Sandhills Journey
SCENIC BYWAY
INTERPRETIVE PLAN
2013
The Sandhills is an iconic American landscape, a land that fundamentally changed the way Americans view the country and themselves.
Each site encompasses a unique set of stories that connect the site to the theme and the respective storylines.
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Project Purpose

The purpose of this project is to provide for the professional development of an interpretation plan for the entire Sandhills Journey Scenic Byway (Byway). The Byway interpretive plan complements the theme of “World Class Natural Wonders” utilized in the Sandhills Journey Scenic Byway’s (Client) marketing plan. The interpretive plan expands on the route’s intrinsic qualities. The interpretive plan includes recommendations of the following interpretive products for the Byway: interpretive panels and/or kiosks, trail markers, smartphone apps, educational maps, and guidebooks. The interpretive has been developed to comply with the Byway’s original Corridor Management Plan (CMP).

Project Facts

- The Byway stretches 272 miles through an amazing section of landscape, one of the last remaining unplowed prairies in the Great Plains.
- As much as 85% of the Sandhills ecoregion is intact natural habitat, the highest level in the Great Plains.

According to the US Fish and Wildlife Service, the Sandhills encompasses:

- 19,600 square miles
- Largest grass-stabilized sand dune formation in North America
- 1.3 million acres of wetlands
- 1 billion acre-feet of groundwater
- 2.4 million acre-feet of spring-fed streamflow discharged annually

The Byway has been developed to bring this iconic part of the American landscape to the attention of the millions across this country and the world who have no concept of the Sandhills and its ecological and historical significance.

Project Benefits and Map

This project benefits the Byway traveler by planning for interpretive signage, information/interpretation at points of interest, and other educational products. The Byway follows a major east-west transportation route through central Nebraska (see map).
The Byway stretches 272 miles through an amazing section of landscape, one of the last remaining unplowed prairies in the Great Plains.
Introduction
“What begins as undifferentiated space becomes place as we get to know it better and endow it with value.” - Yi-Fu Tuan
The Sandhills Journey Scenic Byway stretches along Nebraska Highway 2 between Grand Island and Alliance, Nebraska. The Byway begins east of the 98th Meridian, at the edge of the more humid Platte River Valley. The Byway ends west of the 100th Meridian, in the arid, treeless grasslands of the west. With each mile a different sentence in the great American story is inscribed. The Sandhills is an iconic American landscape, a land that fundamentally changed the way Americans view the country and themselves.

The utility of the 100th Meridian as an ecological and social dividing line continues to be debated. In the late nineteenth century this line represented, at least metaphorically, the boundary between the moist east and the arid west. In 1879, U.S. Geological Survey head John Wesley Powell established the boundary in a report of the west that has carried to this day. Later in this strategy we will discuss the controversy over this delineation. However, we do note that the following is posted on the Nebraska State Historical Society website: “Here on the 100th Meridian the humid East meets the arid West.”

The 100th Meridian bisects the Byway a short distance east of Dunning and the Nebraska National Forest near Halsey. Certainly far more of the Byway extends west of this demarcation. The purpose of this demarcation is not to divide the Byway into equal halves. We believe that the transition between humid east and arid west does play out along the entire length of the Byway, and the 100th Meridian represents early attempts to map that transition.

There are few byways that stretch such a distance across a rural landscape. The Byway is 272 miles from end-to-end, and in the distance the traveler is exposed to one of the most open landscapes in the nation. The interpretive challenge, therefore, is to engage the visitor in a landscape that, at times, appears featureless.

Yet distance itself provides the interpretive backbone for the Byway, allowing the interpreter the opportunity to explore its defining landscapes at leisure. Yes, the land changes subtly, but it changes nevertheless. Rooted in the forested east, the Byway terminates in the semi-arid west. This is a landscape that redefined America, certainly as much as the Mississippi River or the Appalachian Mountains. The Byway may hold “World Class Natural Wonders,” but at its essence this is an American story.

Thematic Structure

The concept of thematic structures is fundamental to interpretive planning. Research has demonstrated that people are able to absorb information that is organized as opposed to information that is chaotic or disorganized. The thematic structure that has been created for the Byway overarches all of the communities and resources. The central theme and the storylines remain the same no matter the specific location in question. What changes are
the stories themselves. Each site encompasses a unique set of stories that connect the site to the theme and the respective storylines. While the central theme and storylines (often called subthemes) will not change along the Byway, there is a never-ending supply of stories that emanate from the sites themselves.

There is little doubt that the Byway is dominated by a single feature – the Sandhills. The numbers themselves are astounding:

- 19,600 square miles (about 25% of Nebraska)
- Largest grass-stabilized sand dune formation in North America
- 95% grassland
- As much as 85% of the ecoregion is intact natural habitat
- The largest and most intricate wetland complex in America
- 1.3 million acres of wetlands
- 1 billion acre-feet of groundwater
- 2.4 million acre-feet of spring-fed stream flow discharged annually

In a sense, the Sandhills as a natural phenomenon is sufficient to justify the creation of the Byway. More importantly, there are destinations that are publicly accessible along the Byway, such as the Bessey Ranger District of the Nebraska National Forest, Crescent Lake NWR, and Valentine NWR, that allow intimate contact with this resource. However, the Sandhills also offers a platform for discussing the human history of the region as well as its nature. In this sense nature frames the human drama, and gives it a context and meaning.

For example, Grand Island anchors the eastern end of the Byway, and contains resources critical to illuminating both the natural and human history of the region. The Crane Trust Nature and Visitor Center is located directly on the Platte River, one of the defining river systems bordering the Sandhills. Each spring thousands of Sandhill cranes stage on this river before migrating north to breed.

The Platte River Valley is also the route for many of the emigration trails that transported pioneers west in the late nineteenth century. While the great Sandhills was not initially seen as a place for settlement, it later became known for its rich resources. The Stuhr Museum of the Prairie Pioneer in Grand Island, for example, has collected and restored a late 1890’s railroad town, a living history community where visitors are able to experience life among early settlers.

The late David Larsen, a long-time interpreter for the National Park Service, stated the following about interpretive themes,

An interpretive theme statement provides an organizational compass. The theme statement guides the selection of tangible/intangible links. Those links must be developed into opportunities for emotional and intellectual connections to the meanings of the resource and arranged in an order that “adds up” to the interpretive theme. The theme is the tool that cohesively develops the central relevant idea or ideas for the audience.

In addition to providing an organizational compass, the interpretive theme also states the Byway’s reason for establishment. In this context World Class Natural Wonders serves well. World-class natural wonders are among the Sandhills experiences that we wish to share with the public.
Theme: World Class Natural Wonders

Storyline 1:
Sea Change
The land itself shapes nature, but it is nature that shapes how people live on and adapt to the land.
Sea Change

Nebraska has ocean origins, and the landscape we see today, in part, is a result of that maritime beginning. The skeletons of millions of animals and plants were embedded in mud that hardened into rock and became the limestone that appears today on the sides of ravines and along the streams in Nebraska. In the Sandhills, however, these same fossils are often buried under deep deposits of sand, although there are sites along the Loup River system where fossil-bearing strata are exposed.

According to the US Fish and Wildlife Services (USFWS), “eons ago, receding waters exposed the bed of a huge inland sea located west of Nebraska. West winds attacked the sea bed and transported the sand to north-central Nebraska. Here the sand was deposited in the dunes which comprise the Sandhills.”

Yet there is still division among experts as to the origin of the Sandhills sands. There is no doubt as to their extent. According to Ahlbrandt and Fryberger (1980) “the Nebraska Sand Hills are the largest dune field in the Western Hemisphere...” Yet in his seminal The Nebraska Sand Hills – The Human Landscape (1996), McIntosh still questions “whence commeth the Sand Hills?”

Stories:

The Inland Sea

During the Late Cretaceous, between 65 million to 99 million years ago, three-quarters of Nebraska was covered by the Western Interior Seaway, a large body of water that covered one-third of the United States.

The sand deposits in the Sandhills overlay fossil-laden limestone. Areas in Nebraska that are renowned for fossils are the Ashfall Fossil Beds State Historical Park in the northeast, and the Agate Fossil Bed National Monument in far western Nebraska. Along the Byway there are few opportunities for interpreting this important chapter in ancient Nebraska history. Therefore we recommend the development of an interpretive panel for installation along the Byway that explains this era. We also recommend reaching out to the Hastings Museum and the Agate Fossil Beds NM and developing a cooperative interpretation.

Oceans of Grass

While lacking in resources for interpreting the inland ocean, the Byway has endless opportunities for discussing the Sandhills and one of the last great unplowed grasslands in America. There are three prairie types along or near the Byway – tall grass, mid or mixed grass, and short grass.
Nebraska has lost some 98% of the 15 million acres of native tallgrass prairie that once dominated the eastern one-third of the state. Only slender fingers of tallgrass prairie stretched west to the 98th Meridian. The nearest tallgrass prairie is found along the Platte River (such as Lillian Ann Rowe Sanctuary near Kearney and Mormon Island.

The Sandhills prairie is dominated by the transition between tallgrass to the east and shortgrass to the west. This is mixed-grass prairie, with representatives of both tall and short grasses. Public lands such as Bessey Ranger District of the Nebraska National Forest, Valentine NWR, and Crescent Lake NWR have vast areas of mixed grass prairies open to the public and offer excellent opportunities for experiencing this landscape. In addition, there are ample opportunities for interpreting the Sandhills as well as the grassland along Highway 2. We recommend the development of four wayside exhibits interpreting, in part, the Sandhills and their grasses. These exhibits should be installed just west of Anselmo (where the Sandhills actually begins), the Byway Visitor Center in Broken Bow, in the heart of the Sandhills in Thedford, and at the western edge of the Byway in Alliance. If the budget allows we also recommend wayside exhibits in Halsey and the Nebraska National Forest.

Shortgrass prairie, the dominant grassland of the High Plains, lies at the extreme western edge of the Byway. The Oglala National Grasslands, although northwest of the Byway, is an excellent example of this ecotype. Like the tallgrass prairie examples, we recommend partnering in the future with the US National Forest Service in the Oglala National Grasslands in a cooperative interpretive effort.

The Sandhills is the major recharge zone for the Ogallala Aquifer. This aquifer extends the length of the Great Plains from South Dakota to Texas. One of the world's largest aquifers, it covers an area of approximately 174,000 mi². The recharge provided by the Sandhills region is critical considering that over a quarter of the irrigated farmland in the U.S. depends on the Ogallala.
Abundant ground water is evident from the myriad of lakes, wetlands, and perennial streams throughout the Sandhills.
Abundant ground water is evident from the myriad of lakes, wetlands, and perennial streams throughout the Sandhills. These wetlands are fed by ground water from the aquifer, and provide critical nesting habitat for many wetlands birds such as the American widgeon and blue-winged teal.

There are numerous opportunities for interpreting the aquifer and wetlands along the Byway, particularly in the west. Certainly public lands such as Crescent Lake NWR and Valentine NWR offer a wealth of wetland interpretation opportunities. We also recommend the development of an interpretive boardwalk, viewing platform, and kiosk at Avocet Wildlife Management Area near Hyannis for this expressed purpose.

**Prairie Rivers**

According to Ahlbrandt and Fryberger, “the Sand Hills are bordered by through-flowing streams - the Niobrara River to the north and the North Platte and Platte Rivers to the south. Some perennial streams originate within the dune field (for example, the Snake River, Middle and North Loup Rivers, and Dismal River).”

The North and South Platte drain from the Rocky Mountains toward the Missouri River at the eastern edge of the state. These are wide, shallow rivers (a “mile wide and an inch deep” according to local lore). Braided rivers are those that carry significant sediment loads and that course through a wide riverbed in a series of meandering channels. The Platte River borders the Byway south of Grand Island, and one of the best known braided rivers in the Great Plains.

The Loup River system borders some of Highway 2. The Loup system (North Loup, Middle Loup, Dismal River, South Loup, Calamus, and Cedar rivers) expresses the same braided features as the Platte. According to the Nebraska Game and Parks Commission, “The North Loup is part of the Loup river system, a basin that covers nearly one-fifth of Nebraska and contains 1,800 miles of streams. The Middle Loup, South Loup, Dismal, Calamus and Cedar rivers are in the Loup system. With the exception of the South Loup, all originate in the Sandhills.” These are spring-fed rivers, and, therefore, they are not dependent on snow fall in the mountains.

The Platte River is best interpreted on this Byway at the Crane Trust Nature and Visitor Center south of Grand Island. The Platte, with its wide reach and shallow depth, is a primary staging habitat for Sandhill cranes in the spring. Therefore this location is ideal for the interpretation of braided rivers and the wildlife species that depend on them such as the Sandhill and whooping cranes.

The visitor center at the Bessey Ranger District of the Nebraska National Forest near Halsey includes a pedestrian bridge across the Loup River that offers a special opportunity for prairie river interpretation. Therefore we recommend partnering with the USDA Forest Service to develop interpretive enhancements for this location.
Theme: World Class Natural Wonders

Storyline 2: Two Degrees of Separation
As pioneers crossed the Missouri traveling west, they entered a new world as they passed the 98th Meridian.
Two Degrees of Separation

Walter Prescott Webb, historian and author of *The Great Plains* (published by the University of Nebraska Press in 1931), considered the 98th Meridian to be a defining line in American history. East of the 98th Meridian (passing a short distance east of Grand Island in Aurora) the landscape resembled that of Europe - humid with rivers adequate for transportation. As pioneers crossed the Missouri traveling west, they entered a new world as they passed the 98th Meridian. The trees grew sparse, rivers were shallow and incapable of supporting transportation, and with every mile in movement west the land became drier and more desiccated.

Webb proposed in the Great Plains thesis that the westward settlement of the United States had been momentarily stalled at the 98th Meridian, an institutional fault line separating the wooded environment to the east from the arid environment of the west. This concept of the 98th Meridian as a diviner did not originate with Webb. John Wesley Powell’s 1878 *Report on the Lands of the Arid Region of the United States* proposed the same. In his day his arguments were dismissed by the advocates of western settlement including scientists, state government officials, and settlers themselves. Everett N. Dick in *Conquering the Great American Desert* (NSHS, 1975) and Frederick C. Luebke, “Time, Place, and Culture in Nebraska History” (*Nebraska History* 69, Winter 1988) proposed that climatic deception (above-average rainfall in the 1880s), government land policies based on the sub-humid east, boosterism (“ill-founded optimism about future growth”), and railroad construction, among other things, promoted a surge of settlement beyond the 100th meridian with little regard for the environmental realities.

Many continued west, however, passing through the “Great American Desert” and stopping only when greeted by a landscape they recognized. Only beginning at the foothills of the Rocky Mountains along the Pacific coast do the

<table>
<thead>
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<th>Date of Statehood for United States 31-50.</th>
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<tbody>
<tr>
<td>31 California</td>
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<tr>
<td>32 Minnesota</td>
</tr>
<tr>
<td>33 Oregon</td>
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<tr>
<td>34 Kansas</td>
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<td>35 West Virginia</td>
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<td>48 Arizona</td>
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<td>49 Alaska</td>
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<td>50 Hawaii</td>
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</tbody>
</table>
forests, rivers, and rainfall of the eastern United States reappear. The result is that three western states (California, Nevada and Oregon, for example) achieved statehood before Nebraska. As Webb noted, the westward settlement of the United States had been only momentarily stalled at the ninety-eighth meridian.

The Byway bisects the longitudes that, in Webb’s words, “destroyed traditions.” Beginning in Grand Island (the 98th Meridian), the Byway wends its way west through farms and communities reflective of the eastern U.S. farmland are arrayed along the Byway as far west as Anselmo, with center-pivot irrigation becoming increasingly common traveling west. The 100th Meridian crosses west of Anselmo, and farming disappears to be replaced by Sandhills ranching. By the end of the Byway in Alliance, irrigated farming has reappeared yet the landscape has changed to short grass prairie dominated by buffalo grass and yucca.

Stories

The Great American Desert

In 1823, Major Stephen Long, a government surveyor and leader of the next official exploration expedition, produced a map labeling the area the Great American Desert. In the report that accompanied the map, the party’s geographer Edwin James wrote of the region:

I do not hesitate in giving the opinion, that it is almost wholly unfit for cultivation, and of course, uninhabitable by a people depending upon agriculture for their subsistence. Although tracts of fertile land considerably extensive are occasionally to be met with, yet the scarcity of wood and water, almost uniformly prevalent, will prove an insuperable obstacle in the way of settling the country.

We recommend the development of three interpretive panels that discuss the fundamental changes that occur between the 98th Meridian (Grand Island) and the 102nd in Alliance. We recommend a panel located at the Crane Trust Nature and Visitor Center that discusses eastern farming techniques and settlement patterns. We recommend another panel in the Byway visitor center in Broken Bow (or west of Anselmo) that details the importance of the 100th Meridian in American history. Finally, we recommend the development of an interpretive panel in Alliance to illustrate the demands of the High Plains landscape west of the 102nd Meridian.

Necessity and Invention

Until after the Civil War, Long’s opinions of the Great Plains as a “desert” would hold sway. Yet technological advances would change the Great Plains forever, and open this last frontier to settlement. Consider the contrast between the familiar East and the challenges of settling the Great Plains.

### Comparison of settlement challenges between the East and the West

<table>
<thead>
<tr>
<th>East</th>
<th>West</th>
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<tbody>
<tr>
<td>Old crops withered and died</td>
<td>Had to develop irrigation techniques and new hybrids</td>
</tr>
<tr>
<td>Water travel not practical in shallow Western Rivers</td>
<td>Horses, then railroad replaced water travel</td>
</tr>
<tr>
<td>Wood/stone houses impractical since no wood/stone</td>
<td>Initially pioneers built sod houses</td>
</tr>
<tr>
<td>Fences-no wood, open range</td>
<td>Open range; eventually barbwire introduced</td>
</tr>
<tr>
<td>Fresh food and available water</td>
<td>Dried food, spices; less water, windmills and drilling</td>
</tr>
<tr>
<td>English /cavalry boots and saddle</td>
<td>Spanish vaquero (Western) boots and saddle</td>
</tr>
<tr>
<td>Weapons: Kentucky rifle, single shot</td>
<td>Sharps-long range 600 yards, Colt revolver and Winchester repeating rifle/carbine</td>
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</tbody>
</table>
Six technological advances cited by the College of Natural Resources at UC-Berkeley changed the Great Plains forever:

1. Samuel Colt six shooter (1835) subdues Plains Indians and their horse culture.

2. John Deere steel plow (1846) breaks up sod and thick root masses of tall grass prairies and replaces iron plow.

3. Railroads (1866) create market system for cattle and bring homesteaders.

4. Barbed wire (1874) allows ranchers and farmers to fence their property, separate pastures, isolate water supplies and introduce blooded herds. It transforms open range to stock ranches and homesteads.

5. Windmill (used on Plains beginning in 1880s) helps to solve water problem by pumping and storing subsurface water, allows ranchers to create pastures in outlying ranch areas and is used by railroads to pump water for engines. Home or kitchen gardening became possible.

6. [Beginning in the 1890s,] mechanical steam [farm equipment], cultivators, threshing machines, harvesters, dams and irrigation systems.

Others believe that the invention and proliferation of the six shooter had a less significant impact that the list would imply. In addition, the railroads created a market system for agricultural products in general, not just cattle.

To this list we will add the following:

7. Dry farming techniques such as grain crops gave early settlers a viable product in a land with little water.

8. Center-pivot irrigation has allowed the tapping of the Ogallala Aquifer and the spread of farming to regions where dryland farming is impossible.

9. Raising beef cattle and large-scale ranching opened the Sandhills to settlement.

Grand Island’s Stuhr Museum of the Prairie Pioneer is the Byway’s eastern anchor for interpreting Great Plains pioneer life. There are few museums in the Great Plains that are more comprehensive in their treatment of the era. We recommend working with the Stuhr to develop an exhibit of the technological advances listed above, and to discuss, in detail, how these advances were made and the impact they had on the Great Plains generally and the Sandhills specifically. We recommend the same for the similar anchor at the western end of the Byway, The Knight Museum in Alliance.
Here are several examples of additional stories that can be developed along this storyline.

Barbed Wire

“Barbed wire excludes and includes. Its function is always to magnify differences between the inside and the outside. Barbed wire was added to pre-existing elements in order to enhance separation.” —Oliver Razac, Barbed Wire - A Political History, p. 75.

According to the National Archives, before the invention of barbed wire, the lack of effective fencing limited the range of farming and ranching practices, and with it, the number of people who could settle in an area. Wooden fences were costly and difficult to acquire on the prairie and plains, where few trees grew. Lumber was in such short supply in the region that farmers were forced to build houses of sod. Likewise, rocks for stone walls—commonly found in New England—were scarce on the plains. Shrubs and hedges, early substitutes for wood and rock fencing materials, took too long to grow to become of much use in the rapidly expanding West. Barbed wire was cheaper, easier, and quicker to use than any of these other alternatives.

Without fencing, livestock grazed freely, competing for fodder and water. Where working farms existed, most property was unfenced and open to foraging cattle and sheep. Once a year, cattle owners, unhindered by fenced property lines, led their herds on long cattle drives, eventually arriving at slaughter-houses located near urban railheads for shipping convenience. The appearance of barbed wire meant the end of both the open range and the freedom of the rancher and cowboy, an event lamented in the Cole Porter song “Don’t Fence Me In.”

Wire fences used before the invention of the barb consisted of only one strand of wire, which was constantly broken by the weight of cattle pressing against it. Michael Kelly made a significant improvement to wire fencing with an invention that “twisted two wires together to form a cable for barbs—the first of its kind in America,” according to Henry D. and Frances T. McCallum, the authors of The Wire That Fenced the West. Known as the “thorny fence,” Kelly’s double-strand design made the fence stronger, and the painful barbs taught cattle to keep their distance.

Predictably, other inventors sought to improve upon Kelly’s designs; among them was Joseph Glidden, a farmer from De Kalb, IL. In 1873 and 1874, patents were issued for various designs to strengthen Kelly’s invention, but the recognized winner in this series of improvements was Glidden’s simple wire barb locked onto a double-strand wire. Glidden’s invention made barbed wire more effective not only because he described a method for locking the barbs in place, but also because he developed the machinery to mass-produce the wire. His invention also survived court challenges from other inventors.
Given the importance of barbed wire to the settlement of the Sandhills, we recommend the development of a display that specifically shows the design and evolution of barbed wire along the Byway and in the Great Plains. Several museums along the Byway have extensive barbed wire exhibits. Examples include the Grant County Historical Museum.

The American Windmill

Windmills helped solve the problem of getting water to the surface by powering pumps. The first commercially successful American windmill was invented in 1854 by a New England mechanic named Daniel Halladay. To take advantage of the growing western market, he moved his company to Illinois. By the 1860s, other companies like the Eclipse had entered the fray, and windmills were in common use in Nebraska by the 1870s. The incessant winds on the plains turned the mill blades and that motion and energy was transferred to a pump at the bottom of the windmill tower. The pump then moved up and down to draw water from the well into storage tanks on the surface. Often the windmills dwarfed the houses.

Windmills evolved as inventive Nebraska and regional manufacturers varied designs to harness the wind more efficiently. A well, with a windmill attached, could supply water to man and beast in whatever quantity was needed.

Before the introduction of windmills, inhabitable land was confined to areas where a constant water supply was available. There was no way for vast areas to be settled without a life-giving supply of water, although early settlers did hand dig wells and used water from lakes and ponds. The coming of the windmill made it possible to pump water from beneath the ground, and soon whole new areas of the Great Plains were opened up to settlers. Dempster windmills were produced in Nebraska, and Aeromoters in Texas in the 1880's.

Windmills moved to the ranches when the use of barbed wire began in the late 1870s. At first the water holes, springs, creeks, and rivers were fenced, so that the back lands had no access to water. In the midst of the ensuing fence cutting and fighting, some ranchers began drilling wells and experimenting with windmills.

The Stuhr Museum and the Sandhills Journey visitor center in Broken Bow have examples of working American windmills. We recommend the development of an interpretive panel at each that discusses the invention and evolution of the American windmill and its importance in the Sandhills.
Before the introduction of windmills, inhabitable land was confined to areas where a constant water supply was available. There was no way for vast areas to be settled without a life-giving supply of water...
Center Pivot Irrigation

In June 1976, Scientific American magazine called center pivot irrigation systems “perhaps the most significant mechanical innovation in agriculture since the replacement of draft animals by the tractor.”

Just 25 years after Frank Zybach invented the first center pivot system, there were almost 10,000 center pivot systems in operation in Nebraska alone. U.S astronauts could clearly pick out the Northeast Nebraska region from 270 miles in space by the patterns of lush, green crop circles produced by center pivots.

Although travelers will certainly see center pivot irrigation along the Byway, there are few opportunities for interpretation. We recommend investigating the pullout west of Broken Bow with center pivots nearby for an interpretive panel. We also recommend the development of interpretive panels for the Byway anchors (Grand Island, Broken Bow, Alliance) that illustrate the crops that are being cultivated and the types of irrigation commonly used along the Byway.

Cow Country

The Sandhills has been called “a 20-million-acre region of grass-covered sand dunes in north-central Nebraska that is devoted almost entirely to livestock grazing. Settlers came to the Sandhills during the so-called Kinkaid Era after 1904 when enlarged homesteads (640 acres) were granted in the [region]. But wherever the land was broken for planting, wind erosion soon deflated the ground surface and new sand dunes began to accumulate along fence lines. Cattle ranching, which had traditionally been the major land use, was quickly reestablished.

Today, the Sandhills region has some of the largest cattle ranches in the United States. Typical ranches are thousands of acres in size. The only crop of significance is hay, baled from meadows–where it grows wild– that surround the region’s many east-flowing streams or surface lakes, formed where the water table intersects the surface. Sandhills cattle ranching has the look of the open range, even though most of the land is fenced and privately owned."

Although the heart of the Sandhills is cow country, there are few opportunities for visitors to interact with cattle and ranchers. Virtually all of the ranching land in the Sandhills is privately owned. Rodeos are popular in the region, and many young people participate in competitive rodeo events. There are guest ranches along the Byway (such as the Double R Guest Ranch north of Mullen) that offer visitors a chance to experience the ranching life.

Given the limited exposure by visitors to the ranching lifestyle, however, we recommend the development of a ranching exhibit to be installed at one of the western Byway communities (such as Mullen). The exhibit should explain the reasons behind ranching in the Sandhills, and detail the various tasks and equipment used to complete these tasks. For example, a saddle has dozens of parts, each with a unique name. Assume that the visitor knows little or nothing about ranching, and there is an opportunity to interpret this life accurately.
Theme: World Class Natural Wonders

Storyline 3: Survive & Thrive
“The historical truth that becomes apparent in the end is that the Great Plains have bent and molded Anglo-American life, have destroyed traditions, and have influenced institutions in a most singular manner…” -Walter Prescott Webb
Survive & Thrive

Technological advances did not guarantee success to early settlers. Many were unable to adapt. Many left for a less-forbidding land. However, those that did survive the early years and adapted to this new land were able to thrive. Of course this adaption is not limited to European and eastern U.S. settlers. The American Indian, America’s original immigrants, were able to thrive for millennia.

Stories

The American Indian

According to the Nebraska State Historical Society,

Paleoindians (12,000–8,000 years ago) were the earliest human inhabitants of the Sandhills. They were nomadic, big game hunters who survived primarily by hunting mammoths and bison as well as other extinct species. Large, finely worked lanceolate chipped stone spear points dating to this period are found throughout the Sandhills, usually in blowouts where the original context has been destroyed.

During the Archaic Period (8,000–2,000 years ago), a large number of mammalian species became extinct, leaving the bison as the largest and most important prey for Sandhills inhabitants. Archeological evidence suggests that plant foods became more important to the diet as a supplement to hunting. In addition, a greater diversity in the types and styles of artifacts being produced, as well as regional variations in artifact styles suggest that groups were less nomadic and becoming more familiar with local resources. Few sites of this age have been excavated in Nebraska and only one in the Sandhills.

The Woodland Period (2,000–1,000 years ago) in Central Plains prehistory is defined primarily on the basis of the earliest known use of ceramic vessels and a more settled lifestyle. During the late part of this period in the Midwest, the first evidence of horticulture occurs. Squash, beans, and possibly amaranth were grown. Corn was also cultivated on a small scale during the Woodland Period. Hunting and gathering wild plants continued to be a major form of subsistence, with horticulture becoming more important through time. A major technological breakthrough took place during this period as the bow and arrow replaced a spear throwing device called the “atlatl” as the main hunting weapon.

From about 1,000 to about 600 years ago, much of Nebraska was occupied by the Central Plains tradition. This culture was composed of small groups of related peoples who lived at least part of the time in permanent villages and divided their time between raising crops and hunting.
In the eastern and southern portions of the state, groups lived in substantial rectangular earth lodges consisting of timber frameworks covered with grass and earth, and raised corn, beans, and squash. Related sites are located in the High Plains of western Nebraska, eastern Colorado, and eastern Wyoming. However, they seem to be less permanent in nature and convincing evidence for horticulture is lacking.

Commonly thought to be ancestors of the Plains Apache, people of the “Dismal River” culture occupied the Sandhills region briefly, possibly for only a half-century in the late 1600s and early 1700s. Dismal River people had a subsistence economy based primarily on hunting and secondarily on horticulture. Bison were the chief animals hunted, although deer, beaver, birds, turtles and freshwater mussels were also eaten. Evidence for horticulture is present, but limited. Bison scapula digging tools have been recovered from several sites. Charred remains of corn and squash or gourd provide direct evidence of domesticated plant use. Wild plant foods were also eaten. Remains of plums, chokecherries, hackberries, and black walnuts have been recovered. Chipped stone and bone tool technology included projectile points, scrapers, knives and drills, bison scapula hoes, fleshers, and bone awls.

Restorable ceramic vessels indicate globular to somewhat elongate shapes with constricted necks. Individual shards and reconstructed portions suggest other forms, including bowls with constricted necks or “seed bowls,” vessels with flat shoulders and recurved rims, vessels with flat bottoms, and miniatures. Dismal River pottery is characteristically greyblack in color with a smooth or simple stamped surface and tempered with gritty paste, fine to medium sand or mica. Decoration is scarce and usually confined to the lips, consisting of punctates and incised or impressed lines.

A common shelter was a round lodge, about twenty-five feet across, covered by grass or brush over a five-post foundation with leaners built either on the surface or in a shallow excavation.

Based on native oral traditions and the accounts of Euroamerican explorers, military personnel, and settlers, at least ten Native American tribes used the Sandhills for a variety of purposes. The [western and central] region is most closely associated with the Brulé and Oglala bands of the Lakota. [The eastern region is noted for Pawnee villages along the Loup River near Dannebrog.] Other equestrian nomadic bison hunting groups familiar with the area include Cheyenne, Arapaho, Kiowa, and Crow. More sedentary hunting/agricultural village tribes utilized the area for bison hunting and perhaps other uses. Native American villagers who may have hunted in the Sandhills include the Pawnee, Arikara, Plains Apache, Omaha, and Ponca.

Reducing the 12,000 year history of American Indians to a few meager paragraphs is admittedly unfortunate. Yet little remains of Indian culture in the Sandhills. The Pine Ridge Indian Reservation of the Oglala Lakota is north of the Byway. Fort Robinson, the military base that processed and removed the last of
the Great Plains Indians, is likewise north of the Byway. In truth, museums with significant American Indian material are either in Lincoln and Omaha, or north of the Byway (such as Fort Robinson and the Pawnee Indian Museum State Historic Site.) We recommend developing relationships with these entities for the shared interpretation of American Indians in the region.

The Knight Museum and Sandhills Center does contain significant displays of Great Plains Indian artifacts. In addition, the Stuhr Museum has reproductions of a tipi as well as a mound home. We recommend developing interpretive materials that detail the tribes that were specific to the Sandhills region in partnership with these historical organizations.

The Emigrant Trails

The most extensive emigration in American history followed a path along the Platte River in Nebraska. The Mormon, California, and Oregon Trails all passed Grand Island. Although these trails hugged the Platte River until Scottsbluff and the entry into Wyoming, the Byway has the opportunity to interpret this unparalleled movement at the Crane Trust Nature and Visitor Center and at the Stuhr Museum near Grand Island. Therefore we recommend working with these facilities to develop interpretive panels discussing this movement and that reveal the role that the Sandhills played in restricting westward movement to the Platte River.

The Rule and Role of the Law

The Great Plains is hard to imagine without the influence of the technological advances previously listed. Without irrigation, barbed wire, or the windmill, settlement would have been delayed for decades. The same is true for law.

Settlement sparked by government land policies failed in the Sandhills environment, as epitomized by the Kinkaid Act of 1904. Some large ranches during this period illegally used land laws and installed fences to protect their grazing lands. Subsequently, in the early to mid-twentieth century, cattlemen legally assembled viable ranches from the former claims of the failed settlers and returned the region to the predominant contemporary use for raising cattle.

Beginning in the 1840s Congress passed a number of key acts that dramatically influenced settlement in the Great Plains. In truth, these acts and their implementers made settlement viable. Here are the key legislative acts that we have identified for interpretation:

- **The 1851 Indian Appropriations Act**

The 1851 Indian Appropriations Act allocated funds to move western tribes onto reservations. Reservations were protected and enclosed by the US government. According to the federal government at that time, reservations were to be
created in order to protect the Native Americans from the growing encroachment of whites moving westward. This act set the precedent for modern-day Native American reservations.

**The Homestead Act of 1862**

The Homestead Act was one of three United States federal laws that gave an applicant ownership at no cost of farmland called a “homestead” – typically 160 acres (65 hectares or one-fourth section) of undeveloped federal land west of the Mississippi River. It was an expression of the “Free Soil” policy of Northerners who wanted individual farmers to own and operate their own farms, as opposed to slave-owners who would use gangs of slaves.

**Morrill Land-Grant Acts 1862**

The Morrill Land-Grant Acts are United States statutes that allowed for the creation of land-grant colleges, including the Morrill Act of 1862 and the Morrill Act of 1890 (the Agricultural College Act of 1890.) The University of Nebraska was established under this Act in 1869.

**Pacific Railroad Act 1862**

According to the National Archives,

This act, passed on July 1, 1862, provided Federal subsidies in land and loans for the construction of a transcontinental railroad across the United States. In the 1850s Congress commissioned several topographical surveys across the West to determine the best route for a railroad, but private corporations were reluctant to undertake the task without Federal assistance. In 1862 Congress passed the Pacific Railway Act, which designated the 32nd parallel as the initial transcontinental route and gave huge grants of lands for rights-of-way. The act was an effort to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean and to secure the use of that line to the government.
• **The Department of Agriculture 1862**

On May 15, 1862, President Abraham Lincoln established the independent Department of Agriculture to be headed by a Commissioner without Cabinet status. Lincoln called it the “people’s department.” The act established the Department’s basic mission “to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of the word.”

• **Fort Laramie Treaty of 1868**

Another development that affected Sandhills settlement was the Fort Laramie Treaty of 1868. While it created the Great Sioux Reservation to relocate the Lakotas away from the Platte route and out of Nebraska, it also granted them the right to hunt north of the Platte and on the Republican as long as game existed. This provision forestalled cattlemen and others from moving into the Sandhills until the hunting right was extinguished by the government in 1875.

• **The Kinkaid Act of 1904**

The Kinkaid Act of 1904 is a U.S. statute that amended the 1862 Homestead Act so that one section (1 mi², 2.6 km², 640 acres) of public domain land could be acquired free of charge, with the exception of a modest filing fee. It applied specifically to 37 counties in northwest Nebraska, in the general area of the Nebraska Sandhills region. The act was introduced by Moses Kinkaid, Nebraska’s 6th congressional district representative, and was signed into law by President Theodore Roosevelt on April 28, 1904 and went into effect on June 28 of that year.

Given the importance of these pieces of legislation and presidential acts to Nebraska and Sandhills history, we recommend the development of a series of interpretive panels for each individual act. We also recommend that a single panel that reprises each act be installed in the Visitor Center.

The Land, The People, and the Legacy

Conservation is the foresighted utilization, preservation and/or renewal of forests, waters, lands and minerals, for the greatest good of the greatest number for the longest time...

—Gifford Pinchot

We have fallen heirs to the most glorious heritage a people ever received, and each one must do his part if we wish to show that the nation is worthy of its good fortune ...

—Theodore Roosevelt
The origins of the Nebraska National Forest are shared with the origins of the US Forest Service. According to R. Douglas Hart in *Forestry on the Great Plains, 1902-1942*, the concept of foresting the Great Plains began in the late 1880s, a time when the concept of conservation first arose in America. According to Hart, “in 1890, however, Bernhard E. Fernow, head of the Division of Forestry in the USDA, visited Nebraska and told the state board of agriculture: “I believe that forest planting is one of the necessary requisites to permanently reclaiming this vast domain; I believe that reforesting this large area, deforested by fire, buffalo, and consequent desiccation, is not impossible.”

A decade later Gifford Pinchot, chief of the Bureau of Forestry, sent a group of foresters to investigate the potential for tree planting in the Sand Hills, primarily because the USDA had recently upgraded forestry from division to bureau status, and he too needed to show that it could make an important contribution to the growing conservation movement in the nation. To their amazement the group found pine trees growing twenty feet tall on the old experimental plots, and a “dense thicket” with “forest conditions” established on the site, in part, because the trees

The Sandhills is intact, a reflection of a time before most of America’s grasslands were converted to agriculture and its open spaces to cities. In the Sandhills a visitor can experience the time before fences, power lines, and telephone poles. In the Sandhills the skies are still dark and the nights still quiet.

The people of the Sandhills have inherited this land and legacy. In many cases their families have held the land since originally homesteaded in the late 1800s. The connection that many feel toward the land is palpable, and evidenced by the condition of the land itself.

Of course there are public recreational and conservation lands such as Crescent Lake NWR, Valentine NWR, Victoria Springs SRA, and the Nebraska National Forest. According to the USDA National Forest Service, “located 4 miles west of Halsey on Nebraska Highway 2, the Nebraska National Forest, Bessey Ranger District, is the largest hand planted forest in the nation. The Bessey Ranger District lies in the heart of the unique Nebraska Sandhills grasslands. The district encompasses over 90,000 acres of a very fragile terrain with high wind erosion potential.”
 prevented the grass from growing and thereby lessened the danger of loss from prairie fires. When William Hall, who led the group, reported its findings, he recommended the renewal of the experimental plantings.

Hall’s report encouraged Pinchot to pursue the matter further, and he sent another reconnaissance team to the Nebraska Sand Hills in July to make a thorough survey regarding tree planting. This “Sand Hills Reconnaissance Survey” team reported to Pinchot late in 1901. It recommended the creation of two forest reserves in the Nebraska Sand Hills. Pinchot and President Theodore Roosevelt agreed that the creation of a forest would instrumentally improve the environment by conserving the soil, but it would also help control the environment by serving as a nursery for farmers who needed trees for windbreaks to protect their fields, livestock, and homes from the nearly constant winds that scorched their fields in the summer and piled the snow in drifts during the winter. In time the forest would improve soil humus so that “extensive agriculture” would be possible. Moreover, a forest would help the Sand Hills store water for irrigation, hold the sand, and prevent the encroachment of the dunes to the east. Pinchot and Roosevelt also believed that the creation of a forest in the Nebraska Sand Hills would “ameliorate the dryness of the atmosphere” so that the agricultural land to the east would receive a greater amount of precipitation.

Accordingly, on April 16, 1902, Roosevelt, by executive order, created the Dismal River Forest Reserve between the Middle Loup and Dismal rivers west of Halsey in Thomas County and the Niobrara Forest Reserve between the Niobrara and Snake rivers south of Nenzel in Cherry County. These reserves became collectively known as the Nebraska National Forest in 1907. It was national forest of 208,902 acres, mostly without trees.

The forest was planted from 1903 to 1920. Its heritage continued as numerous Civilian Conservation Corps (CCC) workers hand planted over 20,000 acres of forest on the district in the 1930’s. The Bessey Tree Nursery is the oldest Federal tree nursery in the U.S. It was established in 1902 and is still producing over 3 million seedlings annually of over 40 species.

Certainly the Nebraska National Forest is a remarkable story on its own.

Yet the Sandhills is predominantly a working landscape, a region of private ranches and farms stewarded by people who care for the land and its legacy. The Sandhills is not a region of grand national parks. The Sandhills is a land of ranchers, farmers, and keepers of the domain.

This legacy is important to the Sandhills people. Many of the museums in the region (the Cairo Roots Museum, the Custer County Historical Society Museum in Broken Bow, the Hooker County Historical Museum in Mullen, the Thomas County Historical Museum, the Grant County
The Spade Ranch is one of the iconic Sandhills ranches, both for its early origin and longevity, and for the prosecution and conviction in the early twentieth century of its founder, Bartlett Richards, for illegal fencing of public lands and filing fraudulent land claims. His story represents the cattlemen's efforts to circumvent government land policies they believed ran counter to the “best use” of the Sandhills as a grazing region.

Byway-area counties that were named for Civil War generals include the following: Sherman, Custer, Thomas, Hooker, Grant, and Sheridan. Nebraska had a large post-Civil War immigration of Union army veterans, many of whom served in the legislature during the years when the Sandhills counties were organized. The railroads were also instrumental in locating and naming the majority of the towns along the byway. Many were laid out by the Burlington’s subsidiary, the Lincoln Land Company.

This is also a land where settlers constructed monumental structures, such as St. Anselm’s Catholic Church in Anselmo, as evidence of their commitment to stay, survive, and thrive.

This legacy of stewardship is why this is still a land of “world-class natural wonders.” As we noted earlier, 85% of the prairie within the Sandhills is intact (the highest percentage in the Great Plains). Prairie birds such as the greater prairie-chicken, horned lark, and grasshopper sparrow thrive here. Wetland bird species such as yellow-headed blackbird, canvasback, redhead, and marsh wren prosper here as well. In the Sandhills Roosevelt’s “glorious heritage” is still experienced, a land of not just survival, but a land of a natural prosperity.

Additional stories that have been recommended to be included in Byway interpretation include the following:

• The Burlington Railroad was constructed through the Sandhills in the mid-1860s and today is a principal carrier of coal from Wyoming. Travelers will often see coal trains as they follow the Byway. We recommend the installation of interpretive panels explaining both the railroad history and its current use.

• The World War I potash boom when the Sandhills lakes furnished a source of fertilizer that the war cut off from Germany, the former principal supplier. Ruins of the giant processing plants can still be seen at the ghost town of Antioch, east of Alliance.

• Black settlers settled in the Sandhills with the passage of the Kinkaid Act. They claimed land near Dunning, and also formed a distinctive community near Brownlee in south-central Cherry County. Most of the black settlements failed by the 1920s.

• Old Jules Sandoz, the “Luther Burbank of the Sandhills.” The subject of his daughter Mari’s biography, Sandoz is one of the region’s best known personalities, in part for his experiments with fruit culture on his claim located north of today’s Ellsworth. The land remains in the family and includes remnants of the orchards and the grave of author Mari Sandoz.

Historical Museum, and the Knight Museum & Sandhills Center have extensive genealogical libraries. The Solomon Butcher collection of photographs housed in the Nebraska State Historical Society memorializes life in the region in the late 1800s and early 1900s, illustrating more effectively than any written word how people came to survive and thrive here.

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Theme: World Class Natural Wonders

Storyline 4: The Nature of Prairies
The Nature of Prairies

Nature had adapted to the harsh conditions found in the Great Plains, just as the Plains Indians and pioneers learned for themselves. The Great Plains can be an unforgiving land, and mistakes can be fatal. However, nature has survived and thrived in the Great Plains, even in the face of cataclysmic change brought about by settlement.

Stories

The Grassland Birds

Grassland birds enliven the vast Great Plains; 42 bird species in North America depend on grasslands for breeding. Collectively, grassland birds are more imperiled than any other on the continent. According to the National Audubon Society, “of the 47 grassland bird species, 31 are green species, 6 are yellow WatchList, and 10 are red WatchList. This is the highest proportion of red WatchList species for any of the major habitat types.

Certain bird species have adapted to grazed grasslands such as those modified by bison, pronghorn, and prairie dogs. Several of these can be found along the Byway (long-billed curlew, ferruginous hawk, lark bunting, Cassin’s sparrow). All 42 grassland bird species, however, evolved in these expansive treeless grasslands. All nest on the ground, and hide from predators in the vast sea of grass. These include birds that are found commonly in the Sandhills, such as the grasshopper sparrow, western meadowlark, sharp-tailed grouse, greater prairie-chicken, horned lark, and upland sandpiper. The ring-necked pheasant, originally introduced to the U.S from Asia, is an important upland game bird predominantly along the eastern portion of the Byway.

These 42 grassland bird species have adapted to breeding in vast treeless grasslands – nearly all nest on the ground and their best defense against predators is a “sea of grass” in which to hide nests and raise their young.

We recommend the development and installation of interpretive panels that discuss the nature of the prairie, the major grasses that are seen along the Byway, the grassland birds that inhabit these grasslands, and the other species of wildlife that are unique to the prairie. We also recommend the development of a series of posters and guides for visitors to help them identify these resources.

The Wetland Birds

Although the Sandhills is dominated by prairie grasslands, don’t overlook the wetlands. The thousands of ponds, sloughs, lakes, and depressions in this region provide critical habitat for many water birds. As noted earlier, the Sandhills is one of the largest and most complex wetland systems in the U.S. These shallow
The same is true for some of the shorebirds such as Wilson’s phalarope, willet, upland sandpiper, and long-billed curlew. These four species nest along the Byway then migrate south, sometimes for great distances, for the winter. Other shorebirds, such as long-billed dowitcher, stilt sandpiper, semipalmated sandpiper, and Baird’s sandpiper, nest in the arctic and only migrate through our region. Although they are commonly seen in Byway wetlands during migration, they are only passing through.

Both sandhill and the endangered whooping crane pass through the Sandhills as well. The sandhill cranes stage in the Platte River in spring by the hundreds of thousands, a wildlife spectacle equal to any in the world. Whooping cranes are often seen as well, particularly in the fall. The best Byway location for seeing cranes is the Crane Trust Nature and Visitor Center on the Platte River near Grand Island. Valentine and Crescent Lake NWR are ideal for seeing waterfowl and shorebirds most of the year.

We recommend developing a series of interpretive panels that discuss the phenomenal long-distance migration of many shorebirds in the region, identifies and details the shorebirds that breed in the area, and that identify and discuss the life histories of the two species of cranes that pass through the Sandhills. We also recommend expanding the current website that offers crane watching information by integrating digital media in addition to the email alert that is currently offered.

Waterfowl

The wet meadow, wetland, and grassland mosaic provides critical nesting and migratory habitat for ducks and geese. Many species
of prairie ducks, such as the blue-winged teal, redhead, canvasback, northern shoveler, northern pintail, and lesser scaup nest here. In addition, geese that breed to the north migrate through the region in spring and fall. The Sandhills is one of the most important waterfowl regions in the country.

Therefore we recommend the development and installation of a series of interpretive panels about the breeding waterfowl of the Sandhills, the importance of the mosaic of habitats to these nesting waterfowl, as well the magnitude of waterfowl migration in the region.

Raptors

The Sandhills grasslands attract an extraordinary diversity and number of birds of prey. These raptors (also known as birds of prey) include two species of eagles, several buteos such as the red-tailed, rough-legged, Swainson’s, and ferruginous hawks, falcons such as the peregrine falcon, prairie falcon, merlin, and American kestrel, and accipiters such as the Cooper’s and sharp-shinned hawks, as well as the northern goshawk.

In addition to these birds of prey there are a number of owls that occur in the region. These include the great horned, long-eared, and burrowing owls, as well as the eastern screech-owl. Occasionally snowy owls invade the state, such as during the winter of 2011.

We recommend the development of interpretive panels for raptors, hawks, and owls. We also recommend the development of identification guides for these species. Finally, we recommend that the Byway prepare an audio guide to the owls of the Sandhills.

The American Bison

Plains Indians exhibited great skill and ingenuity in turning the natural materials they found around them into tools and materials to help them survive. They used stones, bones, shells, clay, hides, hair, and wood to make tools and implements. But, one of their greatest natural resources was the bison. The bison was crucial to the life of the Plains Native Americans. For most tribes here, their lives were centered around the bison hunt.

As pioneers pushed west into the Great Plains, the Plains Indians and bison gave way to settlements and cattle. The American Bison Society has provided the following timeline detailing the demise of the American bison.

Early: 25-30 million bison on the Plains.

1700-50: Horse reaches the Great Plains.

1720s: Comanches establish hunting territories in southern Plains.

1780-82: Epidemics shift power from villagers to nomads.

1804-06: Lewis and Clark expedition travels the upper Missouri River.

1820: Bison extinct east of the Mississippi River.

1820s: Robe market begins (trade on the Northern Plains from 1820-80).

1828: Fort Union established at the confluence of the Yellowstone and Missouri Rivers (North Dakota).
1832: The artist George Catlin says, “The buffalo’s doom is sealed.”

1860s-80s: Railroad divides bison into northern and southern herds.

1871: Appearance of hide market with railroads penetrating Kansas; new tanning technologies; hunting all year.

1872: Yellowstone National Park established. Sharp’s .50 caliber rifle developed.

1874: Comanche defeat opens bison range for hide hunting.

1874-80: Bison decimated in Texas and Oklahoma.

1870s-80s: Cattle increase greatly on Great Plains. Drought in northern Plains.

1871-75: Southern Herd: c. 4 million bison killed to ship 1.4 million hides from Dodge City, Kansas.

1880-83: Northern herd reduced to less than 100 animals – plus 200 in Yellowstone.

1889-1901: Yellowstone herd reduced from 200 to 25.

1889: William F. Hornaday’s survey found 1,091 bison in North America.

Conservation efforts, however, have begun to restore the bison population. There are estimated to be 500,000 bison currently in North America, divided equally between the U.S. and Canada. There are few places along the Byway where bison can be seen. The Straight Arrow Bison Ranch near Broken Bow raises bison for meat, and they will give tours if contacted in advance. The Stuhr Museum and the Crane Trust maintain small bison herds, as well Fort Niobrara near Valentine. There we suggest developing opportunities for additional bison viewing at Fort Robinson.

The Black-tailed Prairie Dog

The black-tailed prairie dog is a Great Plains keystone species. Keystone species, like the prairie dog and the American bison, profoundly impact the landscape in ways that allow for the success of other species. Although immense prairie dog towns are in the past, there are still a number of places along the Byway where they can be seen. Species that are commonly affiliated with the prairie dog include ferruginous hawk, mountain plover, horned lark, burrowing owl, swift fox, black-footed ferret, and prairie rattlesnake.

We recommend the development of prairie-dog viewing enhancements to allow visitors to see this iconic Great Plains mammal. We recommend investigating a partnership with the National Forest to see if such opportunities could be developed on forest lands. While pronghorn may be seen in the wild, without guidance it is unlikely that visitors will “luck” across a prairie dog.
Thematic Structure Summary
The central theme and the storylines remain the same no matter the specific location in question. What changes are the stories themselves. Each site encompasses a unique set of stories that connect the site to the theme and the respective storylines.
The following is an outline of the thematic structure presented in the previous pages.

**Theme:**
World Class Natural Wonders

**Storylines:**
- Sea Change
- Two Degrees of Separation
- Survive and Thrive
- The Nature of Prairies

**Stories:**

**Sea Change**
- The Inland Sea
- Oceans of Grass
- The Ocean Beneath Our Feet
- Prairie Rivers

**Two Degrees of Separation**
- The Great American Desert
- Necessity and Invention
  - Barbed Wire
  - American Windmill
  - Center Pivot Irrigation
  - Cow Country

**Survive and Thrive**
- The American Indian
- Emigrant Trails
- The Rule and Role of Law
- The Land, the People, and the Legacy

**The Nature of Prairies**
- The Grassland Birds
- Wetland Birds
- Waterfowl
- Raptors
- The American Bison
- The Black-tailed Prairie-Dog
Public Engagement
...we recommend that (these) interpretive platforms be refocused to delve deeply into the thematic substance of the Byway as described in this report.
In this interpretive strategy we have identified a number of stories and sites for the installation of interpretive enhancements such as panels. However, we believe it important to step back for a moment and speak to an overall strategy for engagement.

Byways are ideal platforms for using a diversity of media and technologies for engaging the public. This is particularly true for a byway as long as this one. Therefore, our engagement strategy is based on using the widest selection of media that is appropriate in such a rural, undeveloped setting.

Traditional Interpretive Media

The Byway has developed a number of interpretive media that we consider to be traditional. Printed maps and guides are already available for the Byway, although they do not reflect the interpretive structure detailed above. A website has been developed, an audio tour created, and a Facebook page initiated.

These media, however, are not generally focused on the interpretive theme and storylines described above. Therefore we recommend that these interpretive platforms be refocused to delve deeply into the thematic substance of the Byway as described in this report.

Although not a marketing strategy in itself, this interpretive plan should inform marketing strategies for tourism in the region. The Sandhills story is singular, and is best understood not as a reflection of another region or time but as its own universe unto itself. Therefore a liberal use of modern media and technology will be helpful in engaging the public.

Consider the current website for the Byway. While this website offers helpful travel information, there is little there to help with gaining deeper insight into the region. This deeper understanding is in itself a powerful motivation for travel. Consider the following travel motivations that have been identified for Nebraska.
Travel motivations identified for Nebraska.

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Ideal Vacation Offerings</th>
<th>Perceived Nebraska Vacation Offerings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural beauty/scenery</td>
<td>72%</td>
<td>22%</td>
</tr>
<tr>
<td>Calm/relaxing environment</td>
<td>70%</td>
<td>26%</td>
</tr>
<tr>
<td>Scenic mountains</td>
<td>63%</td>
<td>4%</td>
</tr>
<tr>
<td>Nice national parks</td>
<td>54%</td>
<td>6%</td>
</tr>
<tr>
<td>A good array of events/festivals</td>
<td>41%</td>
<td>6%</td>
</tr>
<tr>
<td>Rivers and lakes for recreation</td>
<td>41%</td>
<td>14%</td>
</tr>
<tr>
<td>Scenic photography for the natural outdoors and historic places</td>
<td>40%</td>
<td>16%</td>
</tr>
<tr>
<td>Diverse historical sites/history museums</td>
<td>36%</td>
<td>12%</td>
</tr>
<tr>
<td>Expansive wilderness and wildlife viewing</td>
<td>36%</td>
<td>16%</td>
</tr>
<tr>
<td>A great sense of adventure</td>
<td>33%</td>
<td>4%</td>
</tr>
<tr>
<td>Openness/nice open spaces*</td>
<td>30%</td>
<td>47%</td>
</tr>
<tr>
<td>Nice boating/canoeing lake and river activities</td>
<td>28%</td>
<td>7%</td>
</tr>
<tr>
<td>World class zoos that are hard to find in most places</td>
<td>21%</td>
<td>15%</td>
</tr>
<tr>
<td>Old West heritage</td>
<td>17%</td>
<td>19%</td>
</tr>
<tr>
<td>Great golf courses to play for any skill level</td>
<td>16%</td>
<td>3%</td>
</tr>
<tr>
<td>Fun winter activities like alpine or back-country skiing and snowmobiling</td>
<td>15%</td>
<td>2%</td>
</tr>
<tr>
<td>Native American culture</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Archeological sites/digs to explore</td>
<td>14%</td>
<td>3%</td>
</tr>
<tr>
<td>Plenty of good camping/RV-ing options</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Authentic adventure in the Great Plains</td>
<td>9%</td>
<td>22%</td>
</tr>
<tr>
<td>Unique dude ranches as an alternative place to stay</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>Some of the best fly fishing/fishing available</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>Good hunting opportunities</td>
<td>6%</td>
<td>14%</td>
</tr>
<tr>
<td>Diverse birding</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>None of the above</td>
<td>2%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Notice the travel motivations that are obviously addressed in the Sandhills and along the Byway yet are not recognized as such by travelers: natural beauty/scenery, calm/relaxing environment, rivers and lakes for recreation, scenic photography for the natural outdoor and historic places, diverse historical sites/history museums, expansive wilderness and wildlife viewing, and a great sense of adventure. Notice that while all of these are “ideal vacation offerings” for travelers, only a small percentage sees Nebraska as being able to meet these travel expectations.

Therefore we recommend aligning all media along the interpretive lines that have been identified in this report. This is not to say that Byway communities should not stop marketing a wide diversity of travel opportunities. Yet within the context of the Byway itself, we recommend a fairly strict adherence to the interpretive structure and the experiences along the Byway that support this structure.

We also recommend that special attention be paid to engagement opportunities where people congregate. Examples include the following:

- Crane Trust Nature and Visitor Center (I-80)
- Stuhr Museum (I-80)
- Thedford (US 83)
- Alliance (US 385) (Knight Museum & Sandhills Center)

While we recommend a diverse set of media, we also recommend a strategic application of each medium. For example, not all media are appropriate for every location. There is no sense in providing Wi-Fi dependent technology where Wi-Fi is not present.
We recommend that the Byway develop the following traditional media approaches.

- Weblog
- Itineraries
- Maps
- Guides
- Audio Guides
- RSS Feeds
- Geocaching

In addition to the above, we recommend interpretive signs to be designed and installed at the locations mentioned in the report at a minimum. These signs should also be available for download from the Byway website.

Digital Media

Social media are a new component of interpretive design. To be blunt, social media are easily overwhelming. However, we recommend limiting these media to the following:

- Facebook
- Twitter
- Pinterest
- YouTube

Finally, the consultant has developed an I-Phone and Android application (app) for trails and byways. This app may be seen at the following:

Android
Apple ITunes

This app can be either streamed or downloaded, but for best performance at least 3G is recommended. We are aware of the inconsistent coverage along the Byway, but we also believe that this will be eventually resolved. In addition, the app can be loaded on a stand-alone hand-held unit that resolves the issues related to digital phones.

We recommend the development of additional Wi-Fi hotspots along the Byway. Locations to consider include the Byway Visitor Center. Nebraska has developed a number of programs addressing rural connectivity, and we recommend that the Byway work directly with the state in this regard.

Digital media allow the Byway to monitor the effectiveness of the interpretation in ways that static interpretive enhancements are limited. Page views, view times, site visitation, and click-throughs are ways in which the Byway can see how well the interpretation is engaging the public. We also recommend developing a short intercept survey for distribution at the Visitor Center to monitor how well the interpretation is being recognized and received by the public.
Measuring Success
A monitoring program to insure success has been developed in concert with the Byway Committee. The following section outlines the monitoring program to which the Byway is committed.

Success will be evaluated based on positive visitor experiences. Information on visitor experiences will be gained through a brief written survey or individual interviews of visitors at the Sandhills Journey Scenic Byway Interpretive/Visitor Center. Feedback from these survey questions will be used for future planning of exhibits, interpretive panels, events, and additional attractions. Survey questions will relate to the visitor experience, examples are listed below:

- What were the visitors’ expectations?
- What were the highlights of the experience?
- Are there areas that are lacking or in need of improvement?
- Are they planning to return and/or would they recommend that friends visit the area?

Results of the survey comments will be reviewed by the Sandhills Journey Scenic Byway Committee at their monthly meetings. Specific comments or concerns will be addressed individually, as needed, if identified. Survey results will be filed and at the end of the summer tourism season, patterns of comments will be evaluated and addressed. If there are recurring specific concerns, every attempt will be made to correct the situation. In addition, comments concerning the annual displays on the second floor of the SJSB Visitor Center will be reviewed. Display themes chosen for the following year will be based on visitors’ survey comments or suggestions.

**Benchmarks**

Visitors are registered at the Sandhills Journey Scenic Byway Visitor/Interpretive Center. There are records on file for the past three summers with information on visitor names, home towns/state/country. A detailed annual report gives specific data numbers as well as volunteer hours, display information, etc. This data will serve as a benchmark for future years. Last summer, visitors came from all 50 states and three European countries. Benchmarks being traced annually include the total number of visitors as well as where those visits were from. It is the goal of the byway to increase visits both in number and in foreign visits.

**Baselines**

Google Analytics will be used to track the Byway website traffic. This will provide information on site visits, page visits, etc. The Byway also has an Internet Facebook page and receives a weekly report of visits to that site, as well. Facebook posts will be evaluated as to areas of concern, specific content that is well received (such as seasonal photography entries), if there is a need for clarification of posts or website listings, and if there are questions that are not being met in some form of public forum.
Measures of Success

Our objective/goal is ultimately to have visitors who had a pleasant experience along the Byway and would either visit again or recommend the trip visit to others. This can be evaluated based on the data collected from our monitoring measures. Success will be defined as positive visitor experiences. When visitors who have had a positive experience share their accounts on social media sites, the impact is multiplied. In addition, written and verbal survey questionnaires will offer visitors the option of including email and/or other contact information. This will give visitors the opportunity to continue receiving updates on the Byway and upcoming events.

Increased Visitation

Through the incorporation of the interpretive recommendations, including updates to the website, interpretive kiosks/panels, mobile and/or phone applications, audio tours, etc., the Byway will expand their public outreach and effectiveness in informing the visiting public about the intrinsic qualities outlined in the interpretive plan.

The next goal of the byway is to move forward with the implementation phase of the interpretive plan. We do not have a set percentage increase goal, as far as number of visits to the Visitor Center or clicks on the website. We would like to have at least 50% of visitors to the SJSB Visitors Center complete a visitors’ survey, and would like at least 75% of those responses to be positive. After a benchmark number of visitors have been established, we will set an increased goal for future attendance.
References


