

Genetic research lays foundation for conservation

By Cally Carswell, High Country News

Back when he was in his 30s, Tom Whitham would have been leery of the meddlesome approach to conservation that he is laying the foundation for today. Whitham came out West in 1973 to pursue a doctorate in biology at the University of Utah. He had just finished a tour as an Army photographer at a hospital in Hawaii filled with soldiers injured in Vietnam, a difficult experience that had one positive result: He encountered buzzing, singing and tangled rainforests, and became enchanted with wild places, which were rare in his native Iowa. He decided to move to the American West because, he says, “we hadn’t plowed it under yet.”

He imagined it as an untamed frontier. Though not naive about the human tendency to damage the environment, he thought the West was still too big and sparsely populated to be threatened in any existential sense. One good way to protect or heal the environment, he believed, was to leave it alone. Given time and space, nature could often fix itself.

Today, Whitham is a meticulous and accomplished ecologist based at Northern Arizona University in Flagstaff. He wears round glasses, a gray goatee and, when outdoors, an oiled leather cowboy hat. His love of nature hasn’t wavered. At last count, his home garden boasted 120 species of native conifers, poplars, shrubs and grasses. In the field, he always carries a camera, and even at sites he’s studied for decades, he still finds things worth photographing. But he thinks the frontier is dead. He is no longer optimistic about nature healing itself. The challenges – a climate in disorder, a looming sixth extinction, and people, always more people, always seduced by short-term gain – have grown too big, too fast.

Whitham believes the answers lie in an unexpected place: The DNA of species so common we usually take them for granted. As Whitham and his colleagues have researched the Southwest's cottonwoods and piñon pines, they've introduced groundbreaking new ideas about how these trees' genetic traits influence the community of surrounding organisms, and even shape entire ecosystems. If their discoveries hold true in kelp beds, coral reefs, tropical forests and desert shrublands – and so far, they have – they may transform our understanding of how everything in the web of life is connected.

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