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Okanogan Conservation District
WSU Okanogan County Extension

Resource Quarterly

Get energized about saving money!

By Christy Cincotta, OCD

The Okanogan Conservation District is partnering with Okanogan County PUD, Nespelem Valley Electric Cooperative, Bonneville Power Administration, and North Central Washington Resource Conservation and Development Council to help irrigators save money through energy efficiency.

There are many small changes to your irrigation system that when added up can make a big difference in the efficiency of your system. Worn out sprinkler nozzles and gaskets can lead to inefficient application of water, leaks, soil erosion, unnecessary energy usage, and unnecessary costs through pumping too much water. **Okanogan PUD and Nespelem Valley Electric Cooperative are now offering rebates for several sprinkler hardware upgrades and repairs.** Rebates for other irrigation pumping improvements, such as variable frequency drives, NEMA premium efficiency motors, and custom pump modifications may be available as well.

To get started saving on your irrigation costs, set up a site visit with Christy Cincotta, the Okanogan Conservation District's Field Energy Analyst. Christy will conduct an energy assessment of your system to determine which rebates you are eligible to receive and which ones would provide you with the most money and energy savings. Once you've decided on your sprinkler hardware purchases, we will help you to fill out a rebate form and help submit this and your receipts to BPA. Rebates for sprinkler hardware are expected to get back to the irrigator within 3-4 weeks of submitting receipts. Save water, save energy, and save money by signing up for this exciting program today!

☎ **Christy Cincotta: 509-422-0855 ext. 126**

save WATER save ENERGY

Sample Incentives & Rebates	
New rotating type sprinklers to replace impact/low pressure sprinklers (entire line required)	$4.00/ sprinkler
New hubs for wheel lines	$14.50/ hub
New center pivot base boot gasket	$175.00/ pivot
Cut and pipe press repair of leaking hand, wheel lines, portable mainline	$10/pipe section

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We Change the Natural Order at Our Own Peril

By Walter R. Tschinkel. Originally published July 5, 2011 in the Tallahassee Democrat and reprinted with permission of the author.

In light of the wildfires raging in many parts of the United States, this might seem like an inopportune time to advocate for more fire. In reality, it is the perfect time, for this a teachable moment. The current fire catastrophes are the harvest of a century of failed fire policy, a policy that regards wild-land fire as an enemy, not as a natural force that has shaped a wide range of ecosystems.

Preventing fires in fire-adapted ecosystems changes them and courts future disaster. When they inevitably burn (as during the current dry climate cycle), the high fuel load ensures that the fires are catastrophic, killing the very forests we are trying to protect, endangering property and lives, and costing vast sums to control. Fighting the recent Horseshoe 2 fire in Arizona cost almost $40 million. Forty percent of the U.S. Forest Service's current budget now goes to fighting fires. A sensible U.S. fire policy that accepted the naturalness of fire and emphasized prescribed burning could have prevented much of the current crisis and loss. Moreover, the oft-heard call for forest thinning is irrelevant, for there isn't enough machinery, manpower or time (let alone market) to avert continuing catastrophe.

Here in the Florida Panhandle, the coastal plain longleaf pine forest is a completely fire-dependent ecosystem (as is much of the rest of Florida) and is one of the four biodiversity hotspots of the United States. Under natural conditions, low intensity ground fires were ignited by lightning in the spring and burned until the summer rains put them out. The result was a mosaic of upland grassy groundcover in various stages of recovery from the last burn, along with limited, enclosed wetlands that rarely burned. Between the uplands and the wetlands lay pitcher plant bogs. Preventing these natural fires has lead to a shrub-dominated ground cover in most upland areas and has allowed the wetland shrub vegetation to expand through the pitcher plant bogs into the uplands.

Fortunately, one of the bright spots in U.S. fire policy is right here in our own Apalachicola National Forest (ANF), where the U.S. Forest Service has one of the most active prescribed burning programs in the country. Every year, the ANF sets out to burn about 100,000 acres of "burnable" forest, with the intention of creating a fire return frequency of three to four years. Whereas the "official" reasons for burning are often cited as "fuel reduction," the more important outcome is the maintenance of this precious, diverse ecosystem. The challenges of the ANF burning program are great, having to take into account the likely fire intensity, habitat condition, fuel load, wind and weather conditions and laws regarding property and smoke management. The job is tough on a personal level, too — imagine yourself on a 95-degree day in full protective gear facing a wall of flames. Not a job for comfort-seekers.

In spite of the exemplary prescribed fire program on the ANF, it is not enough. The fire frequency, season and intensities are not enough to return the ecosystem to its natural condition, nor even to maintain it in its current condition. Comparison of aerial photos from the 1930s with current conditions (easily seen on Google Earth) shows that decades of too-infrequent burning, or only dormant-season burning, have allowed the bushy wetland vegetation to expand outward into the pine flats, creating a dense midstory that does not support the natural, cool ground fires so necessary to the health of the system. When conditions are extreme enough for this midstory to burn, the intense fire often kills the pines. Regeneration of the wetland vegetation from rootstocks then creates an area completely dominated by dense shrubs, shading out the rich biodiversity of the pitcher plant bogs. Repetition of this cycle gradually expands the dense wetland vegetation by ratcheting away the piney uplands. *Cont. next page*

We Change the Natural Order At Our Own Peril, *continued*

Anyone can readily confirm on Google Earth that, under the conditions in which the U.S. Forest Service carries out prescribed burns, large areas of wetland-invaded pine uplands often fail to burn. Fifteen to 20 percent of the pitcher plant bogs and grassy uplands seen in aerial photos from the 1930s have been lost to wetland invasion, and the process still continues.

So what? you may say. Forest is forest. Sadly, a great deal of the biodiversity of the forest resides (or resided?) in the pitcher plant zone between the upland areas and the wetlands, and this is the very zone that is being erased by the wetland expansion.

What should be done? To begin with, we need official recognition of this as an ecological problem. In light of the intricacies and dangers of burning under current circumstances, there will be no simple solution, no rigid bureaucratic procedure to apply universally. It will require people who are tuned to the forest and to the fire it needs, and who have the authority and intelligence to do what is needed. It will also require careful monitoring of the ecological effects of burns, building on what works. It will require a great deal more emphasis on burning during the growing season, the natural fire period. And finally, it will require the support of the informed public.

We are very fortunate to have the Apalachicola National Forest with all its biological diversity, open space and opportunity for solitude. A good sign of appreciation would be to give the forest a lot more of what it really needs — fire.

About the author: Walter R. Tschinkel is the R.O. Lawton Professor in the Department of Biological Science at Florida State University. Contact him at tschinkel@bio.fsu.edu.

Okanogan Conservation District Photo Contest Continues!

Capture the seasons of conservation in Okanogan County! Check our website and Facebook page each month for new words to inspire your photographer's eye. Stay tuned for information on how to order the 2012 calendar featuring each month's winning entry. Each month's entries are due at the end of the month. For more information contact us at 509-422-0855 ext. 5 or ocd@okanogancd.org.

SALMON SAFE

Please join Washington Water Project for *Feast of Field and Stream* on Sunday, August 21st.

A delicious dinner will be showcasing farms who are participating in Salmon-Safe certification including Bluebird Grain Farms, Hard Row to Hoe Vineyards, and the Okanogan Producers Marketing Association. The dinner will be held at Bluebird Grain Farms in Winthrop. The evening will begin with a tour of Bluebird Grain Farm's processing facility at 5:00pm with wine and hors d'oeuvres, followed by a farm to table dinner at 6:30pm. The catering will be by Glover Street Market and all food and wine will be locally sourced. All proceeds from this event go to enhancing Washington Water Project's, Salmon-Safe work with farms in Okanogan County. Tickets are $45. To purchase tickets or for more information go to www.brownpapertickets.com/event/185511 or call 509-881-7690.

Conservation Education Highlights

By Laura Clark, OCD

Omak students observing the mini-rivers.

Every year, District staff teach local youth about natural resources at Sixth Grade camps, classroom visits, and other scheduled field days. This spring was no exception, with nine days of activities for more than 500 students.

The topic for Sixth Grade camps is **"What is a Watershed?".** We start with a definition: ***A watershed is all the land that water passes over, under, or through on its way to a river, lake, or ocean.*** Students learn what watershed they are in and the size of that particular watershed. We discuss how a smaller water body drains into a larger water body, which drains into an even larger water body; for example, Omak Creek flows into the Okanogan River, which flows into the Columbia River, which flows into the Pacific Ocean. We talk about pollutants, including man-made and sediment issues from flooding and erosion, and focus on the concept that we all live downstream from someone else and pollution affects us all. To bring these ideas all together, we create two miniature rivers on site. Two students are in charge of the coolers filled with water which make the rivers flow. Other students choose animals, cars, etc. and place them along the rivers. Yet another student has a watering can and we see the impacts of erosion and flooding, then discuss how vegetation along the stream helps prevent erosion and pollutants entering the stream. The students really enjoy the hands-on part and reflect their understanding of the concepts readily.

At the Omak Middle School Field Day on Little Loup Loup Creek, 80 seventh graders participated in three of the thirteen educational stations. Our station was about calculating the rate and volume of the stream flow. We measured the stream width, depth, and velocity to determine how much water is going down the stream every second and minute. With the event held at the end of May, this year we were dealing with some pretty high flows in the stream. The results of this testing on that day showed the stream at more than twice its normal flow rates!

Family members examining tiny stream critters.

The last of our events this spring was the Winthrop National Fishing Day held at the Winthrop Fish Hatchery. What a great event with more than 400 people in attendance! Our education station focused on macro-invertebrates. Different types of "bugs" found in a stream tell you the quality of the water there: some bugs are very sensitive to pollutants and other bugs can tolerate a lot of pollution. We took a sampling at a poor water quality stream and collected some poor water quality species, including leeches. Our second sampling was done on the Methow River, where we were able to find some really interesting macro-invertebrates. Visitors of all ages were able to catch and look at the various bugs under microscopes. We really enjoyed watching the youngsters get involved in analyzing and understanding natural resources science-they asked some very astute and thoughtful questions! If you are interested in having your class or group receive a lesson in one of these topics or another natural resource topic, let us know and we will arrange a program for your group.

Conservation Education Highlights

Even District Managers like to build streams!

Conservation District Receives New Stream Simulator

Thanks in part to a grant from the Mountaineers Foundation, we have a new teaching tool to help people understand watersheds and water quality, among other topics. Plus it's just plain fun!

Custom-built by retired USFS Hydrology Technician Ernie Ledbetter, the stream table uses a recirculating pump, sand, and water to demonstrate a variety of concepts related to streams. Add in the faux woody debris, vegetation, and even a well casing, and you have an great hands-on way to explore the impacts of pollution, erosion, and high stream flows.

Look for the stream simulator at the Okanogan County Fair, September 8-11. We expect it to be a hit with fairgoers of all ages. Consider this your official invitation to stop by and play in the stream with us!

Welcome Kirsten Cook!

The Okanogan Conservation District is very happy to announce our new conservation educator, Kirsten Cook. She began work here in June and is busy learning our existing programs while developing new ideas and programs for the future. (See her article above regarding our new stream table). In addition to her conservation education duties, she will also be in charge of our website and this newsletter.

Kirsten received a B.A. in environmental studies from Connecticut College. She comes to us with more than 15 years of conservation education experience, ranging from curriculum development at arboretums, to habitat restoration project management, to youth leadership training. Her most recent position was managing conservation grant-making programs at the Woodland Park Zoo. Her curriculum and outreach development skills are insightful.

She has also put in many hours volunteering for various groups such as Crater Lake National Park, Washington Park Arboretum, Seattle Audubon Society, Cascade Harvest Coalition, and the Okanogan Valley Land Council (now Okanogan Land Trust).

Originally from New England, Kirsten and her husband Bryan have lived in the Puget Sound area since 1993. Several years ago they fell in love with the Okanogan area and purchased some property here. They have primarily been camping there, but decided they wanted to make Okanogan County their new permanent home. Kirsten securing this job is the first step to them moving here. Soon Bryan will join her.

Welcome Kirsten (and Bryan) to Okanogan County and the Okanogan Conservation District!

Copper Deficiency in Beef Cows

-Curtis Beus, WSU Extension

Copper Deficiency Can Significantly Reduce Re-breeding of Beef Cows in Okanogan County

A number of years back, a group of researchers at WSU, headed by Dr. Jerry Reeves, conducted extensive bloodwork on beef cattle in Okanogan County. One of their significant findings was that many cattle in Okanogan County had low to very low serum blood levels for copper. Although most soils in Okanogan County are not deficient in the trace mineral copper, many area soils are high in molybdenum, and it is this high "moly" content that causes a conditioned copper deficiency in the liver (the organ that stores copper in the body). Copper deficiency in ruminants can cause a variety of symptoms, including ill thrift and poor growth, rough haircoat, faded hair color, diarrhea, lameness, rickets-like condition, depraved appetite and infertility. Copper deficiency can dramatically decrease pregnancy rates in cattle and sheep. The excerpts below are taken from an article by Dr. Dale Moore, WSU Extension Veterinarian, which appears in the current issue of the "Animal Ag Health" WSU Extension Veterinary Medicine newsletter, which emphasizes the importance of copper supplementation for cattle on pastures and ranges that are effectively low in copper.

Pre-breeding Mineral Levels and Pregnancy in Beef Cows

In a recent research report in the May 15th *Journal of the American Veterinary Medical Association*, a research group from Saskatchewan determined the mineral and vitamin levels in over 700 beef cows' serum samples before the breeding season and followed up to see whether those cows got pregnant or not. They looked at a number of other factors as well, since we know there are many reasons why a cow might not get pregnant. All the bulls had a breeding soundness examination and were tested for trichomoniasis before being turned out with the cows. They had to be "trich" negative, have at least 70% normal sperm, sufficient scrotal circumference for age and breed and the absence of physical abnormalities.

Here are the individual risk factors they found for cows NOT being pregnant:

1. Cows with a Body Condition Score (on a 1-5 scale) less than 2.5 (similar to at 4 on a 9- point scale) were three times more likely to be Not Pregnant at pregnancy examination compared to cows with a higher condition score (P=0.001).
2. Age appeared to influence pregnancy. Compared to 4-9 year-old cows, younger and older cows were two times more likely to be Not Pregnant at pregnancy examination (P=0.058 and P=0.063, respectively).
3. Cows with a calving-to-breeding interval less than 51 days were two times more likely to be Not Pregnant at pregnancy examination (P=0.049).
4. Precipitation and mean temperature just before breeding had an influence on pregnancy. Precipitation received in the first 21 days of the breeding season had a positive effect on pregnancy outcome but mean daily maximum temperature during the same time period had a negative influence. *Continued next page*

Copper Deficiency in Beef Cows, cont.

Using the power of a statistical model, the researchers were able to control for herd of origin, body condition, age, and short calving interval to examine the effects that pre-breeding blood levels of the different micronutrients had on pregnancy outcome. After making these adjustments, only copper levels significantly influenced pregnancy in these cows. As serum copper concentration DECREASED from about 0.5 ppm, the probability of becoming pregnant DECREASED, particularly for 2-3 year-old cows. Controlling for body condition and calving-to-breeding interval for 2-3 year-olds, the probability of becoming pregnant was about 92% at 0.4 ppm serum copper before breeding, 75% for 0.3 ppm, 40% for 0.2 ppm, and less than 20% for 0.1 ppm. The group suggested that measuring serum copper before the breeding season may be a better measure of pregnancy outcome than at other times in the breeding cycle. We know that the liver is the primary storage site for copper. Although serum copper levels do not significantly decrease until liver levels go below 40 ppm, *"serum copper concentrations of 0.45 ppm have been correlated with low copper concentrations in the liver"*. Copper deficiencies result from inadequate intake of copper or secondarily from high molybdenum or sulfur levels. Forages vary in copper concentration due to plant species, soil type and growing conditions. Now we have some new evidence that knowing your forage mineral levels and supplementing pre-breeding cows with the right mix of minerals should help improve the pregnancy rate in the beef cow-herd. For more information on formulating the right mix, go to: http://www.extension.org/pages/19631/formulating-mineralsupplements-for-beef-cattle

I asked a question to our *Ag Animal Health* group about the availability of "maps" of potentially copper deficient areas in the state. Dr. Clive Gay, Professor Emeritus, responded: "I tried this [developing mineral maps] for Stevens County and Pacific County but it proved too simplistic. The problems are that we have both the potential for primary copper deficiency in the acid soils west of the Cascades and secondary [copper deficiency] (Molybdenum conditioned) on the alkaline soils east of the Cascades and iron conditioned [copper deficiency] in areas across the State. Both are influenced by the water table. Briefly, the best bet for prediction for a map is the soil map for the county.

East of the Cascades any organic soil with a high water table (usually synonymous unless there has been drainage) is a fair bet for a problem. High pH soils on high water table areas are also at high risk, such as some areas of the Colville silt loam series. Other high pH soils with low water tables are not risk areas but can become so when irrigated or when subject to seeps from irrigation channels passing through the ranch (obviously very small risk areas in terms of a county but important to the rancher affected). Also, irrigated pastures can have a sudden problem that is occasioned when they use fertilizers that contain presumably conditioning minerals. Consequently it is hard to make a map although I have used soil maps showing the extremes of water table and pH to predict (correctly) ranches that have a problem.

Briefly, if you think there is a problem you should test blood (if you wish, liver, but the number of samples and the time and expense will give you no better information than blood) on the growing cattle (yearlings) in the late spring/early summer. Plant sampling at this time can tell you what the nature of the deficiency (primary, conditioned), is and will give you a guide for the need of the strength of copper intervention. Do not worry about soil mineral testing. It will give you no useful information." (*Comments from Dr. Clive Gay, May 27, 2011*.)

Reference -- Van De Weyer LM, Hendrick SH, Waldner CL. Associations between prebreeding serum micronutrient concentrations and pregnancy outcome in beef cows. JAVMA 2011;238(10):1323-1332.

Why all the fuss about noxious weeds?

By Linda Schmidt, Okanogan County Noxious Weed Control Board

Yellow flag iris can sicken livestock if eaten.

Some of you may wonder why there is so much concern about noxious weeds. After all, some of them are very attractive plants! In fact, many started out as garden ornamentals, but have since escaped the garden boundaries.

Noxious weeds, or invasive alien plants, are species introduced deliberately or unintentionally outside of their natural habitats. In this new environment, these non-native plants have no natural pathogens or predators and thus can out-compete native plants and agricultural crops for space, moisture and nutrients. Alien weeds are spreading and invading over 1.7 million acres of wildlife habitat in the United States each year.

Noxious weeds have a huge financial impact on our economy. They affect crop yields and interfere with harvesting and irrigation. Weeds reduce the grazing quality of pastures and rangeland, interfere with reforestation projects, and can even affect property values. Then there is the actual dollar cost for weed control. It is estimated that the US spends $120 billion annually on the control and impacts of invasive weeds. A 2008 estimate in Okanogan County indicated over $1.5 million was spent on weed control efforts.

The impact of noxious weeds is more than financial. They readily invade natural areas and can form dense monocultures, dramatically reducing biodiversity, often changing the way the ecosystems function. Some species exude an herbicide-like enzyme that prevents other plants from taking root, making reestablishment of native plants more difficult. Some species have transformed riverbanks and increased erosion; others have negatively impacted wetlands by degrading aquatic habitat; and yet others have formed dense physical barriers which restrict wildlife movement. Some even affect wildfire dynamics. And finally, some noxious weeds are toxic, even deadly, to people and animals. The fact that they can so easily spread makes them more threatening.

Baby's breath was introduced in the late 1800's.

Now that you understand what all the fuss is about, what can you do to stop the spread of weeds? First, learn to identify noxious weeds and how to control them on your property; choose non-invasive plants for your landscaping; dispose of garden clippings and weeds appropriately; prevent seed dispersal of noxious weeds on your property; never release aquarium and aquatic garden plants into the wild; check your clothing and camping gear for plant material or clinging weeds; and remove aquatic weed fragments from your watercraft and trailer.

For more information, contact the Noxious Weed Control office at 509-422-7165, write P.O. Box 791, Okanogan, WA 98840, or visit our website: www.okanogancounty.org

High Water and Private Property

By Methow Restoration Council

The recent high water levels left many riverfront landowners wondering if they would need to take action to protect their homes or property. If rivers in the area rise to unusually high levels, Okanogan County may issue an emergency declaration. While this makes it easier get permission from WA Dept of Fish and Wildlife (WDFW) and the US Army Corps of Engineers (Corps) to work in the river, landowners need to be aware that an emergency is not the same as a free pass.

Emergency permits—verbal approval from WDFW and the Corps is still required.

WDFW: Contact Area Habitat Biologist Lynda Hofman (509) 997-9428 or Connie Iten (509) 826-3123; after hours call the Emergency HPA Hotline: (360) 902-2537. For more information, visit http://wdfw.wa.gov/licensing/hpa/

Corps: Contact the Columbia River Section Chief Dave Martin (206) 764-6848; after hours call Muffy Walker (206) 200-9954, or Alisa Ralph, (206) 452-9495. For more information, visit, http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=Emergencies

Retroactive environmental review of the actions may be required. After the water recedes, landowners may have to remove or modify any placed rock or fill and/or mitigate for the environmental impacts of their actions at their own expense. The best time to protect your property from the effects of high water is during low water. By planning ahead, landowners can understand the true costs of the project, have more accurate design and construction, and explore partnerships that may help offset the costs and mitigate the effects of the planned work.

Manager's Note...

By Craig Nelson, OCD

Many people ask me what the Okanogan Conservation District is when I tell them where I work. I often give them the short version by saying we work with landowners to conserve natural resources. Then I gauge their response as to whether they can handle a more in-depth explanation.

If I feel they can handle it, I explain that we work with individuals who we call cooperators (more on that in a minute) to help them achieve their natural resource conservation goals. I explain that we bring all the necessary technical and financial assistance we can muster to assist them with projects they choose to implement based upon a thorough evaluation of resource concerns we jointly identify.

I'm sometimes asked what types of projects we implement and I explain that our legislative authority allows us to work with individuals, groups, agencies, and municipalities to conserve any natural resource. Yes, we have broad authorization on what we can work on, but it is all at the *request* of the landowner or manager.

We call the individuals and groups "cooperators" simply because we cannot achieve conservation goals without a cooperative partnership. We are one tool that cooperators use to help them identify problems, solutions, and implement conservation practices that conserve natural resources.

We love the work we and our cooperators do and hope we can help you– or maybe we already have!

Okanogan Highlands Alliance at Lost Lake

By Julie Ashmore, Okanogan Highlands Alliance

Okanogan Highlands Alliance (OHA) is a non-profit organization that works to educate the public on watershed issues and monitors the gold mine on Buckhorn Mountain. Summertime brings exciting new developments for our restoration and education programs. The Lost Lake restoration project has progressed from the planning phase into implementation through a partnership with US Fish and Wildlife, the Forest Service, and local landowners. This collaboration allows OHA to finish fencing the 45-acre wetland at the south end of Lost Lake to protect the diverse plant and animal populations from grazing impacts. The wildlife-friendly fencing will allow safe crossing by deer and moose, both young and mature. Construction of the fence on the west side of the wetland is underway, while the proposal to fence the south end is being processed. Meanwhile, OHA is also implementing a monitoring program that includes an ongoing flora inventory and bird survey. OHA is keeping an eye on the single surviving loon chick at Lost Lake and, along with the Loon Lake Loon Association, welcomes citizen observations. Lost Lake residents observed one of two loon chicks being taken by a family of bald eagles while out on the lake during its first week of life. Due to the increasing eagle populations, loons are experiencing a higher level of harassment. Fortunately, the Lost Lake loon adults are exceptionally attentive parents, always staying with the chick and protecting it. If you see any unusual activity surrounding loons, please email daniel.poleschook@briloon.org.

The education component of the Lost Lake project is also moving forward, with the interpretive trail route marked, the trailhead cleared, and debris removed from some sections of the trail. Interpretive signs will be placed at Lost Lake, expressing the value and function of wetlands, the importance of wetlands for loon habitat, and explaining Washington State's new lead-free fishing tackle requirements. OHA's Education Program is designed to build the capacity of the community to steward wetland and water resources by helping to develop an informed and empowered population. To help meet this goal, **OHA offers a monthly educational series called, "Highland Wonders."** A birding event was held at Lost Lake in June, with a native plant hike in July. **The August event will be, "Okanogan Highlands Geology,"** with Ralph Dawes (PhD, Geology; Wenatchee Valley College faculty member). Dawes says, "I love learning, teaching, and sharing geological experiences because the planet we live on is, in its own way, a living, breathing entity, with its own distinctive characteristics and patterns, and its own history." Due to the nature of the outdoor event, participation is limited. To reserve your spot, and for directions, start time, and carpool options, please email julie@okanoganhighlands.org or call 509-433-7893. In October, Highland Wonders will move back indoors for another captivating series of presentations on local natural history. Please visit www.okanoganhighlands.org for updates on other restoration projects and education event details.

Lawn Care Tips for the Summer Season

By Kelly Kolrud, OCD

When should I water?

- Look for early signs of dehydration such as a bluish-green color or footprints that remain on the lawn.
- Most lawns require about an inch of water per week. Unsure of how long to water? Put a mark one inch from the bottom of several plastic containers and spread them around the watering zone. Clock the time it takes to reach the one-inch mark and water for that length of time in the future.
- Water in the morning when the least amount of water is lost to evaporation and wind drift.

What type of sprinkler should I use?

- Portable sprinklers are a fairly inexpensive way to water your lawn. Because sprinklers vary in their range and distribution methods, choose one based on the size and shape of your landscape watering zone.
    - ***Stationary***: best for small areas that other sprinklers miss or that need supplemental water
    - ***Impact*** and ***rotary***: water circular-shaped watering zones on medium to large lawns
    - ***Oscillating***: move a fan of water over a large, rectangular area
    - ***Revolving***: shoot jets of water in a circular pattern in smaller areas

- If you want to maximize efficiency, consider installing an irrigation system.

When should I mow?

- A higher cut (trimming the top third of the plant) will shade the roots and encourage a deeper root system. A deep root system can reach water further down in the soil, helping lawns survive dry spells.
- A mulching lawn mower cuts and re-cuts grass clippings into tiny pieces. Because grass clippings are 85 percent water, they decompose quickly, releasing nitrogen and other nutrients that feed the lawn.

Do I need to fertilize?

- Proper fertilization following soil test recommendations should not cause groundwater or lake pollution; however, misapplication such as excessive nitrogen in a single application, using phosphorus fertilizer when not needed, or leaving fertilizer on sidewalks or streets to be washed into storm sewers can contribute to water quality problems.

Water conservation and droughts

- Prevent runoff and waste: monitor lawn watering and direct sprinklers away from sidewalks and streets.
- Consider grouping plants and shrubs with similar water requirements to prevent wasting water and also by planting drought-tolerant and pest-resistant species of grass, trees and shrubs.

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1251 S. 2nd Avenue
Okanogan, WA 98840

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Okanogan Conservation District

Providing local leadership through educational, technical, and financial assistance to landowners to help them voluntarily conserve and enhance natural resources for over 65 years.

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WSU Okanogan County Extension

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