



CALIFORNIA  
ENVIRONMENTAL  
LITERACY  
INITIATIVE

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# Environmental Literacy County Offices of Education Leadership Case Studies

CREATED BY THE

California Environmental Literacy Initiative's  
County Office of Education Innovation Hub

Cover:

Students on field trip to Upper Newport Bay (left).

PHOTO CREDIT | Inside the Outdoors

Teachers learning about local watershed during a summer institute (top right).

PHOTO CREDIT | SMCOE

Teachers learning about local wildlife (bottom right).

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## Citation:

Amy Frame, Katie Beck, Lori Kiesser, Naama Sadan, and Andra Yehogian. *Environmental Literacy County Office of Education Leadership Case Studies*. San Francisco: California Environmental Literacy Initiative, 2022.





# Executive Summary

Our planet is in crisis due to climate change. California is increasingly challenged with wildfires, drought, flooding, mudslides, biodiversity loss, and rising sea levels. As much as these events are negatively affecting us today, they will—without bold, proactive, strategic thinking, and earnest engagement—profoundly affect the health and quality of life of our children. Even more tragic, this crisis will disproportionately take the most severe toll on communities least able to adapt to these extreme climate changes—that is, systemically under-resourced and historically disadvantaged low-income communities and communities of color.

Given this dire reality, the question is: What role can California’s county offices of education (COEs) play to help mitigate the environmental threats to our schools and neighborhoods while also ensuring that every child in every community has an opportunity to learn, grow, and reach their fullest potential? What role can environmental literacy and sustainability play in protecting our planet and our children?

The answer, in short, is a lot.

The following case studies are designed to illustrate how two COEs from different parts of California broke new ground in environmental literacy and sustainability leadership in ways that are already improving the lives of the students and other residents of their communities. COEs are uniquely positioned to apply a systems approach to integrating a county’s real-world sustainability and climate resiliency assets, professional learning programs, and the necessary instructional and fiscal supports. COEs

can drive continuous improvement efforts that create more resilient, better educated, and healthier communities for all. The work of COEs to elevate environmental literacy as a core competency for students not only has benefits in the present, it also develops more informed and empowered youth through interdisciplinary, solutions-oriented curriculum that promises to make the world a better place.

Fortunately, many COE leaders are already adept at managing change; it’s a matter of applying this skill set to environmental literacy initiatives. Building a COE’s organizational structure and culture to broadly support environmental literacy has been observed to follow these three stages of transformational change: (1) gaining buy-in and supporting emerging efforts; (2) assessing, planning, and early implementation; and (3) systemic, sustainable implementation.

It should be noted that successfully navigating these phases of change in public school systems requires an equity lens grounded in designing with the margins, to bring along the entire community and prioritize issues that impact the most vulnerable populations. The capacities needed for this type of leadership are already well represented in the California Professional Standards for Education Leaders<sup>1</sup> (CPSELS) and are illustrated in these cases. The CPSELS are used in administrator preparation programs and to guide ongoing professional learning and evaluation for school, district, and county office of education staff.

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<sup>1</sup> [https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/cpsel-booklet-2014.pdf?sfvrsn=71b5d555\\_2](https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/cpsel-booklet-2014.pdf?sfvrsn=71b5d555_2)

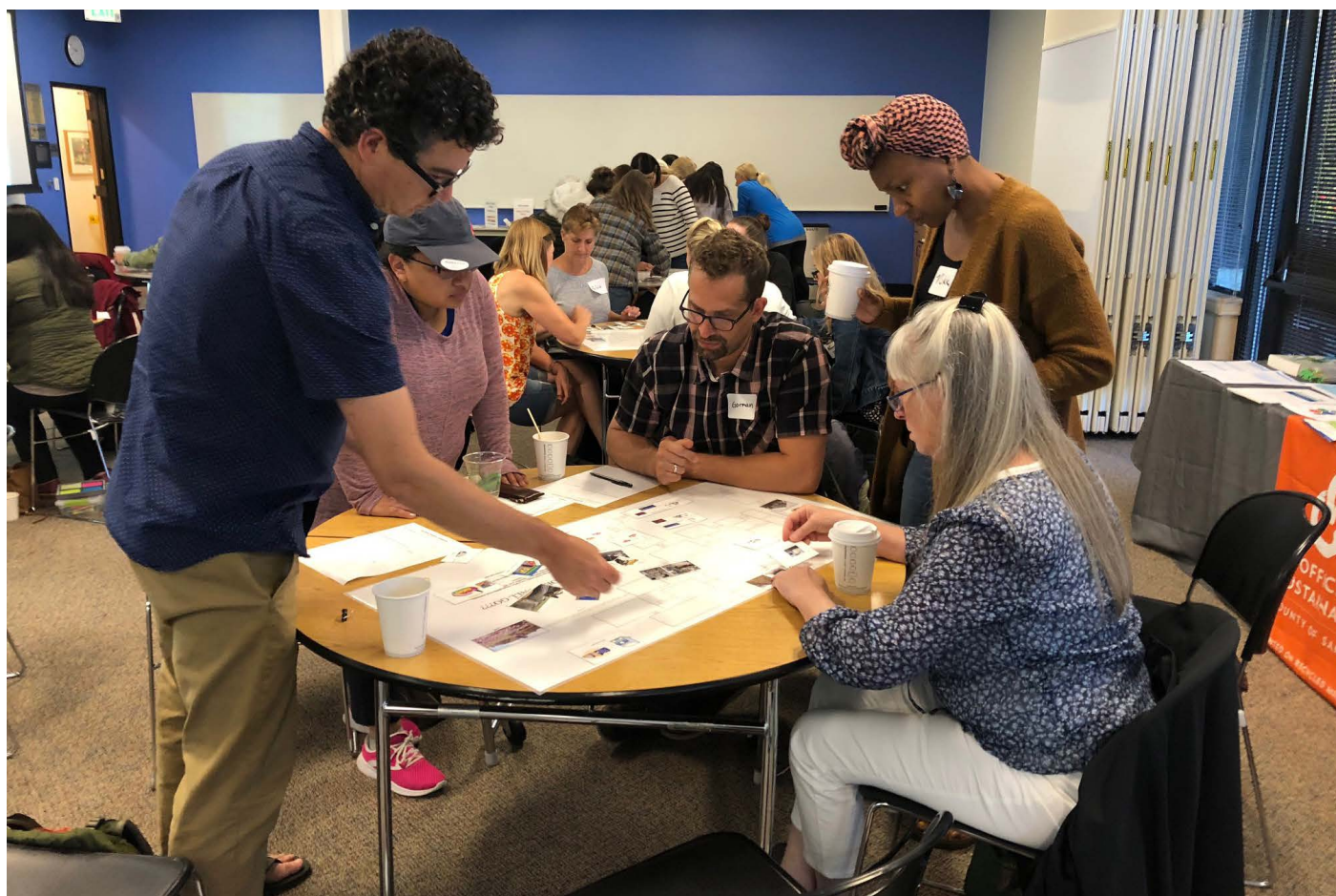
## How California's Professional Standards for Educational Leaders Support Environmental Literacy

- **CPSEL 1** – Visionary leadership from the top is essential to uplift environmental literacy as one of the top priorities at a COE.
- **CPSEL 2** – Through instructional leadership that implements California's Environmental Principles and Concepts (EP&Cs), frameworks, and standards, COEs provide formal and informal educators with shared language and a vision of what environmental literacy instruction best addresses local needs.
- **CPSEL 3** – Human and fiscal resource management skills are essential for environmental literacy coordinators who are often tasked with aligning internal and external resources.
- **CPSEL 4** – When it comes to family and community engagement, COEs are especially effective at maintaining and expanding partnerships with environmental education organizations and increasingly diverse networks of community-based partners and agencies.
- **CPSEL 5** – In terms of the larger context and statewide policy, these cases show the value of belonging to broader statewide organizations and demonstrate how COEs can impact policies in education, as well as municipal and regional sustainability and resiliency initiatives.
- **CPSEL 6** – The leaders showcased here demonstrate how personal ethics and integrity drive priorities for safe schools and communities. These examples inspire increased commitment to equitable access to an education that connects students with nature and empowers them to positively impact natural and human systems.



The two COE cases presented focus on the San Mateo County Office of Education and the Orange County Department of Education. As of fall 2021, the San Mateo County Office of Education (SMCOE) has begun its fifth year of a broad environmental literacy and sustainability initiative, and has self-identified as fully engaged in the “systemic, sustainable implementation” phase. The case study delves into how this initiative started and describes what catalyzed its growth. Next, it outlines how the initiative built a theory of action based on capacity building for multiple stakeholders by creating and coordinating networks, and developing a robust offering of resources and technical assistance to districts and teachers. Finally, it describes how the initiative forged a bold path forward by doubling down on themes of climate resiliency and equitable access to environmental literacy experiences.

The second case study examines the Orange County Department of Education (OCDE) which is currently transitioning from “gaining buy-in and emerging efforts” to “assessing, planning, and implementation.” OCDE is expanding community-based partnerships to find ways to help communities, students, and families gain a deeper understanding of the Southern California environment. As statewide leaders in the California Multi-Tiered System of Supports, OCDE shows how environmental literacy initiatives align with a whole-child approach and bolsters academic and social-emotional learning. This deep dive into the first stages of the change model illustrates how valuable relationships and projects develop and can result in resilient, innovative solutions at any point in the process.



Professional learning institutes build teacher knowledge and networks.  
PHOTO CREDIT | SMCOE

To build off another long-standing statewide framework, these case studies also illustrate how leverage points for environmental literacy exist within each of the Green Ribbon Schools award program's pillars: reduced environmental impact and cost, improved health and wellness, and effective environmental and sustainability education.<sup>2</sup> Whether the initial focus is on the classroom or the campus, these interconnected goals support one another and are all required to achieve the outcomes in California's *A Blueprint for Environmental Literacy*,<sup>3</sup> California's carbon emission and natural

resource management targets, and climate and environmental justice goals. Fortunately, COEs do not have to start from scratch, and the authors hope readers see themselves in the stories presented here and are encouraged to deepen work with their colleagues to raise environmental literacy and sustainability to a top priority in every county in California. Together, COEs can garner state and public support required to ensure every student in California's schools graduate environmentally literate and prepared to engage with their communities on the behalf of our collective future.

<sup>2</sup> <https://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp>

<sup>3</sup> <https://www.cde.ca.gov/pd/ca/sc/documents/envronlitracyblueprint.pdf>

# Introduction

## The California Way: Environmental Literacy as a Core Competency in Public Education

As regional leaders, California's county offices of education are well positioned to support educators to connect environmental literacy to standards-based learning. Additionally, COEs can prioritize sustainability efforts in facilities and operations, and invest in mutually beneficial partnerships with local partner agencies focused on regional environmental issues. This systems-based approach is essential in helping the state meet its ambitious goals around climate action, sustainability, and equity.

Fortunately, California is already a leader in creating a supportive context for environmental literacy for its TK–12 students. California fully supports integrating environmental literacy

into classroom, on-campus, and off-campus learning experiences for the state's 6.2 million public school students. As far back as 2003, California passed legislation (AB 1548, Pavley) that called for the articulation of Environmental Principles and Concepts (EP&Cs) as core competencies and for their integration into standards-based instruction, including subject areas such as science, English language arts, math, and history–social science. The legislation also called for the creation of a model curriculum to demonstrate to teachers what environmental literacy looks like in practice. The state produced 85 standards-based curriculum units<sup>4</sup> focused on science and history–social science and shared these resources for free with California teachers. It's clear from the uptake of these materials that California teachers are deeply interested in using the environment as an integrating context for learning.

In 2015, California published *A Blueprint for Environmental Literacy*,<sup>5</sup> which defines environmental literacy as follows:

**“An environmentally literate person has the capacity to act individually and with others to support ecologically sound, economically prosperous, and equitable communities for present and future generations. Through lived experiences and education programs that include classroom-based lessons, experiential education, and outdoor learning, students will become environmentally literate, developing the knowledge, skills, and understanding of environmental principles to analyze environmental issues and make informed decisions.”**

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<sup>4</sup> <https://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp>

<sup>5</sup> <https://www.cde.ca.gov/pd/ca/sc/documents/envronliteracyblueprint.pdf>



While the TK–12 education system has experienced pockets of progress towards equitably integrating environmental literacy, sustainability, and climate resilient practices, these efforts have not yet scaled. However, the combination of the COVID-19 crisis, the country’s recent response to systemic racism, as well as ongoing climate disasters in California, has finally resulted in the urgent need to reimagine TK–12 schools, especially for low-income students and students of color, who are often disproportionately impacted by these issues. It is critical that our efforts catalyze transformative change equitably and at scale so that schools minimize disruptions to learning and provide access to safe and healthy spaces for children, youth, and adults to learn and play.

Leading public-school systems toward these environmental literacy outcomes is challenging and takes a significant amount of support from

local leaders. County offices of education can be integral to this change process because they already support districts across an entire region with backbone support and are the natural intermediary between the state and local education agencies—districts and charter schools. Furthermore, COEs serve as the intermediary between other governmental and non-governmental agencies that are interested in supporting districts with programs and resources. COEs are well positioned to form cross-sector partnerships that efficiently coordinate and deploy targeted resources to school communities, and do so with equity and inclusion at the core. Through these two case studies, the authors sought to understand what types of leadership development, coordination, support, and resources could best enable COEs to improve equitable access to environmental literacy experiences for students in a variety of contexts.



Environmental Youth  
Leadership Network summit.  
PHOTO CREDIT | SMCOE

# CAELI's County Office of Education Innovation Hub:

## About Our Case Studies

The California Environmental Literacy Initiative (CAELI) is a public-private partnership designed to increase the TK–12 education sector's capacity to support environmental literacy across all of California's 6.2 million public school students.<sup>6</sup> CAELI was set up to implement and evolve the ideas in California's *Blueprint for Environmental Literacy*. CAELI's core strategies are founded on the principles of equity and cultural relevance. Its members strive to create large-scale, long-term, systemic change in the state's approach to educating its youth in and about the environment, with a particular emphasis on serving students of color and students from low-income communities.

Grounded in this theory of action, these case studies tell the story of how environmental literacy leadership developed in two county offices of education from different regions of California and show how capacity for environmental literacy leadership in TK–12 education can support beneficial system outcomes. For each case study, CAELI conducted in-depth interviews of COE staff members, transcribed them, and analyzed them according to two frameworks. The case studies connect to two important formal education frameworks:

- Leadership capacities outlined in the California Standards for Educational Leaders (CPSELs), which are the basis for administrator preparation, induction, and evaluation.

## CAELI operates under a three-pronged theory of action:

1. **Create a supportive statewide context for environmental literacy;**
  2. **Incrementally infuse environmental literacy into statewide initiatives related to curriculum, professional learning, and assessment; and**
  3. **Demonstrate, through leading-edge exemplars, that any school district can create districtwide environmental literacy programs based on plans that focus on equity of access and cultural relevance for all students.**
- School and district outcomes outlined in the California Green Ribbon award program, which recognizes progress and accomplishments in three areas: reduced environmental impacts and costs, improved health and wellness, and environmental literacy including integration of California's EP&Cs.

As of the writing of this paper, SMCOE and OCDE are two of 10 counties (from a total of 58 counties that officially support full- or part-time environmental literacy coordinators. The others are Humboldt, Monterey, San Diego, San Joaquin, Santa Clara, Santa Cruz, Solano, and Ventura. The case studies are presented through the voices of staff and leaders within each COE, with key findings presented at the end of the report. These ten COEs are blazing a trail for other COEs to follow.

<sup>6</sup> <https://ca-eli.org/>

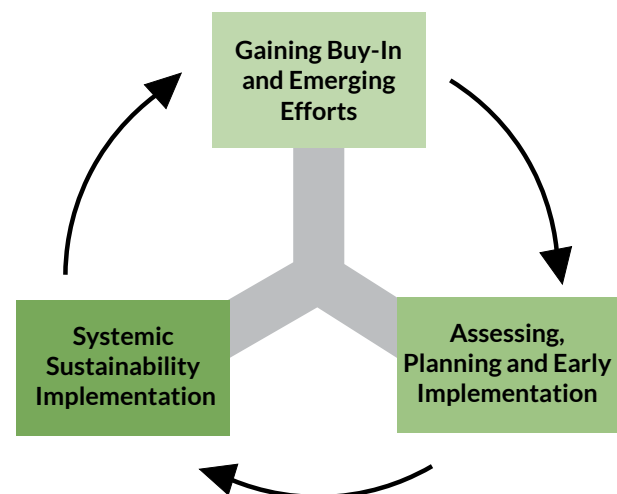


By its very nature, an environmental literacy, sustainability, or climate-ready initiative brings change to a community. The CAELI COE Innovation Hub is working collectively to identify a shared theory of change and theory of action that can be customized in each region to support COEs in managing this change process. While there are many viable change management theories, the CAELI COE group identified a change process that both pioneering COEs have in common for building an initiative centered around environmental literacy and sustainability. The stages of change in the process are as follows: (1) gaining buy-in and emerging efforts; (2) assessing, planning, and early implementation; and (3) systemic, sustainable implementation.

While each of these phases serve it's own purpose for managing change, it should be noted that initiatives are often fluid across phases, and more developed efforts help to gain buy-in. For example, many COEs that have long-standing residential or day-time outdoor education programs can use this sustained success to generate buy-in for a broader environmental literacy initiative.

Additionally, emerging efforts such as a zero waste campaign, or carbon neutral energy plans that are in early implementation, can also reinforce buy-in and help move the overall change process forward. One key to success in both COEs is their investment in a position that can help manage this change process by fostering engagement from the grassroots level, as well as support from the top, and to evaluate and communicate impact along the way.

An additional key to success is to consistently reinforce the role that environmental literacy and sustainability initiatives can and do play in providing equitable access to healthy learning environments and high-quality learning experiences. As leaders expand access at each stage, they provide environment-based experiences that fill opportunity gaps for Black, Latinx, and low-income students who have often been excluded. This focused resource allocation leads to the social-emotional and academic student learning outcomes at the heart of California's equity-focused local control and continuous improvement systems and can help districts meet multiple goals at once for their most vulnerable students.



# Case 1:

## SAN MATEO COUNTY OFFICE OF EDUCATION

### San Mateo County Demographics

Located between San Francisco and Silicon Valley, San Mateo County is home to 23 school districts with 171 public schools, employing 5,100 teachers and serving over 93,000 students. If you include the 100-plus private schools, there are an additional 2,000 teachers and 7,400 students. In the public school system, 40% of students are what California calls “unduplicated,” meaning they are socioeconomically disadvantaged (as determined by eligibility for free or reduced price meals), English learners, foster youth—or any combination of these designations.<sup>7</sup> San Mateo County faces a significant socioeconomic divide, a geographical distribution from densely populated urban communities to rural areas with vulnerability to natural disasters, such as fires, floods, and sea level. San Mateo County is one of the nine Bay Area counties, located below San Francisco on the peninsula, and just above Santa Cruz. The northern and northeastern parts of the county are densely populated urban and suburban areas, while the south and the west-central parts of the county are less densely populated rural environments and coastal beach areas. The population of just over 765,000 residents lives across 15 cities, five towns, and unincorporated county areas, with a median household income of \$122,641.<sup>8</sup>

<sup>7</sup> <https://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp>

<sup>8</sup> <https://www.census.gov/quickfacts/sanmateocountycalifornia>

#### PEOPLE INTERVIEWED FOR THIS STUDY:

- Anne Campbell, Superintendent (retired)
- Nancy Magee, Superintendent (current)
- Jenee Littrell, Deputy Superintendent of Educational Services
- Jennifer Frentress, Associate Superintendent, Innovation and Research
- Patricia Love, Executive Director of Strategy and Communications
- Andra Yeghoian, Environmental Literacy and Sustainability Coordinator
- Doron Marcus, STEM and Career and Technical Education Coordinator
- Gwenn Lei, Reading-Language Arts/History-Social Studies Coordinator
- Michelle Holdt, Arts and Restorative Learning Coordinator
- Mark Nolan, Outdoor and Environmental Education Director

According to CalEnviroScreen 4.0 and Cal-Adapt, San Mateo County experiences an average amount of environmental problems, with pollution in the traffic corridors and toxins from agricultural areas among the greatest concerns. Climate change has also begun to have a significant impact on San Mateo County. The biggest threats stem from sea level rise, extreme precipitation, flooding, and wildfires—all issues of concern for school communities due to their potential impact on learning loss, school closures, and health and safety. Furthermore, these issues impact the county disproportionately with lower income communities and communities of color bearing the brunt of these impacts.



Images from teacher fellowship program trainings, 2015–2019. Photos feature teachers doing hands-on activities with program facilitators and community-based partners.

PHOTO CREDIT | SMCOE



## Catalyzing Change: Reinforcing the Buy-In Process with Successful Teacher Professional Learning

While San Mateo County has run a highly successful residential outdoor education program for more than 50 years, the journey to a broader environmental literacy initiative began with an investment in teacher professional learning. This program demonstrated how teachers' grassroots passion can inspire leadership at the top to buy into meaningful change. In 2015, California nonprofit Ten Strands, Dr. Gerald Lieberman from the State Education and Environment

Roundtable (SEER), local community-based partners, and local funders, came together to pilot the first teacher fellowship program in San Mateo County (originally titled San Mateo County Environmental Learning Collaborative or SMLC). This professional learning program was originally started to train teachers to infuse environmental literacy into local, place-based science instructional units based on the state's recently adopted science standards.



According to former Superintendent Anne Campbell, environmental literacy was a new concept for her and for the county. “I really did not have a clue what [environmental literacy] was... but I went into this room with all of these teachers sitting at tables, and all around the perimeter of the room were various nonprofit environmental education and governmental groups, and I was just floored. The level of enthusiasm of the teachers was really impressive and I kept coming back to visit the sessions... I started to get a better understanding of environmental literacy and how important it was for the schools in our county to be participating.”



PHOTO CREDIT | SMCOE

Inspired by the teacher fellowship program, and aware of the type of world she wanted to leave for her new grandchild, Campbell took a leadership risk and built support for her vision. Despite some unexpected pushback, Campbell insisted on including environmental literacy and sustainability in the COE’s strategic goals. Environmental literacy and sustainability were defined as: “ensuring SMCOE and schools county-wide meet the needs of present and future students through practices that are environmentally, socially, and economically responsible.”

Campbell recognized the importance of aligning fiscal and human resources to support her bold vision, so she hired the state’s first full-time COE environmental literacy coordinator, Andra Yeghoian. Yeghoian’s charge has been to oversee a broad Environmental Literacy and Sustainability Initiative that engages stakeholders at all levels to integrate environmental literacy and sustainability into San Mateo County school communities.

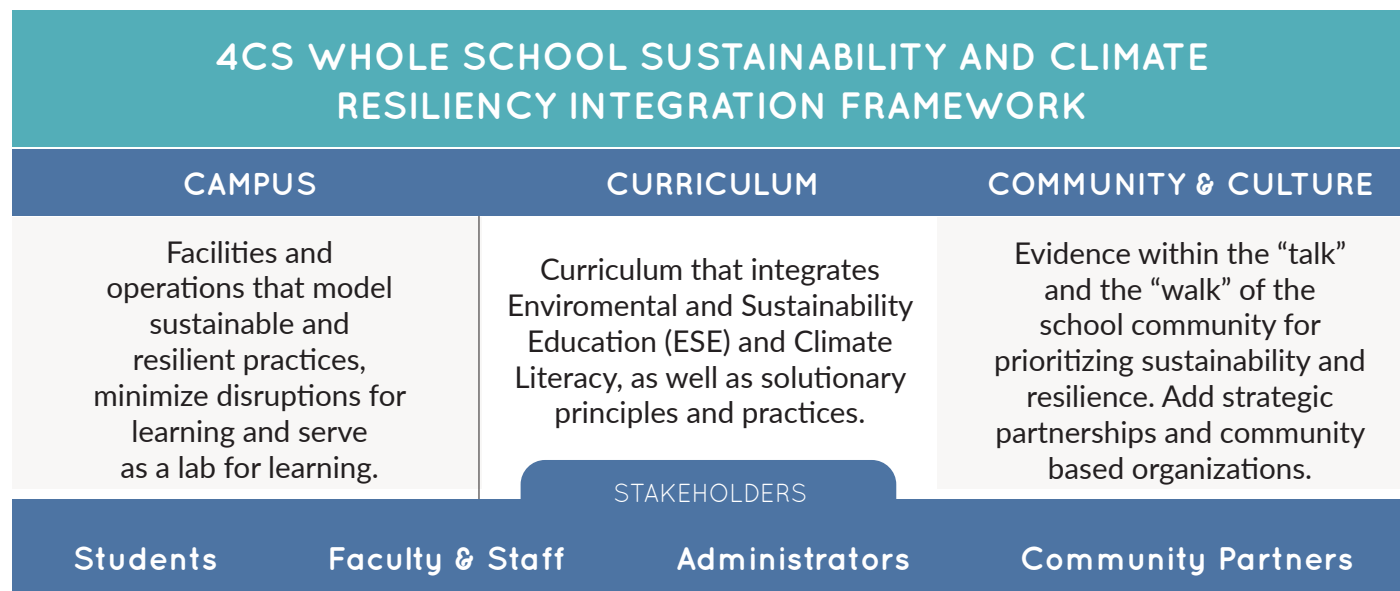


PHOTO CREDIT | SMCOE

...Fueled by her values, mounting ecological hazards, youth climate strikes, and teachers’ enthusiasm, Campbell reflected,

“I just came to the conclusion that for me it was not negotiable.”

## Planning, Assessing, and Piloting Implementation



Adapted from Sustainable Schools Projects and Plymouth University by Andra Yeghoian in 2013.

In the first year of the initiative, Yeghoian focused on identifying assets and needs across the county. She began with a listening tour and with sharing her vision widely. Yeghoian recalls, “Because we were on that innovative edge, not a lot of people understood what we were trying to do. So, for at least the first two years of the initiative, we needed to spend a lot of time just helping people understand the philosophy and the framework of whole school sustainability.”

Yeghoian goes on to say, “It took a while for people to make these mental shifts. They also needed support in understanding how to operationalize these types of philosophies. This is why I introduced the Whole School Sustainability and Climate Resilience Integration Framework. This framework supports stakeholders in school communities to integrate environmental literacy and sustainability across all facets of an institution—campus, curriculum, community, and culture. It is a framework that attaches to everything and everyone, so people begin to recognize that this work of environmental literacy and sustainability is their work too.”

With a preliminary picture of environmental literacy and sustainability in the county established, Yeghoian took the next step and shaped the programs and services offered by the COE to advance environmental literacy and sustainability. Within the first year, she worked with the teacher fellowship program planning team to transform the summer institute into a robust fellowship program, launched a community-based partners network and an environmental youth leadership network, and hosted a Schools for a Sustainable Futures summit. These efforts were geared towards capacity building and networking with key stakeholders across the county. An additional effort launched in the first year to gather data about who might be catalysts for change was the One Planet Schools Challenge (now Sustainable and Climate Ready Schools Challenge), which recognized leaders countywide actively leading transformative environmental literacy and sustainability efforts in their school communities.

## Doubling Down on Systemic Implementation: The Climate Crisis Drives Home Sustainability as an Equity Imperative

Through 2018–19 and the first half of the 2019–20 school year, environmental problems and climate impacts became painfully apparent in San Mateo. While standards-aligned classroom learning was well supported, it wasn't necessarily addressing the community's most pressing needs Yeghoian says, "We realized that we were already experiencing the impacts of climate change and that we needed to not only mitigate impacts with activities like energy efficiency and composting, but also to teach climate adaptation and actually prepare our schools for fires, air pollution, and sea level rise."

When Yeghoian was asked by various resource management agencies and local governments about schools' Climate Action Plans, she had to explain that the vast majority of schools didn't even have climate mitigation and climate adaptation in their vocabulary yet. It was not yet a part of the planning process for district and school administrators, and certainly not built into the curriculum in any meaningful way. As Yeghoian notes, "Schools, just like other jurisdictions, have mandates and regulations that pertain to them—such as greenhouse gas emissions and zero waste efforts. It is problematic to be so far behind these other public sectors in preparing and planning for climate and sustainability."

In response to this education sector lag, Campbell's successor Nancy Magee chose to double down on SMCOE's environmental literacy and sustainability vision. She had experienced



One Planet Schools Challenge (now known as Sustainable and Climate Resilient Schools Challenge) winners from 2018–19.

PHOTO CREDIT | SMCOE

first-hand how schools served as emergency havens during the devastating wildfires in San Diego 20 years prior. As part of the revision to the previous strategic plan, Magee furthered the commitments to the environment by embedding sustainability into the COE's new core practices, alongside growth mindset, cultural humility, trauma-informed practices, and accountability. Says Magee, "We also moved the environmental literacy and sustainability initiative into the superintendent's office because it's so much more than curriculum and instruction. It involves key business officials in how they're spending their money and supporting their facilities with solar and waste management." In making this shift, Magee's leadership team also realized that they needed to focus not only on supporting districts and schools to make a sustainability transformation, but also to continue building the internal culture and operations at SMCOE to bring the core practices to life.



Together, Magee and Yeghoian invested in developing the environmental literacy of SMCOE staff members from every department. The goal has been to make the county office a model for the districts they serve. The Curriculum and Instruction Services team was trained on how California's EP&Cs are embedded into multiple state curriculum frameworks, standards, and instructional materials. Many county offices of education are already trusted interpreters of state policies to local contexts, and when it comes to the taking action part of environmental literacy, it's crucial to also walk the walk. Going zero waste in the central offices provided the opportunity to train every staff member and build their collective efficacy in addressing environmental issues. Beyond mere symbolism or practicality, it has also become an empowering part of SMCOE's identity. "Now, it's just who we are," said Jenee Littrell, deputy superintendent of educational services.

SMCOE is actively exploring its central role in creating the ecologically sound and equitable communities that California's *Blueprint for Environmental Literacy* aspires to. Associate Superintendent Jennifer Frentress noted, "We have the lowest income population and also the highest income population. For example, when we attended the San Mateo County Office of Sustainability's Climate Ready San Mateo County Coalition, we learned that



Former San Mateo County Superintendent Anne Campbell (left) (retired in 2018) and County Superintendent Nancy Magee (right) at SMCOE's Loma Mar property open space that was under COE and County Board stewardship prior to sale to the county parks system.  
PHOTO CREDIT | SMCOE

because of environmental pollution and other environmental factors, the children who grow up in East Palo Alto have a life expectancy that is ten to 15 years shorter than children who grew up in Menlo Atherton. Environmental inequities are often compounded by disparities in opportunities to learn."

Zero waste training and tri-bin waste stations implemented in 2018-19. PHOTO CREDIT | SMCOE



County Superintendent Magee adds, “School districts with more resources and whose student population reflects high socioeconomic demographics seem to be the places where leaders have more flexibility to invest in innovative practices. However, where students are most impacted by the climate crisis, those

from lower socioeconomic households, are often in districts that have much less capacity in financial and staffing resources. Therein lies the inequity of the system—we have 23 school districts, where the wealthiest six districts may buy into something, but the other 17 may not have access to these opportunities.

**“We have to ask ourselves what role the county office can play in leveling the playing field, and what role can environmental literacy and sustainability play in this process?”**

### SYSTEMATIC IMPLEMENTATION CHALLENGES:

This question is complicated because in California’s local control context, COEs have limited influence on district priorities. In past years, statewide accountability pressures on under-resourced and lower-performing districts have limited the status of environmental literacy within the curriculum. “Getting districts to even pay attention is sometimes difficult because environmental literacy has not been one of the core subjects... the urgency for district leadership was not quite there,” says Gwenn Lei, reading–language arts and history–social studies coordinator.

The challenge of equity isn’t restricted to the lower socioeconomic rung. Recent data from a landscape analysis in SMCOE actually showed that post-COVID districts with socioeconomically disadvantaged students and those with higher-income families were both accessing outdoor education opportunities at higher rates than middle income areas.

These middle-income districts may not qualify for state or grant funding but cannot pay for what are often viewed as enrichment activities through parent organizations. In these socioeconomically disadvantaged districts, pressure to address so-called pandemic learning loss and an influx of funds for new programs is causing initiative fatigue already, making it easy for leaders to lose sight of the key issues their community members are facing.

In fact, a number of SMCOE staff members see the converging crises of COVID-19, systemic racism, and climate change as a call to action for an even more radical transformation and integration of the curriculum. Lei explains, “We’re witnessing a global crisis. How are we going to shift the content of what we’re teaching to address that? The urgency of the situation demands that we show up with this sort of humility, with a willingness to collaborate. It’s an opportunity in the sense that it’s an invitation, or an urgent call for action.”

## MEETING THE CHALLENGES:

Fortunately, a strong vision is emerging around the environment as a context for learning in integrated, interdisciplinary ways. Because the EP&Cs have been incrementally infused into multiple content frameworks<sup>9</sup> at the state level, each of the COE subject matter experts has a common platform for collaborative curriculum development.

Another critical piece for infusing environmental literacy into schools has been connecting this work to health and well-being and social and emotional learning efforts. The Environmental Literacy and Sustainability Initiative has embedded environmental literacy, sustainability, and climate resiliency into SMCOE's trauma-informed practices frameworks. This includes a focus on developing green spaces as nurturing and healthy places for students and staff.

Visual and performing arts coordinator, Michelle Holdt, has been active in both of these efforts, making climate change and environmental literacy a core part of her work. She adds, "Ecosystems should be something that students can interact with on a regular basis. A place they can go to for self-care, and a place they can use for inspiration for creative expression. That's why I see the green facilities work and the trauma-informed connections to the environment as so important."

To this end, SMCOE has been able to partner with Ten Strands, Green Schoolyards America, and the Lawrence Hall of Science in launching and leading the award-winning National COVID-19 Outdoor Learning Initiative<sup>10</sup>, which created a free library of resources on designing, funding, and using outdoor spaces for learning, play, wellness, and flexibility in the face of the dual issues of the pandemic and climate change. SMCOE is strengthening its internal capacity to support connections between sustainable facilities, buildings and school grounds, and solutionary curriculum and programs.<sup>11</sup>

Patricia Love, executive director of strategy and communications, describes how "there's such an important learning opportunity in facilities and operations, because you can change the narrative of your place, and connect students to real-world skill-building. When you pair curriculum and instruction with operational practices, you can walk the talk of sustainability and a college and career readiness approach in your curriculum."



<sup>9</sup> EP&Cs have been integrated into frameworks for science, history-social science, health, arts, and mathematics.

<sup>10</sup> <https://www.greenschoolyards.org/covid-learn-outside>

<sup>11</sup> <https://sites.google.com/smcoe.org/solutionaryteacherfellowship/home?authuser=0>





Andra Yeghoian (center) holds the Green California Leadership Award in October 2019 alongside Ten Strands CEO Karen Cowe (left) and Amy Frame (right) | PHOTO CREDIT | Ten Strands

## Looking Ahead: Sustainable and Climate Ready Schools and Connections to Green College and Career Pathways

To really support schools in becoming sustainable and climate ready, SMCOE has begun to work closely with a number of local community-based partners to provide technical assistance in facilities and operations through a regional Sustainable and Climate Ready Schools Partnership Network. The intention of this effort is to leverage strategic partnerships with governmental and non-governmental agencies to efficiently integrate a comprehensive suite of green and climate-ready facilities and operations services to San Mateo County's districts and schools. Love explains,

"Schools have such an important role to play in communities, so if we can help schools become climate-ready, communities can be climate-resilient. The COVID-19 crisis has really shown us that school campuses themselves must be transformed into safe and resilient spaces to learn and work."

Superintendent Magee adds to this sentiment: "Some school facilities are aging and could have issues with toxins. We want to do all we can to help schools keep their students on campus regardless of outside air quality and power outages. This will take upgrades to HVAC systems powered by solar with battery back-up. We will also need to look hard at the impact of sea level rise and flooding on school facilities.

As SMCOE deepens its understanding of various industry sectors, a longer-term vision of integrating sustainability into college and career readiness is also emerging. The goal is to "green" all the industry sectors. In addition to his STEM coordinator responsibilities, Doron Markus has also taken on Career and Technical Education (CTE) through an environmental literacy lens. With the investment of California's Strong Workforce funds, SMCOE is developing green career awareness in middle school. SMCOE's commitment enabled Markus to initiate and lead a statewide effort by the California Association of Science Educators to integrate career awareness throughout TK-12 science learning, with an eye to industry sectors most crucial to California's future.

As Superintendent Magee puts it,: “I am a big proponent of connecting students to the real world. There are so many green jobs and career opportunities focused on the environment, land management, parks, and recreation. There are so many different pathways for students to pursue successful careers. With strong environmental literacy curriculum, career connections are directly present. Bringing career learning into the classroom further supports students of color or those who come from low-income communities become leaders in the space.”

Valuing students—especially those who have been historically underserved and underrepresented in STEM fields and disproportionately impacted by environmental issues in their communities—is key to addressing many of the challenges that San Mateo County is facing.

Fortunately, San Mateo's theory of change for capacity building across programs and networks has taken hold, and momentum is growing every year. Leaders from the youth and adult capacity-building programs have been championing transformative change across their districts. In some districts, the passion for change has translated into fee-for-services contracts with districts for environmental sustainability and climate-

resilient services, such as comprehensive baseline assessment and strategic planning, as well as technical assistance on green facilities and professional learning for solutionary, project-based learning. District leaders are beginning to see environmental literacy as a core competency to address real-world challenges within and outside of school, and more are engaging with sustainable and climate-resilient facilities efforts.

While disrupting the status quo is hard work, it can also be a powerful role for COE leadership. Neither the state's climate action nor equity goals can be met, for example, without a substantial financial investment in schools. When talking about the challenges of creating environmentally literate students, Campbell says, “Let's just take the biggest one of all: California is very low in per-pupil funding. Every county office of education is operating within a system that is inherently unjust because it significantly under-funds, under-staffs, and under-prepares all schools for the type of work needed to address real-world problems.” San Mateo COE illustrates one compelling example of what can happen when people act collectively to gather resources, build partnership capacity at all levels, and transform the school system to take its rightful place as a leader in creating a sustainable and just future for California.

## Case 2:

# ORANGE COUNTY DEPARTMENT OF EDUCATION

## ORANGE COUNTY DEMOGRAPHICS

Orange County is the third most populous county in the state, located between Los Angeles and San Diego Counties. It is home to 28 school districts, 20,996 teachers, and 456,572 students. This includes 613 public and 389 private schools. Within the public system, 53% are socioeconomically disadvantaged, English learners, foster youth, or a combination of these.<sup>12</sup> As the 32nd most densely populated county in the United States, Orange County is extremely diverse in population density, socioeconomics, and land use. The population of 3,175,692 people has a median income of \$90,234. The county faces many challenges including sea level rise in the beach communities, wildfires and mudslides in the Santa Ana Mountains, and environmental justice issues in highly urbanized areas. Understanding these environmental concerns, along with others that the county faces, are key components to empowering youth to become engaged with their communities.

## LONGSTANDING VALUES: Outdoor Education for Every Student

OCDE exemplifies a COE that is transitioning from the first stage of “buy-in and emerging efforts,” to the second stage of “assessing, planning, and early implementation.” The primary source of buy-in for environmental literacy in OCDE has been the longstanding value of outdoor education and the aspiration

to provide access to it for every student.

Our story begins with Lori Kiesser, the champion responsible for cultivating public-private partnerships to support environmental literacy across Orange County. Kiesser serves as the long-time partnership lead for Inside the Outdoors (ITO), OCDE’s environment-based student program that is part of the STEM, Humanities, and Early Learning unit. Since 1974, ITO has been nurturing student knowledge and stewardship of the natural environment with highly qualified naturalists and 15 field trip locations throughout Orange and Los Angeles Counties. ITO logs more than 150,000 hours of environmental STEM learning each year and has served over 3.5 million students to date. In Orange County, environmental literacy is most closely identified with high-quality place-based learning provided through community partners such as ITO.

When Katie Beck came on as the OCDE STEM coordinator, she heard about Lori and reached out to her. Connecting the county office’s STEM

### PEOPLE INTERVIEWED FOR THIS STUDY:

- Al Mijares, Orange County Superintendent of Schools
- Christine Olmstead, Associate Superintendent, Educational Services
- Holly Steele, Administrator, STEM, Esports, Inside the Outdoors, and Expanded Learning
- Lori Kiesser, Environmental Literacy Coordinator, OCDE, and Inside the Outdoors
- Yarib Dheming, Outreach Manager, Inside the Outdoors
- Katie Beck, STEM Coordinator, Educational Services
- Marika Manos, History/Social Science/ Civics Coordinator, Educational Services

<sup>12</sup> <https://www.ed-data.org/county/Orange>



department to their primary outdoor education provider was a crucial early step in advancing environmental literacy at OCDE Lori says, “It took quite a bit to get to the place we are now. I read the *Blueprint for Environmental Literacy* and recognized that it was validation of the work [ITO] had been doing for years. I connected with Ten Strands and started working with them and Dr. Gerald Lieberman from SEER. From there, we secured more partner districts, funding, and community-based partners, which ultimately led to my position including environmental literacy as a core job duty.”

As with San Mateo, by connecting Dr. Lieberman with COE leaders, Ten Strands helped strengthen the resolve and relationships necessary to propel this initiative forward. The creation of Lori’s official position as environmental literacy coordinator has enabled OCDE to connect statewide frameworks to local needs and inspire the recognition of environmental literacy as a “core competency” at OCDE that reinforces their whole-child approach.

At OCDE, there was a natural alignment between environmental literacy and ongoing initiatives. Environmental literacy values nurturing the whole child—a sentiment in line with OCDE’s statewide leadership on California’s Multi-Tiered System of Supports (MTSS). When describing the importance of ITO’s work, OCDE Superintendent Al Mijares says in an article he wrote for Ten Strands, “I echo the sentiments of countless researchers who suggest we’re missing out on opportunities to nurture brain development and strengthen mental health when we close ourselves off from nature.”<sup>13</sup>

This sentiment is also shared by Lori Kiesser’s supervisor Holly Steele, STEM administrator in the Educational Services Division. Steele explains her rationale for elevating Kiesser’s role within



Parents and community-based partners at a local park event.  
PHOTO CREDIT: Inside the Outdoors

the county office of education. “Oftentimes, folks who are working on environmental literacy are also responsible for a whole slew of other things. When Lori chooses to retire, her position will remain. That’s important for sustainable funding. To have people for whom this is their full-time job, I’ve come to realize how rare that is.” Lori described the importance of buy-in at multiple levels. Regarding Superintendent Mijares, Lori says, “He believes in the work, and he looks to Holly to keep that effort going. Holly looks to me to bring the partners so I’m the implementer and the voice.” Environmental literacy now has multiple champions within OCDE.

Support for Lori’s position embodies Steele’s “very personal passion about the importance of connecting kids to nature.” She recounts, “When I started at OCDE, the office that I was assigned was an interior office, and I struggled with that because there’s no natural light. But I put on one wall in my office, almost floor to ceiling, a giant forest mural.

<sup>13</sup> <https://tenstrands.org/place-based-learning/a-transformative-experience-students-and-nature/>



Katie Beck, Lori Kiesser, and Holly Steele at the OCDE offices.  
PHOTO CREDIT | OCDE



It's just my attempt to feel connected to the outside world. Sometimes when I'm stressed at meetings I turn and stare at my tree wall and it just makes me feel better. I feel like I am so lucky to be the person who gets to advocate for this program. I think it's helpful to some degree having leadership who has a personal vested interest because it means something to them to sustain that work. You've got to keep fighting for it. And we're really lucky that we have the people who have the passion to pursue the work because I don't think you can do that without it." Echoing the sentiments of many of her colleagues and emphasizing human resource management as a crucial leadership capacity for environmental literacy, Steele says, "It's really the people at the end of the day."



## COMMUNITY BUY-IN: The Power of New Civic Partnerships

Yarib Dheming, ITO outreach manager, is one of the people who makes ITO work. In his role, he works with districts, schools, community partners, and, crucially, families, many who have historically lacked access to outdoor education experiences. Like many of his colleagues, Yarib's early experiences in nature transformed him. He understands how outdoor learning where kids connect with the natural world can be a catalyst for academic success and green careers like his own.

Dheming often reaches out to newer residents of Orange County. This demographic includes many Latinx families who aren't sure what to expect from environmental education at first, but become vocal advocates for equitable access to outdoor programming. Says Dheming, "It's become a tradition with a lot of schools and districts in Orange County to come through our programs, whether it was outdoor science school in the beginning, then field trips, and classroom visits. But not only that, it's important for our organization to also connect to families. The parents are a huge part, and they also make things move within their districts with their voices. Once they get together and say, 'This is something we want for our schools, we want for our kids,' that could definitely move the needle." He explains, "People might have certain



Yarib Dheming and ITO Animal Ambassador Archie visit Anaheim Elementary School District Offices.  
PHOTO CREDIT | Inside the Outdoors

**"I was born in El Salvador, and I immigrated to this country when I was six years old. English is a very difficult language to learn, but I always go back to that camp, that outdoor science school experience, because that's really where I got my spark for science, for environmental literacy. I just wanted to learn more about the outdoors. It started really young for me, and really helped me transition from being an English learner."**

**- Yarib Dheming, ITO outreach manager**

perceptions of Orange County. But it's not all equal. My goal has always been to provide that equity and access to all students. Every community deserves that—and how I think that could be accomplished is bringing more people to the table."

The heart of OCDE and ITO's approach is connecting kids with places to help them feel and understand why these places are important and develop their sense of purpose in this bigger world. To reach the county's 450,000 students, Lori Kiesser has been instrumental in forging valuable partnerships to support the students ITO serves. It works, she says, "because we've got [OCDE] at the table. You've got the Orange County Waste and Recycling—a public agency. You've got the county wide water agency—the Municipal Water District of Orange County (MWDOC) at the table. And we have community partners such as Boeing who share our values and priorities. I want other COEs to know how invaluable it is to have community partners at the table because they bring expertise, funding, and other educational supports."

These community leaders have partnered with ITO to support Orange County teachers, students, and families in a variety of ways—

funding teacher professional learning, providing field trips and guest speakers, collaborating on locally-focused instructional materials that address the EP&Cs, and encouraging sustainability efforts at district facilities.

Schools, agencies, businesses, families, and students all have important roles to play in creating fairer, healthier communities. It takes dedicated champions with room in their schedules to help partners find common ground and put projects into place to measure and accomplish them. Orchestrating mutually beneficial relationships is a key leadership capacity for COE



Dr. Gerald (Jerry) Lieberman of SEER (in white cap) and Tiffany Bacca of MWDOC (second from right) with teachers at the Anaheim Public Utilities' Water Sustainability Campus. PHOTO CREDIT | Ten Strands



Ross Elementary School engaging in a water-related engineering design challenge during a summer professional learning institute. PHOTO CREDIT | Ten Strands



staff—one that requires cultural competence. As Kiesser explains, “Everybody I’ve worked with recognizes community voices are essential. We have to be so careful that we’re not making assumptions about community needs. When we partner with a school district, our programs must be culturally relevant and accessible. You must pay attention and understand what they care about—likely that’s what is happening nearby, perhaps even right outside their front door. If you don’t listen to the community, you can design an amazing environmental literacy program that might not be relevant to the families in that community.”

To complicate matters, she says, “One community can be impacted substantially whereas another community is not impacted at all by an environmental issue. Communities of color are disproportionately impacted so environmental justice issues show up a lot in health metrics.” It is because of this that policies are tailored based on the different needs of the community.

OCDE Superintendent Mija res reinforced this point with Kiesser’s team, saying, “We need everybody at the table—and it can be a really uncomfortable conversation—but that’s essential if we’re really going to get to a place where there’s equity. We need to be ready to listen, ready to be sure that we’re open to providing appropriate opportunities and not just the opportunities that we’ve decided are appropriate.”

Environmental literacy coordinators like Kiesser are often a bridge between the formal education system and local businesses and agencies that serve the county, bringing everyone to the table to support both students and families. Champions need to be able to adeptly facilitate meaningful conversations and collaborations among an increasingly wide range of partners. Patience, too, is key, says Kiesser. Environmental literacy champions need “the ability to connect with the community, to be in an uncomfortable place and be okay with knowing there’s not an answer to that right now—there’s not an easy solution to this. It’s going to take time. It’s going to take work.”

## EMERGING EFFORTS:

### Supporting Districts with Place-Based Professional Learning

OCDE exists primarily to serve one major constituency: the 28 school districts in the county and their 450,000 students. A major challenge to implementing environmental literacy is the competing priorities districts face. One approach has been to infuse environmental literacy professional learning into other training that districts ask OCDE for. “It’s not



Anaheim Elementary School District parents and teachers at Upper Newport Bay. PHOTO CREDIT | Inside the Outdoors

necessarily something that they always ask for, but know that local environmental phenomena are a way that both teachers and students can connect with both the standards and their communities,” said Beck, speaking of recent training on the Next Generation Science Standards (NGSS). Another approach has been to work with Teachers on Special Assignment (TOSA). “A lot of times, a TOSA will be providing the learning opportunities, and we’ll put together something to support them as much as we support the teachers,” says Dheming.

Recently, district administrators have been faced with unprecedented decisions as a result of the COVID-19 pandemic. Says Steele, the districts’ focus during the pandemic has been on “the safety of children and not only just their physical safety, but also their mental and social-emotional health—that takes priority.” For example, she says, “Natural spaces have a really important role in supporting social-emotional health. I’m trying to help folks see that connection. When you visit special places, there’s something that helps you center and focus and feel connected, and that’s pretty amazing.”

Certainly, time outside can provide safety from indoor virus transmission and immediate healing from the effects of the pandemic, but Steele wants to keep district leaders thinking even further ahead to investing in resilient school systems that are prepared to live through and bounce back from future crises and to incorporate nature-based learning for academic and social-emotional learning.

This supportive environment has allowed for some exemplary work, says Steele. “We do have some really strong relationships with districts. Anaheim Elementary School District (AESD) has made a very strong commitment to environmental literacy for every single child in that district and, in most cases,

that means children who would not otherwise have these experiences. Every child gets the opportunity to experience an [ITO] program. They are funding that through their LCAP (Local Control Accountability Plan), and to be explicitly written in is a really big deal because that guarantees you a funding source.”

According to AESD Assistant Superintendent of Educational Services Dr. Mary Grace, “Environmental literacy is perfectly aligned to our vision that all students will receive a STEAM education...We’re really focused on making sure that the education is engaging, hands-on, relevant, problem-based learning, as well as equitable.” Dr. Grace says the district is also “looking to become better stewards of our garbage, so if it’s green waste, if it’s recyclable, or if it’s actual waste, we’re trying to get our schools up and running with a recycling program. We have a nutrition grant that is focused on kids eating healthier, so as they’re learning and tasting new vegetables, the schools are also going to grow them. Certain grade levels [will] be responsible for each part of that—the planting, the tending, the harvesting.”<sup>14</sup>

To help connect classrooms with broader health and sustainability goals, Ten Strands supported in-depth professional learning with a team of teacher leaders from each grade level within the district. Kiesser, Beck, and Dr. Lieberman helped teachers work with community-based partners to develop NGSS and EP&Cs aligned lesson sequences that promote student exploration of real-world interactions of human and natural systems on their campuses.

This professional learning approach was similar to what Ten Strands and SEER facilitated in the San Mateo County Office of Education as far back as 2015. Says Kiesser, “Environmental literacy is community-centered. It’s very relevant to the students where they live, but we have to tell that

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<sup>14</sup> <https://ca-eli.org/link/anaheim-montebello-case-studies/>

story grounded in standards; it has to be a standards driven story.” Working with teachers throughout the school year allowed them to look ever more closely at their campuses and their curriculum to find connections to biodiversity phenomena and environmental issues on even the most seemingly barren areas of a campus. AESD further illustrates the value of a statewide organization working with COEs to build their capacity to provide environmental literacy professional learning experiences to both community-based partners and the districts they serve.

## ENVIRONMENTAL LITERACY:

### An Organizing Framework for Deeper Collaboration

As more people see themselves as part of this work, OCDE is transitioning into the “assessing and planning” stage. As members of various departments take stock of the work they are currently doing related to environmental literacy, a shared vision is beginning to emerge.

Because California’s EP&Cs have been integrated into so many content frameworks, they provide common language and a focal point for collaboration across COEs. Steele explains, “I don’t think we can overstate the value of the EP&Cs. The fact that we have state law that [the EP&Cs] have to be written into every framework when it comes up for revision, that’s a rather significant accomplishment. It helps to broaden the reach and the scope of the work so that this is something that spans every facet of your life.”



AESD teachers develop environment-based classroom lessons while exploring phenomena in the foothills of the Cleveland National Forest.

PHOTO CREDIT | Inside the Outdoors

Says Steele, “Katie (Beck) was hired here as a STEM coordinator primarily to focus on science and a little bit of math. I’m digging into what drives Katie and understanding how important environmental literacy is to her. It’s a beautiful thing as an administrator, when you can match people to things that fill their buckets. I feel very lucky that I can connect her to work that she is passionate about, because I know everyone’s going to benefit from that.” Beck is excited to share her insight with her colleagues. “I want them to actually see the connections. That’s really the power behind it all, that environmental literacy is that web that holds everything together.”

Beck’s passion and collaborative spirit are indeed benefiting her colleagues in other departments as the number of people within OCDE who are incorporating environmental literacy into standards-based instruction and professional learning programs keeps increasing. Beck describes a COVID-inspired collaboration that many coordinators throughout the organization worked on. “The Canvas courses were a Tier



Two intervention course for kindergarten through eighth grade that needed to be done because of COVID. They all had some sort of environmental focus that kids [used for] reading and writing and learning math.” Teachers and students were able to engage in conversations around environmental issues while providing essential learning in core disciplines.

Social Studies Coordinator Marika Manos says, “Environmental literacy is one of the big pieces that help history become more integrated with other content areas and allows for deeper thinking.” To help her peers combine the disciplines, she hosted a county-wide community of practice. Manos explains, “At OCDE we’re focused on Multi-Tiered Systems of Supports, Universal Design for Learning (UDL), and diversity, equity, and inclusion. Many schools in Orange County have been looking at environmental problems to create civics projects—about understanding the government policies and the ways in which humans can actually mitigate problems.”

For the work to advance, the COE will have to orchestrate collaboration that transcends the usual silos and constraints. Notes Beck, “We have history–social science coordinators, we have science coordinators, we have Lori as our environmental literacy coordinator. We have people who bring that expertise to the table. It’s just making space to be together at that table to actually do the work.” She reflected on her colleagues’ efforts thus far, saying, “Wow, you’re actually doing really amazing work. You just need to call it out and you need to put a name on it and need to let kids know what that name is.”

## PLANNING AHEAD:

### Assessing the Changing Landscape

With substantial buy-in from multiple groups and early successes in outdoor education, district partnerships, and curriculum development, OCDE is now conducting a thorough landscape analysis to better understand the needs of students and teachers in its districts. While the COVID-19 pandemic delayed the formation of an official environmental literacy steering committee, that work has now resumed—this time with even more folks at the table.

When thinking about the long-term success of the OCDE program, Kiesser points to the importance of champions. She says, “With strong internal champions who ground the work in teaching and learning strategies that integrate the EP&Cs and environment-based student experiences, environmental literacy becomes organizational culture. OCDE views environmental literacy as a core competency. Because of this, when crazy things happen—you have leadership changes, you have budget challenges, you have a pandemic—you can make it. Then,” she says, “when things fall apart, and you can’t have that twelve-person meeting with the written plan, you still have the work happening, and then it’ll come back together and coalesce around the plan.”

When thinking about the advice she’d give other folks looking to increase their commitment to environmental literacy, she says, “The important thing is to understand that every county office will have their own journey, and most [COEs] have that similar sort of bright spot.” She points out, “You can’t cookie-cutter this work.” While it can’t be precisely replicated, some key findings emerge across both case studies, as the next section will show.



# Key Takeaways

## FROM THE TWO CASE STUDIES

### LEADERSHIP CAPACITIES FOR ENVIRONMENTAL LITERACY

COEs are uniquely positioned to take a systems approach to integrating a county's real-world sustainability and climate resiliency assets and challenges with professional learning, as well as instructional and fiscal support for environmental literacy. COEs are regional leaders who drive continuous improvement efforts across organizations.

#### County Offices of Education can build key capacities:

- Capacity of community-based partners to work with the formal system;
- Capacity of district leaders and faculty to implement high-quality environmental literacy learning opportunities; and
- Their own internal capacities to coordinate across departments and roles.

Environmental literacy is for everyone, and it is something to which everyone working in a county office of education can contribute.

Fortunately, the capacities needed to move the needle on environmental literacy are well-represented in our CPSELs and already in the wheelhouse of those wanting to make a difference. In that sense, environmental literacy leadership should be considered part of the job description for COE administrators. Each section below illustrates the importance of each CPSEL leadership capacity in the context of supporting environmental literacy with key takeaways from our two case studies.

#### DEVELOPING A SHARED VISION

Bold and visionary leadership from the top is essential to uplift environmental literacy and sustainability as top priorities at a COE. However, inspiration for such leadership does not need to start from the top. In San Mateo, former Superintendent Anne Campbell was moved by her teachers' enthusiasm, which in turn came from a summer institute supported by outside organizations. By creating a full-time position filled by Andra Yeghoian, San Mateo COE's vision expanded dramatically to include curriculum, campus, community, and culture.

Similarly, in OCDE Superintendent Mijares began as an outspoken advocate for outdoor education, but it was with Lori Kiesser's advocacy that environmental literacy broadened into STEM and Humanities curriculum that provided nature-based learning for as many students as possible through ITO. Ultimately, they were able to transform educational programs within county-wide utilities agencies.

In each case, the guiding vision continues to be the creation of equitable access to environment-based educational opportunities for every single student in the county. With the support of superintendents, environmental literacy coordinators, other COE staff, and regional partners, COEs can and do play a major role in leveling the playing field for environmental literacy.

## INSTRUCTIONAL LEADERSHIP

COEs are trusted partners in translating state frameworks to local contexts. Using the common language of California's EP&Cs, COEs provide instructional leadership for implementing state frameworks in and across various disciplines. SMCOE and OCDE show how the EP&Cs are especially valuable because they provide a common language to build multi-disciplinary teams for interdisciplinary work to take place. By focusing on local implementation of the EP&Cs, frameworks, and standards, COEs give school communities and their environmental education partners a common language and vision of what environmental literacy could entail within a certain geographic area.

Additionally, COEs often support county-wide networks or other collaborative professional learning structures with the explicit goal of identifying and closing opportunity gaps for outdoor, environmental, and science-based instruction.

Many teachers work in schools or districts that are not yet strongly supporting environmental literacy; therefore, COE-led professional learning is critical to building local teacher champions. It is often these teachers who advocate for change and demonstrate the value and applicability of environmental literacy to a wider variety of disciplines and student populations. While district initiatives may shift dramatically each year, COEs can provide stable support for coaching, mentoring, and other multi-year teacher leadership pathways in environmental literacy.

## FAMILY AND COMMUNITY ENGAGEMENT

Fundamentally, COEs are grounded in place. As insiders, COE staff are able to take in the entire landscape of districts, schools, community organizations, and other stakeholders across a particular geographic region. These case studies illustrate the importance of knowing the opportunities to engage with different districts based on the communities they serve and the value of truly listening to families and community members express their needs.

COEs can seek, maintain, and expand partnerships with environmental education organizations and increasingly diverse community-based partners and agencies. These partnerships are essential for increasing access to high-quality, local, environmentally focused outdoor learning experiences for students who have previously lacked access to them. COEs are well positioned to form cross-sector partnerships that efficiently coordinate resources to help schools transition to green facilities and operations and to do so with equity and inclusion to remediate environmental injustices. Both Andra Yeghoian and Lori Kiesser show that the ability to gather and coordinate the work of multiple formal and nonformal stakeholders is a key leadership capacity required for mobilizing resources to support districts, schools, and students in becoming environmentally literate.



## RESOURCE MANAGEMENT

In light of the multiple functions required for environmental literacy implementation, managing human resources is an especially important capacity to develop in leaders. COEs often have environmental literacy champions in the role of unsung heroes; their work may be uncompensated or largely unsupported. It would serve COEs well to name environmental literacy champions explicitly, integrate them into organizational charts and management structures, and fund the crucial work of catalyzing and managing change, especially in the context of high-turnover and shifting state priorities.

As people working within school systems know, management is a scarce resource. Environmental literacy coordinators are essential to holding all the internal and external moving parts together—they are the grease and the glue. They need the support of their supervisors and superintendents to make things happen, and they need to be afforded sustained time for cross-discipline and cross-department collaboration.

Within COEs, environmental literacy coordination may begin as an instructional initiative, but coordinators will benefit from investment in cross-training and explicit supportive collaboration with staff overseeing other related functions. As both SMCOE and OCDE have shown, environmental literacy coordinators work by pulling together teams to integrate other management functions in support of environmental literacy, such as operations, facilities, strategic planning, and organizational culture. The internal teams brought together by COEs can then serve to fill in human resource gaps in districts. COEs can also further their



AESD teachers learning about human and natural systems.  
PHOTO CREDIT | Inside the Outdoors

equity goals by targeting their outreach and assistance to build relationships with districts housing the highest-needs students. When COEs invest in environmental literacy through staff time, they are especially able to coordinate supports that districts themselves cannot.

Fiscal resource management is another key leadership capacity that environmental literacy coordinators must develop. Both case studies show how modest investments tend to increase their value over the years. Part- or full-time environmental literacy coordinators spend time cultivating community connections that yield financial contributions that directly impact students and teachers. In both case studies, local resource management agencies have

proven valuable partners with shared goals and money to spend on public education. In return, infrastructure agencies value COE staff members' understanding of content standards and of teachers' needs when it comes to lesson plans, field trips, and supplemental curriculum materials. Agencies can often fund teacher stipends for professional learning and collaboration on locally relevant lessons.

With the influx of federal and state COVID recovery funds and the infusion of money toward greening school infrastructure, it will be especially important that environmental literacy coordinators or champions have a seat at the table as Local Education Agencies set the course for the next few years.

## EXTERNAL CONTEXT & POLICY

California has created a highly supportive context for environmental literacy, including the integration of the EP&Cs into frameworks, standards, and instructional materials adoption criteria. SB 720 (2018) codified the EP&Cs in our Education Code as the state's definition of environmental literacy, and updated topics to be covered to include climate change and environmental justice. The decision to pass SB 720 parallels the deeper integration of environmental sustainability mandates in other jurisdictions, such as city and county governments.

In turn, they will impact future funding, mandates, and accountability structures to better support environmental literacy for every student. This adds up to a robust infrastructure for state, regional, and local leadership that provides an ecosystem and backbone support for schools and districts to implement these mandates and expectations—one that parallels what is happening in higher education and many industry sectors.



PHOTO CREDIT | SMCOE

## ETHICS & INTEGRITY

Access to environmental literacy is a deeply personal and highly important social justice issue. The champions, coordinators, and leaders interviewed for these case studies demonstrate a keen understanding that adults owe it to youth to empower them to address the inequities and existential threats caused by climate change and other disruptions to natural systems upon which we all depend.

For many, childhood experiences in nature catalyzed lifelong connection with nature and a profound desire to protect natural ecosystems so that they can be similarly cherished by future generations. The reflective COE staff in San Mateo and Orange counties demonstrate integrity to make decisions based on students' well-being now and as they become adults. They are using their professional influence to speak up for students, teachers, and communities, particularly low-income communities and communities of color, who have been historically excluded not just from enriched, integrated learning and field trips to natural environments, but from the basic rights to healthy neighborhoods with healthy food and clean air and water.



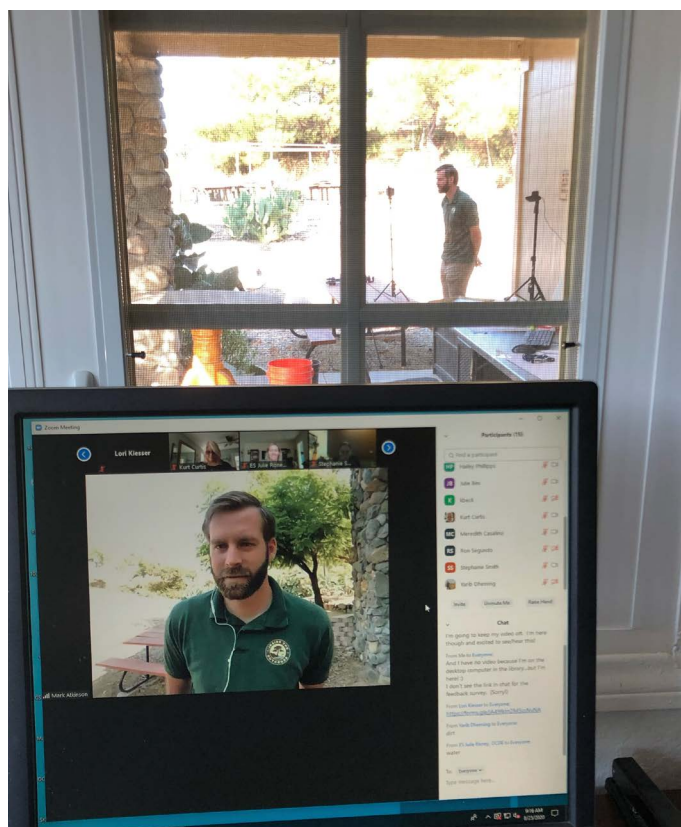
## THE INTERDEPENDENCE

### Of Student Learning, Health, and Sustainability Outcomes

One of the biggest takeaways from these case studies is the interconnectedness of environmental literacy goals with actions that improve student and staff well-being and reduce environmental impacts and costs. According to the *Blueprint for Environmental Literacy*, the ultimate purpose of developing environmental literacy is so students can create “ecologically sound, economically prosperous, and equitable communities.” Whether one enters the work from a curriculum, health, sustainability, or environmental justice angle, ultimately the work will require attention to each of these deeply interdependent projects. The creators of the Green Ribbon Schools award program identified

the three pillars as aspirational goals that can focus the efforts of students, staff, leaders, and community members to work together toward systems-level school transformation.

To meaningfully engage students, teachers need the expertise of community organizations and individuals who have local knowledge, data, and lived experience of ecosystem assets and changes in urban, suburban, and rural neighborhoods. As students become empowered to take action, they need to interact with adults who are themselves environmentally literate and can see that minimizing environmental impacts improves student well-being and academic performance and also reduces costs.



Those with the authority to make decisions about curriculum, training, school grounds, buildings, and operations alike need to treat environmental literacy and healthy schools as a fundamental aspect of public education, not an afterthought, something “extra,” or enrichment for a select few. As California attempts to meet its own goals for reducing waste and carbon emissions and implementing climate change adaptation and mitigation, the entire TK–12 system must be available as a learning laboratory for the next generation of planners, engineers, artists, and leaders. COEs can use their position to remove barriers to healthy campuses, clean communities, and rich future-focused instruction for every student.

PHOTO CREDIT  
Inside the Outdoors

## LOOKING AHEAD

Now is the time for COEs to invest in environmental literacy and sustainability initiatives so that they can help districts and students they serve prepare for, and not just respond to, long-term environmental issues, such as climate change impacts; clean air, water, and food access; environmental justice; and other public health threats. The severity of these crises require a proactive stance, as COEs and their local education agencies will not be able to manage the compounding impacts of these crises in the long-term. COEs are powerful regional capacity-builders, and as such deserve further investment in environmental literacy and sustainability by the state, by community agencies, by foundations, and by private philanthropists. Furthermore, a greater emphasis on district level investment in environmental literacy is also needed to ensure

that learning opportunities are available for broader groups of administrators, teachers, staff, students, and community-based partners. Fortunately, environmental literacy is well-aligned with the state's priorities for local control as well as federal and state programs to address unfinished learning.

From these case studies, it is also clear that schools of education, in, for example, the UC and CSU systems, and other bodies that prepare teachers and administrators should consider revising their programs to highlight the capacities most crucial to environmental literacy since most environmental literacy coordinators will hold one or both credentials. In light of the current environmental crises, it is imperative that our system develops leaders ready for not only instructional leadership, but to spearhead the transformational change our school systems must undergo to prepare our students for the emerging green economy.

Youth Climate Ambassadors at Capstone Graduation. PHOTO CREDIT | SMCOE



# Links to Additional Resources

## A CALL TO ACTION WEBINAR SERIES

[A Call to Action webinar series](#) offers practical advice and effective strategies for education leaders to implement environmental literacy initiatives in their counties, districts, or schools. Webinar recordings, slides, and resource bank topics include: Introduction: Call to Action for Environmental Literacy, Social-Emotional Learning in Environmental Literacy, Environmental Literacy for MTSS, LCAPs and Continuous Improvement, Community-Based and Business Partnerships to Support Environmental Literacy, and Environmental Literacy for All Through Curriculum and Instruction.

## COMMUNITY OF PRACTICE

CAELI's [COE Community of Practice](#) has been launched to amplify lessons learned by its members and by other COE leaders and staff who are champions of environmental literacy or advocates for vulnerable and marginalized students and communities, and who want to join the conversation.

## CAELI COMMUNITY BASED PARTNER HUB

The [CAELI Community-Based Partner Hub](#) is designed for leaders in county offices of education who are seeking a solution to promote environmental literacy, raise visibility and access to community-based partners, and foster partner-educator relationships. The Hub provides districts, schools, and teachers with up-to-date information on environmental education programs and learning opportunities available to their students and aligned to their instructional needs.

## COMMUNITY-BASED PARTNER NETWORK TOOLKIT

The [Community-Based Partner Network Toolkit](#) has been designed to help organizations such as COEs, school districts, and community-based partners establish and maintain community-based partners networks to help expand environmental literacy within California's K-12 educational landscape. With sections on types of community-based partners and networks, guidance for networks at different stages, and self-assessment rubrics, the toolkit helps to operationalize the expansion of equitable access to outdoor learning for students. Check the [CAELI website](#) for a [directory](#) of California's community-based partners.

## A CALL TO ACTION FOR EDUCATIONAL LEADERS

[Educating Every California Student In, About, and For the Environment: A Call to Action for County, District, and Educational Leaders](#) details how environmental literacy supports district and state goals around Local Control Accountability Plans and the California Multi-tiered System of Supports, including: basic services, standards implementation, course access, universal design for learning, parent involvement, student engagement, school climate, culturally responsive teaching, student achievement, and social-emotional learning.