

A Brief Overview of
**UCROSS HISTORY, BIRDS, HABITAT, ART, AND
ETHNO-ORNITHOLOGY**



Dance of the Sandhill Cranes
by Christina Baal



U C R O S S

Ucross

“The highway population sign that greets traveler through Ucross announces ‘Population 25’—but that number refers only to human residents. Those who spend time on the 20,000 acre-ranch quickly realize that humans are vastly outnumbered by wildlife, and our bird population is especially striking. Great Horned Owls, Pied-billed Grebe, Bald Eagle, Sandhill Cranes, Mountain bluebirds, Western Meadowlark—these and so many mother birds are neighbors and members of the Ucross family. Their calls and song provide the unmistakable music of Ucross.”

Sharon Dynak, former President of the Ucross Foundation, Introduction to *The Birds of Ucross, Photography of Ernesto Scott. (2007).*

Contents:

- Ucross and Bird Art
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Cover: *Dance of the Sandhill Cranes* by Christina Baal

“The cranes began to pass through Wyoming as March unfolded. There was one morning when I noticed a pair of cranes along the side of the highway. To my delight, they began to dance for each other in courtship. I do not think I have ever seen something so simultaneously instinctual yet impulsive, dorky yet graceful, so utterly beautiful though I was doubled over laughing with wonder at it all.”

Christina Baal, Ucross Fellow, 2015

This overview pamphlet was prepared by JoAnne Puckett on behalf of Bighorn Audubon and the Ucross Foundation with literary and/or art contributions by: Caitlin Addlesperger, Sharon Dynak, Dr. Jackie Canterbury, Dave McKee, and Dr. Andrew Cowell. Art courtesy of Christina Baal, and Kansas State Historical Society. For Ucross bird checklist please visit: bighornaudubon.org/ucross-checklist

Birds Inspire Art

Birds as art subjects are known to exist from at least 40,000 years ago. Birds continued to inspire through human history worldwide with artists expressing our spiritual and symbolic connection to birds.

Native American artwork was expressed on clothing, pottery, tools, and rocks among other objects. Artistic styles displayed ceremonial, spiritual, sacred, and historical significances, and often featured birds. Some Plains tribes used pictorial yearly record keeping known as winter counts depicting scared events, hunts, battles, and natural world events drawn on animal hides and rocks. In the mid-late 19th century, ledger art, many created by imprisoned indigenous people, depicted historical events, the natural world, and cultural attitudes during a difficult period for Native Americans.

In the 19th and 20th centuries, artists and naturalists such as John James Audubon, Alexander Wilson, Louis Agassiz Fuertes, Allan Brooks, Paul Johnsgard, and Roger Tory Peterson contributed considerably to ornithology and to art. Their studying of birds through sketching, paintings, and other art forms expanded scientific knowledge while captivating audiences with the beauty and wonder of birds and the natural world. Many of these early naturalists gained invaluable avian information from indigenous people.

Bird art continues to grace our surroundings, and bird watching itself is an art form lifting our spirits while observing their beauty, song, and behavior. Art, including photography, continues to aid scientists and elevate humans’ endless fascination in birds.

Locally, The Brinton Museum and Bighorn Audubon partnered on the 2023 and 2025 *Birds of the Rocky Mountain Region* (I&II), juried exhibits featuring over 90 pieces.

Christina Baal’s *Universal Language of Birds* at the Ucross Art Gallery in 2017 featured paintings inspired by her time at the foundation’s ranch.

Other Ucross fellows such as Marwin Begaye, Ernesto Scott (photo of Brewer’s Sparrow page 3), Dee Etzwiler, David Romtvedt, Teri Rueb, and Laurids Sonne featured birds during their residency and beyond.

Ucross Ranch Natural Environment and Habitats

From “Wyoming’s Ucross Ranch: It’s Birds, History, and Natural Environment” (2019) By Jacqueline L. Canterbury and Paul A. Johnsgard

“The 20,000-acre Ucross Ranch lies on the western edge of the Powder River Basin of northeastern Wyoming and ranges in elevation from 4,000 to 4,600 feet. Ucross is a textbook example of prairie grassland/shrubland habitat referred to as the sagebrush steppe, a landscape that is an icon of Wyoming’s vast open spaces.

The sagebrush steppe is important for a myriad of avian species that depend on it for much of their life cycle. Many sagebrush-adapted birds like the Greater Sage Grouse, live nowhere else. They are specially adapted and restricted to sagebrush during breeding season, or year-round, and are called sagebrush obligates. All the Wyoming sagebrush obligates except the Sage Sparrow have been recorded at Ucross. [Sagebrush habitat is the most rapidly declining bird habitat in the West, Greater Sage Grouse and other sagebrush obligates are of great concern].

Characteristic mixed-grass prairie plants of the Ucross Ranch include a wide variety of short and tall grasses. Among the over 38 grassland reliant bird species observed at Ucross are Ferruginous Hawk, Northern Harrier, Prairie Falcon, Short-eared Owl, Long-billed Curlew, Lark Bunting, Thick-billed Longspur, Chestnut-collared Longspur, Lapland Longspur, Lark Sparrow, Brewer’s Sparrow, and Grasshopper Sparrow.

A mosaic with its grasslands and sagebrush, the Ucross Ranch is dotted with significant water resources, including riparian areas, wetlands, and ponds. Riparian systems such as Clear Creek and Piney Creek flow throughout the property and provide one of the most biologically rich environments for birds and wildlife. Although riparian areas represent only about 1 percent of the western United States, they are known to have a remarkably high usage for wildlife, especially birds (Montgomery 1996). Rosenberg (2004) estimated that about 50 percent of breeding birds in Wyoming are associated with water in some way and preferentially utilize riparian habitats and wetlands.”



Short-eared Owl, Bighorn Audubon, JP

Important Bird Area

“In 2015, the Bighorn Audubon Society, in cooperation with Audubon Rockies and the Ucross Foundation, formed a partnership to designate more than 20,000 acres of the Ucross Ranch as an Important Bird Area (IBA). IBAs are identified and designated by the National Audubon Society on the basis of their regional and national importance to a species or species assemblage and are part of the global conservation strategy. This IBA designation recognizes the importance of Ucross for birds nationally and provides a level of support for the many bird species that occupy its diverse prairie grasslands, sagebrush steppe, riverine habitats, wetlands and ponds.”

Fourteen IBAs are designated within Bighorn Audubon’s seven-county chapter. For more information, please visit: www.bighornaudubon.com/importantbirdareas

Before the Ranch

Ucross and its region once were a jungle-like swamp with dinosaurs and massive trees - about 65 million years ago. Remnants of large petrified trees can be seen today*. As descendants of dinosaurs, birds evolved into what we see today. Many bird species, like the iconic Sandhill Crane, very closely resemble their ancestors of millions of years ago.

12,000 years ago fascinating animals roamed this region such as saber tooth tigers, American lions, short-faced bears, dire wolves, mammoths, giant bison, and others - all now extinct. Horses, camels, and llamas, all native to North America, made their way over the Bering Straight away from the Americas.

Local Archaeologist Dave McKee explains “The region’s first well documented human inhabitants, named Clovis people after the unique spear often they made, arrived around then. They were followed by numerous indigenous groups who left their unique marks on the landscape, successfully adapting to changing ecological conditions over time to live, hunting, collecting plants for food, medicine and ceremonial activities, and moving through the Ucross area on their annual seasonal rounds, for about 12,000 years. It was only during the past 300 years that Indigenous groups acquired modern horses from European groups expanding across the continent, to become the fully equestrian plains Indian tribes of the historic era.”

The area’s rich vegetation, ample water, and abundant wildlife, including large flocks of birds and herds of bison, made Ucross ideal for human habitation for thousands of years. The Lakota Sioux and Northern Cheyenne tribes were the more recent Native American inhabitants in the Ucross area, until the late 1800s. Other known tribes who lived in or travel through the region, and predated the Lakota and N. Cheyenne, included the Crow, Arapaho, Kiowa, Shoshoni, Ute, Blackfeet, and Pawnee people.

Native American’s connection to the natural and spiritual worlds, and bird-human relationship figured in most aspects of their tangible and intangible lives. This relationship is being studied through forms of art, oral stories, sayings, song, artifacts, linguistics, and names, including place names. This study is called ethno-ornithology.

Ethno-ornithology combines western science with traditional and cultural knowledge of bird distribution, abundance, and behavior obtained, in large part, through historical linguistics. There is still much to learn in the field of ethno-ornithology, and the surviving indigenous languages help to fill some of those gaps. Many indigenous languages are either threatened or extinct though regional preservation efforts have gained momentum and the interest of younger generations. These languages are complex and extraordinarily different from English. Tribal languages, too, can be different from one another as well. Arapaho can be as different from the Crow language as English is to Latin.

“Knowing one of these indigenous languages is like looking at everything through a different lens, giving you a different perspective on life around you.” said Dr. Andrew Cowell, Professor of Linguistics, Center for Native American Indigenous Studies.

Arapaho Language Project

Dr. Cowell, Arapaho elders, and students are revitalizing and preserving the Arapaho language through the Arapaho Language Project. The Project states that the Arapaho belongs to the Algonquian language family. Historically, Arapaho is native to the Great Plains, and today it is still spoken in Wyoming and Oklahoma. It is related to Blackfoot, Cheyenne, Gros Ventre, and many other languages spoken in the northeastern U.S. and Canada: Cree, Ojibwa, Micmac, Shawnee, Kickapoo and others. Many of the English words borrowed from Indian languages come from these Algonquian languages, such as canoe, wigwam, moose, wampum, and moccasin.

The following pages share a variety of Ucross birds described in the Arapaho language and meaning courtesy of the Project.

American Crow - Arapaho: hóuu

This term is also an old word for “god” or “man-above,” which dates from prior to White contact. The Crow is the messenger from and guide to the world beyond, in some accounts. The Crow was and is extremely important in Arapaho ceremony. The Crow Dance, which was a later derivation of the Ghost Dance, featured the Crow as the central emblem, and Crow feathers were widely used in both the Ghost and Crow Dances for making ceremonial items. The Crow, like the Meadowlark, is said to speak Arapaho.

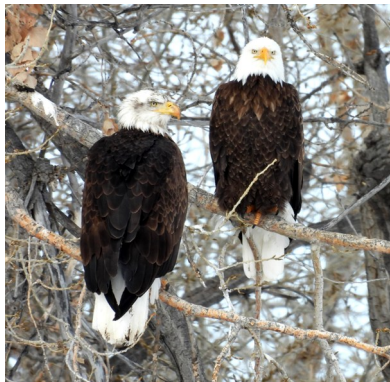
They say: grandma, bread! = ‘neiwoo, co’occoo’

American Dipper - Arapaho. 1. seskóuutówu’éíhii ;

2. séskouutíínii’éíhii ; 3. *hinówukóóhut

Translation: 1. ‘streamside bird’ ; 2. ‘streamside bird’ ;

3. ‘it goes under the water’



Bald Eagle - Arapaho: 1. hé-

étese’éit ; 2. biihtese’eit ;

3. nooke’eibeh’ei

Translation: 1. ‘it has a bald head’ ; 2. ‘it has a bare head’ ;

3. ‘the white headed old man’

Belted Kingfisher - Arapaho: 1. nínebeh’eeét ; 2. noyéíhii

Translation: 1. ‘it is a fish killer’ ; 2. ‘fisher’

The Kingfisher was one of the birds that dived unsuccessfully for land at the time of the creation of the Dry Land. The Kingfisher was admired as a powerful bird because of the way it swoops and strikes at its prey. Kingfisher hides, feathers or dried flesh were carried into battle for this reason. The Kingfisher also played an important role in the Crow Dance (the later version of the Ghost Dance). Part of this ceremony was called the Kingfisher Dance.



The Fisher Queen by Ucross fellow Christina Baal

Golden Eagle - Arapaho: 1. hiinookó3onit ; 2. wo'teenii'eihii Translation: 1. 'it has a white rump' (adult) ; 2. 'black eagle' (young)

The feathers were widely used decoratively and ceremonially. This is probably the single most important and powerful bird for the Arapaho. Because the Eagle flies highest in the sky of any bird, it is seen as most powerful. The Eagle often secondarily represents the Thunderbird. When fasters are fasting and praying, either as part of individual vision quests or as part of larger group ceremonies, such as during the Sun Dance or formerly at the Medicine Wheel in the Bighorn Mts, they call out to the Eagle with their prayers and wishes. Bone whistles, made of the hollow wing bone of the Eagle, are blown, in imitation of the bird's call, as a way of communicating with it. The bird then calls back its response to the fasters. Such whistles are never blown in non-ceremonial contexts, such as at a Pow-wow. According to Paul Moss, the Medicine Wheel in the Bighorn Mountains belonged specifically to the Eagles, and the ceremony performed there - which was similar to that of the Sun Dance in many ways - was likewise considered as belonging to the Eagles. Fasters would remain for seven days high on the mountain. The eagles would soar in around them, then dive at them in rapid attacks, to "test their strength." If the fasters could stand up to this final test, after seven days of fasting, and continue calling back to the Eagles with their whistles, then they would receive the things they had asked for during the fast.

Hummingbirds - Arapaho: 1. bé'ce3éinii'ehíhi' ; 2. hotéin3e'enéihii
Translation: 1. 'little metal bird' ; 2. noisy-wing-one

Nighthawk - Arapaho: cis

A widely known story tells how the nighthawk came to have such a big mouth. The trickster nih'oo3oo, as usual, had gotten himself into trouble: a rock had rolled on top of him and pinned him to the ground. He begged for help. The nighthawk (also called 'bull bird') came and flew down at the rock. Each time he swooped past the rock, he 'farted.' (Nighthawks make a low, thrumming sound as wind whistles through their wings, as part of their display behavior. The Arapahos call this 'farting'.) Gradually the farts chipped the rock away until nih'oo3oo could escape. He called the nighthawk over to thank him, but then grabbed the bird and pulled his mouth very wide open. No one seems to know why he did this, but this is why the nighthawk has such a big mouth. Nighthawks were also seen as indicative of rain, since they fly before thunderstorms.

Owl Arapaho: béé3ei

As in many cultures, owls are associated with spirits and ghosts.

The Screech Owl is in particular, due to its eerie call.

Some scholars suggest that the connection between owls and spirits was the reason for the use of owl feathers on Ghost Dance objects. Screech owl feathers were also attached to rattles so that, by a common principle of Arapaho traditional thought, the feathers of the ghost would drive away ghosts. Owls were also associated with the Arapaho age-grade ceremony called the Crazy Lodge. The Crazy Lodge men, during the ceremony, were expected to do the opposite of all normal social rules, and engaged in walking on fire as well as "talking backwards", meaning that one would say the antithesis of what one actually meant. They used owl feathers in their regalia, and wore a headband with owl feathers attached. As long as they wore this, they were "crazy", but when they went into someone else's tepee during the ceremony time, they removed the headband, which allowed them to act normally.

Peregrine and Prairie Falcon - Arapaho: 1. hééyei ;
2. hééyei cówoo'oo

Translation: 'rapid hawk/falcon'

An Arapaho story tells about a man who was wondering who was the king of the birds. He was sitting on a hill, and he was thinking to himself about how to answer this question. The two choices were the eagle and the falcon. He finally decided that the eagle was the king, as it soared around high above him. As he sat thinking this, a falcon came diving down and struck the eagle on top of the head, killing it. The falcon is the king of the birds.

Swallow (all species) - Arapaho: 1. bíteixoxóúhuu ; 2. hééyei bítei

Translation of the Arapaho 1. 'the ghostly one who uses dirt [to build its nest]' ; 2. 'ghost hawk'

Swallows and the Arapaho: The terms refer especially to Cliff Swallows, who build their nests from mud and dirt. Other swallow species nest in tree holes or dirt banks, but the name is used for all types of swallows. Mark Soldierwolf. said they are called 'ghosts' because of the strange sound they make at night after they enter their nests.

The Crow people, now in present day southeastern Montana, once had inhabited the Ucross region for hundreds of years. The Crow tribe, known as Apsáalooke, have over 4,000 native speakers, with its language roots in the Siouan language family. Apsáalooke translates to “Children of the Large Beaked Bird”. Crow tribal members are engaging youth in the learning and preservation of the Crow language. These bird names below are courtesy of *A Dictionary of Everyday Crow*, compiled by Ishtaléeschia Báachiia Héelee-taalawe “Squirrel That Walks Among The Pines” Mary Helen Medicine Horse.

Chicken	baaschuliilisdakaake	“white man’s bird”
Duck, mallard	biaxaake	“woman with a rash”
Hummingbird	suualakáake	“thunder bird”
Kingfisher	akbualútche	“one that catches fish”
Meadowlark	baaúuwatshiile	“gold one”
Robin	chihchaxiiisée	“big wren”
Sage hen	chiichkisée	“big prairie chicken”
Sapsucker	akbishkaaluushé	“one who eats gum”
Woodpecker	akbannakkoopé	“one who punches holes in wood”

The Plains Indian sign language was an important form of intertribal communication, since spoken languages from one tribe to another was as different as, for instance, the English language is from Latin. William P. Clark in *The Indian Sign Language* (1885) describes his work based upon his own “observations made among the Indians themselves during a period of more than six years, supplemented by a careful study of the principal authorities on Indian habits and customs”.

Among thousands of signs described in the book is that of a bird:
 “Bird. Conception : Wings. the hands, palm outwards, fingers extended and touching above, to right and left in front of shoulders, hands same height ; move them simultaneously to front and downwards, repeating motion, imitating the motion of wings ; care must be taken to imitate closely.
 The wings of small birds move rapidly; those of large ones slowly.
 Some peculiarity may have to be noted—the manner of flying or soaring, its habits, and even its tone of voice.

A goose would be known by indicating the long, slow motion of its wings and the triangular figure taken by these birds in their flight to the South or distant North, and perhaps indicating the noise made by them.”

“No subject is more difficult of treatment than one which deals with the beliefs of any people concerning abstract matters. It is not easy to learn from men and women of our own kin and kind just what are their beliefs concerning religion, and what we term superstitions. If this is true among civilized people, whose language we speak, whose education and whose experiences are essentially our own, it is obviously much more difficult to determine the beliefs of an alien race, speaking an unknown tongue, and with a wholly different inheritance, training, and viewpoint

The Indian’s life and experiences dealt wholly with material things, and he saw going on about him operations of nature which he did not understand, for the causes of which he sought explanation. Mysterious happenings were constantly coming under his observation, and he was constantly striving to learn why they took place and what they meant. Like other peoples of the plains, the Cheyennes personified the elements; to certain birds, animals, and natural objects they attributed mysterious powers, and believed in the transference of such powers from the birds and animals to man. Prayers were offered to these natural objects; yet, as has been said in another place, not to the actual animals, but rather to the qualities, or forces, which these animals typified, or which took their shape. They had the same respect and reverence for war birds—birds of prey—and for flesh-eating birds— buzzards, crows, ravens, and jays—as well as for certain quadrupeds, as was felt by other tribes of the plains, especially by other western Algonquians.

Yet in the Cheyenne community, as with civilized people, there was great individual diversity of faith and feeling. Some men believed firmly in spirits, birds, and animals; others were almost skeptics. It is thus possible to receive from two individuals in the tribe quite divergent opinions concerning the same matter.”

George Bird Grinnell (1849-1938) *The Cheyenne Indians* (1923).

Grinnell was an influential American conservationist, anthropologist, historian, writer, and founder of the Audubon Society.

He had a forty-year strong friendship with the Cheyenne people.

Ledger Art

In September 1878, Northern Cheyenne leaders Dull Knife and Little Wolf escaped Indian Territory (Oklahoma) with some 300 fellow N. Cheyenne. They were determined to return to their homeland in northeastern Wyoming and southeastern Montana. Along their journey they encountered unimaginable hardships, especially at Fort Robinson. Many did not survive and some were jailed. Wild Hog, Porcupine, and five other Fort Robinson Breakout incarcerated survivors found a bit of freedom by creating ledger art. Birds were the dominate subject. These are a few of drawings while they were confined in 1879. (Low & Powers)



Above: Owls by Porcupine (1879)

The “snake eating owl” Short-eared Owl is one the Cheyenne’s “great birds” orma’xeve’kseo. (John H. Moore) The Short-eared Owl is the only owl species considered a bird and not a spirit. These four images drawn by Porcupine might also be spirits in the form of Great Horned Owls. If so, they are indicators of the night world and the afterlife in Cheyenne thought. The Cheyenne word for “ghost” is the same as the word for “owl” (Low & Powers).

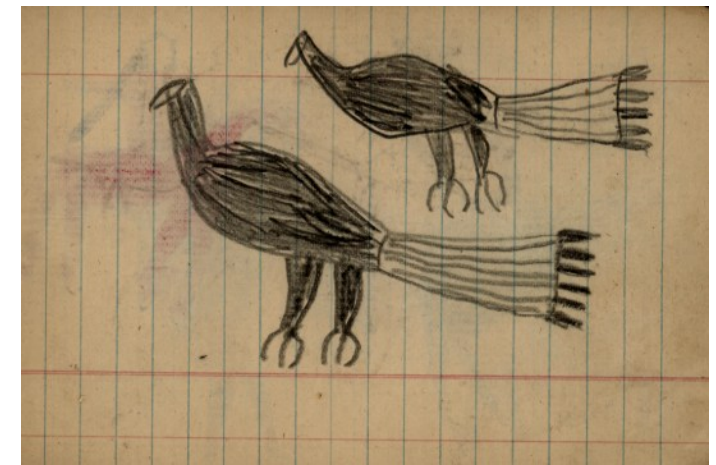
Cheyenne people organized bird taxonomy into overlapping figurative as well as literal categories: “Holy, great, and ordinary” which relates to the cosmos, “the Blue Sky-Space, the Near Sky-Space, and the Atmosphere”. “Ordinary” birds include ground birds of the atmosphere that are hunted for food (Low, Powers, & Moore).



Above: “Atmosphere” birds, a female turkey with a brood of twelve young, by Porcupine (1879)



Wild Hog Ledger Art (1879) Above: Magpies, lead pencil with black ink fill. Below: Golden Eagles, lead pencil with pencil fill. Magpies and Eagles are both known to be "maheonevekseo" or "holy" birds in Cheyenne taxonomy. (John H. Moore)



Keys to Identifying Birds

Size and Shape

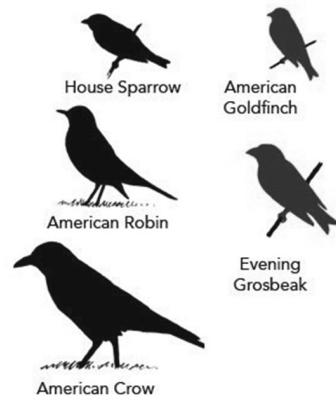
Habitat

Geographic Location

Color Pattern

Behavior

Sound



Why Care About Birds?

- Birds are fascinating – the more we learn, the fascination deepens.
- Birds are critical to our ecosystem. As pollinators and seed dispersers birds are invaluable to plants and propagation. They are regulators of pest and diseases by eating insects and rodents. Some are scavengers cleaning carcasses.
- Recycle nutrients back into the earth
- Birds are the harbingers of the environment's condition.
- Most of us have a deep connection to birds, many since childhood. Watching or listening to birds reduces stress, improves mood and overall mental health. Walking in nature has the added benefit of improving physical and mental health. Multiple scientific studies confirm the health benefits, but it's clear birds make us happy!
- Inspiration for art, music, literature and help fill the gap between humans and the natural world. Birds are living art.
- Learning about birds by observing, reading, and listening help keep cognitive skills sharper.

In the last 500 years, ~ 180 bird species have become extinct.

~ 1200 species are in danger of extinction in coming decades.

Since 1970 over 3 billion birds have been lost.

The world is changing in many unfavorable ways for birds and other wildlife. Everyone can help birds by sharing the wonder of birds, being aware of their challenges, and by being a voice for our feathered friends and the habitats they need to survive.

Suggested Resources:

Books (a few of many):

Nature's Best Hope by Douglas Tallamy

The Bird Way by Jennifer Ackerman

Wild New World by Dan Flores

Ethno-ornithology edited by Sonia Tidemann and Andrew Gosler

A Dictionary of Everyday Crow, compiled by Ishtaléeschia Báachiiá Héeleetaalawe

Northern Cheyenne Ledger Art by Fort Robinson Breakout Survivors by Denise Low & Ramon Powers

Local books:

Wyoming's Ucross Ranch: Its Birds, History, and Natural Environment by Jackie Canterbury and Paul Johnsgard

Wyoming Birds for Kids by Pamela Moore

Birds of North-Central Wyoming Helen Downing, Editor

Birds and Birding in Wyoming's Bighorn Mountains Region by Jackie Canterbury, Paul Johnsgard, and Helen Downing

Phone Apps: Merlin by Cornell Lab, and Audubon

On-line resources:

Arapaho Language Project <https://verbs.colorado.edu/>

Audubon Rockies <https://rockies.audubon.org/>

Bighorn Audubon <https://www.bighornaudubon.com/>

Cornell Lab of Ornithology: All About Birds <https://www.allaboutbirds.org/news/>

Nests and Nest Boxes : <https://nestwatch.org/learn/all-about-birdhouses/>

Bird Cast Live Migration <https://birdcast.info/migration-tools/live-migration-maps/>

Birds of the World (subscription) <https://birdsoftheworld.org/bow/home>

Checklists: Ucross checklist :

<https://www.bighornaudubon.org/ucross-checklist>

Community Science: eBird <https://ebird.org/home>

Christmas Bird Count <https://www.bighornaudubon.com/christmas-bird-count>

Great Backyard Bird Count <https://www.birdcount.org/>

Spring Count <https://www.bighornaudubon.com/spring-count>

Podcasts: The Science of Birds and BirdNote



U C R O S S

Located on a 20,000-acre ranch in the wide-open spaces of northeastern Wyoming, Ucross is a magical setting for individual creative work, reflection, innovation, and dreaming.

Founded by Raymond Plank, Ucross provides a rare gift in today's world – uninterrupted time – along with work space and living accommodations, to competitively selected visual and interdisciplinary artists, writers, composers, and choreographers. www.ucrossfoundation.org



Since 1970, Bighorn Audubon has worked for the protection of birds and their habitats in our region. Our chapter encompasses seven counties in north-eastern Wyoming. We are united by a passion for wildlife and the outdoors. We recognize the unparalleled outdoor heritage that runs deep throughout Wyoming and are dedicated to work together to ensure a healthy natural world for future generations. 501(c) (3) non-profit organization. www.bighornaudubon.org

*Prepared by J. Puckett for Bighorn Audubon
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