

## **Bristlecone Institute for Ecological Research**

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January, 2007

### **A letter from the Director:**

Hello! Thank you for your interest in the Bristlecone Institute. I appreciate this opportunity to introduce our important mission, and our unique roles in science, education, and conservation.

Let me begin by asking a difficult question. How would you plan for the conservation of a species? This quandary motivates the science of conservation biology, yet even conservation biologists struggle for answers. They know that planning for *lasting* conservation requires substantial information about how populations and their genes will respond to *future* environments. Such information is never available.

But there are ways to obtain some of the information that conservation biologists need. The best information comes from *long-term* studies of populations, their genes, and their environments. Such comprehensive studies can address questions about the nature and frequency of environmental impacts on a population, and a population's response to these impacts. Answers to these questions are critical for evaluating and improving the theories on which conservation biology is based.

Unfortunately, such comprehensive population studies are rare. Long-term research on natural populations requires more planning and funding than most researchers can muster. Also, there is a natural trade-off between the intensity of a study and its duration. The result is that long-term studies often are too narrow in scope to provide answers to the most important questions in conservation biology.

Our mission is to solve this problem. The **Bristlecone Institute provides support for well-designed, long-term population studies**----the kind that can help conservation biologists save the world. And we have a lot of fun doing it.

The fun part is getting the public involved in science. Getting people involved is how we fund research. *Here's how it works*. First, we identify research projects that meet our rigorous criteria for study design, duration and potential to contribute to conservation science. Next, we develop a field course based on each research project. Our peer-reviewed courses combine education with real fieldwork. Every course is offered at least once a year, at a time and place appropriate for data collection. Course participants collect data for the project, and course fees fund the project.

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Our strategy *solves* many of the problems inherent in long-term population research. We provide a perpetual source of support for each project, including helping hands, funding, and peer review. **With our help, studies can be long and comprehensive.**

Without support from non-profit organizations like the Bristlecone Institute, most research projects must rely on government or corporate funding. But important conservation research shouldn't be at the mercy of politics or economics. Our support allows projects to continue to collect important data through lean times. As long as there are adventurous people willing to donate their time and money for research, we can support data collection. Researchers can then use these data to leverage additional funds for sophisticated data analysis or for special projects inspired by the data.

The Bristlecone Institute is unique among organizations that support ecological research. Some organizations link 'eco-tourists' with miscellaneous studies in ecology, anthropology and archeology. Others use volunteers to conduct specific censuses, like the Christmas bird count. Our mission differs in two important ways. First, we support an important *scientific approach*, rather than a collection of unrelated studies. We support an array of complimentary studies that, together, can advance conservation science. Second, we offer our participants an *educational experience*, rather than a volunteer experience. Our field courses are designed to nurture an appreciation for scientific methods, and to encourage the conservation biologist in everyone.

We hope our mission captures your imagination. Our simple approach can solve the problem of funding long-term population studies, while at the same time developing a public appreciation for the value of long-term studies. In time, we plan to do even more. The Bristlecone Institute will act as a clearinghouse for information on long-term research. We even hope to identify historic population studies that should be revived, and raise support for their revival.

Oh, and about our name...The bristlecone pine (*Pinus longeava*) is known for its long lifespan--some have lived over 4,000 years. Each year, each tree adds another growth ring to its girth. The width of each ring provides a record of the environment in each year. We're inspired by the serendipity of this process! Each tree keeps a long-term record of its own environment—a record that can be used to understand past changes in its population. We aspire to this kind of useful and consistent record-keeping, so we take our name from the bristlecone pine.

Please help us in our venture, and join in our adventures!

Chris Ray, Ph.D.

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