GRAND CANYON TRUST *COLORADO PLATEAU*

SPRING/SUMMER 2025

Advocate

Hualapai Elder Lucille Watahomigie

on Passing Along Tribal Plant Knowledge to the Next Generation

THE INDIGENOUS FOODS ISSUE

Farming the Four Corners Potato

Recipes for Cushaw Squash Pie, Tepary Bean Cakes, and Someviki

INCLUDED:

2024 IMPACT REPORT

DEIDRA PEACHES

Letter from the BOARD CHAIR

JIM ENOTE

CELEBRATING 40 YEARS GRAND CANYON TRUST

Welcome to this spring edition of the Grand Canyon Trust's Colorado Plateau Advocate magazine, which celebrates the connections between land, people, and food. As a 600th-generation Colorado Plateau resident who has spent 68 consecutive years planting crops, I know food tells a story. It conveys history, tradition, and resilience.

Among this harvest of stories, Alastair Lee Bitsóí shares his experience growing the Four Corners potato. This hardy, ancient tuber has fed Native peoples for thousands of years, and its revival speaks to the resilience of traditional foods and the importance of preserving biodiversity in our changing climate. Carrie Calisay Cannon highlights the work of Lucille Watahomigie and the inspiring efforts to connect youth with their heritage through language, cultural knowledge, and plant-based traditions, from the medicinal properties of desert plants to the flavors that have long sustained the Hualapai people.

We also pay tribute to the late Tyrone Thompson, a champion of food sovereignty. Amber Benally, Shonri Begay, and Jessica Stago share his legacy alongside profiles of three dedicated farmers from the Little Colorado River region. Their work nurtures crops and the values of stewardship and sustainability. And what's a food issue without recipes? Enjoy these dishes, which highlight the flavors of the Colorado Plateau.

We also turn to the enduring significance of the three sisters — corn, beans, and squash — and see how the Kerley Valley Community Farm is working to sustain traditional agricultural practices.

Additionally, we have food for thought with two accompanying articles. Amanda Podmore takes us into Glen Canyon Dam's distinctive cold flows and their implications for the Colorado River's ecosystem. As we look toward the future, Ethan Aumack, the Trust's executive director, examines what the recent presidential election means for the Grand Canyon Trust's advocacy work in the years ahead.

And for the first time, this issue of the Advocate includes our annual Grand Canyon Trust Impact Report, which highlights major milestones and ongoing work made possible by the generosity of our members.

As we mark 2025 as the 40th anniversary of the Grand Canyon Trust, I also want to acknowledge the enduring work and support of many who love the Grand Canyon and the Colorado Plateau as places that inspire purpose and nourish our souls.

Thank you and enjoy!

Jim Enote
Board Chair, Grand Canyon Trust

OUR MISSION

To safeguard the wonders of the Grand Canyon and the Colorado Plateau, while supporting the rights of its Native peoples.

ON THE COVER

Hualapai elder Lucille Watahomigie and her granddaughter Loveena Watahomigie.
RAYMOND CHEE

EDITOR'S NOTE

The views expressed by the contributors in this issue are solely their own and do not necessarily represent the views of the Grand Canyon Trust.

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ADVOCATE EDITORS: Ashley Davidson, Ellen Heyn
IMPACT REPORT EDITORS: Melanie Seus, Kimber Wukitsch
CARTOGRAPHY: Stephanie Smith
DESIGN: Brian Skeet

HEADQUARTERS: 2601 N Fort Valley Road, Flagstaff, AZ 86001, 928-774-7488

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contents

THE FOUR CORNERS SPUD:

A story of Indigenous potato farming and resilience in the Glittering World

By Alastair Lee Bitsóí

IN THE DINÉ CREATION STORY, TRICKSTER COYOTE KIDNAPPED THE BABY OF WATER MONSTER. Seeking revenge, Water Monster harnessed a flood to inundate the Third (Yellow) World. A reed was planted so that life — human and nonhuman — could escape the rising waters. The reed grew into another world above: the Glittering World. But this new world was without food. Turkey returned below to retrieve it.

Once Turkey reemerged, safe again in the Glittering World, she shook her tail feathers, which remain white with foam from the floodwaters to this day. With each shake, many seeds fell to the earth. Corn, beans, squash, and melon seeds. And among the foods that fell to the ground was a potato.

ALASTAIR LEE BITSÓÍ

In 2020, I was gifted one of the varieties of potatoes Turkey gave the Diné and other Indigenous peoples of the Southwest: the Four Corners potato, a nutritious, drought-tolerant variety that also happens to be extremely cute.

I remember meeting the little spuds for the first time — brown and tiny, the size of a fingernail — in a lab in Salt Lake City. They were adorable, and I felt an immediate connection.

"Here, you need this. You know what to do," Diné food advocate Cynthia Wilson of Monument Valley told me. She was distributing seeds and tubers to small-scale farmers in the Four Corners region to revitalize the spuds and reintroduce them into the diets of Indigenous peoples. Not knowing what else to do, I took the tuber: a green plant in a pot.

As the COVID-19 pandemic locked down Salt Lake City, I loaded my Chevy Cruze with food and supplies for my family, who were under strict shelter-in-place orders, and carefully packed the

potato plant. I drove seven hours home to Naschitti, on the Navajo Nation. A pandemic was a good time to return to the old ways of living off the land.

Back in Naschitti, my Tó'ahani (Near the Water People) Clan's 11-acre farm had been dormant for more than 20 years. The last people to farm it had been my father and mother, with little success. But my grandmother, who raised me, and other extended clan family members had grown corn, squash, chilis, and melons there. They hauled water from a local spring that has since been depleted. Before she passed, my grandmother named me the heir to the family farm.

The seeds brought to this world by Turkey once flourished across the Navajo Nation. Colonization and the genocidal campaign known as the Long Walk, which killed thousands of Diné people, disrupted our kinship and food systems. During this period, many Diné lost their livestock, peach orchards, and seeds that had sustained them.

Today, across the Navajo Nation, a region the size of West Virginia, there are only 13 full-service grocery stores. The U.S. Department of Agriculture labels the Navajo Nation a food desert. But a fresh-food economy once thrived here. Early Spanish colonizers called the Diné "People with Big Fields." Today, very few farmers grow the nutrient-dense traditional foods that our people need to reach 102 — the age our oral history identifies as a full lifespan. Now Diné people suffer from higher rates of diabetes due in large part to food insecurity and a growing reliance on the global supply chain.

In 2020, I was a novice farmer, determined to grow my own food as our ancestors had. I bought lumber and built garden boxes on my parents' homestead. I planted kale, sunflowers, lettuce, corn, and the tiny spuds. I dug holes in the center of the garden boxes and mixed topsoil from the local nursery with regular dirt. I said a prayer so they would grow well. I asked the spuds to teach me about them and observed them curiously. I bought a 50-gallon water tank that fit in my hatchback. I watched the weather. I only learned my car battery was in the back of my car after I drowned it while hauling water. Carless, I prayed for rain. The spuds, I learned, stay dormant until the monsoons come. Soon the potatoes flowered, drinking up the monsoon rains. By simply listening to them and relying on ancestral memory, my journey with these potatoes had begun.

ALASTAIR LEE BITSÓÍ

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Most domestic potatoes eaten today trace their genetic ancestry to potatoes cultivated in the Andes 7,000 to 8,000 years ago, but evidence of Four Corners potato starch on grinding stones and tools near Escalante, Utah indicate Four Corners potatoes were eaten in southern Utah some 3,000 to 4,000 years earlier.

ALASTAIR LEE BITSÓÍ

PATRICK ALEXANDER

The Four Corners potato is one of more than 4,000 varieties of wild potatoes found around the world. Its oral history, like its genetic history, traces back thousands of years to the Bears Ears region in southern Utah, and to central Arizona and New Mexico. Through Wilson, and from University of Utah researchers Bruce Pavlik and Lisbeth Louderback, I began to learn more about the little spud. I learned its Western scientific name, solanum jamesii. I also learned its Diné name, nimasi yazhi. I learned its basic stats: triple the protein and twice the calcium of organic red potatoes.

At Bears Ears National Monument, where archaeological sites tell of Indigenous connections to this land, the spuds are more evidence of Indigenous presence stretching back at least 11,000 years. Near Escalante, Utah, once known as "Potato Valley" by the Latter-day Saints, who also ate the Four Corners potatoes they found growing there, Pavlik and Louderback found potato starch on a slab of stone used by Ancestral Puebloans.

During the first growing season, I was both anxious and excited. I waited for the first frost so that I could dig the spuds up to see if they had reproduced. The frost came, and like Badger, who discovered our local water source in Naschitti, I clawed into the ground. The cold dirt stuck under my nails. I kept digging until I saw the white roots. Then, one by one, the spuds showed themselves: brown, tiny, smelling of earth. I texted Wilson. Other farmers to whom Wilson gave potatoes had experimented as well. Some kept their spuds in the original pot, others transplanted them with pine needles. But I was one of the few potato growers to yield any spuds. Wilson recommended that I get some white clay to balance out the potato's toxicity. I boiled the potatoes with clay for about 20 minutes. Then, I dropped them into another pot with lamb and other vegetables: my first harvest.

I deliberately left some spuds from this first harvest in the ground so that they could acclimate to their new growing environment. I also stored some in the refrigerator. The potatoes need cool temperatures to stay dormant. After two growing seasons in the garden boxes, I finally felt ready to graduate to my Tó'ahani family's farm.

Farming at the 11-acre Near the Water Farm is a continuous challenge. The pestering prairie dogs, the feral horses, the scavenger rabbits and crows, the run-down fence line, and drought conditions probably should have made me give up. But I have not. I am rooted here, just like the spuds.

Studying the water flow, I learned the farm gets plenty of monsoonal moisture. It just needs to be harvested and redirected. In the summer of 2022, I planted corn and potatoes. I also asked my local government to create

ALASTAIR LEE BITSÓÍ

an earthen dam to keep water from flash flooding and carrying away the topsoil and sediment. I remember the first time the dam held water; it was the day we planted. It was a monsoon with a shining sun, the roar of the water coming after the lightning strikes. By the end of the storm, the dam was full. Water seeped into the ground slowly.

I took the spuds from the refrigerator, added new spuds from Pavlik, who had gifted another round of them, and soaked them in the rainwater. I dug six holes for each population — 25 from Bears Ears that I had grown in the garden boxes, plus new ones from Mesa Verde and Grand Staircase-Escalante.

When I was not carrying water from the dam, I was watering the crops with well water through the hot summer. Tanned dark from the sun, I found a new potato growing wild by the dam. I thought it was a weed, but when it flowered, I saw it was like the varieties I grew in the garden boxes. I texted Pavlik. He told me this tuber might have been dormant all these years or maybe I was the dispersal agent, like the ancestors.

When it came time to harvest in early October 2022, I dug like Badger until I saw the web of white roots. These varieties were purple, white, and brown. They were bigger, too. To celebrate my father's retirement, my brother, Kelly, cooked up a fancy dish of lamb, spuds, and pumpkin sauce. We also ate corn mush with berries and roasted the corn I grew in the earthen bread oven to make steamed-corn stew, a delicacy.

Last summer, the tiny spuds, which normally sprout in June, waited until early August, in response to late rains. Patches of tuber plants also grew in two new places along the shores of the earthen dam. I call this new generation the Badger spud. They're growing out of their ancestral memory. As they bloom, butterflies, wild tea, and fungi are also making their return to the farm, a rematriation process inspired by the teachings of Turkey. Just as Turkey brought seeds into the Glittering World, I'm doing my best to reclaim our food systems in this glittering realm of 8 billion people where we Bila'ashla'ii, human beings with five fingers, now live. I believe ancestral foods are what we need to combat the modern monsters of diabetes and nourish the self-determination of the Diné people. While I still consider myself a novice, this is why I grow Four Corners potatoes.

Alastair Lee Bitsóí is a Diné farmer, award-winning journalist, and freelance writer. This story is adapted from his Columbia University School of Journalism master's thesis: "Spiritual Turkey and Food Security: A story of Indigenous potato farming and resilience in the Glittering World."

DEIDRA PEACHES

DEIDRA PEACHES

DEIDRA PEACHES

RAYMOND CHEE

The Authentic Taste of Kerley Valley

By Stacy Thacker

Amid the red sandstone canyon walls and sandy floor of Kerley Valley are plots of farmland. They are tended by local farmers dedicated to bringing healthy food options to their rural communities. The verdant patches stand out against the beige landscape surrounding them and bring a pop of color to the desert.

SOURCE: ESRI, NASA, NGA, USGS, FEMA

The plots are part of the Kerley Valley Community Farm, located on the Navajo Nation outside of Tuba City, Arizona and bordering the Hopi Reservation. The farm is run on a volunteer basis by eight families, from both the Navajo Nation and the Hopi Tribe. Along with the farm, the families also run the Bikooh Agricultural Cooperative.

“When I was little, I used to see every field green.

Rose Marie Williams, 56, is the president of the co-op. She grew up in these fields planting, harvesting, herding sheep, and taking care of pigs. She has experience with dry farming as well as irrigation farming, and she remembers a time when the area looked a lot different than it does now.

"When I was little, I used to see every field green. That's why I pushed myself to ask every farmer, let's farm because of diabetes and all these health issues that we're seeing," she says, adding that the health issues she sees today weren't common when she was growing up. She hopes fresh fruits and vegetables can help.

While Williams hopes to address health issues in the community, she and the other farmers are also working to revitalize the Navajo language and culture through farming as well as teaching traditional farming techniques, which include the "three sisters" method.

This method of planting has been adopted by tribes across the country. The technique involves planting corn, beans, and squash together.

The corn provides a structure for the beans to climb and reach the sunlight while the beans provide a natural fertilizer to the soil, which helps both the corn and squash grow. The squash provides broad leaves to shield all three from the baking sun and prevents weeds from taking over.

In Navajo culture, corn is important because it's used in the coming-of-age ceremony for girls, known as a kinaaldá, Williams says. The corn pollen, known to Diné as tádídíín, is used as medicine and is also used in prayer.

"The beans are the ones that give a lot of nutrition to the ground and then the squash is the one that holds the water," Williams explains. "Early in the morning, when you get to the plant, they're the ones that always have a lot of dew."

While the plants mutually benefit from each other, they also create a self-sustaining system. This method is known to nourish the soil and helps produce a higher yield with little water, which makes it well suited to drought-prone areas like the Navajo Nation.

Rose Marie Williams. RAYMOND CHEE

According to NASA data, the Navajo Nation is experiencing a moderate to severe drought, but living with a lack of water isn't new for Diné people. The Navajo Nation spans 27,000 square miles and about 40% of people living on the reservation don't have access to running water. Many Diné have to haul water from local community centers known as chapter houses.

Because of the lack of access to water, farming can be challenging, but there are techniques to help with that. Kerley Valley Community Farm uses a diversion dam, which traps storm runoff. Farmers come out to clean the dam every January, Williams says. The farmers remove debris built up in the dam. They also clear weeds out of the hand-dug canal. Once it's released out of the dam, the stored water runs through the canal to reach the fields. Working together, the cleanup takes about three months.

Farmers in Kerley Valley bring a variety of experiences to the fields. Many grew up watching their grandparents

Once released from the dam, water flows along the canal (center) to reach the fields. RAYMOND CHEE

Farmer Dan Williams clears weeds and debris out of the canal. RAYMOND CHEE

farm, like Susie Martin, 69, the secretary of the co-op.

Martin remembers her family growing peaches, grapes, corn, melons, squash, and other produce, which they had in abundance. She has fond memories of camping out under apple trees with her sister and her grandma and helping any way she could. Like Williams, Martin remembers a time when the area looked different.

"When I was small, my grandma and I would go to the trading post, Tuba City Trading Post," Martin recalls. "It was always green, and you would be walking in one of the fields and I remember the corn stalk would be so high."

Although Martin learned many farming techniques from her grandma, she didn't always know why they were doing things a certain way.

"I didn't understand it at a young age, I just did what they told me to do, you know, the beans, the corn, and then the squash," she says of the three sisters method.

Martin hopes to expand beyond the three sisters vegetables to add alfalfa to help provide more nutrients to the ground, rejuvenate the fields, and use less water.

"Mainly I realized that the store that we have here, they don't have all the benefits of healthy food, you know, organic stuff. And if we can be able to get this going, we could be able to grow healthy food for our people," Martin says.

Because the Navajo Nation spans a vast rural area, grocery stores aren't available in every community. Tuba City is the largest town in the Western Agency of the Navajo Nation, and while it has a grocery store with fresh produce, the prices can be higher than what people can afford, leading them to buy cheaper processed foods.

The co-op hopes to change the narrative about food access. Officially founded in 2023, the co-op is still fairly young. But it's an important way to get fresh and organic produce to the

A volunteer helps clean out the canal. RAYMOND CHEE

> Kerley Valley has all the authentic taste. That's the biggest difference is the taste. People know that it's from Kerley Valley.

people. During harvest season, the co-op sells fresh-picked produce across the road from the farm, on the north side of Highway 160 right before you enter Tuba City from the west. The market offers corn, squash, fruits, vegetables, pies, tamales, Navajo cake, Hopi piki bread, and at times, piñon nuts.

"Kerley Valley has all the authentic taste," Williams says. "That's the biggest difference is the taste. People know that it's from Kerley Valley."

Stacy Thacker, Diné, is a freelance journalist from Crystal, New Mexico, on the Navajo Nation.

A view of the diversion dam frozen with snow. RAYMOND CHEE

Generations of growers join hands with the Little Colorado River Agricultural Cooperative

Farming in HARMONY

By Amber Benally

"Okay! Everyone, pull!" shouted Nate Etsitty, coordinator of the Little Colorado River Agricultural Cooperative — a collective of over 40 Diné and Hopi farmers — as five of us yanked the canvas covering over a 100-foot greenhouse. It was one of the hottest days of June but this remains one of the most gratifying days of work of my life. After, we all sat around the table as farmer Harvey Riggs shared a meal of mutton stew, grilled mutton, and hot tortillas with us. As we ate, Harvey began to reminisce about the co-op's beginnings.

Harvey Riggs, BEAVER FARMS

Beaver Farms began in the 1970s as a place for women and clan mothers to grow corn, squash, and melons along an alluvial floodplain of the Little Colorado River in Leupp, Arizona, on the Navajo Nation. Originally called the Ladies' Farm, the area became a cornerstone for generations of farmers to meet, grow, and learn together.

"Tyrone [Thompson, founder of Ch'ishie Farms] and I used to be out there day after day," Harvey recalled. "Seemed like it was just us two."

The pair experimented with new growing methods, including drip irrigation, well water, and a gigantic and finicky water pump that Tyrone fiddled with for months. Today, Beaver Farms, stewarded by Harvey and his family, continues to be a place to build resilience, dream bigger, and produce large yields of organic produce. Most importantly, Beaver Farms is a learning hub for a new generation of farmers including participants in the Grand Canyon Trust's Rising Leaders Program's Seeds and Stories project.

The late Tyrone Thompson leads a farming workshop for young people. AMBER BENALLY

Felix Earle, RED EARTH GARDENS

"The reason I do this work is because of my late grandmother," Felix told a group of budding farmers. "She told me, 'It is going to have to be you.'"

During a visit last year, Felix gave us a tour of his garden and explained his vision for his community and himself.

"In this modern colonial world, we're taught you have to take this medicine and that medicine to make yourself better," he explained. "But what I know is that the medicine we need is here on our land and how we feed ourselves as Diné people."

At an earlier food demonstration, Felix had shared his favorite pesto recipe, all made from organic ingredients grown in his own garden (holy basil, garlic, and locally harvested pine nuts). Although pesto is eaten worldwide, for many Native people gathered at the event, this was their first time trying the simple but delicious recipe. Felix is a pillar of accessible and tasty change and healthy eating in his communities and beyond.

Felix Earle, farmer and Indigenous food security advocate, inside his hoop house. DANNY UPSHAW

Rain Jackson, DESERT RAIN FARM

"I remember we were standing about 50 feet away from Tyrone during the COVID-19 pandemic, and we were yelling, 'How do we grow food?!'" Rain Jackson's mother, Teri Jackson, recalled. "Then he yelled back how to build a raised bed garden."

Thirteen-year-old Rain Jackson is the head developer and farmer of Desert Rain Farm. Her farming journey began at age 8. Now a teenager, Rain is working to show other young people that anyone can grow local food. Inspired at a young age by Tyrone Thompson to grow her own food, some of Rain's favorite crops are strawberries and asparagus. With each growing season, Rain tries new growing methods, testing out hand watering, drip irrigation, and now lasagna beds — raised beds which layer dead leaves, cardboard, and other organic materials that decompose over time and enrich the soil. The future is bright with young people like Rain who are moved to feed themselves and their families and inspire other young people to do the same.

Young farmer Rain Jackson with her mother, Teri. TERI JACKSON

GROWING TOGETHER

LITTLE COLORADO RIVER AGRICULTURAL COOPERATIVE

The Little Colorado Agricultural Co-op is growing, both in size and in technical skills. Members are adamant about passing on the cultural knowledge and values of growing their own local produce. With the passing of Tyrone Thompson in 2024, members continue to work to see his dreams for the region come to life. The work is hard, hot, and requires the same dedication as nurturing any living being. For the farmers of the Little Colorado River Agricultural Co-op, there is no other work they are more committed to than this.

Amber Benally manages just transition work at the Grand Canyon Trust.

Recipes *collected by Shonri Begay*

Cushaw Squash Pie

2 cups of roasted cushaw squash puree without skin

⅔ cup brown sugar

1 teaspoon ground ginger

½ teaspoon salt

½ teaspoon ground nutmeg

¼ teaspoon ground cloves

3 large eggs

1 teaspoon vanilla

1½ cups heavy cream or evaporated milk

1 tablespoon ground, roasted amaranth seeds (optional)

1 pie crust, graham cracker, or make your own with roasted amaranth seeds and honey

SHONRI BEGAY

JOERING, WIKIMEDIA

Darrell Yazzie Jr.'s family farm — Yazhí Farms — in Klagetoh, Arizona, on the Navajo Nation, grows a huge variety of produce, including cushaw squash. Cushaw is a versatile green and white squash that can be harvested early as a summer squash or allowed to mature into a winter squash. Cushaw is often found in stews, but this recipe showcases it in a dessert. For a nutritious twist, try adding amaranth seeds to this recipe. Amaranth is a wild, drought-tolerant plant that produces thousands of nutrient-dense seeds.

1. Roast the cushaw: Cut the squash in half and remove the seeds. Place on a baking tray and roast at 400 degrees for 30 minutes. Remove from oven and allow to cool before scooping the flesh out of the skin. Puree the squash in a blender or food processor.
2. Mix the pureed squash with the eggs, evaporated milk, ginger, salt, nutmeg, cloves, vanilla, and amaranth seeds. Pour the mixture into a premade pie shell.
3. Bake at 425 degrees for 15 minutes, then reduce to 350 degrees for 40 minutes, or until a knife or toothpick comes out clean from the center. Let cool before serving.

Someviki

5 tablespoons culinary ash (*Meg uses either juniper or dried bean pod ash*)

1½ cups boiling water, plus 4 cups boiling water (separated)

1 cup finely ground blue cornmeal

¾ cup sugar

Corn husks soaked in hot water

Meg Kabotie-Adakai grows food on her family farm outside Flagstaff, Arizona. She comes from a long line of Hopi farmers who have passed down various seeds including blue corn, which she incorporates into her someviki. She suggests serving these sweet corn dumplings along with a pot of beans. Meg is also an entrepreneur who brings her passion for sharing healthy and affordable local food to Flagstaff Mountain-Town Market, which she founded in 2024.

1. Mix ash with 1½ cups boiling water.
2. Mix cornmeal and sugar in a bowl. Add the 4 cups boiling water, stirring constantly to avoid lumps.
3. Place a strainer over the cornmeal mixture and pour the ash water through it. Mix until it forms a dough.
4. Lay cornhusks flat and place about 2 spoonfuls of dough in the middle. Then fold the husks closed on all 4 sides and secure them with long strings made from husks.
5. Bring a large pot of water to a boil. Carefully drop the wrapped dough in and let simmer for 20-25 minutes. Drain and allow to cool before serving.

SHONRI BEGAY

Tepary Bean Cakes

1⅔ cups cooked tepary beans

2 tablespoons butter or oil

½ cup chopped onion

½ cup chopped red bell pepper

2 large garlic cloves

⅔ cup fine dry breadcrumbs

⅓ cup cilantro leaves, chopped fine

Salt and pepper

2 large eggs

1 cup cornmeal

Oil for frying

Cruz Begay-Spence, a Tohono O'odham bean farmer in Flagstaff, Arizona, is sharing this recipe she loves and which she originally found in the book, "From I'itoi's Garden: Tohono O'odham Food Traditions." Cruz's small family farm, Three Sisters Bean Farm, grows tepary beans, a nutritious staple food for O'odham peoples and their ancestors. While these drought-tolerant and heat-resistant beans are typically grown in Sonoran Desert conditions, Cruz has found that the changing climate on the Colorado Plateau is making them easier to grow in Flagstaff.

1. Cook tepary beans. Tepary beans may take longer than other beans to get soft. Soak overnight, then cook in slow cooker for 10 hours, or use an Instapot to cook them in under 1 hour.
2. Once cooked, drain water and separate ½ cup of beans into a bowl. Mash them with a fork or potato masher.
3. Sauté bell peppers, onions, and garlic in butter or oil.
4. Combine mashed beans with unmashed beans, then add eggs, sautéed vegetables, breadcrumbs, cilantro, salt, and pepper.
5. Form the mixture into patties. Dust patties with cornmeal. Then let patties rest in the refrigerator for 30 minutes or up to a day.
6. Heat oil in a frying pan and cook patties for 1-2 minutes on each side until brown.
7. Set on a paper towel to soak up excess oil. Serve on a bun or on top of a salad.

A HOOP HOUSE AT EVERY NAVAJO HOME:

In Memory of Tyrone Thompson

AMBER BENALLY

TOMMY GREYEYES

Interview with Nate Etsitty
by Jessica Stago

How farmer, hoop-house builder, and visionary Tyrone Thompson's legacy continues to transform the Navajo Nation's food systems.

As I drive along Navajo Route 15 on my way to Window Rock, I always look for Nate Etsitty's homestead, recognizable by the two hoop houses (large greenhouses made by arching PVC pipe into a frame) that stand out along that rough reservation road. Nate is a permaculturist extraordinaire and founder of Bee Nahoodleelii Permaculture.

He is a fierce advocate for all things naturally powerful, including the land, water, and harmony among living things. Nate introduced me to the idea of permaculture and what it would mean for every home on the reservation to once again generate enough food to sustain everyone who lived there, regenerating the land and allowing people to live free of the burden of not having enough.

Nate was recruited by Tyrone Thompson, founder of Ch'ishie Farms, to help coordinate the Little Colorado River Agricultural Cooperative. Nate and Tyrone shared a vision of a co-op that would support a thriving agricultural industry, built on collaboration and k'é, the Diné principle of acting for the benefit of the community. Tyrone passed away in 2024, and I recently sat down with Nate to reflect on how Tyrone's legacy lives on today.

CH'ISHIE FARMS
Dá'ák'ehjį' nánsdzá

Tyrone at work. TOMMY GREYEYES

What did Tyrone mean to you as a permaculture advocate?

He was a comrade in this fight for self-sufficiency. We always talked about thriving and not just surviving and being able to feed ourselves first and then possibly becoming the breadbasket of northern Arizona. But I always thought...let's feed ourselves first.

Tyrone used to say that a lot, 'We could be the breadbasket of northern Arizona.' That is a huge goal. Where do you think he got it?

He thought that food could build the local economy. Tyrone's mission for Ch'ishie Farms was to provide the education and tools needed to grow healthy produce and feed the people. He wanted to build a hoop house at every home on the rez. Of course, he was going to sell it to all of them. Tyrone wanted to model to people that you could build a business from being a farmer. I think the number of people he inspired to start food businesses is phenomenal.

What is the most important thing you learned from Tyrone about growing?

You have to put your whole self into it, and you become part of the plant. Once you put the seed in, your intention and the seed begin to sprout. Then you tend to it and harvest it. It's like raising a child. You have to put your heart and soul into it because then it not only nourishes the body but also nourishes the spirit of everyone who eats the food. That's why Tyrone always talked about feeding the elders and the kids especially because he was concerned with nourishing their spirits.

> "How can we rez-i-fy this?

Describe a typical day when you were working with Tyrone on his projects.

I always expected his call between 5:45 and 6:00 in the morning. At that time of day, it was always new ideas. He had so many ideas. I would have to corral him and say okay, what do we need to focus on and let's make a list of what we will need. When we got to a site, he would know everyone's strengths, so he would delegate certain people to specific jobs. When we first started building hoop houses, it would take a day and a half. Later we got to the point where we could get it done in six hours. He learned to delegate really efficiently.

What do you think his ultimate goal was?

He wanted to be self-sufficient in a self-sustaining system. His ultimate goal was to make everyone self-sufficient so that we wouldn't need more input. He was always eager to teach what he knew so we could work better, more efficiently. He always asked, 'How can we rez-i-fy this?' which meant to do it for cheaper, always DIY.

What do you think Tyrone would want for this work going forward?

He had a vision of a food system that was regenerative. He wanted us to get to a point where we could leave a harmful system. Our discussions about how we get away from unsustainable cycles always led back to creating food forests. We talked about how climate change was going to impact us and how we don't have the luxury to leave. We are part of this landscape, and we are here to stay, so our food system will have to adapt. We understood that this work is not going to be completed in this lifetime. This work is for future generations, our kids and our grandkids.

Jessica Stago directs Native American Economic Initiatives at the Grand Canyon Trust.

Young Once, Indian Forever

By Carrie Calisay Cannon

Passing Along Tribal Plant Knowledge to the Next Generation

Hualapai elder Lucille Watahomigie and her granddaughter Loveena Watahomigie at Milkweed Springs, where Lucille grew up. RAYMOND CHEE

For thousands of years the Hualapai people used tightly woven vessels lacquered with piñon pine sap to transport water across vast distances. The knowledge of a culture is like water in a tightly woven vessel. Intact, the vessel holds the water but if it falls apart, the water is lost.

LEFT: The bottom of the Grand Canyon on the Hualapai Indian Reservation. RAYMOND CHEE

ABOVE: Hualapai lesson books Lucille helped create for students to learn traditional plant knowledge.

In pedagogy, children are thought of as empty vessels waiting to be filled with knowledge. Hualapai people have carried their knowledge through the generations in tightly woven families, reinforcing it with daily intergenerational activities. The culture of the community is the vessel that transports knowledge across the generations, perfected, strengthened, and refined over time. The traditional method of transferring knowledge included daily hands-on activities like harvesting traditional foods, to expose children to traditional teachings and reinforce the lessons, so that children grew into proud parents and grandparents who would repeat the process.

It was only in the last 140 years that the Hualapai, like many cultures, experienced a radical shift in lifeways that caused their traditions to unravel. Their ways of teaching, learning, and perpetuating their culture were undone. Bands were consolidated to a single tribe and placed on a reservation that was but a fraction of their ancestral lands. Families were separated. First the children were removed and placed in distant boarding schools. Later the elders were removed from the household. Boarding schools forced a foreign language and lifestyle on children. Entire generations were taught that they were unintelligent and inferior because their knowledge didn't align with the U.S. education system. Over a few generations, our own people began telling children to give up on the old ways and move on.

With each generation of assimilation, the bonds of family and culture unraveled, and an untold wealth of knowledge was lost. Thankfully, tribal members have worked to rebuild, blending modern lifestyles with the teachings of their ancestors, reworking how language, culture, and traditions are taught by incorporating them into school lesson books. One Hualapai tribal member in particular has devoted her career to this: Lucille

Loveena holds a copy of the "Ethnobotany of the Hualapai" book her grandmother helped write. RAYMOND CHEE

J. Watahomigie, who will celebrate her 80th birthday this year. Lucille's story started like many Native youth in the mid-20th century, but her dedication to preserving her people's culture and language have made her life's journey extraordinary.

"I grew up in the Hualapai traditional way," Lucille recalls. "Mostly out at Milkweed Springs, speaking the Hualapai language, working and playing in the garden, swimming in the creek, riding horses, playing games, retrieving pails of water from the well, chopping, hauling, splitting, and stacking firewood, helping cook, listening to stories, and eating some of the traditional foods family members harvested from the wild plants."

Lucille grew up on the Hualapai Indian Reservation, the eldest of nine children, among a large extended family. At Milkweed Springs, about 20 miles west of Peach Springs, her father and uncles ran cattle and her grandmother and mother raised a garden, farmed chickens, and harvested traditional foods like piñon nuts.

Growing up in a one-room multigenerational home, the children learned

the stories, customs, and expectations of what it means to be Hualapai. After working long days, the family talked late into the night, and again in the morning before first light, even before the coffee was made. They talked about everything: cattle business, tribal politics, traditional stories, and Hualapai values and beliefs about the way one should live. In this way, vital information was passed along to the next generation.

At times Lucille's mother was hospitalized with severe asthma and her father was out tending cattle, leaving Lucille to take on the responsibilities of the household in her mother's place.

Lucille first attended the public school near Indian Camp in Kingman, Arizona. At 6, she was taken to the Bureau of Indian Affairs boarding school at Fort Apache. After a year, she came home to the day school in Peach Springs. She spent sixth and seventh grades in the Indian Placement Program run by the Mormon Church, living with a family in Utah, an experience not uncommon for many Hualapai youth of her generation. Lucille enjoyed collecting wild plants with the family.

Lucille came home to the brand-new public school on the reservation for eighth grade, then left again to attend Phoenix Indian School. During her time in Indian boarding schools and the Mormon program, Lucille saw both learning opportunities and also extensions of the U.S. government and Western society's attempts to make Indian people white.

By 1970, after earning her bachelor's degree in education, Lucille returned home to teach at the Peach Springs School. Lucille's colleague and mentor, Mrs. Hunt, encouraged her to incorporate the Hualapai language in her teaching. Lucille left home again to pursue her master's at the University of Arizona, where she directed the Indian Teacher Training Program. In 1975, Principal Earl Havatone asked Lucille to write a proposal for a bilingual program to teach the Hualapai language alongside English in Peach Springs.

"We got funded and Earl told me to come home and run the program," Lucille recalled. Lucille noticed that curricula based on white middle-class life didn't make much sense to the children in the context of their experiences. As a result of this disconnect, and the fact that many children spoke English as a second language, 50% of Hualapai schoolchildren were classified as special ed.

Lucille worked to develop curricula and activities sourced from Hualapai culture. She went on to wear many hats, from director of the bilingual program to principal and superintendent. She developed Hualapai spelling, and then a Hualapai language dictionary.

Traditional plant knowledge became a centerpiece of the bilingual program. Students went on harvesting outings when foods were in season. The elders Lucille recruited to share their plant knowledge were so eager that she had to limit the "Ethnobotany of the Hualapai" lesson book to 60 of the more obvious plants with common uses; there were far more that the elders wanted to teach about. Individual books were created on the most commonly used plants such as banana yucca, prickly pear cactus, piñon pine, and mescal agave, as well as important items like cradleboards and baskets and descriptions of the plants needed to create them, along with instructions in both Hualapai and English.

Transferring ethnobotanical knowledge takes time. The first plant lesson took place in springtime, when mescal agave ripened. Lucille asked tribal elder Maude Sinyella for help. "She got excited, because she wasn't able to teach her children what she learned growing up," Lucille recalled. "Maude was a plant medicine woman. She helped us a lot…with teaching the plants and uses and harvest."

It is an all-day effort to harvest enough mescal agave to do a traditional roast, as any Hualapai elder will tell you. Only the agave plants that are getting ready to produce a flowering stalk, and are thus producing sugars, are selected for harvest as this is the only time that the heart of the plant is edible. The elders Lucille worked with could look at plants that were about to bud, before they had even produced stalks, and recognize which ones were going to flower that season by the precise curvature of the leaf spines and by the shape of the central leaves.

Students and elders harvested and roasted together. "The elders speak in the tribal language, they say prayers, and they instruct tribal youth on the traditional tribal philosophies. Maude

Lucille studies hamđavil, the Hualapai word for seep willow. The willows are used for roofing material in shade ramadas and as a heated paste to reduce swelling. RAYMOND CHEE


RAYMOND CHEE


RAYMOND CHEE

Lucille's granddaughter Loveena holds a traditional water vessel at the edge of the Colorado River.

took time to show the kids all they needed to know and…once other elders heard about it, they wanted to join. They all came over and wanted some to take home. Those traditional foods they had memories of. And they wanted the children to acquire a taste for it," Lucille remembered.

The elders believed that people would revert back to harvesting traditional foods one day, when times got hard and store shelves were empty. The people could then live off the land if that's what it came to. "They had their agenda and we had our agenda," Lucille said. "My main goal was for the children to respect themselves and be proud of who they were. They should be proud because up until that time we were being taught to forget our language and culture and become like a white man and live a Christian way and everything that we were was wrong. And we had a lot of people telling us to forget…I recall one time as a child…I asked my grandfather something. He said, 'Grandchild that's just an old way. You have to forget about it and move on.'"

The Hualapai bilingual program sadly ended after leadership at the elementary school changed. The new, non-Hualapai leadership coincided with English-only legislation that passed in Arizona in 2000. With the program discontinued, there was no longer a formal way to transmit the language, ethnobotany, and land-based knowledge.

In 2006, to address concerns that many youth were not learning about their landscape, plants, and language, the Hualapai Cultural Department launched the Hualapai Ethnobotany Youth Project as an after-school program led by a team of tribal elders that included Lucille. Lucille's granddaughter, Loveena Watahomigie, grew up participating in it. Now, years later, Loveena coordinates the department's Youth Council, a program to cultivate leadership in tribal youth. She makes a special effort to include ethnobotany in her programming. "My munya [paternal grandmother] was a big influence on my life. She always stressed getting an education. Telling me and my sisters to go to college…I was in Peach Springs until I was 18. Growing up there being able to be around my culture and learning everything from an inside perspective, it really helped me to know what I wanted to do," Loveena shared.

Getting her bachelor's degree in anthropology, Loveena found her background was an advantage. Many people were taking classes to learn how Natives live; she'd grown up learning about it.

"A big motivation for me is our culture, how we identify who we are as Hualapai people; when you lose or don't know part of your culture it's like you don't know who you are," Loveena said.

Because Loveena grew up on the reservation and spent much of her time learning from her munya, Lucille, and other elders, she feels blessed to know so many of the plants and has a good

handle on the language so she can teach it to others, especially youth. It sometimes surprises her that not all of her peers know the different plants and their uses; it comes as second nature to her. And Loveena has gotten more interested in plants, delving beyond practical uses by exploring their ceremonial and spiritual aspects, which are intertwined in Hualapai belief systems.

During a recent Colorado River trip in the Grand Canyon, Loveena was asked to create a gift from something found on the land. She called upon the plant knowledge that has been handed down from grandmother to grandchild since the beginning of time. She used the roots of the banana yucca plant to make shampoo, the leaves to make fiber for cordage, and chopped up more roots for soap. It was a plant she had recently grown closer to; she and her sister had used it to bathe her newborn nephew.

Recently Loveena's munya was asked to give a presentation about her connection to plants. Loveena helped Lucille prepare her slideshow. Lucille brought the old bilingual curriculum books, plant samples, a cradleboard, dried agave, winnowing, parching, and burden baskets. One piece stood out: a tightly woven water vessel that had yet to be lacquered and waterproofed with piñon sap. One day Loveena may be just the person to initiate a basket-waterproofing workshop, something that hasn't been done as a community demonstration in over 50 years. What may seem like a simple task is in fact an art and a science, knowledge still held in the community by a handful of remaining elders who grew up the old way, and who have the courage to keep the vessel whole, and to keep the vessel full for the next generation, on and on in perpetuity.

Carrie Calisay Cannon is an enrolled member of the Kiowa Tribe and an ethnobotanist employed by the Hualapai Tribe.


RAYMOND CHEE

One day Loveena may be just the person to initiate a basket-waterproofing workshop, something that hasn't been done as a community demonstration in over 50 years.

The Future of the Grand Canyon's Fish

Humpback Chub in the Colorado River. JACK DYKINGA

The first experimental cool flows in the Grand Canyon show promise for once-endangered native fish.

But can the experiments continue?

By Amanda Podmore

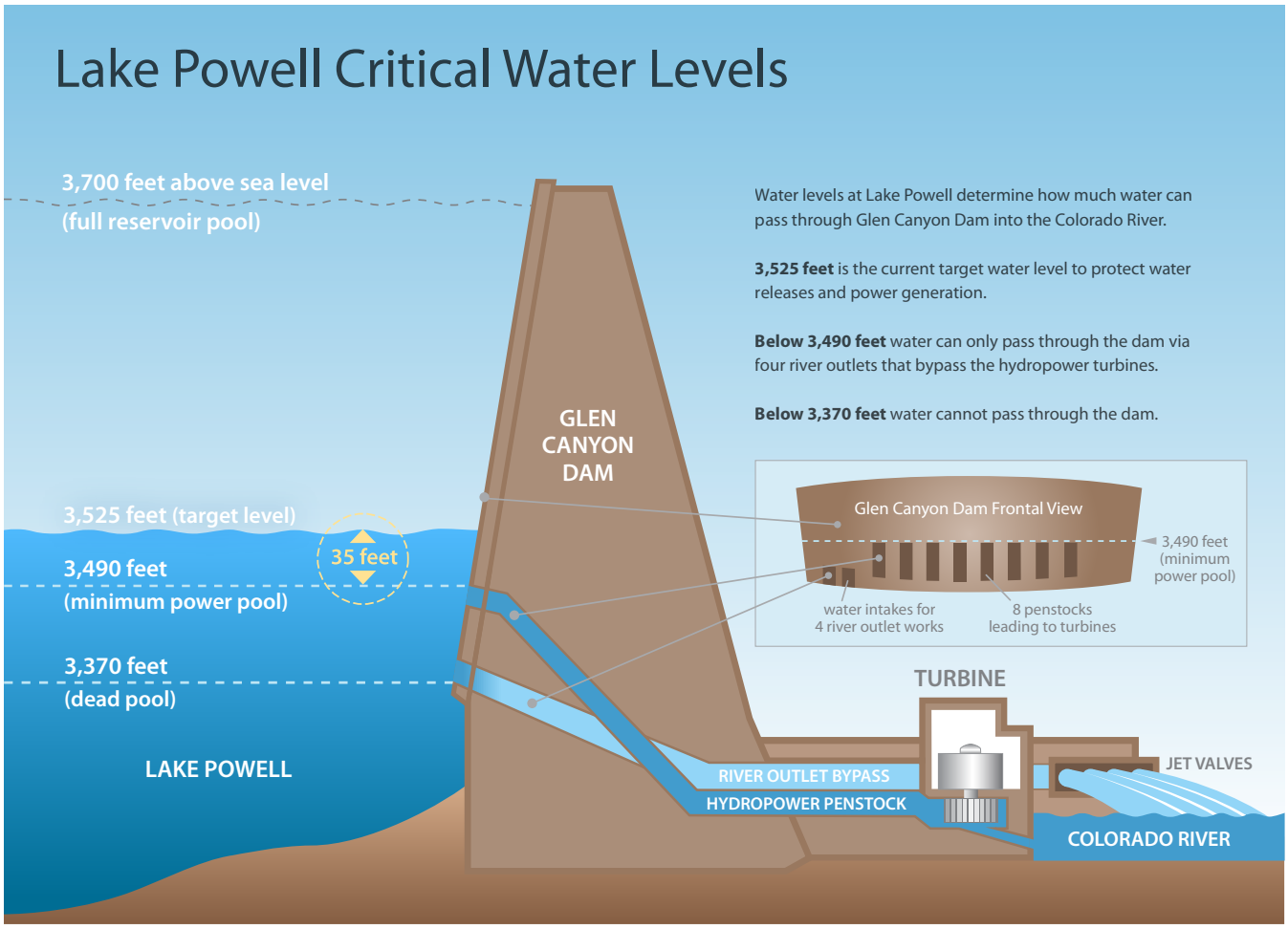
In 1962, officials poured rotenone into the Green River, a tributary to the Colorado River, to eliminate undesirable fish and make way for sport fish. The poison indiscriminately killed fish along the Green for 225 miles. Unalarmed by the poison, bystanders on the banks hauled dead fish, including native Colorado pikeminnows more than two feet long, from the river.

The Green River fish kill predated our nation's bedrock environmental laws, like the National Environmental Policy Act and the Endangered Species Act. Fortunately, how scientists think about native fish management in the Colorado River Basin has evolved over the years, with greater understanding of the cultural and ecological value of these fish.

The U.S. government has spent decades learning how to protect native fish species in the Colorado River, including the five in the Grand Canyon: the humpback chub, razorback sucker, flannelmouth sucker, speckled dace, and bluehead sucker.

The most iconic of the Grand Canyon's endemic fish is the humpback chub, listed under the Endangered Species Act as endangered in 1962 and "downlisted" to threatened in 2021. Today, over 92% of all humpback chub in the world are found in the Grand Canyon. The two largest populations live near the Little Colorado River confluence and in western Grand Canyon. Scientists believe the chub evolved around 3.5 million years ago, its fleshy camel-like hump helping it stabilize itself in difficult water conditions, including flash floods.

But in 2022, with chub on the path to recovery, trouble came knocking at the door — or rather the dam — of the Grand Canyon. Smallmouth bass, first introduced into Lake Powell in the 1980s as a warmwater sportfish, eat young humpback chub. In the summer of 2022, low reservoir levels were dipping dangerously



Graphic by Joan Carstensen

close to the penstocks — the large pipes that funnel water through the dam into the river below. Researchers discovered that smallmouth bass, who like the warm water closer to the surface of Lake Powell, were making their way through the electricity-generating penstocks of Glen Canyon Dam and surviving a turbulent drop into the upper stretches of the Grand Canyon. Now below the dam, the smallmouth bass were beginning to reproduce in the upper Grand Canyon for the first time. And they were threatening to spread deeper into the canyon to prey on young chub.

This existential threat to the humpback chub alarmed scientists, tribes, regulators, and conservation groups, who immediately began brainstorming. One solution won out: use the lowest outlets in Glen Canyon Dam to flush deeper and colder water from Lake Powell into the upper stretches of the Grand Canyon, making it impossible for smallmouth bass to reproduce. By mixing colder water from lower outlets with warm water coming from higher in the reservoir, they could drop the river temperature below 61 degrees Fahrenheit and stop smallmouth bass from multiplying.

On July 3, 2024, the U.S. Bureau of Reclamation finalized a plan to allow these experimental "cool-mix" flows and try to curb the invasion of smallmouth bass. The decision came just in time. Only six days later, water temperatures at the Little Colorado River in the Grand Canyon exceeded 61 degrees for three days in a row, the trigger for the cold flows. From July 9 through November 19, 2024, the Bureau of Reclamation released a mix of cold and warm water, keeping the Colorado River in the upper reaches of the Grand Canyon cool.

The experiment worked. Cool-mix flows, plus a little help from scientists who set up fake smallmouth bass spawning areas above Lees Ferry to lure the fish, and then destroyed their eggs, kept the bass from reproducing. Humpback chub can live for over 30 years, but a smallmouth bass can survive to only about 8. So, if we can continue to keep smallmouth bass from immigrating into the Grand Canyon and reproducing for about a decade, the population will die out.

Though the experimental cool-mix flows don't impact water deliveries to downstream users, they do reduce the amount of electricity that Glen Canyon Dam generates. Last year power providers had to purchase power from other sources to replace the electricity lost when water was flushed through the dam to cool the river down.

Hydropower interests are now trying to stop these flows, even though the Bureau of Reclamation authorized the experiment through 2027. Cold-water

releases are our best short-term option for controlling the bass. Other methods for killing invasive fish in the Grand Canyon include electrofishing and poisoning, a practice that is culturally inappropriate in the eyes of some tribes with longstanding connections to the Colorado River. Scientists are also looking at ways to stop more invasive fish from passing through the dam, like net barriers, but these won't stop the smallmouth bass already living below the dam.

Cool-mix flows are the easiest, cheapest, and most effective way to tackle the bass problem now. If smallmouth bass numbers explode, it will be astronomically more expensive to get rid of them before they gobble up the humpback chub. And waiting might then require lethal approaches that tribes oppose.

It's important to note that the law prioritizes native fish over lost hydropower revenue. The 1992 Grand Canyon Protection Act mandates that the secretary of the interior operate Glen Canyon Dam and take other reasonable mitigation

AMY S. MARTIN

BRIAN SKEET

measures "to protect, mitigate adverse impacts to, and improve" the condition of the environmental, cultural, and recreational resources of Grand Canyon National Park.

Cool-mix flows will likely need to begin as early as June 2025 to disrupt smallmouth bass spawning. But before then, the U.S. Department of the Interior must decide whether the experiment will continue. With so much of the humpback chub population living in the Grand Canyon, this stretch of the Colorado is ground zero for defending this native fish. In the medium and long-term, we can pursue barriers and structural modifications to the dam to prevent smallmouth bass migration, but in the short-term, cool-mix flows are the only solution to prevent them from taking over the Grand Canyon. After 3.5 million years, the humpback chub now depends on cool flows for its continued survival in the Grand Canyon.

Amanda Podmore codirects conservation work at the Grand Canyon Trust.

AMY S. MARTIN

TIM PETERSON

A Note on the Election

Forty years ago, the Grand Canyon Trust was born. Over four decades the Trust has grown and evolved and now stands as one of the preeminent regional conservation organizations in the nation. We are proud of all that we have accomplished with so many of you to protect and restore our cherished landscapes through decades-long campaigns. And we are honored to be entering into our third decade supporting the region's tribes. Seeing meaningful change through to fruition requires humility, fortitude, and dedication. Our best work is now decades in the making, and the finish line isn't in sight.

Over the course of 40 years, we have, with many others, seen conservation and environmental justice advance — enormously in many cases. We have also lived through times of regression, when real damage was done to people and places dear to us and central to our mission. We are living in one of those times now.

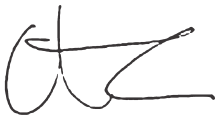
Several months into a Trump administration, we have seen abdication of all U.S. leadership in the climate space, attempted evisceration of fundamentally important safeguards governing public lands management, and first steps taken toward dismantling and defunding national monuments, co-stewardship commitments, and existentially important science.

Our work over the next four years will be critically important to our ability to see our mission forward over the next four decades. We will need to be smart and strong, compelling in the courts of public opinion and strategically sound in the courts of law. As always, we will continue to work closely with our community partners, and especially with our friends, colleagues, and leaders among the Colorado Plateau's tribes. Importantly, we will continue to reach across the political aisle to find common cause wherever it is to be found.

These wondrous places — the Grand Canyon and so many others across the Colorado Plateau — deserve so much from us and give back even more. With the deepest commitment, on our part and that of so many who cherish this land as sacred, we will look back four years and four decades hence to wonder at the hurdles we've overcome and celebrate all that we have achieved.

Highlights from last year are showcased in the following pages as part of our 2024 Impact Report. Thank you for everything you have done and continue to do to make this journey possible.

With gratitude and fortitude,



Ethan Aumack
Executive Director

2024 IMPACT REPORT

Grand Canyon Trust members make our work possible

A look at major milestones from 2024

TIM PETERSON

Pushing Back on Uranium Mining near the Grand Canyon

The Grand Canyon remains at the heart of all that we do.

Following the 2023 designation of Baaj Nwaavjo I'tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument, we continued working with agencies and tribes to prepare for the monument planning process to operationalize on-the-ground protections. The Grand Canyon Trust was appointed by former U.S. Secretary of the Interior Deb Haaland as the sole conservation member of the newly formed advisory committee that will shape the future of the monument.

Unfortunately, despite its location within the new monument's boundaries, the Pinyon Plain uranium mine (formerly Canyon Mine) commenced operations in December 2023 for the first time, driven by rising uranium prices. In the summer of 2024, without notifying at-risk communities along the haul route, the operator began transporting uranium ore over 300 miles through the Navajo Nation to the White Mesa Mill.

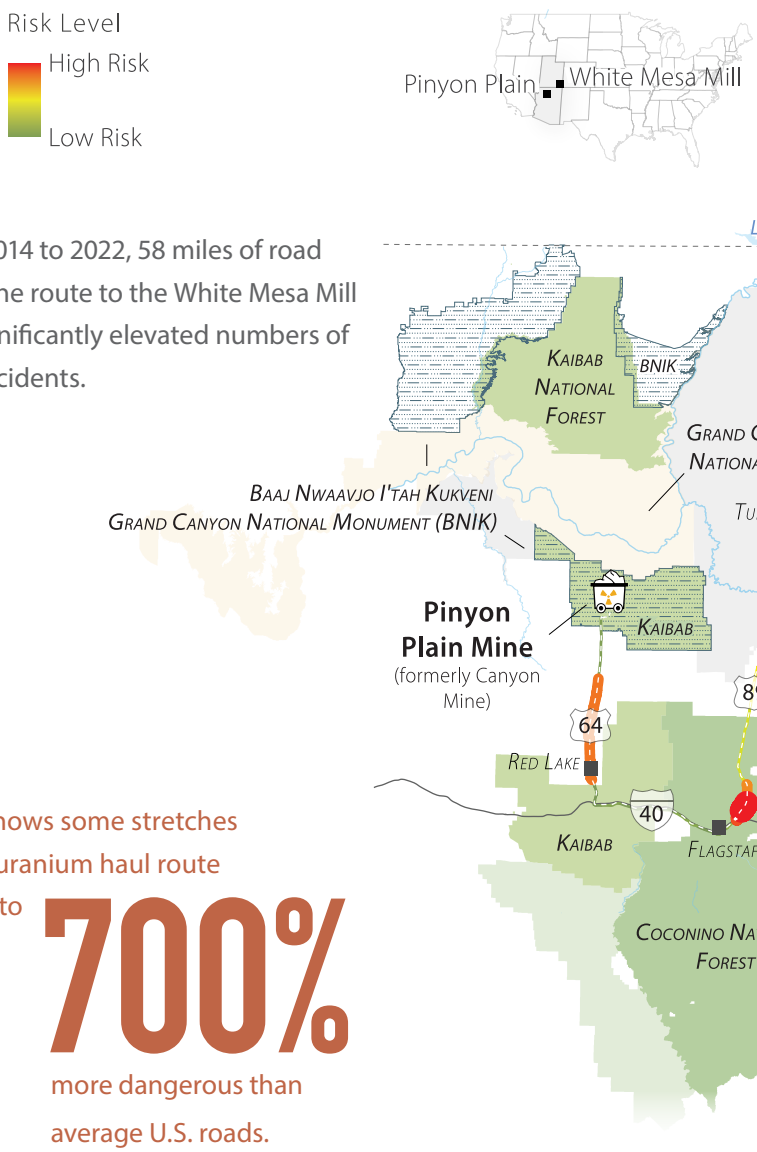
Throughout 2024, the Trust has supported tribal efforts opposing mining operations by:

- Highlighting new scientific research backing the Havasupai Tribe's concerns about water contamination from the mine, prompting Arizona Governor Katie Hobbs and Arizona Attorney General Kris Mayes to urge the U.S. Forest Service to update its 1986 environmental review of the mine.
- Mapping the heightened fatal accident risk along the route used to truck uranium ore from the mine to the company's uranium mill located on the doorstep of Bears Ears National Monument.
- Raising public awareness around the dangers of uranium mining operations in the Grand Canyon region through strategic communications, including media stories, interviews, and robust educational resources.

In a small victory, uranium ore transport was temporarily halted in August following outcry from tribal leaders and others at risk, pending an agreement with the Navajo Nation.

BLAKE MCCORD

Fatal Accident Risk along the Pinyon Plain Mine (aka Canyon Mine) uranium transportation route to the White Mesa Mill.



From 2014 to 2022, 58 miles of road along the route to the White Mesa Mill had significantly elevated numbers of fatal accidents.

Data shows some stretches of the uranium haul route are up to

700%

more dangerous than average U.S. roads.

SOURCE: ANALYSIS BY JOSH O'BRIEN, GRAND CANYON TRUST
DATA FROM AADT AND THE FATALITY ANALYSIS REPORTING SYSTEM


AMY S. MARTIN

80%

of Arizona voters support Baaj Nwaavjo I'tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument*

*According to a 2024 poll conducted by the public opinion research firm GQR and commissioned by the Trust.

Big Wins for the Little Colorado River and Tribal Sovereignty

In the Grand Canyon, water is life. The region's precious water resources support species found nowhere else on the planet, yet drought and human activity threaten both their quality and quantity.

The Little Colorado River in the heart of the Grand Canyon has been a focal point of the Trust's advocacy since 2012 when private developers proposed a mega-resort and tramway that could have drawn more than 10,000 visitors daily. Since then, we have steadfastly supported the local Navajo families of Save the Confluence as they continue opposing harmful projects. In 2024, this work saw two noteworthy wins:

- **Big Canyon Dam canceled:**
  In April 2024, the Federal Energy Regulatory Commission (FERC) denied the last remaining preliminary permit for a hydroelectric dam proposed alongside the Little Colorado River Gorge. Tribes opposed the project, which would have caused irreparable damage to natural and cultural resources.
- **FERC policy reform:**
  When it canceled the Big Canyon Dam permit, FERC also pledged not to issue preliminary permits for hydroelectric projects on tribal lands without the consent of the tribe on whose lands the project would be built. This commitment has the potential to impact landscapes well beyond the Colorado Plateau.

With no immediate threats from private developers to the Grand Canyon region's rivers at this time, we are prioritizing helping to secure permanent protections for the Little Colorado River and surface and groundwater management policies that safeguard the region's unique biodiversity.

ADAM HAYDOCK

Standing Up for Utah's National Monuments

Bears Ears and Grand Staircase-Escalante national monuments in southern Utah continued to be a significant focus of the Trust's work in 2024. Shortly after President Biden restored their original boundaries in 2021, we began engaging in the development of new monument management plans that center Indigenous traditional knowledge along with the latest science.

PETER HATHAWAY

TIM PETERSON

The plans were completed last year and adopted this January; however, years of hard work could unravel at any time with the change in administration. We are prepared for whatever may come and will use every tool available to safeguard these remarkable living cultural landscapes from industrial development.

BEARS EARS NATIONAL MONUMENT — 1.36 MILLION ACRES

Est. 2016

The first national monument protected at the request of sovereign tribal nations and managed under a landmark cooperative agreement between federal land managers and tribes.

GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT — 1.87 MILLION ACRES

RICK GOLDWASSER

Est. 1996

The first national monument designated for its remarkable scientific value and home to more than 20 newly discovered dinosaur species and thousands of cultural and archaeological sites.

In addition to a historic management plan developed in collaboration with multiple tribes for Bears Ears, noteworthy conservation gains in both monument management plans include:

- Improved grazing management and a process for the retirement of grazing permits.
- A commitment to protecting and restoring native plants, including mature and old-growth trees.
- A more balanced approach to recreation, including banning some activities incompatible with the monuments' protection.
- An increase in the amount of land designated for management as wilderness.

In response to concerns that President Trump may dismantle Bears Ears and Grand Staircase-Escalante national monuments, the Trust commissioned a poll of Utah voters by the opinion research firm New Bridge Strategy:

71% support keeping Bears Ears a national monument.

74% support keeping Grand Staircase-Escalante a national monument.

65% support keeping the number and current size of existing national monuments.

TIM PETERSON

Scan this code to read the latest monuments blog

Convening and Supporting Regional Tribes

The Colorado Plateau is the traditional homeland of numerous tribes in the region — many of whom still live here. Supporting tribal communities and nations is the cornerstone of the Trust's work. We stand behind tribes' efforts to protect their land, water, air, sacred sites and health.

In 2024, we hosted several intertribal gatherings, where Native voices discussed their priorities, shared knowledge, and collaborated on community projects.

JAMIE ARVISO

The Colorado Plateau Intertribal Conversations Gathering brings community leaders, tribal members, and cultural leaders together to share ideas, develop initiatives, and amplify tribal voices in regional conservation.

JAMIE ARVISO

➔ **In December 2024, the Grand Canyon Trust hosted an intertribal gathering in Isleta, New Mexico.** More than 120 individuals representing 15 tribes across the plateau and beyond participated in sessions focused on water, food sovereignty, and establishing a "rights of nature" movement to better protect natural resources. Presenters also shared insights and experiences on coalition-building that can be replicated in tribal communities seeking change.

The Intertribal Centennial Conversations Group was formed in advance of the 2019 centennial of Grand Canyon National Park to elevate Indigenous voices in the park's second century.

BRIAN SKEET

➔ **The Trust convened members of seven tribes throughout 2024** for discussions about regional education, economic, and stewardship initiatives. Key outcomes for the year included collaboration on a multimedia series about visiting the Grand Canyon with respect that the Trust will launch later this year, participation in the Grand Canyon River Guides' training seminar to raise awareness of Indigenous cultures and histories of the canyon, and an intertribal Grand Canyon river trip in collaboration with OARS Whitewater Rafting.

The Emergence Network resulted from the 2022 and 2023 Emergence Intertribal Economic Summits aimed at creating meaningful opportunities for Native entrepreneurs and business owners to engage in the $1 billion Grand Canyon tourism industry.

Participants at the 2023 Emergence Intertribal Economic Summit map out their visions for a more inclusive Grand Canyon economy. JAMIE ARVISO

➔ **In October 2024, 10 advisory members from four tribes gathered** in the Grand Canyon gateway community of Zuni, New Mexico, to build on the summits' prior momentum. By the end of the two-day strategic planning session, participants identified specific goals for improved economic engagement in the coming year, including resource-sharing amongst Native business owners and plans for an Indigenous entrepreneur expo in Grand Canyon National Park.

Harnessing People Power Through Volunteering

LENA BAIN

Success Story: Beavers return to wetlands in the La Sal Mountains

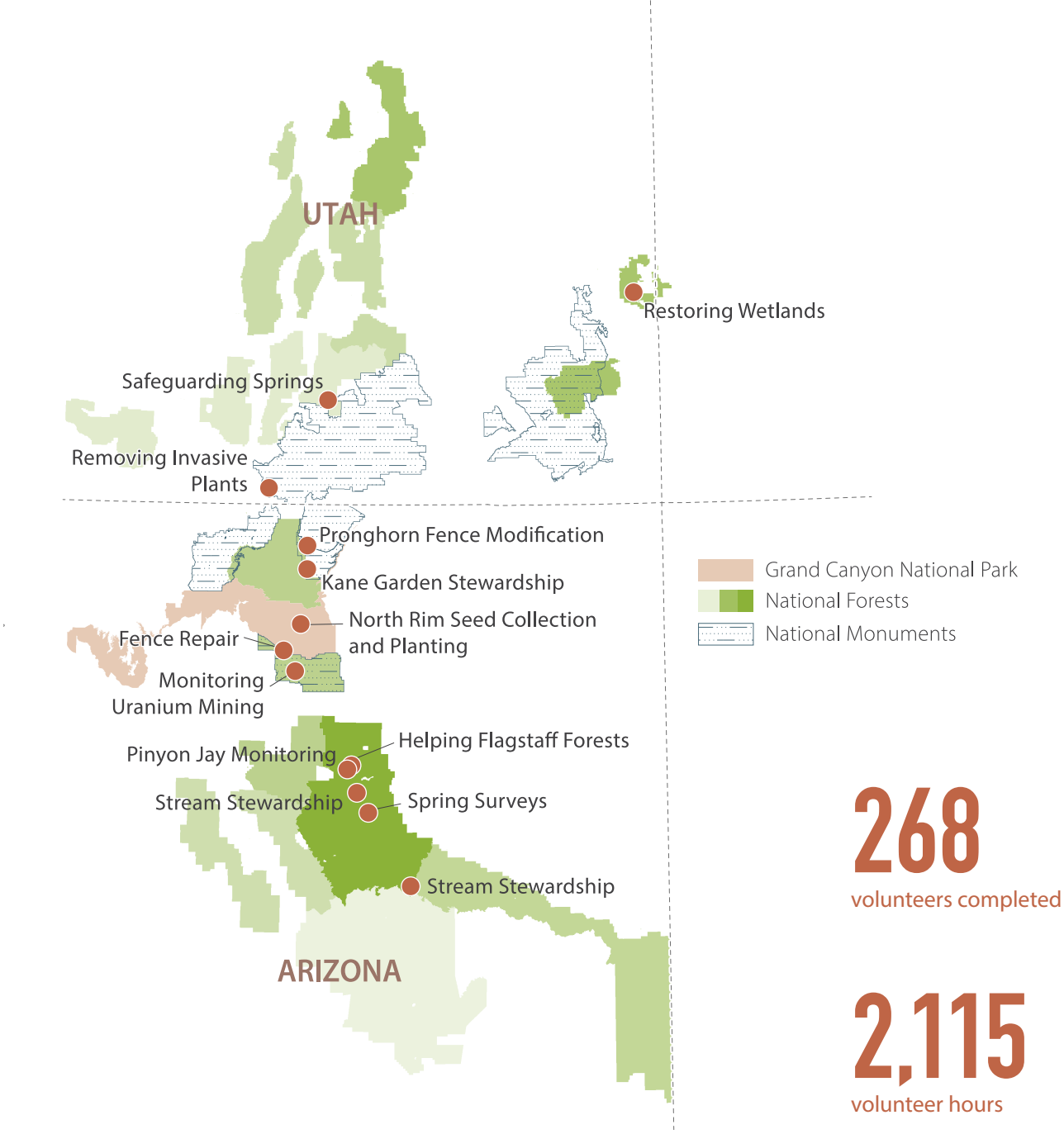
Beavers are widely recognized as a keystone species with a critical role in shaping their environment in ways that benefit other plants and animals. However, these "ecosystem engineers" have been noticeably absent from vital wetlands in the heart of the La Sal Mountains — a worrisome indicator of the region's health.

In 2023, the Trust's Volunteer Program partnered with the U.S. Forest Service to initiate restoration efforts that included building protective fencing to keep cattle out and more than a dozen human-made structures designed to mimic dams built by beavers. These efforts have already shown measurable results, setting the stage for recovery and the return of wildlife.

LENA BAIN

We are thrilled to share that in June 2024, volunteers spotted a beaver and two natural dams — the first sighting in this area in recent history, according to Forest Service partners! A second beaver was reported last fall and is potentially the mate to the first. We hope these two mark the beginning of a long-term beaver presence, whose dams raise the water level, filter sediment, and foster a thriving wetland habitat.

LENA BAIN



268
volunteers completed

2,115
volunteer hours

Other examples of vital work accomplished with volunteers in 2024 include:

➔ **Monitoring uranium mining**
Trust volunteers conducted monthly visits to the Pinyon Plain uranium mine, less than 10 miles from the Grand Canyon, to monitor its activities and document safety violations that threaten the region's water, land, and wildlife. We reported their findings to the Arizona Department of Environmental Quality, the agency responsible for regulating the mine.

➔ **Progress for pronghorn**
Since 2011, Trust volunteers have modified barbed wire fences in House Rock Valley to allow pronghorn to safely cross by replacing the bottom barbed wire with a smooth wire. This allows pronghorn, who can't jump, to reach critical food and water sources. In 2024, 11 volunteers contributed 176 hours to redo half a mile of challenging fence line, bringing the total to 67 miles modified and 10 miles removed entirely since the collaborative project began.

Investing in **Rising Leaders**

At the Trust, we believe that young people are critical to the future of the Grand Canyon and other remarkable places across the Colorado Plateau. Our Rising Leaders Program aims to connect the next generation of environmental advocates with the skills, experience, and tools to drive positive change in the region. 2024 participants helped with important projects ranging from planting crops on regenerative Indigenous farms to researching the impacts of cattle grazing on wildfire risk.

97 rising leaders completed **550** service hours

DANYA GOREL

DANYA GOREL

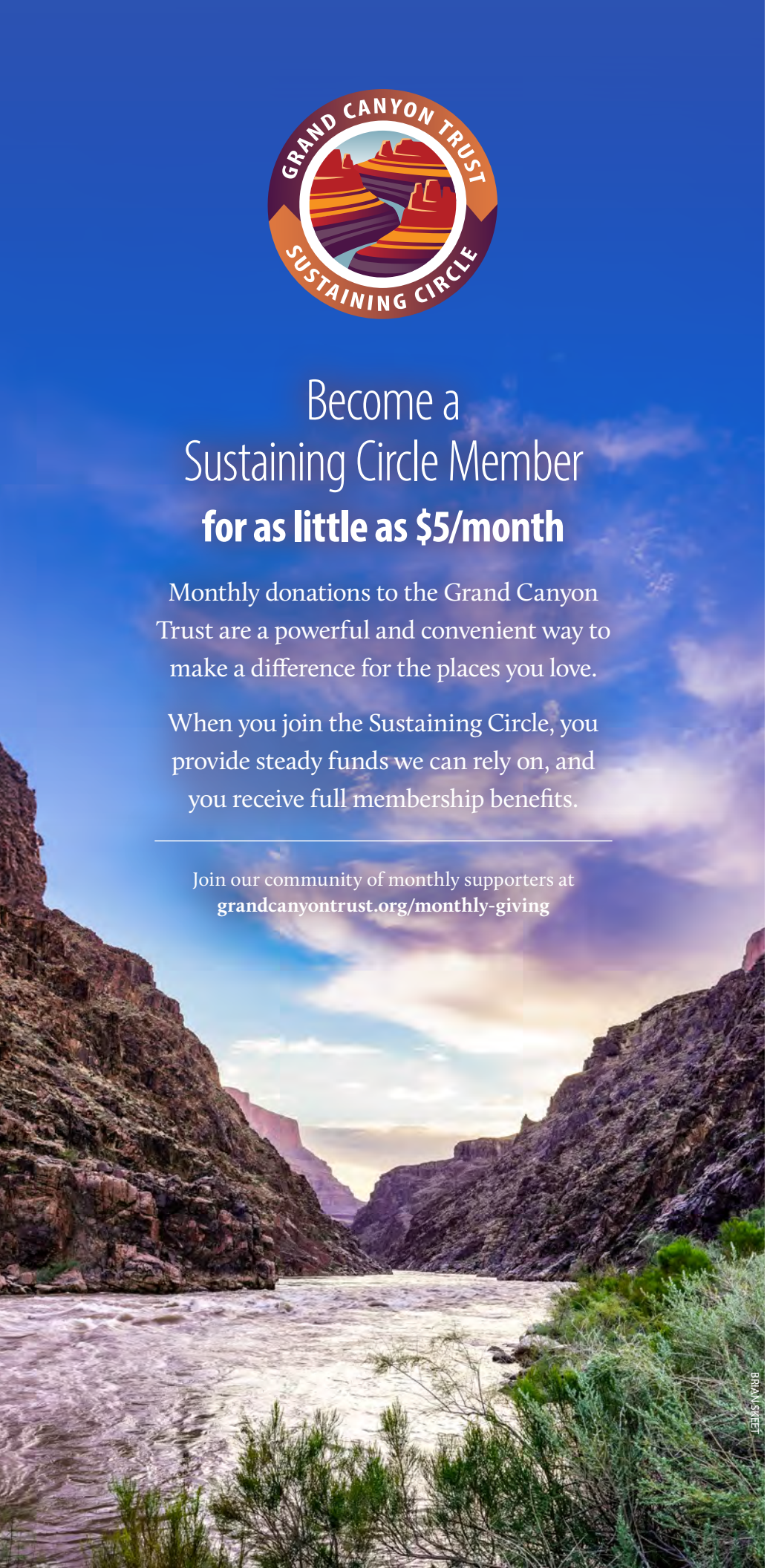
In their own words:

As a Diné woman who considers this region home, the work I have been doing has allowed me to bridge my spiritual connections to the environment with policymaking, a unique experience I cannot get anywhere else ... I am very proud of the work I have been able to do but most proud to say that I worked for the Grand Canyon Trust.

— 2024 intern, Kianna Pete

My internship with the Trust was transformative. I have a deeper appreciation for the challenges and triumphs of working in conservation, and a strong desire to continue down this path.

— 2024 intern, Dustin Kinnear



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