

Kenneth S. Norris: “Professor of Wonderment” (1924-1998)¹

Kenneth S. Norris was born on August 11, 1924 on an unincorporated piece of land in Los Angeles, CA. As a child, Ken could be found catching tadpoles and exploring the San Fernando Valley, which was all farmland at the time and provided a broad natural landscape for Ken to develop his love for the natural world. Both of Ken’s parents were “lovers of the outdoors and of wild things” (Norris et al. 1999) and encouraged Ken to pursue such interests as he grew up and developed into a legendary naturalist and scientist. Ken’s father, an engineer from Ohio, had a strong influence on Ken as he grew up, as the attributes Ken describes his father having were very similar to Ken’s own (Norris et al. 1999). The Norris family has a long history of great outdoorsmen who were also inventors, visionaries, and great dreamers of schemes (Norris et al. 1999). Both Ken and his father had a knack for developing revolutionary ideas that were often far ahead of their time, as well as an aptitude for inventing devices, never before thought of, to carry out their own exploits.

Ken’s mother, a rug maker from San Diego, also influenced Ken with her dedication to her work and artistic abilities. Ken credits his artistic interests and how much joy he found in his work to his mother; these interests were integral to what Ken accomplished throughout his life. She is described by Ken as a bright, beautiful, and dedicated artist who worked very hard to make it through the economic depression of that time with careful networking, persistence, and a strong work ethic (Norris et al. 1999).

After graduating high school in 1942, Kenneth attended UCLA and studied geology. While at UCLA, Ken decided to dedicate four years of his life to the U.S. Navy. While in the

¹ Information for this paper was drawn primarily from *Kenneth S. Norris: Naturalist, Cetologist & Conservationist 1924-1988: An Oral History Biography* and personal interviews with Larry Ford, Phyllis Norris, and the Norris Family.

Navy, Ken traveled all over the world, seeing it through the lens of a geologist. When Ken returned to UCLA however he had realized that something was missing within this field: living things (Norris et al. 1999).

After exploring a bit and taking a life-altering course on the natural history of California, taught by his mentor Ray Cowles, Ken made the switch to biology. This was some of Ken's first steps toward an endless conversation with the wild world and his influential career as a talented writer, rigorous scientist, devoted conservationist, pioneering researcher, inventor, beloved professor of natural history, and a legendary naturalist. Norris graduated from UCLA in 1948 and went on to get his masters degree in desert zoogeography, for which he wrote his thesis on the evolution of the iguanid, genus: *Uma*, under the guidance of Cowles. Years later, as his excitement grew for the niche he found in life sciences, Ken's interests shifted from the desert to the sea. Ken received a Ph.D. in zoology in 1959 from the Scripps Institute of Oceanography and focused his dissertation on the Opaleye Perch, an intertidal fish. Ken practiced meticulous discipline as a naturalist and researcher, logging endless hours of acute observations and journaling with a spellbinding attention to detail.

In 1959, Norris returned to UCLA to start his academic career teaching herpetology and desert biology, and to continue his earlier research on desert reptiles. In 1972 he came to UCSC as the Director of the Coastal Marine Studies program and eventually chaired the Environmental Studies Department from 1977 to 1979. Before long, Ken had changed his official title to "Professor of Natural History," making him one of very few professors to ever do this in the UC system. While at UCSC, Ken Norris made an incredible lasting impact. He is responsible for the creation of the Long Marine Laboratory, a laboratory devoted to "interdisciplinary research and teaching on marine life, coastal conservation, water science, climate change impacts and

other marine and coastal science issues”(Long Marine Lab, 2015). In fact, Norris himself designed the marine mammal holding tanks in the Long Marine Lab, which are still used to this day for dolphin research. He was on the faculty at UCSC for 18 years until he retired in 1990.

KEN THE PROFESSOR

Ken Norris had an incredible knack for inspiring his students, captivating their attention, and engaging their creative processes with the wild world around them. Ken was well known for his revolutionary way of incorporating his own philosophies about nature, learning, and love into fun, hands on, and life changing learning experiences outside of the classroom. In 1973 Ken established the Natural History Field Quarter at UCSC, an all-encompassing and beloved field course still taught today focusing on the natural history of California. During this course Ken would whisk 23 carefully-selected students away on what he called “a quest for the wellspring of caring about the land and its life” (Norris Journals).

In a giant blue bus named “Old Blue,” Norris and his students traveled all over California on 1-1.5 week long trips. There were four to six trips total during which students would keep rigorous daily journals recording their observations, scientific inquiries, personal thoughts, and projects. Ken and a co-professor (most often Steve Gliessman) would make detailed comments in the margins of each journal specific to each student’s work and progress. Students were expected to give oral presentations as well on a wide variety of topics. Most students found that field quarter went way beyond the confines of a regular college course physically, academically, and socially. Not only did the course consist of camping with other students for most of the quarter, students were expected to self motivate their own learning, getting out of the course

whatever they put into it, and soon found that after the course had ended their lives were irreplaceably intertwined with each other.

Ken recognized that the students he would take on Natural History Field Quarter (NHFQ) were in a dramatic transitional stage of their lives and that “social change in us happens most powerfully in our questing years...made possible by the alienation from old values, the escape from the nest that marks this age” (Norris, 2010). Ken was attempting to instill a kind of responsibility and caring for the natural world in his students, but Ken always made sure to do things in his own unique way, steering clear from conventional thought and pushing the boundaries with what he felt was the right way to do things.

Determined to never tie his students down to one subject, Ken firmly believed in the value of a hands-on interdisciplinary approach to natural history and the natural world. “Science is constructed to operate without emotion, regarding it as an unreliable impediment to understanding.” When talking about the role of art in science, Ken states, “But emotion, it seemed, is actually the vital stuff that organizes understanding” (Norris et al. 1999). Ken believed looking at the world through a singular narrow lens of “art vs. science” was too limiting and heavily encouraged the synthesis of the two. NHFQ was not only for the botanist or ecologist, but also for the poet and painter. Ken made it a point to take a broad range of people from different areas of study in order to cover all perspectives and corners of creative thought. During NHFQ Ken often saw with delight “The poet, the artist, the teacher, and the scientist becom[ing] equal partners” (Norris et al. 1999) in the seeking for answers within the natural world.

As is the case with many who teach for a long time, Ken Norris developed a set of dictums he would often refer to that summarize his teaching philosophy, his view of the natural

world, and his approach on life. Ken often announced this to his NHFQ students, filling their hearts with excitement and anticipation, “we’re off on the greatest adventure of our lives.” Ken saw the value in sharing the joys of science with others and gaining the ability to really “see” in nature the infinite interconnections and complexities. Ken sought to take his students on a transformative odyssey during which they would become explorers of the natural world, wandering “wild California from top to bottom, from the starkest desert to the glaciated crest of the Sierra Nevada” learning to forget about their every day lives and immerse themselves enthusiastically within the mysteries of the natural world.

Ken believed that it is “a fundamental human need to contemplate the forces larger than us, to see beyond our individual limits, to grapple with the ineffable” (Norris, 2010). “Spinning the Wheel” was a term Ken created and used frequently in his teaching, research, and life to do this; the term refers to the thought process Ken used in all of his journaling, observations, and research, and taught to his students. In this process a naturalist goes beyond merely observing and admiring an organism or natural process. To spin the wheel one must cycle from close observation of nature to the formulating of questions about what is observed and then repeatedly return to nature for more observations. Spinning the wheel, Ken believed, always generated more questions than answers, so one must be able to throw away failed ideas as quickly as posing new questions. (Norris, 2010) As Ken stated in his book *Mountain Time*, one’s “throwing away muscles” must be just as good as one’s “asking muscles.” “On and on the questions go,” Ken writes, “each a tiny hypothesis waiting for nature’s answer” (Norris, 2010).

“The animal is the authority” was one of Ken’s favorite sayings, which he coined from his mentor, Ray Cowles. Ray often told Ken that “the specimen is the authority” which influenced Ken’s view of the natural world by allowing him to really “see” in nature with less

subjectivity. Ray taught Ken that “if one wanted to learn about nature, one had to block out preconceptions and contrive to look directly at nature’s life processes, without injection of any personal bias” (Norris et al. 1999). This view was central to both Ken’s teaching and research. Going back to the authority requires taking yourself out of the picture and recognizing that everything you observe in nature is influenced by our own perceptions and life experiences. Ken saw science as “a tool to keep us from lying to ourselves,” and recognized our limitations as humans in our ability to observe objectively. By constantly referencing back to nature, back to the authority, one is able to draw more accurate and valid conclusions through observation (Norris et al. 1999).

“Mountain time” was another concept Ken repeatedly referenced in his work and writing. Ken recognized that “we humans live and see within our own limited time frame,” while different organisms and natural entities, like mountains or waterfalls, exist in entirely different time frames. Mountain Time is about seeing “the animal, the plant, or the ecosystem through an unfiltered lens” and doing so by acknowledging that everything watches the world pass at different rates. Ken writes “I hope to impart the idea that Nature is not just a here-and-now thing, but a thing-through time, built of nesting, connected layers of organization that allow the many faces of life to be expressed” (Norris, 2010).

Ken cared deeply about each of his students and strove to move them all across what he called the “threshold of boredom,” in order to unleash their true creative potential (Norris et al. 1999). This threshold was an intangible limit to one’s attention span and concentration that Ken believed was the point in which you should not stop, but continue working. Moving that point of boredom behind you, Ken believed, is integral for a mindset attuned to new discoveries and innovation (Ford, L). If an enthusiastic naturalist were to do as such, it would be difficult for

them to ever be bored again as the dullness of any landscape would soon be transformed by the onset of colorful mystery and perpetual wonder.

Something that set Ken apart from his peers and contributed greatly to his success as a professor was his ability to teach with love (Ford, L). Ken instilled a sense of child-like wonder in his students and was sure to include this philosophy in all of his teaching. Seeing through the eyes of a child, however, was much more to Ken than just being light hearted and care free, it was about not limiting yourself by your own adult perceptions and insecurities, similar to “the animal is the authority.” Ken saw that that “he or she who can look with the wide eyes of a child also escapes the reductionist trap that leads down and down into less expansive realities until all chance of understanding the broader pulse of the world gutters and disappears” and that “those same wide child eyes lead us to love” (Norris, journals). Ken saw no difference between what he did as a naturalist observing nature and what the open mind of a child would do, digging deeper into questioning and looking only to nature for answers.

During NHFQ Ken loved nothing more than to sit around a campfire after a long day in the field, sharing journal entries and engaging in lively conversation, guitars and fiddles humming in the background. Ken would facilitate fun activities like the Hokey Pokey for example, a reminder to his students to “put their whole selves in” to whatever they were contemplating or observing, simply because that’s what it was all about. Ken puts it best himself as he writes “He who jokes, I feel, is not so filled with certitude as to be blinded, but instead is free to recognize the absurdities and inequities of our human world” (Norris, K. Journals). Ken recognized that finding joy and fun within your work was key to self-motivation, thoroughness of work, and happiness in life.

The most important aspect of teaching with love, was not only to give support to students and create a safe environment for students to be vulnerable in, it was about getting out of a students way and allowing them the freedom to open themselves and really test their creativity (Ford, L). Student presentations in field quarter for example were not limited in any way. Students could present in just about any way they could conceive of, from field guides, graphs, and conservation debates to songwriting and interpretive dance. The collection of freedom, shared enthusiasm, and the unraveling of stories from the wild world, provided an experience to field quarter students full of fun, despite intensive field days and workload.

Ken believed firmly in the power of personal encouragement and cared deeply about his students (Norris, P), taking time to meet with each of them and writing personal notes at the ends and margins of their field journals. This teaching style Ken developed now serves as the taproot of Natural History Field Quarter, and it is taught this way still to this day. Both students and peers looked to Ken for his persistence and passion, his fun loving whimsical spirit, and for going against the grain. He was a stock hold of wisdom in his teaching and embodied a sense of intelligence, dedication, creativity, optimism, humility, and faith in the human spirit.

KEN AND THE UC RESERVE SYSTEM

Ken Norris was a man of big ideas, and one of his biggest ideas was the UC Natural Reserve System (NRS), which is now an integral part of the University of California. While studying at UCLA Norris realized, to his surprise, that many of the field study sites he frequented and loved were rapidly disappearing due to increasing development. The elemental beauty of these remote areas was being transformed into the dullness of motels and parking lots. Norris felt a responsibility to preserve these undisturbed lands for research and teaching, as well as for

the preservation of natural habitat. Ken's frustration built over time as more and more scientific field sites were being bulldozed. Ken had a way with people though, such that he would often get what he desired through persistence and charm. So in 1963 Ken presented to the UC President his plan for the NRS, a systemwide plan for acquiring land representative of the broad range of California's habitats and making them accessible for the benefit of all UC campuses (Norris et al. 1999). After the approval by UC Regents, Norris took time off from teaching in order to travel all over California surveying different wild lands in order to find sites for reserves that would represent a spectrum of habitats. Of the 81 different sites Ken analyzed, 13 were initially included in the NRS (Norris et al. 1999). The UC Natural Reserve System has grown significantly since then and now encompasses over 756,000 acres of protected land for a total of 39 reserves, making the UC NRS the largest system of university administered natural reserves in the world (Natural Reserve System, 2015). Ken served as chair of the original NRS advisory committee until 1968 and made his vision of the NRS being a true outdoor classroom and laboratory accessible to all walks of life become a reality. Norris also helped establish Hawaii's Natural Land Reserve System, one of his many accomplishments in the realm of conservation.

Ken felt strongly that his commitments toward saving undeveloped land came from deep within himself; it was a part of who he was and how he was built. Ken himself best illustrates this as he writes that we must "make the rivers run clear again. We must find a new equilibrium on Earth, tend its land and seas with heartfelt tenderness and not take what we cannot soon return. We must make space for those creatures who ride along with us. We are just one passenger. We cannot take it all and forget them. We must find our place in this new equilibrium of life. We must come to understand, in our very bones, that we are children living by the commands of a finite Earth" (Norris, 2010).

KEN'S RESEARCH INFLUENCE

Ken Norris took much joy in and had a remarkable impact on the world of scientific research as seen through an array of notable accomplishments. Ken studied cetaceans at the Marine Land of the Pacific in California, Hawaii, and all over the world. He wrote multiple books on his discoveries and is sometimes even credited for creating the entire field of cetacean research, as much of the basis of what we know today about whales and dolphins, their social patterns and echolocation especially, build on investigations performed by Norris and his various research teams over the years (Norris et al. 1999). From 1968 to 1971 Norris worked both for UCLA and the Scientific Institute of Oceanic Research in Hawaii.

While in Hawaii, Norris conducted groundbreaking research on Spinner Dolphins regarding the discovery of echolocation and the role it plays in dolphin social dynamics. Before Hawaii, as the first curator of the Marine Land of the Pacific, Ken discovered the use of sonar in porpoises. Norris invented a device he called the “ichthyothermaltaxatron,” or the fish-temperature-movement-machine, which he used to complete his doctoral research in La Jolla on the Opaleye Perch, an intertidal fish, and the effects of water temperature on their ontogeny. This research lead Norris to be the recipient of the Mercer Award from the Ecological Society of America for the best paper published by a young scientist in 1963. While still getting his masters at UCLA, Ken discovered circadian rhythms in snakes as well as the function of color change in reptiles and amphibians.

Norris' reputation as a scientist landed him a seat as a scientific advisor to the U.S. Marine Mammal Commission, allowing him to influence policy decisions. As an advisor,

Norris helped write the Marine Mammal Protection Act of 1972 and spearheaded a national campaign to reduce the amount of dolphins killed by tuna fishing bycatch. Norris was also the President of, and primary instigator for the creation of, the Society of Marine Mammalogy, as well as its scholarly journal, *Marine Mammal Science*. Norris helped define important conservation issues through his research. For all of his accomplishments he was named “Man of the Year” by the American Cetacean Society in 1976 and awarded the California Academy of Sciences’ Fellows Medal in 1977.

CONCLUDING THOUGHTS

Ken’s immense passion and love for the natural world was central to who he was. He felt pulled by the wildness and endless mystery that the natural world provides, and he shared his passion and knowledge gladly with others. Ken writes on the Granite Mountains, a landscape very close to Ken’s heart, “I know in my bones that we are all of this home of ours: crickets, columbines, jellyfish, redwood trees, frogs, lichens, desert moss, spiders, and all the rest. We are relatives. And my kinship with all the earth’s biota, even the simplest flatworm, does not degrade me. Instead, it makes me, and you, miraculous. I know this because I walk in the midst of beauty and love and a perfection of sand, stones, water, and life.” He had an incredible ability to see things and make connections that other people just couldn’t, and as such was a true visionary.

His influences on the worlds of conservation, scientific research, natural history, teaching, and the UC system have been long lasting and are clearly visible to this day. Ken passed away in 1998, but his imaginative writing lives on through the many books he published throughout his lifetime and his whimsical spirit lives on in the hearts and minds of his family, past students, and young budding naturalists everywhere. So now, within the great mystery of

the natural world, within rivers and waterfalls winding and cutting through mountains, within the scratch of a pen on journal paper, within cold dry desert mornings with golden chollas glowing in the sunlight, the undiscovered depths of the sea, within the spinning of the wheel in a child's eyes, the enlightened moment of discovery, and within every great spontaneous odyssey or adventure, lies the consecrative ode to Kenneth S. Norris, our beloved "Professor of Wonderment."

"Beauty- the mountain clasps me, as it does you, in its peace, touches me with its whispering wind freighted with desert incense, and in every fallen silvered stick, every cone, every shadow and every swooping bird, every musical stone clinking under my feet. I love this land, and every place we've been, to the deepest recesses of all that I am."

-Ken Norris writing about the Granite Mountains

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