

Heroes

SPOT WILDLIFE, HELP SCIENCE Citizen-scientists use the iNaturalist app (iPhone and Android; free; inaturalist.org) to record wildlife sightings for several ASC partners. Backpackers can also use it to find animal hotspots and meet other nature enthusiasts.



Take it from me...

Small efforts can have big impacts. Discovering a new species of algae might not seem significant, but collectively, these basic efforts can help conservation. Once you feel the rush of contributing to a shared mission, enlist with a larger one, such as ASC's wildlife biodiversity inventory expeditions (an ongoing attempt to document wild areas in Chile and Argentina).

Bring the kids. Turn "Are there yet?" into "There's a pika!" or "Can I take a picture, mom?" By engaging children in enjoyable education about sensitive wildlife, you'll instill a lifetime of environmental awareness.

You have the skills. You don't have to be a biologist or an extreme athlete to contribute. Search the web for citizen-scientist endeavors suited to your interests. One idea: Notes from Nature, a digital transcription project that makes biodiversity data available online to researchers (notes-fromnature.org).

Get involved now! Take lake samples for the diatom project. Or collect beetle specimens for Harvard scientists who'll measure the insects' fungal diversity, revealing how these organisms can help or hurt different ecosystems.

Gregg Treinish, 31

This adventurer turned ecologist is building an army of backcountry citizen-scientists.

Plodding through waist-deep snow with howling winds pushing March temperatures into the single digits, **Gregg Treinish** reached down with a plastic bag and snagged a sample of wolverine scat. It was a small, hard-won victory for science: Until last winter, no one had ever collected DNA from a living wolverine in this biologically rich region of northern Mongolia. No surprise; most researchers aren't capable of cross-country skiing for 23 days across harsh winter terrain to track the animals. Treinish isn't your typical researcher. He's a 2013 National Geographic Emerging Explorer who, in 2008, pioneered a traverse of the 7,800-mile-long Andes Mountains. Now he's using his expedition skills to help contribute to environmental data collection in hard-to-reach locales. More importantly, through his Bozeman, Montana-based nonprofit, Adventurers and Scientists for Conservation (ASC), he's recruiting and inspiring other outdoor enthusiasts to do the same.

The concept first came to Treinish in 2009, as he was earning a second bachelor's, in ecology, from Montana State University. His voluntary fieldwork—tracking Montana lynx, owls, and wolverines—sparked a revelation: Specialized education isn't necessary for outdoor enthusiasts to add to research data. "What I was doing out there was not rocket science," Treinish says. "I started talking with other athletes about this selfish feeling we had all felt while pursuing our adventure goals, and wanting to do more to contribute." In January 2011, Treinish incorporated ASC. The organization plays matchmaker for adventurers and scientists: Weekend warriors can sign up for ongoing projects, while elite adventurers connect to researchers who can piggyback on their expeditions. The non-profit has grown to include more than 1,000 **volunteers** gathering data on every continent for some 50 projects. Pro athletes and local hiking buffs alike are photographing glaciers, sampling water from high-alpine lakes, searching for rare plants, and more. Earlier this year, ASC volunteers discovered two new species of diatoms—a kind of algae with cell walls made of glass—on treks near Mt. Rainier and in the Wind River Range. These under-studied organisms can have industrial uses (an abrasive in toothpaste, for example), are an important rung on the food chain, and can help scientists understand past and current ecosystems. "I could never hope to reach all of the locations that volunteers are sampling," says Montana diatom researcher Dr. Loren Bahls, who ASC began partnering with in 2012. As ASC grows, Treinish is helping to develop the next generation of science adventurers by working with schools and universities to bring **data-collecting** opportunities to the classroom. It's part of his ambitious long-term vision to change the way all outdoor devotees interact with nature. "When you think about how many different ways enthusiasts can spend their time out there, we could make a huge impact on science if everyone got involved." Join in: Search projects at adventurersandscientists.org.

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