

TRI-BASIN TOPICS

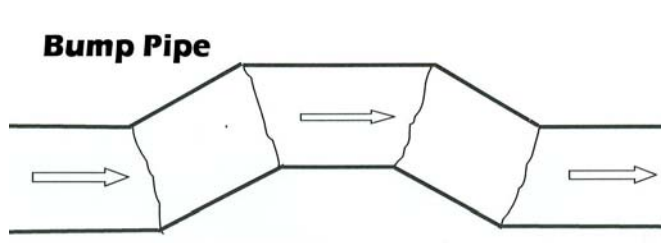
Summer 2006

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"Dedicated to the Conservation of our Natural Resources"

Flowmeter Problems and Tips

Curtis Scheele, NRCS Irrigation Specialist and our own staff have noticed a few things out in the field that could cause erroneous flowmeter readings. The District wants to make sure that our producers are **using** every unit of water on their crops that is totalized on their flowmeters. All water must pass through a meter. Meters are calibrated to register accurately only under certain conditions. A meter is calibrated to register a unit of water when the pipe is full. If the pipe is only half full, the meter will register twice as much water as is actually applied. This most often happens when pipe is laid out going downhill. To correct this, a "bump pipe" (see illustration) should be installed just downstream of the meter.



The ending meter reading in the fall is what is put into our database and is used as the beginning reading the following year. We've noted several instances where a meter was left in a pipe pile or disjoined from the well, but no end plugs were placed in the pipe. Over the winter the meter "windmills" in the wind. In one instance, the meter falsely tallied more than 77 a-f of water. Be certain that this season's beginning reading is the same as last fall's ending reading.

Turbulence and "jetting" inside the pipe also cause meters to register more units than are actually pumped. Similar to putting a thumb over a garden hose, you could make a meter spin faster with the same amount of water due to jetting flows from a check valve, for in-

stance. Both distance and straightening vanes reduce this turbulence (see illustration). The longer the straight run, the more accurate the meter will read.

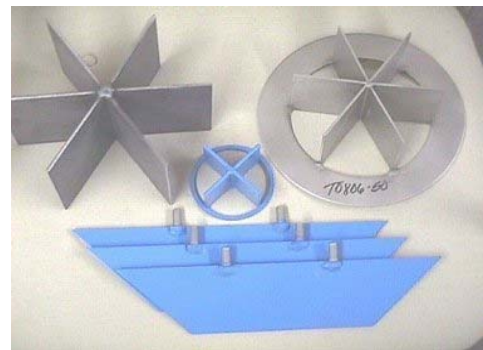
We've seen several turnouts upstream of the meter. These need to be permanently closed, or you will need a second meter.

Protect your meters from livestock with fence or panels. Cattle could damage the meter heads. Also try to keep the lid or a cover over the meter dial. The dial can be damaged by prolonged exposure to sun and rain.

We have seen where rabbits and rodents have chewed on propellers. Another reason to have end plugs in the pipe.

When determining the output of your well, or water source, don't rely on the dial for accuracy. Instead, read the totalizer, time the pumping for 10 minutes, subtract the first reading from the end reading, and divide by ten.

If you have questions about flowmeter installation, use or maintenance, contact Tri-Basin NRD toll-free at (877) 995-6688.



Straightening vanes



Managers Message

By: John Thorburn

Winged Invaders

Invasive species have been a frequent topic in my column over the years. I have warned readers about the danger that imported plants like purple loosestrife, Phragmites and saltcedar pose to our wetlands and riparian areas. Plants are not the only invaders out there claiming new turf, however. Animals also move into new territory.

We benefit from many plants and animals that were taken out of their native environments. Europeans brought cows, horses and wheat plants to the Americas. They took New World plants like corn, tomatoes and potatoes home with them. Unfortunately, some transplanted animals adapt a little too readily to their new environments. Zebra Mussels, a small mollusk native to the Black Sea, are reproducing prolifically in the Great Lakes, clogging up cooling intake pipes at powerplants and factories. European Elm Bark Beetles spread Dutch Elm Bight across the North America. Feral pigs are destroying forest ecosystems from the tropics to Canada. Norway Rats have spread diseases like bubonic plague around the world.

Other invaders don't disrupt natural systems to any great extent. Most people have become so used to the sight of House Sparrows (English Sparrows) and Starlings that they don't realize that neither species of bird existed in the United States before 1850.

The latest Old World immigrant to fly into Nebraska doesn't seem too menacing. What could be more peaceful than a dove? The Eurasian Collared Dove (*Streptopelia decaocto*) is native to India, Iraq and Turkey. For reasons still unknown, they spread rapidly through Europe in the first half of the twentieth century, reaching the British Isles by 1950. These birds were introduced into the Bahamas in the 1970s and arrived in Florida by 1986. From there, they rapidly expanded their range North and West.

The first sighting of Eurasian Collared Doves in Nebraska was at Shelton in 1997. Since then,

they have been spotted across the state, from Scottsbluff to Omaha. They are becoming a common sight in most cities and small towns. I first learned about these birds when I spotted one in my backyard in Holdrege last year.

Collared Doves are seed eaters. They favor open, rural areas where they have access to spilled grain and weed seeds. Their food and habitat preferences are similar to Mourning Doves. It is possible that, as their population grows, they could crowd Mourning Doves out of their native habitat. Some ornithologists speculate that the Eurasian Collared Dove is filling an ecological niche left vacant when the Passenger Pigeon went extinct in the early 1900s. Regardless, they have adapted to a wide range of conditions, breeding from the tropics to the Arctic Circle.



Collared Doves look very similar to their close relatives, domestic Turtle Doves. These pale gray birds are larger than Turtle Doves or Mourning Doves. The native mourning dove is generally brown or tan, rather than gray, and has no black "collar" on the back of its neck. They are also distinguished from their relatives by their rapid, low, cooing call, their black wingtips, square tails and gray belly.

We are a nation of immigrants. Our most important domestic animals are descended from immigrants as well. Yet there are also many examples of imported plants and animals harming their new ecosystems. Only time will tell whether the Eurasian Collared-Dove will enhance our fragile Great Plains ecosystem or damage it.



Chemigation Inspections

Tri-Basin will be doing routine inspections on chemigation systems from June-August. Routine inspections are required every three years. If your system is due for an inspection you will receive a postcard this summer. Routine inspections must be completed for the permits to be renewed for the following year.

Water Jamboree

The 2006 Water Jamboree participants enjoyed two sunny and warm days at Harlan County Reservoir on April 26 and 27. Approximately 600 students from Nebraska and Kansas schools were able to attend this year's event. Participating children learned about Newton's Third Law at a Water Carnival station, then applied what they learned to an outdoors Water Rockets session. They toured Harlan County Dam while learning about it's history and purpose. Hands-on experiments and activities demonstrated the importance of water in every day life. From the Evolution of Irrigation to building Water Filters and from Water in the Atmosphere to Paper Recycling, the children realized the necessity to use water wisely and to keep it clean for future generations.

Spring Tree Maintenance

Arbor Day puts many individuals in the mindset to plant trees. While planting trees is a necessity for our environment, just as important as the initial planting is follow-up care of seedling trees. With the on-going drought on everyone's mind, watering trees is a foremost concern. Newly planted trees should be thoroughly watered once a week, depending on rainfall. Less frequent, deep watering is more beneficial to trees than frequent shallow watering.

Weed control should also be considered when planting new trees. Controlling weeds is most critical in a four-foot circumference of the tree where the roots will be growing. Herbicides, mowing, and mulches are all successful means to remove and keep weeds away. The use of conservation mulches is an excellent method for conserving soil moisture while eliminating most weed competition.



Students build a water filter.

Check out these web sites:

<http://www.epa.gov/OW/you/chap3.html>

<http://www.thedenverchannel.com/news/4838453/detail.html>

<http://tribasinrd.org/domesticwatertest.html>

<http://www.drought.unl.edu/dm/>

<http://www.farmersalmanac.com>

http://net.unl.edu/swi/pers/water_worries.html

-Effective Water Use

-Platte River Running Dry

-Domestic Nitrate Testing

-Drought Monitor

-Farmers Almanac Forecasts

-Nebraska Reservoirs



CALENDAR OF EVENTS

(All meetings are at NRD office in Phelps County Ag Center unless otherwise noted.)

June

June 13 - NRD Board Meeting at 7:30 p.m.*

July

July 4 - Independence Day (Office Closed)
 July 10 - NRD Board Meeting at 1:30 p.m.*
 July 15-20 - Kearney County Fair
 July 23-27 - Phelps County Fair

August

August 3-5 - Gosper County Fair
 August 10 - NRD Board Tour and Meeting

* Times are tentative

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WATER CONSERVATION TIP

- Rather than following a set watering schedule, check for soil moisture two to three inches below the surface before watering.

—IN THIS ISSUE—
 *Flowmeter Tips
 *Spring Tree Care
 *2006 Water Jamboree
 Highlights

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