



## Developing Interconnections



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Dear Friends of WISE,

*Welcome to WISE's annual newsletter. This year we are reflecting on the interconnections we share. Thank you for being a part of our network.*

*Another summer has come and gone. People have entered our area and some have left. What brought us here? What makes some of us stay? It may be that we all have a common sense of connection or interconnection.*

*Interconnection is defined by Webster's Dictionary as: "connection between /or mutual connections."*

*WISE plays a part in this interconnection. How you may ask? When we gather together to learn about our natural world we connect to more than one thing. Together we share our knowledge and skills, passing on to all generations a connection to one another and nature. It may be in a memory or activity. The connection can be with others who have the same interests or found by new confidence in being alone in the wilderness.*

*As a child I spent many hours alone in the wilderness. I was taught to seek knowledge of my surroundings and identify animals and sounds. The wilderness is now interconnected to me in a way that I never feel alone or afraid there. I feel most at peace when I am in nature.*



*I love to pass along to youth the calls of the fox, the voice of a lynx. Eyes open wide when the fox's shrill haunting call rings out. They think it must be a scary monster, depending on their age. Then the guessing game*

*begins. When they learn the sound is of a Red Fox that will quickly run from them, they leave their fear behind. Now we are connected. Not just to one another, but interconnected with the fox, with nature, with each other, and without fear.*

*WISE staff, partners and participants connect to learn, educate themselves or others and for personal growth. WISE promotes curiosity and seeking answers to ones surroundings. WISE is grateful for those who involve themselves in our natural community and assists us in this interconnection. I believe that WISE is fortunate for what each person brings to this connection.*

*Thank you to all who have worked with or for WISE, who support us and keep us a prominent part of natural education and the lives of all who come here. We couldn't do this without you.*

*Together, we are forever interconnected.*

*Jan Miller*

*Board of Directors*



*Member*



Jan in her happy place, outdoors with a dog!

**Cover Photo by Jamie Dawson**

*Glennallen Elementary students learn about the web of life at Changing Seasons program, led by BLM Partner and Outreach Coordinator Robben Taylor.*

**Thank You!**

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# 2016 Program Highlights

## Ice Fishing Day

In spite of too-warm temperatures, over 100 people came out for our favorite rite of spring, and caught some beautiful Rainbow Trout in Silver Lake.

## In-Class Science Lessons

We presented a record 20 In-Class Science lessons. See the article on page 8.

## Alaska Forum on the Environment

WISE attended with a group of youth, and shared our model of partnership based environmental education.

## Camp Chosen Frozen

Over 60 students learned winter skills as we joined Wrangell-St. Elias National Park staff for this annual camp. The students learned fur sewing as well as many outdoor activities.

## Earth Discovery Day

4th, 5th, and 6th grade students learned about stewardship and explored nature. Partners from all over Alaska join us to make this annual event happen.

## Science Lecture Series

Topics for our evening talks this year ranged from stone tools to space physics. What would you like to learn about next?

## Project Healing Waters

We are proud to work with this fantastic group of volunteers and combat veterans for a weekend of camaraderie, wilderness therapy, and fishing.

## Copper River Stewardship Program

Thirteen high school students experienced the trip of a lifetime as they rafted the Copper River from Chitina to the Delta.



## 'Take it Outside' Hikes

We had a fantastic range of hikers this year, ages 2 to 75! What a great chance to form connections as we explored 6 different area trails together.

## Aquatic Ecology Camp

From the Water Cycle Boogie to Macroinvertebrate Charades, read more about Aquatic Camp on Page 4.

## Copper Country Discovery Tour

WISE's revenue producing program had a record year, with over 350 guests. Meet our local guide on Page 6.

## Geology Backpacking Trip

Check out the article on page 7 about this exciting new partner program with Wrangell Mountains Center.

## Willow Creek Research Project

Once again we provided an intern and logistical support for this long-term project which combines mentorship and research on local hydrology.

## Blueberry Picking Expedition

We joined Alaska Department of Natural Resources for a trip to Tangle Lakes which included orienteering, art, and lots and lots of blueberries.

## Salmon Blitz

We wrapped up this multiyear project with partner Copper River Watershed Project, conducting surveys all over the valley, and a family campout at Sourdough.

## HAARP Open House

The High Frequency Active Auroral Research Program facility in Gakona is now operated by our partner University of Alaska Fairbanks, and we were glad to help at an open house in August.

## Changing Seasons

We made a fully functional time machine for this yearly exploration of the seasons. How did it work? Ask a 2nd or 3rd grader!



*"The river may have the power to alter a landscape, but I have the power to alter my future."*

Nikki Friendshuh  
Copper River Stewardship Program

WISE also assists with partner programs throughout the year. For details see the 2016 Annual Report at [www.wise-edu.org](http://www.wise-edu.org)

# Reflections on a WISE summer

By *Natasha Gardner*

I grew up in an outdoorsy family and knew quite a bit about the outdoors, and now I know a lot more, thanks to WISE. I got to go on

me feel so special, and it felt really good passing it on! These few trips and adventures with WISE have truly affected the ways I look at the world now from safety to fun and from exercise to knowledge. I will definitely be coming for many more years until I too can be with WISE as a counselor. Thank you to all coworkers at WISE and I can't wait till next time!



*Eleven year old Natasha Gardner's field notebook sketch captures a peaceful moment canoeing at Silver Lake.*

a Glacier Hike and went to Aquatic Ecology camp. My experience with both the glacier hike and aquatic ecology camp with WISE was filled with incredible moments that gave me astonishing chills. My eyes always lit up when I heard the words of explaining for any activities we would be doing next for all of the lessons or games we would do. They would always be exciting.

There is a special necklace that would be passed around everyone did something awesome. I got the necklace 5 times! Once in the glacier hike and 4 times in the aquatic camp! Every time I got it, it made



*BLM Summer Intern Naomi Ray helps Natasha dress up as a macroinvertebrate for a lesson in adaptation*

## ***Fifteen People Floating on the Water*** *Group Poem by WISE/BLM Aquatic Ecology Camp 2016*

*Silver Lake with silver water  
Warm Water  
Dark Clouds  
Tippy aluminum boat  
See the texture of the dirt on a boot  
Hear the rushing of the water  
Fish flashing and splashing  
Smell the old that lives within a life jacket  
Taste the saltiness  
And leftover flavors of a breakfast burrito  
Curious Grey Jays playing hide and seek  
Something Sparkling  
See and feel the calm water  
The emptiness of this place  
Sweet reflections whisper adventure*

By Robin Mayo

Hiking along a trail in Wrangell-St. Elias National Park at the tail end of a long line of backpackers, I had a chance to reflect on the diversity of the group, and the

## Building Bridges with Mentorship

many stories that brought us to this place. Just ahead of me is a spry 12 year old wearing a brand-new REI backpack. It's the first outing of this kind for both the girl and the pack, which was donated to WISE by the Anchorage store of the retail cooperative.

Up ahead I see a colorful, compact pack on the back of our summer intern. She's just graduated from college and is living her dream with this job in Alaska. The line of sleek, modern technical backpacks snakes down a switchback trail, but one backpack makes me



*If this old pack could speak, the stories it would tell!*

smile because it is nothing like the others. WISE founder Janelle Eklund is carrying the well worn external frame pack she first carried on a National Outdoor Leadership School (NOLS) trip over 40 years ago. I take a moment to adjust my own backpack, a newer model, but filled with a mix of old and new gear

encompassing many memories. I am here to teach and to learn in equal measure, and I have a jolt of gratitude that I am one link in a chain of mentorship that connects all of us at WISE.

When the WISE board updated our strategic plan at a board retreat in November of 2015, one word seemed to show up in all of our conversations: mentorship. We wanted to help the next generation of teachers and leaders get inspired. We wanted to make sure that we were not just teaching facts, but molding character. We wanted to be assured that the work we are doing would continue far into the future. We

wanted to be there for youth who feel lonely, isolated, or confused.

One of the biggest steps we've taken in our dedication to mentorship is our new Environmental Education and Stewardship Internship. Each summer, we plan to host college students excited to hone their hands-on skills and share our adventures. In

2016 we hosted our first intern and it was a resounding success for both parties. It is our hope that these young adults will serve as role models for our youth participants. And if 2016 intern Kiana Jenkins is typical, they will brighten up the office with their enthusiasm and liveliness.

At WISE programs, older and more experienced youth are asked to take on a leadership role that is comfortable to them. For example, at Aquatic Ecology Camp youth leaders helped design the quiz game at the end of camp, and assisted in setting the fyke net and minnow traps. This summer we did preliminary planning for Teens LEAD, a new program for teens that will help them grow in confidence in both wilderness and leadership skills.

We are also working with the Copper River School District to design a job-shadow program that will allow students to earn credits and learn about working for a nonprofit organization while helping out in the WISE office.

Mentorship is one of WISE's core values, the key ideas that guide us. Although the classic model of mentorship is a grey haired sage passing down knowledge, I am gratified to find that the learning and inspiration flow both ways. As we hand down wisdom, we receive inspiration and new perspectives. We are all here to learn from each other.



*Staff, interns, youth, and senior citizen hikers put their heads together over a map.*

Jolene Nashlund joined the WISE team this summer as guide for our business venture, the Copper Country Discovery Tour. She is also working in the office this winter as our Development Coordinator.

Jolene grew up on a homestead at Kenny Lake and recently returned with her family. “No matter where I lived, Alaska always meant home to me.” She is a treasure trove of facts and stories, and truly enjoys sharing her home with visitors. Guests are drawn in by her bubbly personality, and love her knowledge of and appreciation for the natural world.

Like many Alaskans, Jolene has a varied and eclectic work history, from military service to an organic farm to a raptor rehabilitation center. She stays busy with school and community volunteering, 4 kids at home, and of course trying to finish the house. Jolene’s passion for teaching and the outdoors, and her willingness to learn make her an excellent addition to the WISE team.

## Naturalist/Tour Guide Jolene Nashlund



## Stewardship Intern Kiana Jenkins



In May, WISE welcomed our first Stewardship and Environmental Education Intern. Kiana Jenkins grew up in California and recently graduated from Humboldt State University with a degree in Environmental Education. Here is her reflection on her summer:

“Coming into this internship with arms wide open, I was constantly blown away by the work WISE put on and the community that surrounds this non-profit. The opportunities were endless and I

was always encouraged to work towards my strengths. This was fantastic since I wanted to be a part of everything and handle logistics for many trips. I was able to step out of my comfort zone and take on however much I wanted to.

My summer schedule was filled with a variation of unpredictable tasks. I had the chance to explore many different types of youth programs, witness the inside workings of a non-profit, and act as a research assistant using scientific observation skills and tools. Not only was I always immersed in work that I enjoyed and thrived off of, but I was lucky enough to spend my days with a supportive community and like-minded friends.

WISE provided this foundation and helped me grow as an individual and educator. Here, I was able to learn from my peers and the youth as much as taught and led them through hikes and trips. Throughout this experience, I was not limited in my growth and had countless opportunities to expand my horizons, which has embedded a new love and appreciation for Alaska and the beautiful nature it beholds. “

By Janelle Eklund

The maroon WISE van bounced down the McCarthy road on a beautiful day in July. We were excited to be joining McCarthy youth and Wrangell Mountains Center staff for the first annual Geology Backpacking Trip.



Backpackers head across the footbridge towards McCarthy

Twenty participants of all ages got to know each other through questions, stories, jokes and metaphors. Evening lessons brought us to the shores of McCarthy Creek. We learned about the different kinds of rock – sedimentary, igneous, and metamorphic – how they were formed, and identified those we wondered about.

The next morning gave promise to a beautiful day to backpack and commune with the glacial landscape. As we stood between towering red

historic mining buildings in Kennecott, we turned our bodies into glaciers carving miniature glacial landscapes in the gravel, labeling formations that added new words to our vocabulary: arête, erratic, cirque, headwall, esker, lateral and terminal moraines. Then we lifted our packs to our backs and headed for the Root Glacier.

The trail traversed above the lateral moraine, skirting through spruce, small balsam poplar, willow and soapberry bushes. After over a mile of trekking, the trail began a steep decent to the camping spot above the glacier. After setting up camp, Park Service geologist, Mike Loso and WMC Board member and owner of Kennicott Wilderness Guides, Jared Steyaert joined us to be our guides and instructors for the glacier trek.

Jarod gave instructions on strapping on crampons, demonstrated walking bull legged uphill and digging in straight

## Inspired by Ice

downhill – all in slow stomping baby steps. Our expert guides gave us safety rules and then led us on an ice enchanted adventure. Melting ice carved waterfalls, creeks and rivers, cutting and gathering the ice into more water droplets. Day by day, swirling, dancing around and around, the artist sculpture carving deep blue holes called moulins into the bowels of the glacier.

The adventure enveloped us with lessons,



Participants explore the surreal landscape of the Root Glacier

respect, silence, movement, peace, excitement, invigoration, and pause to contemplate and wonder. The glaciers demands put a strain on the legs and body. One that gave appreciation and respect for dynamic forces controlled by water.

The next morning our new knowledge was put to the test in a variation of charades. Three teams raced to get their team to guess the most terms, words and metaphors. The active and fun lessons became cemented in our brains like metamorphic rock.

The end of the journey took us back to Wrangell Mountains Center in McCarthy where we shared a last delicious meal, our thoughts of the experience, and how it might affect our future lives.

In a new light the terminal moraine cast its forces upon us as we said our goodbyes to new friends and reflected on the camaraderie of shared exciting moments, solid as the rocks that formed over time.

*Partner Focus:*

**Wrangell Mountains Center**

*Connecting people with wildlands through art, science, and education in the Wrangell Mountains*



# In-Class Science: Water, Water Everywhere...

By Robin Mayo

How in the world did science, the study of everything amazing and awesome, get such a bad reputation as a boring subject in school? Who knows, but we are out to change that with In-Class Science. Every year we try to do something a little different, and this past winter we concentrated on water, with new lessons on erosion, the water cycle, and even water politics.

The Streamtable (aka the \$7,000 sandbox) is a



*Kenny Lake High School students react to a dramatic erosion event in the Streamtable.*

fascinating educational tool belonging to the BLM Glennallen Field Office which demonstrates the principles of hydrology. A long, shallow tub is filled with small particles of plastic. A circulating pump sends water running through the medium, channels form, and the fun begins. Even the most reluctant student, and most adults, are quickly elbow deep, forming landscapes and watching the forces of hydrology tear them apart.

The lesson is especially relevant for Copper Basin and Valdez students, who live in landscapes shaped by water. We share stories about houses or roads in their neighborhoods which have fallen victim to erosion. The streamtable gives students the unique chance to observe and understand the power of moving water and how it affects our world.

This winter we also adapted a lesson called “The Incredible Journey” and used it in classrooms and at Aquatic Ecology Camp. This lesson helps reinforce the idea that the water cycle is not a simple circle, but a complex interaction with many factors in a landscape. Students use dice to direct them on a journey through various states of water, including glaciers. As you can imagine, once you land in a glacier you may be there for a long time, and it is always entertaining to see the students cope with the frustration of being stuck in the ice. Comparing notes, students reflect on the many interconnecting roles water plays in an ecosystem.

*“Water gives way to obstacles with deceptive humility, for no power can prevent it from following its destined course to the sea.” Tao Cheng*

Our curriculum got a wonderful boost this summer from Intern Kiana Jenkins. At Aquatic Ecology Camp, she led a lesson which taught all of the diverse uses of water, both human and natural. Students then were challenged to move a container of water precariously held up by rubber bands and string through an obstacle course representing some of the many issues in water management. Hilarity ensued, especially as one team navigated the course quickly and efficiently, but the other group seemed to be plagued with problems.

How does studying water help students understand the interconnectedness of life on our planet?



*BLM Summer Intern Dan Nelson, WISE Intern Kiana Jenkins, and camper Natasha Gardner enliven a wet day at Aquatic Ecology Camp with a spontaneous “Water Cycle Boogie.”*

As an essential element that is present in all forms of life, it flows through us all, connecting us through time and geography.

*“Developing interconnections is something WISE has done well from the beginning. By working closely with other agencies and people who share the same vision and goals, we have been able to multiply our effectiveness.”*  
 Gay Wellman, Board Member

*“When we gather together to learn about our natural world we connect to more than one thing. Together we share our knowledge and skills, passing on to all generations a connection to one another and nature.”*  
 Jan Miller, Board Member

*Anyone spending time outdoors notices the relationships and connections at play in our environment. Everything around us is connected, and it is important that we as an organization are connected to other groups that share our vision.”*  
 Rebekah Donohue, Board Member

*“Partnerships are WISE’s lifeblood. They provide new ideas, volunteers, and funds that sustain us.”*  
 Paul Boos, Board Treasurer



VISTA Volunteer Jamie Dawson, Executive Director Robin Mayo, Summer Intern Kiana Jenkins, and Founder and Board President Janelle Eklund

*“From season to season, watching and sharing what the Wilderness has to teach.”*  
 DB Palmer, Board Member

*“In nature all things are connected. When one is compromised others in the circle of life suffer. As is with interconnections within our organization. Partners, participants, volunteers, donors are all connected. Developing these interconnections makes us all stronger and better.”*  
 Janelle Eklund, Board President

*“WISE creates the synergy that makes science education happen in the Copper Valley. Whether its a partnership with BLM, Fish & Game, Native Organizations, or the public schools and the university - the whole is much greater than the sum of the parts.”*  
 Dan Solie, Board Member

*“Regardless of age, everyone has something to learn and share while developing interconnections with each other and the nature world at WISE functions. The Copper Basin is fortunate to have such an organization!*  
 Jenny Moser, Board Member

*“WISE actively pursues the goal of connecting and partnering with other agencies, groups, and individuals, thus further spreading the WISE message and increasing its impact.”*  
 Dave Wellman, Board Vice President

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Fireweed and Birch frame a view from the Willow Mountain Trail

## WISE Mission

WISE provides science and environmental education, supports scientific research, and shares the natural wonders of the Copper River Valley.

## Core Values

Stewardship ~ Grassroots Involvement  
 Partnerships ~ Integrity  
 Sense of Place ~ Mentorship

Education Partners

Copper River School District  
Prince William Sound College  
University of Alaska Fairbanks  
Valdez City Schools  
Campbell Creek Science Center



*Oncorhynchus tshawytscha*  
Juvenile Chinook or King Salmon



*VISTA volunteer Jamie Dawson and youth share an exuberant moment on the Skookum Volcano Trail*

Government and Tribal Partners

Alaska Department of Fish and Game  
Alaska Department of Natural Resources  
Americorps VISTA  
Cooperative Extension Service  
Copper Valley Soil and Water Conservation District  
Mount Sanford Tribal Consortium  
Native Village of Gakona  
Native Village of Gulkana  
Native Village of Kluti-Kaah  
US Bureau of Land Management  
Wrangell-St. Elias National Park and Preserve

Nonprofit Partners

Alaska WildBird Rehabilitation  
Ahtna Heritage Foundation  
Copper Valley Development Association  
Copper River Watershed Project  
Copper Country Alliance  
The Foraker Group  
Greater Copper Valley Chamber of Commerce  
Kenny Lake Community League  
Kenny Lake Public Library  
Prince William Sound Science Center  
Project Healing Waters  
Wrangell Mountains Center  
Willow Creek Water Consortium  
Wellwood Conservancy

***Partner Focus: Americorps VISTA  
Corporation for Community and National Service***

*WISE has been honored to host 4 Americorps  
Volunteers in Service to America (VISTA) workers  
who helped grow our capacity to fight poverty  
through education and  
experiential learning.*

*Our VISTA Volunteers  
did important capacity  
building work, and  
enriched WISE with their  
diverse talents and  
boundless enthusiasm.*



***“Fighting Poverty with Passion”***

## 2016 Funders



**Alaska  
Conservation  
Foundation**



### RuralCAP

**Alaska Forum for the Environment  
Copper River Basin Lions Club  
National Park Foundation  
State of Alaska Revenue Sharing  
Copper Valley Telecom  
Recreational Equipment Inc. (REI)  
Glennallen Rustic Resort B&B  
Fred Meyer Community Rewards  
Amazon Smile  
Earned Income from  
Copper Country Discovery Tour**

A heartfelt Thank You to all of the individuals who give to WISE so generously. You are the heart and soul of what we do, and we appreciate you!

Spruce \$500 and up

**Paul Boos and Janelle Eklund  
Judy Caminer  
Kevin Gottlieb  
Kayane James  
Gail Mayo**

Aspen \$100 to \$499

Charles Bird  
Bob and Nancy Boos  
Kristin Carpenter  
Eric Downey and Cathy Hart  
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Diamond Willow up to \$100

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Pencil Drawing by Elvie Underwood

## Special Thanks

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**Paul Boos and Janelle Eklund** for use of the house for our office and staff quarters  
**WISE Board of Directors and Advisory Board** for your time and wisdom  
**All WISE Volunteers** for the energy and talent you share

For more details on WISE revenues and expenses, please request our 2016 Annual Report, or see it at [www.wise-edu.org](http://www.wise-edu.org)

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**Learn. Grow.  
Get Outside.**