SWCA
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FOCUS: HONORING A SHARED HISTORY

By John Thomas, CEO

This year, the National Park Service celebrates its centennial and SWCA celebrates 35 years as a company.

While these are very different events in scale and import, there are parallels and connections between the Park Service and SWCA. In this issue of *The Wire*, we want to honor this shared history, as well as highlight our growth over 35 years and the possibilities for the future.

On page 3, we take an in-depth look at SWCA's history in Grand Canyon, which began in the 1970s. Steven Carothers, SWCA's founder, was Curator of Biology at the Museum of Northern Arizona and secured contracts with the Park Service to inventory the biological resources of the Colorado River corridor and assess impacts from the burgeoning river-running industry. This work made important contributions to the understanding of the Colorado River ecosystem in Grand Canyon and resources management in the park. It also established the foundation for what became SWCA.

I was a Park Ranger on the Colorado River in the 1970s, and it was on the river where Steve and I began a 40-year working relationship that continues to this day.

When the National Park Service was created 100 years ago, it was given the dual mandates to preserve the parks while allowing visitors to experience them. National Park managers have worked to protect park resources while also promoting use and development of the parks. Steve and I worked within the boundaries of these mandates at Grand Canyon. When reflecting on the history and work of SWCA, we recognized that there is a symmetry between the mandates of the National Park Service and SWCA's purpose, which is "to preserve natural and cultural resources for the future while enabling projects that benefit people today." Different for sure, but similar in that use and preservation are both goals.

Those goals are reflected in our partnership with Babbitt Ranches to preserve golden eagles (see page 8) and our recent work with Vermilion Energy USA in Wyoming, where construction monitoring led to the successful identification, excavation, and preservation of a *Triceratops* skull (see page 12).

Why are we working to benefit mankind in the near-term and preserve resources for the long-term? Because projects and development on all scales are required to meet the need of growing populations and people's aspirations for quality of life, AND, quality of life for people in the future will be enhanced if we are able to preserve natural and cultural resources. These are the reasons SWCA employees come to work each day and will continue to in the future. ■

RUNNING DEEP:
SWCA'S HISTORY IN GRAND CANYON

When your office is Grand Canyon, it's easy to fall in love with your job. Such was the case for SWCA's founder Steve Carothers and CEO John Thomas. In the 1970s, Steve was Curator of Biology at the Museum of Northern Arizona, and he had secured contracts with the Park Service to inventory the biological resources of the Colorado River corridor and assess impacts from the growing river-running industry. John was a park ranger on the Colorado River and worked closely with Steve, planting the seeds for their working relationship today.

Those first projects made important contributions to the understanding of the Colorado River ecosystem in Grand Canyon and resources management in the park. It also established the foundation for what became SWCA.

In honor of the National Park Centennial and SWCA's 35th anniversary, we wanted to take a closer look at SWCA's history in and around Grand Canyon National Park.

SWCA'S WORK IN GRAND CANYON

1970s

Steve and his MNA team conducted a multi-year study documenting the damage caused by feral burros in Grand Canyon National Park. Based on that documentation, the Park Service decided upon a much-publicized program to remove the animals. In other words, they were proposing to kill "Brighty."

Brighty of the Grand Canyon is a popular children's book and movie about a lovable burro that roamed the Canyon in the early 1900s. A statue of Brighty in the lobby of a Grand Canyon hotel bears the inscription "forever wild, forever free." The irony of this in the face of a proposal to eradicate burros from Grand Canyon was lost on no one, and, inevitably, Brighty became the poster child of a "save the burro" movement. Eventually the burros were removed from the park, alive.

1980

In 1980 when the museum decided to "get out of the biology business," Steve took responsibility for completing the remaining research contracts, Grand Canyon studies chief among them. To do this work Steve needed a staff. He also began to see the potential for a company.

1981

Steve formed **Steven W. Carothers Associates**. John and Steve worked together on river management projects in the canyon while John was still working for the Park Service.

SWCA INC. Environmental Consultants

1984

Incorporated as SWCA. Steve had won work with the Bureau of Reclamation to monitor fish populations below Glen Canyon Dam and was busy assembling the Icthyophyter, the first electrofishing boat capable of navigating Grand Canyon's rapids. He was also writing a book with ornithologists Bryan Brown and R. Roy Johnson on the birds of Grand Canyon. Steve knew that if SWCA were going to be a "real" company, he needed more people. He offered John a job managing Tucson operations, and John accepted.

1984-1999

SWCA continued work in Grand Canyon National Park as part of the Glen Canyon Environmental Studies program that was created to assess impacts of Glen Canyon Dam operations.

1990-1995

Grand Canyon Railway Spurline EIS: SWCA was retained by Grand Canyon Railway to prepare an environmental impact statement (EIS) analyzing the potential impacts of a railway spur line from Tusayan, Arizona, to Grand Canyon Railway's mainline tracks. The purpose of the proposed project was to enable up to 1 million visitors per year to park their cars in Tusayan and take the train to Grand Canyon National Park, thus reducing the vehicle congestion at the rim. The EIS was completed and all appeals were satisfied, yet the project was never constructed.

2000-2001

Grand Canyon Bird and Insect Study

2001-2005

Fisheries Monitoring in Grand Canyon: SWCA biologists were responsible for collecting important population, life history, and habitat data for the native fishes of the Colorado River in Grand Canyon. Many of these studies have been instrumental in evaluating the downstream impacts of Glen Canyon Dam on the native fish population, especially the endangered Humpback chub *(Gila cypha)*.

2005

Humpback Chub Translocation: Under the direction of Dr. Richard Valdez, SWCA provided expertise to evaluate the feasibility of translocating endangered Humpback chub *(Gila cypha)* into tributaries of the Colorado River in Grand Canyon National Park, including the evaluation of removal of non-native fishes to benefit native fishes in tributaries.

2014-2015

Trans-Canyon Water Line Documentation: Grand Canyon National Park in 1970 completed a pipeline to transport North Rim water 12.4 miles to the South Rim and its village. Over the years, the pipeline suffered leaks and breaks. Replacement of 50-year-old pipeline segments began in 2015, and the National Park Service contracted with SWCA to document the historical value of the pipeline to meet the standards of the Historic American Engineering Record (HAER) and the National Register of Historic Places.

2016

The Trans-Canyon Water Line team was honored with a **Governor's Heritage Preservation Award**.

2011-2012

Tusayan Flood Control Project: SWCA was contracted by the South Grand Canyon Sanitary District (SGCSD) to prepare an Environmental Assessment (EA) for a flood control project on the Kaibab National Forest. The purpose of the project was to protect the Town of Tusayan, Arizona, from ongoing flooding.

MINIMIZING PUBLIC CONTROVERSY
IN THE AGE OF SOCIAL MEDIA

By Pamela Cecere

Sooner or later, we all come face-to-face with public controversy, whether it's a political post on Facebook, a neighborhood ordinance that affects your property, or a heated debate about ethics or religion. For SWCA and our clients, however, interaction with the public can be a key aspect of the job. Many projects involve public comment and educational phases, during which we work together as a team to present our objectives and results.

Yet, creating a communication strategy for projects that involve the public is more challenging than ever before. The old adage "perception is reality" is particularly true with the use of social media, where vines of misinformation creep through and distort the message. As a team, we have a responsibility to not only generate project information, but also to follow through with communicating those messages in a way that minimizes potential for misinformation to derail a project.

At the onset of any project that includes public communication, it helps to develop a strategy that acknowledges the changing landscape of public opinion. We'll need to have a grasp on public perception, where that perception comes from, how it forms, and the potential implications to a project. Even if you're not directly involved with communication, it helps to understand public opinion and how your project is perceived. The following are some important considerations to help minimize public controversy and maximize project success.

VIRTUAL TRUTH VS. ABSOLUTE TRUTH

Public perception is frequently based on a mixture of "virtual" and "absolute" truths. Virtual truth can be derived from popular opinion, media coverage (online, TV, radio, and print), and social media. Virtual truth can also represent an intense distortion of fact.

Absolute truth typically comes from well-researched academic, government, or industry studies, or directly from subject matter experts, and tends to be far less tainted by personal bias or conjecture.

Whenever possible, it's important to communicate concrete, measureable facts and support messages that communicate absolute truths, not virtual ones.

TYPES OF PUBLIC PERCEPTION

Top of the Mind – This is the "brand," or what people think of when they hear about the subject matter. What do you want to be top of the mind when the public considers your project?

Issue Familiarity – How familiar is the audience with the information being presented? For example, in Pennsylvania, "fracking" is an issue that most people know about, and public opinion covers the spectrum from fervent support to intense opposition.

Association – Is the information commonly associated with positive (or negative) opinion?

DRIVERS OF PUBLIC PERCEPTION

Before we can communicate project information effectively, we must understand what fuels public perception. There are **four primary drivers** of public perception:

1. **Existing information available to the public** – If the loudest mouthpiece is the opponent, that's where perception will form.
2. **Transparency in reported information** – Information that is incomplete, or that distorts the facts, will cause mistrust with the public.
3. **Information flow** – Consistency and frequency in messaging should be measured. Communication that's inconsistent or infrequent can be ineffective. Make sure you're communicating with the appropriate frequency based on the public's need.
4. **Accountability** – As you create a message, consider the potential for holes to be poked, and then be ready for rebuttal. Have more than one person read drafts of communications (even social media posts) to help identify potential gaps.

KNOW YOUR AUDIENCE

One of the fundamental rules of communication is defining and understanding your audience and tailoring the message for maximum results. The "audience" can cover a lot of people, including the public, elected officials, agency representatives, decision-makers, influencers, clients, and any type of stakeholder or individual with a vested interest in the outcome of a project. Your audience may be well versed in the science and regulations of a project, or they may know nothing about it. Basically, understand everything you can about your audience – the good, the bad, and the ugly. Then design your communication plan around the issues and customize the message to concentrate on what will fulfill the interest of the information receiver. If possible, chart or outline your audience as follows:

- ☑ Who is the stakeholder?
- ☑ What is their interest?
- ☑ What do they already know?
- ☑ What don't they know?
- ☑ What's the key message for this audience?
- ☑ How do we best deliver that message?

BE AUTHENTIC

As information receivers, we are constantly filtering information, and we tend to concentrate on what fulfills an interest for us. Creating a message that's personal to your audience makes a more authentic connection and begins the process of positive association. In addition, information receivers are keenly aware and attuned to the authenticity of the information being received.

Uncertainty about the message (for instance, saying "no comment") very quickly breeds a negative association. Avoiding uncertainty running rampant among your audience and causing virtual truth to emerge requires basing the project message on absolute truth.

When in doubt, you can also echo back what you hear as you speak with the public. Often, acknowledging your audience's concerns and making them feel heard is the first step toward finding understanding and a shared path forward.

Building a strong, authentic foundation of information will strengthen your message against skeptics and virtual truths.

ANTICIPATE THE HOLES AND BE PREPARED WITH RESPONSES

Your work doesn't end with the communication plan! With every issue, play the devil's advocate, anticipate any responses – positive or negative – and rehearse your answers. Don't dismiss feedback. Instead, respond to it carefully and thoughtfully, using absolute truths.

USE SOCIAL MEDIA WISELY

Social media is notorious for knee-jerk reactions and quick retorts. It can be all too easy to click "share" before considering the validity of the information you're disseminating. But, when used effectively, social media can also be a great tool for building rapport and trust, and responding quickly to alleviate public concerns. Here are a few best practices to follow when engaging with the public (or anyone!) on social media:

1. **PARTICIPATE.** Staying silent on social media makes way for other voices to shape the messaging. Remember much of public perception is what is "top of the mind."
2. **INFORM.** Use social media as a tool to educate and disseminate important information. Use absolute truth, or facts from subject matter experts and primary sources.
3. **PRIORITIZE RESPONSES.** As the public engages, you'll need to prioritize which comments need response and who should respond to them.
4. **BE CONSISTENT.** Keep information and messaging consistent across all your communication channels.
5. **BE CONVERSATIONAL.** Social media is like an ongoing conversation. Be authentic and conversational to better connect with the public.
6. **THINK BEFORE YOU CLICK.** While it's important to respond in a timely manner, always take a moment to think about your response before you post it publicly.

Whether we're planning for a new land development, seeking environmental permits, or assessing for endangered species or cultural resources, the public plays a key role in our success. Look to your audience as a potential partner in that success.

For more information, contact:
Pamela Cecere at **pcecere@swca.com**

BIRDS-EYE VIEW:
HOW A CREATIVE SOLUTION BENEFITS GOLDEN EAGLES AND RENEWABLE ENERGY

By Gina Wagner

Tom Koronkiewicz knows more about golden eagles than most of us know about our closest friends. Take Susan, a golden eagle he captured and fitted with a transmitter on Mother's Day in 2015. With various charts, digital models, maps, and spreadsheets displayed on his computer screen, Koronkiewicz can track Susan's location every 15 minutes, and tell me how fast and how far she travels, and where she likes to eat and sleep. Using elevation changes, he can estimate places she swoops down to ground level to nab her prey. "This fall we're putting in nest cameras, so we'll be able to show high-resolution photography of nesting activity too," he notes.

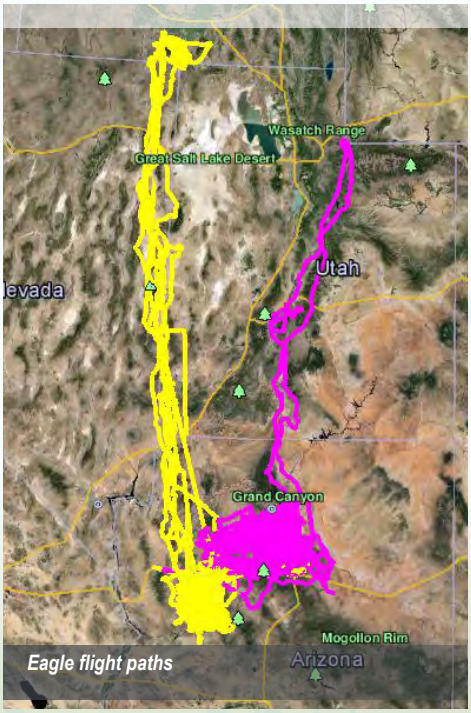
Susan is just one of dozens of golden eagles that Koronkiewicz studies in his role as an avian ecologist at SWCA. Working with longtime client Babbitt Ranches in northern Arizona, Koronkiewicz and his team have an ambitious goal: Develop a program to not only conserve golden eagles, but track them and increase their numbers to someday help wind energy companies and other developers meet the Fish and Wildlife Service compensatory mitigation requirements and achieve "zero net loss."

> ***"Absent of wind energy, I don't think we'd know hardly as much as we do about golden eagles..."***

"Absent of wind energy, I don't think we'd know hardly as much as we do about golden eagles," Koronkiewicz says. "Developers have to go to great lengths to figure out what these birds do and to protect them under the Bald and Golden Eagle Protection Act of 1941."

TURNING A NEGATIVE INTO A POSITIVE

It all began in 2009, when renewable energy was experiencing a significant upswing. Babbitt Ranches was considering leasing part of their land for wind energy, and SWCA was conducting surveys on the ground and from helicopters. The conditions seemed just right. There were transmission lines and ample wind, and the turbines with their small footprint would not interfere with activities on the ranches. There was only one problem, a big one: During surveying, SWCA discovered the proposed site was a nesting area for golden eagles. "I had to get off the helicopter one day and call the client and say 'you guys are up the creek. There are golden eagle nests on this site,'" recalls Koronkiewicz.



Eagle flight paths


Grasslands on the Babbitt Ranches property offer perfect feeding grounds for eagles

The client and SWCA could have called this a defeat. But Billy Cordasco, President of Babbitt Ranches, had a better idea.

"I think there was a sense of deflation a little bit when Tom called, just because we were so geared up to participate in renewable energy, which seemed to be as much the conservation ethic as anything," he recalls. "But not long after – hours or less, maybe – we started to think, 'you know what? If those eagles are so important, that's the value we should go after. We should articulate the conservation opportunities to apply there.'"

"Susan," one of the study eagles, about to be released

Babbitt Ranches, which owns and manages more than 700,000 acres in northern Arizona, operates with multiple bottom lines, Cordasco notes. "We have an accountability to the organization and the economics of the company, but we're in a land-based business," he notes, "so our responsibility is also to the environment."

CREATING ECOLOGICAL LIFT

And so began the Babbitt Ranches golden eagle research, monitoring, and conservation project. Traditionally, developers and energy companies that want to mitigate eagle loss have only one option: retrofitting power poles to prevent the electrocution of birds and collisions with lines. But that is difficult, Koronkiewicz notes. In many places developers are running out of poles to retrofit, and often utilities are not willing to retrofit their lines. "We would like to provide a place, a mechanism so that folks who cannot retrofit power poles can go the conservation route."

SWCA and Babbitt Ranches began looking for new, creative ways to mitigate eagle loss and quantify it. "There are mitigation banks for trees and wetlands – if you use land here, you need to protect land somewhere else. If you cut a tree, you need to plant a new one," Koronkiewicz explains. "This is very different in that these are animals we are dealing with... At what point do we say, we grew a golden eagle or we precluded the death of an eagle?"

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They began looking at all the data and the specific factors that influence golden eagle well-being: habitat, food sources, reducing lead poisoning (eagles are highly susceptible to lead in the environment and in their food sources), mortality, and nesting.

Today, more than a dozen eagles have been tagged with state-of-the-art transmitters that use cellphone towers, which provide more location and spatial data than satellite transmitters. SWCA biologists have been able to track the birds over an area that spans several states. "We estimate a large number of eagle territories across the ranches," Koronkiewicz says. "That's indicative of a healthy ecosystem when you consider the arid landscape of the Southwest, where territories are much larger than, say, in lush areas of California or the Pacific Northwest."

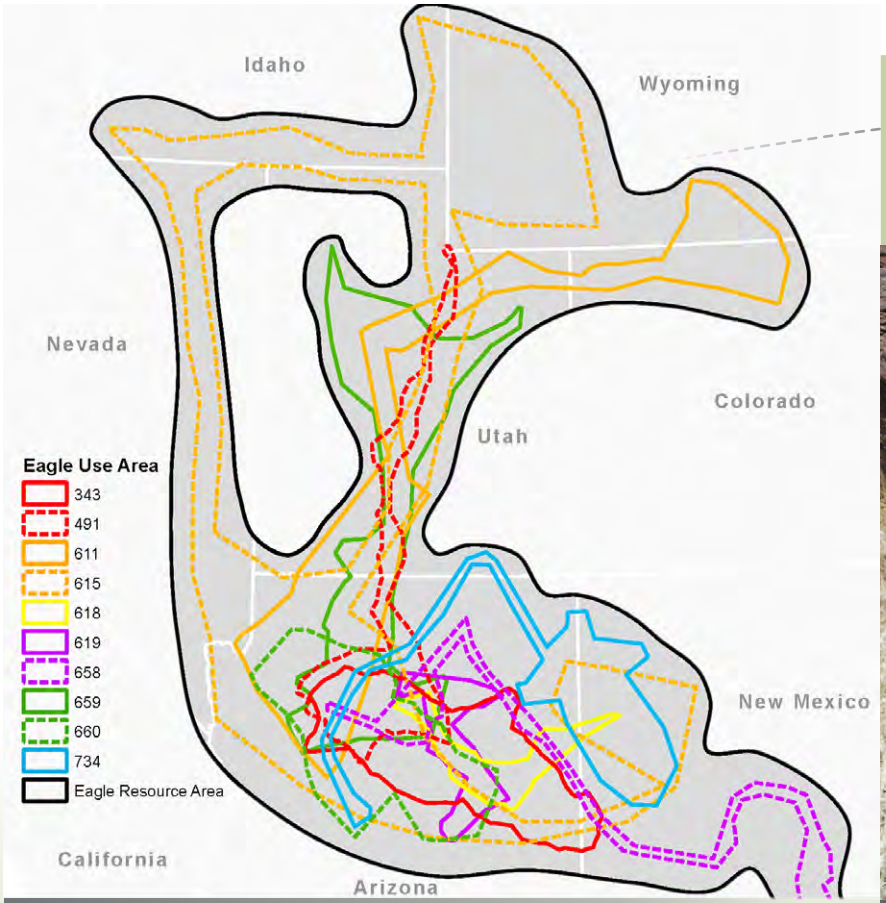
Through their research, the SWCA team discovered that Babbitt Ranches benefits not only the local area nesting population, but those that travel from as far away as Idaho. Subadults and migrating eagles use Babbitt Ranches for stopovers and feeding. "So, by preserving habitats in Arizona, we're helping eagles elsewhere across the western United States," Koronkiewicz says.

MEETING THE REQUIREMENTS FOR MITIGATION

By quantifying the potential service area for golden eagle conservation and mitigation banking and the number of birds benefitting from the conservation efforts, the team hopes to provide a mechanism to help developers meet the federal permitting requirements of zero net loss under a revision of the Proposed Rule due out from the FWS this year. (The Proposed Rule was established in 2009 to define the mechanism by which developers can get an eagle take permit and how they must mitigate any eagle losses.)

If the SWCA and Babbitt Ranches team is successful, implications will be far-reaching. Alternative energy and other clients will be able to buy credits to offset the impact that their projects may have on golden eagles.

Beyond the potential for mitigation credits, the golden eagle conservation program has yielded valuable data about eagle behavior, food sources, and mortality. The team is collaborating with other scientists who are conducting studies on prey, such as jackrabbits and prairie dogs. They've learned more about causes for mortality and how to help eagles survive longer.



Tracking eagles across state lines (Graphics courtesy of Tom Koronkiewicz)

GOLDEN EAGLE TRACKING

Eagle fitted with transmitter

Cordasco says it's all about approaching projects with awareness. "One of the things we defined at Babbitt Ranches is that we're going to approach our efforts with a sense of learning and understanding first, and not knowing and controlling," he says. It's that humility and awareness that makes SWCA a great partner, he says. "SWCA is an integral part of our success in that."

For more information about golden eagle conservation and mitigation credits contact:
Tom Koronkiewicz at **tkoronkiewicz@swca.com**

"...by preserving habitats in Arizona, we're helping eagles elsewhere across the western United States."

WHAT LIES BENEATH:

DISCOVERY OF *TRICERATOPS* SKULL DEMONSTRATES THE IMPORTANCE OF CONSTRUCTION MONITORING, MITIGATION

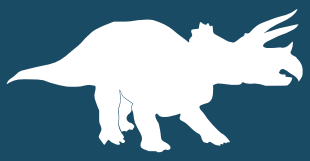
By Vanessa Hastings and Georgia Knauss

SWCA paleontologist Shawna Johnson did not expect to encounter any large significant fossils during construction monitoring for a Vermilion Energy USA (Vermilion) well pad overlying the Lance Formation in the Powder River Basin of eastern Wyoming. While paleontologists had documented and collected numerous dinosaur and other Late Cretaceous–age fossils from the region since the 19th Century, SWCA's pre-construction survey of the project area revealed a vegetated landscape with moderate to low relief and no true bedrock exposures. The area had minimal potential for the presence of noteworthy underlying paleontological resources. Or, so they thought.

Vermilion contracted with SWCA to fulfill the Bureau of Land Management's (BLM) Surface Use Conditions of Approval for paleontological resource mitigation during construction of the well pad in the seemingly endless grasslands of the area. This required Johnson and fellow paleontologist Nate Fox to spend several days walking behind a scraper and road grader, scouring the ground for fossils as operators leveled the area to support the well and other infrastructure. Vermilion had almost finished work when Johnson noticed that the scraper had uncovered three fist-sized bones lying a few feet from each other in a triangular configuration. She and Fox began digging around the find and quickly determined that the three bones were connected. At that point, Johnson realized she and Nate had encountered something big. After more digging, she upgraded her size estimation to "massive." "Nate and I had a $10 bet," Johnson says. "I thought it was a pelvis, and he called skull. We weren't sure until we uncovered the front of the specimen; that's when it became very apparent that a skull was lying there."

TRICERATOPS FACTS

One of the more recognizable dinosaurs with its characteristic three horns and bony frill, *Triceratops* roamed North America about 67-65 million years ago during the Cretaceous period. Here are some fun facts about the prehistoric creature:



- *Triceratops* were about 30 feet long and between 9 and 10 feet tall, or about the size of a bus.
- They weighed between 13,000 and 26,000 pounds.
- As herbivores, they survived mostly on plants, including shrubs, and probably roamed the prairies of the American West grazing.
- Their signature bony plate is called a "frill," and scientists believe it may have had multiple functions: sexual display, body armor, an anchor for jaw muscles, and helping to regulate body temperature. The frill alone spanned 6 feet wide.
- *Triceratops* is the state fossil of South Dakota and the state dinosaur of Wyoming.

Sources: Live Science, National Geographic, and the Journal of Vertebrate Paleontology

Curious to learn whether the skull was attached to other bones, Johnson and Fox performed perimeter excavations but found no articulated or directly associated bones. "That's not unusual," says Georgia Knauss, SWCA's paleontology lead and Principal Investigator for the BLM Paleontological Resource Permit. "Finding isolated dinosaur skulls occurs relatively often, thanks to taphonomic process [decay]. Decomposition and other chemical, biological, or physical activity can disarticulate the animal carcasses and scatter the bones."

Knauss sent photos of the in-situ fossil to *Triceratops* expert Andrew Farke, Ph.D., of the Raymond M. Alf Museum of Paleontology at The Webb Schools. He confirmed the specimen is a *ceratopsian* skull. (*Ceratopsia* is a group of herbivorous, horned dinosaurs that includes *Triceratops*.)

When he heard the news, Wayne King, Vermilion's U.S. Operations Manager, was amazed. "After being in the industry for over 35 years, I thought I had seen just about everything. As soon as the surprise wore off, I immediately started thinking about steps for removal that would meet BLM regulations and preserve the skull. Shawna and her team were very professional and did things the right way under the pressure of a tight schedule."

That professionalism included building a rapport with the contractors responsible for constructing the well pad. "Since the operator of the scraper gave us our first glimpses of the skull, we decided to informally name it after his son, Nathan, because he loves dinosaurs," Johnson says. SWCA's crew then painstakingly excavated and jacketed Nathan (a process by which the fossil and surrounding sediment is wrapped in plaster like a broken bone to protect it for transport). A backhoe was used to load the 3,400-pound package onto a large trailer for transfer to the Denver Museum of Nature and Science (DMNS). There, under the direction of Chief Preparator Mike Getty, a team has been meticulously preparing the fossil, a process that will likely extend into fall 2016.

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Paleontologist Georgia Knauss examines a fossil uncovered by the scraper

Paleontologists conduct initial excavation of the Triceratops skull during well pad construction

Rendering of what the paleontologists saw as the skull was uncovered

The jacketing process protects the skull for transport

Restoration at Denver Museum of Nature and Science

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"This specimen is spectacularly preserved, with most of the left side of the face and frill intact, missing only the front of the snout," says DMNS Curator of Dinosaurs Joseph Sertich, Ph.D. "Since it is from the Lance Formation, it likely represents an older species of *Triceratops* called *T. horridus* with a stout nasal horn," he says. "*Triceratops* is a relatively common dinosaur in this time period, but any new large adult skulls like this one are very important for understanding the diversity of the species, its relationships to other species, and its place in the latest Cretaceous ecosystem." Sertich added that while the skull likely will not go on permanent display at the museum, preservation of the fossil is on public display through a glass window of the Schlessman Family Laboratory of Earth Sciences in DMNS's Prehistoric Journey Exhibit Hall. "And, it may find its way into future exhibits featuring dinosaurs from the American West," he adds.

In the meantime, Knauss has been using the discovery as an educational tool as well. She gave a poster presentation on Nathan at the Society of Vertebrate Paleontology's October 2015 annual meeting, which drew more than 1,000 participants. Her presentation demonstrated the value of implementing best practices for monitoring and mitigation. "We worked hard to excavate the skull carefully in a timely fashion so the client could resume construction as soon as possible," she says. Even with the discovery and excavation, the team adhered to strict timelines, and the client was pleased.

Together, with Vermilion's support, SWCA's handling of the find, the museum's preparation of and plans for the skull, and Knauss's presentation, the project also satisfied the BLM's objectives for paleontological resources, which include fostering public awareness. "We are excited about this discovery and pleased that the DMNS has made the skull's preparation part of the educational experience for visitors," says Alice Tratebas, BLM Newcastle Field Office Archaeologist and Paleontological Resource Coordinator.

BLM Regional Paleontologist Brent Breithaupt agrees. "This project illustrates the importance of assessing and mitigating possible impacts to paleontological resources from surface-disturbing activities in fossiliferous areas on federal lands. In this case, it is possible that if monitoring had not been done, this important discovery may have been damaged or destroyed by construction activity."

For more information about paleontology regulations or to inquire about SWCA's monitoring and mitigation services, contact: **Georgia Knauss** at **gknauss@swca.com** or **(307) 673 - 4303** ■

POLICY ALERT: HOW LAND MANAGEMENT AGENCIES ARE UPDATING RULES FOR PALEONTOLOGICAL RESOURCE PRESERVATION

The U.S. Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) are updating their rules and policies in accordance with the Paleontological Resources Preservation Act (PRPA), which became law in 2009. These land management agencies are also providing education on this federal mandate to resource staff nationwide. With the passage of the PRPA and policy updates on the horizon, land management agencies have begun to revise their own policies to:

1. Broaden the requirements for inclusion of paleontological resources in National Environmental Policy Act analyses.
2. Emphasize that project areas overlying geologic units with a moderate to a high potential for paleontological resources will typically require formal analysis (e.g., locality and literature searches, field surveys) by a federally permitted paleontologist.
3. Highlight the importance of using scientific principles and expertise to ensure the use of appropriate mitigation measures (e.g., avoidance, fossil collection and documentation, construction monitoring) for each project to protect and preserve paleontological resources.

The U.S. Forest Service, which is a USDA agency, released associated regulations in early 2015, and it is anticipated that the DOI's regulations will be released in the next year or two.

NEWS BRIEFS

SWCA Expands to the Northeast

SWCA Environmental Consultants acquired New England Environmental, Inc. (NEE), an environmental consulting firm based in Amherst, Mass. The Amherst team provides a wide range of services, including natural resource and environmental permitting, ecological restoration and engineering, landscape architecture, ecological design, and the assessment and remediation of sites that have contaminated soil, groundwater, or indoor air. The acquisition expands SWCA's national presence to the Northeast and broadens its scope to include landscape architecture and ecological design. NEE founders Michael (Mickey) J. Marcus and Julie Marcus will lead the SWCA Amherst office as Director of Business Development and Office Director, respectively.

Recent Hires and Promotions

Scott Urwick joined SWCA Environmental Consultants as Federal Energy Regulatory Commission (FERC) Program Director. He has 30 years of experience in environmental consulting, specializing in the management of multi-disciplinary teams for siting/routing, analysis, permitting, and construction of large-scale energy projects, particularly those regulated by the FERC. His experience includes strategic planning, route selection, assistance with public relations, comprehensive scheduling, and regulatory advice.

Martin Handly joined SWCA as cultural resource program director in the company's Austin office. He will oversee the cultural resource program, manage client relationships and projects, and provide technical oversight of all cultural resource and historic architecture projects in Austin and San Antonio. He has 28 years of cultural resources management experience throughout the Texas-Gulf Coast region and southeastern United States.

Sarah Baer was promoted to office director for the company's Bismarck, N.D. office. She will manage client relationships and projects, strategically develop new business, and mentor staff in Bismarck. She has been with SWCA since 2003, most recently serving as a project manager and business development lead in the company's Denver office. She has 16 years of experience conducting projects in anthropology, archaeology, and historic archaeology.

Dr. Matt Edwards joined SWCA Environmental Consultants as the cultural resource program director in the company's Salt Lake City office. He will oversee the office's cultural resource program, manage client relationships and projects, and provide technical oversight of all our cultural resource and historic architecture projects. He has 19 years of experience as a practicing archaeologist, including 12 years in cultural resources management and consulting, with additional experience in historic preservation, architectural history, public history, and tribal consultation.

Stefan Schuster joined SWCA as the Texas-Gulf Coast Water Resources Director, based in the company's Austin office. He will lead the water resource program for Arlington, Austin, Houston, and San Antonio, Texas; Baton Rouge, Louisiana; and Tulsa, Oklahoma to expand their capabilities and capitalize on extensive project opportunities. He has more than 25 years of experience in the Texas water resource market, including project management positions.

Dr. Gregory Poremba joined the Seattle office as a senior NEPA/SEPA energy project manager and business development specialist. He has more than 35 years of experience conducting environmental studies, preparing environmental assessments and environmental impact statements, and managing permits for a diverse array of projects.

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NEWS BRIEFS cont.

Achievements

Lawrence S. Semo Award

Paul Burnett, Principal Investigator in SWCA's Denver office, has been selected as the company's first Lawrence S. Semo Scientific Achievement Award winner. He is an archaeologist by training, and has specialized in statistical modeling in a GIS environment. His work has been used in modeling resources for historic properties, fire studies, desert tortoise research, and natural resource studies for Environmental Impact Statements. His expertise benefits federal, state, and private clients, and his work has promoted inter-office collaboration within SWCA. The quarterly Lawrence S. Semo Scientific Achievement Award rewards individuals for demonstrating passion, creativity, and scientific excellence.

SWCA Team Publishes Book on San Gabriel Mission

SWCA Environmental Consultants has published a book on the San Gabriel Mission as the latest offering from our Anthropological Research Papers series. The book, titled *Abundant Harvests: The Archaeology of Industry and Agriculture at San Gabriel Mission* is available through University of Arizona Press.

The volume reports on the first archaeological data recovery undertaken at Mission San Gabriel Arcangél, known as the Pride of the Missions due to its legendary agricultural productivity and its prominence in Southern California. The final volume was edited by SWCA employees John Dietler and Heather Gibson. More than 100 SWCA staffers contributed to the study that the book describes.

Sunset Road Team Earns Award

The SWCA project team responsible for discovering human footprints that date back 2,500-3,000 years at a road-construction site just north of Tucson, Ariz., received a preservation award from the Tucson Historic Preservation Foundation. The team, which includes SWCA Environmental Consultants, Pima County's Cultural Resources Program, Archaeology Southwest, and Innovative Excavating, Inc., was recognized for their public outreach efforts after the discovery. The team hosted several public tours to showcase the footprints, attracting more than 4,000 people.