



Lessons in Environmental Education

With John Sanders

BY MICHAEL KAUFFMANN

Naturalist and educator John Sanders spent much of his time as a young child exploring the boundaries of Lake Erie, Pennsylvania where he was born. He spent his summers roaming the boat docks and marinas around the lake, foraging for crappie, blue gill, and perch, using wood-stick fishing poles armed with safety pin hooks.

Nature has always figured prominently in John's life and that of his family's. His mother grew up on a forty-acre farm in rural Mississippi, where her family either grew or hunted for most of their food. Their awareness, connection, and appreciation for nature was based on necessity. The Earth gave, either through cultivation or serendipity, and they lived within its cyclical offerings and boundaries.

In 1956, John and his family relocated to California. Venice Beach and the Santa Monica Pier became his new playgrounds, because his father worked as a commercial fisherman. He quickly developed a relationship with the marine world. Although John had experienced the red tides due to *Pseudo nitzschia* blooms, it wasn't until he began studying marine science in college that he developed an understanding of the connection between red algal blooms, summer shellfish, bait fish toxicity, and the subsequent domino effect on marine mammals, like sea lions and sea otters.

While working towards a Master's in Marine Biology at UC Santa Cruz, John began his journey as an environmental educator. As a grad student, John helped develop the UC Santa Cruz Summer Science Program, which exposed young students to the possibility of careers in science and jumpstarted the development of students' science identities. He focused his outreach on kids who were considered to be underachievers – the

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Nature awareness is a deeply personal experience that engages all the senses. Children need time to explore, touch, smell, taste, and hear.



Environmental educator John Sanders and CNPS San Luis Obispo Chapter member. (Photo: Rick Halsey)

John's strategies for teaching students about native plants

Outdoor exploration is the key to converting students from casual observers into naturalists. Regional natural history (place-based education) is also crucial so that children come to know and appreciate the local ecosystems where they live, connecting to the cycles around them, says John.

He recommends having kids keep a journal to draw and describe what they see, creating their own field guide to their "neighborhood."

John encourages kids to use their senses when exploring. For example, the word aromatic takes on real meaning after inhaling the scent of different *Salvia* species. Sticky monkey flower (*Mimulus auranticus*) has an unforgettable sticky sensation, and the common name makes sense to kids. Once they've felt the leaves and seen the "face" of the monkey formed by the petals, they know that plant, he says.

ones most overlooked in class because they often don't attract attention.

Since 2001 John has been a Naturalist with the Kern Environmental Education Program (KEEP). KEEP is a residential outdoor school where fifth and sixth grade students from Kern County travel to the coast and explore it – like a living laboratory – with naturalists like John. In 2011, he founded Delphinus School of Natural History, a regional outdoor science program in San Luis Obispo. Through Delphinus, John has been working with local kids to help them develop regional nature awareness, while guiding them along the path of becoming environmental stewards. This also allows John to be outside working with kids in the summer.

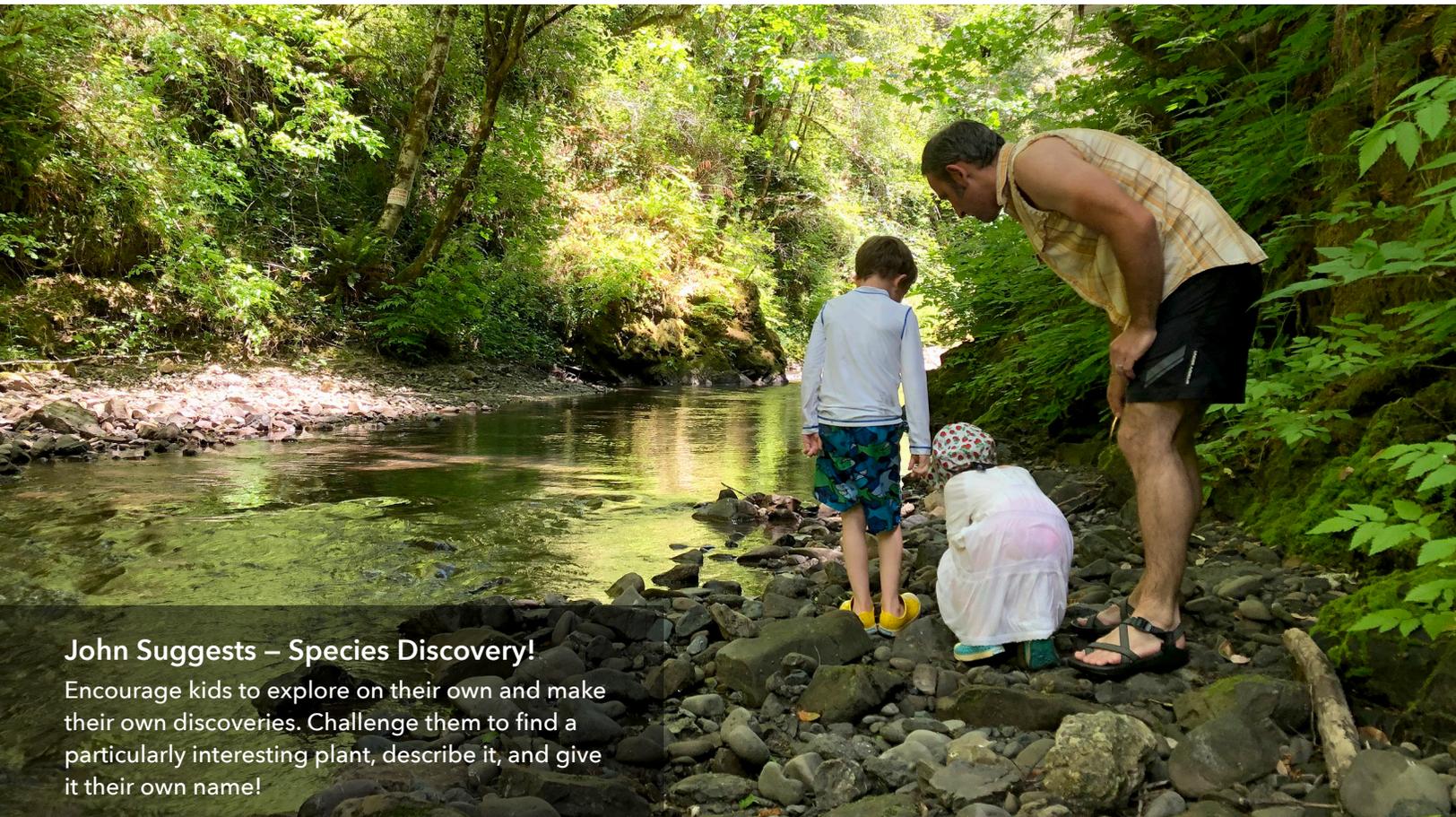
Some wonder why John can't take a break, but he says for him there is no other way.



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What students have taught John

- **About ethnicity:** Although Students of Color may not visit state and national parks at the same rate as their Caucasian peers, local parks and beaches draw large numbers of diverse people because these areas are economically feasible to visit, close to urban centers, and do not require significant time commitments.
- **About curiosity:** Given adequate time to explore in nature, students always generate relevant questions regarding their observations.
- **About possibility:** Virtually every student has at least one memorable experience in the outdoors that can be used as a springboard. Students are capable and excited to teach each other given the opportunity.
- **About observation:** Students need to learn how to develop "outdoor eyes." Two of the most common phrases John says he hears from students are "I don't see it," and "I can't find it." Because of the constant focus on small mobile and tablet screens, studies are showing that today's youth are losing their peripheral vision and often can't see things right in front of them. "I had to learn to not assume that students could see the hawk on the distant tree branch, even with binoculars," he explains.



John Suggests – Species Discovery!

Encourage kids to explore on their own and make their own discoveries. Challenge them to find a particularly interesting plant, describe it, and give it their own name!