



Arbutus ARME Wants You!

Help Scientists Map and Preserve the Pacific Madrone

BY NIALL DUNNE

Probably my favorite Northwest native tree is Pacific madrone, *Arbutus menziesii*. I can't decide what I like most about it: the graceful, arching, wide-branching habit; the glossy, oval-shaped evergreen foliage; the smooth, cinnamon-and-chartreuse exfoliating young bark; the scaly, reddish-brown mature bark; the large, drooping clusters of white, spring flowers; or the bright, orange-red fall fruits. It's all good! What's more, madrone—despite its exotic looks—is a key component of regional biodiversity, offering food and shelter to a wide range of pollinators, herbivores and cavity nesters.

Sadly, this iconic species of the Pacific Coast appears to be in decline across its southern B.C. to southern California range. Fire suppression, urbanization, habitat fragmentation, and other challenges are negatively affecting madrone and making it more susceptible to a range of fungal diseases, such as root rot, heart rot and cankers. Severe drought in the tree's southern range and warmer, wetter spring weather in its northern range—both associated with climate change—are also expected to take a toll.

Map with Tree Snap

Arbutus ARME is a new initiative promoting the conservation and restoration of Pacific madrone—and it's looking for citizen-scientist recruits! ("ARME" is a clever play on the standardized abbreviation for the species, derived from the first two letters each of *Arbutus* and *menziesii*.)

Founded by Michael Yadrick, a plant ecologist with Seattle Parks and Recreation's Green Seattle Partnership, and Marianne Elliott, a plant pathologist at Washington State University, Puyallup, the ARME aims to facilitate Pacific madrone research and education, act as a hub for conservation and restoration practitioners (including home gardeners!), and build a multi-regional community of concerned individuals and stakeholders.

"We want to educate people about the beauty of the Pacific madrone, its complicated ecology, and the best practices for propagating, growing and managing the species," says Michael. "We also want to map it! The current range map dates to the mid-1980s, and it's a modelled map of suitable range based on USDA Forest Service inventory analysis data. We'd like to create an updated map that is based more on ground observations than probability of occurrence."

And this is where *Arbutus*-adoring amateurs can contribute. To help discover the true range—and health—of Pacific madrone, Arbutus ARME is collaborating with Tree Snap (treesnap.org), a free mobile app developed by the University of Kentucky and the University of Tennessee, originally to track Eastern U.S. tree diseases and pests. The crowdsourcing app allows anyone to be the project's "eyes and ears in the field."

I tested out Tree Snap in the Arboretum this past fall, and it's simple to download and use. When you find a madrone in your neighborhood or out on the trail, just take out your smart phone, select the species of interest (*Arbutus menziesii*), snap a photo, answer some questions about the dimensions, habitat, and health of the tree, and hit "upload." The app will record the GPS coordinates of the tree for use in the mapping project.

Know How to Grow

To help answer the health questions in the app, you'll need to have some basic knowledge about the diseases that attack Pacific madrone. The Arbutus ARME's new website, arbutusarme.org, has a nicely illustrated page that will help you identify the most common madrone diseases.

That's not all it has, of course. The eye-catching site is packed with useful information about the natural history, ecology, ethnobotany and cultivation of the tree. Growing the tree is another way home gardeners can help with conservation.

"One of the things we're trying to do is dispel certain myths about madrone," says Michael. "Namely, that they're all sick, and that they're hard to grow, propagate and transplant. We want to make the tree more accessible to people by teaching best management practices, listing local nurseries that offer the plant for sale, and showing folks how to propagate the plant for themselves."

Madrone is easy enough to grow—once you match them to their preferred conditions. Though Pacific madrone is part of the original native matrix of the Arboretum, many of the

specimens that spontaneously appear here don't do well—primarily because they germinate and grow in unsuitable sites with compacted or overly wet soils or too much shade. Eventually, stressed by the suboptimal conditions, they succumb to fungal problems.

"If you look at the ecology of the species, and at the recent research, the takeaway is that madrone prefers well-drained, rocky soil with good light exposure—from a south or west aspect," says Marianne. "It doesn't like to be crowded in a stand with a bunch of other trees where there's too much canopy competition."

The website has lots of other recommendations for growing a healthy madrone, plus it features news about all the latest research on the species, such as WSU's "common garden" study, which is looking at genetic variation, local adaptation, and potential disease resistance in different madrone populations. Join the ranks of the Arbutus ARME today! 

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The graphic features a teal background with illustrations of people running, a hiker, a family, and various flowers and a bird.