



Caucasian & Yellow Bluestems: Workshop, Friday April 24

Old World Bluestems (OWBs) include Caucasian and Yellow Bluestem. These non-native invasives are a THREAT to all Rangelands and Grasslands in Kansas. Control Strategies are a part of the Workshop Focus.

Open to the Public, and All Interested

Co-sponsored by Audubon of Kansas, Kansas Wildlife Federation, Kansas Native Plant Society, Protect the Flint Hills, Kansas Land Trust, Grassland Heritage Foundation, Prairie Heritage Inc., and Bird Runner Wildlife Refuge



Caucasian Bluestem invasion along a county highway in Pottawatomie County, Kansas. Note that it has completely crowded out other native grasses and plants as it expands from the roadside across the adjacent Flint Hills native rangeland.

Old World Bluestems

Caucasian Bluestem and Yellow Bluestem are emerging as possibly the greatest long-term invasive threats to the natural integrity of native prairie rangelands, hay meadows, and prairies in Kansas and the central Great Plains. These OWBs are spreading from roadsides where they often get their start on disturbed sites, possibly from contaminated seed mixtures provided by contractors or from mulch. Various observers have suggested that they are further spread up and down roadsides by mowing machinery. Haying of roadsides presents the added prospect that they may be unknowingly spread to distant pastures--possibly even by livestock producers who purchase hay harvested on roadsides and have no idea that it includes seed of these highly invasive plants.

If these non-native invasive grasses continue to overtake pastures (as they already have in some landscapes of western Oklahoma and the panhandle of Texas), they will be difficult and expensive to control. They are a more ominous threat than even *Sericea Lespedeza* because there are no available *selective* herbicides effective at eliminating them. Basically, entire plant communities within areas infested by these Old World Bluestems have to be sprayed with herbicide cocktails, killing most or all of the other plants as well.

Caucasian and Yellow Bluestems are emerging as major threats in much of Kansas--and are now even moving north into some parts of southern Nebraska. The most obvious spread of OWBs is within and from roadsides, Corps of Engineers dams and levees (particularly apparent at Tuttle Creek Dam and on levees along the Kansas River in Manhattan) and other disturbed sites.

If control is undertaken soon--particularly by the Kansas Department of Transportation, county road departments, and other county, municipal, state and federal agencies--the costs will be manageable. The same is true for private landowners. However, if swift action is delayed and OWBs continue to spread, the cost of control and damages will likely be in the tens of millions of dollars, and as they spread across private land **most of the burden of costs and damage to rangeland resources will be on the backs of landowners.**

We are hoping that the spread of Old World Bluestems can be controlled on a regional basis (e.g. within the Flint Hills or Smoky Hills) before it is impossible. When infestations are small, they are easiest to control. Some success has been achieved with applications of glyphosate or imazapyr.

The other costs to landowners of expanding invasion will be a substantial reduction in forage value and livestock weight gains from now-productive native rangelands. In most circumstances cattle do not like to eat these Old World Bluestems if they have native rangeland or other grasses in the pasture as an alternative.

The ecological damage goes far beyond these financial considerations. These Old World Bluestems make grasslands relatively unsuitable as nesting, brood rearing, or year-round habitat for many grassland birds (including Prairie-chickens), and it is unsuitable as habitat for many other species of wildlife. The presence of these OWBs even change the soil chemistry and biology to render soil unsuitable for germination of most native plant seeds. Thus, restoration of native prairie or even other introduced pasture plants is MUCH more difficult. The mulch (with water running through it) can even be toxic--preventing germination of native plants.

Presenters and Participants

Karen Hickman

The workshop will be built around presentations by Karen Hickman, an expert on the subject of the invasibility and many other aspects of Old World Bluestems, and collaborators who have been conducting research on these non-native Old World Bluestems. She is a Professor at OSU in Stillwater. She conducted research on the subject at Kansas State University and obtained her Ph.D. in 1996.

Other presenters include **Mitchell Greer**, Assistant Professor in the Department of Biological Sciences at Fort Hays State University. Mitch conducted his research at OSU and will focus on "Grassland Invasion by Old World Bluestems: Environmental Issues at Multiple Ecological Levels."

Keith Harmoney, with the Kansas State University Ag Research Center in Hays has cooperated on a number of old world bluestem projects with Karen Hickman and he will share some of that control work at the workshop. Likewise, **Tom VanSlyke**, has led efforts at the Konza Prairie to control Caucasian Bluestem (along with Crown Vetch, invading from the I-70 right-of-way) and he will share his experience (and insight on the manpower and financial costs involved) with participants.

The threat of Old World Bluestems is on the list of concerns addressed by USDA's NRCS staff and the Kansas State Technical Committee. Control in pastures now qualifies as an EQIP funded project, but there is an incredible lack of information about the subject.

We are proposing that the workshop will help to provide more of an understanding of the urgency of this threat. Our initial thought is to plan for 50 people, hopefully with strong representation of individuals involved in land management, including county officials and state (KDOT) roadside maintenance staff, as well as some native range landowners.

Location

The workshop will be held near Manhattan, and is planned to extend from 9 a.m. to 3 p.m., including morning/early afternoon informational presentations, lunch on site, and optional field trips in the afternoon following the indoor workshop. Registration (including lunch provided) will be \$10.

The Ashland Community Center south of Manhattan has been reserved for the workshop. It is a delightful building which was once a country school.



Dr. Karen Hickman,
nrem.okstate.edu/faculty/hickman

Directions

The designated address is 2901 West 32nd Avenue, Manhattan, KS 66502. **From Manhattan**, on the east side of bridge over Kansas River on Highway 177, turn south on McDowell Creek Road (Riley County Road 901) and go south/southwest approximately six miles. Turn right and go north about a half mile on Riley County Road 424 and the community center is the native limestone building next to a white country church. For those coming from the south, another option is to exit off **Interstate 70 at Exit 307** and go north and east on McDowell Creek Road for five miles to the same intersection with Riley County Road 424.



Caucasian Bluestem leapfrogs across native rangeland where seeds readily germinate, especially in disturbed sites such as along cattle trails, and then it expands outward from all of these initial invasion sites.

Reservations

For planning purposes, especially to make sure we have enough lunches, please send an email or call to let us know if you will be attending the workshop. If we have your email address we will be able to let you know if there are any changes in the event, although we do not anticipate any. It is not necessary to send any payment for the lunch in advance. And, if you cannot decide until the morning of April 24 that you are attending, please join us anyway without a reservation!

For More Information, or to make a Reservation, contact Ron Klataske, Audubon of Kansas at <aok@audubonofkansas.org> 785-537-4385 or personal cell phone 785-313-1138.

Agenda

9:00 Introductions

9:10 - 10:10 - **Karen Hickman**

History of Caucasian Bluestem/ Old World Bluestems in the Great Plains
How They Became Invasive, How They are Spread; Recognition as INVASIVE
Differences Between Oklahoma and Kansas

10:10 - 12:10 **Karen Hickman and Mitchell Greer**

Research Results and Ongoing Research
Impact on Native Grasslands, Allelopathy Impacts
Impacts on Soil Chemistry and Biology
Impact on Grassland Birds, Mammals and Other Wildlife
Impact on Livestock Grazing & Pasture Forage

12:10 - 12:45 LUNCH

12:45 - 1:45 **Keith Harmony, Tom VanSlyke, Karen Hickman,**
Control of Caucasian Bluestem and Other Invasive Old World Bluestems

2:00 - 3:30 Field Trip Options