

A Message from Gus

A couple weeks ago, an employee said something that really got me thinking. He said he was unhappy with the ‘countdown mentality’ that has crept into our organization. He said he constantly hears people talking about how long they have until retirement. That puts an uncomfortable spin on the issue for the newer employees. Does it make them ask, “Should I be working for an outfit where everyone seems to be eager to retire?”

He makes a good point. And I’m guilty of it myself. Maybe we all ought to take a couple steps back and think about it.

It brings to mind a broader issue, however. The closest I came in my career to getting into trouble professionally was when I became too focused on my next job. I became so busy preparing myself for promotion that I lost track of what I was supposed to be doing in my current job. Luckily, someone far wiser than I, showed me the light. I went back home and refocused my efforts on the job at hand. The promotions came because I did my current job, and did it well.

After my discussion about the countdown mentality, I began to wonder if I was starting to wander. Yeah, I expect retirement to be my next ‘job’. But I need to focus on what is before me today and let retirement come when it does.

I also spoke with Greg Fisher just before his retirement. He was so proud of what he had accomplished in his career and was happy to have been able to work for NRCS. And he will be able to look on the landscape and see with pride what improvements he made for posterity. Pretty cool.

I think Greg’s pride in his accomplishments is a good reminder for all of us. Our work makes a difference. The signatures of care we help write upon the land is our legacy. Understandably, it’s tempting to dream about what we’re going to do with all of our retirement time when that day finally comes.

But my hunch is that some of that free time will be spent reflecting back on the contributions we made to that conservation legacy. Which reminds me: I’d better get back to work. I have more contributions to make.

I know you do too.

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HR News

GOODBYE AND GOOD LUCK TO THE FOLLOWING EMPLOYEES:

Sue Merrell, Budget Analyst, Spokane State Office, reassigned to New Mexico NRCS, 3/19/06

Toots Ekholm, Soil Conservation Technician, Walla Walla Field Office, retired, 5/31/06

Greg, Fisher, Forester, Olympia Field Office, retired, 6/03/06

WELCOME TO THE FOLLOWING NEW EMPLOYEES!

Ed Teel, promoted and reassigned from NRCS in Oregon to the District Conservationist position in the Walla Walla Field Office, 4/16/06

Cara Fisher, Biological Science Aid (Plants), Plant Material Office, 5/14/06

Peter Venable, Biological Science Aid, (Plants) Plant Material Office, 5/14/06

Brad Bennett, Biological Science Aid (Plants), Plant Material Office, 6/04/06

CONGRATULATIONS TO FOLLOWING FOLKS WHO HAVE RECENTLY RECEIVED PROMOTIONS!

Gary Mitchell, Resource Conservation and Development Coordinator, Spokane RC&D Office, reassigned and promoted, 4/16/06

Marty Rankin, Civil Engineer Technician, Lynden Field Office, reassigned and promoted, 5/14/06

Eric Harwood, Soil Conservationist, Plant Material Office, promoted, 5/28/06

Kimberly Galland, Soil Conservationist, Ritzville Field Office, converted to permanent position and promoted, 5/14/06

Marlene Tilton, Range Management, Ritzville Field Office, converted to permanent position and promoted, 5/28/06

LOCATION REASSIGNMENT

Oscar Tobias, Civil Engineer Technician, Zillah Field Office, 3/19/06

Jeff Harlow, Program Liaison, Olympia Area Office, 4/02/06

Lolo Garza, Soil Conservationist, Ephrata Field Office, 5/28/06

ITEMS OF INTEREST

Josie Kamkoff, Student Trainee Soil Scientist, returned to duty, Spokane Soil Survey Office, 6/11/06

Paul Gleason, Student Trainee Soil Conservationist, reassigned to the Dayton Field Office, 6/25/06

Saying “thank you” is so easy!

The Employee Recognition Committee would like to acknowledge the following employees who have recently received awards

Time Off, Spot or QSIs

Eileen Jackson, Cheryle Miller – Spot award from Hawaii

March Non-monetary Awards

Justin Mount, Jeff Swotek, Georgia Sormun, Ralph Christiansen, Doug Allen, Frank Easter, Paul Rogers, Laren Nalder, Allen Aronica, Ernie Holt, Sherre Copeland, Cheryl Jacobson

April Non-monetary Awards

Chris Bove, Rich Edlund, Ann Swannack, June Johnson, Jay Kehne, Cheryle Miller, Dannelle Aleshire, Kevin Davis, Sergio Paredes, Amanda Ettestad, Kevin Guinn, Corey Bonsen, Greg Schlenz, Ernie Holt, Joel Poore, Mark Bareither, Jessie Ham, Linda Appel, Will Keller, Stan Janowicz, Michelle Mires

May Non-monetary Awards

Leigh Nelson, Ken Drecksel, Mark Amara, Richard Fleenor, Amy Rodman, Amanda Ettestad, Kathy Randazzo

ACCIDENTS – FIELD SEASON TIME

Do you wake up in the morning and say “I think I’ll have an accident today?” Of course not! None of us “plan” on getting into a vehicle or physical accident. But, in almost all cases, the accidents that do occur could have been avoided.

Our state statistics are not good.

Vehicle accidents

FY 04 – 5 FY 05 – 6 FY 06 - 8 at 7 months into the year going into field season!

Physical injuries

FY 04 – 8 FY 05 – 4 FY 06 - 6 already!

The first thing all of us need to do is to be aware of what we are doing, take our time, driving or working, to avoid accidents. Do you do safety “tailgate” training and reminders? Are you mindful of ATV and off-road rules, driving conditions and backing procedures? Do you look around your vehicle prior to driving, backing, etc.? Do you use a “spotter”? Do you lift boxes correctly, make sure drawers are shut, and avoid eye strain? Do you avoid taking risks you know you shouldn’t?

If you do have an accident, either vehicle or physical, fill out the proper forms immediately! Instructions for physical injury are on my.nrcs or Kathy Dickerson in Human Resources at 509-323-2933 can provide information. For vehicle accidents, contact Ron Joyner in Contracting at 509-323-2926.

The Crush is ON! Powering Southeast Washington’s Future *Submitted by Lisa Naylor, RC&D Coordinator, Blue Mountain RC&D*

Wheat farmers in southeast Washington have capitalized on the riches of local natural resources, i.e. fertile soils in the region, for decades. Over time, growers were challenged to find ways to keep their crop profitable through good stewardship. Recently, the cost of diesel fuel, fertilizer, and transportation combined with poor commodity prices have reduced profit margins and forced growers to innovate to reduce expenses or find other ways to make a living.

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The Crush is ON!...continued

Wheat grows well in rotation with other crops. However, weeds and diseases are threats that contribute to reduced production. Crop rotations allow integration of cropping systems as a way to help control weeds and minimize the presence and impact of disease.

Rotational crops are a key component to maintaining or improving the wheat productivity. Rotational crops with economic value can improve the margins for growers contributing to the commodity production and economic stability of agriculture in the region.

Oil seeds are ideal rotational crops. Marketing the meal, be it canola or mustard, offers hope to wheat growers of the region. Oil seed crops can increase security and independence to the nation because the natural oils transform through a simple process to create another energy source (biodiesel), reducing our dependence on foreign energy sources.

The Columbia County Farm Bureau was a logical partner for the Blue Mountain RC&D. The Cooperative organizational structure and Board of Directors, led by Bill Warren, had been eyeing the biodiesel and oil seed possibilities in southeastern Washington and extending into other geographic regions for years.

The RC&D coordinated the preparation of the USDA Rural Development Value-Added grant request with Washington State Community Trade and Economic Development, Pacific Power and five other local organizations. The planning grant of \$102,000.00, included \$20,000.00 of in-kind match from Washington State University, Department of Ecology, the local Conservation District and other local entities.

An Alternative Fuels Committee (AFC) was born and they selected BBI International of Golden Colorado, a contractor to conduct the study. Eight months later, a feasibility study was presented at a public meeting in Dayton, Washington. Members of the AFC and BBI International presented the opportunity and risks for pursuing oil seed crushing and refining in Columbia County, Washington.

The AFC has since spun off its own limited liability partnership. Pacific AgriEnergy, LLC, recently hired a consultant/venture capitalist to identify funds for design and construction of a projected 10 million gallon per year (MMGY) plant in Columbia County near the Snake River, a major regional transportation route.

The studies initially funded by the USDA Rural Development and many other local interests have heightened an already breakneck speed race to tap oil seed crushing and biodiesel production in the region. Locally, a grower successfully produced biodiesel in his kitchen and at his wife's insistence, is constructing a new building for crushing and refining for exclusive local production and use of biodiesel on his farm.

New interest in oil seeds and biodiesel production from outside the region has landed at the Port of Wilma, near Clarkston, Washington. Bruce Nave, a business man from Apache Junction, Arizona., is laying the ground work for a five MMGY oilseed crushing and biodiesel production plant. He met with regional growers to offer limited contracts for canola last February.

The State of Washington is moving ahead with incentives for biodiesel statewide and in several Eastern Washington locations. Othello, Spokane, Odessa and Whitman County, Washington are all vying for dollars and growers who will commit to producing oil seed crops. Eastern Oregon and Northern Idaho growers are also pursuing feasibility studies and business plans for oilseed crushing and refining projects.

Spokane Field Office Installs Russian Wildrye Trial

Mark Stannard, Pullman PMC Manager

Let's face it—crested wheatgrass, intermediate wheatgrass and big bluegrass are not the ticket for fall pasture. Protein levels and palatability plummet when these grasses mature. Russian wildrye on the other hand is a suburb fall pasture grass. It is planted extensively in the northern Great Plains but it never caught hold in the Inland Pacific Northwest. The varieties of yesteryear had poor seedling vigor, and stands were difficult to establish. Furthermore, Russian wildrye was seeded and managed like crested wheatgrass, and this was wrong. Newer varieties of Russian wildrye have better seedling vigor. Recent studies have shown that wide row spacing is needed to maximize forage production.



Steve Sprecher, Soil Conservationist and Misty Seaboldt, Forester, at the Spokane Field Office and Gary Kuhn, Plant Material Specialist at the State Office, found a cooperator willing to try Russian wildrye last winter – Wes Durham, NRCS Civil Engineering Technician and part-time rancher. 'Mankato', 'Bozoisky Select', and 'Bozoisky II' were obtained from the North Dakota Plant Materials Center, Montana Plant Materials Center, and the USDA-ARS Forage Research Lab in Logan, Utah.

Mixing hulls and filling planters

Steve, Misty, Wes, Wes's brother, Randy Durham the ranch manager, and Mark Stannard installed a Conservation Field Trial on April 14, 2006. Four very ancient, but still very functional, Planet Jr Seeders were employed for the actual seeding. Bulk seeding rate was 8 lbs./acre to achieve 6 lbs. PLS/acre. Rice hulls were mixed with the seed and loaded into the seeders. A few proved rather temperamental and needed some fine tuning to get the seeding rate close to what was desired. The seedbed was ideal, the moisture perfect, and the labor was sufficiently skilled.



Seeding the old fashioned way

The Pullman PMC has three additional Russian wildrye trials in Washington. One was made last fall near Othello on the DM Ranch, and two plantings have been made in the Horse Heaven Hills south of Prosser. For more detailed information on Russian wildrye check out the plant guides available on the USDA Plants website. <http://plants.usda.gov>. Type in Russian wildrye under Search/common name.



Turkeys were lurking in the shadows and wasted no time in finding the seeding. The Pullman PMC provided a bag of triticale to Wes. We hope the turkeys will find the triticale more to their liking than the Russian wildrye seeds.

Katrina – From One Survivor's Perspective

By Gale Mayer, Resource Conservationist, Everett Field Office

You would think that dealing with brown recluse spiders, water moccasins, rattle snakes and alligators would be the worst part of working in Louisiana, but not for me. It turned out to be seeing first-hand the devastation, overwhelmed relief workers and the emotional trauma of the survivors of Katrina. In November 2005, I had the opportunity to accept a month-long detail to the Katrina relief area. I settled into a hotel near Hammond, Louisiana and began working 12-hour shifts. My assignment was to monitor loads of debris coming into the Covington and Slidell landfills.

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Katrina...continued

Once there, to gain a true perspective, I felt that I had to turn off the T.V., toss aside the newspapers and venture out beyond my work environment. I wanted to experience more and meet local survivors. I decided to drive into New Orleans on my day off, Thanksgiving Day.

The weather was still warm and sunny which was like a warm blanket that screened you from reality, the reality being the wrath of Katrina! As I drove towards Lake Pontchartrain, the devastation was so overwhelming that it was hard to comprehend. On the outskirts of Slidell, the breadth of what these residents must have experienced brought me to tears. Reality surrounded me. Katrina had wiped foundations clean, twisted apartment complexes, and destroyed boats and the docks they were tied to.



Only a few people could be seen milling around the piles of debris. One man stood transfixed, looking down at a pile of cement. It was obvious he did not know where to start. In a residential area, a woman was raking debris out of a ditch next to her gutted home. What else was there to do? I stopped my car to chat with her (she asked that her name not be used so I will refer to her as MJ). Within minutes MJ was in tears, she had lost everything in the storm. For three hours, she told me how she weathered the storm in her home. She had tried to leave but had a flat tire on her car. Because of health problems, she couldn't change the tire and her neighbors had already evacuated. She chose to stay in her home and weather out the storm as she had done in past storms. Once the hurricane hit, trees came crashing down and littered the streets like pick-up sticks. Thinking the worst was over, she breathed a sigh of relief but it didn't last long. Within minutes, MJ began to see clear water, about an inch deep, on her bathroom floor. She thought, no big deal, a pipe must have broken. Then the water turned a horrid brown color and began to rise quickly. She grabbed her cat and phone and headed to her attic. Within fifteen minutes, the water was up to her ceiling. Later she was told that the levees had failed. At times during our chat, she would find something to laugh about and realized how fortunate she was to have survived. She recounted how she had always been careful to lock her doors and windows, now her home had neither.



She showed me the skeleton lid of her baby grand piano that was now leaning up against the bare stud walls of her home. She recalled how she had looked around her house and neighborhood for her personal belongings and furniture, but found none. MJ is determined to re-build and has already seen the return of butterflies and a few birds. She is hopeful that the squirrels will be back soon, too. MJ wanted people to understand that they want to be known as survivors, not refugees.

As I left this neighborhood of survivors, I noticed a sign painted on a garage door that said "Yard of the Month." It was true for MJ and so many others that humor is the key to their survival.

I am grateful that I had the opportunity to talk with MJ and share her story with you. I appreciate NRCS allowing me the chance to meet survivors, help with relief efforts, and most of all, to gain a new perspective of life in the aftermath of Katrina.



Earth Team Spotlight

Student Intern Lands Funds for Envirothon and Camp Wooten

Asotin County Conservation District Envirothon Program and Camp Wooten Environmental Learning Center for area 6th graders will offer enhanced learning programs and new equipment this season, thanks to a successful grant prepared by Dayton High School senior, Cole Blessinger. The grant award is \$1,500.00.

Blessinger is a student intern serving as an Earth Team volunteer at the Blue Mountain Resource Conservation and Development (RC&D) Council office in Dayton. The local nonprofit organization supports natural resource based and economic development activities in Walla Walla, Columbia, Garfield and Asotin counties. The RC&D was notified by area project leaders of the Palouse-Snake River Chapter of the Inland Empire section, Society of American Foresters. The professional society approved the grant request.

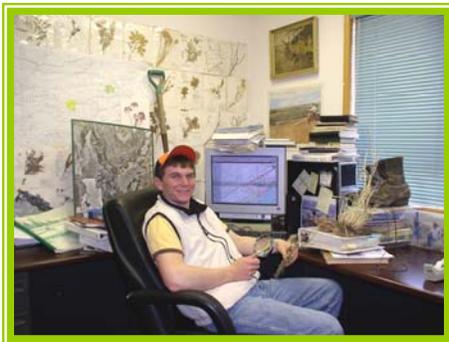
Dayton High School is completing a three-year grant secured from the Bill and Melinda Gates Foundation to connect communities with local high schools. Student internships are one part of a program designed to deliver learning opportunities that link students with local businesses and nonprofit organizations.

Envirothon is a problem solving, natural resources competition for high schools students. The Asotin County Conservation District has sponsored regional Envirothon competitions for over eight years serving over 400 students. The goal has been to bring this competition to other high schools in the area; like Dayton, Pomeroy and Waitsburg to broaden competition.

Camp Wooten in Columbia County is an Environmental Learning Center managed by Washington State Parks. Every spring and fall, local rural school districts offer four days of environmental education, outdoor skills and fun for up to 200 area 6th graders. For many, this is the first time they have attended camp.

Blessinger spoke modestly of his grant-writing success, "But, I'm ready to write another grant!"

Volunteer Learning Opportunities and Achievements



I would like to introduce you to Will Hudson who is an Earth Team volunteer at the Goldendale Field Office. To date, he has volunteered over 150 hours.

Will uses Customer Service Toolkit to make soils and range site maps for EQIP and WHIP contracts and uses GPS to download the information into ARCVIEW. He clips and weights vegetative plots then uses Excel to determine AUMs and carrying capacity on EQIP prescribed grazing plans.

Will has also provided assistance in the field by helping inspect and certify EQIP fence practices for projects in Klickitat and Yakima counties. He has also assisted in locating historic photo locations so we could determine range trend. Will has assisted the conservation district with erosion control assessment, surveying and preparation of tree and shrub stock.

These are just a few of the jobs Will has been assisting with. What can you have a volunteer do for your office?

Barker Ranch WRP

Submitted by Leigh Nelson, State Irrigation Engineer

This WRP site is unique for the Washington NRCS as it is a 2,000 acre wetland site where irrigation water from the Yakima River is used to supplement the wetlands. This allows for management of the water on the property for numerous wildlife species.

There are a number of employees from across the state that have heard of this site and visited it, so what is going on now? Since there are so many different areas of this ranch to talk about lets look at some of them, in no particular order.

Wetlands – there are over 100 ponds on this ranch which must be maintained to protect from weeds, Russian olive trees, cattails and bulrushes. These ponds vary in size and are 6” to 3 ft in depth. Most are contained with low embankments filled from irrigation water diverted from the Yakima River. A number of different management techniques are used on the ponds depending on the desired outcome. For example bulrush control, open water management, and food production are methods used to manipulate ponds for preferences of various waterfowl species. Moist soil management is another technique used to control vegetation approximately every 2-3 years for maximum food value for ducks.



Open water on the Barker Ranch

Grazing – cattle are rotated through a number of different pastures to help control weeds and grass. The number of cows grazing is limited based on stocking rates determined by the range conservationists who review the ranch annually. Quality of vegetation, especially dense cover, has dramatically improved over the years.

Wildlife – wildlife numbers and diversity are growing each year. Since the last easement with the ranch was signed, there has been a dramatic increase in pheasant and quail numbers. This is due to the increased cover and food available. Also, the amount of mule deer has increased with the ranch grazing and management plan. Waterfowl use is increasing during the summer due to the food available, water, and cover on the ranch. The most amazing increase by waterfowl is in the numbers of ducks during the late winter and springtime. They are staying longer and in much larger numbers due to the water and food available.



Ducks coming in to the food plot in spring time on Barker Ranch.

Food plot – the ranch installed a center pivot system in 2004 to grow corn or other food for winter and spring feeding of the ducks and other wildlife species. This 40 acre area can be flooded in the winter and the ducks and geese move in by the 10’s of thousands all winter and spring long.

Riparian areas – since the ranch is located along the Yakima River, there are riparian areas protected from most human disturbances. This area varies in width from thirty to hundreds of feet wide. It is well established with trees but there is a significant weed problem developing.

Maintenance – this is a big item for the ranch and NRCS. There are a number of beaver moving onto the ranch where they aren’t always welcomed (wish they liked Russian olive trees better). Blowouts of the ditches and embankments are difficult in some areas, plus it is expensive. So the ranch is working on removal of them but it is ongoing. The olive tree problem, as well as weed control in general, is an on-going problem. Noxious weeds are an ever growing problem and control is on-going due to the diversity and is a challenge for the ranch. Water control structures and system layout continue to require attention from the ranch and NRCS.

Overall the ranch is in the best shape it has ever been as far as a functioning WRP site. It is managed to provide food cover and resting areas for ducks and it is doing that and other species are also benefiting.

Interpretative Center *Submitted by Ephrata Field Office*

The Farm Service Center in Ephrata has been in an ongoing process of constructing an interpretative center with different varieties of native grasses, trees and shrub on display for the public. We have included other items such as Kestrel nesting boxes, bat boxes and a raptor pole to use as visual examples of wildlife enhancement opportunities. With the help of the NRCS field office and area offices, RC & D, USFW, local schools and WDFW staff, a new addition to the display was recently installed. We are proud of the new upland guzzler that is now a fully functional display unit. It is a well known fact that water is one of the most limiting factors for wildlife habitat in the central part of Washington State. To promote the awareness of water importance, WDFW donated the 500 gallon fiberglass tank, sheet metal collection tin and the support posts. USFW donated a backhoe and operator to excavate the tank hole. Local schools donated the student labor for installation of the tank and collection tin.

Both USFW and WDFW habitat biologists were instrumental in the guzzler installation as they want to convey to customers their support for wildlife enhancement activities in central Washington. Either the installation of a new water source (guzzler) or enhancement of existing water sources (spring development) benefits wildlife! Due to the high level of cooperation from local, state and federal agencies, projects such as these provide educational benefits and improvement of wildlife habitat in central Washington. Agencies have promoted water development to enhance wildlife for many years in the area with very good success.



Bat Box and Raptor Pole



Kestrel Box

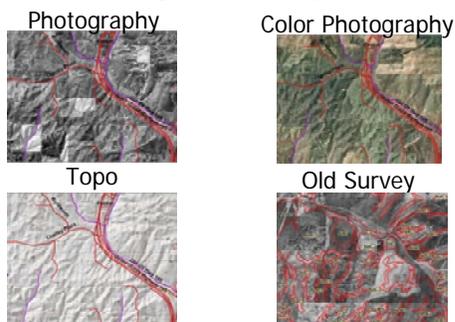


WDFW, USFW & NRCS endorsed guzzler

Spokane County Soil Survey

The Spokane County Soil Survey began in 1998. There have been many changes over the last eight years. Most notable are the technological advances that have occurred in soil survey. Most users of the 1968 Spokane Soil Survey would probably agree that just having better soil lines on a modern aerial photo base would be a vast improvement to the out-of-date, out-of-print survey they currently have to use. The soil survey crew has remained committed to embracing available technologies in an effort to provide the end-users with a superior product.

Geospatial Layers



Traditionally, soil surveys have been done on aerial photographs that have a stereo pair. These photos are not corrected and the lines must be transferred to a digital orthophoto, also called a DOQ (digital Orthophoto Quadrangle). A DOQ is a computer generated image of an aerial photograph. The image displacement caused by terrain relief and camera tilts has been removed and it blends the characteristics of a photograph and a map.

The Spokane County Soil Survey crew is using DOQs, DRGs (topographic maps), CIRs (color infrared photos), precipitation maps, geology maps and the tools available in

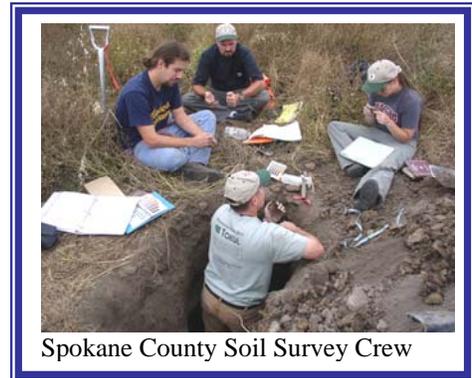
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Soil Survey.....continued

ArcGIS to layer and evaluate patterns across the landscape. This allows them to create a very accurate pre-map that they will use in the field. Potential areas that will require a more in-depth investigation can be identified prior to beginning the field work. Once mapping is completed for the entire county, the same data layers and tools can be used to evaluate the quality and consistent application of soil line placement and interpretation assignment.

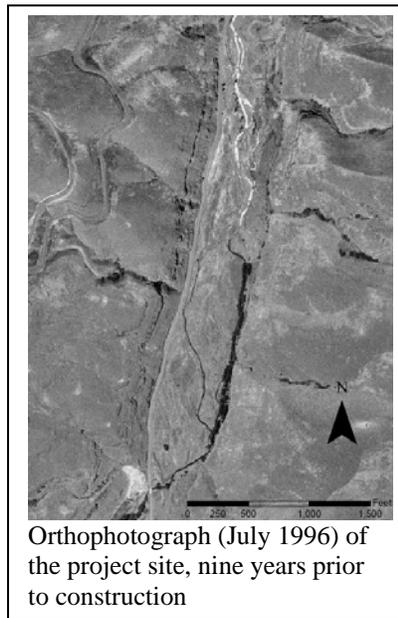
Soil survey staffs have entered the computer age and are enjoying the benefits of modern technology. From ArcGIS to GPS units, our work is becoming more consistent, easier to evaluate and track, and more efficient. With all the technological advances there is still the need to go dig holes and get dirty. I don't know of a soil scientist that would like to change that.

The soil survey in Spokane County has been a model of the benefits of technology to field soil scientists. It has also been a remarkable partnership. The Spokane County Conservation District and Spokane County have partnered with NRCS to complete the updated soil survey for Spokane County. The Spokane County Conservation District went before the Spokane County Commissioners to ask for a special assessment to help fund the Soil Survey. Currently, they provide three soil scientists to the staff of five. The soil survey will be complete in 2007, 39 years after the last soil survey was published.



George Creek Channel Restoration – Asotin County

Submitted by Roberta Lewis, Civil Engineer



Between June and August 2005, after years of planning, surveying, discussing, evaluating, designing, and redesigning, the George Creek channel restoration/meander reconstruction was built. George Creek, a major tributary to Asotin Creek, drains 126 square miles of forest, cropland, and rangeland in Asotin County in southeastern Washington. The mile-long floodplain of the creek just downstream of its confluence with Pintler Creek had suffered from manipulation by humans as well as from the effects of extreme flood events in the past century, and had lost virtually all of its stabilizing and shading riparian vegetation.

A cooperative effort between the NRCS, Asotin County Conservation District, and landowner Casey Hagenah changed the formerly shallow, braided channel of George Creek to a deep, meandering single-thread channel abounding with pools and riffles to welcome the young steelhead that travel the stream each year. Rock structures (cross vanes and “J-hook” vanes) were installed in the channel to provide lateral and vertical stability, and the banks of the new channel were planted with willows and other appropriate tree and shrub species to help create a shady riparian corridor. The floods of 1996 and 1997 stripped the old channel of its limited number of shade trees and shrubs, and by 2005 the creek was only beginning to recover its stability and cover. The channel and floodplain shaping and planting should help the reconstructed stream and corridor recover more quickly as well as allow the channel to survive sustained high flow events and remain stable. Surface roughness was added to the newly shaped surface of the floodplain by digging shallow

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George Creek...continued



NRCS Stream Mechanics Engineer Dean Renner, project design engineer, with examples of the floodplain roughness elements of his own design.

depressions and mounding up the excavated material next to the depressions. These features should slow the velocity of over bank flow across the floodplain and encourage deposition of fine-grained sediment to support vegetation growth on the rocky surface of the floodplain. The roughness features were added on much of the floodplain surface within the meander belt of George Creek.

The reshaped channel and floodplain were surveyed with the Leica GPS total station to create a baseline map for monitoring behavior of the channel as it experiences runoff events in the coming years. George Creek appears to have experienced a bankfull (1 to 2 year frequency flood event) flow in January 2006; despite a few areas of bank erosion on outer meander bends, the new channel sustained the flow event well. The

planners and designers involved in the development and construction of the project look forward to observing the recovery of the channel and floodplain in the coming years.

Snow Survey Centennial - 1906-2006

Scott Pattee, Water Supply Specialist, Mount Vernon



"In 1906 I offered to climb Mount Rose every month for a year to obtain temperatures on mountaintops. The United States Weather Bureau furnished the thermometers, the Adams Fund was available for research in agriculture, and the Nevada Agricultural Experiment Station was willing. The Study of snow was begun."

-Dr. James E. Church, The Snow Surveyors' Forum, Western Snow Conference, 1952.

The Mt. Rose snow sampler and scale were developed and patented in the winter of 1908-09 to determine the water equivalent of the snow deposited on the ground; and in the Spring of 1910, Dr. Church produced the first forecast of the Lake Tahoe

rise...the first known water supply forecast in the Western United States.

The Federal government entered the snow survey picture July 1, 1935, by an Act of Congress to coordinate and expand the system of snow surveys then existing, for water supply forecasting to all of the Western States. The techniques developed by Dr. James E. Church and others were the beginning of the current NRCS Snow Survey and Water Supply Forecasting Program that is carried out by NRCS field personnel under the direction of their respective State Conservationist.

The very first recorded snow surveys in Washington were conducted by the Bureau of Reclamation at Bumping Lake in 1916. Since that time the network of manual snow courses, managed by numerous federal, state & local agencies and volunteer groups, increased to over 300 individual sites. In 1979 SNOTEL (SNOW TELEmetry), the automated system for mountain climate data collection, was introduced. There are now 59 SNOTEL sites in Washington and over 700 in the 12 western states and Alaska. With the maturity of SNOTEL the number of manually read stations in Washington has been reduced to about 90.

Throughout 2006, the centennial year of the study of snow, we will bring you the fascinating history of this remarkable program, including stories and pictures of actual surveys, helicopter accidents, avalanches, moose attacks, economic analyses, floods, droughts, saving the farm and even death. We hope that you are educated as well as thoroughly entertained by our history, the current program and our passion for all things Snow and Water.

Follow along as the year and the story progresses on the centennial webpage:

<http://www.wcc.nrcs.usda.gov/centennial.html>

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