



SUMMER
2026

TETON STEWARDS

NEWSLETTER OF THE GRAND TETON NATIONAL PARK FOUNDATION



TETONS IN FAST- FORWARD: WHY GLACIER MONITORING MATTERS MORE THAN EVER

High in the shadowed cirques of the Teton Range, a transformation is unfolding. Snowfields that once lingered well into autumn now melt away in mid-summer. Glaciers that shaped the valleys and moraines we hike are shrinking faster than ever recorded. Streams that once ran cold and steady through August are warming, and in some places, drying completely.

These changes can feel distant from the valley floor, yet they are reshaping the very foundation of Grand Teton National Park. The story of ice in the Tetons is, in many ways, the story of life here. And today, that story is accelerating.

Thanks to the support of Grand Teton National Park Foundation, park and university scientists are working to understand what's happening in Grand Teton's high country—and what it means for the rivers, wildlife, and visitors that depend on these iconic mountains.

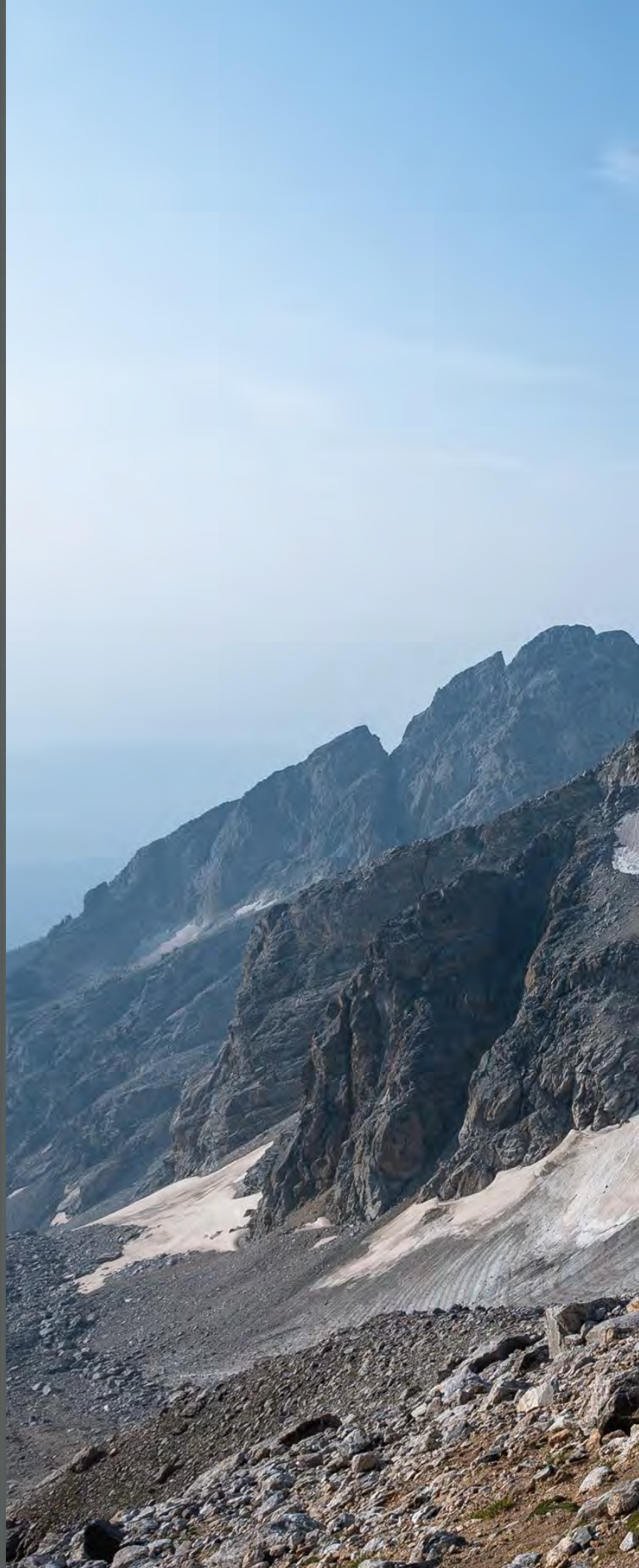


Photo right: The Middle Teton Glacier can be seen in the snow patch below and to the left of the Middle Teton summit.



Photo: Chris Anderson



A LANDSCAPE WRITTEN IN ICE

To understand why glaciers matter today, it helps to look back—far back. The modern landscape of Grand Teton National Park is the legacy of a powerful glacial past. Nearly 200,000 years ago, during the Bull Lake Glaciation, a massive ice cap more than 2,000 feet thick in places spilled from the Yellowstone Plateau into Jackson Hole, carving and scraping the valley.

25,000 years ago, the Pinedale Glaciation further sculpted the steep U-shaped canyons we explore today like Cascade, Garnet, Avalanche, Death, and more. As the glaciers advanced and retreated in phases, they left behind the moraines that cradle beloved lakes like Phelps, Bradley, Taggart, and Jenny.

The eleven named glaciers in the park today are descendants of that ice, rejuvenated during the Little Ice Age between 1400 and 1850. Though smaller now, they are dynamic bodies of perennial ice that continue to move, flow, and influence the world below.

But their future is changing rapidly.

A SYSTEM IN FAST-FORWARD

Foundation-funded monitoring over the past decade has revealed a clear pattern: warming temperatures, especially nighttime lows, are driving unprecedented ice loss. Historically, from the 1960s to 2014, Middle Teton Glacier, the park's benchmark glacier, thinned by about 0.1 meter per year. Since 2014, that rate has jumped to roughly 0.65 meters per year, with similar trends observed across the range.

This is not just a local story. Globally, small glaciers like those in the Tetons, nearly all under one square kilometer, are the most vulnerable to warming. Many are projected to disappear within decades.

So what does that mean for Grand Teton? The answer lies in water.

WHY GLACIERS MATTER TO ALL OF US

Glaciers and perennial snowfields act as alpine reservoirs. They release cold water during the hottest part of the year, helping to steady streamflow and stabilize temperatures. That cold meltwater sustains communities of plants and animals uniquely adapted to life on the edge, including the meltwater



How Park Scientists Monitor a Changing System

Glacier monitoring in the Tetons is both rugged and meticulous. Each May, a highly trained team of mountaineers and snow scientists climbs into the high country carrying more than 100 pounds of equipment. They drill ablation stakes into the glacier, dig snow pits, analyze densities, and map snow depth across the ice surface. Over the summer, they maintain sensors and revisit sites. In September, they return with Jenny Lake Rangers to conduct precise GPS surveys and measure how much ice has melted since spring.

Along the way, drones, stream gauges, aerial imagery, and ground-penetrating radar fill in the details. The result is one of the most robust small-glacier monitoring programs in the National Park Service. This work would not be possible without support from Grand Teton National Park Foundation.

stonefly *Lednia tetonica*—a species so specialized it can only survive in water fed by snow and ice.

As glaciers retreat, streams warm, flows diminish, and habitats contract. Monitoring these shifts helps park scientists understand where cold-water ecosystems may endure and where they may vanish.

In this rapidly changing picture, one alpine feature offers both challenge and hope.

ROCK GLACIERS: THE HIDDEN ICE THAT MAY SHAPE THE FUTURE

While surface glaciers are more recognizable, a less visible counterpart may end up playing a critical role in the decades ahead: rock glaciers.

Rock glaciers look nothing like the bright white ice bodies we imagine. Instead, they resemble long tongues of broken rock, great rivers of boulders and debris creeping downslope. Beneath this rugged exterior lies something more interesting: substantial cores of solid ice protected under thick layers of rock. That rock armor is key. It shields the buried ice from

sun and wind, dramatically slowing melt rates compared to exposed glacier ice.

Rock glaciers move, store water, and influence hydrology much like surface glaciers—just more slowly and more subtly. And they are remarkably abundant. While Grand Teton has eleven named glaciers, the park contains more than thirty rock glaciers.

A crucial source of cold water

Across the world, rock glaciers play an outsized role in sustaining late-season streamflow. In Northern Italy, studies show rock glaciers contribute up to sixty-percent of late-summer water in some basins. In Utah's Uintas, the figure is around twenty-five-percent. Early research in the Tetons suggests a similar pattern: where rock glaciers exist, nearby streams stay cooler and flow longer into late summer.

This is vital for sensitive alpine species. Those extra days, or weeks, of flowing cold water can mean survival.

Studying what we can't easily see

Despite their importance, rock glaciers have only recently become a focus of scientific research in Grand Teton.



Photo above: A rock glacier in Grand Teton's high country can be seen just to the right of the shadow line.

Because their ice is buried, traditional glacier-mapping techniques don't work. Instead, park scientists use a sophisticated suite of tools:

- **Ground-penetrating radar to see the internal ice structure**
- **LiDAR differencing to detect subtle elevation changes over time**
- **Drone and aerial mapping to trace movement and debris patterns**
- **Long-term stream monitoring to understand downstream impacts**

With support from the Foundation, the park began inventorying rock glaciers in 2025, measuring their movement and estimating how much water they store.

The early results are striking. While surface glaciers have thinned dramatically in recent decades, many rock glaciers show little to no surface elevation loss. In some cases, they may hold more long-term ice volume than nearby cirque glaciers. Their resilience stems from their debris blanket, nature's insulation system, and their ability to persist even in low-snow years.

A buffer—but not a silver bullet

Rock glaciers offer hope, but they are not infallible. They cannot replace the dynamic role that surface glaciers have played for millennia. They, too, will eventually respond to sustained warming. But they provide a longer runway, a more gradual transition for alpine ecosystems, and more time to understand and adapt to a future with less surface ice.

Their persistence gives scientists and resource managers an invaluable window to prepare for what comes next.

A FUTURE WE CAN INFLUENCE

It can be sobering to look directly at the speed of change in the alpine world. But this is also a story about choice and hope.

Glaciers are, in a sense, the park's "canary in the coal mine." They show us clearly what the climate is doing and what it may mean for other species and landscapes. Yet they also highlight the power of information. With good data, the park can anticipate hydrologic changes, protect cold-water refuges, support vulnerable species, and better steward the headwaters that sustain the Snake River and the ecosystems downstream.

Thanks to the Foundation's support, Grand Teton National Park is not simply witnessing change, it is preparing for it.

Together, we can ensure that the Tetons remain a place where clean water flows from the high country, alpine ecosystems thrive, and future generations can experience the wonder of glaciers—whether bright white on the surface or hidden beneath a blanket of stone.

This article was written by Grand Teton Physical Science Branch Chief Simeon Caskey. Visit gtnpf.org to learn more and support this effort today. Thank you!

Message from President
LESLIE MATTSON



Twenty years ago, a simple question helped inspire what would become one of Grand Teton National Park Foundation's most meaningful investments in the future.

While meeting with longtime supporters Gale and Shelby Davis, they asked me if Grand Teton had a youth trail crew. They had seen firsthand how powerful these experiences could be—how introducing young people to public lands at the right moment can shape not only careers, but values and lifelong connections to the outdoors.

With the encouragement of then-Superintendent Mary Gibson Scott, who began her own National Park Service journey on a trail crew, the idea took hold. The Davises made the lead gift to launch the Youth Conservation Program in 2006, setting in motion a program that continues to grow and thrive today.

Two decades later, the impact is clear. As you'll read in the pages of this newsletter, hundreds of young people have spent their summers working on trails, learning from park staff, and discovering their own strength and sense of purpose. Their contributions, measured in miles of trail restored and hours of hard work, have left a lasting mark on Grand Teton. Just as important are the less visible

outcomes: confidence gained, careers inspired, and a deepened commitment to stewarding public lands.

None of this would have been possible without the vision and generosity of early supporters like Gale and Shelby, and the leadership of Superintendent Scott, who recognized the value of investing in young people.

As we celebrate this twentieth anniversary, we are grateful to the many individuals and organizations who have sustained and expanded this work over the years. Together, you have helped create opportunities that benefit both the park and the next generation of conservation leaders.

Thank you for being part of this legacy—and for helping ensure it continues for years to come.

Leslie Mattson



President

In Memoriam

We are deeply saddened by the passing of two longtime supporters and friends, **Chuck Fleischman** and **Steve Denning**.

Chuck played a key role as a project committee co-chair for our Snake River Gateways campaign, which advanced renewal and access improvements along the Snake River in Grand Teton. An avid outdoorsman and dedicated park volunteer, he brought a lifelong passion for wild places to everything he did, including his generous support of Grand Teton National Park. Chuck and his late wife, Lisa, were steadfast champions of our mission and will be greatly missed.

Steve Denning was an incredible advocate for America's national parks and Grand Teton, helping protect this place for future generations through his vision and generosity. His enduring commitment to conservation, including his support of key land protection efforts in Grand Teton National Park, leaves a legacy that will continue to inspire all who care for these remarkable places.



CHANGING LIVES AND STEWARDING THE PARK:

CELEBRATING TWO DECADES OF THE YOUTH CONSERVATION PROGRAM IN GRAND TETON.

On a hot, dusty afternoon in Grand Teton National Park, a Youth Conservation Program (YCP) crew member sat down for lunch, drank warm water from a Nalgene, and had a simple but lasting thought, “There is nowhere in this world that I would rather be.”

Moments like that have defined YCP for the past twenty years.

Since its first season, YCP has offered young people a chance to step into the Teton landscape, not just as visitors, but as stewards. What started as an ambitious idea has grown into one of the Foundation’s most impactful programs. Over two decades, 346 participants have contributed more than 69,000 hours of work, moved 495 tons of material, and



cumulatively maintained and restored over a million miles of trail across nearly every corner of Grand Teton National Park—from Granite Canyon in the south to Owl Canyon in the north. YCP crews have built bridges, rerouted trails, constructed fencing, improved accessibility, and completed routine maintenance that would not have happened without their hard work.

But numbers and impact on Grand Teton only tell part of the story.

For many young participants, YCP is where something clicks. It’s where hard work, community, and wild places come together to shape a sense of purpose.

One alum remembers a day spent with a park ecologist studying whitebark pine. “I remember thinking to myself that this is who I want to be someday,” they shared. Years later, they found themselves surveying whitebark pine in the backcountry. “I truly can’t draw a clearer line to the origin of my work.”

Others describe how the program opened doors they didn’t know existed. “YCP opened my eyes to new experiences, lifestyles, and career paths,” one participant wrote. “I loved the days we spent with different scientists because

“Since its first season, YCP has offered young people a chance to step into the Teton landscape, not just as visitors, but as stewards.”



it exposed me to possible careers while giving me hands-on experience.”

That exposure often turns into action. Alumni have gone on to careers in conservation, science, and public service. One individual used their YCP experience to land a research position that ultimately led them to pursue a PhD in soil ecology. Another is now working toward becoming an arborist. Others have stepped directly into roles within Grand Teton, from trail crews to wildlife conflict management teams.

Even for those who take different professional paths, the lessons stay with them.

“YCP has made me more independent and stronger both mentally and physically,” an alum shared. “It taught me so much about teamwork.” Another reflected, “This experience showed me that I’m stronger than I thought...Being outdoors brings me a sense of clarity, energy, and purpose that I don’t find elsewhere.”

That sense of growth extends beyond the summer itself. A former participant who is now a medical student credits the program with shaping how they

approach day to day challenges. After returning to lead a YCP crew before going to medical school, they wrote, “I learned to embrace patience and process when teaching and mentoring younger generations...I draw upon these skills daily.”

At its core, YCP is about connection. Connection to the land, to each other, and to a larger purpose. Participants



spend long days digging trail, moving rock, and working through tough conditions. Along the way, they build friendships, confidence, and a lasting relationship with public lands.

“It has shown me how amazing outdoor work is,” one alum reflected.

“I’m inspired to continue working in the wilderness and play my part in preserving it.” Another put it simply, “YCP has encouraged me to chase adventure while pursuing a career in conservation.”

And the impact is visible to anyone who hikes the park’s trails. Every well-placed step, every drainage that keeps a path intact, every restored section of trail carries the imprint of YCP crews.

Twenty years in, YCP continues to do more than maintain trails. It helps shape the next generation of conservationists, scientists, leaders, and advocates.

While the miles of trail restored and tons of stone still matter, the deeper impact is harder to measure. It lives in the confidence gained from a long day of work, the career sparked by a single conversation, and the quiet realization that there may be no better place to be than right here, caring for a landscape that will inspire others for generations to come.

If you would like to learn more and support Youth Conservation Program, visit gtnpf.org today. Thank you!

GRATITUDE FROM SIXTY FEET UNDER

On June 30, 2022, Dan Wenker fell sixty feet into an underground ice moat while descending from a climbing attempt on the Grand Teton in Grand Teton National Park. From his climbing partner Jim Zingerman's vantage point on the slope above, Dan simply slid by him, dropped off a cliff, then disappeared.

Growing up in Philadelphia, Dan found climbing in his fifties and quickly set his sights on major objectives. When his sixty-second birthday came around, the iconic ascent of the Grand Teton became a new goal. In Dan's words, "The Grand Teton is like the Mona Lisa, its grandeur follows you wherever you go in the valley below."

Alongside three climbing partners, Dan set out to climb the Owen Spalding Route, camping at the Lower Saddle the night before the summit push. Unexpected high winds persisted through the night, leaving the team sleep-deprived and facing harsh conditions come morning. Dan and Jim made the decision to hike down rather than continue to the summit with the other two members of their group.

Despite the disappointment of turning back, the pair were in good spirits as they started their trek down from the Lower Saddle, even stopping to chat with a Jenny Lake Ranger, to whom they mentioned their plan to glissade on the descent. Glissading, a sliding descent technique, carries real risk—slopes can be steeper than they appear, and speed is hard to control. The ranger warned them accordingly. Admittedly, Dan shared that the warning felt like overkill for two experienced climbers not planning to move through any technical terrain.

Still, they took the advice to heart and descended from the Lower Saddle using ice axes and crampons. Once back to the trail, Dan and Jim de-layered and stowed their ice axes away for the hike down to Garnet Canyon.

After a short time on the trail, they decided to glissade without ice axes on a large snow field to their right. Jim descended first, coming to a stop at a rock outcropping where he took off his pack and walked a short distance between the large boulders. Once there, he began waving and motioning to Dan, a signal Dan would later come to understand was actually a warning. Thinking his friend was waving him on, Dan began glissad-



ing, but quickly realized he was going too fast to stop. He slid past Jim, over a cliff, and fell into a hole. He was knocked unconscious.

Once he came to, Dan realized he had landed on a narrow ledge sixty feet under the snow in an underground ice moat—a tight space with frigid running water from snowmelt. Fortunately, earlier in the day, Jim had volunteered to carry one of the climbing ropes the group expected to use during their ascent. He was able to lower it through a small opening where he saw Dan fall through the ice. Miraculously, the rope hit Dan on the shoulder in the darkness, which allowed him to climb out while Jim pulled the slack, effectively saving his life.

It quickly became clear that Dan had sustained significant leg injuries and couldn't walk out. Serendipitously, the same Jenny Lake Ranger they'd spoken with near the Lower Saddle happened to hear their calls for help. The ranger began providing medical care and coordinating a helicopter rescue. Despite the shock settling in from his injuries, Dan recalls sheepishly apologizing to the ranger for not heeding his earlier warning. The ranger responded, "I'm just really glad you're alive."

The kindness, skill, and selflessness of the entire Jenny Lake Ranger team that completed the rescue left a deep impression on Dan, who had never previously heard of the crew or their specialized role within Grand Teton.

Thanks to his climbing companion and the Jenny Lake Rangers, Dan made a full recovery. For Dan, giving back to the rangers who made that return possible was the natural next step.

Each year, Grand Teton National Park Foundation's funding provides technical training, wellness and mental health resources, and specialized equipment for the Jenny Lake Rangers. Proceeds from Dan's book, *Staying On Guard: A Spiritual Encounter of Miracles and Gratitude to Discover Life's Purpose*, support the Foundation's ranger initiative, ensuring these guardians of Grand Teton National Park can continue performing the vital, life-saving rescues that make wild places accessible to all of us.

If you would like to learn more and support Grand Teton's first responders, visit gtnpf.org today. Thank you!



Message from
Grand Teton National Park Superintendent
CHIP JENKINS



As I write this, the great migrations of the Greater Yellowstone Ecosystem are nearly finished; the elk have moved to higher elevations, moose to shade and wetlands, pronghorn to the sagebrush, and people are here for the summer to work, play, and renew their spirit.

Each year, I'm reminded that the strength of this park lies not only in its extraordinary landscapes, but in the community that cares for it. From protecting critical wildlife habitat to providing outstanding visits to ensuring in-stream flows in the Snake River, your support helps us meet both the opportunities and challenges that come with stewarding one of our nation's most iconic places.

This year also invites reflection. As our nation approaches the 250th anniversary of its founding, we are reminded that the United States itself began as an experiment with evolving vision of governance and shared responsibility. Roughly 150 years after that founding, Grand Teton National Park was established, shaped by that same spirit of possibility and commitment to the public good. Over the past century, that

evolving idea of America has enabled this park to grow, adapt, and thrive.

While Grand Teton is not a place where the Revolutionary War was fought, it is very much a place to reflect on what this country means and what our national parks represent within it. These places belong to all of us. They reflect our values, our history, and our aspirations. As we commemorate the country's anniversary, we invite you to look for the America 250 picture frames in the park and consider your role in this ongoing story of conservation and stewardship.

Looking forward, we are energized by the work underway as we move toward the park's 100th anniversary in 2029. The centennial offers a meaningful opportunity to honor the legacy of conservation in the Tetons while also preparing for this park's

next century. Together, we are investing in projects that will ensure the park remains resilient, accessible, and inspiring for future generations.

On the ground, that work is already taking shape. Whether it's making trails more accessible, advancing science and using what we learn to perpetuate wildlife, or working to create the next six generations of stewards, we are seeing the direct impact of your generosity every day.

As we narrow back in on 2026 and America's 250th, it is easy for me to see how our partnership with the Foundation represents some of the aspects of what is best about our country.

Thank you for standing with us in this important work. I look forward to all we will accomplish together.

CONTINUING the CONSERVATION LEGACY of GRAND TETON
THROUGH PARTNERSHIP and PHILANTHROPY



**GRAND TETON NATIONAL PARK
FOUNDATION**

Mailing: PO Box 249
Moose, Wyoming 83012

Physical: 115 East Pearl Ave.
Suite 201
Jackson, Wyoming 83001

NON-PROFIT ORG
US POSTAGE
PAID
PERMIT #15
SLC, UT



GTNPF Staff

Leslie A. Mattson
President

Dani Bahnsen
Development Officer

Courtney Bird
Development Officer

Catherine Britt
Director of Accounting

Elise Delmolino
*Vice President
of Development Operations*

Christen Girard
Vice President of Development

BB Hall
*Digital Communications
Coordinator*

Devon Harrison
Chief of Staff

Katy Jargiello
Development Associate

Maddy Johnson
*Vice President
of Communications*

Ryan Kelly
*Vice President
of Partnership Projects*

Megan Koeller
*Development
& Events Coordinator*

Lenea Luna
*Database
& Systems Administrator*

Brittany Matthews
Director of Annual Giving

Molly Ruffle
Senior Major Gifts Officer

Steve Cain
Ecologist & Advisor

Board of Directors

Jessica Baker
Chad Carlson
Laura Davis
Lynne Davis
Affie Ellis
Jeffrey Heilbrun
Thomas William Holland
Lynn Larson
Douglas J. Mackenzie
Mary McCarthy
Nancy McGregor Manne
Stephanie Morimoto
Annie Morita

Chip Nisbet
John Nixon
Sean O'Malley
Gina Pate Pierce
Tom Saylak
Ethan Steinberg
Susie Temple
Rob Wallace
Gregg Ward, Chair
Diana Waycott
Jeff Willemain

Emeritus Directors
Adrienne Mars

Resource Council

Kendra Kolb-Butler
Neeta Demeulenaere
Robin Fields
Lisa Friesecke
Barry Gold
Padgett Hoke
Charley Hutson
Millie Jimenez
Brandon Jones
Ellen Karpf
Jake Lamarine
Max Ludington

Kate Moore
Clay Moorhead
Hugh O'Halloran
Trina Overlock
Scott Page
Louise Parzick
Kevin Pluim
Aly Mackenzie Polland
M. G. (Jerry) Rose
Judy Singleton
Erin Taylor
Jim Waldrop

VISIT OUR NEW WEBSITE
www.gtnpf.org

Post Office Box 249 | Moose, Wyoming 83012 | t 307-732-0629 | www.gtnpf.org
Printed on Recycled Paper by: Paragon Press—SLC, Utah Design: Laura Quinlivan/short dog design—Jackson, WY

