

# THE LAND STEWARD

Teton Regional Land Trust's Stewardship Newsletter

Spring 2023

## Ecosystem Services: People and Planet Depend on Them!



Can you think of ways the natural world provides benefits to your life? Are these benefits in your personal and/or professional life? Does your community benefit from the natural world? How deeply do we depend on the natural world for these benefits? Sometimes, the benefits we derive from nature may not always be tangible. However, every person on Earth derives well-being from our natural world in some way; as these benefits lie at the intersection of ecological, social, and economic processes they make life possible for all people and societies.

The value of nature to people has long been recognized, though oftentimes overlooked, as we underestimate the impact of our actions on nature. In recent years, the term *ecosystem services* has been used to outline how humans and nature are inextricably linked. There are four main categories of ecosystem services, all of which are interconnected. These four categories are provisioning, regulating, cultural, and supporting services (see figure 1) and help us to understand the importance of maintaining our Earth's resources and how the health of our planet and people depend on it.

Ecosystem services are critical to our mission at TRLT where we work to preserve our scenic viewsheds, agricultural way of life, fish and wildlife habitat, and the overall health of our communities. Through acknowledging how ecosystem services are fundamental to us and to our work, we can be better stewards of our lands and waters and be more successful at protecting it for future generations who inherit this landscape.

### TRLT Staff

- Kim Trotter,**  
Executive Director
- Tamara Sperber,**  
Conservation Director
- Jeske Gräve,**  
Development Director
- Mandy Crane,**  
Events & Outreach Coordinator
- Christine Ford,**  
Operations Manager
- Katie Guetz,**  
Stewardship Associate
- Renee Hiebert,**  
Conservation Project Manager
- Josh Holmes,**  
Conservation Project Manager
- Kimberly Holmes,**  
Stewardship Director
- Will Roth**  
Development & Communications Associate
- Kristy Smith,**  
Stewardship Associate



inspiring you to protect great places





## Spring Greetings!

Our long awaited spring arrival is finally knocking at our door as we look forward to longer days and fewer freezing nights. While you all are making the final adjustments in your farm and ranch plan, or planning to get other projects off the ground, the Land Trust stewardship staff are busy planning for another field season. As many of you know, we adopted a remote monitoring protocol out of necessity during the years of the pandemic. We are now transitioning into a monitoring model that makes this technology a permanent part of our conservation easement stewardship program. This year, we will begin visiting 50 percent of our conservation easement properties on the ground every other year. The years that we do not visit you on the ground, we will complete remote annual site visits using high resolution satellite imagery. If your property is scheduled for a remote annual site visit for 2023, you can expect to hear from a member of our stewardship staff in the coming weeks to touch base with you and ensure that any plans for your property would not indicate a need for a ground annual site visit in 2023. If you do have plans that require prior notification or approval of the Land Trust, please give us a call so that we can make the proper arrangements to visit with you on your property in 2023. Starting the approval process early can save you a lot of time down the road. If you need a reminder of the time in advance you are required to contact the Land Trust regarding plans to make changes to your conservation easement property, please visit Paragraph 6.0 of your conservation easement document or give our Stewardship department a call and a staff member can help you. If we are scheduled to visit your property on the ground in 2023, we will be in touch during the field season to make a date that works for you. If you are a seasonal resident, or plan to be away for a period of time this summer, feel free to give us a call to discuss your availability in advance. We look forward to visiting with you and your family this summer as we continue to work together to protect these irreplaceable lands in eastern Idaho.

— Kimberly Holmes, Stewardship Director



## When to Give Notice

If you are unsure if an activity requires prior notification and/or approval from the Land Trust, or if you are unsure of the timeframe you need to give the Land Trust to grant approval of an activity,

### Give us a call!

We are always happy to answer questions regarding your conservation easement.

Planning to build or add on to a structure?

Give Us a Call!

Planning to change your land management practices?

Give Us a Call!

Planning to build a fence or road?

Give Us a Call!

Planning to sell/gift your conservation easement property?

Give Us a Call!

Need to update your contact information or preference?

Give Us a Call!

Have you been approached about a commercial lease or utility easement ?

Give Us a Call!

**208-354-8939**



TETON REGIONAL LAND TRUST



## Regional County Weed Contacts

Don't forget to reach out to your local county weed representative to stay up to date regarding any weed control assistance that might be available:

### **Bonneville County:**

Jud Elkington,  
Weed Superintendent  
208-529-1397

### **Clark County:**

Bo Billman,  
Weed Department  
208-709-6706

### **Fremont County:**

Bryce Fowler,  
Weed Supervisor  
208-624-7442

### **Jefferson County:**

Mitch Whitmill,  
Weed Superintendent  
208-745-9221

### **Madison County:**

Jeremy Johnson,  
Weed Supervisor  
208-356-3139

### **Teton County, ID:**

208-354-2593

### **Teton County, WY:**

Lesley Beckworth  
Teton County Weed &  
Pest District  
307-733-8419

## City Beneath the Snow

While gathering gear for a post-work fat bike ride, I noticed something unpleasant under one of my storage bins- mouse poo. With cold snaps at night and the almost constant snowfall for a couple weeks in a row, it's inevitable that these small creatures sought out refuge, and where better than my garage! Before mice and other rodents resort to entering our space, they rely on instinctual strategies for hunkering down and staying warm in winter. Mice, voles, and other small rodents will burrow into the snow and create a network of tunnels between the snow layer and the ground. This is called the subnivean zone, which is formed in two different ways; vegetation and branches from shrubs and trees intercept snow as it falls to the ground, creating a barrier between the snow and ground and physically supporting the snow pack. The subnivean layer can also form when snow that is in direct contact with the ground is warmed by the ground, causing the snow to sublimate, or convert from a solid to water vapor, and move up through the snow pack. This snow layer forms ice crystals that improve the structural integrity of that layer through this chemical process, thus acting as an insulating roof.

Although on the surface it appears that all is quiet, in the subnivean zone, insects, rodents, worms, and other small fauna are moving about. So how are these animals and insects able to carry on without freezing? The snowpack acts as a thermally stable refugium because once the snowpack reaches about 6 inches in depth, the pore spaces in between the ice crystals are able to trap warm air from escaping. This keeps the highway of burrows at a steady 32 degrees, which might not seem like a balmy retreat, but compared to the ambient air temperature above the snow, is relatively comfortable. Entrances to these underground networks also function as ventilation holes, allowing carbon dioxide to escape. Burrows are further insulated when mice and voles create nests within them by bringing in plant material in early winter when the snow is setting. Rodents do not typically enter hibernation while residing in the subnivean zone, however, their metabolic rate and activity decreases to reduce caloric expense. In colder climates, rodents will form food caches within these tunnels to supplement their diet when resources are scarce and huddle together for long periods of time to share body heat.

When a cold snap strikes before snow blankets the ground in winter, microbes, invertebrates, and plants may freeze. The actual mechanism of freezing is that ice crystals form within the organism or plant and can rupture cells and break down the tissues. In a thawing event, these broken down plants provide food that is now easier to digest and process for the scavengers that survived the cold snap. In the process of consuming these materials, microbes, insects, and mammals consume a great deal of nitrogen and convert it to a readily available form through their waste. Nitrogen and carbon cycling on this scale is invaluable to overall ecosystem health. As snow melts in the spring and these organisms die, nitrogen is freed at precisely the time plants emerging from winter need it to grow. Lastly, subnivean-dwelling rodents are an important food source for raptors and owls, which are nature's year-round pest control agents. Equipped with excellent hearing, owls are able to hear the small movements of mice and voles under the snow and use their long talons to dig through the snow pack and grasp prey.



NPS Photo Credit L Shahi

# Soil Health Stewards

For the past several newsletters, we have focused articles on the 5 principles of soil health. For farmers and ranchers working the land in eastern Idaho, soil health is not a new concept. Terms for advances in

methods to protect and enhance soil health are plenty, including regenerative agriculture, carbon farming, holistic agriculture, sustainable farming, the list goes on. For practitioners and advocates alike, the variety of new concepts out there that can be adopted to both improve soil health for the sustainability of our food supply and for the benefit of our environment may seem overwhelming. There is a lot of power to harness in healthy soils.



The Teton Regional Land Trust are excited to have been chosen as a recipient of a training grant through the American Farmland Trust for Soil Health Stewardship training. Our team will complete this training in April of 2023, and hope to continue learning from our landowners while bringing tools from this educational opportunity to share with you during our visits. Additionally, we hope to connect landowners interested in exploring ways to better incorporate soil health principles into their operations with resources to assess their land's potential.

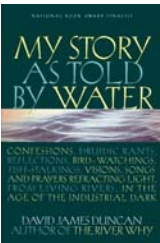


their land's potential.

If you are interested in exploring new soil health practices, please start the conversation with your Land Trust stewardship team member and we can begin to learn about these new resources together.

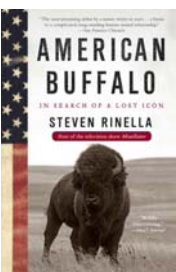
## Staff Notes

What a wild and snowy winter we have had this year! While there was still plenty of work and play to do, we also took advantage of long, dark evenings to curl up with a book or dreary office days to listen to a favorite podcast. Regardless of which, the Land Trust's Stewardship staff are always learning and eager to share their latest finds with each other and our awesome landowners.



Stewardship Associate, Katie Guetz, is currently reading *My Story as Told by Water\**, by David James Duncan. This book is a collection of essays through which Duncan explores his relationship to the natural world, and how we as a collective species depend on water in its “primal state”. No matter where you are from, and what parts of the natural world you are drawn to most, this book provides opportunities for the reader to reflect on the places, people, and species they depend on for connection. Further, Duncan acknowledges our rapidly changing world and how greed and destruction threaten these connections that are fundamental to us and our existence on this planet.

Stewardship Associate, Kristy Smith, recently learned of a podcast called Regenerative Agriculture Podcast. On this show, host John Kempf, founder of Advancing Eco Agriculture, discusses with his guests the challenges, triumphs, and uncertainty of implementing regenerative agricultural practices to resolve issues associated with agricultural operations. He speaks with producers and agriculture scientists all over the world about effective, environmentally-sound strategies for maintaining and improving agricultural production in an ever-changing landscape.



On the recommendation from Stewardship Associate, Katie Guetz, in her fall review of the podcast MeatEater by the same author, Stewardship Director, Kimberly Holmes, has been enjoying the book “American Buffalo: In Search of a Lost Icon” by Steven Rinella. This book follows the author on a hunt and all of the reconnaissance and research that goes along with it. As he tells his story, he also dives into a myriad of topics such as American history, the natural history of the American buffalo, and the story of the ecological recovery of this iconic species on American soil.