



February 2021

BABBITT TIMES REVIEW

The Constitution of Babbitt Ranches highlights the characteristics and values by which the organization operates. Articles of the Constitution can be found correlating with the news stories in the *Babbitt Times Review*.

CO W LEARNING—UNDERSTANDING ♦ JOINING—SHARING ♦ BECOMING A PART ↵ ↶



CONSTITUTION
of babbitt ranches

Character, Nature and Community have been bred into Babbitt Ranches for more than a century. The values that have made the people of Babbitt Ranches who they are and the characteristics that have shaped the organization into a lasting legacy are captured and articulated in **The Constitution of Babbitt Ranches**. It defines the organization's Multiple Bottom Line, Conversation Council Creed, Cowboy Essence, Cowboy Essence Character Qualities, A Land Ethic, Sustainable Community Principles, Human Dimension and Science, Equity Model Fundamentals, Priceless Values and Constitution Commitment. These guide Babbitt Ranches' organizational, ecological, economic and community decisions.

Arizona Power Company: Pursuing Renewable Energy Opportunities

Illuminating the path forward for Babbitt Ranches, a pioneering Arizona family business

As Babbitt Ranches approaches its 135-year anniversary in April 2021, members of the pioneering Arizona family business reflect back with gratitude and awe on those earlier generations who made it a priority to leave a legacy of participation with the land, wisdom for the future and an enduring impact on the communities they shaped and inspired. Today, with a continued focus on character, nature and community, the most meaningful responsibility for Babbitt Ranches is to illuminate the path forward with an emphasis on

landscape-scale conservation stewardship, organizational sustainability and succession, and a new journey to include renewable energy production engaging the Babbitts' Arizona Power Company. "The decisions we make today are on behalf of our children, our grandchildren and their children," said President and General Manager Billy Cordasco. "And that is our motivation, as we enter into an era of renewable energy generation for the next generation and many more to come."

Open Spaces, Dark Skies, Bright Future
Cataract Canyon, part of the Grand Canyon, is a glorious sight from sunrise to sunset. Though most will never visit this rugged and remote canyon, there is great comfort in knowing that in the year 2000, Babbitt Ranches set this land aside, along with miles of high desert grassland, to protect Arizona's open spaces and wildlands in perpetuity with the creation of one of the country's largest conservation easements.

Yet, the beauty we see in the daylight is only half of the conservation story. Arizona's exceptional starry nights are a precious and unique resource that deserves conservation and stewardship, too. At a time when most Americans living in urban settings cannot see the Milky Way because of sky glow – light pollution – northern Arizonans appreciate the value of their dark, star-filled sky. Nighttime ecology and dark sky conservation efforts across the region provide opportunities for professional and amateur astronomy,

education, cultural and spiritual practices, contemplation, artistic expression and campfire conversations. The night sky inspires us, stirs our imagination, settles our soul and connects us to the universe. Meanwhile, conservationists and naturalists understand the ecological

importance of the undisturbed nocturnal environment on the health of wildlife. Animals take their cues from the onset of nightfall. Rabbits, deer, elk and antelope instinctively know it's a time for rest while mountain lions, bats and owls are prompted to hunt. And, medical research continues to reveal more evidence about how

Article VII
Human Dimension and Science
Section 1.
Ensure that Babbitt Ranch land and natural resources are managed in accordance with Babbitt Ranch values.

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Cowboy Essence

Cowboy Essence is the character and the desire to become the best that we are capable of becoming.

The cowboy culture has long been admired for many wonderful characteristics, for example; hard work, integrity, ambition, self-reliance, family values, confidence, honesty, loyalty, having a relationship with the seasons of the year, perseverance through hard times as well as gratitude during good times.

We are fortunate to have the cowboy heritage to remind us of Cowboy Essence and no matter who we are or where we are in our lives, we all have the opportunity to pursue Cowboy Essence.

We see examples of cowboy essence in all aspects of our communities, cultures and society whether in a schoolteacher, farmer, physician, family member at home, firefighter, law enforcement officer, businessperson, civil service worker, outdoor recreationist, student or rancher.

The character qualities that make up Cowboy Essence are defined in The Constitution of Babbitt Ranches and are reflected in the Babbitt Ranches core values. Since 1639, they have guided the lives and generations of the Babbitt Ranches Community.

Cowboy Essence creates that peace of mind that comes from knowing our heritage and that we are at our best.

The definition of Article III Cowboy Essence in The Constitution of Babbitt Ranches was inspired by the leadership philosophy of Hall of Fame Coach John Wooden.



season grasses as well. Indian ricegrass, needle-and-thread, and bottlebrush squirreltail were hit hard. Most areas have not recovered." Cassady has worked in land management in Arizona for 44 years. "I've never seen it this bad for this long a duration. There's essentially no runoff into dirt tanks. Catchments for wildlife haven't filled either. For wildlife managers, this means they're hauling water three-to-five days a week, which turns into a full-time job. For ranchers, this means reducing the size of the herd."

Drought Conditions Persist

Babbitt Ranches adjusts to dry, warm conditions

Among the weather records broken in Arizona in 2020, the greater Phoenix area experienced its hottest summer while much of the state reported it's driest monsoon season in recorded history. By the end of summer, Flagstaff, Prescott, Show Low and Yuma were reported to be in extreme drought. "Lands north of the Mogollon Rim received less than 25% of the normal rainfall last summer," said Brian Klimowski, the National Weather Service Flagstaff meteorologist in charge. "This is highly usual. Normally northern Arizona sees three-to-four inches of rain. We've seen

only one-to-two inches, and in some areas much less than that." He explained that much of the West has been under the influence of extremely strong high pressure, which has pushed the moisture to the south and kept it there. "It didn't allow it to flow toward the north like it normally would. It also brought very warm temperatures, which added to the evaporation of moisture from the soil." With spotty hits and misses from rainstorms, some areas, like Sunset Crater, were absolutely parched. "Looking back over the last

three years, northern Arizona weather patterns have been rather erratic," said Babbitt Ranches President and General Manager Billy Cordasco. "Normal years bring winter storms with water and assuring abundant warm-season grass growth for the end of summer and beginning of fall. Today, we find most of the Babbitt ranchland is quite void of grasses with little to no water in the dirt tanks." **No Water, Little Grass** With a lack of water, forage production has been way off, reports Arizona Game and Fish Department Landowner Relations Program Specialist Stephen Cassady. "It depends

on where you are. Some places are experiencing only 25% to 50% normal plant growth, but overall it's not good." In 2019, drought conditions stressed much of the grasslands across Babbitt Ranches, particularly on the CO Bar, where half of the ranch was affected by a massive plant die-off. Cassady says spring moisture in 2020 helped some areas recover slightly, but it wasn't enough. "Blue grama grows in the summertime. We lost nearly 100% of it east of the San Francisco Peaks. Overall, the impact was a die-off of about 75% to 80% in the lower elevations." Sand dropseed is another prolific warm-season northern Arizona grass. "In some places, the drought completely wiped out that plant community. Because of the dry winter of 2017, we lost a lot of cool

During the unprecedented drought and dehydrated range conditions that covered the West, Babbitt Ranches had been hauling water, too, and distributing supplemental feed to livestock, but with a disappointing monsoon season, more steps became necessary. From August to November, Babbitt Ranches was shipping cattle every two weeks – a practice that usually starts in late October when yearlings are sold. "We were selling calves early," said Ranch Manager Victor Howell. "Usually we wean them, give them shots and hold them for 45 days." But last fall, they were getting sold right off the cows, he said. "We have cut back the cow herd to match the carrying capacity of the country, our ability to haul water and to get the cattle additional feed," said Cordasco. "This is the first time the ranches have had to take such extreme measures." Babbitt Ranches plans to make another assessment and decision about the inventory levels around the end of April 2021. In keeping true to the Babbitt Ranches philosophy of participating with the land and being resourceful, Cordasco says the ranches have adopted

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Through our efforts of learning and understanding, Babbitt Ranches, a family business and pioneering land company, raises livestock, manages natural resources, promotes science and participates in the broader community in order to join, share and do the very best we know how.



Babbitt Ranches Soaring at 35,000 Feet

U.S. Navy pilot Lt. Colin Howell wears his dedication to Babbitt Ranches on his sleeve during maneuvers with other naval aircraft. This image was taken over the Sea of Japan last fall. Lt. Howell is stationed on the aircraft carrier USS Reagan. He is the son of Ann Sechrist and Bert Howell, and the nephew of Conversation Council member Eddy Babbitt. His grandfather, Ted Babbitt, was a P-51 fighter pilot in World War II.

Babbitt Ranches Community Prayer

We thank you Lord, for this place in which we live; for the love and friendships that unite us and for the peace accorded to us this day; for the hope with which we expect tomorrow—for the health, food and the bright skies that make our lives happy—for our friends everywhere.

Let peace abound in our families. Purge out of our hearts the hidden grudge. Give us the grace and strength to practice self-control. Give us the will to accept and to forgive each other. Give us brave, joyous and peaceful minds. Bless us in all our honest and sincere endeavors.

If it may be, give us the courage to face that which is to come—that we may be brave in risk, constant in difficulty—temperate in anger—and in all changes of fortune; loyal, true and loving one another.



A Yellow Rose

The presentation of a single yellow rose is a tradition of Babbitt Ranches. This tradition allows us to reflect and to embrace our passed loved ones and to share this embrace with their families. Our thoughts are with those lives lived well, who will forever stay in our hearts.

A Yellow Rose

Its gentle beauty reminds us of the love our family and friends have for us... Its soft yellow hue symbolizes the hope and joy that comes with tomorrow's sunrise... Its loveliness lives on in our hearts and reminds us of those who have wonderfully graced our lives and who will always remain in our thoughts and prayers.

Betty Jo D'Mura (1920 – 2020)

Betty Jo Elizabeth Babbitt D'Mura lived to be 100. She was born in Mesa, the second child of Joseph R. Babbitt Sr. and Viola Babbitt. Mrs. D'Mura grew up in Flagstaff at a time when boardwalks lined the downtown streets. She earned her bachelor's and master's degrees in education and had an insatiable appetite for books and travel.

Norman Joseph Sharber (1953 – 2020)

Norman "Joe" Sharber was raised in Flagstaff and earned his bachelor's degree in biology from NAU. He worked for W. L. Gore & Associates, where he rose to a prominent position on the Medical Device Review Board. Mr. Sharber had a deep love for nature and died at his home in Bozeman, Montana. He is remembered for his brilliant mind and sharp wit.

Kenneth J. Babbitt (1936 – 2020)

Ken Babbitt was born in Los Angeles, the eldest of six children of Paul J. and Frances Babbitt. He served in the U.S. Naval Reserve aboard the destroyer escort USS Forester in the South Pacific. Mr. Babbitt moved back to Flagstaff after his military service and worked in the family company's wholesale division. He was known for his huge heart and generous spirit.



The Community of Babbitt Ranches fondly remembers beloved family and friends.

Cowpunchers Honor Victor Howell

Through cancer, drought and hard work, Babbitt Ranches' ranch manager celebrates grandchildren, sunsets and every day on the ranch

It was a sunny northern Arizona Friday afternoon. Family, friends and cowboys stood in awe as the beautiful bride in pearls, traditional wedding gown and cowboy boots strolled the long burlap-covered aisle to join her groom for an outdoor ceremony in holy matrimony on a ranch near Williams. Victor Howell's heart could have burst with joy and pride, but mostly gratitude.

Later at the reception on July 10, those familiar with the music of Holly Dunn recognized the fiddle prelude to "Daddy's Hands," as the DJ began to play the requested song. In that moment it became known that the ballad was intended for Howell and the bride, Katherine Westlake, to meet on the dancefloor for a special grandfather-granddaughter dance.

"There wasn't a dry eye in the barn," recalls Jamie Howell, Victor's wife. "When Vic was diagnosed with stage 4 lung cancer a year ago, Katherine cried. She was so upset. She didn't think her grandfather would be there to dance with her on her wedding day."

Now in remission, after battling cancer since his diagnosis in early 2019, Howell is dancing, riding and humbly beaming in the spotlight. Back in Williams on Saturday afternoon, July 25, Howell again was moved with emotion. Hundreds of ranchers clapped and cheered as the Arizona Cowpuncher's Reunion Association co-dedicated the 42nd Annual Cowpunchers Reunion Rodeo to him.

"It's an honor and a privilege," said Howell. "I've been a part of the Cowpuncher's Reunion since the beginning and I'm very thankful to receive this honor."

A Lifelong Cowboy

"Vic is the real deal, an authentic lifelong cowboy," said Cowpuncher's Reunion Association President Logan Anderson. "He is well-known in the region – a lot of cowboys have worked for Vic – he's very handy with a horse and a rope, and he's just a good guy."

The Cowpuncher's Reunion recognition was especially meaningful to Howell because the rodeo was dedicated to his father, Bill Howell, in 2001.

Vic was born in Burwell, Nebraska in 1961, the oldest of three brothers and a sister. Two years later, the family moved to Arizona where they would begin their ranching lifestyle working for Babbitt Ranches and living at various camps. After high school, Vic left Spider Web Camp for Central Arizona College (CAC) in Coolidge, where he competed in rodeo events. He married his high school sweetheart, Jamie



Hardin, and says, "This was the best decision I ever made."

Vic worked at the Red River Feed Yard while attending CAC. Their first of three daughters, Victoria – named after him – was born during that time.

The family then spent two years on a ranch in Heber. They moved again in 1984, when Vic returned to Spider Web Camp to work with his dad on Babbitt Ranches. Their second daughter, Cassandra, was just one month old. "Vic is a lot like his dad," said Jamie, noting their solid leadership skills, powerful work ethic and dogged determination. "Vic definitely has a more compassionate side than Bill, probably because of his strong faith in Christ."

"He's a good hand," said Jack Rodgers, who has known Vic for 36 years when they started working together at Babbitt Ranches and now share grandchildren through the marriage of Rodgers' oldest son, Clay, and Howell's youngest daughter, Danielle. "He keeps his eye on the Lord and strives to be better in all areas of his life. I don't think I can give a man any higher praise than that."

As Rodgers describes it, the job of managing the ranch requires understanding cows, horses, the countryside, water, weather and mostly men.

"You have to know how to work cows and be honest and square with your crew," said Charles Kent, a cowboy who has worked at Babbitt Ranches for a total of about three decades. "Vic is honest and works hard alongside everybody else. He wouldn't ask you to do

anything he couldn't or wouldn't do. Everybody knows he's a very good cowman and a good cowboy who can do it all."

Vic became Babbitts' ranch manager in 1991, following his dad's retirement as ranch foreman. In the last 29 years, he has trained hundreds of cowboys, trailed huge herds of cattle – some as large as 1,600 head – and managed water distribution during crippling drought conditions. He also looks after his own Black Angus herd under his UW brand.

Cowboy Essence Every Day

"My favorite thing about Vic is he makes everything fun," said retired career cowboy Tad Dent.

Dent described an event last fall when they were weaning calves near Tin House Camp. "Vic got there in mid-morning, tied his horse, came over and he didn't look real good to me.

I said, 'How do you feel, Vic?' He said, 'I'm sore. I hurt all over. But I knew I'd feel better if I'd had a horseback ride.'"

Vic had had a cancer test that morning. "You could tell he hurt," said Dent, "but he was having more fun on horseback than anywhere else. I told him it was Winston Churchill who said, 'There is something about the outside of a horse that is good for the inside of a man.' Vic grinned and said, 'I believe that.'"

It's no secret that Vic loves horses, and plenty of Howell family vacations have been centered around looking at horses and different horse programs all over the country. He has been instrumental in the Babbitt Ranches horse program, which has earned national accolades including the 2005 American Quarter Horse Association Remuda of the Year Award.

"Vic is a well-defined example of Cowboy Essence, which he demonstrates every day with a deeply forged character of integrity, a positive awareness of who he is and a desire to be at his best," said Babbitt Ranches President and General Manager Billy Cordasco, who has worked closely with Vic for 36 years. "Whether with his family,

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Coconino Plateau Forecast

Following a series of storms at the end of January and into February, the weather projection for the Colorado Plateau region is for a slide back into a drier La Nina pattern. "We are very fortunate to have received the wet weather that we did," said National Weather Service Flagstaff Meteorologist in Charge Brian A. Klimowski, Ph.D. "However, we are going to trend to a drier and warmer than normal pattern through the winter."

Looking outward to spring, he says there is a strong likelihood of below normal precipitation and above normal temperatures.

On a positive note, Klimowski says there are currently no signals indicating a drier than normal monsoon season this summer. "The last two monsoon seasons were truly anomalous." He warns, however, that even with average rainfall, the region will likely still show a deficit of moisture.



Winning Team

Everett Ashurst, Wade Printz, Thomas Rodgers, Clay Rodgers, Will Vest and Vic Howell competed in the Working Ranch Cowboys Association (WRCE) rodeo finals last November. The Babbitt Ranches team, featuring three generations of cowboys – Thomas, Clay and Vic – took First Place at the Lowell Goemmer Memorial Ranch Rodeo in August.

Colt Sale Returning

Babbitt Ranches is planning to sell 2020 and 2021 colts in the traditional Babbitt Ranches Annual Colt Sale scheduled for Saturday, July 10, 2021, at Spider Web Camp north of Gray Mountain.

"The colts and mares look really nice these days and around April, the next round of little ones will begin to be born," said Babbitt Ranches President and General Manager Billy Cordasco. "We sure are looking forward to seeing everyone at the sale and this year we will be

celebrating Babbitt Ranches' 135 years in northern Arizona!"

For the first time in decades, the Babbitt Ranches Annual

Colt Sale was not held in 2020 because of public health concerns associated with COVID-19. Since the 1990s, locals and visitors have looked forward to the spirited auction that occurs on the second Saturday in July. Hundreds of people come for a taste of the Old West as Babbitt Ranches cowboys on horseback bring colts, fillies and mares across the vast expanse of northern Arizona and into the corral.

Article III Cowboy Essence Section 2.

Enthusiasm
Enjoyment for what you are doing motivates those with whom you come into contact.

Serious horse buyers travel from all over, even other countries, to bid on Babbitt Ranches colts for ranch use, rodeo competition or trail riding.

"Some may think the event is about buying and selling horses, but the Babbitt family intention is much broader than that. It's about sharing and participating, and being grateful for the day, the wide-open spaces, the extended community, the grass-fed, hormone-free premium beef BBQ and the opportunity to gather together," said Cordasco.

Babbitt Ranches horses carry the legendary Hashknife brand. A "hash knife" is a kitchen tool used for making beef hash. It has a half circle steel blade,

attached to a wooden handle, that is rocked back and forth across cooked beef to create hash. But the brand signifies much more. It originally belonged to the Aztec Land & Cattle Company, which operated in northern Arizona from 1884 to 1902. It later became the property of the Babbitt family. With careful consideration of pedigree, Babbitt Ranches has developed a successful American Quarter Horse breeding program largely from descendants of the early Hashknife horses and the Driftwood (champion rodeo American Quarter Horse) lineage.

Babbitt horses have a worldwide reputation for being solid all-around ranch horses with cow sense that can work

all day and maneuver across rough, rocky terrain. Cowboys say they have speed, looks, ability, a good disposition and are often winners in the rodeo arena – from local high

school competitions to world championships. They are said to be tough enough for the working cowboy, yet gentle enough for young cowboys and cowgirls.





Article IV
Cowboy
Essence
Character
Qualities
Section 8.
Integrity
 Purity of intention.

Working with the EPA on Milestone Hawaii

In 2012, Babbitt Ranches learned the intention of the U.S. Environmental Protection Agency (EPA) was to identify the land company as the Potential Responsible Party and enforce a Cleanup Action on a small uranium mining area located on CO Bar Ranch. During the last eight years, there have been hundreds of required meetings and expensive analysis and data collection from the site.

The first phase of analysis has been completed. The second phase includes public outreach to be conducted by the EPA. And the third phase, a couple of years from now, will be a cleanup design for reclamation. The location is known as "Hawaii Milestone," as that was the name of the company leasing the property in 1960. The area proved very quickly to be unprofitable and the site was abandoned in 1962.

"We have done our best to participate in the EPA CERCLA process in an efficient and timely manner, yet much of the overall outcome rests in the hands of the EPA," said Babbitt Ranches President and General Manager Billy Cordasco.

Experiencing Babbitt Ranches in the Information Age

Cataract Canyon is a glorious sight of steep orange, amber, pink and red walls and horizontally deposited rock layers dating back hundreds of millions of years, more recently carved and exposed by the Colorado River. To protect this scenic chasm in perpetuity, the Babbitt family included Cataract Canyon, at the northernmost reaches of Babbitt Ranches, in one of the largest conservation easements in the country in the year 2000. Those wanting to visit this stretch of the Grand Canyon are advised to have a rugged four-wheel drive vehicle, a full tank of gas, plenty of water and solid directions.

Few may explore Cataract

Canyon in person, but thanks to the Information Age, unmanned aerial vehicles (UAVs) or drones, Virtual Reality technology and efforts from the nonprofit organization EVRLAND, individuals with limited mobility and sick children who can't leave their hospital rooms can be transported to this extraordinary wonder, hear the wind below, see a pair of golden eagles soar above, and feel the sensation of diving half a mile into the canyon and then ascending vertically and dramatically straight up and over the Colorado Plateau.

Los Angeles-based television producer and EVRLAND member Barry Nugent has

traveled the world with a production crew capturing nature's awesome display of deep canyons, towering mountains and coastal seas. He's also witnessed the joy of young cancer patients who find themselves blissfully lost in these stunning spectacles through the magic of Virtual Reality goggles.

This is but one example Nugent cites regarding the power of technology and communication.

"If you go to these various hospitals and cancer wards, it's not only sad because these young ones have lost their hair, they're also isolated from their families and the rest of the hospital almost as though they

are in a cell," said Nugent. "They are there all day long as they undergo their treatment. They have games and cards and puzzles, but mostly they are watching daytime television talk shows, which give very little hope and are not inspirational. Studies have shown that what you watch on TV has an effect on you and your ability to get your endorphins firing and help the body fight off diseases."

Article V
A Land Ethic
Section 4.
 It is inconceivable to us that an ethical relation to the land can exist without love and a high regard for its value. By value, we of course mean something far broader than mere economic value; we mean value in the philosophical sense.

The idea behind the content that Nugent and EVRLAND provide is to take those who can't travel the world on a virtual vacation. "Let's take them to Thailand, the Eiffel tower, to the edge of Cataract Canyon, swimming in the ocean with dolphins and sharks, or running with cattle and horses," he says.

Nugent is also a Babbitt Ranches shareholder and member of the

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Babbitts are Super Hosts



Visitors can now experience Flagstaff and appreciate the history of the town from the second floor of prime downtown property in the historic Babbitt Brothers Building on San Francisco St. and Aspen Ave. The Babbitt Brothers Foundation now offers three Airbnb rooms, which can

be booked online for nightly reservations.

"We have the Downtown Industrial Loft, a modern-themed apartment; the Aspen Heritage Loft, a farmhouse-style apartment; and our newest is the Grand Canyon Stage Coach Loft, a large corner apartment with historical touches. This

particular loft was the original Grand Canyon Stage Coach Office," said Office Manager Luana Buzzell. "The Airbnbs are doing very well and we have received nothing but good reviews."

Charming features like wood floors and original brick walls adorn the highly desirable spaces. Photos from yesteryear and country signs add warmth and character.

The Babbitt Building is owned and managed by the Babbitt Brothers Foundation. Revenue from the Airbnb rentals, go to the Foundation for upkeep on the historic building and to various community nonprofit organizations.



Article III
Cowboy
Essence
Section 1.
Industriousness
 There is no substitute for work. Worthwhile results come from hard work and careful planning.

Demand at Arizona Nordic Village Switches from Big Weddings to Family Camping

For recreation managers like Arizona Nordic Village General Manager Evan Reimondo, the pandemic has underscored the need to accommodate more people, particularly for camping.

Since last March, Reimondo has experienced the demand for cabins and yurts soar while weddings and other large gatherings dropped off the calendar almost completely. "Our cabin and yurt rentals were the busiest I've ever seen them. Usually, we think a 50% occupancy rate is good and we were at more like 85% or higher at specific times."

Weddings were fundamentally non-existent. Typically the Nordic Village hosts 20 to 30 large weddings of more than 100 people in a good year. "We hosted a few very small weddings and a

couple of outdoor events in late summer and fall. Everything else got cancelled."

While some events have been rescheduled and weddings are appearing on the calendar again for summer and fall 2021, Reimondo is excited about projects identified in the Nordic Village Master Development Plan (MDP) designed to meet the recreation demand and improve the guest experience.

Elevated on the priority list is a drive-in Forest Service

Article III
Cowboy
Essence
Section 9.
Intentness
 Set realistic goals. Concentrate on achievement by resisting temptations. Be determined and persistent.

style campground with 40 units. "We understand our niche is a step above setting up your own tent out in the woods. We're providing that bridge for people to have that rustic experience and feel like they're getting away from everything, but also to maintain their creature comforts. We're planning for people who have not camped out at all or much, and may be inexperienced in the outdoors. We're seeing a lot of families with younger kids who want the outdoor experience

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Promoting an Outdoor Recreation Ethic Attitude

Sheltering-in-place fatigue brings people outside in record numbers

As the pandemic has changed the landscape of many areas of our lives, the actual landscape has been impacted by the numbers of people clamoring to be outdoors and getting away from their homebound classrooms, offices and electronic screens.

"For all of the folks who weren't able to go to sporting events, movie theaters, concerts or the Disneyland-type settings in the past year as those options went away, people started looking for other opportunities. The outdoors was that outlet," said Coconino National Forest Recreation Program Manager Brian Poturalski. "In the broader picture, that's a great thing. The surprise was how many folks ended up out in the woods to play."

Poturalski says the increase in recreationists in the last year has been significant. The Coconino National Forest (CNF) is seeing a 400% increase in trail use. For example, on Bell Trail near

Interstate 17 and Sedona, there were nearly 13,000 visitors in May 2020. The year before, there were fewer than 3,000 at the same place in the same month.

He calls recreational use on the National Forest "truly unprecedented in all forms." Mountain biking and hiking in northern Arizona is at an all-time high and campgrounds are full.

"I think for a lot of these folks, it might have been their first time out in the woods," he said. "They didn't show good ethics and etiquette. They're playing in the woods, but causing a lot of social and environmental impacts."

Impacts include garbage being left behind from campers, particularly those outside of campgrounds where dispersed camping is allowed on public lands. Also, Utility Terrain Vehicles, also known as UTVs and side-by-sides, are being used off road in places where they are not supposed to be. "We're seeing a big uptick in UTV use across all public and even private lands," said

Poturalski. Babbitt Ranches is experiencing the same trend.

With limited funding and fears about the rapid spread of the novel coronavirus, the Forest Service is limited in ways it can meet visitors with informational, educational and safety messages. "We rely a lot on volunteer assistance, but given the COVID situation, we were concerned about their health and weren't able to staff for educational opportunities as we normally do."

For public lands, Poturalski is meeting with businesses and organizations about how to better manage and accommodate the growing number of recreationists. He says private landowners are putting together recreation plans, as well. "My sense is the visitors don't see a big difference in public or private land. I don't think they realize when they are on private property."

Outdoor Recreation Ethic Attitude

Babbitt Ranches has long been managing for recreation. Its vision is that its Outdoor Recreation Ethic Attitude is demonstrated through behaviors and actions of all those engaging in recreational activities with a self-imposed focus on awareness, responsibility, obligation and accountability.

Babbitt Ranches promotes

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Babbitt Ranches is a Family Business, as such, the work of business and the complexity of relationships have had a significant impact on each other. Through the years, Babbitt ventures have included cattle, sheep, trading posts, grocery stores, department stores, lumber companies, a livery stable, an automobile dealership, mining operations, farms, an ice plant, a funeral parlor and many others. As the 21st century organizational community carries on the spirit of adventure, exploration and love for the land, the CO Bar, Cataract and Espee Ranches remain bustling with activities that bridge the business ventures from the pioneer age to the space age with a commitment to quality and long-term decision making. Cowboys ride, rope and brand while researchers study climate, explore renewable energy and simulate conditions of the moon.

- 730,000 acres of grazing land
- 275,000 acres deeded
- 7,500 head; mostly Hereford cattle
- 150 American Quarter Horses; carrying the historic Hashknife brand

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 cration
 Honesty Purity
 Conditioning Values
 Cause Sharing
 Healing Will
 Effect Humble
 Humble
 Perseverance
 Self
 Patience
 Focus
 Thankfulness
 Devotion
 Modesty
 Sincerity
 Kindness
 Generosity
 Sharing
 Freedom
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 Receptivity
 surrender
 DE
 Abundance
 Power
 Enthusiasm
 Purity Integrity
 Community
 Trustworthy
 Harmony
 Accountability
 Strength
 Truthfulness
 Poise
 Hope
 Calmness
 Discipline
 Humility
 Adaptability
 Discernment
 Respect
 Adaptability
 Gentleness
 Poise
 Striving
 Reliability
 Efforts
 Intentions
 Innocence
 Loyalty
 Truthfulness
 Initiative
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 Commitment
 Join
 Fair
 Integrity
 Peace
 Others
 Join
 Receptivity
 Respectful
 Stewardship
 Simplicity
 Freedom
 Striving
 Responsibility
 Optimism
 Commitment
 Courtesy
 Confidence
 Contentment
 Receptivity
 Reliability
 Boldness
 Commitment
 Possibility
 friendship
 Contentment
 Participate
 Caring
 Self Control
 Blessings
 Balance

Relationships are all there is.



Celebrating the Arizona Trail: A Dream Forged from History, Friendship and a Passion for the Outdoors

Babbitt Ranches marks 25 years of active participation in the trail that connects Utah to Mexico



In the shade of a thriving alligator juniper tree in Buffalo Park on a sunny August day, Dr. John Hildebrand and historian Jim Babbitt sat on a polished rock bench dedicated to their friend, Dale Shewalter, founder of the Arizona Trail, and reminisced about the journey since the 1970s when the trail was just a dream being pondered over mountain passages and dining room tables.

“Dale and I hiked around together and did some hiking on the [San Francisco] Peaks,” recalls Dr. Hildebrand, a longtime Flagstaff general surgeon, avid hiker and expert birder. “The one thing specifically that I remember doing in the late ‘70s was flagging the Kachina Trail across the south side of the Peaks. There was no trail then.”

Babbitt, who returned to his hometown of Flagstaff in the early ‘80s, quickly became friends with the hiking pals. “Long-distance hiking in those days wasn’t anywhere near as popular of a thing to do as it is now,” he explained. “I remember going to your house, John, and having all these rolled-up maps. Dale would get them out and unroll them and

we’d look for hours at these topographic maps of various segments of the trail. You could just tell that Dale had this idea that was burning inside of him for making the trail. So, we got on board. It sounded like a fabulous idea to us!”

The vision was a trail for hikers, equestrians and bicyclists (outside wilderness areas) that would stretch from north to south, border to border, from Utah to Mexico across Arizona’s wild, rugged and scenic lands. The trio identified routes across National Forests and National Parks, but there was only one practical way to get from the San Francisco Peaks to the Grand Canyon and that was through private land, Babbitt Ranches’ CO Bar Ranch.

Aligning with History

The Babbitt section follows the historic Flagstaff to Grand Canyon Stagecoach Line route

that carried tourists from Flagstaff to the Grand Canyon for \$20 in the late 1800s.

“Horse-drawn carriages would take six to eight people at a time,” said Babbitt. “They’d pick them up at The McMillan hotel at Leroux and Santa Fe Ave. and take them to Grandview Point at the South Rim.”

“Twenty dollars was a lot of money then and most people didn’t have a lot of money, but I think there were serious travelers who wanted to go to the Grand Canyon, and for years, that was the only way to get there,” said Hildebrand.

The trip included three stops where the team of horses was changed out. One of those stops was on Babbitt Ranches’ Cedar Ranch. “For the horses to drink out of the spring, they got big old pine trees, carved them out and lined them up in a series coming down from the spring. And, that’s how they moved the

water,” said Babbitt.

In the book “Grand Cañon,” one traveler described the stagecoach ride: *It was only eleven hours in duration, and not only was most of the route level, but two-thirds of it lay through a section of beautifully rolling land, diversified with open glades and thousands upon thousands of tall pines and cedars entirely free from undergrowth. It is no exaggeration to say that we drove that day for miles at a time over a road carpeted with pine needles. The truth is, Arizona though usually considered a treeless and rainless country, possesses some remarkable exceptions; and the region near Flagstaff not only abounds in stately pines, but is at certain seasons visited by rainstorms which keep it fresh and beautiful.*

Keeping Up with Dale

“We didn’t hike so much with Dale because he was doing mostly long hikes east and west across the Mogollon Rim in those days,” said Hildebrand. “Dale was always looking for a first and really spectacular kind of a thing to do. So, he decided he was going to walk/hike the entire length of the Mogollon Rim, from the White Mountains over to the Aubrey Cliffs or somewhere over by Seligman,” said Babbitt.

A beloved Flagstaff school teacher, Shewalter would take month-long blocks of time during summer break to complete segments of his Mogollon Rim trek.

“Finally, in the early ‘80s, he completed that walk and it was monumental for most hikers that I knew at that time, a real feat,” said Babbitt. “But also, at that time, he, John and I took some very interesting long hikes that were pretty unknown. One

particular one was going across Munds Mountain and Lee Mountain and the big notch that actually disconnects those two mountains and then down off into Sedona, into Jacks Canyon. It was just a fabulous hike.”

The three shared their knowledge of Arizona’s topography and little-known paths as they continued to envision and chart out what would become the extensive trail. Hildebrand’s favorite was on the west side of the Peaks where the climb rewarded hikers with thick groves of aspen. Babbitt had fond childhood memories of exploring the wildland around Ashurst Lake and enjoying the spectacular view over Lake Mary.

By the 1990s, Babbitt Ranches President and General Manager Billy Cordasco and his son, Caleb, were crafting wooden Arizona Trail signs in their garage, using a branding iron to mark the posts.

“The ranches were very cooperative, very receptive and very supportive of the whole concept. As they still are today,” said Babbitt. “The Ranches Board of Directors, primarily family members, were monitoring this whole Arizona Trail project and our participation in it very closely and very enthusiastically. They were very glad to see the recreational component, and then when it was finally completed, everybody had a big celebration. It was a big deal for Babbitt Ranches and for the board to be a partner in all of this.”

On Saturday, April 20, 1996, Cordasco and Shewalter were digging holes and posting the handmade signs along the former stagecoach route, some 30 miles north of Flagstaff.

“The CO Bar section is all ready to go,” Cordasco told newspaper reporter Lukas Velush. “It’s all on existing roads and trails.”

In that moment, Shewalter delighted in seeing his dream

becoming a reality, piece by piece. “This has been a long time coming,” he told the *Arizona Daily Sun*. Cordasco explained the signs would keep hikers on track amidst the tangle of ranch roads and trails. “People, when they’re in the middle of nowhere, need to know where they are going,” he said.

Shewalter died after a battle with cancer in 2010, but not before he saw the Arizona Trail completed. Hildebrand and Babbitt miss their friend and visit with him on his bench under the alligator juniper about outdoor adventures of days gone by. “He was a nice, friendly person, a popular teacher and a real gentleman who so loved the out-of-doors,” said Hildebrand. “I think he would have hiked every day if he could have,” said Babbitt.

The two credit Shewalter with the vision and the passion that drove the creation of the Arizona National Scenic Trail, as it’s known today. “We were just consultants,” chuckled Hildebrand.

On Aug. 1, 2020, a small group of hikers, volunteers, Coconino County officials, representatives from the Arizona Trail Association (ATA), the Forest Service and Babbitt Ranches celebrated the completed transformation of a portion of the Babbitt Ranch Passage, from a two-track dirt road to a 13-mile single-track stretch, rich in history and a friendship that deepened over mountains, maps and dining room tables.



Dale Shewalter

Cowpunchers Honor Victor Howell *continued from page 2*

quality cattle herd, leading cattle drives, overseeing Spring and Fall Works, selling livestock, developing a Quarter Horse breeding program, hiring cowboys, directing maintenance workers, planning the upcoming year’s ranch improvements, or encouraging and teaching the next generation of employees, Vic is consistent, strong, confident, wise and always aware of what’s next to learn.”

All those familiar with Babbitt Ranches know Cordasco and

Howell have a special and unique bond. They are the same age, began their Babbitt Ranches career at about the same time, which led to management at about the same time. Through the years, the two have covered thousands of miles on the road together – from Texas to Montana, California to Nebraska – in search of quality bulls, horses, pastures and strategies.

“I have never encountered another person with as much

authentic, genuine and complete passion, interest and dedication to learning and understanding about all things cattle, horses and cowboying daily,” said Cordasco. “Vic has had an unwavering, profound sense of responsibility and humility in all he does at Babbitt Ranches and more importantly, with his family.”

“We have a relationship like brothers,” said Howell last July. “We’re a team and we have a lot in common. Billy has his

strengths and I have mine – we complement one another. Billy sees the vision and I’m more task oriented. Take the job of shipping 3,000 head in the next week, for example. I’m organizing the men while he’s thinking of what this is going to look like next year.”

For Cordasco, it’s been a productive business relationship and extraordinary friendship that has flourished through births and celebrations, illnesses and heartbreaks,

having each other’s back and holding each other’s babies.

As the two witnessed the wedding of Katherine and Guy Peterson last July, Billy recalled being present moments before Vic’s granddaughter was born. Vic remembered his friend being there, then and now.

Vic continues to undergo treatment and says he is thankful every day for the gift of life, the opportunity to work on the ranch, special Southwestern sunsets that are too numerable

to count and above all, time with family.



Howell honored in Williams.



The development of a Golden Eagle Conservation and Research Center at Arizona Nordic Village is being discussed with the U.S. Fish and Wildlife Service (USFWS), the Arizona State Land Department (ASLD) and Arizona Game and Fish Department (AZGFD).

Arizona Power Company: Renewable Energy Generation for the Next Generation *continued from page 1*

the rhythm of the day and night cycle influences human health, too.

“Some of the darkest, starriest places in northern Arizona are on Babbitt Ranches and we intend to keep them that way,” said Cordasco.

Conservation, Sustainability, Renewable Energy

Working with some of the largest and most reputable renewable energy companies in the world, Babbitt Ranches is passionate about helping America become less reliant on fossil fuels and solve its energy challenges sustainably. Through lease agreements on the CO Bar and Espee ranches, solar and wind power companies will be able to harness clean and abundant energy during the day and make it possible for communities to use artificial

light responsibly at night in their own way through their sense of conservation and stewardship. Examples of this might include using International Dark-Sky Association-approved amber lighting, fixtures that shield light and direct it toward the ground and motion detectors that use light only when necessary.

In 2010, Babbitt Ranches signed its first wind lease with NextEra Energy. The lease ran for 10 years and was renewed in 2020 for another term. For developing information on this exciting project, visit <https://www.nexteraenergyresources.com/babbitt-ranch-project.html>

Along with NextEra Energy, Babbitt Ranches recently has signed leases with Pattern Energy, RWE and Navajo Power. The wind developers are each looking at 160 megawatt (MW) installations. Babbitt

Ranches also has agreements with Clenera, a solar development company. If fully implemented, the Clenera project would be one of the largest solar installations in the country, producing nearly 850 MW of power.

These collaborations bring Babbitt Ranches’ conservation efforts full circle – day and night – fitting Babbitts’ land-use ethic while allowing the economic means to keep ranchlands open, benefit grassland species and maintain the integrity of the landscape.

“Our aim is conservation and sustainability,” said Cordasco. “Our future includes the facilitation of clean, renewable energy production.”

In its efforts to promote the development of renewable energy, Babbitt Ranches has established the Arizona Power Company, an entity that possesses

the framework to hold 30-year lease agreements with renewable energy companies. At the conclusion of these commitments, the lands will be fully restored to their native condition at which time they will re-join Babbitt Ranches’ overarching conservation and stewardship program.

Thus, supporting clean, renewable energy generation enables Babbitt Ranches to maintain the integrity of the land, protect Arizona’s wide open and wild spaces, chart a sustainable future for the family business and give back to the land, the communities and the planet.

Further, through these renewable energy endeavors and ongoing discussions with state and federal wildlife agencies, it is Babbitt Ranches’ intention to create a National Golden Eagle Conservation and Discovery Center. Several renewable energy companies have offered financial assistance to move the proposal forward.

Currently, Babbitt Ranches has an agreement with NextEra to explore such a conservation center located at Arizona Nordic Village.

Drought Conditions Persist *continued from page 1*

what he calls “Noah Projects.” “It’s going to rain and we will be ready,” he said. “A drought is a great time to clean a dirt tank, for example. Digging out these dirt tanks allows for greater retention of stock pond water for future use. So, we will stay optimistic and continue working on our Noah Projects.”

The Babbitt Ranches persistent and conservative outlook on drought was developed during the Great Depression. “A successful ranch always manages for drought,” said Cordasco, quoting his grandfather and former Babbitt Ranches ranch manager, the late John Babbitt. “Everything is about relationships,” said Cordasco, “including how we participate with the environment. That’s the one relationship that’s

going to stretch everybody now and into the next generation. We have a responsibility, obligation and accountability to the land and that’s part of our Cowboy Essence culture. No matter what challenges we face, we always want to be the best that we can be and all that we were created to be.”

“It’s going to rain and we will be ready. A drought is a great time to clean a dirt tank, for example. So, we will stay optimistic and continue working on our Noah Projects.”

– BILLY CORDASCO
Babbitt Ranches President and General Manager

GENERATIONS sustainability sciences

Wide and Varied Science is promoted, supported and acknowledged by Babbitt Ranches across the Coconino Plateau. The goal remains to affect a land ethic so that private and public land managers have science-based knowledge and technologies to support the sound stewardship and conservation of their lands and natural and cultural resources. Focus areas include:

Community and Relationships ♦ Sustainability ♦ Land Use Ethic ♦ Cross-Disciplinary Programs ♦ A Blend of Natural and Social Sciences ♦ Science and a Sense of Art ♦ Information Dissemination ♦ Regional Planning.

Conservation Projects support efforts to reintroduce the nearly extinct black-footed ferret; establish a golden eagle conservation area; and develop habitat for pronghorn antelope and other wildlife species.

Conservation Easements preserve open spaces for the enjoyment and participation of generations to come.

- ♦ Cataract Ranch, 34,000 acres to The Nature Conservancy
- ♦ Cataract Ranch, 6,000 acres to Coconino County
- ♦ CO Bar, 640 acres to Coconino County

“The decisions we make today are on behalf of our children, our grandchildren and their children. And that is our motivation, as we enter into an era of renewable energy generation for the next generation and many more to come.”

– Billy Cordasco
Babbitt Ranches President and General Manager

Babbitt Ranches with Eyes on Night Skies

Babbitt Ranches is believed to have some of the darkest skies in northern Arizona and soon scientists expect to have the data to prove it. Astronomer and Northern Arizona University Campus Observatory Director Ed Anderson says preliminary measurements taken at four locations on the ranches – north of Wupatki National Monument, near SP Crater, north of Cedar Ranch camp and near Tin House ranch camp – all reveal extraordinary dark sky quality.

“We’re at ‘excellent’ for all four sites,” he said. Anderson and Babbitt Ranches President and General Manager Billy Cordasco gathered data earlier this month using a new night sky brightness monitoring system for a project called Eyes on Night Skies (EONS), developed by Dark Sky Partners, LLC, of Flagstaff. The EONS project is designed to address the increasing concern of manmade light in the night sky around the world.

The EONS project uses light meters similar to exposure meters photographers may have pointed at their subjects years ago,” said astronomer Chris Luginbuhl of Dark Sky Partners. “It points straight

up and senses the light that comes from a portion of the sky overhead. It’s not able to distinguish light pollution from starlight and moonlight, but you can determine the natural conditions by knowing the characteristics of the location and by studying how it changes over time. For example, when the Milky Way passes overhead, the measurement goes up.”

Astronomers use a measurement scale where larger numbers correspond to lower or fainter brightness. The International Dark-Sky Association (IDA) rates the quality of starry nights for locations considered for dark sky recognition. “For Dark Sky Reserve status, the numbers at various locations have to be greater than 20. Anything less than 20 is too bright,” said Anderson. “A city sky is less than 18. A bright suburban sky might be 19. A rural sky is nominally about 21. A truly dark site is darker than 21.5. Our preliminary data shows Babbitt Ranches at 21.6.”

Babbitt Ranches is bordered by locations that have received IDA dark sky designations. Flagstaff is the first International

Dark Sky City; Flagstaff Area National Monuments – including Sunset Crater Volcano, Walnut Canyon and Wupatki – and Grand Canyon National Park are all recognized IDA International Dark Sky Parks.

In an effort to measure and monitor northern Arizona’s darkness over time, Babbitt Ranches will be working with Dark Sky Partners and installing battery-operated EONS stations, which will each collect data every five minutes every night, or almost 100,000 measurements every year. NAU, Lowell Observatory and U.S. Geological Survey also are participating in the EONS project. Luginbuhl plans to have seven of the sophisticated light meters operating around the Flagstaff area by the end of 2021. “We’re looking for long-term

trends and how the sky is changing with growth,” said Luginbuhl. “Measurements from nearly pristine areas like Babbitt Ranches and from locations with well-controlled lighting like Flagstaff contribute a lot to the understanding of light pollution and natural variations.”

“Along with the Babbitt Ranches Community, we’re thrilled to participate with the EONS project in the collection of information to learn and understand more about our dark skies in northern Arizona, as well as be thinking forward as to how to maintain and conserve these beautiful night skies for future generations,” said Cordasco. Luginbuhl and Dark Sky Partners will analyze the EONS data from Babbitt Ranches and elsewhere.

Article V
A Land Ethic
Section 3.

The land ethic then reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity.



“Let’s take people to the edge of Cataract Canyon. Stories change the world and we have stories to tell.”

Barry Nugent
Babbitt Ranches
Conversation Council

Experiencing Babbitt Ranches in the Information Age continued from page 3

Conversation Council. He sees abundant opportunities to communicate Babbitt Ranches projects and messages by tapping into “thirsty” audiences. “There are a lot of communities out there that want to hear good news, exchange thoughts and ideas, learn or teach,” he says. “We are in a unique position to promote stewardship of the land, express Cowboy Essence and share that with people who are looking for different forms of leadership. Stories change the world and we have stories to tell.”

Nugent has spent his career working with television networks and creating programs, such as “The American Bible Challenge.”

“With our podcasts, video clips, electronic newsletter, ‘Footnotes,’ and social media efforts, we are very focused on communication with the Extended Babbitt Community, our friends in the agriculture industry and land and wildlife management agencies, along with other audiences we haven’t yet considered and formats we haven’t yet explored,” said Babbitt Ranches President and General Manager Billy Cordasco. “I am excited about our creative projects to come and continuing to work with Barry.”

“The land is important to my heart,” said Nugent, “and I look forward to being more involved in the family business.”

Promoting an Outdoor Recreation Ethic Attitude continued from page 3

the Outdoor Recreation Ethic Attitude through educational and experiential outreach efforts to encourage a broader sense of awareness of use and activities, and a better understanding for each individual’s place in the community. “Our recreation management strategy has evolved with community input,” says Babbitt Ranches President and General Manager Billy Cordasco. “It is our response to the increasing recreational demands and impacts of growing Western populations at a time when state and federal budgets and

management resources are greatly diminished. Self-management by recreationists is the only feasible way to achieve sustainable outdoor recreation practices across the landscape.” Cordasco is hopeful Babbitt’s Outdoor Recreation Ethic Attitude will be broadly adopted so that people will want to act responsibly without the need for regulations or enforcement. “We believe an Outdoor Recreation Ethic Attitude has the potential to greatly benefit both public land managers and private landowners all over the West,” he said.

Studying Recreation’s Impact on Golden Eagles

Game cameras, set up around SP Crater north of Flagstaff and west of Highway 89, are taking pictures of wild and human activity. Leah Harris, a student in environmental and sustainability studies at Northern Arizona University put them there last

June as part of her capstone project: Assessing the Impact of Recreation on Golden Eagle Nesting Behavior on Babbitt Ranches.

Her research is being conducted under the guidance of Tad Theimer, a biology professor in the College of the Environment, Forestry, and Natural Sciences; Kenneth “Tuk” Jacobson, raptor program coordinator for the Arizona Game and Fish Department (AZGFD); and, Billy Cordasco, president and general manager of Babbitt Ranches.

“The hypothesis is that recreation is having a negative effect on golden eagle nesting activity,” said Harris. “We want to know if golden eagles are abandoning nests or using the nests, but not being able to raise

offspring.”

With the onset of COVID-19, Harris says more people have been turning to the outdoors. She says there has been an increase in the number of hikers and also dirt bike riders in the SP Crater area. “People are going off roads where they’re not supposed to be. There also are geocaches near the craters that are drawing people out there.”

Babbitt Ranches has identified at least six nest sites in Harris’ project scope. “We’ve been monitoring the goldens for some time across the ranches and have been very concerned about populations in the West,” said Cordasco. “This research will provide valuable information to help us understand the kinds and levels of recreational activities out there, the abundance and health of grassland prey species for eagles and how the eagles are responding.”

Harris says golden eagles returned to northern Arizona last month, as part of their winter migration route from colder climates. “Through binoculars, I have seen them flying a couple



of times. They are large brown predatory raptors that you can often observe soaring.”

She says the eagles should be having eaglets in the next couple of months, which she is hoping to see.

As a Flagstaff native raised in an outdoorsy family, Harris says she has been in training for this kind of work her whole life. “We’ve always done a lot of camping, hiking and kayaking,” said Harris, whose family owns Babbitt’s Backcountry Outfitters in the Babbitt Building in downtown Flagstaff. “I’ve always enjoyed seeing raptors and wildlife in general. It’s part of the experience of living here.”

Harris monitors the battery-operated game cameras routinely and enjoys seeing what they have captured. So far, she has images of a young mountain lion, bobcats and coyotes, along with many rabbits and prairie

dogs. “It looks like there is an abundance of prey species for the eagles,” she said. “This research is also telling us how close foot and vehicle traffic is getting to the nests.”

Her findings, which she expects to compile for her report in late spring, will be made available to Babbitt Ranches, AZGFD and the U.S. Fish and Wildlife Service (USFWS). “It’s really important to me to find out if eagles are being negatively impacted by human behavior in order for land managers to be able to make management decisions regarding the conservation of golden eagles,” she said.

Harris attended Northland Preparatory Academy and plans to graduate from NAU with her bachelor’s degree in 2021.

Article VII
Human Dimension and Science
Section 4.

Communicate activities to other agencies and landowners with whom Babbitt Ranches has relationships, and to the owners of Babbitt Ranches.

Measuring Electrical Currents Under Babbitt Ranches

Researchers are hoping to avoid damaging impacts from future solar storms on power systems

Geophysicists are measuring the natural electric and magnetic field to estimate the electrical resistivity or conductivity of the Earth under Babbitt Ranches in a project that spans the continental U.S. The Magnetotelluric Array (MTA) project is designed to figure out how the North American continent has evolved tectonically and how Earth’s plates have moved around. These data are also used to understand the impact that big electric events – solar storms, for example – can have on the power grid and infrastructure.

Scientists say magnetically induced currents (GIC) are a significant manifestation of space weather at ground level and can have important economic and practical consequences. The sun is the main source of space weather and intense solar storms can cause destructive current flow at the Earth’s surface. Magnetospheric currents, high above the planet, arise from the interaction of the solar wind with Earth’s primary magnetic field. In polar regions, the atmospheric effects of magnetospheric telluric, or electrical, currents can sometimes be seen in the Aurora Borealis. At lower latitudes, the effects of the currents are small and difficult to measure unless data is acquired

in quiet areas, like on Babbitt Ranches.

By recording the electromagnetic fields, researchers can image the electrical resistivity of the Earth and create a three-dimensional picture. “The MTA data are used to image deep geologic structures related to plate tectonics, volcanology and faulting and will provide information about the Earth’s crust and upper mantle to depths as great as 30 to 40 miles,” said Green Geophysics founder Louise Pellerin, Ph.D.

With that information, potential hazard areas related to geomagnetically induced currents (GIC) can be identified that can affect the normal operation of regional electrical infrastructure including power distribution, communication and pipeline systems. “This project can tell us how our infrastructure and power can be hurt,” she says.

For example, the entire province of Quebec, Canada, suffered an electrical power blackout in 1989, caused by a solar storm. “Similarly, a solar flare can cause disruption in our power grid,” she said. “If the ground is conductive, the current will stay in the ground, but if the ground is resistant, the current will jump to a pipeline

or powerline and can cause widespread blackouts when high-voltage power transformers are damaged. Clay is very conductive, granite is very resistive.”

Pellerin adds that this information also can inform scientists about the changing landscape. “Nevada is getting bigger by a millimeter a decade. It’s getting higher and hotter. It might look like Tibet one day,” she said. “The Great Basin [which includes most of Nevada, half of Utah and sections of Idaho, Wyoming, Oregon and California] is a very thin crust. It is very hot and expanding.”

Thomas Steele is part of the field crew. Currently, he is installing magnetometers and measuring electric currents on 12 sites in Arizona. Eventually he expects to have 60 in the state. Two of the locations are on Babbitt Ranches north of Flagstaff east and west of Highway 180. The magnetic field is measured by a highly sensitive magnetometer that is housed in a cylindrical tube, measuring 18-inches long and 6-inches in diameter, buried in the ground. The system includes two wires, each about 100 yards long, that are laid on the surface or buried in shallow trenches, which connect to an underground electrode. A battery-operated data logger is at the center of the setup with

the electrode wire lines and magnetometers connected to it.

About three weeks after installing the instruments, Steele and his teammates gather the recorded data. “I really enjoy being able to go out to remote locations and seeing what other people don’t normally get to see – some really beautiful areas,” said Steele, who is originally from a suburb near Paris, France. “I’ve been surprised by the diversity of the landscape and climate in

Arizona. I really love it out here.”

“It is wonderful that Babbitt Ranches can be part of such an important national scientific effort,” said Babbitt Ranches President and General Manager Billy Cordasco. “Findings from the Magnetotelluric Array project will, no doubt, benefit our country in extraordinary ways as we learn and understand more about how the Earth responds to solar flares and other solar activity.”

The MTA project is funded through the Department of the Interior, U.S. Geological Survey (USGS). Oregon State University is the lead organization. Green Geophysics has been contracted to conduct the fieldwork.



Demand at Arizona Nordic Village Switches from Big Weddings to Family Camping continued from page 3

but don’t want to be out in the middle of nowhere.” Reimondo is hoping to have 20 to 25 campsites available by fall 2022. The plan also calls for adding six to 10 more cabins or yurts. Currently the overnight comfortable carrying capacity is more than 50 guests. Proposed improvements would accommodate approximately 170.

A large permanent pavilion for weddings and events also is in the future, as well as enhancements to the lodge. Recreational activities may include a tree canopy zipline and guided nature hikes. Currently, interactive displays are being planned to greet visitors in the Discovery Yurt, along with a delineated trail and brochure for self-guided nature hikes.

“The one really positive take-away from the virus is that more people are spending time outside,” said Reimondo. “I hope that trend continues.”



Katelyn Cordasco relaxes on the steps of a rustic cabin at Arizona Nordic Village. Plans include six to 10 more cabins and yurts in the near future. A drive-in style campground may offer two dozen campsites by fall 2022.

Generating Energy for the Next Generation

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Babbitt Ranches



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