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K-STATE'S KONZA PRAIRIE A CANDIDATE SITE FOR SCIENTISTS FROM ACROSS THE COUNTRY TO STUDY THE EFFECTS OF GLOBAL CHANGE

MANHATTAN — A Kansas State University grassland holds the potential to help scientists better understand the effects of global change on the earth's ecosystems.

K-State's Konza Prairie Biological Station has been selected as a candidate core site for the proposed National Ecological Observatory Network, also known as NEON. The network is being developed as a continental-scale ecological observation platform, which will have 20 heavily-instrumented core sites designed for at least 30 years of intensive measurements. It also includes additional relocatable sites distributed across the continent, combined with mobile and airborne ecological sensing systems.

The network is to help researchers over the next 30 years or more to understand and forecast the impacts of contemporary global changes — including climate change, land-use change and invasive species — on the ecology of ecosystems as diverse as grasslands, deserts and forests.

The network is being planned with support from the National Science Foundation, and it is the first initiative in the biological sciences being considered for funding through the foundation's Major Research Equipment and Facilities Construction portfolio, a fund that has built telescope arrays, neutrino detectors and ocean research vessels. In May, the National Science Foundation approved two cooperative agreements with the network's national office totaling \$24 million to complete the design and development of the project as it prepares for its final review.

Konza Prairie was selected as the candidate core site to represent native grassland ecosystems in the central U.S. Prairie Peninsula region. Konza is jointly owned by K-State and The Nature Conservancy, and it is managed by the K-State Division of Biology. The NEON planning effort for Konza has been led by K-State's John Blair, university distinguished professor of biology, and Leonard Krishtalka, professor of ecology and evolutionary biology and director of the Biodiversity Institute at the University of Kansas. The planning effort also has involved numerous scientists across both campuses and collaborators at other institutions.

Konza Prairie's ecological diversity and native grasslands, combined with its proximity to human activity, makes it an ideal location to study environmental change in the Prairie Peninsula region, Blair said.

"The Konza site includes native tallgrass prairie habitat, with fire and large native herbivores incorporated into a watershed-level experimental design, as well as areas influenced by contemporary land-use practices like

agriculture, prescribed burning and cattle grazing," Blair said. "Konza Prairie also includes intensively monitored stream sites and wells for groundwater sampling."

The advanced monitoring equipment and new measurements that would come as part of the National Ecological Observatory Network would greatly increase the research capabilities of the site. In addition, Blair said that Konza already has a 30-year database of ecological measurements through the National Science Foundation's Long-Term Ecological Research Program.

Blair said that by serving as a wildland site for the Prairie Peninsula domain, Konza would be a benchmark for evaluating the impacts of environmental change in the region, and it would serve as an important node in the continental-scale observatory. The results would be relevant to similar grasslands worldwide.

Being a part of the network also would give K-State students and researchers opportunities to collaborate with scientists from across the country, Blair said. K-State scientists and students would work with the network's scientists and others to collect data and run experiments.

"K-State students will benefit from the educational and training opportunities provided by the NEON program," Blair said. "NEON facilities will be open to scientists from around the country, which will provide special opportunities for collaboration between scientists from K-State and other institutions. It also has the potential to generate substantial new research funding for K-State and cooperating institutions."

Other K-State faculty involved in planning for the core site at the Konza include: John Briggs, professor of biology and director of Konza Prairie Biological Station; Walter Dodds, Tony Joern and Don Kaufman, all professors of biology; Carolyn Ferguson, Keith Gido, Ari Jumpponen and Brett Sandercock, all associate professors of biology; Doug Goodin and John Harrington, both professors of geography; Jay Ham, Michel Ransom and Chuck Rice, all professors of agronomy; David Hartnett, university distinguished professor of biology; Glennis Kaufman, research assistant professor of biology; and Jesse Nippert and Samantha Wisely, both assistant professors of biology.

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