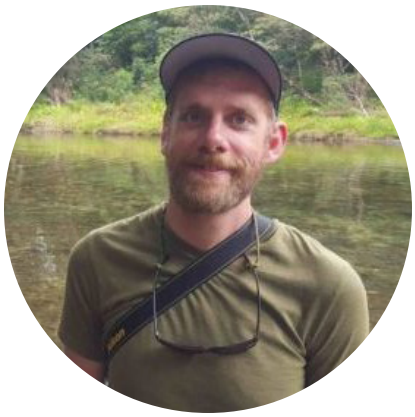

Community Science and the Dieback of Western Redcedar

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Western redcedars *(Thuja plicata)* **are dying throughout the PNW region** and people are faced with difficult decisions. While removing Western redcedar from restoration palettes would be a tragedy considering its cultural and ecological importance, restoration practitioners and forest managers are grappling with difficult questions:

- Should we continue to plant Western redcedar?
- Should we plant seed from southern sources?
- Should we use tools like the **Seedlot Selection Tool** to inform our planning? [See article in this newsletter by Dominique Bachelet for more reflections] If so, how?

More data are needed to understand the current patterns of dieback and determine the best climatic parameters for making today's decisions for tomorrow's forests. Fortunately, many community scientists are eager to help.

We chose to focus on the dieback of Western redcedar as the pilot project for the **Forest Health Watch** program because Western redcedar health was identified as a primary concern of many partners. The role of this iconic species in the cultural legacy of the Pacific Northwest may be unmatched by any other plant species. Its loss from our landscapes would be a tragedy. The urgency for more information led us to create a project on iNaturalist.org called the **Western redcedar Dieback Map**.

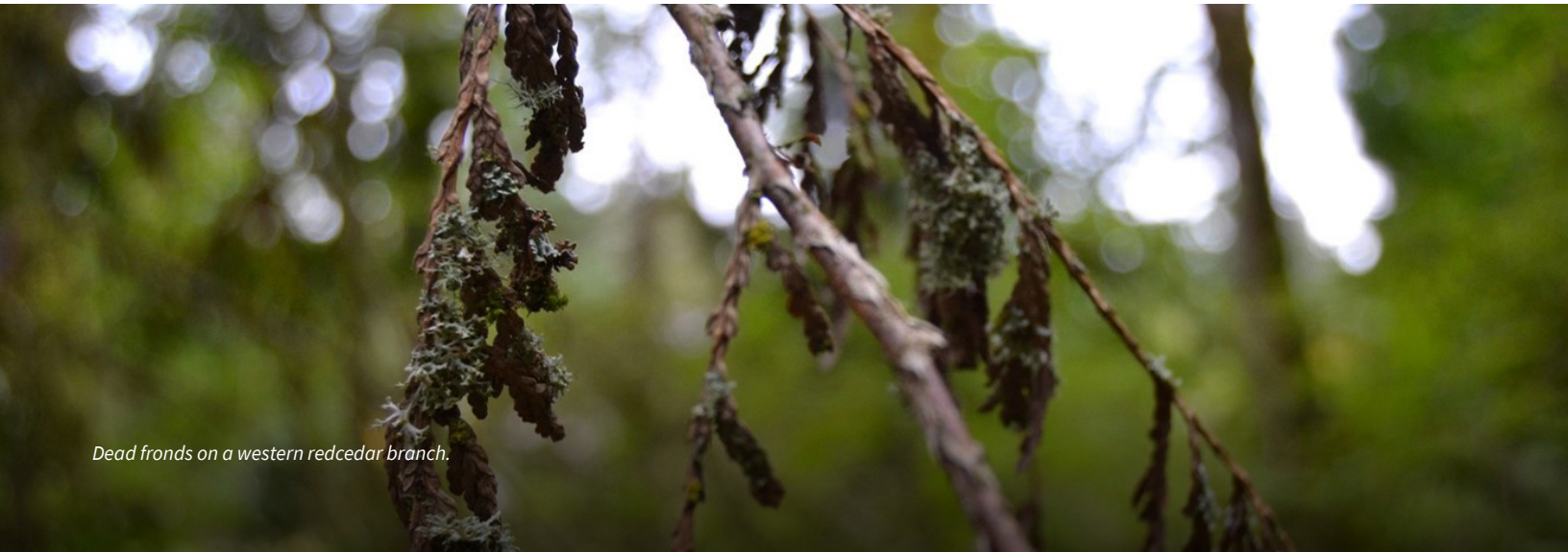
Why community science?

Community science engages volunteers in "crowd-sourced information gathering", in our case through the **Forest Health Watch** program. Although community science is not appropriate for all research endeavors, it is great for ecological studies like **mapping the dieback of Western redcedar**. Engaging community scientists has many benefits for research outcomes, such as collecting wide scale data at relatively low costs. However, there are also many challenges, especially in terms of data quality and rigor. For example, how do you avoid data fragmentation or bias while asking participants to respect park policies and stay on trails? In general, the simpler the research methods, the more suitable the project is for a community science approach.

Community science provides opportunities for informal education and outreach. Is Western redcedar a 'canary in the coalmine' or an early indicator of the effects of climate change in the Pacific Northwest? By engaging people directly in a collective effort, our hope is to be a vehicle for recruiting and training critical observers, thereby achieving educational outcomes simultaneously.

Some community science benefits:

- Can provide information about a large geography
- Can engage people in issues in a direct, meaningful way and help depoliticize issues like climate change
- Encourages collaboration and co-learning among community members and researchers



Dead fronds on a western redcedar branch.

Using iNaturalist to collect community science observations

iNaturalist.org is a platform that lets individuals share observations, identify organisms, and join collective projects. For example, a simple search for **western redcedar**, shares more than 8,500 observations from nearly 4,000 observers. In general, users can share an observation of any organism and **iNat's AI** and the community will help identify that organism. Then, once two or more people have agreed on the identification, iNat considers it 'research grade', accounting for nearly 7,000 of the **redcedar observations**. However, none of those observations have information about the health of the trees so we created a project to add more questions.

How Can You Get Involved

1. Join iNaturalist/encourage your team or community to sign up and find our project: **Western redcedar Dieback Map**.
2. Head outside, whether rural or urban, wildlands or parklands - wherever there are Western redcedar. If you see signs of poor health or mortality, take a photo, upload it from your phone, add additional info and answer a few short questions.
3. Follow our progress and that of your fellow community scientists by signing up for communications at **foresthealth.org**

Anyone is welcome to contact Joey for more information about the program, western redcedar research, community science in general, or instruction in using iNaturalist. We welcome any feedback and would love to connect with more communities and partners **hulbe@wsu.edu**

Western redcedar with recent top dieback at Kukutali Preserve State Park and Heritage Site.