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SHARPSHOOTER

OREGON SOCIETY OF SOIL SCIENTISTS

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The Land of Fire, Water & Food

OSSS Summer Tour August 26, 2005

At last year's OSSS Summer tour to Steens Mountain we had our heads in the sky. This year we will have the opportunity to explore beneath the earth's surface. We are crossing the state boarder to visit the southern portion of the Klamath Basin. We will be focusing on the Land of Fire – the volcanic landscape of the Lava Beds National Monument.

The monument is south of the city of Tulelake and is boarded on the north by Tule Lake National Wildlife Refuge

and on the east, west, and south by the Modoc National Forest. The monument lies in the junction of the Sierra-Klamath, Cascade, and Great Basin physiographic provinces and lies on the northeast flank of the Medicine Lake shield volcano (the largest in the Cascade Range by volume and surface area).

There are a great variety of volcanic formations to see including fumaroles, cinder cones, spatter cones, maar volcanoes, pit craters, lava flows (over 30 separate flows), and the largest concentration of lava tube caves (over 400) in the United States.

Additional information about the Lava Beds National Monument is available at <http://www.nps.gov/labe/>.

Summer Tour Details

There is a \$10.00 entrance fee per vehicle, which is good for 7 days. The visitor center is at the south end of the monument (9 miles from the north entrance booth) and so is Indian Wells Campground. The campsite fee is \$10 a day and can accommodate tents and small to medium sized RVs. The campground consist of Loop A and B and has water and flush toilets. The sites are on a first-come-first-serve basis. No lodging is available within the monument.

Cider Butte and the Callahan lava flow near the park's south boundary

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PRESIDENT'S MESSAGE



Kathy Verble
OSSS
President

Since we will be in the Land of Modoc for our annual summer tour, I thought it appropriate that we learn about the ancient people of the area. The Modoc Indians roamed the lava plateaus and surrounding mountains for 12,000 years. They lived on both sides of the California-Oregon border in a wide area centered on Tule Lake. They traveled their territory in a seasonal existence with permanent camps consisting of earth lodges scattered along the shores of Tule, Lower Klamath, and Clear Lakes.

From their woven tule boats they collected water lilies “wocas” seedpods and ground them into meal. Sagebrush was used extensively – its bark for basketry, clothing, and footwear and its leaves for medicinal tea. Seasonal

camps near the Lost River had huts made of tules and hunting camps where in the high country in the summer. They fashioned tools that included bow shafts from lake reeds and arrowheads from obsidian chunks.

First contact with Europeans came in 1826 when a trading brigade from the Hudson’s Bay Company came through the region. Since the Lava Beds region lacked fur-bearing game, the Modocs traded slaves that were mostly captives from other tribes. As explorers, scouts, and settlers pushed their way across the PNW, the Modocs had to defend their land and way of life. Trouble began when the Applegate brothers opened a cutoff from the Oregon Trail through Modoc territory. The Modocs were treated harshly and retaliated by attacking trains along the north shore of Tule Lake, which became known as “Bloody Point.” Regardless, some Modocs sought employment with white residents in nearby towns, which resulted in alias names based on physical traits, since whites could not pronounce most of their real names.

In 1864, the U.S. Government signed the Council Grove treaty with the Klamath, Modoc and Yahooskin bands. In the treaty, tribes agreed to cede most of their territory in exchange for a reservation on the north shores of Upper Klamath Lake (Klamath land). The Modocs did not get along with

the Klamaths or the Yahooskin and not all the Modocs wanted to move to the reservation. Kientpoos, a young warrior known as Captain Jack to the whites, led a group of followers away from the reservation.

Several skirmishes and five battles with the US Army occurred. The historic battlegrounds of the Modoc War (1872-1873) is one of the reasons the lava Beds were designated as a National Monument in 1925. During the war, the Modoc Indians used the lava flows to their advantage. Under the leadership of Captain Jack, they took refuge in “Captain Jack’s Stronghold,” a natural lava fortress. For five months, 53 men and their families held off US Army forces that exceeded 600 men. Upon surrender, some were sentenced to death, others sent to Alcatraz Islands, others hanged at Fort Klamath, and some deported to the reservation in Oklahoma. The war ended in the total collapse of the Indian way of life in the Lava Beds.

What remains of the Modocs are village sites, artifacts, burial sites, and rock paintings (pictographs) and carvings (petroglyphs) on cliffs and in caves. Today, approximately 200 Modocs survive in Oklahoma and 700 Modocs live on the Klamath reservation. ❀



WESTSIDE NOTES

A Tribute to Roseburg BLM's Pioneering Soil Scientists

by Dan Cressy

One of OSSS's lifetime members retired last month from the Bureau of Land Management after 38 years of federal service. **Dennis Hutchison**, better known as Hutch, began his distinguished career with the then Soil Conservation Service way back in 1967. For eleven years Hutch did soil survey work in Wisconsin, Connecticut, Michigan and Idaho. In Wisconsin he received the first of many performance awards that spanned his career. He came to Idaho wanting to experience the open expanses the west had to offer. In 1978 Hutch's westward migration ended in Roseburg where he joined the BLM. Steve Wert, another long-time OSSS member, handed the BLM Roseburg District's fledgling soils program over to Hutch who carried on as a strong advocate for the soils resource.

A lot is owed to **Steve Wert** for the fine job he did in establishing the District's soils program with the strong support of Bryon Thomas, the State Office soil scientist at the time. Steve came to Roseburg in 1969 and became the new kid on the block in an organization dominated by foresters. Before him and his fish biologist counterpart, Frank Oliver, emphasis was almost entirely in getting the timber cut out and silviculture. Little consideration was given to soil productivity, water quality and ecosystem management. On the positive side,

Steve recalls that road cut banks for special jobs were mulched and compaction specifications for small dams were being followed. The negatives were many. For example, inadequate road drainage and the standard practice of sidecasting road cut material on steep slopes were major causes of landslides and debris flows.

Tractor logging was perhaps the biggest negative for soil quality and productivity. It was extensive and occurred on slopes up to 75 percent. There

(Continued on page 6.)

URBISOL CORNER

by John Good

A lot of trees are going to die this year, especially trees on urban sites where they have already been stressed. The reason is twofold: they did not get their winter drink this year, and lack of oxygen caused by soil compaction (the #1 killer of trees on urban sites). Commonly urban soil pore space is changed from 50% to ~5% by human activity. 🌳

DATES TO REMEMBER

August 25, 2005: OSSS Summer Tour; Lava Beds National Monument; Klamath Falls area.

November 6 - 10, 2005: ASA-CSSA-SSSA International Annual Meetings; Salt Lake City, Utah. Information available at <http://www.asa-cssa-sssa.org/meetings/acs/>

Dues Reminder

If you haven't paid your 2005 OSSS dues, please send them to:
OSSS
P.O. Box 2382
Corvallis, OR 97339



Dennis Hutchison

The 2005 Summer Tour

Land of Fire, Water & Food

August 26, 2004

Thursday night, August 25th, will be a casual no host get together at a campsite at Indian Wells Campground. A note will be posted at the Information/Self-Registration kiosk as to the campsite number.



Lodging outside the monument includes:

Eagles Nest RV - in Tionesta (down the road from the park's south entrance) 1-530-664-2081

Ellis Motel - north of Tulelake on Hwy 139
(12 miles from the park) 1-530-667-5242

Shady Lanes Trailer Park in Tulelake 1-530-667-2617

Fe's Bed & Breakfast - in Tulelake 1-530-667-5145

Merrill Motel in Merrill - 14 miles north of park entrance
1-530-798-5598

Stateline RV Park - 10 miles north of park 1-530-667-4849

Wild Goose Motel in Merrill 1-541-798-5826

Park Motel 1-530-667-2913

Hawk's Nest 1-530-664-3187

The Tour will meet at the park's Visitors Center at 8:30am and leave promptly at 9:00am and will go until about 5:00. The center has restrooms and water. We will try to double up to reduce the number of vehicles. Kathy Clark will provide lunch from the Clark van (Lucy). Please bring water, cover for head and body, good boots, and sunscreen. Snakes, including western rattlesnake can be found in the area in warmer months so be cautious.

Miscellaneous Details

The monument can be entered using a National Parks Pass. This is an annual pass costing \$50, which is good for one full year that provides admission to any national park. A "Local Passport" is also available, which is a \$20 annual pass for the park.

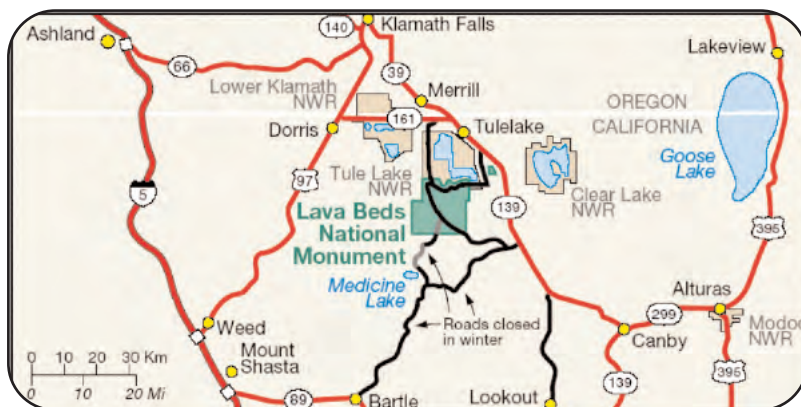
The park offers many opportunities for hiking and caving. Twenty-four of the lava caves have been developed for public use. Bump caps can be purchased at the visitor center for \$3.25 each. A limited number of loaner lanterns are available free on a first-come first-serve basis. It is recommended that you bring sturdy footwear, protective hat, gloves (because of rough rock surfaces), and flashlights (2 lights per person recommended). Only battery-operated light sources are allowed.

Tours are available so check the schedule at the visitor center. Captain Jack's Stronghold is at the north end of the park and can be viewed independently or by joining one of the visitor center's tours. Information about the park can be viewed at <http://www.nps.gov/labe>.

Other attractions in the area include, national wildlife refuges (the Lower Klamath, Tule Lake, Clear Lake), Tulelake-Butte Valley Museum, auto tours, canoe trails, Medicine Lake Volcano, Japanese internment camp, and Indian petroglyphs. 🐉

Lava Beds National Monument

Directions: From the Klamath Falls area, take Oregon Hwy 39 south approximately 20 miles until it enters Merrill, OR. Go one mile and turn right (south) on Malone Road. Go about 2 miles and turn left (east) on Stateline Road 161. Take immediate right at West End Grocery Store onto Hill Rd. Travel south for 10 miles and enter Lava Beds National Monument.





CONSULTANT'S CORNER

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The 2005 Summer Tour Land of Fire, Water & Food August 26, 2004

Registration Form

Name: _____

Address: _____

City / State / Zip: _____

Phone / email: _____

Cost: \$20 per person
\$10 for children under 18
Lunch will be provided.

If you mail the form late or bring it with you to the tour, please RSVP by phone or email at 503-378-3805 Ext. 295 or Kathy.Verble@dsl.state.or.us

Please make checks out to OSSS, and

Mail this form to:

Kathy Verble, OSSS President
7673 Jackson Hill Rd. SE
Salem, OR 97301

(Westside Notes: from page 3.)

were no restrictions for skid trail density and location, soil moisture levels, or the amount of soil displacement. Skid trails were even constructed along drainage bottoms by filling in low order stream channels with bank material. As a result, heavy compaction and exposed subsoil and bedrock usually covered at least 25 percent of the tractor harvested areas and stream function was often left highly impaired. Tractor piling of slash for prescribed burning sometimes would follow, upping the compaction coverage to 80 percent and displacing more soil and duff. As many of you already know, compaction persists for many years in the forest soils of the Pacific Northwest and typically is still very much present 40 years later in tractor logged units. Downhill logging, another common practice of that period, created chutes right down to stream bottoms and roads. Harvest-caused erosion and sediment delivery to streams often exceeded that of roads.

The perspectives of many foresters back then were quite different from that of soil scientists (in some respect, they still are). Some were dubious about the 'purported' effects of compaction. Steve had his battles to fight for change. Within three years of his arrival, hauling cut material to stable disposal sites (called end hauling)

do when applied to the soils in the Roseburg District. The work was summarized by Dick ten years later in a large report. A very big contribution of Steve was his soil inventory of the Roseburg District lands and his management recommendations for the different mapping units.

Under Hutch's watch in the 1980s, practices to protect the soil became more refined as more was learned from monitoring and the latest scientific studies and new technologies emerged. Seasonal restrictions were applied to more activities, the practices of designating skid trails and tilling compaction with subsoilers were adopted and granitic soils sensitive to timber harvest were withdrawn. Also, a seed mix for site stabilization was developed that was not invasive (Credit for the seed mix specifically goes to Dave Roberts, Roseburg's third soil scientist. The mix has since been replaced with native plant seed). Hutch was very good at securing funds for soil and water projects and establishing a close working relationship with the District's road maintenance crews to get road projects accomplished in a soil friendly manner. The refinement of practices under his guidance continued in the 1990s and 2000s; for example, a better method for reclaiming roadbeds was devised and subsoiling was adapted to commercial thinnings using excavators.

Hutch was an important player in defining soil management objectives and best management practices in the District's Resource Management Plan. He then firmly made sure the plan's soil objectives and best management practices were carried through to projects. One such practice is to subsoil old compaction along with the new when a unit is reentered for harvest. Invariably there was and will always be some operational fall down where soils take an unnecessary hit (A sudden change in soil moisture from sudden summer showers is a root cause for much of the fall down.). On balance, however, the efforts of Steve, Byron and Dennis have made credible the claim in the Resource Management Plan that soil productivity will be maintained or improved.

Compare the typical impacts of a few current practices with the old practices mentioned earlier. Now, new construction of BLM roads occurs on stable locations mostly at or near ridge tops where slopes are less than 50 percent. There are no landslides or sediment to streams generated from them. Many of the new roads are temporary and get subsoiled. Woody debris and a little topsoil inoculant get placed on the

Skid trails were even constructed along drainage bottoms by filling in low order stream channels with bank material.

replaced steep-sloped sidecasting. In his last six years, compaction guidelines were in place, fragile soils were put on maps and protected, special logging and prescribed burning practices were used to protect the soil, and buffer

strips on streams came into being. Steve

worked with Roseburg forester George Francis and Dick Miller of the

PNW experiment station to set up permanent plots to predict the impact to tree growth from thinning and fertilization. Before this high quality study, little was known about what fertilization could

(Continued on page 10.)



Rudy Wiedenbeck **OSSS Secretary**

MEMBER **SPOTLIGHT**

Susan Wiedenbeck, commonly known as Rudy Weed, was born in Milwaukee, WI on Dec. 9, 1953. She was the only child of a single mother. Her Mom was the “Coach” so Susie grew up in gymnasiums being passed among teenage girls. She is the product of twelve years of Catholic school education and is still in recovery. During summers she went to camp in the North Woods of Wisconsin and there began a lifelong love of the water and the woods. She was, and continues to be, shy and introverted, although she’s worked hard to present a friendly face to the world.

After graduation from a small sheltered all girls high school she went to the University of Wisconsin in Madison in “the wild days”. She received her Bachelor’s of Science in Soil Science with a minor in Natural Resource Management from the Ag school in 1975. Federal jobs were plentiful then, so Rudy headed off to the southern Rockies where she served as the forest soil scientist on the Rio Grande National Forest. They really didn’t know what to do with the new “specialists,” especially young women, so they thought they’d turn her into a planner. Since all she wanted to do was dig holes and learn soils, she walked on that comfy government job. It was the high country parks of the San Juan Mountains where she solidified her love for cross-country skiing, a passion she still enjoys.

In 1980, she moved to Eugene, OR and joined the Hoedads, a famous reforestation collective. She worked on the all women’s crew, Half and Half, for three years. That work took her to scenic clearcuts across many states. Her crew was in St Mary’s, Idaho when Mount St Helens erupted, blowing knee deep ash over the country side. Her work crew lost multiple vehicles due to ash being sucked into the carburetors! They were designated as disaster victims and were housed in the school gym. For a week, they “collected” their one meal a day, played pool at the local tavern and then returned to the Gym for an energetic game of basketball before turning in!

In 1983 Rudy and a small group of friends left Hoedads and moved to western Montana where they bid timber stand exam contracts on federal forests, primarily wild lands in Idaho and Montana. She was also a trail crew leader for the Student Conservation Association in the River of No Return Wilderness for a couple seasons. During the 1980’s Rudy drew wages, doing somethin’, on 40 different federal units.

Then in 1989, Rudy secured another appointment in the federal system. She moved from Grangeville, ID to the Siskiyou National Forest in Grants Pass, OR, mostly working on reforestation of the Silver Fire. It was during this time Rudy met Dr. Dirt, Ed Gross, who became her friend and mentor. Ed introduced her to the Oregon Society of Soil Scientists where she has been an active member and is now serving as your secretary.

In 1998 Rudy was hired as a soil scientist by BLM in Eugene. She provides soils input for all sorts of projects, but her main bread and butter continues to be working with interdisciplinary teams to put up timber sales.

Rudy loves to paddle in her inflatable kayak and tries to add a new river to her memoirs every season. She boated the Colorado River through the Grand Canyon this year to celebrate with her youthful 50 year old friends. She is a hiker and wanna-be mycologist. Rudy is predictable; her favorite pursuits continue to be gliding on snow, hiking with friends, and sleeping out in the quiet dark woods. She is finding that aging is a much more fun process than she ever thought it would be, except for the body maintenance which has turned into a full time job. 🌿



MAPPING MARINES

By Stan Winther

Through legislation, environmentalists have successfully kept people and machines out of wilderness areas allowing the trees to become diseased or old and eventually burn in an inferno from a lightning strike. This exclusion includes soil mapping. In remote areas, helicopter soil mapping has been used successfully, but it requires mappers to be shuttled from point to point by air. In open areas, this is okay. But in timbered areas, finding flat landing sites without trees is difficult. Furthermore, the operation of helicopters is expensive, dangerous, and limits the time a mapper has available to examine the soil.

There is now a more cost effective alternative than having a soil surveyor visit each site. It is known as GIS technology. First, gather readily available information on the geology, precipitation, elevation, and slope aspects as well as photography of the survey area. Second, input these items into a GIS computer. Now the only item missing is the soils information. This means digging soil pits and taking profile descriptions at a few, predetermined locations. Once this soils information is obtained, the computer will project the identified soils over the entire survey area. And "wah-lah!" you have a soils map and its accompanying paperwork.

To get the desired soil descriptions, a special force of mapping marines was organized. These guys were rough, had tattoos of the "teardrop" logo on their butts, wore an earring in one ear, and would swear, spit, and scratch, much like baseball players without uniforms. The typical soil scientist of today is simply too "soft" for the job. Any university personnel were immediately excluded from the platoon, because they insisted on asking probing questions which only slowed down the whole process. Range and forestry people were also excluded because they tended to wander off looking at the vegetation when it was time to go. Because the marines must travel quickly and quietly, neither soil samples nor prison-

ers would be taken.

The Conservation Service had made it abundantly clear that they would not acknowledge the marines in any way if they were captured. So before the mission got underway, each marine was ordered to have his will and his durable power of attorney in order. Also, the money in their retirement account would be removed from their TSP and placed in an offshore bank. During the operation, their payroll time sheets would specify that they were doing "01" work (conservation activities) at the time rather than "02" work (soil survey activities). This ploy should avert suspicion as well as save money for the soil survey budget.

As with any survey, a certain amount of pre-mapping of an area must be done.

- Mappers will synchronize their watches and GPS units by meeting in the lobby of a nearby shopping mall. Once there, a mall directory and a map with the words "You are here" and an arrow will identify their exact location. They will set their GPS units accordingly. Because the mall closes precisely at 10 pm, the time is also established beyond a shadow of a doubt.

- Along with a flashlight, canteen, and first aid kit, each marine is given a "texturizer." This hand-held device automatically determines the proportion of sand, silt, and clay in a sample and thus its texture. It operates by sprinkling a thimble-sized mass of soil onto its small video screen and then closing the lid down on the soil particles. The pitted screen will record the individual particle's size and quantity. For a finer-textured readout, slam the lid down on the particles several more times.

- Within every successful team, there are designated "special teams." Of course, all the men on this team are accustomed to arguing hand to hand with environmentalist during riots, demonstrations, and marches. But only a hand full of marines had received training in hand gestures the environmentalist had never seen before. Obviously, the environmentalists knew they were being insulted, but their shame was not great enough for them to leave their trees and fight. Thus, no violence was really expected. This tactic was invented just to occupy the tree sitters while the marines

dug and described soil pits nearby. Environmentalists were more accustomed to watching for loggers and their noisy equipment, so they were totally unprepared for the mapping marines.

- It is likely that the marines would see many shallow soils in their survey area, so they decided to stop by the local Soil Data Mart which is open round the clock and get all the information they could on Lithic Haploxerolls. The clerk had just finished stocking the shelves with the newly-arrived soils when the mapping marines came in. Once the clerk had heard their request, he simply laughed. Even though the clerk could barely speak English, he was still fluent in soil taxonomy, but he wasn't about to give out any soils info to any Tom, Dick, or Jerry who just walks in the door. He demanded a password first. Instead of checking their own palms for the password, the marines whipped out their "sawed-off" sharpshooters and shoved the jagged blades into the clerk's gut. The grin on the clerk's face immediately vanished. Then the marines had all of the customers line up against the wall with their hands raised. Once the marines had the series descriptions (OSDs) on all the Lithic soils, they fled the store but not before they had grabbed as much beer and cigarettes as they could carry.

Now the marines were ready, but before they set out on the mission, the lieutenant informed them that some of them may not return. He spoke quietly yet firmly. "Yes," he admitted that he had lost three marines on his last mission when the platoon was startled by splashing from a nearby lake. Next thing he knew they were cutting sapling and then fly fishing.

Nonetheless, the plan was for these marines to float down the raging river in rubber rafts within the survey area, bounce down the fish ladder, paddle through the wake of the tourist jet boats, crawl through the dense underbrush on their bellies for miles, take profile descriptions in 10 minutes at specified locations, return to the river bank to a waiting raft, and finally float down the river to safety.

Their mission went as planned until they hit the beach. It was there that they pulled out their GPS units to verify their location. Then they checked their e-mail.



Finally they plotted their course through the forest. After an hour of bumping into trees, the leader threw his unit away using his own instincts instead to guide him. It seems the GPS units had not considered the possibility of new trees growing in well-worn paths or the fact that the Forest Service was closing off secondary roads with piles of soil.

On their journey through the wilderness area, they encountered ...

- marijuana growers (flat areas with some tree cover) who had vicious, big dogs and automatic weapons. The mappers threw dirt clods and drug growers retreated.

- rescue workers (south slopes) who were sifting through the smoldering debris looking for the clues to the cause of the explosion. When the marines arrived, they were told that NASIS had crashed again and the rescuers were only able to save a few soils. The marines stayed around to help.

- deer hunters (ridgetops) who were looking for someone to watch for deer while they returned to the regular jobs. These hunters were not about to accept a "no" answer.

- weekend hikers (meadows) who refused to pet the nice wolf even when the marines held the animal still. It was probably the deep growl from the wolf that influenced the hikers thinking.

- mushroom pickers (forested, north slope) who taught the marines the difference between poisonous and non-poisonous varieties. In return the pickers needed someone to teach them English.

- a geologist (rock outcrop) chiseling a heart on the rock face.

- wildlife film crews (at large) were filming everything and the marines were the focus of every story. "Film at eleven" did not help the secrecy of their mission.

Unfortunately, it took time for the marines to fulfill all these requests. When the marines did reach the rendezvous spot alongside the river bank, the rubber raft had come and gone. The environmentalists were lying in wait. The marines were surrounded and all their profile descriptions were confiscated. At the hearing, the judge sentenced each of them to 200 hours of

community service and for each marine to wear their earring in the other ear. Ouch!!!

Even though they had been forcibly removed from the survey area and now had a record of community service working against them, the marines still had nothing to show for their work. Furthermore, the survey must still be completed before they would be paid. They had no choice but to visit the www.SoilsRUs.gov website and download the new 3-D Sketcher software. This program is able to transform contour lines on a map into hills, plateaus, floodplains, etc. Furthermore, this technology would allow anyone to look at a computer monitor and virtually "fly" through the survey area. This feeling of flying can be compared to gliding slowly through the sky in a small airplane and watching the topography move past you. This was fun but it did not help identify the soils.

Problems began when the marines connected a controller box to the computer and commenced to increasing the speed of the plane dramatically, flying upside down, doing a death spiral, and firing missiles at cattle guards. Eventually they flew out of the area, into the blackness beyond, and were never heard from again. Now the state office was really in a bind. There was no soils information, all access had been denied, and the deadline was looming. When a person or organization is desperate, they will try anything and that anything is the "psychic hotline." Normally psychics help find dead bodies or missing persons, but when business is slow, they can do soil surveys. The psychic operates by placing his thumb on any polygon (little finger for smaller polygons) and divines the soil. A shallow soil results in a head ache, a moderately deep soil is a stomach ache, a deep soil causes a knee ache, and a very deep soil must be a foot ache. Naming the soil is extra though. Before the state office would accept such questionable data, they demanded a trial run over land already surveyed. This is known as

"ground truthing." In the end the psychic had an 80% success rate. Wow!! Everyone was impressed. And so the survey of the wilderness area was completed on time and under budget.

Months had passed since the

To get the desired soil descriptions, a special force of mapping marines was organized. These guys were rough, had tattoos of the "teardrop" logo on their...

soil survey had been completed and the information just sat in the office computer.

Occasionally the

cleaning lady came by and dusted the top of the computer. Eventually, all the soils information was lost when the office received the newest version of high speed computers even though the old monitors still had that "new computer" smell. (And you thought the government was broke.)

The outdated computers along with the GIS soil survey computer were placed in a wooden box and trucked hundreds of miles to the Soil Data Warehouse. There it sat on the loading dock until a spot could be found to store it. Eventually the box was carted down the long corridor of the warehouse with a fork lift and placed next to the box containing the Ark of the Covenant.

It is sad to say that more and more landowners view government workers as "snoopers" and therefore should be rejected. So the services of the mapping marines will be needed even more in the future.

Note: Neither animals nor plants were really harmed in the making of this soil survey. ♣

(**Westside Notes:** from page 6.)

subsoiled surface. Helicopter logging or no harvest is done where needed to avoid constructing high impact roads. Where private roads under right-of-way-agreements must cross steep slopes, full bench cuts and end hauling are required. Current practices limit moderate to heavy compaction from harvester-forwarder and shovel swing yarding (ground-based logging that has replaced tractor logging) to less than 10 percent of the ground (five percent seems to be most typical and can be as low as one percent). Much of this and a portion of the old compaction get subsoiled. Little sediment reaches streams from harvest units in part due to no-cut buffers along streams, measures to reduce landslide risks, and the avoidance of broadcast burning on steep slopes greater than 70 percent.

I want to thank Hutch personally for being a good mentor to me and for his strong support and guidance. I am a third generation soil scientist at Roseburg who came in 1990. My first assignment was in the old Dillard Resource Area that no longer exists because of reorganization (Resource Areas are now called Field Offices). Change came hardest in Dillard. The foresters there were the most resistant to the changing tide. On one occasion I overheard a forester murmur, "his precious soils". Invariably change came. In 1991 tractor piling of slash for site preparation occurred for the last time in the Roseburg District at Dillard's Burnt Mountain # 4 unit. In my opinion, that marked the final passage of the old more damaging ways.

I hope to faithfully carry on the legacy of Steve and Dennis. Dennis always wanted to have a more proactive soils program. He wanted to introduce the use of biosolids and living soil mulches to restoring drastically disturbed surfaces. With declining budgets and ever more time commitments going to office process work, a more proactive soils program may not be attainable but I still would like to pursue this. Also, Dennis wanted to get away from tying objectives and practices to soil productivity (The Roseburg District is currently committed to a less than one percent growth loss due to timber harvest). Rather, he

wants to go to the concept of soil quality. The use of soil productivity has its problems: How do you measure it? Do you limit it to how well trees put on timber volume or do you take a more ecological approach and consider the health of the whole ecosystem? With the soil quality approach, you manage the land so soil properties that promote a healthy ecology above and below the ground are maintained. Observable soil properties such as soil structure would be monitored for effectiveness.

Finally, I would like to also extend this tribute to another longtime OSSS member, **Bob Meurisse**, for his pioneering work in establishing soil quality standards and promoting ecosystem health for the Forest Service. Bob was the regional soil scientist for the Forest Service's Pacific Northwest Region before retiring. He has authored and coauthored a number of papers on the subject of soil quality in land management. Bob's work has had its influence in the BLM.

Additional thoughts on

the subject

My intent is not to portray the foresters of Steve's era as the bad guys in a bad light. They were a small staff that annually had to meet big road construction and timber volume commitments mandated by Congress. A lot of road layout and construction went along with harvesting large amounts of timber. They strived to get the job done in the most efficient manner and did not view most soil impacts as being long term or particularly harmful. Steve told me that many foresters of the time were very respectful of those new practices that were being implemented to lessen the impact to the land and streams. They sincerely wanted to know how they could do a better job in the woods. They, for one, contributed heavily to the success of the thinning and fertilization study. He, himself, learned a lot from the foresters. Steve went on further to note what happened when he had a heart attack at age 30. He wrote, "I was out of work for six months. The foresters and in particular, George Francis, made it possible for me to keep my house, car and job. I can not thank them enough for saving my bacon. They really prevented me from going bankrupt. Who

**"A very big contribution
of Steve was his soil
inventory of the Roseburg
District lands and his
management
recommendations for the
different mapping
units."**



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