

# KENDRICK WATERSHED PLAN

## PROJECT UPDATE

### SPRING 2011



## SPRINGTIME IN THE WATERSHED

Spring is a wonderful time in a watershed! It is a time when everyone can observe nearly every phase of how water is recycled through nature's efficient water cycle; water as liquid (rain), frozen as snow, and condensation in the form of clouds. This is the season when the watershed is literally "recharging"; accumulating and storing water, in various forms, necessary to sustain the natural vegetation and our communities through the summer.

Springtime in a watershed is also a critical time to practice good watershed stewardship. Watershed stewardship is not just something to do at home and then forget about when boating at the lake, skiing on the mountain, or fishing on the river. In the wilderness, backcountry, and designated recreation areas good stewardship becomes even more critical because the infrastructure is not in place to "clean-up" human impacts.

In winter and early spring when the ground is covered with snow, it is easy to forget that everything that falls onto the ground or the snow (trash, motor vehicle fluids, and other pollutants) accumulates until the spring thaw when it is all carried along during the spring runoff into creeks, drainages, and the North Platte River. This accumulation of pollutants moving through the watershed can have a severe impact on surface and groundwater, natural vegetation, aquatic and wild life.

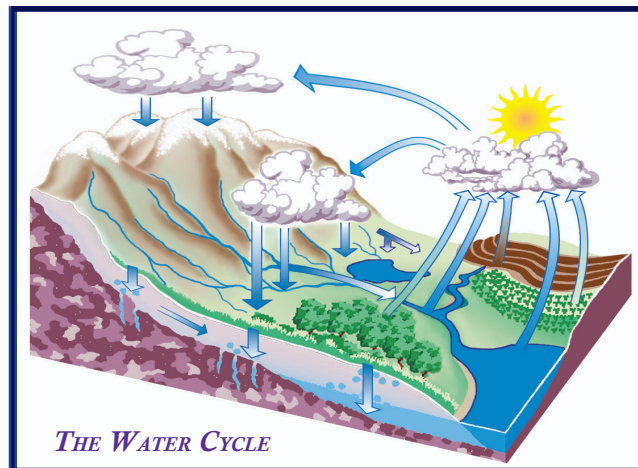
The impacts of motorized vehicles and equipment in wilderness and backcountry areas is of particular

concern in the winter and early spring. Remember to use full throttle only when absolutely necessary and avoid unnecessary idling. Use gasoline containers that are easy to handle, pour gasoline slowly and smoothly, and avoid spilling gasoline or other motor fluids on the ground or snow.

When traveling off-road use low gears and travel at a slow speed, particularly when the soil surface is

wet or soft. Deep tire tracks compact the soil and destroy the natural vegetation creating the possibility of erosion and flooding during the next runoff event.

Remember not to chase or frighten wildlife: drought conditions and severe winters routinely stress wildlife making it particularly important that they conserve their energy.



Ensure that all motorized vehicles and equipment are well maintain to avoid leaks and spills. Pickup trash and debris and dispose of it properly. Pickup pet waste regularly, don't allow it to accumulate in your yard - or someone else's yard! Read the labels of all winter-use substances (ice-melt, antifreeze, etc.) carefully. Use only biodegradable products. Enjoy whatever watershed you are in and keep in mind it will be more enjoyable for those who are there after you if you practice good watershed stewardship.

A healthy spring watershed results in a healthier watershed all year round, influencing the quality and quantity of water that is available to local residents and to our neighbors downstream.





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### MANAGING SELENIUM MIGRATION

The Kendrick Watershed Project, initiated by the Natrona County Conservation District (NCCD), is an extensive, comprehensive program designed to address high concentrations of selenium in the project study area, and to reduce selenium concentrations in our local waterways, wetlands, drainages, and the North Platte River. Studies indicate the high concentrations of selenium in wetlands and waterways are harmful to wildlife, aquatic life and migratory birds.

Managing the naturally occurring selenium, deposited millions of years ago in marine shales, is a challenge for residents, home and landowners in Natrona County and throughout the West. Selenium can be dissolved and carried along by surface water, storm water runoff, irrigation water runoff and groundwater to creeks, drainages and the river.

Once selenium is present in the soil and water, it becomes complicated and very expensive to remove with conventional physical or chemical techniques. With removal not a viable option, as residents and landowners our challenge is to manage and control the selenium in-place in the soil to minimize its migration to wetlands and waterways and to reduce the amount that is taken up by plants and crops.

Whether you live in the city, in a rural subdivision, on a farm or ranch, or on a few acres at the base of Casper Mountain, you can help to reduce the presence of selenium in local waterways. As a landowner with property along a creek, drainage, pond, or the river consider creating a riparian barrier with natural vegetation. A natural vegetation barrier acts as a filter system for ground and surface water, and provides important and beneficial habitat for wildlife, birds and aquatic life.

Using less irrigation water to maintain landscaping and crops means less selenium is transported from lawns and fields through creeks and drainages, to the North Platte River. Water or irrigate before 9:00 am or after 5:00 pm and, whenever possible, avoid watering on windy or rainy days. Water or irrigate less frequently and at a slower flow rate to reduce runoff (selenium migration) and increase depth of penetration to encourage healthier and deeper root system development.

### WATER HARVESTING

We dry apples for winter pies, put up fruits and vegetables for later use. Why not add storm water runoff to the list of items we harvest?

No matter where in Natrona County you live, maintaining lawns, vegetable and flower gardens and landscaping is a challenge. It is possible to create and nurture the garden and landscaping you enjoy by taking advantage of the naturally occurring water.



Hard surfaces such as a roofs, driveways, or parking lots generate large quantities of water during a storm event. If the storm water or snow melt runoff is not captured and stored for later use, it can cause flooding, surface soil erosion and pollution of the local waterways. Storm water runoff transports pollutants (soil, oil and gas residue, selenium, fertilizers and pesticides) from fields, lawns, streets, sidewalks and roofs into natural drainages or the municipal storm drain system where the water is released untreated into creeks, streams and the North Platte River. With only 1 inch of rain, approximately 420 gallons of water can be collected from a 1,000 sq. ft. runoff area: roof, patio, driveway, etc.

An easy method of collecting water for later use is to place a rain barrel under a downspout. Creating a single rain barrel, or a system of multiple rain barrels, is an easy weekend project. Some pre-planning is recommended to determine the number of rain barrels that can be utilized. A rule of thumb is one 55 gallon barrel per 150-to-250 sq. ft. of roof or other hard surface.

Containers used to store the harvested water should be covered to reduce evaporation and to prevent mosquitoes from breeding. Organic gardeners can make “compost tea” in rain barrels by suspending a cloth bag of compost in the barrel to use as fertilizer for flowering plants.

Visit the NCCD web site for information on water harvesting, installation of rain barrel storage systems or to purchase rain barrels:

[www.natronacountyconservationdistrict.com](http://www.natronacountyconservationdistrict.com)



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SPRING 2011

## WATER EFFICIENT LANDSCAPING

As cities and suburbs grow and replace forests, prairies and agricultural land, increased storm water runoff from impervious (hard) surfaces becomes a problem. Storm water runoff from developed areas increases flooding and erosion, carrying pollutants from streets, parking lots, farm yards and lawns into local creeks, natural drainages and the North Platte River.

Landowners in many parts of the country are redirecting storm and irrigation water runoff to depressed landscaped areas planted with wild flowers, perennials, drought tolerant and native vegetation. These rain gardens fill with a few inches of water after a storm event. The water slowly filters into the ground rather than running off to a storm drain. The result can be a beautiful, colorful and interesting landscape feature, with a positive impact on water quality in the watershed.

A rain garden forms a "bioretention area" by collecting water runoff and storing it, permitting it to be filtered and slowly absorbed by the soil. This bioretention concept is similar to naturally occurring forest habitat; the forest produces a spongy litter layer that soaks up water and allows it to slowly penetrate the soil layer.

Rain gardens are suitable for any land use; residential, commercial and industrial. They can be placed near a house or building to catch only roof runoff, or further away to collect runoff from a lawn or parking lot.

A typical rain garden is four to eight inches deep and level from side-to-side. It consists of a mulch/organic layer at the bottom of the depression. Hardwood mulch is preferred as it resists flotation and washout. Next is a layer of planting soil made up of organic matter (20%) blended into a sandy soil (50%) with about 30% top soil. A rain garden should include native plants that can tolerate dry periods; flowers, berries, groundcovers, perennials, shrubs and trees can all be incorporated into the design.



## 2011 CENTRAL WYOMING RURAL LIVING WORKSHOPS

### WEEDS AND GRASSHOPPER MANAGEMENT

March 16<sup>th</sup>, 6-8 pm, Casper Agricultural Resource and Learning Center. (*Bad weather alternate date March 24<sup>th</sup>*) Learn weed identification and control methods, how to control outbreaks of pest species and anticipated 2011 grasshoppers infestations.

### HEALTHY HORSES - HEALTHY GRASSES

April 6<sup>th</sup>, 6-8 pm, Casper Agricultural Resource and Learning Center. (*Bad weather alternate date April 14<sup>th</sup>*) Learn how to enhance pasture areas, get good weed-free hay and improve the overall health of your horses. Learn ways to improve corral areas, reduce ice and mud, and avoid hoof issues.

### EDIBLE GARDENS

April 27<sup>th</sup>, 6-8 pm, Casper Agricultural Resource and Learning Center. (*Bad weather alternate date May 14<sup>th</sup>*) Learn the best types of garden plants and fruit trees to plant in our local climate and soils and new ideas to grow the best edible garden produce.

### LIMIT THE THREAT! BARK BEETLES AND FIREWOOD

May 25<sup>th</sup>, 6-8 pm, Casper Agricultural Resource and Learning Center. (*Bad weather alternate date May 26<sup>th</sup>*) Our local trees are being killed through the transportation of bark beetle infested firewood. This workshop is for anyone who purchases or cuts firewood; learn to identify infested wood and bark beetle control procedures.

### FOREST HEALTH

June 8<sup>th</sup>, 9 am-2 pm, Nordic Ski Lodge on Casper Mountain, lunch is included. Forest management is crucial to sustainable healthy forests. Healthy forests are less susceptible to wildfire, storm and insect damages. Learn forest management options for improved forest health, increased land values, and your role in protecting and enhancing the forest in which you live. Bark beetles infestation, identification and control methods will also be discussed.

*There is no charge to attend Rural Living Workshops. To register call Nancy: 307-235-9400. For more information contact Shelly Anderson @ 307-261-5401, extension 101.*



# Fun & Games for Watershed Wonks



## How Much Water Is Used?

Draw a line matching the items on the left to the amount of water on the right.

- |  |                   |
|--|-------------------|
| 1. Taking a shower                                     | A. 30 gallons     |
| 2. Watering the lawn                                   | B. 180 gallons    |
| 3. Washing the dishes                                  | C. 4-7 gallons    |
| 4. Washing clothes                                     | D. 1/2 gallon     |
| 5. Flushing the toilet                                 | E. 39,090 gallons |
| 6. Brushing teeth                                      | F. 62,600 gallons |
| 7. Drinking  | G. 15-30 gallons  |
| 8. Needed to produce one ton of steel                  | H. 9.3 gallons    |
| 9. Needed to process one can of fruit or vegetables    | I. 1 gallon       |
| 10. Needed to manufacture a new car and its four tires | J. 9-20 gallons   |

Answers: 1-G, 2-B, 3-I, 4-A, 5-C, 6-I, 7-D, 8-F, 9-H, 10-E

## Find & Circle These Words

Stream	P	M	A	E	R	T	S	B	G	T
Well	X	O	B	F	L	A	K	E	H	R
Filter	W	T	L	I	D	J	O	Q	T	E
Treatment	P	A	X	L	L	L	E	W	L	A
Pipes	I	N	T	T	U	G	V	P	U	T
Tank	P	F	O	E	Y	T	D	W	C	M
Safe	E	V	S	R	R	A	I	M	K	E
Pollution	S	T	R	Z	B	N	P	O	Y	N
Water	N	E	F	A	S	K	W	A	N	T
Lake										

## Can You Help The Seal?

Seals are mammals, and they have to breathe air to live. Can you help this seal find her breathing hole in the ice sheet?



## Sweet Or Salty?

When salt water freezes, is the ice salty? Here's how to test your answer.

- Mix salt into a clean cup of drinkable water. Put the cup in the freezer or outside on a freezing-cold day. After the water has frozen, take the ice out of the cup. Rinse the ice off with tap water. Now taste the ice. Is it salty or not?



- Answer: When salt water freezes it forms freshwater ice. How is this possible? Ice is formed from only water molecules—that is tiny particles made of hydrogen and oxygen. Salt is made of other things. So when salt water freezes, the salt itself doesn't freeze.

Rick the Ranger, National Wildlife Federation