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Biological diversity in the Little Missouri Badlands

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Leafy spurge has become a common problem. This fact is widely recognized by not only ranchers, farmers and wildlife people but also by the general public. To illustrate this point, let me relate to you a personal experience.

At a recent bluebird workshop hosted by our department I was having difficulty getting the crowd to understand the impacts of non-native species, such as English sparrows and starlings, have on bluebirds and other native cavity nesting species. I managed to get the point across loud and clear when I simply said “the English sparrow is the leafy spurge of the bird world.”

Today I am going to give you a brief and hopefully entertaining overview of biodiversity in the Little Missouri Badlands using color slides taken by a variety of experienced wildlife photographers. This overview of habitat types and the animals that are associated with each type is intended to provide a basis of knowledge for what is at stake if leafy spurge is not controlled.

One of North Dakota’s most famous native sons was the renowned journalist, Eric Severid. In his book, “Not So Wild A Dream”, he describes his lifetime of experiences in meeting people from other parts of the nation. They would meet and exchange the usual pleasantries and then the inevitable question would be asked, “So where are you from?” When he responded, “North Dakota”, he would be met by bland stares. Severid came to accept the fact that his home was nothing more than “a rectangular blank spot in the nation’s mind.”

Many North Dakotans also have the same impression of their home. They see their state as a monotypic landscape of neatly laid out fertile fields and productive pastures. There is however one exception. The Badlands of the Little Missouri National Grasslands and Theodore Roosevelt National Park. This area, collectively known as the North Dakota Badlands, is confined to the drainage of the Little Missouri River in southwestern

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North Dakota. It is an area of intermingled land ownership managed by the U.S. Forest Service, the state of North Dakota, and a multitude of private landowners.

These Badlands are a unique habitat unlike any other in the world. They are vastly different from the badlands people envision in their minds. They have a different look, a different feel and a different ecology. This area of unmatched beauty, at least in North Dakota, is also home to the most biologically diverse assemblage of wildlife in the state.

Before we begin our overview of specific wildlife species inhabiting the Badlands, let me make a few personal observations on the subject of biodiversity. Contrary to popular opinion, I believe biodiversity is not some new, revolutionary concept. In fact public land management agencies, which have managed a variety of quality habitat, have always managed for biodiversity. They just didn't call it that specific term or maybe didn't even realize they were doing it. Those agencies that did not manage for good condition, quality habitat have not managed for biodiversity. Biodiversity is simple. If you have a variety of quality habitat in good ecological condition, you have a healthy and varied wildlife assemblage.

The species of wildlife found in an area is dependant upon the type or types of habitat in that particular area. It is also important to remember that wildlife species will use more than one habitat type throughout the year. This depends on the weather, food requirements, reproductive strategies, and protection needs. There are certain species that are predictably found in certain habitats, while others are more general in their distributions.

The habitat types in the Badlands are numerous. Some are obvious while others are more subtle. All of these habitat types contribute to the biological diversity of the area in some way. The following are examples of different habitat types found in the Badlands of North Dakota.

- Native prairie grasslands
- Prairie dog towns
- Ash-elm-chokecherry hardwood draws
- Juniper side slopes
- Cottonwood river bottom forests
- Sagebrush flats
- Bare buttes, ridges and slopes
- Rivers, streams and wetlands

One of the most common habitat types in the Badlands and western North Dakota is grassland. As the most common and easily recognizable habitat, grassland is also home to wildlife species people most commonly think of in association with the prairie. These include the pronghorn and the bison.

These two animals typify the prairie in the average person's mind, whether they are from North Dakota or other states around the nation. Both species have made an excellent recovery from near extinction. In fact pronghorn, or antelope as most people incorrectly

refer to them, have developed into one of the most popular game animals in the Great Plains.

The bison is making a comeback all across the nation in private herds, on Indian reservations, in National Parks and on Nature Conservancy properties. While bison are nowhere near extinct today, they are not free roaming and are confined to areas that I previously mentioned. In today's world, free ranging herds of bison would probably not be deemed acceptable since they would roam through the wheat and corn fields of the Great Plains.

While the long-billed curlew is the largest member of the shorebird family, it is typically found a long way from any shore. Its current and historic range is the grasslands of the western United States. We consider the curlew to be somewhat of a rare species as its distribution is restricted to the four or five counties of southwestern North Dakota. We estimate there are approximately 100 pair of long-billed curlews in the state. Other states have much higher populations but in North Dakota we are at the edge of the species's range. This bird was a favorite of Teddy Roosevelt and in some of his writings he mentioned how well they tasted. I would discourage present day palatability tests as the species is protected under the Migratory Bird Treaty Act.

The sharptailed grouse is probably the most popular bird associated with the grasslands of western North Dakota. It is a favorite of hunters, photographers, and wildlife watchers.

Prairie dogs contribute greatly to the biological diversity of grasslands. Prairie dog towns themselves could be considered a distinct habitat type. While most ranchers are not overly fond of these rodents, they will agree that prairie dog towns often have a great deal of other wildlife species associated with them. There are only about 22,000 acres of prairie dogs remaining in North Dakota and they are restricted to the southwestern part of the state.

Prairie dogs are important to the grassland ecosystem because they provide a real smorgasbord for a lot of other creatures. Badgers are a typical inhabitant of prairie dog towns. The badger and many other species use prairie dogs as a food source. The list of dinner guests includes: coyotes, golden eagles, bullsnakes and rattlesnakes, ferruginous hawks, and historically blackfooted ferrets.

Burrowing owls are also frequent inhabitants of prairie dog towns. They live in abandoned prairie dog and badger burrows. These small photogenic birds consume insect and small rodents. As a species associated with a declining habitat, the owl is receiving a lot of attention from environmental groups. The U.S. Fish and Wildlife Service currently lists the species as a Category Two candidate. This designation carries with it no specific protection measures but simply identifies the species as warranting more study.

A second habitat type I wish to highlight is the juniper side slope. These side slopes are steep and typically covered with thick stands of juniper which provide a variety of habitat values. Sharptailed grouse use them for cover and food in winter months and will also use them in the heat of the day during the summer months. Mule deer also use these juniper pockets quite frequently. If you are a mule deer hunter you will quickly learn that these thickly covered side slopes are a favorite seclusion area for deer. Mule deer will also

use the north facing junipers side slopes in the summer to escape the heat as cooler microclimates are created by the dense vegetation.

The cottonwood river bottom forest associated with the Little Missouri River and its major tributaries is another habitat type which offers refuge to a wide variety of animals. White-tailed deer are the most common inhabitant of the river bottom forests. The wild turkey, which was not native to North Dakota but was introduced in the 1950s and 1960s, also can be found in good numbers along the river.

Jeff Bradybaugh, a former natural resources specialist at Theodore Roosevelt National Park said it made him crazy when hundreds of these “exotic” birds would roost in the cottonwood trees at Cottonwood Campground. As bad as the leafy spurge problem was, Jeff was really irritated by the turkeys even though he realized that sportsmen and women found them to be a favorite game species.

There are a mixture of species that are obvious in the public eye and others which are less obvious. Each of the species mentioned below have their own unique habitat needs and requirements, just like deer, sharptails, and bison.

The redheaded woodpecker is more than a cartoon character, it is common and beautiful inhabitant of the cottonwood river bottom forest.

Elk are found scattered throughout the Badlands but are most often found in the dense forests associated with the river bottoms and Killdeer Mountains. During the year elk will utilize a variety of habitat types.

Leopard frogs are occasionally found along the Little Missouri River.

The University of North Dakota, North Dakota State University, U.S. Forest Service, and North Dakota Game and Fish Department recently combined efforts to conduct a fisheries inventory of the Little Missouri River. The sicklefin chub and sturgeon chub are examples of fish species of special concern in the Little Missouri River. Songbirds are found throughout the Badlands and often are specific to particular habitat types. Sixty percent of all the songbirds in the Badlands use deciduous forest areas including river bottom forests and the extremely valuable ash - chokecherry draws. Many of these non-game birds are neotropical migrants, which are the focus of new federal initiatives.

If, as a federal agency, you wish to contribute to the conservation of neotropical migrants, your best chances at success is in simply managing quality habitat and keep it in good condition. River bottom forests, woody draws, grasslands, and brush patches must be kept in good ecological health to provide habitat for neotropical migrants.

Examples of neotropical migrants which use habitats found in the Badlands include but are not limited to: Lazuli bunting, Lark bunting, blackheaded grosbeak, rufus-sided towhee, mountain bluebird, yellow warbler, chestnut collared longspur, vesper sparrow and the seldom seen rock wren.

Waterfowl are not a group of species that pop into your mind when you think of the North Dakota Badlands; but then again maybe they should. Giant Canada geese, Mallards and blue-winged teal use the river bottoms, creek drainages and stock ponds found in the Badlands. The United States Forest Service has cooperated with Ducks Unlimited to provide waterfowl nesting habitat on the Little Missouri National Grasslands. Research has

found that nest success for waterfowl breeding in the western Great Plains is quite high. The bottom line is that aquatic areas in the Badlands do significantly contribute to waterfowl populations.

Sage grouse and sage brush lizards are two species with extremely specific habitat preferences. They are limited to areas with a specific species of sage brush.

Badlands buttes, slopes, and ridges are a special habitat that provide homes for easily recognized species such as the bighorn sheep and for unusual species like the rock wren and horned lizard.

I have discussed only a few of the many wildlife species found in the diverse habitats of the Badlands. The list of factors influencing biodiversity is long. These factors can either impact the habitat directly or they may have a less obvious, more subtle effect on the condition of the habitat. Some are naturally occurring events while the majority are man-made or man-influenced. Each factor and its effect have been discussed, analyzed, debated and in some cases litigated. One factor that everyone agrees is a serious problem is leafy spurge. No matter if you are a rancher, oil producer, park manager, or wildlife biologist everyone agrees that leafy spurge is a serious threat to the Badlands.

It is the purpose of this conference to examine the issue of leafy spurge control and management. Hopefully I have given you some food for thought about what is at stake from the wildlife perspective. A diversity of quality habitat in good condition is critical if we are to maintain the tremendous wildlife treasures of the North Dakota Badlands. Leafy spurge threatens these habitats. Therefore, development of an effective and efficient leafy spurge control program is critically important.