



Plenary Abstracts for the 10th Prairie Conservation and Endangered Species Conference

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Prairie Conservation and Endangered Species Conference

Red Deer, Alberta | February 19 – 22, 2013

Farm Environmental Stewardship Isn't Free! An Agricultural Economic Perspective on the Wedge Between Farmers and Conservationists

JIM UNTERSCHULTZ, Professor, Agricultural Economics, Department of Resource Economics and Environmental Sociology, University of Alberta, Edmonton, Alberta

Farm environmental stewardship typically is a net cost to a farmer to implement. However, improving the environment or reducing the numbers of endangered species is generally a benefit to the public. This creates a communication wedge between conservationists and agriculture. A simple economic framework, based on the work of agricultural economist Dr. David Pannell will be presented to link the benefits and costs of farm stewardship with the environmental benefits and costs to society. This framework provides a basis for environmental/conservation discussions between agriculturists and conservationists. Time, opportunity cost and wealth are important economic concepts in the understanding of economic benefits and costs. Indeed, both the Canadian federal government's Environmental Assessment Act (2012) and the Species at Risk Act (2002) specifically mandate that economics and/or socio-economic considerations be considered when undertaking mitigating actions.

Once this background has been covered, specific applications of economics and this framework will be presented on such topics as:

- wetland preservation in cropland in Saskatchewan,
- farm adoption of best management practices in Alberta and Saskatchewan,
- costs and benefits associated with multiple species at risk action plan for southwest corner of Saskatchewan,
- a framework for evaluating the transfer of "PFRA" lands in Saskatchewan to the private land holders.

This non-technical discussion will provide non-economists with an improved understanding of the farm level economic implications of conservation practices and provide a framework for reducing the communication wedge between conservationists and agriculture.

Regulatory Hammer or Voluntary Conservation? Win-win Solutions for the 21st Century

DR. DAVE NAUGLE, Professor & National Science Advisor, NRCS Sage Grouse Initiative, University of Montana, Missoula, Montana

Remaining prairie and sagebrush steppe habitats are imploding under the weight of a burgeoning human population. Native range is sod busted to grow bio fuels, catastrophic wildfires inhale sagebrush steppe, and massive oil fields are mistaken for cities on nighttime satellite photos. Our track record for conserving at-risk species through government regulation is dismal; still, agencies raise their regulatory hammers knowing full well they lack the resources necessary to implement a remedy. Human nature

dictates our collective desire to be on a winning team, but fear of regulation alienates the very partners who hold the key to success. Aarrgg...there has to be a better way! The new recipe for solving at-risk species is voluntary, collaborative and incentivizes stakeholders to engage in lasting conservation. Today we discuss the ingredients of this recipe including shared vision, strategy, trust and credibility, accountability, leverage, and certainty. We draw on successful case studies from around the West where partnerships solve the toughest at-risk issues for sage-grouse and grizzly bear. You'll be amazed at what can be accomplished when nobody takes credit.

Connecting Story and Science

CHRIS FISHER

Inspiring people to care about something unknown, is not easy. From engaging local audiences on grassland conservation issues to connecting visitors to obscure destinations around the world, Chris Fisher understands that the challenge of winning audiences over requires a highly sophisticated approach. Through stories of world-wide adventures, this presentation will demonstrate the techniques that make subjects connect with novel audiences so that they may resonate and become ingrained. Using stories and first-hand accounts with purpose, Chris will show how big thoughts are best shared through small, intimate and familiar stories. His presentation will build on effective but underutilized communication devices in the sciences. He will discuss the advantages of intellectual or intuitive approaches and the circumstances that favour these choices. Throughout the narrative of his presentation he will show how a celebration of landscapes, wildlife and people can be used to bridge an audience to unfamiliar ground. As someone born on the prairies and enthralled with the landscape of the Great Plains, Chris has a passionate appreciation of grassland conservation challenges and is pained by a corresponding lack of public engagement. He believes that it is possible to influence this discussion with a more refined approach. Chris is eager to have an opportunity to share his engagement experiences and to remind conference goers to resist speaking so much like a scientist- and to start speaking a bit more like a storyteller.

Grassland songbird research and conservation in the working Canadian prairie landscape

STEPHEN K., DAVIS, Canadian Wildlife Service, Regina, Saskatchewan

Large-scale loss and degradation of North American native prairie coupled with sharp declines in grassland bird populations call for a clear understanding of the effects of land-use practices on bird habitat selection and demography. Not surprisingly, in Prairie Canada most research has focused on the effects of various agricultural activities and programs on grassland birds. How different agricultural practices impact grassland birds is important to know given the amount of grassland these land-use practices affect. More recently, attention has focused on oil and gas development, again, due largely to the amount of land that has been impacted within a relatively short time period.

Ample research demonstrates that grassland birds select suitable breeding habitat based on a suite of local-, patch-, and landscape-level factors. However, most research has focused on local-scale factors that, while being useful for informing site-specific management, have limited utility across broader spatial and temporal scales. Furthermore, much of this research involves counts that are assumed to reflect other demographic processes such as reproduction and survival. In addition, local habitat measurements taken by researchers are somewhat taxa-centric and have little meaning or relevance to those that manage the land, making information exchange between researchers and land managers challenging.

This talk will review the conservation status of grassland songbirds along with research conducted in Prairie Canada that has, or, might inform conservation of grassland songbirds in the region. I use the South of the Divide multi-species-at-risk action plan in southwestern Saskatchewan to illustrate the importance of asking appropriate research questions to inform the conservation of working prairie landscapes.

Wintering Grassland Birds as Bio-Indicators in the Chihuahuan Desert of Mexico and Southwest USA

ARVIND PANJABI, Rocky Mountain Bird Observatory, Fort Collins, Colorado.

Grassland bird populations have experienced significant declines over the last four decades in North America, possibly caused by a decrease in winter survival due to changes in habitat quality. Several species of grassland birds migrate every year from northern United States and Canada to spend the winter in the grasslands of the Chihuahuan Desert found within the Rio Grande Basin in Texas and Chihuahua, Mexico. Winter grassland bird communities that were sampled were highly variable in species abundance and composition between winters. Bird densities may change by orders of magnitude at the Desert Grassland Priority Conservation Areas (GPCA) level and bird species may reach their maximum density at different GPCAs between winters. Therefore, we emphasize need to investigate the ultimate processes driving this high variability in winter bird abundance throughout the Chihuahuan Desert, highlighting the role of rainfall on food limitation. The winter avifaunas of Chihuahuan Desert grasslands are characterized by the dominance of a few species including Chestnut-collared Longspur, Lark Bunting, Vesper Sparrow, Horned Lark, Brewer's Sparrow, and Savannah Sparrow. A cluster analysis based on bird species composition shows a delineation of 6 conservation regions for grassland birds in the Chihuahuan Desert. Biodiversity metrics suggest that Cuchillas de la Zarca in northern Durango, Janos in northwestern Chihuahua, and Malpais in southeastern Durango harbor diverse winter bird communities and require effective protection and management. Grassland birds may be used by landowners to ascertain the condition of their land as habitat for other wildlife species and rangeland management strategies. The presence of species of birds such as Baird's Sparrow, Sprague's Pipit, and Chestnut-collared Longspur represent land with potential for conservation for other species that prefer conserved grasslands as main habitat. Our results of telemetry studies of survival of Vesper Sparrows suggested that poor grassland conditions could be an important cause in grassland bird

population declines. These results underscore the need, and indicate the potential, of restoring grassland health to reverse persistent declining trends in grassland bird populations. We present the first available wintering habitat capacity estimates for Chihuahuan Desert GPCAs for five study species. Habitat relationships and spatially-explicit capacity estimates provide a starting point for strategic habitat conservation and management for these five grassland bird species in their core wintering grounds. It is estimated that 70% of the temperate grasslands have been converted to agricultural use. In northeastern Mexico, tendency has been similar with a loss of 74% of the desert grasslands, mainly due to land conversion to potato fields. Grassland bird specialists are using the agricultural matrix of northeastern Mexico during the wintering season; however, other factors that may be affecting their survival such as pesticide and novel parasites exposure, anthropogenic stress and immune system status should be studied. Conservation efforts are underway to engage private ranchers, communities, range managers, and educators, especially in Mexico, and assist them in implementing best management practices for birds, livestock and agricultural crops. (recent website posting at: < <http://rmbo.org/v3/Home/tabid/41/EntryId/48/Fieldwork-in-Chihuahua-Mexico-Identifying-Threats-to-Overwintering-Grassland-Birds.aspx> >

Current and Future Natural Capital Valuation in the Upper Bow Basin

KIM GOOD and HARVEY BUCKLEY, Action For Agriculture, Alberta

Action for Agriculture will present the outcomes of a study by ALCES which was contracted in June 2010 with completion in the fall of 2012. Alberta's sustainable future is dependent on conserving our natural capital. The board of directors of Action for Agriculture saw a need to provide land use decision makers (land planners and municipal councilors) with a better understanding of the value of our natural capital before these assets are in short supply or lost to development decisions. There is an illusion that capital is only of financial and human sources, and that our environment/natural capital comes free of charge. However, the reality is Albertans are over-spending our natural capital. The study identifies financial benefits of using land use tools that the province provided in the Land Use Framework and followed with the Alberta Land Stewardship Act (ALSA) legislation. This project demonstrates the clear value of providing natural capital protection in the Upper Bow Basin. This study can be applied to any watershed in Alberta. Action for Agriculture recommends the next step is to establish regulations through which revenue streams can be utilized to incent landowners to rebuild and maintain our natural capital.

Environmental Consumerism; Are People Really Willing to Pay

KEITH EVERTS, Stillridge Ranch

A group of ranchers for 16 years stuck together to help protect eco-systems by branding their product under the certified organic banner. What were the obstacles, and what still are? Why is it so important to partner with the people that have the same values? Does it really work to get a % above conventional price, or do we need to start paying for real costs? We are in the food business not real estate. Keith will reflect on over 30 years of efforts by himself, his family and his fellow ranchers to maintain sustainable

ranching that preserved their ranches' ecosystems, water quality, and soils. Their efforts included the award winning 'Producers of the Diamond Willow Range'.

Rapporteur

KEVIN VAN TICHEM, author, Canmore, Alberta

Biodiversity, species at risk, source water and other ecosystem goods and services make no distinction between public land and private property. But we do. Conservation, to be effective at protecting and enhancing ecosystem values wherever they are found requires unique tools if it is to be effective on those parts of the prairie landscape that are owned by private individuals. One of the most risky and potentially most rewarding sets of tools involves harnessing the power of the marketplace to enable landowners and rights-holders to profit economically from stewardship that delivers enhanced ecosystem goods and services. This presentation will summarize some of the potential for market-based conservation that has been raised by other PCESC speakers as well as in other recent public fora.