

MIDDLE ARKANSAS SUBBASIN NEWSLETTER

JULY 2007

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ANNOUNCEMENTS

Annual GMD 5 Budget Hearing

8 p.m., July 12

125 S Main
Stafford

A proposed \$850,000 budget will be presented to eligible voters.

Significant Hazard Dam EAP Seminar

2 p.m., July 18

Topeka Public Library
Topeka

This free, nontechnical seminar will review new regulations that require an emergency action plan for significant-hazard dams. Topics include an overview of dam safety, failure modes and how to fill out the simple EAP form.

Phone Beth Cooper
(785) 296-0573 for registration information.

CHIEF ENGINEER EXPANDS BOUNDARIES OF PAWNEE VALLEY IGUCA

In his last day before officially retiring, Chief Engineer David Pope issued an order on June 18, 2007 expanding the boundaries of the Pawnee Valley Intensive Groundwater Use Control Area to include parts of Hodgeman, Ness and Pawnee counties.

The IGUCA now encompasses a larger portion of the drainage basin of the Pawnee River, Buckner Creek and Sawlog Creek located in Hodgeman, Ness and Pawnee counties. Previously its boundaries did not extend beyond Pawnee County.

The order is based on testimony and evidence submitted at a hearing that took place over several days in March over which the chief engineer presided. The findings and conclusions from the hearing are spelled out in the order along with the bases for them.

Based on testimony and evidence given, the chief engineer concluded that groundwater levels in the area have declined, that groundwater withdrawals have, at times, exceeded recharge, and that other conditions exist that require water regulation in the public interest.

Also summarized in the order are the purposes for the next hearing, which is to decide what goals need to be accomplished by the IGUCA and the corrective control provisions needed to achieve them. A prehearing conference will be used to:

- Define the schedule of events to accommodate briefings, relevant procedural matters and hearing dates.
- Establish the process to determine whether the IGUCA boundaries should be expanded further to include the remainder of the Pawnee-Buckner-Sawlog drainage basin and whether the chief engineer should initiate proceedings to include the additional area.
- Set the procedures for identifying IGUCA goals.
- Ascertain the corrective control provisions that will be adopted to reach the IGUCA goals.

The order may be viewed online at

www.ksda.gov/includes/document_center/subbasin/Pawnee-Buckner/Phase1_IGUCA_HearingOrder_6-18-07.pdf.

WHAT IS SALT CEDAR?

The Kansas Department of Agriculture issued a quarantine in 2004 to prevent the further introduction and movement of salt cedar or tamarisk (*Tamarix* spp.) in Kansas.

Salt cedar was introduced into Kansas at the turn of the last century, when it was planted for steam bank stabilization and windbreaks. Later it was sold by nurseries as an ornamental plant for gardens. Seeds escaped from these cultivated plants and salt cedar began to take over banks of streams and rivers. Salt cedar has spread to most of the western United States, displacing roughly 1.6 million acres of native vegetation.



Salt Cedar or Tamarisk

Mature salt cedar can produce millions of pollen-size seeds that are dispersed through wind and water. Seeds can germinate while floating and establish on wet banks within two weeks. Seedlings require extended periods of soil saturation to become established. It is possible for a salt cedar to reproduce the first year, but typically they reproduce during the second year. Adventitious roots can produce new trees when buried! Salt cedar also are fire-adapted species, and they have long taproots that allow them to intercept deep water tables and interfere with natural aquatic systems. Because the plant uses salt to increase the osmotic potential of its root system, it is able to draw water from greater depths than other native vegetation. It also can adapt to poor water quality, it uses significantly more water than other native species, and it promotes narrowing of rivers and stream channels.

Salt cedar disrupts the structure and stability of native plant communities and degrades native wildlife habitat by out competing and replacing native plant species. Although it provides some shelter, the salt cedar foliage and flowers provide little food value for native wildlife that depend on nutrient-rich native plant resources.

In 2006, the Kansas Department of Agriculture estimated 16,540 acres of the riparian corridor was infested with salt cedar from the state line east along the Arkansas River to Hutchinson. It has been identified in nearly every county in the state, but it appears to be concentrated along streams and lakes in western Kansas. It is more prevalent along the mainstem and tributaries of the Arkansas and Cimarron rivers and infests 7,500 acres along the federal reservoirs.



Aerial photo taken during the Kansas Department of Agriculture's survey in the riparian corridor from the state line east to Hutchinson. This photo shows an infestation of salt cedar on the Arkansas River near Hutchinson.

MANAGING SALT CEDAR IN RIPARIAN AREAS

To successfully manage salt cedar, the following are essential: Planning with inventory/mapping, control, revegetation, monitoring and maintenance.

Managing salt cedar requires a long-term commitment to prevent reinfestation and, without all five components, it is unlikely that control projects will be successful in the long term.

By combining weed management techniques — chemical, mechanical and biological — the fight against salt cedar can be successful.



Mechanical removal of salt cedar in Clark County.

Mechanical techniques include hand pulling, digging, root cutting, and using weed eaters, axes, machetes, bulldozers, fire and flooding. It is recommended that you remove small infestations (saplings under 1-inch) by hand. The chainsaw method for the cut-stump approach followed with a solution of triclopyr systemic herbicide mixed in vegetable crop oil is successful at controlling salt cedar with about 15 percent regrowth requiring retreatment. Root cutting and bulldozing may be effective but they are costly, labor intensive and may cause extensive damage to soils and lead to resprouting. Fire has been used with some success, but salt cedar are fire-adapted, so they readily resprout after fire. Flooding can be used to control salt cedar if root crowns remain submerged for at least three months.

Chemical techniques include hand and aerial herbicide applications. While cutting and burning have minimal, short-term impacts on salt cedar, herbicides have been found to effectively control salt cedar by reaching down to the plant's roots and stopping regrowth. Both foliate and basal bark sprays applied by hand are approximately 85 percent effective and will require some level of maintenance to kill resprouts. Aerial herbicide application has shown an effective kill rate of approximately 95 percent in most cases, but there may be impacts to wildlife habitat. Habitat® is one herbicide that is approved for use in and around water but, after treatment, you have to wait at least two years before burning or mulching dead brush.

Biological technique include grazing goats and the Chinese leaf beetle, *Diorhabda elongate deserticola*. Both work to control salt cedar by repeated defoliation of the plant over several years. Goats will feed on salt cedar if fencing is provided to limit access to other food sources. The effectiveness of using goats to control salt cedar is still being studied in ongoing projects throughout the United States.

The Chinese beetle, *Diorhabda elongate deserticola*, has the potential to biologically control salt cedar but it may take up to three years for a colony of beetles to kill a single salt cedar. This is due in part to the large carbohydrate reserves located in the extensive root system of the salt cedar. Currently, Kansas has two release sites of *Diorhabda*, one at Kirwin Lake National Wildlife Refuge and the other at Webster Lake, both of which are in western Kansas. These releases took place in 2005 and more recently on May 6, 2007. The extent of their success will not be known for several years.



Biological removal of salt cedar in Meade County.

For more information on salt cedar control, visit the Kansas Department of Agriculture's Plant Protection and Weed Control at www.ksda.gov/plant_protection/content/188/cid/653.



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2006 COUNTY PRECIPITATION

Precipitation information is provided by the Kansas State University Weather Data Library at www.oznet.ksu.edu. Rainfall reports for all stations within a county have been summarized and given as a county average.

County	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec	2006 Total	Yearly New Normal
Rush	0.06	0.00	1.55	1.45	2.47	4.17	1.49	10.28	2.25	1.22	0.29	3.64	28.86	23.63"
Pawnee	0.02	0.00	0.90	2.24	4.31	4.01	2.85	8.37	0.56	1.95	0.08	2.86	28.13	23.99"
Stafford	0.02	0.00	1.89	1.59	3.09	4.23	1.68	6.75	2.92	2.39	0.28	2.24	27.08	26.03"
Rice	0.02	0.00	1.29	3.43	2.02	2.39	3.24	4.71	3.44	2.12	0.15	2.70	25.48	28.25"
Edwards	0.11	0.00	1.41	1.58	3.20	3.12	2.14	5.15	1.40	2.84	0.22	3.59	24.72	26.75"
Barton	0.07	0.00	1.41	3.36	3.06	3.29	2.61	8.63	1.50	1.07	0.22	2.84	28.04	26.62"