship strikes, harmful algal blooms, offshore wind, kelp forest restoration, environmental DNA technologies, aquaculture, ocean soundscapes, and emerging offshore activities. But beyond various topics raised to pay attention to, these conversations were grounded in the recognition that California already possesses strong scientific assets and committed partners. The challenge—and opportunity—is to connect them more effectively.

As ocean conditions change, management needs evolve, and the broader science funding landscape shifts, California has an opportunity to demonstrate how sustained investment in science, scientific infrastructure, partnerships, and trusted networks can support resilient and informed decision-making and deliver benefits to all.

Connecting the Ocean Protection Council to California's Ocean Science Community: Science Advisory Team Members

- California Ocean Science Trust: *Liz Whiteman, Executive Director (OPC Science Advisor)*
- North Coast Region: *Kevin McKernan, Director, Marine Department, Yurok Tribe*
- North Central Coast Region: *Nina Hapner, Managing Director of Environmental Planning & Natural Resources, Kashia Band of Pomo Indians*
- Central Coast Region: *Eva Pagaling, Co-Founder and Board President of Ocean Origins*
- South Coast: *To be confirmed*
- Central & Northern California Ocean Observing System, Monterey Bay Aquarium Research Institute: *Henry Ruhl, CeNCOOS Director*
- Coastal Marine Sciences Institute, UC Davis: *Andrea Alfaro, Director*
- Marine Science Institute, UC Santa Barbara: *Rebecca Vega Thurber, Director*
- Schatz Energy Research Center, Cal Poly Humboldt: *Arne Jacobsen, Director*
- Scripps Institution of Oceanography, UC San Diego: *Meenakshi Wadhwa, Director*