



Steven G. Herman 1936–2020

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IN MEMORIAM
STEVEN G. HERMAN
1936–2020



Steve in the field with his dog Thelma and peregrine Sweet (Photo by Jill Krumlauf).

On 3 April 2020, Professor Steven G. Herman passed away at his home near Yelm, Washington, with his family by his side. Steve was born in Elyria, Ohio, in 1936 and grew up in the San Francisco Bay area. His interest in natural history started with a childhood spent outdoors with snakes, birds, and other wildlife. He developed an early interest in falconry that would last the rest of his life. Over his lifetime, Steve could be found in wild places—looking through a spotting scope at a raptor nest, teaching students to appreciate science and beauty, swinging a lure for a returning falcon, or arguing fiercely in defense of wildness. Steve's appreciation for the natural world encompassed science, art, poetry, and even music.

After a stint as a medic in the US Army from 1959–1961, his interest in wildlife led to a bachelor's degree in Biology (1967) and a Ph.D. in Zoology (1973), both from the University of California at Davis. He married Nancy Eberle in 1966 and they had two daughters, Jennifer and Sallie. Steve is survived by his daughter, Sallie Herman, his granddaughter Jessica Herman, his great-grandson Grayson Charlton, former wife Nancy, loyal dog Dulce, and his peregrine Guapo.

In 1971, Steve joined the faculty of The Evergreen State College (hereafter Evergreen College) in Olympia, Washington, teaching an estimated 2500 students over 47 years. He developed a unique and intensive approach to teaching students about natural history, grounded in the traditions of Charles Darwin and Joseph Grinnell. Steve defined natural history as:

The scientific study of plants and animals in their natural environments. It is concerned with levels of organization from the individual organism to the ecosystem, and stresses identification, life history, distribution, abundance, and inter-relationships. It often and appropriately includes an esthetic component (Herman 2002).

We celebrate the impact Steve had on raptor biology, on conservation more widely, and on the countless people he affected through his research, advocacy, and most importantly, his teaching. He ignited a passion in countless students for birds and other wildlife, wild places, and conservation. Steve engaged with people fully, and his glee at seeing all manner of wildlife never diminished, whether he was observing a Swainson's Hawk (*Buteo swainsoni*) nesting at eye level on a fence post, or letting a kangaroo rat (*Dipodomys* sp.) run across his arm to the delight of his students. He never lost that spark, which often infected those around him.

Steve's early interests included reptiles, particularly snakes—he told of trading a rattlesnake for a minibike, and, after crashing the bike into a fence, then trying to reverse the trade. We recall he was unsuccessful. By the time Steve reached his mid-teens, falconry had become a lifelong passion. With California Bay Area falconers including Ed Cummins and Sterling Bunnell, and his Brittany spaniel Anna, he hunted with various raptors, often making trips to the then-wild California Coast Range.

While at Davis, Steve was involved with the inception of the Raptor Research Foundation, attending its first meeting in 1965 with his friend Grainger Hunt. They also attended the historic 1965 Peregrine Conference in Madison, Wisconsin. This conference assembled biologists, falconers, and others from seven nations to compare data, discuss possible causes of the sharp declines of Peregrine Falcon (*Falco peregrinus*) and other raptor populations across broad regions, and to plan an urgent response. Steve reported on the conference to the North American Falconers Association, noting that “Seldom in the history of conservation has any group assembled to consider the plight of an endangered, non-economic species before it has definitely reached the threshold of extinction” (Herman 1965).

The Madison conference drew worldwide attention to the devastating effects of DDT on peregrines and other raptors. Meanwhile, Steve's graduate research examined biomagnification of DDT and its metabolites in the Clear Lake ecosystem, north of San Francisco (Herman et al. 1969, Herman 1973). Drawing on that research, Steve coauthored a 1968 paper in *Nature* that documented the presence of DDT, PCBs, and other chlorinated hydrocarbon biocides in the global ecosystem and their risk to wildlife (Risebrough et al. 1968). Steve also conducted the first California-wide survey of breeding peregrines, finding only two breeding pairs at 68 historic nesting territories; he estimated a 95% decline in breeding peregrines in California since the 1940s (Herman 1971), escalating the sense of urgency surrounding DDT's effects on bird- and fish-eating raptors.

Soon after moving to Evergreen College in 1971, Steve led groups of undergraduate students in studies of the harmful effects of pesticides on wildlife. These included a National Science Foundation Student-Originated Study on harbor seals (*Phoca vitulina*) and a 3-year study of effects on non-target organisms of DDT applied against the Douglas-fir tussock moth (*Orgyia pseudotsugata*) on National Forests in the Pacific Northwest (Herman and Bulger 1979). Their findings helped limit subsequent use of DDT, as did Steve's 1975 testimony before Congress (H.R. 8841 1975). There, he argued against a proposal to weaken the authority of the US Environmental Protection Agency to regulate pesticides and other poisons that could harm wildlife and ecosystems.

Steve was honest about the ethical conflicts that arise in the pursuit of bird conservation. He recounted collecting the peregrine egg analyzed for the 1968 *Nature* paper (Risebrough et al. 1968)—even in conducting such valuable research, he felt a moral quandary about disturbing the nests of declining raptors. This commitment was demonstrated again in the early 1980s, when he chaired a committee that advised the California Fish and Game Commission on management of California Condors (*Gymnogyps californianus*), at a time when condor numbers were very low and declining, and key decisions about condor management were under debate. Steve was a voice for conservation of condors in the wild, and for caution with hands-on management actions that risked injury. He did not support bringing the last wild condors into captivity for breeding, but in later times appreciated the successes of the captive breeding program, while maintaining a critical eye (Herman 2012). Throughout, Steve provided a significant voice for wild condors and for a precautionary approach.

A naturalist in the tradition of Aldo Leopold—with whom he had a connection, having been mentored by Starker Leopold (Aldo Leopold's son)—Steve was not only an accomplished scientist, but was dedicated to acting in defense of our threatened natural world. He unabashedly thought it fair to conserve wildlife for the sake of beauty and saw no incongruity between this view and being a scientist. Steve said this on beauty:

“One of the things that a lot of scientists are very wary about talking about is beauty. I argue that our job—if we have a job—is to preserve beauty. I like to use literature in my natural history teaching. I did that toward the end of my career and I always from the beginning relied upon the poet Robinson Jeffers, who, in his age of cynicism, said he looked forward to a time ‘The cities gone down, the people fewer, and the hawks more numerous. When man, who is the noblest of the four-footed mammals, regains the dignity of room, the value of rareness’” (Herman 2011).

This perspective of beauty in nature is shown by Steve's passionate devotion to teaching field courses emphasizing natural history while imbuing in students an appreciation for wild places and wildlife, and a willingness to advocate for their conservation (Herman 2002). He advanced this perspective decades before teaching an appreciation of nature became more common among wildlife and conservation biologists. His devotion to that perspective was obvious. Besides the constant convincing of college officials that field courses were still relevant, he personally bought land in eastern Oregon to provide a location for his field classes—the Malheur Bird Observatory, and a school bus to transport students—which, naturally, he named *The Beagle*, a nod to Darwin.

Steve was a true scientist-activist and shared this perspective directly with his students through his experiential teaching approach. His and his students' long-term monitoring of birds at Robinson Draw (42.471°N, 119.650°W) on the Hart Mountain Antelope Refuge in southeastern Oregon provides an example. President Franklin D. Roosevelt established the refuge in 1936 to protect pronghorn (*Antilocapra americana*), migratory birds, and non-predatory wildlife. Despite federal refuge status, livestock grazing persisted on its public lands for decades. Steve was able to get cattle excluded from Robinson Draw, allowing him, with his students and refuge managers, to show how its condition contrasted with grazed areas of the refuge. In the 1990s, a legal battle challenged the benefits of livestock for the wildlife that Hart Mountain Antelope Refuge was mandated to protect. At a public workshop on the refuge, Steve and his students shared their Robinson Draw results to demonstrate grazing impacts. Hart Mountain is now a model for understanding the benefits of livestock withdrawal for sagebrush-steppe ecosystems (Poessel et al. 2020).

Throughout his life, Steve advocated for the removal of cattle from the sagebrush-steppe lands that are common in arid portions of the Pacific Northwest. He worked, not always successfully, to protect wildlife and their habitats in the intermountain West, including endangered pygmy rabbits (*Brachylagus idahoensis*) and Greater Sage-Grouse (*Centrocercus urophasianus*), finding friends and allies in organizations like the Center for Biological Diversity and Western Watersheds Project. He maintained his credibility as a scientist while taking stands to protect natural areas being degraded or lost by inadequate resource management. The respect he earned from some of the adversaries he fiercely opposed serves as a testament to Steve's integrity.

While Steve's research and activism has left an enduring mark on field biology and the conservation movement in North America, perhaps his greatest influence was on the many students he mentored. Over a span of decades of teaching, during which field courses had generally become rarer (Tewksbury et al. 2014), he took undergraduates into the field for prolonged periods. He often did this with his dear friends, botanist and Evergreen College colleague Al Wiedemann, and camp chef Kort Jungel. In the field, Steve taught natural history, mist-netting and banding protocols, field ornithology, and field biology in general. He taught students to be careful observers and baptized them in the discipline of taking comprehensive field notes. Steve relished teaching students how to use classic equipment to pursue life in the field—from the proper setup of a canvas wall tent to the lighting of a Coleman® lantern. Steve insisted that students keep a journal after the model of Joseph Grinnell, and authored a book on field note-taking (Herman 1986). Nothing was more typical to represent Steve's teaching than a scene of students clustered around lanterns, working on their day's journal entries among a scattering of tents somewhere in the sagebrush sea of the Pacific Northwest.

Steve's teaching style fostered growth in students already interested in biology, but also captured the imaginations of some who might otherwise have followed other paths (a theater major in the case of one of us). Steve had a special place in his heart for oddball students (some authors included), from which many of us, including more "normal" students, benefitted—he went to great lengths to see that all felt welcome. He helped many students recognize their potential in pursuing their interests or perhaps following up on their observations. The alert student gained much by studying Steve's behavior in the field—his careful, intent observation, meticulous note-taking, and no less, his generous engagement with the people he encountered, from Nobel Laureate to gas station attendant—all treated equally with respect.

The most iconic and long-lasting of Steve's Evergreen College courses, Summer Ornithology, was taught on the Hart Mountain refuge for decades, and later moved to the Steens Mountain in the high country of southeast Oregon during late summer. The timing of this field course coincided with the wildflower bloom on the mountain, and mass movements of sagebrush-steppe birds like Brewer's Sparrow (*Spizella breweri*) into the high elevation draws where students banded birds. Steve taught hundreds of people to safely mist-net, mark, and release wild birds, engaging students and teaching assistants in an experience that closely resembled the kinds of field camps in which much of field ornithology has traditionally been conducted.

But Steve did not just teach ornithology in this course, which is perhaps why it had such a profound impact on so many students. He was not interested in the mere memorization of facts, but in promoting a curiosity and passion for beauty, natural history, conservation, and life itself. To this effect, Robinson Jeffers' *Selected Poems* (1965) often followed *The Sibley Guide to Birds* (2014) on the class book list. For their last night in the field, Steve encouraged students to sleep in an abandoned shepherd's shelter atop Steens Mountain to experience the Perseid meteor shower from up high, and a near-alpine sunrise the next morning. These aspects of Steve's teaching will continue to have an impact through the thousands of students he taught and mentored—and subsequently *their* students and mentees. Many students went on from this experience to work at places like Cascadia Research Collective, Point Reyes Bird Observatory, Klamath Bird Observatory, Intermountain Bird Observatory, numerous federal and state agencies, academic institutions, and conservation advocacy groups. Indeed, some of the cofounders or senior leadership of various nongovernment organizations and academic institutions were environmentally nurtured in Steve's Summer Ornithology class.

Steve's impact on conservation and education was not limited to the US Pacific Northwest. His classes engendered student conservation work throughout the Americas. In 2002, during a field program on the natural history of northwest Mexico, Steve and his students visited the coast of southern Sonora, Mexico, and all fell in love with the pitaya forest and mangrove-lined estuary. Steve recognized a need for protection of this landscape—threatened by agriculture, cattle, and shrimp farming—and at the same time saw its educational value as a place where students could immerse themselves in a tropical ecosystem and unique culture. Steve and students started a nonprofit organization and devoted time and resources to establish the Navopatia Field Station (www.navopatia.org), which has the longest-running bird monitoring project in the region. In 2005, Sallie Herman and Adam Hannuksela (Steve's daughter and son-in-law, both biologists themselves) assumed operation of the station and began a yearly program affording students from the US and Mexico the opportunity to live and study at the station each winter. In 2018—the last year he was physically able to make the trip—Steve could still be found on the beach studying shorebirds along with students.

No student of Steve's remained unaffected by his love of raptors—whether in the wild or on the fist. On a Mexican beach near dusk, Steve and students sat atop a research station, awaiting what had become a nightly spectacle. Just when the evening seemed uneventful, a dove coursing over the estuary made it only halfway across before an adult female peregrine hurtled out of the heavens to deliver an audible explosion of dove feathers. The 80-year-old Steve hooted and hollered with his 20-something-year-old students, their excitement combined as they celebrated this incredible natural phenomenon.

Apart from his teaching, others of Steve's attributes endeared him to generations of students. Many a lasting romance budded during his field classes, and nothing delighted Steve more than officiating in the resultant weddings as "Father Wingbeat." Steve had an astonishing memory and was doubtless the best storyteller many of us have ever encountered. When one approached the nightly campfire, Steve's presence was often announced by his frequent and distinctive laugh. His sonorous voice and commanding presence were irresistible; it was impossible not to drop all else and listen. His reverence for nature was matched by his mischievous irreverence toward mindless bureaucracy and, of course, his disgust of cows on our public lands.

Among Steve's most striking traits were his deep kindness, generosity, and humanity toward his students. During his early days at Evergreen College, Steve and Nancy housed students for weeks at a time during transitional periods of uncertain student life. As students consumed Nancy's sourdough pancakes, two young daughters watched Steinbeck, their Turkey Vulture (*Cathartes aura*), stalk across the kitchen floor. Steve would often—sometimes seemingly at random—share a book, a paper, or a photograph—or a new conservation outrage. What he shared was always thoughtful, valuable, and often contained insight that would otherwise be missed. Those of us lucky enough to have Steve as a teacher benefitted not only by his instruction in rigorous field biology, but by his example as an accomplished scientist, teacher, and activist—a model of true humanity.

The accomplishments of modern academics are often reductively measured by the length of their *curriculum vitae*, the amount of grant dollars received, councils led, or papers published. Steve's accomplishments as a scientist, advocate, and educator transcended such nonsense and those types of metrics bored him deeply. Steve's students became well prepared for careers in academia, agencies, nonprofits, and elsewhere. Yet Steve judged the success of his students not by those "standard" metrics, but rather by his own expectations. Just as his academic expectations of his students were high, so were his expectations as they transitioned to professional life. Steve was seldom shy in expressing his criticism to those he had perceived as not having met his passionately held standards. That criticism was both respected and sometimes a source of tension.

Indeed, the breadth of Steve's influence cannot be overstated. He made a lot of waves, and they reverberate. Reflecting in his later years, Steve said "My life's work has been to produce scientists who will seek to protect wildness. . . but I also just really enjoy teaching people about birds. I've been lucky to get to do that for a very long time." The rest of us are lucky to have known him if we did, and for his effects on field biology and conservation, even if we did not.

We are grateful to John Calambokidis, Tom Fleischner, Grainger Hunt, Andy Kerr, and Hans Peeters for reflections and reviews.—**Gary A. Falxa** (email address: garyfalxa@gmail.com), Eureka, CA, USA; **John D. Alexander**, Klamath Bird Observatory, Ashland, OR, USA; **Daniel C. Barton**, Humboldt State University, Arcata, CA, USA; **Eric Cannizzaro**, South Burlington, VT, USA; **Simone A. Lupson-Cook**, Seattle, WA, USA; **Nathaniel E. Seavy**, National Audubon Society, San Francisco, CA, USA; **Marlene A. Wagner**, Bellingham, WA, USA; and **David F. Whitacre**, Treasure Valley Math and Science Center, Boise, ID, USA.

Authors' Note: A video of Steve Herman (video number 3 of 5) at the Raptor Research Foundation's 2015 conference panel celebrating the 1965 Madison Peregrine Conference is available online at: <https://www.raptorresearchfoundation.org/2016/03/29/madison-peregrine-conference-videos/>.

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In Memoriam Editor: Joel E. (Jeep) Pagel