

# Wildlife Habitat Committee Newsletter

May 2009

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## Committee Contacts

*Chair*

**Kirk Davies**

(541) 573-5082

[Kirk.davie@oregonstate.edu](mailto:Kirk.davie@oregonstate.edu)

*Chair-Elect & Communications*

*Director*

**Kevin France**

(780) 415-9114

[Kevin.france@gov.ab.ca](mailto:Kevin.france@gov.ab.ca)

## Building the Biologist for the 21st Century

Lorne Fitch

P.Biol. Lethbridge, Alberta, Canada

This year, 2009, is the 150<sup>th</sup> anniversary of Charles Darwin's transformational work on evolution. His epiphany launched, arguably, the task of biologists today- understanding and protecting the wealth of biodiversity that is the result of long tests in the crucible of the environment. The irony is that we, the biologists, may not have done well in the environment of our choice either in terms of our own survival or of our effectiveness. Many of us think of Darwin's magnum opus as simply "The Origin of Species". We should consider the whole title, "On the Origin of Species by Means of Natural Selection, or The Preservation of Favored Races in the Struggle for Life", to see the relevance to ourselves. Will biologists be a "favored race" in the struggle for life and, will we be successful?

Can biologists help guide some visionary planning with a different trajectory and endpoint to previous examples? Probably, if we heed Darwin who taught us a changing environment coupled with competition can forge a new species. In the parlance of evolution what traits will tomorrow's biologist need to express?

### Constituency

Repetitive surveys demonstrate that people who are informed and educated about aspects of their environment provide greater support for programs and undertake actions to improve environmental quality. Unfortunately, support is difficult to tap, because the public's ecological

knowledge still appears to be too low to achieve a positive outcome.

We have, at our fingertips, the most interesting, appealing, fascinating and intriguing subjects. Yet, we do an arguably pathetic job at conveying this information to a public that could be our biggest booster and supporter. Perhaps what has been done comes across as an emphasis on entertainment and not enough on connections, indicators and barometers. We have lost much precious time and many windows of opportunity through a lack of coordination, failing investment and desultory commitment. Education is the first and most vital step leading to conservation action and the development of an informed constituency that offers political support.

Over 70 years ago Aldo Leopold wrote "The real substance of conservation lies not in the physical projects of government, but in the mental processes of citizens. All the acts of government, in short, are of slight importance to conservation except as they affect the acts and thoughts of citizens." The years have not diminished that message and the clear advice within it that our work involves attitudinal change.

### Competencies

When I reflect on my career as a combat biologist and what skills and competencies would have been helpful, I wonder if I should have traded my degree in biology

## USA Calls Them Wild, Canada Calls Them Feral, But Both Countries Want To Know If GPS Collars Can Assist in Understanding Horse Behavior and Their Potential Impacts:

Kevin France<sup>1</sup> and Steven Petersen<sup>2</sup>

<sup>1</sup>Provincial Rangeland Ecologist, Alberta Sustainable Resource Development and <sup>2</sup>Assistant Professor, Brigham Young University, Provo, Utah.

Feral horse populations have been observed throughout the Forest Reserve of Southern Alberta for over 70 years, though most populations were relatively small. However, it is apparent that the feral horse populations have risen over the past decades and their distribution has increased north and south of the historic focal points. Within the Forest Reserve resources has been allocated to both wildlife populations and livestock, therefore unregulated feral horse grazing is in direct competition with the allocated resource, potentially leading to overutilization in these sensitive areas.

A collaborative project between Alberta Sustainable Resource Development (ASRD) and the University of Alberta will provide valuable information about feral horses in Alberta. Feral horse data will be collected and analyzed through a GPS collaring study in the southern Alberta Rockies area. The basis of the project is a sample of five horses from different bands fitted with GPS collars to monitor and track the horses' movement, and to an extent, their behavior. ASRD fitted the collars in the fall of 2008 and the GPS collars are already collecting information on the horses. Even though the sample size is relatively small, the information gathered through the collars in combination with other information could prove to be very useful in illustrating the bigger picture. Combining GPS locations, vegetation inventory, and other information such as aerial photography, ASRD will be able to look at a longer temporal picture and see the preferred habitat.

Currently in Alberta, there is regulation surrounding capture of feral horses— people must have a license to capture and remove feral horses from the designated horse capture area, and are only allowed to do so under certain circumstances. This allows the government the ability to regulate the number of licenses issued and ensure the safety and well being of the horses that are removed.

The most recent headcount – an aerial survey completed by ASRD staff in the spring of 2008 – puts the number of feral horses at approximately 650, a number well above previous estimates.

In the United States, wild horses are managed, controlled and protected by the Bureau of Land Management through the authority of the Wild Free-roaming

Horses and Burro Act of 1971. This protection has allowed these animals to expand throughout western United States, doubling in number every four years. These animals are able to roam freely across broad landscapes using a diversity of habitats



types in both uplands and on riparian communities. Control of populations is limited to sterilization techniques or round-up efforts that remove animals from the range. Removed horses are relocated to either short-term or long-term holding facilities where they are adopted to the public or allowed to live the rest of their lives in captivity. With more than 36,000 wild horses and burros on BLM managed rangelands (9,400 more than appropriate management levels), it is important that information be collected to better manage habitat and to assess their impacts on rangeland ecosystems.

In 2008, a collaborative research project was initiated between the BLM, USFWS, ARS, Brigham Young University, and Oregon State University to assess ecological impacts and habitat use patterns of wild horses on federal lands. In addition to data collected from enclosures in riparian and upland habitats to determine ecological impacts of animal use, GPS collars will be deployed this fall on wild horses to characterize wild horse distribution patterns and habitat use. Initially, coordinate locations will be collected from GPS collars for approximately one year on 6-10 bands of horses. These data will then be mapped in a GIS and analyzed to quantify the distances traveled by animals throughout the year. These data can be used by land managers to determine impacts and predict movement patterns.

A tremendous expected outcome from these two research programs is the opportunity to share knowledge and compare results between horses living in different places under different management regimes. These projects will hopefully be able to answer important questions of spatially-explicit wild horse behavior and to characterize the impacts that these animals can have on ecological resources.

## 21st Century Biologist...continued from page 1

for one in psychology, to understand people better. A few years in used car sales and some rudimentary training in stand up comedy wouldn't have hurt either. On the other hand, I have five fingers.

A skeptical government, industry and public demand good science even though it seems they rarely understand or accept it. In point of fact science- the acquisition of more data- may often be used as a delaying tactic or as displacement behavior to avoid making the hard choices. In the movie "A Few Good Men" Jack Nicholson's character emphatically stated in answer to the demand for truth, "You can't handle the truth". Maybe we can't handle the truth or the science either.

Good science is necessary but may not suffice when decision makers and the greater constituency have a low level of ecological knowledge. It may be that the path to higher knowledge levels begins by instilling curiosity, interest and respect for the natural world. Those qualities have always been important and perhaps now are more crucial than ever to create a solid footing upon which science can find some traction. Without some traction in the minds of the skeptics and non-believers we will remain trapped in a spiral of research, devising better and better ways to measure fewer and fewer creatures and perhaps monitoring their last gasps on earth. Knowledge isn't achieved until it is shared. Knowledge isn't effective until it is understood.

As Yogi Berra said, "You can observe a lot, just by watching". I've listened to a lot of biologists. I've reflected on what I've said and how I said it. I've also had the opportunity to listen to a lot of people who have listened to biologists speak. The comments are rarely complimentary. I can't say as a group biologists are any worse in communication skills than other professions; it's just that everyone is universally bad. We routinely deliver unpopular messages to usually unappreciative audiences. That's a consequence, I believe, of poor constituency building and low ecological literacy. It's an art form, as Mark Twain alluded, to "tell a man to go to hell and have him look forward to the voyage".

Whether its diplomacy or communication, those are the skill levels required. Yet, these skills are rarely taught to biologists. What's worse is it is rarely acknowledged that communication skills are a fundamentally important element in training and competence. It's difficult to find examples at the academic or institutional level where these skills are routinely taught and where young biologists are imbued with the idea they are expected to communicate. In one of the workshops I teach on com-

munication, this one on engaging rural landowners, a young biologist seemed perplexed by all the advice and asked "why don't we just text message them?"

So, it shouldn't come as a shock that as a group biologists are uncomfortable speaking, are reticent to speak (although sometimes so due to fear of retribution) and don't take the opportunity to speak when it's offered. When we do speak it's often badly, without clarity and we fail to convey information in ways that can be easily absorbed. The way we talk is often stripped of passion and enthusiasm, so it's no surprise that we don't engage audiences and transfer some of those qualities. And, most egregiously, we don't practice enough of a habit of speaking to build and maintain competence. Yet, the ability to speak well, to convey information, positions and consequences is the foundation of strong negotiating skills, a fundamental requirement for biologists engaged in discussions and forums around land use.

These are not insurmountable problems; these don't require the invention of any new technology; they require very little financial investment; but, to solve the most fundamental issue facing the profession of biology, that of communication, requires will. It's said that "once you get past the gag reflex, a whole new world of food possibilities opens up"; it's the same with communication skills. Institutionally and personally we need to commit to become better messengers:

The issues facing us will not be cured by science, the marketplace, plans nor regulations alone. To accomplish that will require the creation of greater ecological literacy in a constituency that understands, cares and makes more enlightened decisions. The goal will only be reached with consistent, rigorous and prolonged delivery of messages by biologists with good communication skills that create a foundation of literacy and build on it.

### Advocacy

*Most of us walk unseeing through this world, unaware alike of its beauties, its wonders, its linkages and the essential connections to us. The challenge to us, in the field of biology, is to chart the ecological costs of doing business and to help people understand the currently understated value of our landscapes. Steward Udall, a past Secretary of the United States Department of the Interior captured it best; "Over the long haul of life on this planet, it is the ecologists and not the bookkeepers of business, who are the ultimate accountants".*

*There are still beliefs, perceptions and disconnections that run counter to hope for the future of wildlife. Revolu-*

**Biologist...Continued from page 3**

*tions in thought turn out to be struggles over ideology rather than reasoned scientific debate. At one time you could be persecuted for advancing the idea the earth rotates around the sun. Perhaps some of you have been censured for suggesting your state or province doesn't revolve around resource extraction. Most people are driven by a combination of beliefs that are largely ill formed, lack crucial information and are rational to them only because of other circumstances. It may be true humans still rely on Stone Age brains in this era bristling with information that can inform rational assessment. These people are your neighbors, your friends; they exist at all levels and are the decision makers.*

Emerson wrote "This time, like all times, is a very good one, if we but know what to do with it". In the short term we need to be advocates and brokers of ecological information. The challenge of ecological literacy and our own competency levels will certainly take a bit longer to solve but should demand our attention. Our difficulties of the moment must be dealt with somehow and the larger challenges represent difficulties of every moment. Choices exist, sometimes with a limited shelf life. Charles Darwin probably wouldn't be surprised the theory of evolution has had a 150 year struggle to gain acceptance; yet here we are celebrating its survival. If Darwin was pondering biologists as a species today, how would he size up the traits we have and our ability to survive and thrive?

**Upcoming Events**

CALPAC Spring tour & meeting, Santa Rosa, California  
May 12-14, 2009

UT Section SRM summer tour, Tooele, Utah  
June 4-5, 2009

TX SWCS Annual Meeting, Fredericksburg, Texas  
June 10-12, 2009

PNW Section SRM summer tour, Grant County, Oregon  
June 25-27, 2009

5th National Rangeland Management Conference of  
Mercosur, Corrientes, Argentina.  
August 14-15, 2009

Society for Ecological Restoration International Annual  
Meeting, Perth, Western Australia  
August 23-27, 2009

**Society for Range Management Annual Meeting,**  
Denver, Co  
February 7-11, 2010



## Comments From The Editor

If you have information that you would like posted or an article that you would like to share with the Wildlife Habitat Committee please contact the editor. This newsletter is a forum for exchanging ideas and experience. The next issue will come out in September. Please send information to the editor (Kevin France) by e-mail to:

Kevin.france@gov.ab.ca

You can also find this and every past newsletter on this site as well

([http://www.rangelands.org/wildlifehabitat/whc\\_newsletters.shtml](http://www.rangelands.org/wildlifehabitat/whc_newsletters.shtml))