

SNOHOMISH CONSERVATION DISTRICT

The Nexus



Moga Project Promises Years of Benefits

Fall 2016
Serving Snohomish County
and Camano Island

By Lois Ruskell, Public Relations Coordinator

As luck would have it, Greg Moga, owner of an historic Snohomish valley farm, came to us. Moga is on the board of The Nature Conservancy and shortly after buying a 98 acre farm, he was referred to us by another Nature Conservancy member for tips on planting grasses that would attract birds and other wildlife.

The farm Moga purchased sits at a curve in the river and had been diked and farmed many years before. The new owners have already started an orchard, planted clover for pollinators and moved an old corn crib in from New England (photo below).

Snohomish Conservation District Habitat Specialist Cindy Dittbrenner knew the property would be an ideal site for rearing habitat for both Chinook and coho salmon with the re-connection of a side channel and removal of a road blockage. The project is mutually beneficial as the Moga's will get: better access to the fields below the farmstead, prime wildlife viewing and more flood storage during high flows. By the end of September, two long culverts will be installed, channels dug, dikes removed and the area seeded. This winter, crews will plant five acres of trees along the channels.



Above and top right - a reconstructed 1863 corn crib brought from New England and rebuilt on-site. A black bat box is attached (above).

The Snohomish River is the second largest producer of Endangered Species Act-listed Chinook salmon in the Puget Sound. The Moga project is located just below the confluence of the Skykomish and Snoqualmie Rivers, south of the City of Snohomish, in what is known as the Confluence Reach of the Snohomish River. As such, it is critical spawning and rearing habitat for both the Snohomish-Skykomish and Snoqualmie populations of Chinook salmon.

In the early to mid 1930's, much of this reach was diked (now the reach is 44% diked or armored) and the river has moved very little in the last seventy years. The Crabbs dike (now Moga) and Beck dike, in particular, had not been maintained and cut valuable side-channel habitat off from the river.

Side channel habitat provides critical adult holding and juvenile rearing habitat for several species of salmon. Because much of the lower Snohomish River is modified, developed and diked, the reach where the Moga project is located represents the single best opportunity for restoration of this side channel for salmon.

The objective of the project is to construct a back-channel that will allow water from the Snohomish River to flow in and out of the Moga side channels during normal winter flows. The project will include:

- Removal of two barrier roads crossing the side channel with 12 foot wide culverts.
- Removal of a partial-barrier foot crossing near the mouth of the channel.
- Excavation of a series of channels downstream of the main crossing to connect the existing wetland ponds with the river.
- Installation of large woody debris and gravel in this newly constructed series of channels to provide in-stream habitat conditions suitable for juvenile salmon rearing.
- Creation of shade along the entire length of the newly created channel by planting five acres of native riparian forest.
- Improvements to existing channel by controlling invasive plant species and planting native conifers in with existing vegetation.

The Moga project is the largest habitat project to-date for the Snohomish Conservation District and was mostly funded by the State Salmon Recovery Funding Board with match provided by the Washington State Conservation Commission and the landowner. Design and construction oversight is by Cardno with construction by McClung Construction. You can see more photos on page two or if you want to follow along with the project, go to: <https://www.flickr.com/photos/snohomishcd/albums>.

~ continued on page 2

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DATE CHANGE - 2017 Plant Sale
Our 2017 Plant Sale will be almost a month earlier this winter! The sale is scheduled for **Saturday, February 11, 2017** from 8:30 a.m. to 4 p.m. at the Evergreen State Fairgrounds in Monroe. You won't want to miss out so make sure to note this on your calendar. Here are the pre-order dates:
Pre-orders open November 28, 2016
Pre-orders close January 31, 2017
To pre-order, visit www.theplantsale.org

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Moga Project Promises Years of Benefits



Above, a panorama of the two channels with log placement. The banks will be seeded this fall, and native plants will go in this winter.

Center, these large culverts will be installed under the road providing better access to the farm fields for the owner and allowing fish to pass.

Below left, workers place trees and root wads in the new channels to provide areas to rest for juvenile salmon.

Below right, the Snohomish River as viewed from the hillside.



Rejuvenating an Historic Farm

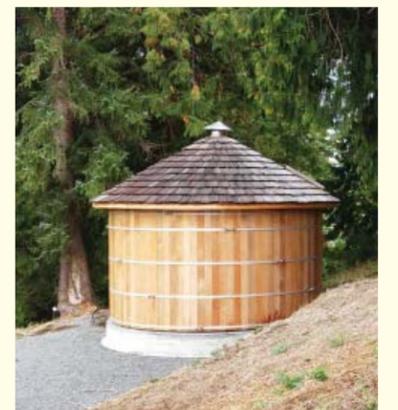


The Moga farm is getting a facelift that will not only benefit salmon, but also eagles, deer, beaver and waterfowl.

The owners are planting lots of trees, clover for pollinators, grasses for nesting birds and fruit trees for all. Wetlands are plentiful and many areas are left natural.

The farm fields can be seen through the flowers, left. Garden supplies await, right.

Below, left to right, are a garden with clover for pollinators, an apple tree and a new wooden cistern.



Fall Task List for All Types of Properties

By Kathryn Wells, Community Outreach Specialist

The shorter days of autumn inspire us to slow down after a busy summer, but accomplishing a few tasks before the rains set in and the winds start to blow will make winter more pleasant and surprise you with a healthy land and soil-scape next spring.

Lawns

Summer left your lawn a little crispy? Our cool season grasses come out of dormancy naturally when the rains and cooler temps return, however, we can help them recover and improve soil health for next year by aerating and top-dressing with compost.

Aerating with a core aerator opens up large “pores” in the turf, reducing compaction from a year’s worth of mowing and playing catch with the kids and the dog. Spreading compost to fill the pores improves soil structure and provides nutrients to the turf.



When your soil has pore spaces and nutrients from compost, grass roots can spread further and deeper, resulting in a thicker, healthier lawn that better withstands drought and shades out weeds that might try to invade. The healthier your soil, the healthier your lawn.

- You can rent a core aerator from many equipment rental companies. Consider going in with a neighbor and share the cost.
- Remove weeds first, because they’d benefit from an aerated lawn, too.
- Overlap your runs and go in different directions – you needn’t worry about overdoing it.
- When done you can rake up the cores, but it’s not necessary. Mowing with the blade as high as it will go will help break them down and nature will do the rest.
- Next, overseed thin areas with a grass seed blend that is suitable for our area and your sun/shade conditions.
- Then spread ¼” – ½” of compost over the lawn and lightly rake it in, making sure that the grass still peeks up above the compost.
- Remember, if you seed, keep the compost and soil moist if nature doesn’t do it for you. New grass seed and plants need moisture to germinate and thrive.
- Listen for the tiny thank yous from your happy grass plants.

Gardens

It’s tempting to tidy up the garden before winter, like cleaning the house before going on vacation, but if we rake out too much, we take away the winter homes and shelters of beneficial insects that could help pollinate or provide pest control next year.



Diseased plants do need to be removed and either put in the yard waste bin or added to the burn pile. And you can pull weeds that would otherwise keep growing and be waiting for you next spring. But otherwise, dead stems, flower heads with seeds and fallen leaves provide places for bees and butterflies to overwinter, and provide food for winter birds.

In the food garden, cover the soil to prevent erosion, reduce compaction from the rains and suppress new weeds that take advantage of winter warm spells. Here are some options for covering the garden:

- Plant a cover crop like crimson clover (learn more about cover crop seed types on pages 4 and 5)
- Leave in place winter-hardy crops like kale
- Cover with your fall leaves
- Cover with straw

On the Farm

Prepare your cropland and pastures for the rainy season, thinking toward the next year’s growing season. Through early October, test your soils and apply lime at the rates recommended by the soil lab or your farm planner. Our soils are naturally acidic and will more than likely need an input of lime to “sweeten them”, making nutrients more available to next spring’s plants.

Now that you’ve amended your soils, protect them from the rains. Move your horses and livestock to their winter heavy-use areas to prevent damage to your pastures. Slow feeders (photo, right) and toys can help keep horses active when off pasture.



From mid-October into November, plant cover crops in your fields (see pages 4 and 5). They prevent erosion and compaction, improve soil structure and add nutrients to the soil when your new spring crops need it.

Maintenance Tasks for Home and Farm

- Check light bulbs and smoke detectors in the house and out-buildings
- Plan for power outages
- Prepare for floods
- Have trees checked for safety and pruned by an arborist to prevent damage to fences and buildings (permits may be required)
- Fix fences for both livestock and pets
- Stock up on winter feed early
- Empty manure bins
- Replace manure tarps or repair roofs
- Make sure stock tank heaters are in good condition
- Wash and repair horse blankets
- Complete tractor and lawn mower maintenance



Slow feeders help keep animals active in the winter and are portable.

Note - Snohomish Conservation District does not promote any particular brand of slow feeder. This photo is only for highlighting this type of feeder.



Most importantly, meet your neighbors if you haven’t already. We don’t see them often in the dark days of winter, but when the power goes out or the water rises, it’s good to know who we can lean on and who may need our help.

So, knowing that your lawn is pampered, your garden and its beneficial insects are tucked in, and your farm is set up to thrive next spring, have your well-earned cup of hot tea - with a neighbor.

Need more great farm and home tips? Check out www.betterground.org.

Snohomish Conservation District Nexus

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www.betterground.org

www.theplantsale.org

Fall is Perfect Time to Get Your Cover Crop In

Photos and article courtesy of Osborne Seeds, Mt. Vernon

Fall is the time to start thinking about soil health, preventing erosion on bare soils and increasing organic material in your fields, gardens and other cropped areas. This article, courtesy of Osborne Seeds, covers the basic seed types to use for cover crops.

Cover cropping builds soils health by increasing organic matter which in turn can help drainage, retain soil moisture, increase nutrient availability and reduce erosion. Ideal planting dates will vary regionally but here in the PNW many growers will seed in the coming weeks. This means that some tough decisions will need to be made concerning which cover is right for you!

Below is a list of just some of the many benefits that each variety offers along with a quick reference (see table below) that shows seeding rates, hardiness and organic availability.

Cover Crop Quick Reference

Cover Crop	Seeding Rate/ AC	Hardy to Zone	Organic
Austrian Winter Pea	70-150	6	Organic not available 2014
Barley-Winter	125-150	8	YES
Clover-Crimson	25	7	Conventional seed
Clover-White	12		Conventional seed, OMNI approved, inoculant coating
Fava Bean-Diana	100-125	8 to 9	YES
Oats-Cayuse	100-150	8	YES
Rye-Merced	90-110	4	YES
Rye/Vetch Mix	100-150	Rye 4, Com. Vetch 7	YES
Triticale-Bunker	100-125	4	YES
Vetch-Common	60-70	7	YES
Vetch-Hairy	40	4	YES

Austrian Winter Pea

Cold hardy cover that provides a quick source of nitrogen with vines that incorporate easily into soil. Well seeded plots provide great weed suppression and make for an ideal forage crop supplying large amounts of protein. Rapid spring growth with the ability to produce large amounts of dry matter. Early blooms serve as great beneficial insect attractant.



Barley (photo below)

This is a rough awned, two-row feed barley that serves as excellent weed suppression and erosion control! Winter barley produces large amounts of biomass and helps scavenge nitrates to reduce leaching with the possibility of roots reaching 6 feet. This economical cover has the ability to better handle salty soil compared to other cereals and puts biomass on faster too! Recent studies suggest that barley can aid in reducing incidence of leafhoppers, aphids and root-knot nematodes along with reducing weed pressures through allelopathic properties.

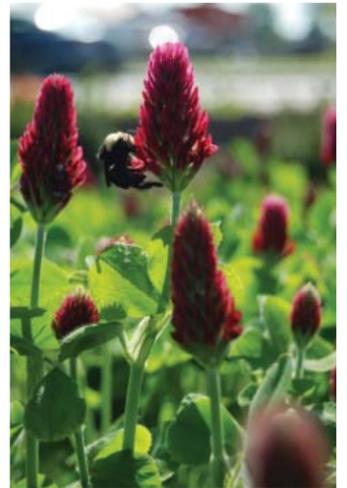


Barley photo from www.foodofy.com.

Crimson Clover

A winter annual in Western Washington and Oregon, crimson clover puts on fast growth in the fall and provides a great source of nitrogen with the possibility of 70-150 pounds per acre.

Crimson clover also provides great erosion control and can scavenge nitrates and reduce leaching. The beautiful dark red blossoms help attract beneficial insects and all-important pollinators.



White Clover

A perennial along the West Coast and in the Midwest and Northeastern US. White clover has the ability to add

large amounts of nitrogen to soils with the largest amount available from incorporation after its first season. White clover also performs well as living cover for permanent pathways and is ideal in orchards and vineyards and as forage for non-ruminants. Proper management can provide blossoms throughout the season and serve as a pollinator attractant when other beneficial plantings have finished flowering.



Fava Bean Diana

This winter or spring annual serves as a great nitrogen fixer with the ability to produce a 6-8 foot tall plant along with a 1-3 foot long tap root. The 3.5-4 inch edible pods can be used for human consumption or forage.

Fava bean Diana is very cold hardy with winterkill temperatures as low as 10 degrees Fahrenheit. Favas have the ability to continue to grow in cold wet conditions when other legumes go dormant. Favas are better able to tolerate low pH but will produce less nodules in heavily acidic soil.

Cayuse Oats

A cool season, high yielding spring oat with the ability to survive through zone 8 in most seasons. This economical cover has the ability to produce large amounts of biomass, scavenge residual nitrates in soil to reduce leaching and can serve as a great forage crop.

Oats will perform best in cool moist conditions in well-drained soil. The quick germination of oats helps to provide great weed suppression along with allelopathic properties that inhibit weed seed germination.



Rye

Hardier than oats and triticale, rye provides great weed suppression, erosion control and scavenges nitrates to reduce leaching. This cover has the ability to perform even in less than ideal soil conditions and can help retain moisture for summer cropping. Rye has a fibrous root system and will recycle more nitrogen when planted earlier. Research shows that rye is effective in reducing small seeded weeds including lambsquarter and red-rooted pigweed and like the other cereals listed, it also has allelopathic properties. Harvest at boot stage for forage.

Fall is Perfect Time to Get Your Cover Crop In - cont.

Photos and article courtesy of Osborne Seeds, Mt. Vernon

Rye/Vetch Mix

This mix combines the great nitrogen fixation of common vetch along with the superior biomass accumulation and nitrogen scavenging of rye to create a spectacular cover crop! Together these crops offer great weed suppression due to dense cover and the allelopathic properties of rye.



The viny habit of the vetch helps to weave the cover together to better protect against weeds, prevent erosion and hold in soil moisture.

Triticale Bunker

A cross between wheat and rye, you can plant triticale earlier than rye to produce more fall growth. Triticale is winter hardy but slightly less than rye. It puts on less biomass in the spring which often allows for easier tilling compared to rye but still generates large amounts of organic matter. Its dense canopy and allelopathic properties make it a great weed suppressor and its extensive root system helps scavenge nitrates. Triticale's high protein content make it an ideal forage crop.



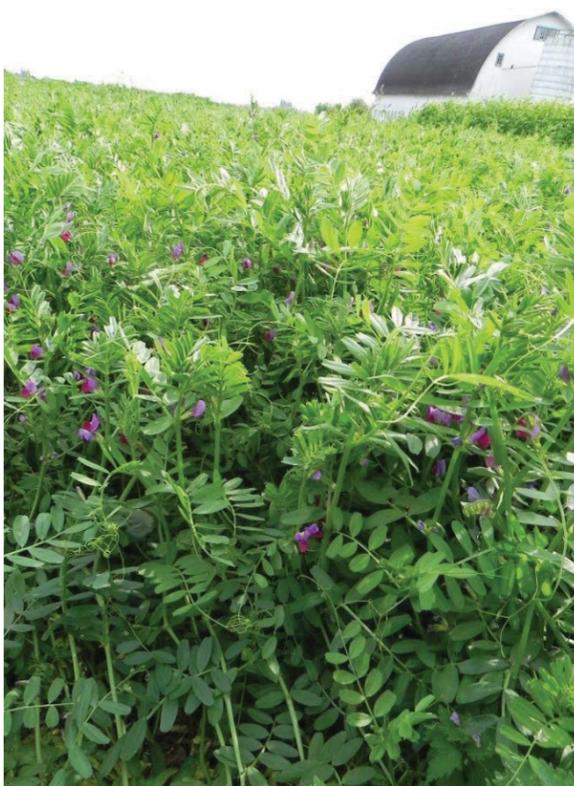
Common Vetch

This nitrogen fixing annual has a viny habit that has the ability to reach 2 feet in height with a tap root of 3-5 feet. Fall plantings in the Pacific Northwest generally flower in April and May and will provide the greatest nitrogen benefit when allowed to grow longer before incorporating.

Accumulated nitrogen from common vetch plantings can often account for half of nitrogen needed for summer crops that follow but exact amounts are dependent upon numerous factors.

Vetch provides great spring weed protection due to its extensive cover. It can be combined with cereal grains to scavenge nitrates to reduce leaching and serves as an early pollinator attractant.

Possible damping off interactions are possible after tilling vetch, growers should wait several weeks before seeding or transplanting following this cover. Unlike hairy vetch, common vetch does not have a hard seed coat.



Osborne Seed Company is a wholesale vegetable seed dealer in the Skagit Valley. Their customers are diverse ranging in size from market gardeners to large farms. They have a website (<http://www.osborneseed.com/>), blog and seed catalog.

Snohomish Conservation District does not endorse any particular seed company or dealer. This information is provided for educational purposes only.

Hairy Vetch

More hardy than common vetch, hairy vetch is a hardy annual in some locations and a biennial in others. Hairy vetch has the ability to get the same height as common vetch and can have both smooth and hairy stems and leaves.

This nitrogen-fixer can produce tap roots up to three feet in length and has a little more tolerance to acidic soils compared to common vetch.

Hairy vetch is hard-seeded and tillage dates must be monitored closely to reduce weed issues in subsequent crops.



As is the case with common vetch, it is important to wait several weeks after tilling hairy vetch before direct seeding or transplanting of another crop.



Evaluate Before You Plant

Cover crops, like any other crops, will react differently based on specific environmental conditions and cultural practices. It is important to look at many different aspects of plant habit as well as future cropping systems in order to determine which cover crop is best for you.

If you would like to schedule a visit with a farm planner to talk about cover crops, fall soil tests, pasture management or other farm-related issues, please email farmpanners@snohomishcd.org to request a free site visit. In many cases, funding is available for practices that protect water quality.

Know Your Plant Hardiness Zone



The USDA Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a location. The map is based on the average annual minimum winter temperature, divided into 10-degree F zones. For the first time, the map is available as an interactive GIS-based map, for which a broadband Internet connection is recommended, and as static images for those with slower Internet access. Users can type in a ZIP Code and find the hardiness zone for that area.

Find the interactive map at:

<http://planthardiness.ars.usda.gov/PHZMWeb/#>

State, regional, and national images of the map can be downloaded and printed in a variety of sizes and resolutions.

Strike While the Fire's Hot – Get Help with Your Farm Projects Now

Regional Conservation Partnership Program (RCPP) available in the Stillaguamish and Snohomish River Watersheds

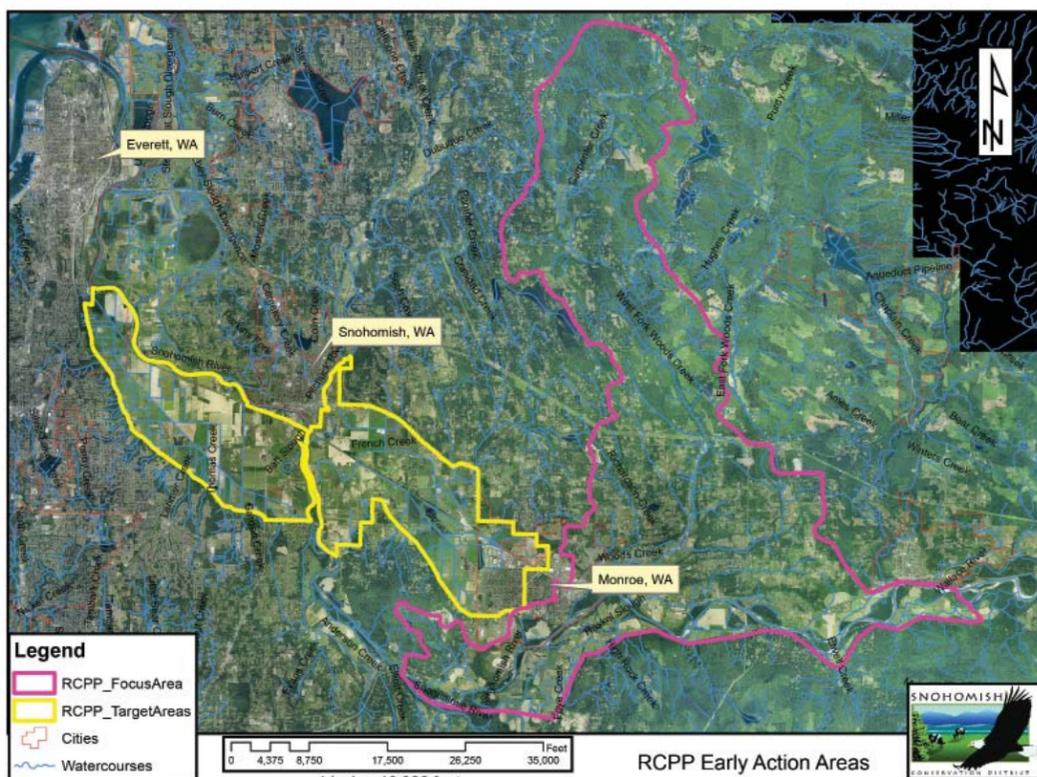
Have you had a new farm project on the back burner that always seems to be waiting for the right moment or enough extra cash to begin? Maybe a manure bin, soil improvements or gutters and downspouts for the barn (the muddy season is fast approaching, after all). Fortunately for residents of portions of the Snohomish and Stillaguamish River watersheds, the time to begin may be now. If you live or own land in either of these priority areas you may be eligible for help with your projects through a new grant program.

Portions of these two watersheds are the focus of the Regional Conservation Partnership Program. Also known as RCPP, the new funding program is the result of the 2014 USDA Farm Bill. "This program offers new opportunities for landowners to get free assistance with innovative natural resource solutions and helps illustrate the value of getting conservation on the ground", says Program Coordinator Eric Schuh.

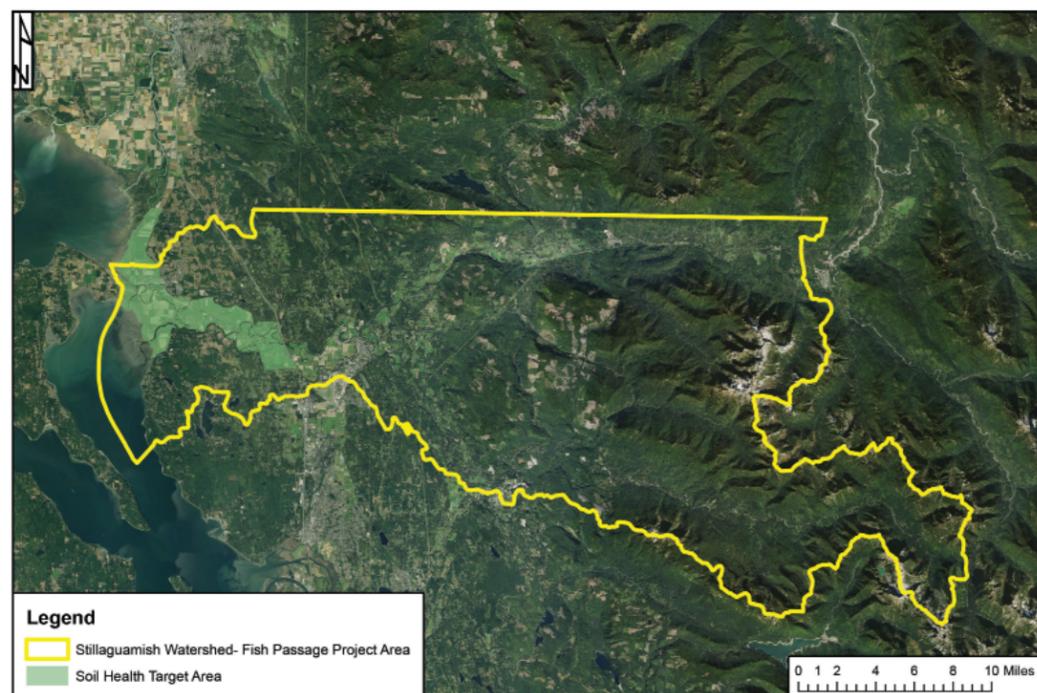
Staff from Snohomish Conservation District and the USDA Natural Resource Conservation Service can assist with planning, design and funding in areas such as livestock-related water quality practices, wildlife habitat improvements and soil health practices.

Landowners can choose from livestock heavy-use areas, manure storage and composting systems, roof runoff systems, cover crops, stream plantings, fish passage barrier removal and much more.

The first application cutoff will be November 18, 2016. If you are interested in finding out more about participating, please contact Eric Schuh at the Snohomish Conservation District by phone 425-377-7026 or by email at eschuh@snohomishcd.org



The Snohomish River Watershed target areas for the RCPP program.



The Stillaguamish River Watershed target areas for the RCPP program. Projects in the yellow-outlined areas will focus on fish passage improvements while the green areas are for nutrient management and soil health improvements.



Rain Barrel How-To Connecting Multiple Barrels

If you choose to connect more than one barrel, it is most efficient to connect them at the bottom so that they drain simultaneously, as a system. If you connect them at the top, you'll need a spigot on each barrel to get the water out of all of them.

Two barrels – Fittings similar to those used for the overflow can be inserted into the sides of each barrel and then connected with a short, flexible hose or tubing secured with hose clamps. A hot water heater hose could also be used to connect two barrels. The inlet should be on one barrel and the overflow on the 2nd.

Three or more barrels – To simplify and reduce the number of holes drilled, the connections should be on the front of each barrel. The barrel on the end will have a 90° elbow with a hose barb, the other barrel(s) will have a "tee" fitting with hose barbs to connect short, flexible hoses between each barrel. The inlet should be on one end of the line, and the overflow should be on the other end of the line. Note - hose clamps will help hold the hose ends tight to the fittings to prevent leaks.

Maintaining your Rain Barrel or Cistern

- Rinse your barrel at the end of each season. During the rainy season, small debris and sediment will slip through the holes in the screen or mesh and settle to the bottom of your barrel. Give it a good rinse and scrub off any algae growth at the end of each summer.
- Monitor the system regularly to ensure intakes and overflows are not blocked with leaves and other debris from the roof.
- Check your roof and gutters often. Remove leaves, branches, dirt, or other litter.
- Trim or remove plant materials that overhang your house - animals often use these to access your roof and gutters. This reduces leaves/litter clogging gutters.
- Prevent ice damage. If a long, cold spell (below 32° for several consecutive days) is predicted, it is recommended you drain your barrels and disconnect them from the downspout to avoid any damage from freezing. Once the cold snap is over, reconnect your barrels and they'll be refilled in no time!



Truckload Rain Barrel Events

Now is the time to be thinking about capturing some of that clean, fresh rainwater from our winter storms. Here are some dates to add to your calendar if you would like to purchase a rain barrel.

Saturday, October 22, 2016 in Marysville
(exact site to be determined later)

Saturday, January 28, 2017 at Country Living Expo, Stanwood
(a build-your-own class)

Saturday, February 11, 2017 at the District Plant Sale, Monroe
(Beginning November 28, 2016 you can pre-order one or more complete barrels at www.theplantsale.org)

We will also host a Spring 2017 Rain Barrel Truck Sale - the site and date to be determined later this winter.

Want to stay informed of upcoming rain barrel events like truck sales and make-your-own classes? Sign up here:

<http://snohomishcd.org/rain-barrel-program>

See how-to videos on rain barrels at: <http://snohomishcd.org/rb-care> or here: <http://www.betterground.org/resources-2/videos/>.

Conservationists in our Mist

By Lois Ruskell, Public Relations Coordinator

2016 marks the 75th anniversary of Snohomish Conservation District. There have been so many great leaders who have championed conservation here in Snohomish County, on Camano Island and in the Puget Sound area. Some have been recognized, others not so much. Here are a few who have worked with us, or in the area, that we'd like to recognize, along with three books which highlight the life and work of these pioneer leaders.

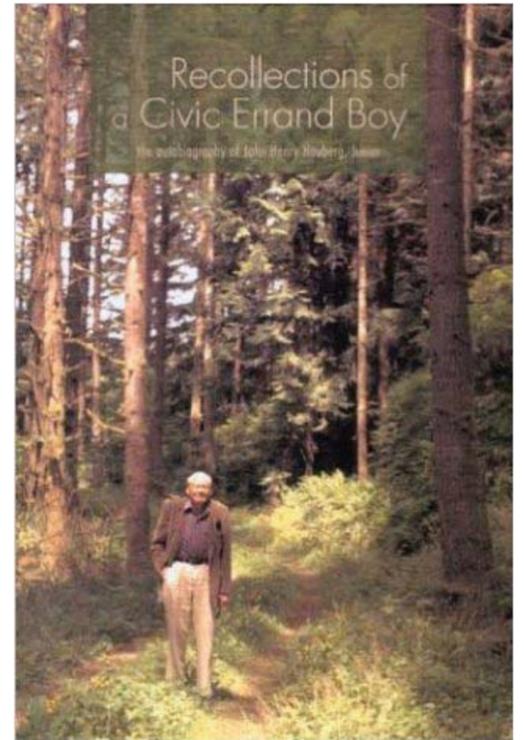
Recollections of a Civic Errand Boy

The book, 'Recollections of a Civic Errand Boy', is the amazing story of John Henry Hauberg Jr. Hauberg was a Seattle philanthropist, WWII Veteran, forester and the owner of Pilchuck Tree Farm. Hauberg not only founded Pilchuck Tree Farm, the 16,000-acre research farm in north Snohomish and Skagit Counties, he was instrumental in the founding, with Dale Chihuly, of Pilchuck Glass School.

Hauberg was a humble man who took on many causes close to his heart. They included supporting the Seattle Symphony, the Seattle Art Museum, Bush School and Reed College, along with many schools for handicapped children. Hauberg had an interest in pre-Columbian art, Pacific Northcoast Indian Art, as well as Hopi, Zuni and Navajo art and crafts. Hauberg traveled all over the world collecting and donated pieces to collections in Washington D.C., the Princeton University Museum and the Seattle Art Museum.

In the realm of forestry and logging, Hauberg's Grandfather, Frederick Denkmann, and great uncle, Frederick Weyerhaeuser, owned a sawmill on the Mississippi River and eventually came to own 80 mills. Hauberg mentions in his book that the Vanderbilt estate in North Carolina was likely the first forest managed with sustainability in mind, though many Indian tribes were also accomplished land and forestry managers. Previous to that, forests were basically self-seeding and not actively managed for timber production. The Denkmann/Weyerhaeusers also branched out to the southern states (Mississippi, Louisiana and Arkansas) as well as out west to the Idaho pine forests and Washington's coastal forests. Yale University was beginning to look at managed forests as well, along with Yale conservationist Gifford Pinchot. Hauberg goes into great detail on the many families involved in early timber operations, mills, banks and companies like sash and door operations. He also covers the growth of forestry, managed timber operations and the forests he visited after the war in France, Germany and Austria.

'Recollections of a Civic Errand Boy' is an interesting look into the growth of the forest industry in the 1900's, art, glass, and pre-Columbian and Indian art with a bit of family history and historic Seattle families and events thrown in. The chapter on the Seattle's Ladies Musical Club provides background on how the Seattle Opera and Seattle Symphony got started. Pilchuck Tree Farm has been a stable presence in Snohomish County and with recreationists who hike or trail ride but very few know the background. The book is available on Amazon and select libraries (not currently at Sno-Isle Library, however it may be in the future).



Extraordinary Women Conservationists of Washington

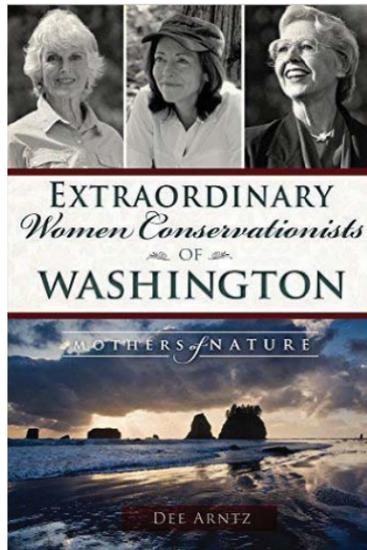
This book by Dee Arntz is a look at the many women who fought for the forests, wildlands, deltas and other treasured places in Washington. Many were on boards or became activists, some traveled to Olympia or Washington D.C. to testify at hearings, others pushed the boundaries, like Fay Fuller, first woman to climb Mount Ranier.

Ms. Arntz dedicated her book to "All the women who inspired me and all the men who stood with them". The many years of dedication by these women resulted in protection for the Nisqually Delta, old-growth forests, state and national forests, as well as crucial habitat for many threatened birds and other wildlife. Another avenue they chose to pursue was toxic cleanups due to industrial contamination, especially in the Puget Sound area.

Toxic cleanups were championed by Jolene Unsoeld and Christine Gregoire, who negotiated the Hanford cleanup. Gregoire was the head of the State Department of Ecology. Unsoeld had a passion for mountain climbing, becoming the first woman to ascend the north face of Wyoming's Grand Teton. After losing her husband and daughter to climbing accidents, she dedicated herself to her work in the State Legislature during the 1970's and 80's.

Bonnie Phillips, a well-known forest advocate, lived in Snohomish County at one time and was very active locally with the Pilchuck Audubon Society. Because old growth forests weren't clearly marked, she organized an Adopt-a-Forest group to map rapidly dwindling stands. Phillips often stood up to industry and federal agencies in defense of old-growth forests and went on to lead the Olympic Forest Coalition until she passed away last year.

During the late 1980's, growth of the Puget Sound area was quickly becoming an environmental challenge. Between 1982 and 1992, the Washington Environmental Council reported that Washington lost to development over 200 acres of forests, and 200 acres of farmland, every day. Around this time, women were becoming more active in the state legislature with the six committees controlling land use issues chaired by women, including Jennifer Belcher, Nancy Rust, Mary Margaret Haugen, Busse Nutley, Maria Cantwell and Ruth Fisher. They became known as the 'Steel Magnolias' (a popular movie from 1989) due to their style and toughness. Urban sprawl and traffic were impacting residents and well as businesses, and environmental impacts were reaching critical levels, resulting in various interests coming together and supporting the Growth Management Act. This book is a tribute to these women who led movements with the goal of a healthy environment and future for our children.



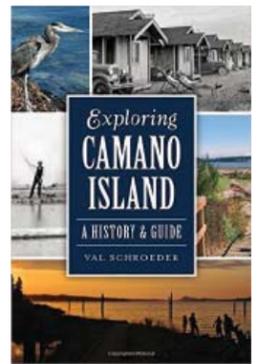
Other Greats in Our Mist, Past & Present

Local Tribes

The original conservationists, tribes have been proactive in protecting salmon, habitat and water quality since time immemorial. To learn about more about tribal history, visit the Hilibul Cultural Center/Natural History Preserve in Marysville (<http://www.hibulbulturalcenter.org/>). Well worth the visit.

The Camano Folks

There are so many people on Camano Island who have stood up for Camano's natural areas and public access. Val Schroeder, author of a book on Camano Island (right), started the Backyard Wildlife Habitat Program. Carol Triplett, Pam Pritzl, John Edison and Tom Eisenberg started and lead the Friends of Camano Island Parks. Scott Chase guides WSU Shore Stewards and Barbara Brock adopted Kristoferson Creek. Other great folks include the Kristoferson family, Whidbey Camano Land Trust, State Park Rangers, WSU Master Gardeners, Cama Beach Foundation Board and many more!



John Munn

The late John Munn was a gem of a man with a deep love of nature. He was a natural resources specialist for WSU Extension and enjoyed teaching youth about nature and stewardship. Munn had an interesting background—found as a baby in a cardboard box in the ladies restroom of the Greyhound bus station in Minneapolis—he was adopted by a loving couple, went on to forestry school at the University of Washington, and was a member of the 1956 Olympic wrestling team. Always positive and upbeat, he had a lasting effect on many.

Mary Margaret Haugen

Ms. Haugen served in the Washington State Senate from 1993 to 2013. She is a friend to farmers and the conservation movement and instrumental in spearheading legislation that allowed conservation districts statewide to develop assessments for stable funding. Snohomish Conservation District awarded Ms. Haugen its first 'Lifetime Achievement Award' in 2012 for her work supporting agriculture and local conservation districts. She lives on Camano Island and is on the Board of Directors of the Northwest Agriculture Business Center.

Paul Dye

The late Paul Dye was an engineer with a passion for birds. Together with his wife Lynn, he started Northwest Wildfowl Farm in Lake Stevens, raising native and non-native species of waterfowl for educational and conservation purposes. Dye often flew to Alaska as a consultant on native birds and helped establish the 160-acre Corson Natural unit, with his neighbor Colonel Corson, which was donated to Washington Department of Fish and Wildlife in 1976.

Don Bayes

Don Bayes, a retired Stanwood High School Ag teacher, used Church Creek as an outdoor classroom for decades. He stays active in Church Creek water quality efforts and for years supported Natural Resources Youth Camp near Cispus, always making sure Stanwood students were able to go. When not fishing in Canada, he can often be found helping with the Stanwood-Camano Fair.

Upcoming WSU Forestry Events

Ties to the Land Succession Planning Workshop

September 14 and 28, 2016 – Burlington

Your land will outlive you – who will care for it when you're gone? Will it be a family legacy or a family squabble? Will it be kept intact and protected, or will it be divided up and sold off in pieces? Will it become a source of conflict between surviving family members? What is the long-term future that you want for your property? This two-part succession planning workshop explores these questions and others using the award-winning Ties to the Land curriculum and will conclude with a panel of three local attorneys with estate planning experience. For registration information, call 425-357-6023 or visit <http://forestry.wsu.edu/nps/events/ttl/>.

Pizza Seminars - Fall 2016 - Burlington

WSU's "pizza seminars" are a chance to enjoy pizza while listening to an educational presentation. This year's seminars will be held at the WSU Skagit County Extension office in Burlington. Each seminar is 6:30-9:30 p.m. For information and registration, call 425-357-6023 or visit <http://forestry.wsu.edu/nps/events/pizzaseminar/>. There will be three seminars, one will be past by the time the Nexus goes to press, here are the other two:

Forest Owner Legal Issues – Wednesday October 12

Forest owners face unique legal issues, especially when it comes to protection from liability. What if someone gets hurt on your property? Does it make a difference if they are an invited guest vs. trespasser? What if one of your trees falls across the property line and causes injury or damage to a neighbor? What sort of liability insurance should a landowner carry? What if there's a hazard tree on your neighbor's property that threatens your house—what can you do? Other issues include property boundaries and how they need to be marked to be able to prosecute for trespassing, how to handle disputes, adverse possession, easements and right-of-ways, getting access to your property if you are landlocked, etc. Spend an evening with land use/real estate/environmental law attorney Leslie Clark from Philips Burgess Law exploring these issues and getting your questions answered.

Forest Safety and Security – Wednesday October 19

Maintaining the safety and security of your forest property is important for protecting and enjoying it. Trespassing, dumping, vandalism, timber theft, off-road vehicles, drugs, etc. can cause huge headaches and expenses, as well as threaten the safety of you and your family. Spend the evening with US Forest Service Law Enforcement Officer Colin Mahoney and his K-9 partner for a discussion of strategies to make it more difficult for the bad guys to cause problems on your land. For more information on forestry classes, please contact: Kevin W. Zobrist, WSU Associate Professor, Extension Forestry at 425-357-6017.

Other Events

Solar Energy on the Farm

Wednesday, October 5, 2016 (10:00AM - 1:30PM)

Location: Stanwood PUD, 9124 271st St NW

Gain knowledge and perspective, plus brainstorm creative solutions to common farming challenges at Rents Due Ranch, Stanwood. Join the Northwest Sustainable Energy for Economic Development (NW SEED) to learn how to pursue solar energy on your farm. Fire Mountain Solar and Snohomish Conservation District will be on hand to demonstrate the solar energy installation at Rents Due Ranch. Note: this Farm Walk is free to attend and will take place from 10 a.m.-1:30 p.m. starting at the Stanwood PUD. Lunch is included for pre-registered attendees. Register at: <http://seattletilth.nonprofitsoapbox.com/farm-walks/event/622>.

Sponsored by the Washington State Department of Commerce, Seattle Tilth, Fire Mountain Solar and Snohomish Conservation District.

Northwest Regional Envirothon

It's Time to Start Preparing for the 2017 Envirothon!

High school students throughout Snohomish County are encouraged to form teams to participate in next year's Northwest Regional Envirothon on March 29, 2017 at Brightwater near Woodinville.

Envirothon is a hands-on, outdoor environmental science competition. High school teams work together to demonstrate their knowledge in Forestry, Soils/Land Use, Wildlife, and Aquatic Ecology. The 2017 theme is Agricultural Soil and Water Conservation Stewardship with the winning state team competing in Maryland.

Now's a great time to start planning. Learn more at: www.envirothon.org



Stillaguamish Projects Keep Farms Sustainable and the River Clean

Beginning in early 2014, Snohomish Conservation District began participating in a two and a half year multi-partner Pollution Identification and Correction (PIC) Program in the Lower Stillaguamish watershed. The Lower Stillaguamish PIC Program, led by Snohomish County Surface Water Management, set a big goal at the outset — to identify and clean up sources of fecal coliform bacteria pollution in the Lower Stillaguamish watershed through a proactive, integrated, data-driven, multi-agency approach.



New staging area for manure waste bins on a horse farm.

Fecal coliform bacteria are found in waste from mammals and other warm-blooded animals, including humans, livestock, pets, birds and other wildlife. Areas of Port Susan, the Stillaguamish River, and many of its tributaries have levels of fecal coliform bacteria that are too high according to state standards, posing a threat to human health for those who recreate in or consume shellfish harvested from polluted waters.

The PIC Program focused efforts on identifying potential human-related sources of fecal coliform bacteria pollution and cleaning up those sources that enter the river system — namely, human waste from failing septic systems and contaminated runoff from livestock manure or pet waste. One of the District's roles in the program was to work with willing landowners to complete projects to prevent the risk of bacterial pollution in the watershed.

Results from water quality monitoring conducted by the Washington State Department of Agriculture (WSDA) and Snohomish County Surface Water Management helped focus efforts on properties located in areas where fecal coliform bacteria counts were highest. The District then worked with individual property owners in the Silvana Terrace and lower Stillaguamish River areas to devise projects that would either clean up or halt a pollution source. Another objective was to reduce the risk of pollution contamination to waterways from farm and commercial operations.

During the two and a half year project, the District helped several landowners implement projects including at a few dairies, a commercial horse stable and a recreational horse stable. For dairies, the projects involved reducing the amount of input/costs (i.e. sawdust) to the dairy by reusing bedding on-site with a bedding recovery system, increasing liquid storage capacity and completing improvements to structures to reduce the risk of contaminated surface water from entering nearby ditches and streams.



Heavy use area and manure storage bins at a horse farm.

The cooperating facilities now have increased waste storage capacity. Projects on horse stable properties focused on fencing animals away from waterways, creating heavy-use areas for the horses, and

containing and covering manure and used bedding so that rain and surface water cannot wash over the manure and carry pollution to the streams and river. On one property, a large 30-year old pile of horse manure and bedding is being removed and the area restored to pasture and a wetland.

The PIC effort involved a variety of other activities as well, including:

- Water quality monitoring by Snohomish County - crucial for finding high priority areas to focus on for pollution source identification, both now and in the future.
- Communication and cooperation between all the project partners and landowners - crucial for addressing complex natural resource problems.
- A large-scale community outreach and education campaign - informing residents, highlighting progress and celebrating success at the fourth annual Stillaguamish Shellfish Dinner held in August in Stanwood (hosted by Sound Salmon Solutions).
- Technical and financial assistance to landowners – essential for helping citizens understand what they need to do to control pollution and to have the resources to get it done.

The EPA National Estuary Program grant that paid for the 2.5-year Lower Stillaguamish PIC Program ends September 30th, but Snohomish Conservation District and Snohomish County will continue to work cooperatively with each other and with other agencies and landowners to identify and clean up sources of bacterial pollution in the Stillaguamish River.