



Mount Rainier
Institute

ANNUAL REPORT

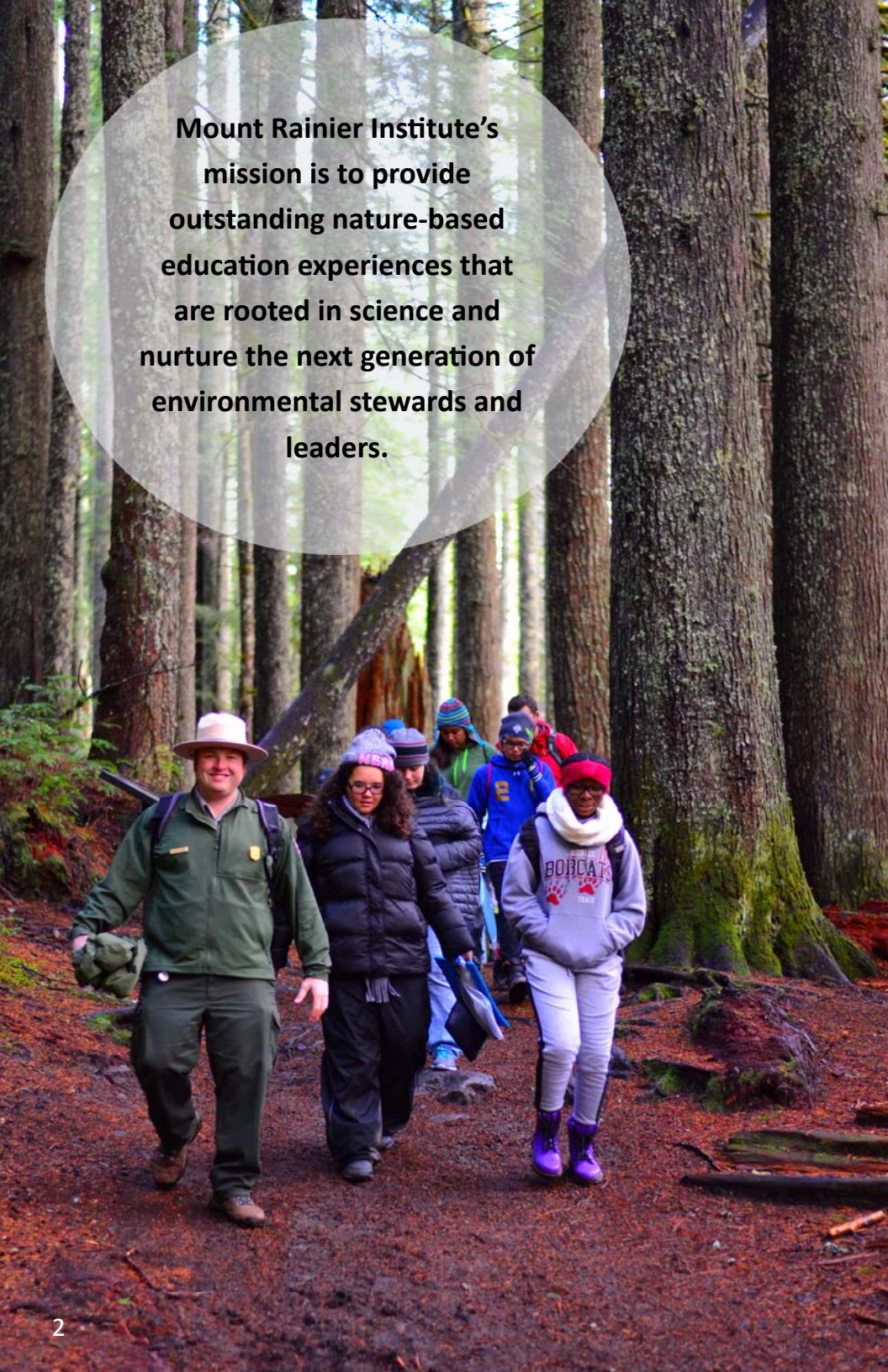
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I won't look at the mountain the same. I used to just look at the mountain like it was just there, and it didn't like mean anything. But now that I've like actually been there and done this, I'll always remember and that I want to come back."

7th Grade Student

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Mount Rainier Institute's mission is to provide outstanding nature-based education experiences that are rooted in science and nurture the next generation of environmental stewards and leaders.

MOUNT RAINIER INSTITUTE 2015

On a cool autumn day in September 2014, Mount Rainier Institute officially launched its inaugural season. Throughout the 2014-2015 school year nearly 650 students and adults from the greater Mount Rainier region explored volcanos and glaciers, conducted field science investigations, learned about the importance of national parks, and bonded with their fellow classmates.

Our students were not the only ones learning. After reflecting on our first year, Mount Rainier Institute staff learned the following:

- We were successful in serving students from diverse ethnic, cultural, and economic backgrounds.
- Our curriculum was successful. Pre- and Post- Student survey comparisons showed evidence of positive changes in scientific and environmental literacy, sense of stewardship, understanding and appreciation of national parks, connection to nature, and sense of community.
- The most significant challenge that teachers faced to participate in MRI was the lack of funding for program tuition.
- Our ongoing challenge is balancing the needs of our target audiences with the available resources and the need to fill our calendar with participating schools.

Numbers

In its first year Mount Rainier Institute served 364 participants over the course of 6.5 weeks in the fall and 282 over 7 weeks in the spring of 2016-a total of 646 students and adults.

12 schools participated. 10 of the 12 schools were public, one was a parent homeschool partnership with a public school district, and one was private.

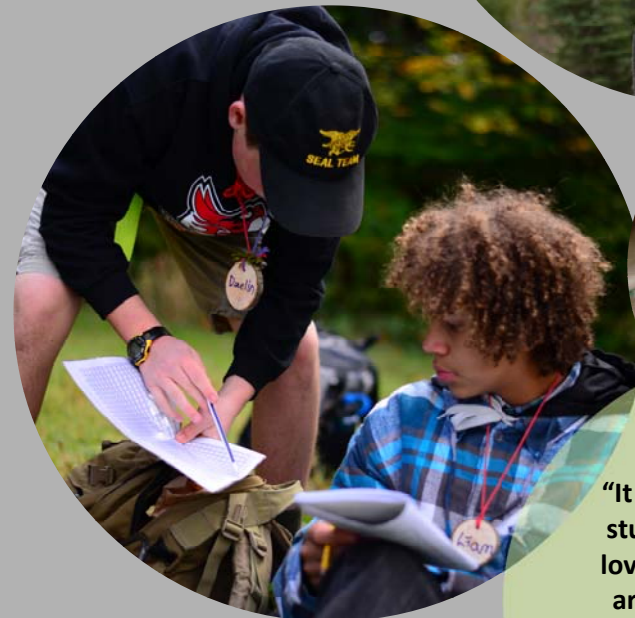
86% of the participants were from public schools. Because we are a residential program where students are here for multiple days, a better measure of impact is “participant-days” (i.e. one person at MRI for one day is one participant day). There were 2150 participant days in MRI’s first year.

60% of participants were from Pierce County (31% from Tacoma School District). 17% King County, 12% Yakima County, and 11% Benton County.

An estimated 61% of the traditional public school students reached qualified for free and reduced lunches (WA State average is 46% in 2013). If the parent homeschool partnership is included, the average is 56%.

Additionally, participating students came from schools where an average of 50% of student body were students of color. If we look only at traditional public schools, 53% of the student body were students of color compared to the statewide average of 41%. In short, MRI was successful in serving students from diverse ethnic, cultural and economic backgrounds.

- **646 Participants**
- **12 Schools**
- **2150 Participant Days**
- **61% Free & Reduced Lunch Rate**
- **50% Students of Color**



“It was a fantastic trip that all the students loved immensely. They loved being able to explore a new area and experience new things with each other. Many students said it was the best field trip they have ever been on.”

School Support

Here are profiles for a few of the 12 schools that participated

Washington Middle School– Yakima



- 29 students
- 97% free & reduced lunch rate
- 92% Hispanic/Latino

Lakes High School– Lakewood



- 20 students
- 50% free & reduced lunch rate
- 52% Students of Col-

Highline High School– Highline



- 17 students
- 64% free & reduced lunch rate
- 73% Students of Color

Baker Middle School– Tacoma



- 51 students
- 76% free & reduced lunch rate
- 69% Students of Col-or

Meaningful Impact

Mount Rainier Institute used pre- and post- surveys to measure program impact. Surveys were given to students in the latter half of the spring season. Each of the survey questions were aimed at measuring progress towards one of the five stated program goals. Overall, pre and post survey comparisons showed evidence of positive changes in scientific and environmental literacy, sense of stewardship, understanding and appreciation of national parks, connection to nature, and sense of community.

Sense of Stewardship

A series of 6 questions were related to students' sense of stewardship. When combined there was an average 4% increase in students responding positively (either agree or strongly agree). For example, the percentage of students that said they are careful not to waste food increased by 10% after the MRI program.

Understanding and appreciation of national parks

63% of the students surveyed had their first experience with a national park through the MRI program. The number of students indicating they thought national parks were important increased by 12%.

Connection to nature and the environment

A series of 7 questions were related to student's attitudes toward nature. When combined there was an average 8% increase in students responding positively to these questions. For example, the percentage of students that said they liked learning about nature increased by 12% after the MRI program.

Though there were some limitations with this evaluation, it allowed MRI to explore program impacts, and provided an opportunity to test evaluation strategies. We look forward to using this information to further refine the curriculum and the evaluation strategies.

Scientific and environmental literacy

Students were asked knowledge-based questions each worth one point. The mean knowledge score pre-MRI was 1.92 out of a possible 7. Students' scores increased to 3.92 after the MRI experience.

There were 6 questions related to students' enthusiasm for science and learning. When combined, there was an average 7% increase in positive responses. For example, the percentage of students that said they liked learning about science increased by 8%. Similarly, the number of students that indicated they were *not* interested in a career in science decreased by 14%.



Sense of community

The percentage of students that thought students in their class got along well increased by 9% after the MRI program.

Challenges

The most significant challenges Mount Rainier Institute encountered were related to school recruitment and their ability to commit to the program. For example, one of the original pilot schools was identified and recruited in 2013. After a successful pilot program, the teachers were excited about returning in the fall of 2014. In the early fall, the school was still excited to come but was struggling to raise the necessary funds to cover part of the tuition. By the time it was determined that they would not be able to come, it was too late to schedule another school which left an empty slot in our calendar. In addition, there were a couple of schools that reduced their number of students significantly which had a similar result.

The “true” cost of the 4-day program is estimated to be over \$425 per student. MRI’s top tuition is \$280 per student, meaning there is a built in subsidy of \$145 per student. In addition schools were offered further tuition assistance based on their need and nearly all the schools took advantage of this opportunity. In most cases, this additional tuition assistance was exactly what was needed to help schools commit to coming. Still, it was important that all schools were able to pay a portion of the tuition. This meant that teachers/schools needed to find ways to generate some funds. Most did this through a combination of parents paying, small fundraisers, and funds from the school district to cover costs beyond the MRI tuition like transportation and substitute charges. MRI staff were actively engaged in helping teachers accomplish this, but the task proved to be too difficult for some.

At the same time, schools that don’t often take students on these trips are MRI’s target audience. MRI staff will continue to work diligently to shepherd schools and teachers through this process, but there is of course a limit to how much MRI can do. The ongoing challenge will revolve around balancing the needs of our target audiences with available resources and the need to fill our calendar. It is likely that MRI will need to serve a mix of both schools that can afford the full tuition with those that cannot.

“When it is only one teacher doing all the work to bring students, it is a huge task to accomplish. In addition to everything you have to do to get camp put together, you also have to make arrangements for the students that are left at school. There is no compensation for any of the innumerable extra hours it takes to organize and very little recognition of all the time and energy it requires.”




Collaborations

Mount Rainier National Park is our primary collaborator. The combined expertise of Mount Rainier Institute staff and experienced National Park Service educators continue to collaborate on nearly all aspects of MRIs development including curriculum design, business planning and implantation of the program. Quite often, National Park Service educators help with MRI staff training and often are directly involved with the teaching our students.

In addition, Washington's National Park Fund (WNPF) was important collaborator in helping marshal additional resources to help offset costs of the program. WNPF remains committed to helping Mount Rainier National Park and University of Washington grow Mount Rainier Institute.

MRI also began collaborating with other organizations on further curriculum development. For example, the Nisqually River Education Project has begun to help develop outreach programs and watershed based activities. Likewise, the Nisqually tribe began working with MRI on the development of cultural curriculum. We look forward to continuing and expanding these collaborations.

It is also important to recognize that participation in MRI programs is intended to be a collaborative relationship between MRI and schools. We work closely with teachers to integrate the MRI experience into existing curricula. Beyond the residential program itself, we encourage participating schools to improve or expand other EE opportunities and help them better meet Washington's Integrated Environmental and Sustainability Learning Standards. In addition, MRI works with teachers toward finding ways to sustain participation in MRI programs on an annual basis. These efforts are aimed at establishing an *EE culture* in participating schools.



"A few days after returning, we were outside, and Mount Rainier was peaking above the tree line. One of the students, Alex, said wistfully, "Every time I see Mount Rainier, it makes me feel good. I guess that's what the Indians must have felt like about the land."



Mount Rainier Institute is a joint venture between the School of Environmental and Forest Sciences at University of Washington and Mount Rainier National Park



Teacher Comments

Watching a group of students be challenged with a task they thought to be impossible work together and design a solution to the problem was magical. Those collaboration and problem solving skills will go with them everywhere!



I cannot say enough how much this program has benefited these students. I saw more growth in one month after the trip than I saw the entire school year before the trip. Not only did I see growth in the students, but I also saw growth in myself as a teacher.

One of my AP Environmental Science students, standing on the snowy slope of the Nisqually trail, looked around him after the snow density experiment and said "We've been talking, reading and watching movies about Climate Change all year. I really get it now." The experience had a profound experience on him.

There were a couple boys I took with me to MRI that several times I caught glimpses of their faces glowing with absolute joy, they were having the time of their lives. Things like that make all the hard work it took to get to camp worthwhile.



2014-2015 Funding Breakdown-Total expense was \$319,000

\$85,700

Tuition paid by schools



\$64,000

Money Raised from Generous donors



\$170,000

Funding Gap!
Currently supported by University of Washington's Pack Forest



Thank You to our Generous Supporters!

Mount Rainier National Park

Washington's National Park Fund



The Mountaineers Foundation

The Russell Family Foundation

Stories from the Field


During one of our first programs, two of the students participating, twin boys, were autistic. Early on in the program the teachers and aids from the school let the MRI staff know that these students were fairly advanced on the autism spectrum and would likely not be able to participate in many of the activities. They were verbal but very rarely communicated or interacted with others. The boys' father was also going to be coming and would be there to help with the boys if they needed to disengage with the program.

On the first day of the program the boys' response was as expected. Though they were included in the activities, there was little interaction with others, and quite often after a few minutes, their father would need to lead them away from the group to allow them to rest and to manage the new stimuli in their own way. The second day of the program was similar to the first...though there were signs of greater engagement. The boys were staying with the group longer, and their "away" time was shorter.

The third day of the program was the field investigations day. The field group headed off to an old growth forest called the Trail of the Giants. Trail of the Giants is an amazing area with massive trees, a carpet of ferns, and a diverse understory. For most, being in this forest provides a magical sense of calm. Early on in the day, the MRI instructor and adults recognized there was something different about the twins. They seemed more engaged...more present. After data had been collected, the group headed off on a short hike through the rugged terrain of the old growth. At this point, it would have been expected that the boys would disengage and head back to camp. Instead they stayed with the group and completed the hike. Finishing the hike would have been an extremely significant event on its own...but even more importantly was *how* they completed the hike. They were talking, communicating, and interacting with others. At one point, one of the boys reached out their hand to another student who gladly helped him go over a downed log. There were smiles.

Upon returning to camp, it was clear that something special had happened. The teachers and other adults were choked up. The boys' father immediately called the boys' mother and tearfully told the story of how their boys seemed to come alive in the old growth.

This story dramatically represents what we believe are important successes of the program. Many students have similarly powerful reactions to the MRI experience. Whether it is their first time away from home, seeing the Nisqually glacier, or their doing a field investigation, each student seems to "come alive" at MRI in some way.



"It was a fantastic trip that all the students loved immensely. They loved being able to explore a new area and experience new things with each other. Many students said it was the best field trip they have ever been on."



Design by Amy Wilson

Photography by Amy Wilson, Kevin Bacher, & Erin Soper

Maps and editing by Sarah Francis

Media Links

[Facebook](#)

Video links

[Sequoyah Middle School at Mount Rainier Institute](#)

[In Their Words 2](#)

[In Their Words 1](#)

[Three Rivers Home Link at Mount Rainier Institute](#)

[Washington Middle School Thank You](#)

[Jason Lee Middle School at Mount Rainier Institute](#)

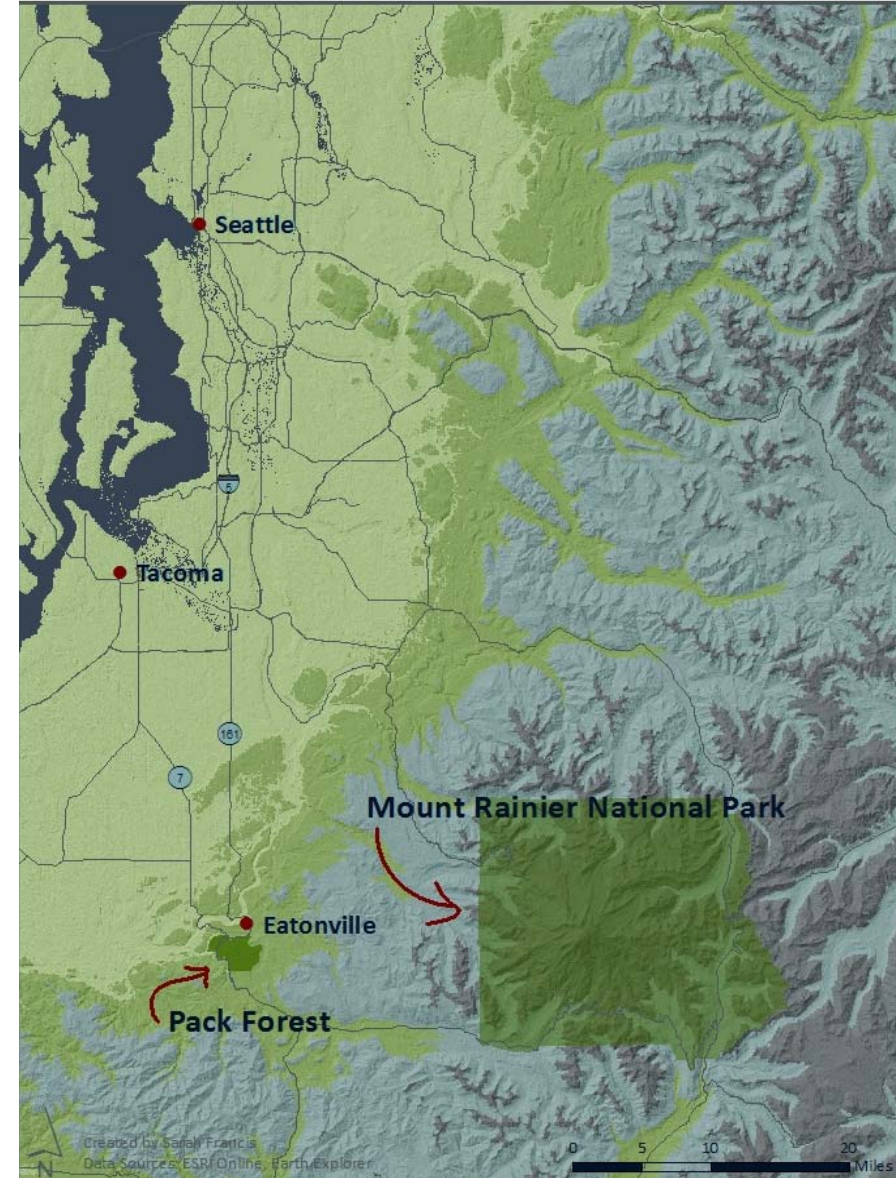
Pictures

[Pictures 1](#)

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[Pictures 3](#)

MOUNT RAINIER INSTITUTE



Mount Rainier Institute

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