

POINT REYES NATIONAL SEASHORE ASSOCIATION

# *Voices* <sup>at the</sup> *Seashore*

## Why I Became a California Naturalist and You Should, Too:



### *The Case for Participant Scientists*

BY PATRICIA CONTAXIS



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**D**o you despair the state of our planet in this time of climate change? Do you sometimes feel helpless when you hear terms like “fire season,” “super storm,” “mega drought”? I know I do, and so I want to tell you about a recent experience that has helped me.

I became a California Naturalist.

I’m hoping you will join me and a cadre of more than 4000 Californians who have completed the UC California Naturalist Program. What I’ve learned, and how I’ve come to see our relationship to the natural world, has shown me that we’ve made more progress, more quickly, than I knew. Also, there are many ways for us to get involved.





## The Case for Participant Scientists

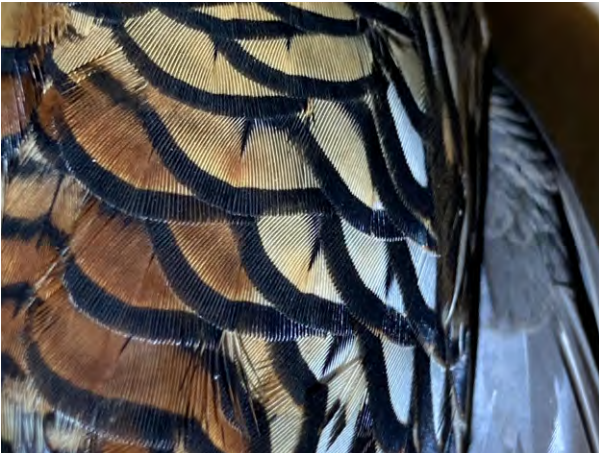
My early science education required that I memorize lists of facts disconnected from my lived experience. Without grounding in big picture science, details and minutia — recite the correct order of Linnaeus' classification system from Kingdom to Species; balance equations in chemistry without understanding the physical properties of chemical bonds (why soap is slippery, why wood is not) — all seemed irrelevant to the urgent questions of my youth. Instead of further exciting all the whys and hows of my imagination, those early science classes drained awe and wonder from their subject.

The process of becoming a California Naturalist, on the other hand, enlivened me while deepening my knowledge of the natural world. My class — twenty of the nicest people you'd ever want to meet — spent five consecutive Saturdays with a group of naturalists at the Point Reyes National Seashore. We wandered the trails while the naturalists interpreted what we saw. Their trained eyes pointed out what we would've missed if — as one student put it — we were hiking for the exercise alone. Each day, we saw the interconnectedness of ecosystems — their how and why — vivid, alive, and inviting.

Between Saturdays, our assigned reading both reinforced what we learned on the trail, and prepared us for what we would see the following week. Although we are not all cut out for the rigorous and highly specialized path scientists follow, we are all capable of becoming participant scientists. Mary Ellen Hannibal, author of *Citizen Scientist*, defines participant scientists as co-creators in “the widening practice of non-credentialed people taking part in scientific endeavors.”

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Opportunities for participant science are many, and fun. They range from simple things like logging the birds you see on a hike in the iNaturalist app, to participating in annual events like the Christmas Bird Count, in which thousands of people across the globe tally bird sightings to produce a huge and useful data set, to regular work with local restoration, conservation, or preservation projects. More and more, interdisciplinary collaboration involving members from all parts of our community, including business, banking, science, politics, and other interested people, is becoming the leading edge of the environmental movement.

### Why I'm Hopeful

My California Naturalist class gave me the opportunity to devote myself to learning the natural and social history of our state. Reading, and hearing from experts, while physically in the natural world we were studying, opened me to new ways of seeing our environment and our future. Here are a few facts that I probably already knew, but considering them more deeply as a connected sequence has changed how I think about time:

The first European settlers arrived in California 200 years ago.

Native Californians have been here for 10,000 years.

The environmental movement started in the 1960's — 60 years ago.

When Europeans first settled California, they came to an incomparable region of vast, pristine forests, wild rivers, and fertile valleys. There were plenty of elk, deer, bears, wild cats, and all manner of birds. They found streams teeming with salmon, near shore waters, and an intertidal zone on the beaches, rich with seafood. They didn't see our famous golden hills of California. The native grasses at that time were a drought-resistant species that remained green much of the year. Those grasses have since been grazed and plowed and almost entirely replaced by invasive species that dry out each year during the long annual drought.

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Those first European settlers also encountered native Californians, cultures that had been here for 10,000 years. Unlike these Native Californians, who had become excellent stewards of the land, European settlers tore through California's ten bioregions like a plague of locusts. They cut trees, dammed rivers, fished streams and coastal waters, mined the hills, grazed the valleys, planted, irrigated, laid down railways, roads, and housing tracts. Amazing things happened as a result, it is true. Today, California agriculture produces a third of the country's vegetables and two-thirds of its fruits and nuts. But we are also now facing the fact that 200 years of relentless extraction without equally rigorous conservation has taken a toll.

Only in my lifetime has there been a cultural shift in how we think about resources: the general acceptance (not yet consensus) that resources are not limitless. We are only a few generations into a monumental shift in our awareness of scarcity. Fads come and go, quickly. Cultural norms — accepted, widespread and enduring practices — take hold over generations. The deep knowledge and culture and environmental practices of native Californians was long in coming and well established. It will take more than a handful of decades for our new consciousness

of environmentalism to become the dominant culture in modern, post-contact, California. In the last 60 years, the environmental movement has learned to create multidisciplinary organizations to advance conservation and preservation projects. It has learned to introduce legislation, to wage court battles, to enter into complicated legal and financial entities to further its mission. Now, it is partnering with science, creating a whole new alliance between non-credentialed activists and highly trained specialists. Slowly but surely, the environmental movement is taking hold in the general consciousness.

These days, it's hard to feel that we have time. It's widely accepted that we are living in the sixth major extinction. There will be consequences. Yet, when I line up these general timelines — 10,000 years of Native Californian eco-culture; 200 years of European settlers' extraction; 60 years of environmental consciousness in modern times — I feel that we may be doing better than I first thought. Our cultural consciousness is changing faster than I realized. We are moving in the right direction. And more and more of us are catching on, bringing to the task our many different skills and abilities.

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Our natural world is thing of beauty. We are part of it, whether we live in a city, or on a farm, or in a remote mountain town. We are all part of the natural world, and we have the power, as citizens of the world, as participant scientists, to redirect our future on this planet.

I feel more hopeful about the future than I have in a long while.

This is why I became a California Naturalist.

I hope you will, too.

**Patricia Contaxis** is a writer, musician and California Naturalist. She has been coming to Point Reyes since moving to California in 1987, and volunteering for the National Park Service and PRNSA Field Institute since 2018. Using her recent CalNat studies, she intends to write essays about Point Reyes, California, natural history, and time — both Big Time, and the human-scale version we all know and love.

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