

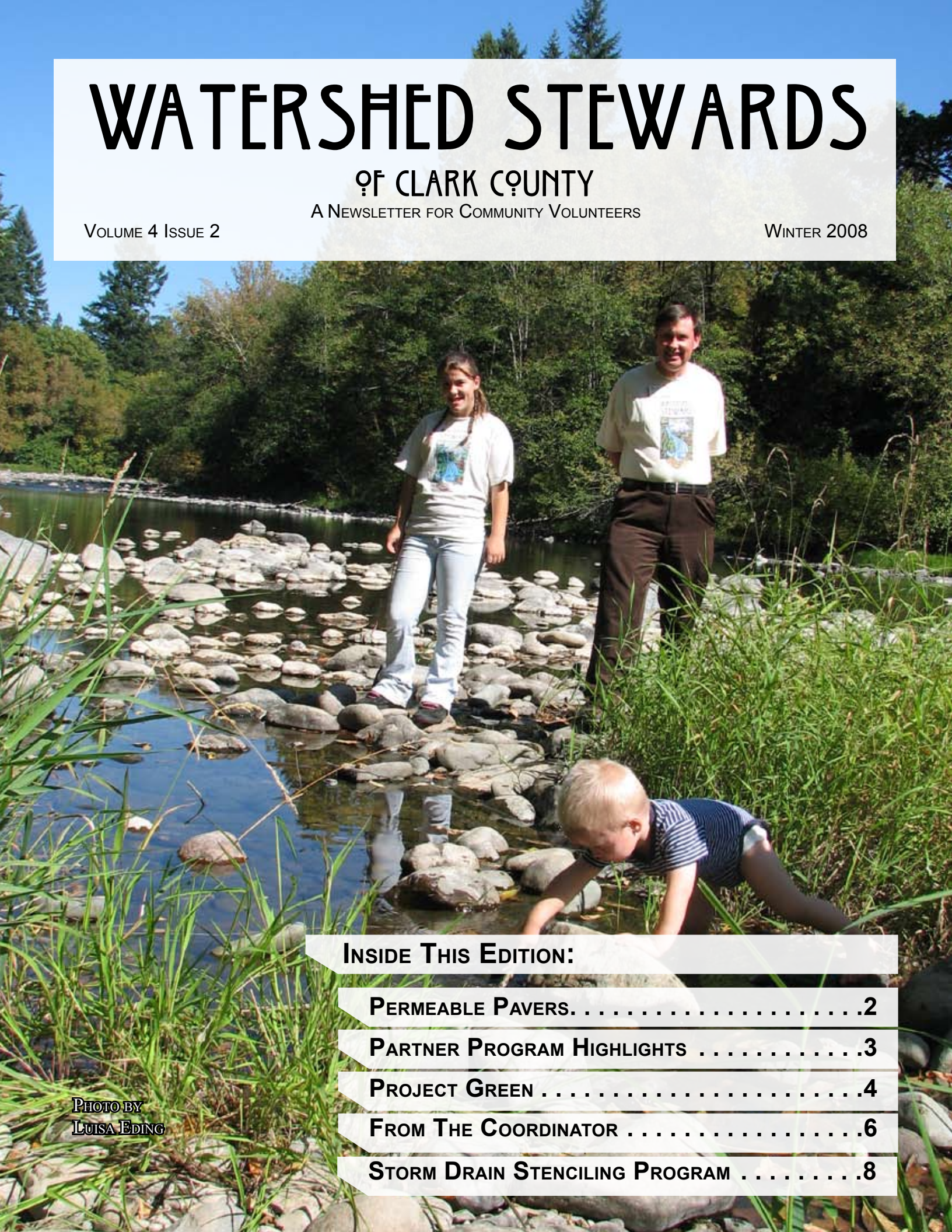
WATERSHED STEWARDS

OF CLARK COUNTY

A NEWSLETTER FOR COMMUNITY VOLUNTEERS

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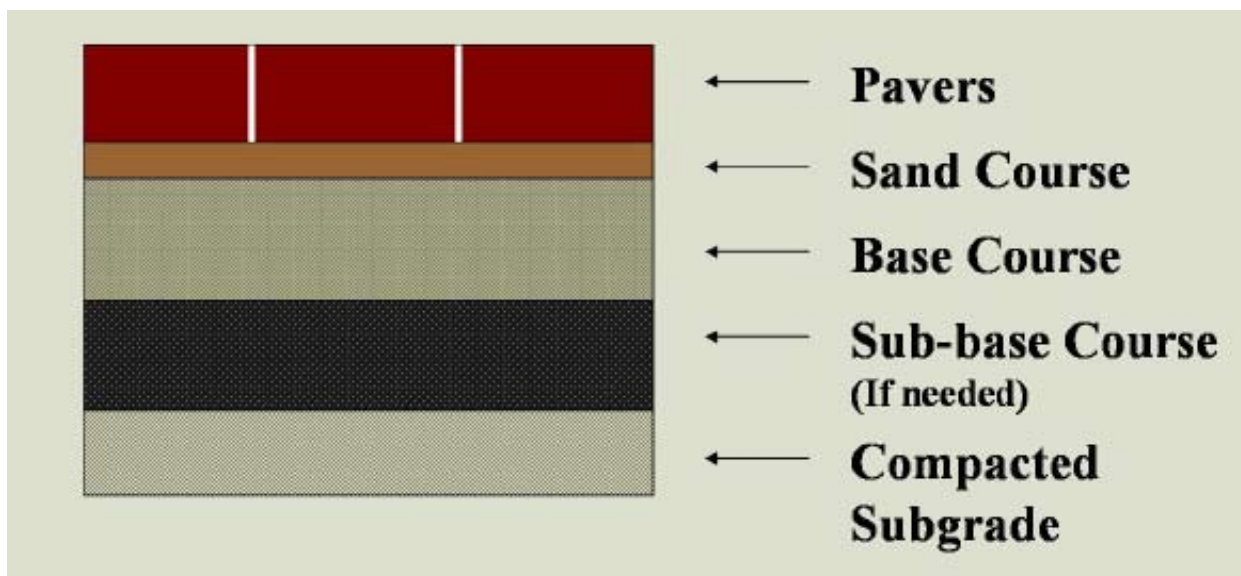
PHOTO BY
LUISA EDING

PERMEABLE PAVERS

PERMEABLE PAVEMENT OPTIONS: BEAUTIFY YOUR PROPERTY, REDUCE YOUR RUNOFF

By Jenifer Naas, Program Coordinator

Watershed Stewards introduces a new workshop on permeable pavements. The workshop, presented by Watershed Steward Alex Zimmerman, of CSI Geosynthetics and Fred Davis of Mutual Materials, discusses different forms of permeable and porous paving materials for use at home or in the garden. Pervious paving systems reduce stormwater runoff into stormwater facilities and filter pollutants. Installing a permeable pavement system may eliminate the need to build a separate stormwater facility. Permeable pavers are available in different colors and can be installed to create patterns, making an attractive hardscape for driveways or patios. Studies show that pervious pavements require less re-paving or patching than regular pavements and paver systems are easily removed and more durable than concrete or asphalt.



A typical permeable paver system installation

There are three different permeable technologies: porous pavement, pervious pavers and turf block. Porous pavement is either a porous asphalt or porous concrete. Porous asphalt is made of coarse stone aggregate mixed with asphalt, leaving many small voids within the asphalt that allows water to seep through to the ground beneath. Porous concrete consists of Portland cement, coarse aggregate and water that creates voids in the finished product. Either pavement will require preparation and maintenance to assure proper function. A sub-layer of gravel and aggregate holds the water until it can infiltrate or carries the excess water to another outlet. Each system requires cleaning or vacuuming to prevent clogging of the void areas within the pavement.

Pervious pavers and turf block are pre-cast units made of concrete. When installed, pavers are laid in such a way as to create voids between paving blocks that allow water to infiltrate to the sub-layer. As with permeable pavements, pervious pavers and turf block also require a sub-layer of aggregate to hold stormwater.

Permeable pavement systems often cost more than traditional asphalt or concrete, but are more durable and attractive. Installing permeable pavements helps protect our environment and reduces the impact on stormwater facilities.

PARTNER PROGRAM HIGHLIGHTS

SALMON IN THE CLASSROOM

By Tracy Sand, Columbia Springs Environmental Education Center (tsand@columbiasprings.org)

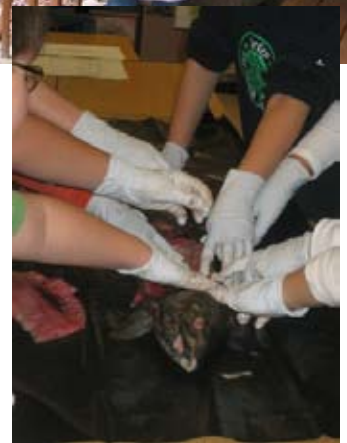
Hello, my name is Tracy Sand and I'm the coordinator for the Salmon in the Classroom program as well as a Watershed Steward. The mission of Salmon in the Classroom (SITC) is to engage Clark County students, parents, and community members in positive environmental stewardship through increased awareness of the unique salmon life cycle and habitat requirements.

Salmon in the Classroom is a program of Columbia Springs Environmental Education Center in partnership with and funded by Clark Public Utilities. It was created in 1991 by the Washington Department of Fish and Wildlife to provide students an opportunity for hands-on environmental education.

By studying salmon habitat, water quality, and the salmon themselves, students can learn about the interrelationships of species within their local watershed. In learning how to protect the salmon's environment, the students are ultimately learning how to protect their own environment.

SITC provides several avenues for students to study salmon, but the largest part of the program is the placement of 60 salmon tanks in schools throughout Clark County. With the generous support of Clark Public Utilities, grants from Clark-Skamania Fly fishers, and various other groups, salmon tanks are set up by the SITC coordinator (that's me) and maintained by teachers and students. With the rising interest in salmon and the link they provide to science topics students are already studying, a wait-list is beginning to grow for participation in the tank program. All schools, public and private, throughout Clark County are welcome to participate in the Salmon in the Classroom Program.

The Salmon in the Classroom program also offers several presentations for teachers to choose from. Students can put their thinking caps on and participate in a game show called "Ellie Sue Spills Her Guts." This presentation covers the life-cycle of salmon, the different salmon species (including Steelhead trout and how they are different from the other salmon), and salmon anatomy and function. Ellie Sue is a 6' paper mache model that has proven very helpful in educating the squeamish or the younger students. Teachers may choose to have students participate in a full fish dissection. In the fall, students have the chance to dissect spawning coho salmon that are culled from hatchery spawning stock. Students get to study the reproductive organs, digestive organs, heart, liver, gills, gall bladder and all the other parts that make up a salmon. In the spring, students dissect trout that are culled from the hatchery at Columbia Springs. This is a wonderful way for students to learn about anatomy and function.

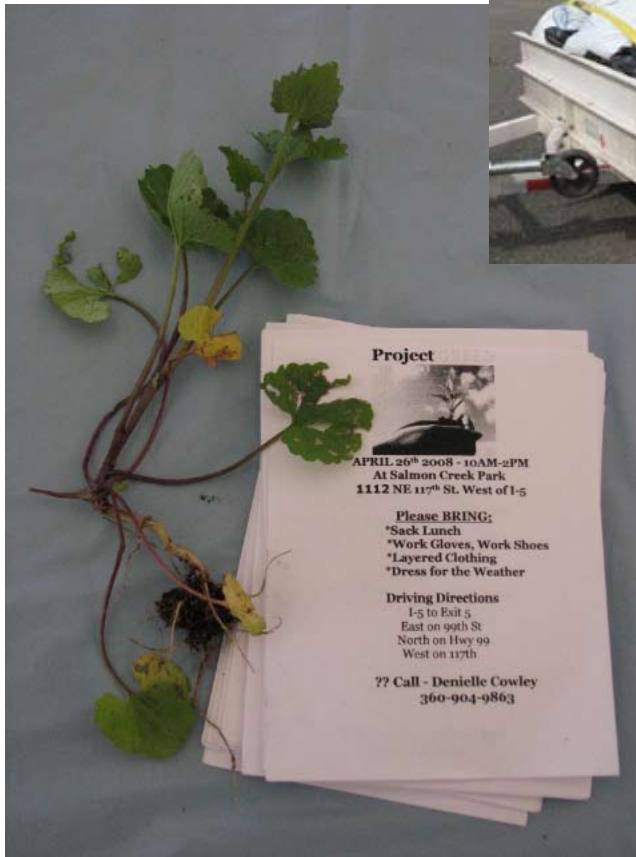


Salmon in the Classroom has participants state-wide. There are also similar programs in other states. None of the other programs are quite as expansive or enjoy as much support as the Clark County area program through Columbia Springs. Thanks to the hard work and dedication of the previous coordinators, several key community members like Dean Sutherland, Clark Public Utilities, and the amazing teachers who maintain the tanks, our SITC program has grown into a model for similar programs nationwide. I'm pleased to foster the next step in the growth of Salmon in the Classroom.

PROJECT GREEN

DEALING WITH INVASIVES: GARLIC MUSTARD

By Watershed Steward Denielle Crowley



*A total of
500 bags
(approximately
20,000 lbs) of
garlic mustard
pulled in 2008*

As a Watershed Steward volunteer and Clark County Weed Management employee, I have an extreme interest in environmental issues and invasive plants. I have seen what invasive plants can do throughout our county and in our wetlands. Casey Gozart a Wetland Specialist, brought to my attention that Garlic Mustard, an invasive non-native plant, is replacing our native plants along local streams. As I finished the class in Spring 2008, I felt interested in putting together a service project for the community as a way to give back and provide education about this invasive plant. I found this project to be very rewarding and am very excited to do something similar next year.

The Garlic Mustard project includes surveying, mapping, and controlling, aided by volunteer efforts. Garlic Mustard is found in Clark County along Salmon Creek, near the intersection of NE 72nd Ave and NE 259th St., Lacamas Creek, and Lower Washougal River. Our goal is to remove all plants within these areas and to keep an eye out for Garlic Mustard before it gets established elsewhere. The 2009 Garlic Mustard pull will take place in April or May. If you are interested, please contact Clark County Weed Management at (360) 397-6140 to sign up.

On April 26th 2008 at Salmon Creek Park, 52 volunteers took time out of their busy schedules to make my PROJECT GREEN - Garlic Mustard Pull a huge success. We pulled 173 bags (most were the 33 gallon size) of garlic mustard just downstream of Kline Pond, on the north side of the creek. The average bag weighed about 40 pounds totalling 7,000 pounds of garlic mustard. Several hundred thousand seeds were taken out of the area, which will help future control efforts. The following groups cooperated with Clark County Weed Management to help control Garlic Mustard: Vancouver-Clark Parks and Recreation, WSU Watershed Stewards, Clark County Environmental Permitting, Clark Public Utilities Stream Team, City of Camas, and City of Washougal.

Garlic Mustard is a Class A Weed in Washington State. State law requires preventing new infestations and eradicating existing infestations. Garlic mustard is an extremely invasive biennial herb, usually found growing in shaded woodlands. Seedlings emerge in the spring and form basal rosettes by midsummer. Basal leaves are dark green and kidney-shaped, 6-10 cm in diameter, with scalloped edges. Immature plants over-winter as basal rosettes. In the spring of the second year, the rosettes (now adult plants) produce a flowering stalk, or stem. Stem leaves are shaped differently than basal leaves. Stem leaves are alternate, sharply-toothed, and triangular or deltoid shaped. Stem leaves average 3-8 cm long and wide, and gradually decrease in size towards the top of the stem. Flowers are small and white, with four petals. Siliques (slender seed pods) hold black seeds. One garlic mustard plant will produce between 200 and 2,000 seeds.



Earth Day 2008 -
Denielle Crowley
at Salmon Creek
Greenway

Garlic mustard extrudes allelopathic chemicals into the soil, inhibiting the growth of native flowers and tree seedlings. Infestations become monocultures. When garlic mustard is growing among native plants, control with herbicides is appropriate on a sunny day from early November through late February, as garlic mustard stays green throughout the winter when most plants are dormant. Spring herbicide applications are effective if timed before siliques form. Identification aide: When crushed, newly formed leaves smell like garlic. If you notice Garlic Mustard please contact Clark County Weed Management at (360) 397-6140. ☞

HAPPENINGS WITH THE STEWARDS

FROM THE COORDINATOR:

By Jenifer Naas, Program Coordinator

Since our last newsletter, the Watershed Stewards participated in so many events it's hard to believe it only happened in four months! The most significant events this summer included the Clark County Fair, the annual Watershed Stewards picnic, and several Watershed Stewards continuing education events. This year at the Clark County Fair, more than fifty volunteers made contact with 1,800 people! Thank you to so many of the volunteers that spent time at different events this summer. Sixty-one Watershed Stewards were at five events and made contact with almost 2,000 people!



Happy Watershed Stewards on tour at Bonneville Dam

It is very exciting to think that we're getting the message out to so many people. Stewards worked hard, but played hard as well. We held the annual picnic at Lewisville Park this year and kept cool on such a hot day. Thirty-seven people brought side-dishes of all sorts. WS Young Leung brought a scrabble set and WS Ben Dennis gave impromptu fly fishing lessons. Other stewards walked down to the river (see cover) and enjoyed each other's company under the shade of large cottonwoods.

Many Stewards attended a few different continuing education events. Thanks to WS Ben Dennis for teaching our small group to correctly cast a fly rod. Our arms got tired early, but the technique is important! Ben is a great fly fishing teacher and resource to the Stewards. Several Stewards participated in a stormwater facilities field trip. We visited four sites throughout Clark County

and learned a lot about our facilities through Julie Christian and Ken Lader, two dedicated and passionate Clark County staff. It was a beautiful day and everyone enjoyed the private tour. In October, Stewards took a trip up to Bonneville Dam to see fish spawn and learn about the dam. Ranger Tim Darland led us on a great tour of the facilities.

Thanks to all the Stewards who worked and played with us this summer!

UPCOMING EVENTS

December 11th – Green Cleaning for the Holidays – make a green gift
February 2009 – Spring Watershed Stewards training starts

MUD LAKE: A RESTORATION PROJECT

By Watershed Steward Ken Slye

Except for the frog, salamander and the Blue Heron something is missing. FISH!

What used to be a father/son outing destination, Mud Lake is now a desolate rather barren lake living up to its name. Through the years of logging, open-pit mining, and run off, the inlets are choked with canary reed grass and the lake is filling in with sediment. Add to possible future impact, a casino is proposed just down the street and, as of the printing of this article, there is no definitive data to substantiate the deterioration of the lake or the stream that feeds Mud lake. Through the help of Watershed Stewards Lynn Cornelius and Gary Bock, I obtained data collectors and have established two water monitoring sites. Having a day job at Bonneville Power and a farm to manage at night requires more hours in the day than are available, however you can help!

Watershed Stewards that have historical information and/or photos of the area, would be willing to participate in a water monitoring and restoration project, or has any other valuable suggestions and would like to get in on the ground floor of a new project this might be what you are looking for, because I know I'm sure looking for you! Contact me at alpacarose@cni.net (subject "Mud Lake") or through the Watershed Stewards Program.



Ken wants to recruit a group of Watershed Stewards as "Friends of Mud Lake". He proposes to meet on an on-going basis to pool resources, tackle this project and make a difference.

Email him for more info. at: alpacarose@cni.net (subject line "Mud Lake")

STORM DRAIN STENCILING PROGRAM



EAGLE SCOUT PROJECT
Clean Water, Happy People
Effective prevention of NPS
Pollution

I am Brandon Porter, a junior at Skyview High School, and I stenciled storm drains and educated the community

about NPS pollution. 23 people in my community volunteered to help with my project, and we got a total of 70 storm drains stenciled in Ashley Heights which is in the Felida part of Vancouver.

The project took two hours to execute. The main focus of this project was to educate the community about NPS pollution. I created a presentation about stormwater runoff to teach my volunteers about the problems associated with NPS pollution and how



they can prevent these problems in their homes. I also presented this information to a local girl scout troop to further educate the community. The most challenging part of this project was to organize it. I spent over 15 hours planning the project. Despite all the time spent on this project, I would recommend it to anyone who would like to perform some community service. It was fun and fulfilling to plan and execute the project.

- FIVE BY FIVE -

A FUN STORM DRAIN STENCILING PROJECT



What a good treat for the neighborhood!

Dorothy of the Wizard of Oz (Anna) and her sister, the Princess (Emma) pose at one of the five drains their family stenciled in their neighborhood one week before Halloween. "Curious kids in the neighborhood crowded around [while we stenciled], wanting to

help and they had lots of questions, too!" says Sara Gallow. She and her husband Berley Sanchez are proud of their handy work. The girls point it out every time the family drives by a storm drain!

WATERSHED STEWARDS PROGRAM

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Clean Water Program

www.clark.wa.gov/water-resources

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