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Home & Garden

Wednesday, May 16, 2007



Nursery Coordinator Estrella Phegan showing the carefully labeled native seeds that are stored in alphabetical order in two industrial refrigerators.
Betti Faust

Sonoma County nonprofit Circuit Rider Productions supplies Cotati Creek Critters with native plants

By Betti Faust

Cotati Creek Critters is known for participatory habitat restoration work in our local area, but have you heard of Circuit Rider Productions? CRP is just a few miles north in Windsor, and it has been spearheading habitat restoration for 30 years. Since its formation in 1976, CRP has become known in ecological habitat restoration circles, but operates below the radar for most of us.

We all know that humans have impacts on our landscapes. Some are obvious, like paving over farmlands with housing developments, or widening freeways to accommodate more cars. Less obvious is the decades of altering marsh and other aquatic ecosystems to create farmlands and to build our cities and towns, and the centuries of moving plant and animal species all over the globe, from their native homes to new lands.

What happens to the native plant and animal habitats of Cotati's creeks where they are overgrown by invasive Himalayan blackberry? What happens when Arundo donax, a non-native, invasive species of an Asian river reed, first introduced to help control stream bank erosion, spreads rapidly throughout the Russian River watershed, displacing native aquatic species?

The simple answer to these questions is that native landscapes are altered, often seriously damaged, and the plants and animals that comprise and inhabit them are also endangered. The good news is that people are becoming more aware of how we influence

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our local environments, and that plants and animals are also agents of change in our landscapes.

Ecological habitat restoration comes from an understanding that we need to work together with plants and animals to plant the seeds of positive environmental change, to reverse ecological damage and return ecosystems to their more natural forms and functions.

Circuit Rider Productions is a multi-faceted organization that engages in watershed assessment and planning, physical habitat restoration, and native plant propagation. CRP selects restoration projects from among the many brought to them by governmental and private organizations. CRP also carries out watershed science, education, and outreach, which brings the science of watershed ecology to K-12 classrooms as well as to interested community groups and affected landowners.

Karen Gaffney, a founding member of CRP, played an important role in the growth of Cotati Creek Critters from a small, volunteer-based organization with no established vision or resources into one with the funding that allowed the organization to develop a true plan, vision and place.

In 2003, co-founders Jenny Blaker and Wade Belew took a Watershed Ecology and Restoration course co-taught by Karen Gaffney and Bob Coey (of the California Department of Fish and Game). For the course, Blaker and Belew carried out a baseline ecological assessment of Cotati's creeks, which are a part of the larger Laguna de Santa Rosa watershed.

The Laguna de Santa Rosa Watershed drains approximately 250 square miles, and flows from Cotati to Forestville into the Russian River. Channelization, sedimentation, artificial draining, chemical contaminants and construction have disturbed much of this Laguna ecosystem. That baseline assessment was instrumental in securing a \$170,000 grant from the State of California Department of Water Resources Urban Streams Restoration Program. The Critters share the grant with the Laguna de Santa Rosa Foundation.

CRP also carries out major watershed assessment and planning. This involves using advanced digital drafting and mapping systems (such as geographic information systems and global positioning systems) to assess the ecological health of entire watersheds. This data is collected in forms compatible with state and federal data collection protocols, allowing for broader comparisons and data sharing.

To take just one example, CRP began mapping the spread of *Arundo donax* in the Russian River watershed in 1992. They found that the plant had overtaken some 300 acres, both along the main course of the Russian River, as well as along 40 or more of its tributaries.

CRP then uses its assessment data to plan and implement physical restoration projects. In the case of *Arundo donax*, the plant is covered with tarps to smother it, and then removed by hand. The plant's natural reproductive mechanism is used to its advantage in the removal strategy.

Arundo does not grow viable seed, rather it reproduces asexually, from plant fragments that become separated from the main plant clusters and move downstream with the water current where the fragments lodge and take root. Therefore, removal begins at the furthest upstream locations and moves downstream.

The restoration work does not end with the successful removal of the invasive reed. Rather, it is then that the work of revegetation begins.

In 1978, CRP founded the Native Plants Nursery, which was "one of the first nurseries in the country dedicated exclusively to site specific, genetically appropriate native plants for ecological restoration," according to the organization's Web site. This means that all of the plants CRP uses for habitat restoration are grown from native seeds and cuttings carefully identified and collected from each restoration site. Nursery technicians use a very detailed logging system to make sure the seeds, cuttings and resultant plants are identified properly, not just by species, but also by the restoration site where they were collected and are intended for future replanting.

Nursery Coordinator Estrella Phegan gave me a tour of the nursery grounds, unintentionally impressing me with her vast knowledge of the plants grown there. We came to *Chlorogalum* species, commonly known as a soap plant, and Phegan stopped to tell the story of how California Native Americans made this particular species' strong root fibers into a whisk-type brush. The purpose of this instrument was to brush out the residue of acorn flour, a food staple, which was stored in hand-woven baskets.

Continuing on, Phegan pointed out a large number of Rosa California (California wild rose), then Quercus lobata (Valley Oak), just two among the roughly 50 different species of native California plants currently growing there. Phegan estimated that the nursery has grown between 150 and 200 different native species in 29 years of growing.

Phegan then showed the propagation building where all of the collected seeds are processed, stored and sown. Seed processing is species-specific and may involve some manner of crushing, pounding or cutting up of the seedpods with rolling pins, hammers, concrete, or Cuisinart to extract the seeds. Once separated from chaff, the dry weight of seeds is recorded, and most are stored in the nursery's two large commercial refrigerators. Before they will germinate, some seeds require special treatments, such as cold stratification, to mimic winter temperatures, a coffee acid treatment to mimic the acidic environment of animal digestive tracts, or hot water scalding to mimic the heat action of fire.

Seeds are then planted in special containers that are tall and narrow, meant to encourage strong and deep root growth.

Because most of the native plants grown at the nursery are susceptible to or potential hosts of Sudden Oak Death, a sterile soil medium is used. No compost is added, for composts may contain remnants of decomposing oak. In addition, bleach floor mats are used to sterilize the bottoms of shoes that may harbor traces of the disease.

The nursery supplies plants to Cotati Creek Critters for use in their own habitat restoration efforts. As part of the nursery's effort to encourage people to select more California natives for our home landscapes and wildlands it holds an annual plant sale open to the public, offering a variety of native trees, shrubs and grasses. This year, the plant sale will be held Saturday, Apr. 28 from 10 a.m. to 2 p.m. at 9619 Old Redwood Highway in Windsor.

For more information on ecological habitat restoration, visit <http://www.crpinc.org> and <http://www.cotaticreekcritters.info>.

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