The Ecological Society of America’s SEEDS Program

SEEDS National Field Trip

H.J. Andrews Experimental Forest LTER

Blue River, OR

October 1-4, 2015

SEEDS National Field Trip participants at the H.J. Andrews Experimental Forest LTER in Blue River, Oregon
Overview

We had 16 students from 15 different institutions from all across the US attend the 2015 SEEDS National Field Trip! We visited H.J. Andrews Experimental Forest in Blue River, OR. Students had the opportunity to explore old growth forests and learn about their importance, they hiked to the top of Carpenter Mountain (5,500 ft.) and developed 3 small research projects that looked at forest restoration, hydrology and stream ecology!

Here is a short review from the participants point of view:

#SEEDSnTREES

Group 1: Edauri Navarro-Perez, Courtney Caldwell, Olutoyin Demuren, Elisa Fernandez

Thursday, October 1st

When we first arrived at HJ Andrews, our first thoughts were just how different it was from our homes. Whether it was Puerto Rico, Boston, Georgia, or Hawaii, we had never encountered a landscape as magical as this one. From Douglas firs towering over us like ancient gods, to a sky so pure we could see the Milky Way, HJ Andrews is a truly beautiful place.

Friday, October 2nd – A.M.

On Friday morning, we began with a delicious breakfast where we were finally able to meet all of our fellow ecology-lovers. We bonded over our shared love of nature, wandering, and research. Next, we received an introduction to the forest by Mark Schultz (Forest Director) and Michael Nelson (LTER Coordinator). We were briefed about the history of HJ Andrews, and we learned about the forest fundamentals. We learned that this was a land shaped more by fire than by man-made intervention, before its use as an experimental forest. The overall goal of HJ Andrews has been to study long-term effects and responses to past and future management practices, from clear-cutting to ecological forestry.

Later that morning, Judy Li, an award-winning author as well as a gifted scientist, led us in some field sampling. Although we were on a schedule, we still moved at an ecologists’ pace, stopping every few minutes to look at interesting mushrooms, wonder at the girth of the old-growth firs, or listen to a particularly striking birdcall. Judy wanted us to sample the beetles in order to determine the abundance and species richness at certain times of the year, and relate that to the
presence of migratory birds. This involved tramping off path, feeling massive sword ferns brush against our legs, and climbing over logs in various states of decay. After we left that sampling site, we took a short drive to Watershed 1, for more sampling. Although we did not have time to do more sampling (and hiking) at that site, we were captivated by Chelsea Batavia’s talk on ecological forestry.

In addition to giving us a thorough history of the timber wars, the spotted owl, and the Northwest Forest Plan, she also educated us on the importance of validity in arguments through an interactive activity. She took us through the entire argument for ecological forestry, and helped us analyze its premises and conclusions. This revealed to us the importance of balancing the interests of conservationists and communities, by decreasing the anthropogenic effects on forests, yet still maintaining economic stability in local communities. We discovered that this is incredibly difficult, and is essentially a juggling act. She helped us understand the need for a different way of thinking in ecology, an incorporation of the sociological into the scientific, the addition of human dimensions.

Group 2: Roxanne Hoorn, Mariam Estavillo, Hamza Mian, and Jaynell Nicholson

Friday, October 2nd – P.M.

Following a delicious lunch on Friday afternoon, Mark Shulze, forest director from HJ Andrew’s Experimental Forest, hosted a career panel featuring Adrienne Hampton (Marine Conservation Institute Fellow), Terry Baker (District Ranger), Chelsea Batavia (Graduate Student), Judy Li (Associate Professor), Adam Kennedy (Wireless Communication Management), and Michael Nelson of Andrew’s Forest. The career panel was an amazing experience to hear from professionals from a diverse background. We received advice on diversifying interests, applying to grad school, and gaining practical and volunteer field experience. The overall theme of the career panel answered the burning question of our generation: “do we have to choose just one (career focus)?” The consensus of all panelists clearly encouraged us to intertwine our careers, passions, and skills to design the career path we aspire to work in. They emphasized the future of science communication and the role it will play in the development of ecology.

Later that afternoon we ventured into the forest and learned about new, innovative infrared research methods from Young Kim and Christopher Still from Oregon State. We experienced these exciting methods first hand, looking at thermal images of pollinators and their ecosystems, and even got to practice taking thermal images of each other. It was
amazing to see the thermal effects that could be visualized even just from heat left behind from a hand print. This information session based on technology, but led in the middle of the wilderness, fully conveyed the message of how large of a role technology will continue to play in the future of ecological research.

Stepping away from quantitative research and technological advancements, renowned poet (and part time gardener), Charles Goodrich, led a written reflection period sitting under the towering, moss covered Douglas Firs of H.J Andrew’s Experimental Forest. He told us of all the visiting writers and artists that are becoming the bridge between nature and humans; emphasizing that “facts are not the only things that will make people change their minds (about conservation).” This reflection period truly allowed us to step back and appreciate the amazing experience we were all given by being invited here by SEEDS.

We returned home to our cabins near the research station, enjoyed another spectacular meal, and bonded over campfire stories of crazy field work experiences. At the end of the night we all looked up at the clearest starry sky any of has had ever seen, and felt the overwhelming beauty of this invaluable experience.

**Group 3: Sandy Marin; Carlos Negron; Nancy Vielmas; Dorothy Stearns**

**Saturday, October 3rd – A.M.**

Students met for breakfast at 8 am, the morning fog was really pretty and the temperature was at about 47 degrees F. After a delicious breakfast made by our wonderful caterers from Bend, Oregon we all sorted our recycling and turned in our reusable plates. The food was very nutritious and organic. We then loaded into the vans and departed headquarters to proceed to our designated locations based on three fields of study: stream ecology, hydrology and restoration ecology.

Group 1 was focused on watershed hydrology in watershed 3 of HJ Andrews Experimental Forest. Our project was lead by a 2nd year PhD student named Satish Secran and we were accompanied by Michael Nelson, lead PI for the LTER. We investigated discharge rate and velocity by using various methods of assessment including the following: salt electrical conductivity of the water, ink method, and floating object method. Our results suggested that the
electrical conductivity survey was more effective than the ink method in assessing the actual velocity and flow rate of the watershed.

Group 2 went to one of the watersheds to collect fisheries data on trout using electrofishing methods. Guided by a graduate student from Oregon State University, this group sampled for small trout, roughly a few inches long along a stream transect. Every pool was sampled along the 100m transect and fish where collected, sedated, measured and then released back into the stream.

Group 3 was focused on restoration ecology. We arrived to a treatment forest and performed measurements along a 50 meter transect. We compared biodiversity and diameters at breast height in order to evaluate the effectiveness of thinning treatments in preserving habitat and also providing timber yield. Two clear cut plots were allowed to regrow and 17 years ago, one of those plots was thinned and the other was left unmanaged. We explored several different sampling techniques to measure density and species richness within the under, mid, and over-story of the Old-Growth forest.

This experience allowed us to learn and practice different field techniques such as hydrological assessment methods and vegetation sampling throughout the day and in the end we practiced the communication of our findings to our colleagues. We were able to develop professional networks and build skills working in a team.

**Group 4: Zulema Osorio, Jazzie Perez, Frederick Nelson, Sydney Salas**

**Saturday, October 3rd – P.M.**

After a busy morning of experiments and data collecting, we made it back to camp for time to analyze or results from either the hydrology, stream ecology or forest biodiversity activities. We worked hard for a couple hours and then came together for a well-deserved and needed hike to the top of H.J. Andrews Carpenter Mountain. Dressed for the wind chilled weather we trekked up the top of the mountain towards the infamous lookout house. On the way to the top the sights of fall were everywhere—with vivid reds and yellows springing up on the trees and vegetation around us. If that was not enough, reaching the top was an awe-inspiring experience—as we were able to view the world around us as a vast expanse of endless mountain ranges—the Cascades to be specific. The elevation at the top of our prime spot was 5353 ft. and the
wind blew howling gusts—threatening to topple us over. However despite the cold and windy conditions, the picturesque view gave us time to reflect and appreciate the world around us—and the importance of maintaining and managing such places as the Willamette National Forest.

After the long hike we came back to a warm and inviting dinner of homemade pesto pasta, chicken and a healthy dose of vibrant greens. The food not only tonight, but every night—was exceptional—and always fresh, healthy and organic. As hungry college kids—every meal was far beyond our Ramon noodle expectations. To end the night on a full stomach, we then presented our group presentations in front of our peers—each group giving power points on the information they learned with their mentors. From electric shocking fish to take measurements, to pouring florescent dye into a stream to find velocity and direction of water flow—everything presented taken with eager interest—each of us taking away a piece of new information. Overall the trip ended with each of us having a greater understanding of not only the H.J. Andrews Experimental Forest—but the work and experience it takes to be an ecologist and make an impact in this world. Fueling and Inspiring us to challenge ourselves and continue on the path towards becoming empowered and influential scientists in the field of our choosing—as well as take what we have learned and share this invaluable experience with those around us.
List of SEEDS Participants for the Field Trip:

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<tr>
<th>Name</th>
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<th>Institution</th>
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<tr>
<td>Courtney</td>
<td>Caldwell</td>
<td>Clayton State University</td>
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<td>Olutoyin</td>
<td>Demuren</td>
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<td>Mariam</td>
<td>Estavillo Torrellas</td>
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<td>Elisa</td>
<td>Fernandes-McDade</td>
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<td>Roxanne</td>
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<td>Sandy</td>
<td>Marin</td>
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<td>Edauri</td>
<td>Navarro Perez</td>
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<td>Jaynell</td>
<td>Nicholson</td>
<td>Kent State University</td>
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<td>Zulema</td>
<td>Osorio</td>
<td>Solano Community College</td>
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<td>Jazzei</td>
<td>Perez Cardoza</td>
<td>University of Puerto Rico, Mayaguez</td>
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<td>Sydney</td>
<td>Salas</td>
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<td>Dorothy</td>
<td>Stearns</td>
<td>Emory University</td>
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<td>Nancy</td>
<td>Vielmas</td>
<td>California State University, Monterey Bay</td>
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<td>Hamza</td>
<td>Mian</td>
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<td>Howard University</td>
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A big thank you to our hosts Mark Schulze (Forest Director) and Micheal Nelson (Lead PI Andrews LTER) at the HJ Andrews Experimental Forest. Thanks to Adrienne Hampton, SEEDS Alumni, for helping us staff the event and mentor our students. Also thanks to all the scientist and personal at the HJ Andrews:

- Chris Still (Associate Professor, Forest Ecosystems and Society, OSU)
- Youngil Kim (Postdoctoral scholar, Forest Ecosystems and Society)
- Chelsea Batavia (Andrews graduate student, OSU)
- Satish Serchan (Andrews graduate student, OSU, Water Resources Science)
- Matt Kaylor (Andrews graduate student, OSU, Fish & wildlife)
- Jessica Celis (Andrews graduate alumnus, OSU, Botany)

Career Panel:

- Adrienne Hampton (Marine Conservation Institute Fellow)
- Cheryl Friesen (Science Liaison, Willamette National Forest)
- Terry Baker (District Ranger, McKenzie River RD, WNF)
- Chelsea Batavia (Graduate Student, Forest Ecosystems and Society, OSU)
- Judy Li (Associate Professor Emeritus, Fisheries and Wildlife OSU)
- Adam Kennedy (Andrews Wireless Communications and Ecosystem Information Management)