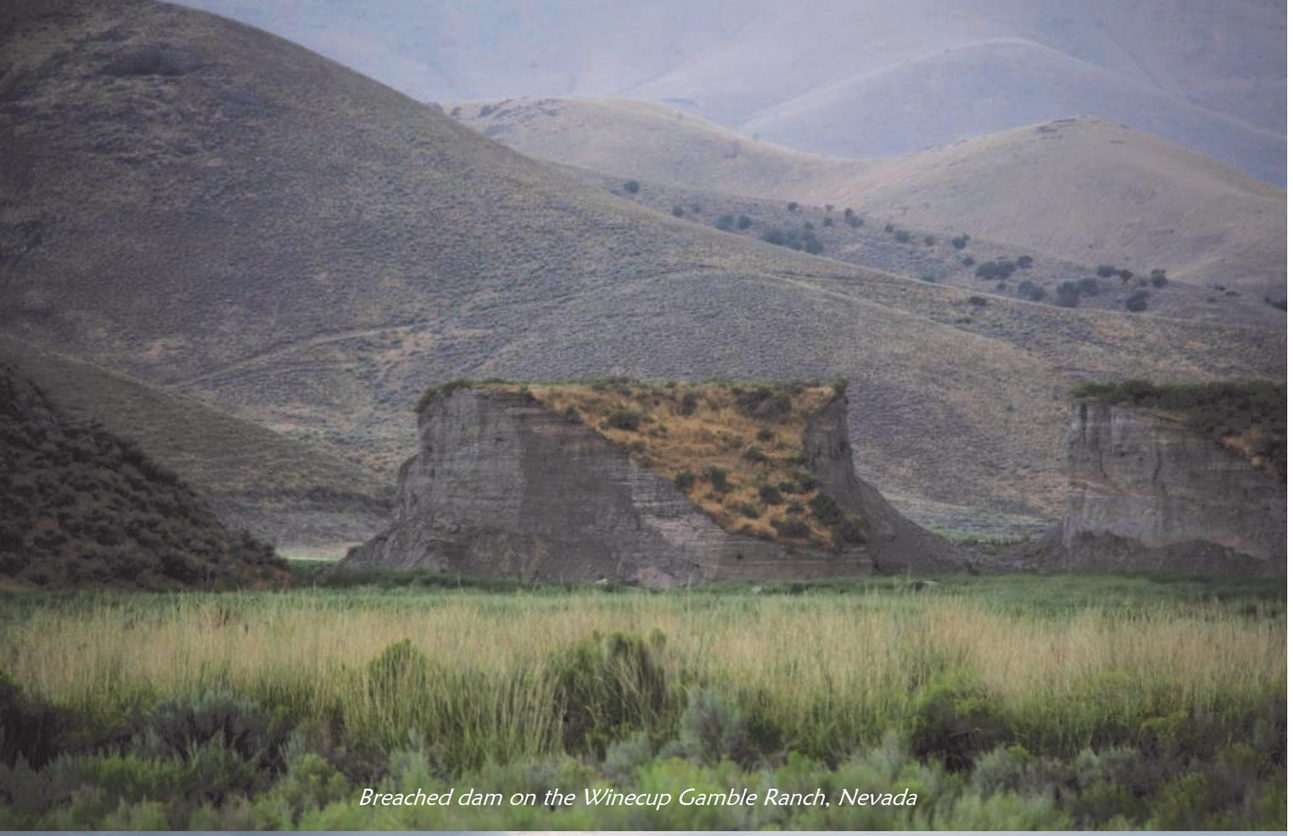
# Seventh Generation Institute

Bringing Together People, Ideas, and Science for Conservation

# Impact Report



*Breached dam on the Winecup Gamble Ranch, Nevada*

*James Rogers standing in breach*

# What's it worth to prevent damage that would take a century to repair?

James Rogers, general manager of the Winecup Gamble ranch, watched in shock as water poured through the breached dam. He estimated the flow at half the volume of Niagara Falls. It raged through the valley of the ranch and over everything in its path for four days. It changed the ranch. It changed the people who live and work there.

The Winecup Gamble ranch is located in Nevada about 45 miles south of the Idaho-Nevada state line. The Institute did not introduce beaver there as part of its *Building Riparian Resilience through Beaver Restoration* program. No, they just showed up. And when they did, James Rogers found their work in the streams thought-provoking as he watched vegetation and wildlife return to the landscape where the beavers built dams. But he also found himself swearing at the beavers, as they repeatedly built a dam under a bridge and flooded a road.

So he contacted the Institute to learn about solving the beaver problems while keeping the benefits and thus began a terrific partnership. The Institute worked with James Rogers and his staff to manage beaver and use them to rebuild and restore streams through one of the Institute's workshops "Living with Beaver on Your Ranch."

The winter of 2016-2017, brought record-breaking snow to many places in Idaho, Nevada and around the West. And when spring came and the snow melted and ran off – *faaaaast* – it broke more records and broke a lot of other things too.

At the Winecup Gamble, enormous amounts of spring melt water began collecting behind a dam. Built by Utah Power, the dam had been on the ranch since the early 1900s. Much water streamed down the spillway, but the spillway couldn't move water out as fast as it was coming in. The water crept relentlessly higher.

And then it began - the Nevada version of Niagara Falls. Water poured over the top of the dam, eroding and crumbling the top. More water poured over. And more dam material crumbled into the accelerating flow. More and more until the dam was completely breached. Water filled the valley. It covered the roads and fences. It dragged boulders and vehicles and equipment with it. It chased the wildlife and livestock to whatever high ground they could find. It flooded and cut off the homes of the ranch workers, who had to be evacuated by helicopter. It washed out most of the beaver dams, built of just cat tails and mud in this land of few trees.

James Rogers and his staff knew that floods notoriously scour and erode western lands and riparian areas, often leaving damage that shows no sign of healing in human life times. They watched the flood, rubbed their eyes in astonishment and wondered anxiously what would be left when it was over.

When the flood was done laughing at everything humans had built, the ranch staff started assessing the damage, cleaning up and repairing. There was an area of erosion immediately below the breached dam, as was to be expected. Fences pushed over, yes. Drowned animals, yes. Equipment and homes damaged, yes and yes.

But the landscape and streamscape were surprisingly intact.  The stream channel had not eroded beyond the area immediately below the dam. There was no new "Grand Canyon of the Winecup Gamble" cut into the valley floor. Where the waters had spread beyond the stream channel, sagebrush and grasses sported hats of flood-tossed vegetation, now drying in the sun, but little damage. Indeed, there were almost no signs of a flood. How could these ranch lands be in such fine fettle for having gone through the equivalent of a thousand year flood?

The answer lay in the visionary management of James Rogers and simple things that he had done to improve the ranch. Simple, yes, but also blazingly smart. He refined his grazing management to ensure that vegetative cover was present across the ranch. So when the waters came, the vegetation diffused the flood power and held the soil against erosion. Even more important, he got good information on beaver, learned to manage them and left them in the streams. The water they ponded enormously increased the vegetation carpet throughout the riparian corridor – the area most vulnerable to severe flood damage. So in this case, the riparian corridor laughed back at the flood and went right on being a healthy riparian area full of plants and fish and wildlife as if nothing had happened.

*James Rogers (and anonymous beavers) at a beaver dam on the Winecup Gamble Ranch, Nevada*

*Building a flow device*

*Beaver in live trap*

Of course the Institute played a part in this success story by working with James on his beaver management. But it wouldn't have happened without his big picture thinking.

What's it worth to prevent damage that would take a century to repair?

Everything.

Your Support Fuels Innovation.

Thank you.

# Our Mission

To build a vibrant future for people and nature through conserving, restoring and promoting responsible use of resources.

# Our Vision

Healthy, inspiring nature thrives around the globe for future generations of people and all living things.

# "New School" Conservation

> "We cannot solve problems with the same thinking that we used when we created them."
>
> *Albert Einstein*

There are many ways to work toward conservation. The Institute calls its approach "New School" conservation.

Our programs are diverse but unified by the use of this New School conservation approach and where it can have the most impact.

The Institute does not participate in the "old school" environmentalism characterized by litigation or polarizing dialog. These methods rarely yield sustainable outcomes. And isn't that ironic, when "sustainability" is a professed goal throughout conservation?

Instead, we seek to innovate.

While New School will continue to evolve, the main points are captured below.

Our work is based in strong science, but we are happy to incorporate great ideas from anywhere. We review the existing science through literature or expert consultations for every project before we take it on. No point in reinventing the wheel, or even worse, misguided efforts that waste scarce resources and time.

We don't raise awareness unless it is tied to action.

We take on difficult projects and risk trying new methods, bringing a "can-do" attitude to all of our work.

We eschew "preaching to the choir." It is easy to communicate with those that already agree with you, but doesn't reflect the variety of viewpoints in society. So instead, we reach out to new partners–especially those that aren't traditional conservationists. Developing new partners from among those that traditionally have not been interested in conservation, or are alienated by past adversarial experiences, is more challenging but brings far greater conservation results. Usually.

We focus on "best communication practices." We listen a lot. We learn a lot.

We put the greatest possible amount of funds into conservation work. We do not maintain offices, but rather "locations." Whether staff, volunteers, board members or contractors, everyone works from home.

We do not throw parties for our donors – however, we are delighted when donors visit project sites and see the impact of their gifts. Or even participate.

We go beyond outreach and training to do actual restoration or other on-the-ground actions whenever possible. It is more difficult and more expensive, but has greater impact and helps move us toward our goals of new partnerships, new tools and new information.

We are highly strategic in our use of volunteers. Volunteer programs can be "feel good" and are often considered cheap labor. But many volunteers don't get much done, while costing high levels of maintenance, staff time for training and elevated insurance.

We are highly strategic in our partnerships. Collaboration requires time, so we want to get the most bang for our hour. We rarely work with other organizations that are doing stream restoration, for example, because there is little net gain for either organization. Instead, we focus on individuals, agencies and organizations that bring expertise or resources to our projects that the Institute doesn't have - and vice versa, that we bring something needed to their work.

*Releasing beaver on a ranch in New Mexico for stream restoration*

# Building Riparian Resilience through Beaver Restoration

## Programs

This long-term watershed–based program is repairing past damage and protecting against climate change effects using the biological engineering skills of beaver.

For many people around the West, water is the most important natural resource. Intense use of water and of the lands surrounding stream and river corridors has been part of the West's history and continues today. As a result, some areas are degraded and some wildlife species that use these areas are endangered. Restoration efforts and species protection are often contentious and expensive. Climate change threatens to make the existing situation worse, as snow packs drop, droughts are longer and more intense, punctuated by heavy rainfall. In sum, it is a challenge.

But there is a tool that will help repair existing damage as well as combat the effects of climate change: beaver.

It may sound a little crazy but this kind of innovation is precisely what the Institute is all about. This is a tool that deserves a serious look from land and water managers. It can make a real difference in every place that could use more water. Which pretty much means every place in the West.

> “I think your workshop was a huge success for those that attended ... It was very professional and worthwhile from all the comments and feedback that I received.”

*James Rogers, Manager,*
*Winecup Gamble Ranch,*
*Montello NV*

The value of beavers goes beyond their biological engineering skills - they are also cost-effective. Beaver "construction projects" are relatively low in cost, since beaver provide the initial labor, the maintenance, and require no pay or equipment.

Seventh Generation Institute began this innovative program in 2007 when the use of beaver was still considered “the lunatic fringe.”

*Living with Beaver workshop*

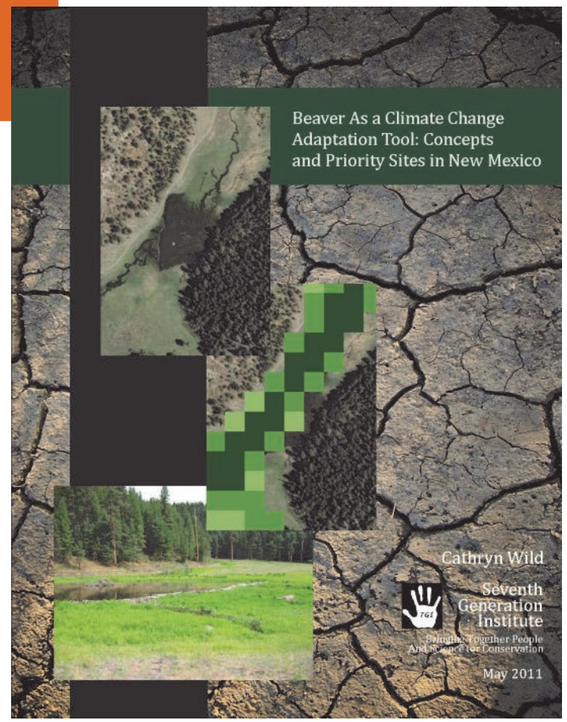
# Impact: Building Riparian Resilience Through Beaver Restoration

- Helped protect 70 miles of stream in Nevada—please view "What's it worth to prevent damage that would take a century to repair?" at the beginning of this document.
- In collaboration with the owners, completed a model beaver reintroduction project on a large ranch in New Mexico.
- Researched and distributed the original report - *Beaver as a Climate Change Adaptation Tool: Concepts and Priority Sites in New Mexico.* This is a statewide spatial analysis of potential beaver habitat, overlaid with climate change threats and prioritized areas for biodiversity conservation.
- Completion of the one-hour film *Rethinking Beaver: old nuisance or new partner?*
- Tour of the West with the film *Rethinking Beaver: old nuisance or new partner?* An estimated 250 ranchers and 550 other land managers viewed the film and participated in discussions.
  - ◊ Screenings of the film at ranches and towns in Wyoming, New Mexico, Idaho, and Nevada, at the Cowboy Poetry Gathering in Elko, at the Quivira Coalition Conference to an audience of well over 100 ranchers, followed by a panel discussion with ranchers from the film and question and answer session.
- Construction of six flow devices at various sites around the West, all on private land.
- Development and delivery at the Winecup-Gamble Ranch of a two-day workshop titled "Living with Beaver on your Ranch" with attendees from ranches and agencies throughout northern Nevada and southern Idaho.
- Presentation of work to date at the 2017 beaver restoration workshop and science exchange hosted by USGS and US Fish and Wildlife Service.
- Presentation of poster *Rethinking beaver: can an old nuisance be a new tool to adapt Southwestern stream corridors to climate change?* at the 2012 North American Congress of the Society for Conservation Biology. Winner of best poster award.
- Contribution of a requested case study on beaver as a stream restoration tool to *The Beaver Restoration Guidebook* ver 1. (Pollock , M.M., G.M. Lewallen, K. Woodruff, C.E.Jordan and J.M.Castro, Eds) 2015. Available online at:https://www.fws.gov/oregonfwo/promo.cfm?id=177175812. Updated 2017)

Selected other media:

- Building Riparian Resilience through Beaver Restoration has twice been featured in the newsletter of the International Union for the Conservation of Nature Commission on Ecosystem Management.
- Building Riparian Resilience through Beaver Restoration was featured in the March 2018 issue of Leaf Litter, the news letter of Biohabitats.
- KSFR radio in Santa Fe NM interviewed Cathryn Wild on beaver restoration. Broadcast live.

> "Thanks for a great workshop! … My time was well spent and I learned a tremendous amount."
>
> *Connie Lee, Nevada Department of Wildlife, Private Lands Coordinator*




Selected other accomplishments:

- Developed pioneering methods for translocation of beaver including live-trapping, care of captive beaver, transportation, release and radio-tracking of beaver.
- Developed protocols for habitat evaluation and habitat improvement for beaver.
- Developed low-cost monitoring of stream corridor response to beaver reintroduction.
- Developed advance-planning methods for reduction of beaver impacts.
- Developed hands-on expertise in our staff in all of the above methods.
- One on one outreach/site assessment/other work with private landowners, agencies and tribes:
  - ◊ Tequesquite Ranch, Carrizo Valley Ranch, Express UU Bar Ranch, Maggie Creek Ranch, Moore Cattle Company, Paicines Ranch, Rio Costilla Cooperative Livestock Association, Vermejo Park Ranch, Winecup Gamble Ranch.
  - ◊ Cebolla-Nutrias Watershed Group, Cimarron Watershed Association, Pecos River Open Spaces.
  - ◊ Taos Pueblo, Sandia Pueblo.
  - ◊ Lincoln National Forest.
  - ◊ Private land owners Nam Kaur, Sue Strebe, Rosemary Barrow, John and Jennifer Isaacson.

## Upcoming Activities

The Institute's current focus is on the workshops "Living with Beaver on Your Ranch."

We continue to offer stream restoration and flow device construction.

*Filming in New Mexico*

# Programs

# Monitoring Climate and Pika in the Southern Rockies

*Pika collecting forget-me-nots*

This long-term program tracks climate change effects in the southern-most Rockies through changes in the American pika population.

Information from the mountains of New Mexico is important as an indicator of how climate changes are affecting many species. Since New Mexico is the southern-most extension of the Rocky Mountains, climate changes in alpine systems will likely be detectable here earliest.

## Impact:

Monitoring Climate and Pika in the Southern Rockies

- Development of the first maps of potential pika habitat in the Pecos Wilderness of New Mexico, created through photo interpretation.
- Development of training materials, field manual, safety protocols.
- Identification of 400 randomly selected off-trail survey sites.
- Development of route guides to navigate to these sites.
- Trained 22 citizen scientists and 2 biological technicians in survey methods.
- 100+ sites fully surveyed. This is now baseline data to track trends in climate and pika distribution over time.

> “We saw lots and lots of pika this weekend! We took a break on the hike out, ditched our packs, and sat and observed at the small talus slope next to the spring/pool on the side of Jicarita Ridge. We watched one build a hay pile. And one pika climbed onto my pack! I wish I had gotten a picture but they're so fast!”

*Kerrie Bushway, shown at right with Stephanie Kain, Citizen Scientists.*

## Upcoming Activities

Since baseline data was collected in 2014, a repeat of the monitoring of all 104 sites should occur at approximately 5 year intervals to track long term trends. The second set of surveys is due in 2019 or 2020 if conditions are safe and funding allows.

Your Contributions Put Boots on the Ground.

Thank you.

# Programs
# Women Making Waves for Nature

What's innovative about the use of women in conservation? Aren't women already working in conservation everywhere?

Actually, no. Both in the US and internationally, women bring unique skills and perspective to conservation—skills and perspective that are critically needed and yet significantly underutilized.

Research demonstrates that female leaders manage natural resources more sustainably than male leaders– AND invest more of their earnings into their families, communities and future.

It makes sense to increase the leadership roles and skills of women globally for conservation impact, increased sustainability and economic development. It's a win-win-win.

*Women restoring dry forest habitat for  threatened parrot species on Bonaire*

> “I am happy to hear about this women’s effort on the island and the success of the workshop. I had no doubt. It was for me a very inspiring morning that I had the privilege to spend with you.”

*Francesca Virdis, Coral Restoration Foundation, Bonaire*

*Women’s Leadership workshop Bonaire*

Started in late 2018, the first project in this program was a workshop on leadership, communication and collaboration.

The workshop was presented twice on Bonaire in December of 2018. Representatives from local conservation organizations attended including Stinapa, Coral Restoration Foundation, Dutch Caribbean Nature Alliance, Sea Turtle Conservation Bonaire, Echo Bonaire and Boneiru Duradero. Attendees have formed a group to continue polishing their skills and invited the Institute back for additional workshop topics.

An internship program is also underway to train young women in the US in leadership.

## Upcoming Activities

- Additional workshops are planned both in content and for delivery to additional locations.
- The Institute has ambitious plans to expand this program to employ economically disadvantaged women in conservation restoration.

Your caring restores nature and builds women’s leadership skills for the future. Thank you.

# Programs

# International

A broad program to exchange technical information, assistance and volunteers with other conservation efforts beyond the U.S. … because innovation is happening globally and we can all learn from each other.

*St. Kitts*

## Impact: International

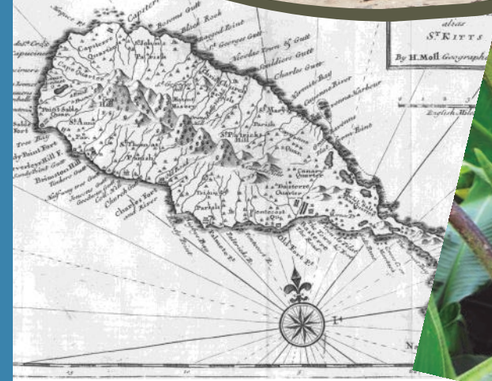
- Developed the first Management Plan for the newly designated national park, the Central Forest Reserve, on the island of St. Kitts. The project required six weeks of extensive outreach to the local population, and resulted in watershed protection, flood control, and protection of important cloud forest habitat which will benefit wildlife and local communities for decades to come.
- Marine debris removal and turtle nesting area restoration, Bonaire. This volunteer project left nest sites clean for the endangered marine turtle species on Bonaire and easy access to the sea available to hatchlings. This project ultimately led to the Women Making Waves for Nature program.

## Upcoming Activities

Activities in this program are on hold temporarily as our effort is focused on launching the Women Making Waves for Nature program.

> "The work that you guys did and the photos that you have made are great – thank you very much indeed!"

*Sue Willis*
*Sea Turtle Conservation Bonaire*



Outsider Corps connects residents and visitors in the Wood River Valley to stuff-your-eyes-with-wonder places, conservation, and volunteer projects near and far. It offers free programs featuring all kinds of trip reports, often with a conservation connection or volunteer project, but sometimes just to remind us of how amazing our home planet is.

Volunteer projects started years ago  in the Monitoring Climate and Pika program and the International Program so Outsider Corps is a formalization and updating of volunteering.

## Impact: Outsider Corps

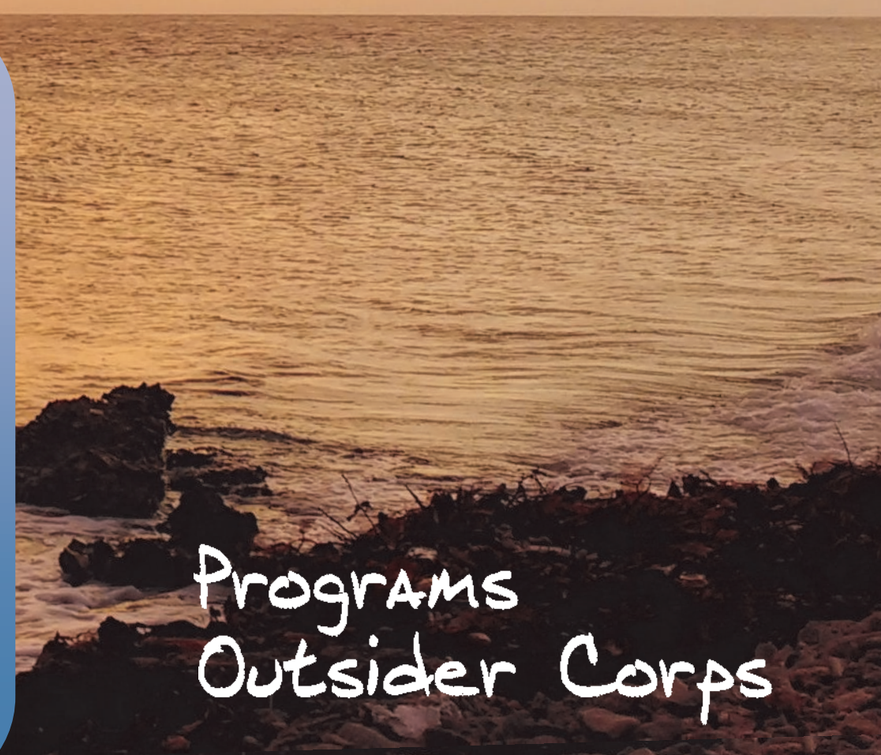
- Since its inception in 2018, Outsider Corps has delivered seven free presentations to over 300 attendees.

## Upcoming Activities

- More presentations
- Recruit skilled volunteers  as appropriate for all our programs—and put them to work doing amazing things!

*Outsider Corps presentation*

Your generosity makes all the difference. Thank you.



Programs Outsider Corps

# Seventh Generation Institute

Bringing Together People, Ideas, and Science for Conservation

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## Staff

Cathryn Wild, Science and Stewardship Director/Executive Director
Bill Morris, Operations Manager
Ralph Pastor, Website and Administration
Teams of conservation assistants, interns and contractors as needed

## Contact

The Institute does not maintain physical offices. Our staff, contractors and volunteers work from home. This permits us to direct all funds into project activities and eliminate commuting with the associated lost time and pollutants generated.

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Seventh Generation Institute

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