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## Sanctuary One at Double Oak Farm

### by Robert Casserly

It's usually about this time of year that local farmers start feeling nostalgic about the cool and wet weather we had a couple of months ago. Come summer, spying one small cloud in the morning sky is enough to raise a farmer's hope that today may be his or her lucky day.

But it rarely is. Throughout July and August we're lucky to get one inch of rain in southern Oregon. In

mid-summer, permacultureinspired farmers like us-people who believe in sustainable land use design based on ecological and biological principles-rely on water conservation methods such as terracing, swales, shade, mulch, and soil amendments. But eventually most of us resort to using an irrigation system to keep our fields and gardens growing.

There are many reasons why the precepts of permaculture suggest we use as little irrigation as possible. First, in southern Oregon

irrigation rights often entail pumping water out of a river or stream in which hundreds or even thousands of life forms rely on adequate water flow to survive. Second, access to fresh, clean water is a privilege. Every time you open a faucet you're doing something almost three billion people on this planet can only dream of as they survive another day by drinking unhealthful water. Third, the cost of field irrigation is growing as rising fuel prices make electricity to run irrigation pumps more expensive.

When irrigation must be used to keep fields and gardens alive, one way to offset the environmental impact is to irrigate using rainwater collected by the gutters on your house, barn, or any other building with a large roof. These days it's surprisingly easy and affordable to purchase and install gutters and a water



cistern or rain barrels that will, in the long run, save you money and reduce your environmental impact, too.

So we're pretty excited about the double benefits of the water cistern we recently installed to collect water from our farmhouse roof. This huge water tank can store up to 2,600 gallons of precious rainwater that we'll use to sustain the organic gardens and trees we've

planted around the farmhouse. Here are some numbers to consider. A roof collects about 620 gallons of water per one inch of rain per 1,000 square feet of roof area. We get about 19 inches of rain per year in Jackson County. Meaning, for the average local home of about 2,300 square feet, more than 27,000 gallons of rainwater fall on the roof each year. That's about 20 percent of the average annual U.S. household water consumption rate of 127,750 gallons.

Although installing a rainwater harvesting system may seem

daunting at first, we've found it was surprisingly easy to understand after we researched it and learned the basics. Of course if you want to pay someone else to do it for you there are more and more local entrepreneurs getting into the business of selling and installing water cisterns and rain barrels.

Another option for learning about permaculture methods like rainwater harvesting is to sign up to volunteer at Sanctuary One. The Sanctuary's earth care manager, Gene Griffith, is a certified permaculture teacher who loves teaching volunteers of all ages how to live in harmony with nature.

If you are interested in learning more about permaculture, visit us online at www.SanctuaryOne.org or call 541.899.8627 to sign up for a tour and volunteer orientation.

# Improving Water Quality for the Bear Creek Basin by the Jacksonville Public Works Department

The City of Jacksonville has partnered with other cities in the Rogue Valley to monitor and implement a management plan to improve the water quality of the streams flowing through each jurisdiction and into Bear Creek. This process has been termed 'TMDL' for Total Maximum Daily Load. TMDLs are determined by scientific data collection and analysis to determine how much of a pollutant a water body can receive and still meet water quality standards.

Pollutants are considered to come from two sources: point sources and non-point sources. Point sources are from a defined source, whereas non-point sources are landscape wide. Non-point sources are largely made up of toxins from landscape chemicals (pesticides, herbicides & fertilizers), and household activities (car washing, oil changing, painting, irrigation runoff, pet waste, etc.) that are caught up in stormwater that drains directly into our streams. Where streams have lost the riparian vegetation which would have stopped or absorbed some of these toxins, the impact of them entering the water increases. Non-point source pollution is a much larger source of pollution than from



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point sources and is now the largest source of water quality impairment in the Bear Creek Watershed. DEQ addresses non-point sources of pollution through the TMDL process. With this information, each Designated Management Agency (DMA) can work to improve water quality and improve stream life. Jacksonville has been designated as a DMA under the TMDL and has developed a TMDL Implementation Plan.

In the Bear Creek Watershed, bacteria, temperature, sedimentation, pH, and dissolved oxygen have been identified as water quality impairments. The TMDL implementation plans describe timelines and actions DMAs will take to reduce their impact on water quality. To date, the DMAs have submitted TMDL implementation plans and are actively implementing their plans which describe when and what actions will be undertaken to address a jurisdiction's water quality impairments.

Improvements have been made in the water quality around the valley thanks to these efforts. More progress will be made over the next few years with the goal of making Bear Creek a healthy waterway that can be enjoyed by everyone.



