

The ECOTONE

University of Oregon
Environmental Studies Program
5223 University of Oregon
Eugene, OR 97403-5223

Nonprofit
Organization
U.S. Postage
PAID
Eugene, OR
Permit No. 63

The ECOTONE

Journal of Environmental Studies - University of Oregon

Spring 2012



Photo by Kory Northrop

ECOTONE: A transition zone between two adjacent communities, such as a forest or grassland. It has some of the characteristics of each bordering community and often contains species not found in the overlapping communities. An ecotone may exist along a broad belt or in a small pocket, such as a forest clearing, where two local communities blend together. The influence of the two bordering communities is known as the edge effect. An ecotonal area often has a higher density of organisms and a greater number of species than are found in either flanking community.



Time Provoked
Interrogating the Past, Imagining the Future

On the Cover

Photo by Sreang Hok

An old cannon on Eastern Island stuffed with
invasive verbasina flowers. Will invasive flowers be
the end or the beginning of the new conflict here
on Midway?

2012 Donors

Karen Austin '59
Donna '72 and Leo Bauer
Colleen Burgh '79 and James Stratton '79
Nicole Carter '97
Chu Chen '09
Gregory Clark '02
Lorri and Kevin Cornett
Janet and William Crandall
Stephen Ellis '87
Robert Emmons Jr. '67
Karen George
Katie '06 and Kyle Harris '05
Virginia and Thomas Hofmann Jr. '66
Daniel Hurley '04
Kim Jamison
Barbara and Stephen Lane
Robert Liberty '75
Kay and Brian Lokkesmoe
Sheila and Marc Marvin
Catherine and F. Robert Miller '64
Robert & Catherine Miller Charitable Foundation
Claudette Naylor
The Outdoor Foundation
Julie Polhemus '02 and Christopher Jones '07
Suzanne and Robert Price
Carrie '02 and Phillip Ramirez
Kevin Roth '97
Monique Schoustra '92 and Thomas Ribe '90
Shanku and Kuppe Shankar
Cheri Van Bebber '83 and Daniel Puffinburger '83

The ECOTONE

Journal of Environmental Studies - University of Oregon

Spring 2012



Photo by Marissa Williams

4 From the Editor

Features

- 5 **Tapestried in Green:
When the Trees
Came Down at Camp**
Melissa Sexton
- 8 **Time for Justice**
Julie Bacon
- 10 **Generational Sovereignty
and the Land**
John Edward Davidson
- 15 **Salmon Seasons**
Rick Gurule
- 17 **The Sabbath Pastoral**
Robert Zandstra
- 21 **Pictograph**
Bennett Battaile
- 26 **Traditional Ecological
Knowledge and the
California Condor**
T. Bird Wicks
- 30 **The Memory of Persistence**
Chithira Vijayakumar
- 34 **Prosthetic Desire: Bodily
Enhancement and Longing
in Science Fiction**
Samuel VanNest
- 39 **Take Me Amtrak:
Notes on a Train Trip**
Lisa Lombardo
- 43 **Taking Turns**
John Edward Davidson

Poetry

- 24 **In Passing**
Gayla Wardwell

Community

- 50 **New Graduate Student Profiles**
- 45 **Plants and People, Past and
Present**
The ELP Ethnobotany Initiative
Devon Bonady
- 52 **ELP Team Profiles**
- 55 **Awards and Recognitions**

Featured Art

- Julie Bacon (17, 20, 40)
George Costakis (41)
Marc Dadigan (8, 9)
Andrew Dutterer (15, 16)
Kaitlyn Grigsby (26)
Roger Hicks (48)
Sreang Hok (Front, 7, 30, 31, 37, 42, 43)
Alayna Linde (35)
Lisa Lombardo (5, 32, 36)
The Peregrine Fund (25)
Kory Northrop (14, 47, Back)
Stephen Siperstein (13, 22)
Raj Vable (12, 29)
Kirsten Vinyeta (10, 19, 24, 28, 33, 44, 45)
Marissa Williams (3, 21, 38)

2012 Ecotone Staff

Editor-in-Chief
Bridget Sharry

Editors
Julie Bacon
Shane Hall
Lisa Lombardo
Stephen Siperstein
Chithira Vijayakumar
Kirsten Vinyeta
Marissa Williams

Support
RaDonna Aymong
Alissa Manske
Gayla WardWell

About the Publication

The Ecotone is the journal of the Environmental Studies Program and is created by graduate students at the University of Oregon. The journal provides a venue for communication and exchange within and beyond the Environmental Studies Program among undergraduates, graduate students, faculty, staff, and alumni and facilitates cross-campus dialogue between disciplines and departments. *The Ecotone* hopes to engage the University of Oregon community in ongoing dialogue through its paper and online publications. To this end, *The Ecotone* serves as a venue for sharing professional interests, discussing environmental concerns, and posting creative expressions. *The Ecotone* is published annually and includes journal articles, nonfiction, fiction, poetry, art, and other creative submissions. If you have questions or comments, would like to submit work, or be placed on the mailing list, please contact:

THE ECOTONE
Environmental Studies Program
5223 University of Oregon
Eugene, OR 97403
ecotoneufo@gmail.com

Editor's Note

By Bridget Sharry

For most of my (young) life, I've thought of time in calendars and in the quiet constant movements of my watch. But with this issue, the editors expected more – from ourselves and from our pool of submissions – and so I am delighted to introduce you to “Time Provoked: Interrogating the Past, Imagining the Future.”

The contributors provoke our readers to think more about what time is, and how we construct it. How do we envision time: is it an x-axis, a gyre, a wintercount, the width of a redwood, the setting for a story? Some of us see distinctions between past, present and future; others find that division misleading and unnecessary. Nostalgia, optimism, and the ominous “are we running out of time?” all contribute to our conversations about time and the environment.

So now, as you open the pages of this issue and flip through, I hope the striking photographs catch your eye, each frame holding a moment open for reflection. You'll find both the abiotic and biotic represented; by focusing on shifting skies, the built environment, and organisms domestic and wild, the photographers provoke us to reconsider our ideas of time and temporality.

And I suspect you'll get caught on some of the writing as well. Intergenerational justice, ecological monitoring, and personal narratives – the many lenses and nuanced looks at time will ask you to reconsider your assumptions. John Davidson breaks down the ways that environmental ethics are codified in the U.S. constitution, working with the words of the past. Chithira Vijayakumar considers her roots, and what her future may hold. Samuel VanNest and Bennett Battaile analyze projected futures through fiction – one by reading, and one by writing – and in so doing, they challenge us to consider where we stand now.

I hope the different ways of knowing and understanding time are as welcome a challenge to you as they are to our editorial team. And with approximately twenty thousand thanks to each of the editors for their work on this issue, a final word: enjoy!

Tapestried in Green: When the Trees Came Down at Camp

By Melissa Sexton

How do you move towards a sustainable future without clinging to an impossible nostalgia for the past?

The day the first tree came down on the shores of old Lake Kimball, the camp staff was in outrage. We shook our fists and pleaded with the director. We sulked in corners as the chain saws whined. But the new leadership of the camp was adamant. Retreat groups wanted a different aesthetic – scenic views of the lake from the freshly-built, up-to-date lodges. Without the off-season revenue of these groups, summer camp might close. And so the shore's dense tangle of red osier dogwood, baby maples, and stinging nettle had to go.

In our morning meetings, longtime staffers waxed rhapsodic about their love of trees, figuring the clearings as anti-ecological acts. I wasn't so sure. It was my third summer at the camp, and as the one-time director of the camp's now semi-defunct nature programming, I didn't know how to respond to the sudden clearing of the shores. While some staff saw any removal of trees as an act of anti-nature violence, my own experience working at a nature center had taught me that most of the landscapes we enter are managed, that not all plants can always be kept in a healthy ecosystem. Our camp had never been a



Photo by Lisa Lombardo

All of us were in search of a natural retreat, but which aesthetic vision was the most natural?

hallmark of ecological carefulness, though – just look at the bare roots jutting out all over the eroded hillside next to the dining hall. So while it hurt my heart to see the lake naked, I wondered how much the staff was balking at the actual ecological impact of the landscaping and how much we were balking at the prospect of any kind of change. Camp, for good and for ill, was a place where time stood still; where long-standing traditions were honored even if new staff questioned their racial or gender politics; where one could trust the physical face of the place to look the same every summer. While I doubted that the removal of the shoreline plants would do anything to help our ongoing erosion problems, I also doubted that most of the camp staff were thinking about lost soil or lost habitat for the muskrats that scampered around the canoes. At the time, we were thinking about symbolic losses: lost continuity with the past, for instance, and what it might mean to be the kind of people who cut down trees.

Camp's own history suggested that good environmental practice didn't always mean simply preserving the past. As an outdoor educator during the off-season, I loved the camp's Wetland Trail that had been built in the late 1990s. Though not a part of camp's long traditions, the Wetland Trail provided access to a variety of wetland habitats, letting students and instructors meander past the marshes that fringed the lake, a natural spring, and even a small bog area full of brightly colored pitcher plants. And just as this trail mixed past and present, giving access to the natural spaces that had always been present at camp but just out of reach, it also mixed untouched and constructed spaces. Excavation and intentional flooding helped to recreate swampland and pond space that probably was part of the camp's "original" wetland system. But even in trying to recreate an authentic wetland, the builders of this trail had no way of knowing what the lake's true nature was: prior to construction, the wetlands were heavily marked by human presence. We often remembered this the

hard way when exploration sent us stumbling over long-submerged trash or mud-concealed barbed wire fencing. So if this wetland trail was a deliberate change, and if it was constructed, why was the trail so valuable? Because it gave parts of camp's previously untouched land a use value, drawing in school groups from across the state for wetland ecology classes? Because it provided an aesthetic function, giving groups access to beautiful plants and bird-watching opportunities? Because it recreated a set of wetland conditions that, according to some scientific standards, were "typical" or "natural" for the middle of Michigan? Without the pure poles of nostalgia and futurity – without rejecting all change as bad, without believing that our actions could get us back to some pristine, untouched, "natural" environment – how could we judge the value of our environmental actions? How could we know when we were picking the right environments?

When I think back to the great camp debates about the shoreline foliage, I see a similar mess of competing ecological questions and desires. There were competing aesthetic considerations: on the one hand, the desire of folks on retreat from the city to sit in their comfortable cabins and watch the beauty of the lake; on the other hand, the curled-up noses of long-time camp veterans at the sudden visibility of the lake's speedboats and vacation cottages. All of us were in search of a natural retreat, but which aesthetic vision was the most natural? Economic needs competed, too: the need to draw in new revenue by appealing to the artificial aesthetic tastes of the urban populations, and the need to appeal to the sedimented, traditional tastes of a core group of summer camp kids. How do you decide? How do you distinguish your own preferences from that which is truly sustainable – that is, that which makes a future possible? And how do you account for the tug of nostalgia or the pressure towards progress – the competing tugs of time that shape our environmental visions? How do you move towards a sustainable

To love an environment and everything that lives in it means learning to love it through change.

future without clinging to an impossible nostalgia for the past or, conversely, giving up some things that are truly valuable out of a hurried need to move forward?

This same need for change, mixed with powerful nostalgia, haunted camp as a whole, in its environmental visions, in its relationship to the physical land on which camp was built, and in its imagination of camp's history. We read *The Lorax* at our morning chapel services, sharing with children a story about a world that is already lost. We also tried to get kids interested in recycling, composting, minimizing food waste – actions that might help us avoid the ruined world Dr. Seuss painted but that could never take us back to some pre-industrial paradise. Even outside of a love for some ideal past environment, camp values tradition. We didn't just want kids to like trees. We also wanted them to see why it was valuable to know all the words to "The Billboard Song" and to treat our closing campfire ceremonies as though they were sacred. We wanted them to come to camp forever, to send their kids forever, but to ground this love in a past that stretched back deep. There was a level at which our nostalgia fought with change, and we reached longingly for a past that was already gone in hopes that we could somehow reanimate it for the future.

This complicated tangle of nostalgia and future action frames so much of environmental activism. We try to change our behavior in order to launch ourselves back towards a world that is always already lost, and in the process, we also try to imagine a future.

We are like the staff at those morning meetings, paralyzed by the need to change in order to maintain a sustainable future and yet drawn backwards by longing. I do not know the way forward, the way to avoid idealizing past environments and erasing past human influences while also giving space to the love



Photo by Sreang Hok

for land and environments. Love and nostalgia can have value, for they can serve as the basis for either sentimentalizing inaction or passionate, committed action. What I do know is that watching the trees come down at camp made me realize how hard it is to love an environment. To love an environment and everything that lives in it means learning to love it through change. Such love requires letting go of the idea of some idealized past, of some vision of the lake as either a perfect piece of potential scenery or a frozen pastoral paradise, ever "tapestried in green" as our old song said. This love, I think, requires us to keep asking questions, to be skeptical of intervening too quickly or too much, but also to be careful that we don't try to freeze our environments, making them into souvenirs that symbolize nothing more than our own pasts.

Melissa Sexton is a Ph.D student in the English Department at the University of Oregon.



Photo by Marc Dadigan

Time for Justice

By Julie Bacon

The flooding of more land along the McCloud River represents a gross environmental injustice, as well as a breach of the UNDRIP

This February, the Bureau of Reclamation released its Draft Feasibility Report regarding plans to raise Shasta Dam. The report itself acknowledges that the dam raise would submerge a number of sacred sites and “would result in an unmitigable, disproportionately high and adverse effect on Native American populations in the vicinity of Shasta Lake” (4-18).

The group most impacted by inundation would be the Winnemem Wintu. A small tribe of roughly 125 people, the Winnemem Wintu have already lost significant land and been deprived of a continued relationship with their wild salmon due to the initial construction of Shasta Dam. Adding insult

to injury, the government never provided adequate compensation for the Winnemem’s flooded lands, and in 1985 ceased to recognize the Winnemem as a tribe, despite their continued presence in their homeland, the McCloud River area.

California State Assembly Joint Resolution 39 recognizes the Winnemem Wintu as “an historic and traditional band of California Indians” and advocates the restoration of “full federal recognition and all the rights and privileges that arise from that status, excluding Indian gaming” for the Winnemem. A copy of this resolution has been delivered to numerous federal officials, but as of yet this has not resulted in the restoration of status.

To allow the destruction of sacred places is to turn our backs on continued colonial aggression and to advocate the loss of lifeways that are both indigenous and irreplaceable.

This lack of recognition explicitly figures in the report's sub-chapter on "Native American and Cultural Resources," which states, "no Federally recognized tribes reside in the immediate Shasta Lake area". Such language betrays the Bureau's eagerness to legitimate the destruction of sacred places by contending that it is within their legal rights to do so.

Regardless of how federal recognition is bestowed or rescinded in the United States of America, the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) guarantees the right of self-determination and asserts that Indigenous peoples have "the right to manifest, practise, develop and teach their spiritual and religious traditions, customs and ceremonies" as well as "the right to maintain, protect, and have access in privacy to their religious and cultural sites" (UNDRIP "Article 12"). The flooding of more land along the McCloud River represents a gross environmental injustice, as well as a breach of the UNDRIP.

While most environmentalists easily comprehend how issues such as toxic exposure, gentrification, and food deserts fall under the rubric of environmental justice, few consider how the destruction of relationships to sacred places also represent grave environmental inequalities. Any scholar concerned with creating a more equitable system, promoting environmental ethics, or land-based ideologies should give such matters close consideration.

As environmental researchers continue to develop human understanding of environmental justice and explore the depths of traditional ecological knowledge, I hope they will also think about the importance of cultural continuance and diversity. To allow the destruction of sacred places is to turn our backs on continued colonial aggression and to advocate the loss of lifeways that are both indigenous and irreplaceable.

Julie Bacon is a Ph.D student in the Environmental Studies Program at the University of Oregon.



Photo by Marc Dadigan

Generational Sovereignty and the Land

By John Edward Davidson

Restoring the constitutional framers' environmental stewardship ethic in the American legal system

As an instructor of United States constitutional law, I am sometimes asked by students whether the framers had views that would bear upon modern environmental concerns. It would be natural to assume that they did not. The framers did not possess modern technology; they were incapable of causing environmental disruption on the scale now possible. Consequently, they had little to say about the specific sorts of environmental problems that concern us today, such as biodiversity loss, habitat loss, and climate disruption. However,

the framers and their contemporaries did recognize each generation's obligation to preserve the value and integrity of their natural legacy for generations to come. This stewardship principle, embedded in the Anglo-American property law constructs of entail, usufruct and waste, was ethical bedrock in the late 1700s. Intergenerational responsibility for land (broadly considered) was in fact more familiar, and more widely acknowledged, than intergenerational political rights and economic rights. That is why, when writers of the period sought to describe the proper



Photo by Kirsten Vinyeta

Intergenerational responsibility for land (broadly considered) was in fact more familiar, and more widely acknowledged, than intergenerational political rights and economic rights.

political relations between generations, many of them relied upon metaphors and analogies involving land.

Jefferson's Usufruct

The most succinct, systematic treatment of intergenerational principles left to us by the founders was provided by Thomas Jefferson in his famous letter of September 6, 1789. That letter was Jefferson's final installment in a two-year correspondence with James Madison on the proposed Bill of Rights. Jefferson begins the letter by asserting that:

"The question [w]hether one generation of men has a right to bind another . . . is a question of such consequences as not only to merit decision, but place also among the fundamental principles of every government. . . . I set out on this ground, which I suppose to be self-evident, that the earth belongs in usufruct to the living . . ."

Since Jefferson explicitly bases his intergenerational philosophy upon this "self-evident" principle, it behooves us to examine closely the precise language employed to express the principle. Of most importance is the single word: usufruct.

In Jefferson's time, as now, "usufruct" refers to "the right to make all the use and profit of a thing that can be made without injuring the substance of the thing itself." It is a term used to describe the rights and responsibilities of tenants, trustees, or other parties temporarily entrusted with the use of an asset – usually land.

The doctrine of usufruct was (and remains) closely conjoined with the doctrine prohibiting waste, defined by Blackstone as "a spoil or destruction in houses, gardens, trees, or other corporeal hereditaments, to the disheison of him that hath the remainder or reversion." Taken together, these two doctrines provide that a tenant (or other caretaker/interest holder) is entitled to the beneficial use of the

land and its fruits, but is prohibited from prejudicing future interest bearers by using the land in a way that destroys or impairs its essential character or long term productivity. Jefferson's philosophy that the earth belongs in usufruct to the living at least partially reiterates the biblical/Lockean paradigm of the earth as an intergenerational commons, the fruits and benefits of which should be accessible to every member of every generation.

Jefferson takes the position that no landholder has a natural right to control the land or dispose of it after his or her death. "By an universal law, indeed, whatever, whether fixed or moveable, belongs to all men equally and in common, is the property for the moment of him who occupies it; but when he relinquishes the occupation, the property goes with it." Society, as trustee of the earth, reasonably expects the natural estate to be returned undiminished at the end of each landholder's tenure. Jefferson maintains that each individual, and each generation collectively, has the obligation to pass on the natural estate undiminished and unencumbered to later generations:

"[N]o man can by natural right, oblige lands he occupied . . . to the payment of debts contracted by him. For if he could, he might, during his own life, eat up the usufruct of the lands for several generations to come, and then the lands would belong to the dead rather than the living. . . . What is true of every member of the society individually, is true of them all collectively, since the rights of the whole can be no more than the sum of the rights of the individuals."

"Eating up the usufruct" means extinguishing the next generation's ability to share equitably in the benefits of a natural resource. According to Jefferson, no individual or society has authority to cause such extinction. One contemporary environmental issue

to which Jefferson's arguments clearly apply is the problem of topsoil depletion.

"Are [later generations] bound to acknowledge [a national debt created to satisfy short-term interests], to consider the preceding generation as having had a right to eat up the whole soil of their country, in the course of a life . . .? Every one will say no; that the soil is the gift of God to the living, as much as it had been to the deceased generation; and that the laws of nature impose no obligation on them to pay this debt."

Jefferson's argument about debt rests on a proposition that he clearly views as self-evident truth: that each generation has the right to inherit, undiminished, the same topsoil capital that its predecessors enjoyed. Our society's failure to recognize and defend this basic principle during the past centuries has resulted in topsoil depletion that has reached crisis proportions. Soon we may have literally and irreparably "eaten up the whole soil of our country."

Of course, the principle applies to a myriad of resources other than soil. For instance, the extermination of a salmon fishery, through shortsighted hydropower, irrigation or logging policies, would also constitute an "eating up of usufruct," as would the depletion of a freshwater aquifer that takes centuries to recharge itself.

Jefferson's attitudes on intergenerational obligation were far from anomalous. In his exhaustive examination of Jefferson's generational theories,



Photo by Raj Vable

"What makes Jefferson's views important . . . is not so much that he held them, but that they were widely shared."

– Herbert Sloan

Principle and Interest, Herbert Sloan remarks that, "What makes Jefferson's views important . . . is not so much that he held them, but that they were widely shared."

The Abolition of Entail

Entail – "to restrict (property) by limiting the inheritance to the owner's lineal descendants or to a particular class thereof." Merriam Webster's Collegiate Dictionary (10th Ed.)

One common type of temporary possessory interest that was subject to usufructary limitations was the entailed estate. An entailed estate was one that was inheritable only by the biological descendants of the original grantee. The descendants of the current possessor were deemed to have a vested, protectable interest in the estate. Therefore, at any given time, the present "owner" of the estate held only usufructary rights. Long experience with this model of land ownership profoundly impacted the American framers' ethical system. It was because of this history that Jefferson could confidently posit generational usufructary rights and obligations as "self-evident" truths.

Buried within the founders' discussions of generational sovereignty lies a perplexing paradox. The framers frequently and favorably employed metaphors of entail and usufruct to demonstrate, through familiar examples, the obligation to respect the political rights of posterity. How then to explain the founders' determination (advocated most strongly by such generational sovereignty advocates as Jefferson) to completely eradicate the actual institutions of entail and primogeniture from American property law? To unravel this paradox is to grasp an important, forgotten piece of our collective history, and to



Photo by Stephen Siperstein

understand how, at least in part, our society came to lose its sense of intergenerational responsibility and continuity.

The institution of entail occupied an ambivalent place in the universe of intergenerational philosophy. On the one hand, entail was in some respects the quintessentially intergenerational institution. Operating in tandem with the doctrine of waste, it compelled present landholders to respect the interests of future interest bearers. The occupant of an entailed estate was expected to consume only the usufruct of the estate and to preserve the corpus intact and undamaged for later owners. She could be sued for waste in the event she failed to comply with this expectation. The application of these legal principles over centuries helped to turn intergenerational stewardship obligations into a sort of ethical bedrock.

On the other hand, entail had its shortcomings. The intergenerational benefits and protections which entail afforded were reserved to that relatively small

group of individuals who were fortunate enough to hold future interests in estates. The earth entailed was more like an intergenerational gated community than an intergenerational commons. Entail was therefore rightfully criticized as an inegalitarian instrument, an archaic feudalism, imposed by earlier generations in violation of the sovereignty of later generations who might wish to see wealth and land distributed more freely and equitably.

It is clear, though, that the founders did not intend to abandon the principles of responsible land stewardship when they abolished entail. The principles of stewardship were deeply revered. While these social pioneers strongly advocated for the right of each new generation to transfer property according to public choice or the free market, their rationales simultaneously affirmed each generation's responsibility to pass on an undiminished earth. In his *Lectures on Jurisprudence*, Adam Smith explained that "A power to dispose of estates forever is manifestly absurd. The earth and the fulness of it belongs to

“The earth and the fulness of it belongs to every generation, and the preceding one can have no right to bind it up from posterity.”
- Adam Smith

every generation, and the preceding one can have no right to bind it up from posterity.”

The founders simply failed to foresee the full significance of eliminating the class of individuals with the clearest legally defensible interests in the land’s long-term health. They failed to foresee that the new system of non-entailed land ownership, with its shifting ephemerality of title, would breed a class of detached, individualist landowners with relatively little emotional connection to their predecessors, their successors, and the land itself. They failed to foresee the resultant unsustainable land management practices. Because they could not plan for what they did not foresee, the founders failed to develop new legal mechanisms for the enforcement of responsible

land stewardship when they dismantled an entail system which had previously served that function.

Restoration of the framers’ stewardship ethic, therefore, falls to us.

John Edward Davidson is an instructor and academic advisor in the Department of Political Science at the University of Oregon.



Photo by Kory Northrop



Photo by Andrew Dutterer

Salmon Seasons

By Rick Gurule

A non-traditional student finds inspiration in Chinook salmon's resilience

In early September I sat and gazed into the crystalline waters of the McKenzie River. Mesmerized by the gently flowing water, I watched the Chinook, still bursting with life, take turns fanning their mighty, broom-like tails in an attempt to cleanse the river bottom of algae and moss. Quietly I thanked these fish for choosing this river to complete a ritual that has occurred here for millions of years. The fall sun was warm on my skin, and autumn was gently kissing the maple trees, its leaves were blushing ever so slightly, and soon the air would be scented with smoke from woodstoves warming riverside houses. A river's health is judged by the fish that swim in it, the trees that grow along its banks, and for the clear, cold waters that

flow down it. By these metrics, the McKenzie River remains one of the healthiest rivers in America.

The salmon were preparing a redd, a place to lay their eggs. They first appeared as large, dark shapes, and looked to me as motionless logs, suspended just off the river's cobbled bottom. Then – without warning – one would dart, turning on its crimson and bronzed side, displaying its brawny power as it finned along the gravelly bottom. The rest of the river bed looked dark, dark as a rain cloud, but the area of the redd looked golden, bright as the sun with newly-laid eggs. I sat intently watching this spectacle, one of the most captivating displays of survival that nature has to offer. The Tututini Indians of the Rogue River refer to these fish as Power Tailed, Iron Willed,

Current Fighters, and the Native Americans of the Olympic Peninsula just call them Tyee, “The Chief,” and on that day I was shown why.

As I sat and watched these fish take repeated turns thrusting their hulking yet streamlined bodies at the river bottom, I could not help but feel both sorrow and a sense of urgency for them. I wanted to tell them that their efforts were in vain. If they only knew how many obstacles lay in their way they would surely give up; destructive obstacles that man has introduced, like the dams, pollution, and the clear-cutting of nearly all the old growth forests and the moss- and algae-covered river bottom. I wanted to yell out to them, “Stupid fish, why not just give up?”

I wanted to yell out to them,
“Stupid fish, why not
just give up?”

I was forty-six years old at the time and I had just lost my job of 20 years. For the first time in my life I had no job. Within that same year I lost both my grandparents, and I was scared, confused, and had lost my sense of direction. I was lost. But as I sat in silence, just gazing at the Chinook, I found myself in awe of their determination. They were relentless; they were cleaning the moss covered rocks as if their life depended on it. Their lives do not depend on this – each would die shortly after finishing – but the future of this species sure does depend on this ritual. They were just so focused on cleaning this section of river. The obstacles I knew of were not affecting them, because they had chosen this gravel bar to make their redd. The pollution and predators simply did not matter; this was going to be where they chose to continue the cycle. It made me stop and think about my obstacles.

We have done some devastating things to our rivers, and it has nearly destroyed our salmon runs. But they keep coming back, because this is what they have been doing for millions of years. They have seen hard times and harsh conditions. So what was so different



Photo by Andrew Dutterer

about what I was going through? It was at that very moment that I decided I needed to go back to school. I needed to attend college and get my degree. I had not seen the inside of a classroom in 28 years. At first going back would seem like being in a foreign country, but I would not give up. I would keep coming back; every day, every term, as I struggled with my decision.

It has been five years now. I am proud to say that I am a senior and I will graduate this summer from the University of Oregon with honors and a degree in environmental studies. I owe this accomplishment to these fish. I have spent my whole life in pursuit of them and in honoring them, and will continue to do so. The Chinook spawn on four- to five-year cycles, and it has been five years now this fall and you can be sure of one thing: I will be back on the river as always, but this time I will be seeking out the offspring of the Chinook that changed my life on that September day and made me work hard to overcome my obstacles. I need to thank them for not giving up and for inspiring me to greater heights, and to show them that I do not intend on giving up, either. Together we will celebrate our determination and our homecoming.

Rick Gurule is an undergraduate student in the Environmental Studies Program at the University of Oregon.

The Sabbath Pastoral

By Robert Zandstra

Resolving the temporal paradoxes of the pastoral ideal

This essay seeks to examine several historico-temporal pastoral paradoxes, specifically tensions between past and present, future and present, and time and space. Furthermore, this essay shows how the Judeo-Christian theory and practice of Sabbath as applied to the pastoral mode in the book *Goatwalking* by Jim Corbett resolves these pastoral paradoxes of time through its focus on presence that is rooted in the past and points towards the future. The pastoral mode, cutting across genres from anthropology to science fiction to TV advertisements, stages numerous paradoxes, particularly the desire for environmental preservation and harmony with “nature,” yet leisurely, without

hard work, and without altering environmentally destructive lifestyles. Pastoral ideals seeking to overcome this paradox are often understood as a “middle landscape” between the uncivilized wilderness and the dehumanizing city, which may take the form of country estate or National Park or suburban subdivision. Historico-temporal pastoral ideals equivalent to the spatial “middle landscape” tend to take two forms: first, the arcadian, regressive pastoral focused on the past and, second, the imperial, progressive techno-pastoral focused on the future.¹ However, both denigrate the present in favor of the

¹ Much has been written critiquing these ideals, so a brief summary of time-related paradox will suffice here.



Photo by Julie Bacon

Following Henry Ford's maxim that "history is bunk," the World State has made both future and past subservient to the present.

past or future respectively, while also subordinating the value of past and future to the values of the present. Both ideals desire time to stand still in an impossible perfect present, a static "middle temporality."

The regressive pastoral ideal valorizes a past stage of the development of human civilizations in which human systems supposedly were more in tune with ecological systems. It privileges this speculative, prelapsarian past even more highly than the present. By denigrating human history as the essence of the problem, however, regressive pastorals privilege the present as the site of judgment over the past. The past is the only point in human history in which the pastoral ideal could be achieved, so it can never become reality, thus reinforcing the status quo of environmentally destructive modern technocracy (Corbett 22).

Regressive ideals react against and invert another temporal ideal, this one future-oriented and dominant in Western society. Those who desire closeness to nature enlist advances in technology to do the work that would otherwise detract from humans' destructive lifestyles. Technological "progress" is not only seen as good, but as inevitable (Marx 252, 264). The environmental problems of the present are deferred to the future to be met with future technologic solutions. (Technology's role in environmental problems is more or less ignored.) This pastoral ideal devalues the past and present and looks for answers only in the supposedly more favorable future. At the same time, the goals of the future are understood to be the desires of the privileged present. Those in the present actively try to make a certain future exist in the present by accelerating the process of technological change.

In the novel *Brave New World* by Aldous Huxley, non-human nature and food in the World State are almost never described or mentioned, yet people are happy with their relationship to their environments – they have already achieved a pastoral ideal. Yet when

faced with a rare functioning ecosystem and "savage" natural processes such as birth, two characters' reactions demonstrate the desire for a present that annihilates both past and future but also an utter failure to live in the present. One is completely preoccupied with his problems back home in London. He exhibits economic anxiety about a past waste of costly resources (a running scent tap) that continues into the present. He then bemoans his likely demotion and exile to Iceland. His future concerns overwhelm him. Both take narcotics.

Lenina shook her head. "Was and will make me ill," she quoted, "I take a gramme [of the narcotic soma] and only am."

In the end she persuaded him to swallow four tablets of soma. Five minutes later roots and fruits were abolished; the flower of the present rosily bloomed. (101)

Rootedness and fruitfulness, the plant's sustaining past and reproductive future, are reduced to the superficial showiness of the plant's sex organ, soma being made from sex hormones. Past and future tenses are denigrated in favor of the present. Following Henry Ford's maxim that "history is bunk," (40) the World State has made both future and past subservient to the present. Ford, the advocate of the efficient, reductive, industrial assembly-line method of production, is the World State's fitting God-figure. Time marches on in the steady progression of the assembly line, but each worker is confined to his or her place along it, always in the present. Yet by taking drugs, they "drop out" from the present, the wish to "only [be]" indicating the devaluation of time as well as of meaning, the part of reality that enables subjects to function as "beings."

The devaluation of time to space occurs in both regressive and technological pastorals. Both desire the imposition on the present of an ideal, static past or future state that doesn't allow for change, or time. Time also becomes spatialized. For example, in *Brave*



Photo by Kirsten Vinyeta

New World, the Director of the Centre where human embryos are hatched and conditioned explains, “in nature it takes thirty years for two hundred eggs to reach maturity. But our business is to stabilize the population at this moment, here and now” (19). He is explicit that all times are to be subjugated to the present. The embryos age by moving along a conveyor belt, “[t]wo hundred and sixty-seven days at eight metres a day.” Because their aging is now determined by human intervention, fetal age is expressed as how far along it is in the process of conditioning – metre 1120 rather than twenty weeks. Human technical civilization has derailed from legitimately using land to make a place for itself by dominating space, indeed the planet. It also seeks to control time by rendering it spatially (Heschel 3), as well as trying to make all space, and therefore all time, the same, a dynamic that is present in all regressive and techno-pastoral ideals.

In contrast to these ideals, however, the Sabbath pastoral theorized by Jim Corbett in *Goatwalking*

balances past, present, and future as well as time and space.² Corbett’s pastoral ideal is communion with the natural world by adapting human civilization directly to the land rather than changing the land to fit human wants (ix). Communion is the goal of errantry, “sallying out beyond a society’s established ways, to live according to one’s inner leadings” (13). Corbett practices goatwalking, being at home for a time in wildlands in symbiosis with goats by subsisting on their milk and wild plants (ix), as a form of errantry.

Don Quixote and Francis of Assisi are individual models for errantry, but commitment, or “covenanting,” to errantry is communal. Corbett’s

² Corbett is by no means the only one to do this. Wendell Berry is perhaps the most significant. Aspects of Thoreau’s environmental project, though often also pastorally regressive or progressive, are characterized by Sabbath. Corbett is best known as co-founder of the Sanctuary Movement which aided and sheltered Central American refugees during the Reagan administration. He lived on a ranch in southern Arizona, co-incidentally also the site of the savage reservation in *Brave New World*.



Photo by Julie Bacon

chief model is the Hebrew people of the Bible, pastoral nomads who had been enslaved by the Egyptians under Pharaoh. God called Moses to lead the people out of slavery and to the Promised Land. After escaping Egypt, the Hebrews wandered in the desert wilds for 40 years. During that time, they receive the law of how to live rightly,³ also known as the covenant, from God at Mount Sinai, where God revealed his name to his people, a name Corbett translates, “I AM PRESENT” (4). Instead of futilely resisting or collaborating with Pharaoh, as regressive and progressive pastorals do with industrial technocracy, the Hebrews “went free” (71-79). Such freedom allows a community to covenant, which “requires that a hallowing way of life be established somewhere, in a specific land” (5). Yet the covenant community’s freedom is more temporal than territorial (77). It extends throughout time, and its “Promised Land” is always in the present (4-5).

Sabbath rest, an integral part of both the covenant and the creation of the world, is the process through which the original earth-hallowing covenant is remembered and renewed in the present (81). Sabbath is ceasing for a time to participate in the destructive life of industrial society, going free in order to live in delight, joy, freedom, and communion with the earth as God intends (79).⁴ Sabbath practices vary from

goatwalking to huckleberrying to obeying the Torah. It is through the Sabbath that the earth-honoring law of the covenant, given at Sinai, is woven (partially, yet truly) into the fabric of history (83). The Sabbath is presence-centered, serving as a gathering place from which the covenant community can act, guided by past yet ongoing events (85).

Sabbath also anticipates future communion in present experience. The movement of good yet fallen creation towards redemption, from Egypt to wilderness to Promised Land, anticipates a final consummation that is ultimately a gift from the covenanting God (7) in which Sabbath communion is fully realized, and all aspects of life, including sexuality and mortality, fully integrated and perfected (235-7). Humans, utterly incapable of enacting such an ideal, are nevertheless invited to participate in Sabbath practices that necessitate the self-denial and relinquishment that characterizes human maturity (86, 235). Corbett, a Quaker, sees the death and resurrection of Jesus Christ as recapitulating the Exodus narrative and enacting this eventual renewal (5). All time, and consequently all space, are mysteriously and sacramentally imbued with God’s “real presence” via this past event and consequent hope of complete renewal, a communion memorialized and anticipated as Sabbath.

Robert Zandstra is Ph.D. student in the English Department at the University of Oregon.

Works Cited

- Corbett, Jim. *Goatwalking*. New York: Viking, 1991.
- Heschel, Abraham Joshua. *The Sabbath*. New York: Farrar, Strauss, and Giroux: 1951.
- Huxley, Aldous. *Brave New World*. 1932. New York: HarperPerennial, 2005.
- Marx, Leo. *The Machine in the Garden*. 1964. New York: Oxford University Press, 2000.
- Stoll, Steven. “Agrarian Anxieties.” *Harper’s*. July 2010: 6-9.

³ The Sabbath guidelines of the covenant actually led to the sustainable practice of agriculture by the Hebrew people in the Holy Land (Stoll 8-9).

⁴ For Corbett, Sabbath applies spatially as well. One spatial analogue is wilderness, those places marginal to technocratic empire that resist human mastery (206, 82-3).



Photo by Marissa Williams

Pictograph

By Bennett Battaile

A view from the future of the ceremonies that created an environmental ethic

Good morning. And thank you for coming to this session! When there's a session just down the hall showing you the construction of the pyramids, and we're showing what's essentially a two-hour ceremony in a tribe of hunter-gatherers, well, we appreciate your interest.

Let's go straight to looking at the past. We'll start a few days before the ceremony itself.

This is just over ten thousand years ago, not too far north of where we are now. This man is a mammoth hunter – look at those arm muscles – and he's on a scouting expedition. He's been hiking for almost two hundred miles. This slope is his last climb before he

comes to the valley he was sent to check. And in a few seconds we're going to see something which might be a first in all of human history: someone realizing that the world has changed.

Look at his face. He's concentrating on his feet, fair enough, he's having to hop from rock to rock. No soil here yet, the glaciers have only just started retreating. But he's used to that; his face there – focused but relaxed. Now coming up right – here – that blink – that's him seeing a little bird skeleton down between the rocks. Let's look at that again from a different angle.

And in a few seconds we're going to see something which might be a first in all of human history: someone realizing that the world has changed.

OK, here's the skeleton in the foreground. He's walking up – let's go to slow motion – the blink. He hesitates, almost stops. His left hand is starting to reach for his talisman. Look at his forehead – eyebrows coming together, you can see thought lines or a hint of frown. Back to normal speed, and you see a change in his gait; after the skeleton, he's walking more slowly. Up the slope.

Now this hunter isn't normally bothered by animal skeletons – he's never had a reaction like this before. We think it's clear that – well, let me not get ahead of myself here. OK, let's see what happens when he gets to the crest of the hill. See his caution as he gets to the top, careful to not show himself. Let's swing around for a moment and see what he sees.

Beautiful, isn't it? Spring grasses. Saplings, mostly willow and birch. They go on for miles. But what's missing? Thank you, yes, exactly! This time of the year, you'd expect a dozen or more mammoths in view, and you'd be able to hear others bugling from up to five miles away. That is to say, of course, the

technology won't give us sound, but we've learned from years of watching: people sometimes heard mammoths from more than five miles away, and mammoths could hear each other at twice that. But this valley should be full of them, because this is their favorite grass, at just the right ripeness, and they'd be eating the saplings too.

Back to our hunter. Look how intent he is, watching, but the lines in his forehead are still there. He's listening too, we can tell. Watch how his eyes flick to one side – here. We did a visual search and found a bird which chirped about a hundred yards away. Let's skip forward about ten minutes. Look at his posture. Shoulders are starting to sag a bit. Doesn't he look resigned? Another ten minutes forward. Sitting now, slouched over, just staring at the ground and rubbing lichen off a rock. Look at his forehead – the lines are deeper.

Oops, I need to watch the time. Let's stop there for a bit, and I'll give a quick summary. He sits for an hour more, just staring and rubbing that rock,



Photo by Stephen Siperstein

before he finally goes down to the valley for a closer look. While he's down there, we think he's not really engaged in the tracking. Sure, he looks at the ground, at animal tracks, at bark damage on trees, at an old overgrown mud wallow. But he seems slow, quiet, almost droopy, and there are the lines in his forehead still. Usually when he's tracking, he's more energetic, moves briskly, smiles to himself from time to time. We think that from the moment he saw the skeleton, he's not expecting to find any mammoth sign. And he doesn't. He hasn't seen a mammoth in four years. This trip was to the tribe's best known place to find them. And there are none.

On the return trip to the village he's still worried; the frown lines, and he's hurrying, head down. Outbound took him nine days, but he makes it back in just six. Now let's start up again as he gets back home.

These are his children greeting him. Look at his face again – happy to see the kids, but the lines are still there. Normally when he gets back it's hugs all around, he'd be telling his kids stories, big expansive gestures, the kids all ears, and others from the tribe gathering around to listen. This time it's pats on the head, and he's off to see the shaman.

Her lodge is set apart, the way it is for shamans. Watch the greeting as he arrives.

This is the formal version – kneeling, holding up the talisman. You only see the formal greeting maybe once every couple of years, when someone's coming with a big problem: a serious illness, say, or troubles with another tribe. When they had met before his expedition, when she was giving him directions for scouting, it was all informal. (By the way, I'm sorry we don't have time to show you that meeting. The map she drew in the dirt, of places she'd never been, was amazingly accurate and detailed, and when she

How did they make that one ceremony have such a lasting effect?

made him redraw it – what a visual memory.) Now that they've started talking, the rest of the meeting is the same. Here is where it's most frustrating that we don't have sound, and we don't yet know the language enough to lip-read. It's an important meeting, but there's not much we can learn from it now. So let's skip forward, to two days later.

And here is the ceremony. We're about fifteen minutes into it. The cliff face is just uphill from the village. Everyone from the tribe is here. That's the chief between the shaman and the hunter; he's just wrapping up some opening remarks. Note the hole in the dirt behind the shaman, right up against the cliff. When the hunter starts talking, you'll see what a great storyteller he is – miming a bold hunter, throwing a spear. Coming up is something we think is brilliant: watch this finger-counting as he's pointing to the tribe's elders, he's counting up their kills. Then he switches perspective. This is a repeat of the count, but see how he starts with all his fingers out and then folds them down for the kills. He's counting mammoths left. Ends with three fingers up. And here he's talking about his last hunt, four years ago; he brought down a mother mammoth, leaving two nursing calves to run away. Three fingers up, spear throw motion, one finger down and the other two gradually curling down. His two fists in the air, look how everyone is silent – long silence – and when he hangs his head and pounds his chest, look at the shock on people's faces.

We've got just time for a glance at the end of the ceremony. Remember the hole next to the shaman, see it's filled in now – they put a mammoth bone in it, and their best spear point, and a wreath of that grass. The pictograph that the shaman is finishing up: see the mammoth there, and a hunter next to it here, but spear pointed down, head bowed. And our hunter is helping to paint; you can see his forehead lines are gone, but aren't his eyes sad?

That was a pivotal ceremony, and I'm sorry we don't have time for it all. How pivotal? Well, for a start, the tribe's hunting patterns changed. They took more care with hunting seasons and with how many animals they could kill from one herd. They did the

same sort of thing for plants – leaving a larger share of berries on the bush.

But here's the wonderful part: this new ethic spread. As the tribes mixed and traded, you can trace the influence of this one ceremony spreading out across most of the continent. People came here to leave offerings and touch up the paint on the pictograph for not just the next few generations, but for almost three thousand years. Yes, three thousand.

So our group's mission, the key riddle we're trying to solve: How? How did they make that one ceremony have such a lasting effect? They worked out a way to live in the world without injuring it more. But how did they pass that on to so many people, to so many generations? That's what we hope to learn from them.

Bennett Battaile is an artist living in Portland.

POETRY

In Passing

By Gayla WardWell

Time is lethal.
Time is death.
It's the river at flood and ebb,
the mountain of change,
the volcano of despair.

Sorrow and ecstasy bloom in
agelessness.
Fear comes and passes away,
like stars and galaxies
pour forth their light and warmth.

The seasons are everything.
And nothing.

Time is us, growing old.
Time is us, dying.
Time is renewal and rebirth
and the stirring of hope in our souls.

Gayla WardWell is the Graduate Program Coordinator for the Environmental Studies Program at the University of Oregon.



Photo by Kirsten Vinyeta



Photo courtesy of The Peregrine Fund

Traditional Ecological Knowledge and the California Condor

T. Bird Wicks

Bringing the condor home to Yurok tribal homelands

In the time since European contact, indigenous peoples have witnessed the decline or extinction of many species they depend on for both physical and spiritual sustenance. In the early 1900s, as destruction of “untamed” nature continued to expand west, some Euro-Americans began advocating for preservation, conservation or restoration of species and ecosystems. Early naturalists perpetuated the idea that areas uninfluenced by Euro-Americans are uninfluenced by humans in general.

While resource managers turn to western science for answers, most ignore the very peoples and knowledge

that originate from this land. This knowledge is currently being referred to as traditional ecological knowledge, or TEK. The Alaska Native Science Commission describes TEK as “practical common sense based on teachings and experiences passed on from generation to generation”. Furthermore, they contend that TEK is a holistic way of life that “cannot be compartmentalized and cannot be separated from the people who hold it. It is rooted in the spiritual health, culture and language of the people” (2005).

In the case of the California condor, TEK will play a vital role not only in understanding the traditional

range of the condor but in creating a long-lasting reintroduction plan that takes into account the condors' historical range and habitat and their cultural importance.

California condors, *Gymnogyps californianus*, are the largest terrestrial birds in North America, with a wingspan of 9.5-12 feet, and weighing 18-23 pounds.

While resource managers turn to western science for answers, most ignore the very peoples and knowledge that originate from this land.

Condors scavenge using keen eyesight, and will fly up to 140 miles to gorge themselves on carrion.

Condors have low reproductive potential, laying only one egg every other year. Chicks generally remain with their parents into the second year after hatching. Similar to other large North American birds California condors do not reach sexual maturity until they reach six years of age, though they are often not successful until they reach eight years of age, and are monogamous, mating for life (Yurok Tribe 2010).

Geographically, California condors once ranged across most of the North American continent. By the mid-1900s condors were found only in southern California (Yurok Tribe, 2010; Foster, 2011). In terms of numbers, by 1977 there were only 45 wild birds, slipping to only nine wild birds by 1985. On April 19, 1987 the last wild California condors were captured and placed in captivity.

California condors are highly revered by many First Nations tribes in the Pacific Northwest and California. Condors are often considered world purifiers because of their natural role in cleaning up death and decomposition. An archeological dig at Five Mile Rapids, near The Dalles, OR, unearthed 10,000 year-old remains of at least 22 adult condors.

There is evidence that the feathers from these birds had been intentionally stripped, likely for ceremonial purposes (Wilbur, 2010). Condor feathers play an important part in the Jump Dance and White Deer Skin Dance world-renewal ceremonies held at the end of summer by the Yuroks in northern California. Tribes throughout the San Francisco Bay area of California made whistles out of condor wing bones, wore condor capes and ritually buried condors (Foster, 2011; Walter, 2009; Wilbur, 2010). While there is a plethora of evidence that many tribes killed condors for their plumage or raised young condors for eventual sacrifice, condor populations appear to have been stable until the arrival of European settlers in the mid-1800's (Wilbur, 2010).

Decline of the condor can be linked to numerous euro-American practices. And beginning in 1987, several agencies gathered together to attempt to right the wrongs inflicted on the California condor, in the



Photo by Kaitlyn Grigsby

“We as Yurok are looking to restore our culture, and to restore our culture we need to have a healthy ecosystem. And to have a healthy ecosystem you’ve got to have all the participants, and the condor certainly was one. He’s one of the big missing pieces.”

– Yurok tribal member Bob McConnell

form of a condor recovery program. In 1992 the first 11 captive-bred condors were released from their “training facility.” Since 1992, the number of captive and wild condors has increased to 322 birds; about 172 are living in the wild.

Interestingly, the current condor recovery program is attempting to reintroduce California condors only to Arizona, near the Grand Canyon, in a few locations in southern California and in Baja California, Mexico. None of these programs seem to include TEK or the interests of tribes living in former condor habitat. This changed in 2008, when the U.S. Fish and Wildlife Service granted the Yurok \$200,000 to determine the feasibility of reintroducing California condors in northern California.

The journey to bring the condor back to northern California began sometime around 2005 when the Yurok started discussing the creation of a wildlife preserve on tribal lands. In a 2009 interview, Tiana Williams, tribal member and staff member with the Yurok Tribe’s wildlife program, is quoted as saying, “It’s written in the Yurok constitution, and it’s always been one of our goals, to have restoration of Yurok ancestral territory – the landscape, the animals – to what it was pre-contact with Europeans” (Walters, 2009). The California condor was chosen as one of the top three species tribal elders would like to see reintroduced, coming in third to salmon and sturgeon. Salmon and sturgeon already have programs in place, thus the California condor became the flagship species for the Yurok’s fledgling wildlife program.

About 20 years before the tribe began this endeavor, as they began reviving traditional ceremonies, a Pecwan elder sang a condor song. This was the first

time that tribal members had heard the song, leaving many members wondering what happened to the condor. Yurok tribal member Bob McConnell says “We as Yurok are looking to restore our culture, and to restore our culture we need to have a healthy ecosystem. And to have a healthy ecosystem you’ve got to have all the participants, and the condor certainly was one. He’s one of the big missing pieces” (Walters 2009).

Today, the Yurok use a combination of TEK and western science in planning for the return of the condor. Tribal wildlife managers use intimate, local knowledge of condor natural history to establish survey areas. In these areas they live-trap turkey vultures, carrion eating cousins of the condor, using large mesh and PVC enclosures and carrion as bait. Once trapped, the turkey vultures are given a thorough examination and their blood is drawn and tested for lead, DDE, and DDT. Northern ravens are also part of the research mix. They eat a diet more varied than the condors but do not migrate, unlike turkey vultures, which winter south of the border (Grube, 2009).

The Yurok have confirmed that DDT and DDE levels will not pose a barrier for California condors. Unfortunately, lead from lead shot still poses a problem for condor reintroduction. Diligent condor recovery team members capture poisoned condors and take them into captivity for chelation (the removal of lead from their blood). Though lead shot has been banned, the removal of shot from condor territory has been one of the greatest challenges for condor recovery (Peregrine Fund, 2008; Zoological Society of San Diego, 2011).

The Yurok Tribe's ambitious efforts have inspired other tribes to dream of seeing California condors in their skies once again. The Confederated Tribes of the Yakama Nation have partnered with the Oregon Zoo to sponsor the zoo's condor breeding program (Oregon Zoo, 2005). The Yurok Tribe's condor reintroduction program showcases the value of TEK to natural resources conservation, preservation, restoration, and management. This condor program pairs western science and TEK in a blend that should inspire leaders from tribes, non-profits, government agencies, and other non-governmental organizations. In keeping with TEK, honoring their traditional connection to condors and maintaining and managing the place of humans in the natural world, the Yurok Tribe are regaining some of the balance that the tribe and the natural world they live in lost with the coming of Euro-Americans. The Yurok have created a complete reintroduction system for the California condor, giving hope to tribes throughout traditional condor range that one day they will get to once again watch California condors drifting on thermals, searching for carrion and cleansing, purifying and restoring balance to the world.

T. Bird Wicks is a Master's student in Environmental Education at Southern Oregon University.

Selected Works Cited

Alaska Native Science Council. 2005. What is Traditional Ecological Knowledge? Available at: http://www.nativescience.org/Search/search.asp?zoom_query=Traditional+ecological+knowledge&zoom_per_page=10&zoom_and=1&zoom_sort=0. Accessed June 21, 2011.

Foster, John W. 2011. Wings of the Spirit: The Place of the California Condor Among Native Peoples of the Californias. California State Parks. Available at: http://www.parks.ca.gov/?page_id=23527. Accessed June 19, 2011.

Grube, Nicholas. 2009. Bringing Back Condors. The Daily Triuplicate. May 9, 2009. Pp B1-B2. Available at: http://www.yuroktribe.org/government/selfgovern/documents/triplicate_condor.pdf. Accessed June 21, 2011.

Oregon Zoo. 2005. History. Oregon Zoo's California Condors. Available at: <http://www.oregonzoo.org/Condors/historyOral.htm>. Accessed June 21, 2011.

Peregrine Fund. California Condor Restoration—Conservation Projects. Updated 2008 Available at: http://www.peregrinefund.org/conservate_category.asp?category=California%20Condor%20Restoration. Accessed June 20, 2011.

Walters, Heidi. 2009. Fixing the World. The North Coast Journal. July 16, 2009. Available at: <http://www.northcoastjournal.com/news/2009/07/16/fixing-world/6/>. Accessed June 20, 2011.

Wilbur, Sanford R. "Sandy." 2010. Introduction: Condor 101. Condor Tales: California condor Past, Present, Future. Available at: <http://www.condortales.com/DCIndians.html>. Accessed June 20, 2011.

Yurok Today. 2009. Flight of the Prey-go-Neesh. Yurok Today. Pp. 3-4. Available at: http://www.yuroktribe.org/news&issues/news/documents/march_newsletter_Yuroktribe.pdf. Accessed 20, 2011.

Yurok Tribe. 2010. The Yurok Tribe Condor Program. Updated 2010. Available at: <http://www.yuroktribe.org/government/selfgovern/condorhistory.htm>. Accessed June 21, 2011.

Zoological Society of San Diego. California Condor Recovery Program. Updated 2011. Available at: <http://cacondorconservation.org/programs/>. Accessed June 18, 2011.



Photo by Kirsten Vinyeta



Photo by Raj Vable

The Memory of Persistence

By Chithira Vijayakumar

A love letter to a distant land

Your windows have but the most futile curtains, sheer as hope and weightless as lies. They are deep blue and fickle in movement, like the sea; and in their ashen shadows you'd lie, unmindful of the famished eyes of the metropolis, unperturbed that they see you.

When I returned home, to Kerala – my land of serpentine rivers, my strip of red earth stretched out along the coast of India – I tried the same. I took down my room's heavy caramel curtains, and strung up an old, faded shawl that still dreamt of camphor, a shawl of ephemeral green.

But then here, no one's watching, no one's crowding at the door.

* * *

I who have moved away and about, wonder frequently about home. A colourless moment of pause, translucent and solid, like the cellophane that joins a reel of film to the next.

Some of you would like it here, in this city of storms. I wait breathlessly for the stillness that precedes each one, the silence before the sky explodes; hot, humid afternoons that sink slowly into swamps of windblown evenings and lightning. I turn off the lights, hide the candles, and put away the lanterns.

I sit in front of abandoned palaces and wait for the memory of luminescent queens to walk onto the balcony.

I wonder if this is what the world will look like when we're gone.

* * *

This, this is where I come to lie in the earth, to taste it, to straddle it. Seedlings sprout from my flesh and become immense trees, their roots coiling stubbornly around my bones. Here my body deepened and darkened in the wild sun, and my eyes began to glow like half-moons, strange and luminous. My hair grew to my waist, and could swallow worlds; now my hair is short, because I have little use for the worlds I inhabit.

Here the air at dusk is deep blue. It seeps slowly into the shadows and turns them violet. The land is generous – the stray tomato that rolled away from a bursting grocery bag will turn rapidly into a plant, be spitting fire in a week – and prodigal in robust flowers and fruit which spurn the care of our mortal hands. Like my garden, where over the years, unheeded flowerpots have cracked, and everything has blended with everything else; so the rose-dahlia-jasmine-orchid plants are all really one and the same.



Photo by Sreang Hok

I wonder if this is what the world will look like when we're gone.

Here, the ghosts know the loveliest poems. They dangle their legs from the trees and sing. On cold nights of confusion, I follow the trails of their silver laughter, and they reward me with their stories.

Here the mosquitoes are slow and swollen, weaving like the last drunk to leave the bar. Snakes leave their translucent memories on windowsills as gifts; and the sky opens her legs in ecstasy every day.

This is the land where I discovered that midnights taste of ink; where I shut my eyes and fall through rabbit holes; where I sit in buses and trains to go nowhere. This is where I first crushed globes of pepper between my teeth and tasted anger.

Where the red earth is a reminder of struggles that were, and yet to be.

This is where I walked past Poinciana trees catching fire in the evening sun, and found my name between the pages of your books. Here, all the dogs we've had roam our garden loyally in the moonlight till they tire, stopping to rest amidst the loving piles of stones that mark their graves. Here is where I learnt to snarl and roar. Where we chased bluebottle flies and sang with the geckos.

Here, she loved me, he loved me, and I loved them.

Here my bones breathe.

* * *

Romance, you say. This is the absurdity of childhood nostalgia, these are the photographs that have faded and worn, these are the songs that are no longer sung.

I know.

I know that when I was 12, I went to the beach I visited everyday, and saw the sea was a froth of yellow and the sands were strewn with fish, after a factory



Photo by Sreang Hok

up the coast decided it was too expensive taking its effluents offshore. I remember the bleeding sores that bloomed on the bodies of fisherfolk.

I know that year after year, I've watched gaping wounds open in the mountains that our house overlooks, the land stripped and torn. I know that not far away are malnourished lands where houses are referred to by the number of children they have lost to hunger. I know that this is a country where farmers drink pesticides to escape indebtedness in the only way they can, more than two hundred thousand of them in the last decade alone.

I know that while there is poetry and protest, that armchairs of intellect are soft and comfortable, and most lose the use of their limbs once they've sat in them.

I know.

But my eyes, my eyes are filmed over with lust, lust for the beast that lives right below the surface, beneath the skin.

I wonder sometimes though, if I've been a terrible lover to it. My visits are infrequent; our conversations are strained; and there's much that has changed.

But no, like memories of past loves, it's there. You just have to look closer, open cupboard doors and crumple the cobwebs. It's in the black-and-white songs of our old movies that I find myself singing as I walk along these foreign streets; in the knowledge of ancient medicinal texts brewed into jade-coloured oils I rub into my hair when the lights are too loud and my head hurts; in the way my lungs fold like wings in air-conditioning because I'm used to open windows that brought in winds laden with stories; in the crumbling books of poets of my land that I carry everywhere; in the Ayurveda that silently heals my

body; in the way my tongue seeks out fish blazing
with chillies and the salt of the sea.

* * *

I live in terror that all of it will disappear. That one
day, my wanderlusting feet will walk home, and find
it all gone. That the nights aren't silent and cold, or
the colour of wine. That they are no longer mine.
That the stars have dissolved and the moon is a
streetlamp.

Innumerable nights, drunk on the debaucheries of
urbanity, friends, lovers and some who are both, have
asked – why return to Kerala? What awaits there?

You wouldn't understand – you haven't stood still
and felt the earth move. You wouldn't understand –
everything began here, everything.

* * *

The world remains, swirling with the forests I have
yet to wander, the fires I have yet to light, the loves
I have yet to love, and the muscles that have yet to
ache.

But it is for you I will fight all my fights, it is in your
language I will sing my best stories, it is your people I
will return to defend with this idealism that refuses to
die. It is for you I will let ink turn my blood darker, it
is for you I will worship the beauty of the daily. It is
for you that I will tear words like 'justice' and 'poetry'
from my pages of books and swallow them whole, so
that they lie entwined in my stomach, resting heavily.

And if nothing else, it is to you I will at long last
come, like the tireless salmon that journey thousands
of miles to seek out for one last time the pools where
they were born. I will sit under your branches and
beside your waves. And it is with you that I will lose
the boundaries of my flesh, and become free.

This land gave me everything. The least I can offer in
return is myself.

*Chithira Vijayakumar is a Master's student in the
Environmental Studies Program.*



Photo by Lisa Lombardo



Photo by Kirsten Vinyeta

Prosthetic Desire: Bodily Enhancement and Longing in Science Fiction

By Samuel VanNest

“Man has become a god by means of artificial limbs, so to speak, quite magnificent when equipped with all his accessory organs; but they do not grow on him and they still give him trouble at times. However, he is entitled to console himself with the thought that this evolution will not come to an end in A.D. 1930. Future ages will produce further great advances in this realm of culture, probably inconceivable now, and will increase man’s likeness to a god still more.”

– Sigmund Freud, *Civilization and Its Discontents*, 1930

William Gibson's seminal science fiction, cyber-punk novel *Neuromancer* is rife with characters that have prosthetic limbs and other surgical implants. The female lead character, an assassin named Molly, is a prime example. Her prosthetics include, "surgically inset... silver lenses" over her eyes, which, among other various qualities, provide constant night vision and a digital readout of the time, blinking on the edge of her peripheral (24). She also has "ten double-edged, four-centimeter scalpel blades," one under each fingernail, that slide in and out of their housings on muscular command (25). Historically, prosthetics have been imagined and designed to mimic, as accurately as possible, natural or – according to an ableist understanding, standard human movement – the "natural" human body, movement, etc., in the context of this essay, is to be understood as a symbolic, complete human form, with all limbs and functions intact according to the condition of able-bodiedness. In other words, prosthetics have been intended as to replace lost limbs and other body parts with close attention paid to their fulfilling the original function of that part which has been lost. Clearly, we cannot define Molly's prosthetics this way. Her prosthetics serve as enhancements, or, say, extra-bodily improvements, that neither mimic human movement nor replace functions lost. If prosthetic technology, since its beginnings prior to the turn of the twentieth century and even long before, has been historically driven by the purpose to engineer devices that make physical bodies whole after some traumatic event, how do we account for cases such as Molly that recur so often in science fiction texts? If prosthetics, under the historic rubric, have been intended to make bodies whole, then what is made whole by these extra-bodily prosthetics in sci-fi? What do these prosthetic enhancements satisfy?

In a conversation between Molly and Case, the male protagonist in *Neuromancer*, Molly's motivation for surgically enhancing her body is illuminated. The crime boss Armitage has employed both Molly and Case for a heist. In a twist, he has surgically implanted a slowly dissolving neurotoxin in Case's pancreas, and assures him that only he can save Case from the permanent damage, therefore Case has no choice but

The blatant disregard for the environment... can be attributed to the pervasive desire to escape their natural bodies, or, in the derogatory terms of the novel, their "meat" and "virgin" bodies.

to work for Armitage if he wants to live. Because of this condition – he has been forced to work for this criminal – Case asks Molly, "So what's Armitage got dissolving inside you?" assuming that she has a similar reason for her involvement with Armitage as he does. She casually replies, "Anybody any good at what they do, that's what they are, right? ...I gotta tussle" (50). In this passage, Molly connects her identity with her violent profession. She needs to "tussle," or, more directly, kill, and as we see throughout the novel her prosthetics enhance her ability to do so. Molly's prosthetics fulfill a need, a desire to succeed as an assassin, which she considers her identity. In this essay I intend to further explore the link between prosthetic bodily enhancement and human desire in Gibson's *Neuromancer* and other science fiction texts, while also considering the consequences suggested by these texts of such fictional, futuristic prosthetic technologies.

Perhaps the clearest way to articulate the most basic difference between the historic purpose of prosthetic and that of examples of prosthetic found in sci-fi texts is to consult the literal definition of the word "prosthetic". Though outdated, prosthetic was first defined as a letter, syllable, or term "that has been prefixed to a word" (OED). Thus, the word "ordinary", when given the prosthetic "extra", becomes the new, enhanced, changed word "extraordinary". If prosthetic is defined this way (again, this is an outdated definition; OED provides the note "Now rare") then one can see how the example of Molly from Gibson's sci-fi novel *Neuromancer* more closely adheres to this definition

than the definitive purpose of prosthetic technology in its own history. Molly has been prosthetically enhanced; she has changed herself from ordinary to extraordinary. The classic prosthetic model has been to maintain the ordinary, not add to it.

If the chief purpose of prosthetic is understood as to restore un-whole bodies to a definition of wholeness maintained by culturally enforced heteronormativity, Molly's prosthetics differ, most importantly, in that there is no defined limit to her prosthetic potential. Because she chooses to be enhanced – she is not pressured to do so by stigma – the potential of her enhancement knows no clear limit, only the limit of her desire to be enhanced. In the world represented in *Neuromancer*, there is no culturally enforced body standard. Indeed, the opposite of a standard exists, as prosthetic enhancements are often fetishized. For instance, when Molly and Case have sex, Case touches Molly's lenses with the intention of affection (but she stops him; “fingerprints”, she says), and

Case's orgasm is likened to his being in the digital “matrix”, an extra-bodily, “consensual hallucination” that provides him the means of his own enhancement from “meat” – the term in the novel for the natural human body – to a digital “cowboy” (33, 5). Un-enhanced bodies are also referred to as “virgins”, further suggesting the fetishizing of prosthetic enhancements (49). Besides surgically implanting the claw-like blades in her fingers and the vision-enhancing lenses over her eyes in the desire to “tussle” with greater proficiency, the suggested prosthetic-as-fetishized body part speaks to another, more carnal desire for prosthetic enhancements. Additionally, as Molly identifies herself as an assassin, and desires to succeed as such, her identity is at the will of her desire as well. She is able, with the help of prosthetics, to construct her identity. As such, in this case, prosthetics satisfy desire: if it is ability that is prosthetized in the historical prosthetic design



Photo by Alayna Linde



Photo by Lisa Lombardo

model, it is desire that is prosthetized in *Neuromancer* and other sci-fi works.

Bernard Wolfe's classic science fiction story *Limbo* (1952) also recreates this model of prosthetic satisfying desire. In the novel, a highly advanced society has been inspired by a notebook found in the wreckage of a war to surgically enhance themselves with electronic prostheses that are far superior to human limbs. However, the notebook – which is briefly considered a bible-like source by the members of this society – and its message stray over time, and prosthetics become status symbols: the more prosthetized individuals are granted higher social status (Wolfe, Gary K. 218, and Wolfe, Bernard). Here, the motivation for prosthetically enhancing the body is fueled by the desire for power and influence. David R. Bunch's *Moderan* (1971) takes Wolfe's depiction of the futuristic society obsessed with prostheses a step further. In *Moderan* there are strict class divisions between the super-prosthetized, nearly robotic who are called "The Chosen", the half flesh-half robotic who are called "peotals", and the un-prosthetized "pulpy" humans occupying a serf-like position within society (Wolfe 221, Bunch). Again, in this story prosthetics are a means to power.

It is important to also note that both the Wolfe and Bunch novels are decidedly dystopian. Both stories end in the tragic decay of the represented societies in consequence of their respective fictional, futuristic behaviors. More importantly, the natural environment – understood, in this context, as the various symbols associated with nature: oceans, trees, the organic, etc. – decays as well in response. In Bunch's *Moderan* the environment is actively destroyed by the prosthetized members of society; "The oceans are frozen to insure a sterile environment in keeping with the metallic nature of the new humans, and all things organic... come to be associated with pollution and decay. Even trees, birds, and flowers are replaced by metal..." (Wolfe 220). *Neuromancer* presents a similar situation, with the decaying environment around the characters discussed so casually it is as if the death of nature is a normalcy. The ocean is described as saturated by Styrofoam, horses are an extinct species, and the very first sentence of the novel depicts a sky so polluted that it cannot be described in recognizable terms: "The sky above the port was the color of television, tuned to a dead channel" (44, 1).

"The sky above the port was
the color of television, tuned
to a dead channel."
– Bernard Wolfe, "Limbo"

Moderan especially links the dissolution of its society's environmental perspective with the value placed on prosthetic enhancement. The prosthetized humans destroy the environment in order to preserve their metallic, prosthetic body parts. This decay, then, can be directly attributed to the desire that motivates prosthetic enhancement, as the humans in *Moderan* linked prosthetic enhancement with social status and power. Likewise, in *Neuromancer* the blatant disregard for the environment exhibited by the characters throughout can be attributed to the pervasive desire to escape their natural bodies, or, in the derogatory terms of the novel, their "meat" and "virgin" bodies.

These two futuristic texts present worlds in which the natural – both the natural human body and the natural environment – has been drastically altered by the human desire for prosthetic enhancement. If these worlds are considered dystopian, and dystopian because of the consequences stemming from human prosthetic, then the desire that fuels prosthetic purpose must be implicated as the key factor behind these fictional dystopic circumstances.

These and other science fiction texts that depict extra-human prosthetic are imparting a specific message

These two futuristic texts present worlds in which the natural – both the natural human body and the natural environment – has been drastically altered by the human desire for prosthetic enhancement.

to its readership: human desire must somehow be kept in check. The fictional prosthetically enhanced humans so common in science fiction know no such limit. They are free to enhance themselves well beyond the natural human body and its abilities. Indeed, they are even socially encouraged to desire prosthetic enhancement – to construct identity, to improve sexiness, to bolster social status, to gain power. These examples suggest that human desire is an insatiable force, and as it knows no constraint there must be some enforced code of normalcy designed to contain it.

Sam VanNest is a Ph.D. student in the English Department at the University of Oregon.



Photo by Sreang Hok

Works Cited

- Bunch, David R. *Moderan*. Avon Books, 1971. Print.
- Dunn, Thomas P. and Richard D. Ehrlich, eds. *The Mechanical God: Machines in Science Fiction (Contributions to the Study of Science Fiction and Fantasy)* Greenwood Press, 1982. Print.
- Gibson, William. *Neuromancer*. New York: Penguin Putnam, 1984. Print.
- Herschbach, Lisa. "Prosthetic Reconstruction: Making the Industry, Re-Making the Body, Modelling the Nation." *History Workshop Journal* 44 (1997): 22-57. Print.
- "I Dated a Robot." *Futurama: Season 3*. Dir. James Purdum and Rich Moore. Writ. Matt Groening. Fox Broadcasting, 1999. Video.
- Tozer, James. "World's First Prosthetic Limb Found on 3,000-year-old Egyptian Mummy." *The Daily Mail Online*, 27 July 2007. Web.
- Wolfe, Bernard. *Limbo*. Westholme Publishing, 2010. Print.
- Wolfe, Gary K. "Instrumentalities of the Body: the Mechanization of Human Form in Science Fiction." *The Mechanical God: Machines in Science Fiction (Contributions to the Study of Science Fiction and Fantasy)* Greenwood Press, 1982. Print.



Photo by Marissa Williams

Take me Amtrak: Notes on a Train Trip

By Lisa Lombardo

Part One: There

As I sit waiting in the depot, trying to determine without getting up whether my suitcase would fit in the carry-on test box (and whether they will stop me if it's deemed too large) a woman keels over, falls right out of her seat and onto the floor.

At least I think that's what happened. I don't notice until after she has already hit the ground.

But there she is, an older black woman on the floor of the Emeryville Amtrak station, moaning. Medics arrive, lift her onto a stretcher, gather up her belongings: a walker with a crocheted afghan folded neatly and draped over the seat, a novel, her purse. She mumbles "diabetes," then becomes incoherent with pain.

I watch the last medic pushing the little blue walker out the door. There is something heartbreaking about

that afghan. The woman was just waiting like the rest of us, expecting to spend the night on a train.

The people near me rearrange their shopping bags and suitcases around themselves protectively, exchanging concerned glances. Then we all return to our reading material.

Next to the LED sign, there is a sheet of printer paper Scotch-taped to the wall. It reads “This sign will not display the status of the California Zephyr.” Though that’s my train, I keep checking anyway.

The Zephyr arrives unannounced. They let me on with my possibly oversized luggage.

Nearly fifty-two hours for what would take just over four on a plane. But I’m testing a theory that both seem endless only during the last hour: it’s expectations that make you antsy.

I go not so much to be “‘blown away’ by the otherwise unattainable views of the spectacular scenery” (as the route guide suggests) as to be stuck. Well, stuck while moving. Sitting in place while retreating slowly from my own life’s westward expansion, if only temporarily. And so the “scenery” rolls past me on this train named after a Greek god and I look sideways out the window, pretending I’m Ansel Adams with a camera phone in the middle of Utah.

If I were really here for the scenery, I’d get off the train, and I would have brought a decent camera besides.

Nevertheless, I try to pay attention to where we are. When the conductor’s announcements are at all audible, I diligently take out my route guide and skim the blurb on whatever notable place we’ve just passed. I take phone-sized pictures of the Suisun mothball fleet, Donner Lake, some canyon in Colorado through which, the conductor claims, they’ve built the most expensive stretch of highway in the U.S. But mostly I eat rice balls, read about Henrietta Lacks, and worry about the headache I’m getting from reading too much.

I like the feeling of padding in my socks down the aisle, of slipping into my sleeping bag at night in a

train car full of fifty-some other passengers in various states of consciousness. I like the weird conflation of public and private spaces, the temporary suspension of normal rules of propriety. We’re not just sitting here, we live here, we are conducting our lives here, if only for a day or two.

The farm kid who’s been sitting across the aisle from me since Sacramento, and who spent most of the day walking someone through a tractor repair by cell phone, is replaced in Salt Lake City by a girl wearing bulky headphones around her neck like an accessory. She pulls the curtain closed and gets out her laptop. Within the course of a few hours, I watch three different guys approach her and make conversation about editing software. It turns out she makes music videos and that her stage name is Raw Xtract.

I cannot wait to google this.

We’re ahead of schedule so I get off in Denver to walk around. It’s dusk and I’ve heard there is food nearby. However, the station has evidently been relocated to the outskirts of town. I walk in one direction until the sidewalk disappears and the road turns into a highway on-ramp. I turn around and find my way

Most of all I like waking up in the
morning. The fever of a night
spent with my head wedged
between the window and the arm
rest breaks with dawn.

around the incongruous façade of a condo building which looks as vacant as the lot across the street. Once on the other side, I can see a lone storefront in the distance. Other passengers and I converge hungrily on what turns out to be a convenience store.

I get back on the train. A Nebraskan grandmother who’s going all the way to Pittsburgh takes the seat next to me. She asks what movie I’m watching, and I tell her it’s about Joan Jett. She looks at me blankly, then takes out a Xmas-themed needlework kit when

Kristen Stewart and Dakota Fanning start making out. She seems to be slightly hard of hearing: she has no trouble falling asleep while not one, but two babies are shrieking, and she isn't disturbed when her Jingle Bells ring tone goes off, repeatedly.

Most of all I like waking up in the morning. The fever of a night spent with my head wedged between the window and the arm rest breaks with dawn. My headache is gone, and the terrain has changed completely. The land is flat, familiar farm fields. I'm on my way home.

We arrive in Chicago. I walk the length of the double-decker train through the dark station. When I finally emerge, it's cold outside, but there's no snow.

Part Two: Back

The first thing my new seatmate utters is "Stupid hick thought he could outrun the train." We've come to a stop forty minutes outside Milwaukee, and we've

just been informed that a "vehicle strike may have occurred."

It's only later I learn that, unbeknownst to any of us, we'd hit an SUV a mile back and dragged it to our present location.

The porter makes his way down the aisle assuring us that there was just one person in the car. From then on, all of the announcements are updates on the expected length of our delay. The process of removing the "debris" from the engine, of filling out law enforcement paperwork, of performing a safety check, and of changing the single damaged headlight takes four hours.

The man in the car died instantly, but no one tells us that.

The general sentiment around me seems to mirror that of my seatmate who, he tells no one in particular, used to live in the country, so he knows "what those



Photo by Julie Bacon

types are like.” No one seems to question that the person in the SUV was male, or that he was either trying to beat the train or kill himself. It’s unclear which explanation is preferred.

Four hours seems like a long wait, but to have been in a major accident that mangled an SUV unrecognizably and took a life, and to then just continue on our way is pretty surreal.

My seatmate calls his fiancée and fills her in on the delay, and on his many feelings about meeting her parents. He calls a friend and discusses the pros and cons of different ways to castrate bulls. He seems very knowledgeable on the subject; I am unable to continue eating my pasta salad.

Less than an hour after we start moving again, we slow to a stop. We’ve hit a deer, they inform us over the loudspeaker. It will take around ten minutes to hose off the front of the engine.

I took the train because it’s arguably less environmentally destructive than flying or driving; I didn’t imagine we’d be the cause of so much death.

I’m in the aisle seat, so I can’t see much out the window, but there’s nothing much to see anyway until the western edge of Montana, at least according to the route guide. I watch *March of the Penguins*, which I found in my parents’ basement on a desperate search for entertainment before I left. My seatmate puts on *Mr. and Mrs. Smith*, and I end up watching a good quarter of it over his shoulder. I can’t hear the dialogue, but I think I understand the humans in his film about as well as the penguins in mine.

Around lunchtime, I glance over at my seatmate’s laptop screen, and he’s changed his background to a picture of a woman I can only assume is his fiancée. It’s good to have a face to put to her words, which I fill in in my head as he talks to her on the phone yet again.

He disappears for a while, then returns carrying a magazine. A special edition of *Maxim*: “Salute to the Military.” He pages through it; I can’t tell if he is trying to avoid the pictures or not.



Photo by George Costakis

It’s odd to sit next to a stranger for two days, to sleep next to him for two nights, with the only words I’ve spoken to him being, “Could you plug this in?” and “Thanks.” I know too much about this man. I haven’t been paying attention to the scenery.

Every time we stop, I idly try to determine how far behind schedule we are. As long as we’re moving, there are no announcements made about our ETA. “We’ll get there when we get there,” Amtrak says with its silence.

In any case, I feel like I could sit here forever. I suspect that my fellow passengers feel the same way, as no one has expressed frustration over our substantial, yet unspecified, delay. What’s four more hours when you were expecting forty-eight? What’s life on a train when it could have been death in an SUV? We’re not even waiting anymore; the little slips of paper that the porter scrawled with city names and stuck above our heads so long ago are no longer the point.

Lisa Lombardo is a Master’s student in the Environmental Studies Program at the University of Oregon.



Photo by Sreang Hok

Taking Turns

By John Edward Davidson

A parable about intergenerational justice

Once upon a time, there was a small neighborhood playground. The playground contained only one swing. The local children feuded continually over access to the swing until some parents finally stepped in and created a sign-up list. The list was kept by a local grandmother who liked to spend her afternoons on the sunny bench in front of the swing.

One day, a boy named Jimmy, who had signed up for the swing, became bored with swinging. Jimmy decided to stand up in the swing instead, and to jump up and down. Through his vigorous efforts, Jimmy made a good deal of noise, and he seemed to be greatly pleased with himself. But after a few minutes of this game, the swing set began to shake

violently. The structure could not endure Jimmy's abuse much longer.

The grandmother rose from her bench. She asked Jimmy to stop jumping on the swing. Jimmy refused, protesting, "I can do whatever I want! I signed up! It's my swing right now! That's the rule!"

The grandmother shook her head. She explained to Jimmy, kindly but firmly, "No. That is not the rule. It is never your swing – or anyone else's; it is only your turn on the swing. Other children have a right to play on the swing after you are done. So even though you are free to play on the swing... you are not free to break it."

Though we can imagine better,
sounder, more sustainable ways to
conduct ourselves, we do not
require such conduct of one
another.

The principle to which the grandmother alluded has wide application. Eventually, each of us now living will perish and depart this world. Our “turn” on this earth will come to an end. But the earth and all it holds will survive us, to be inherited by our descendants. It is due to this simple truth that we may never rightfully consider the world as wholly our own. We may each of us, and all of us collectively, enjoy the bounties of nature during our allotted time... but we may NOT break the swing.

This childhood lesson is easily forgotten. How else to explain the unsustainable conduct engaged in today by both public and private entities, conduct which degrades the water and air that are posterity’s natural legacy? We allow the manufacture of radioactive wastes which will encumber the health of the land virtually forever, before we have developed technologies for their safe disposal. We deplete freshwater aquifers faster than nature can replenish them. We wash precious topsoil, built up over millennia, into the rivers and oceans, and poison what soil remains with bio-accumulating pesticides. We introduce thousands of previously unknown, synthetic chemicals into the environment without requiring testing for their long-term effects upon humans and other life forms. Through all of these practices, and through reckless habitat destruction, we drive plant and animal species into extinction at a rate of thousands per year, irreversibly decimating entire ecosystems. We then add insult to posterity’s injuries by running up incredible public debts pledged on our children’s credit in order to finance short-term material interests. Through all of these practices, we damage that which does not belong solely to ourselves.

Though we can imagine better, sounder, more sustainable ways to conduct ourselves, we do not require such conduct of one another. Instead, we capitulate to the lowest common denominator, the crassest of values. We accede to short-sighted demands for expedience and profit, to claims of “title” and “property right,” claims of sovereign privilege, claims based – one and all – upon Jimmy’s Rule: “I can do whatever I want! It’s my swing!” Inexplicably cowed by such arguments, we allow forests to fall, salmon to disappear.

However, Jimmy’s Rule is not the true law of this or any other nation. It never was, never could be, the law. Instead, it is the principle articulated by the grandmother – the principle of responsible, intergenerational stewardship – that has forever lain, inviolable and incontestable, at the root of all public and private property right in land and natural resources. The grandmother’s rule is a self-evident truth, mandated by both conscience and common sense.

John Edward Davidson is an instructor and academic advisor in the Political Science Department at the University of Oregon.



Photo by Sreang Hok

Plants and People Past and Present: A 2011–2012 ELP Project

By Devon Bonady

Undergraduate students learn about people-plant relationships in the Pacific Northwest, and pass on their knowledge to schoolchildren

In the past few decades, American children have become increasingly disconnected from nature and the gifts it provides. In many cases, instead of feeling interest in and respect for plants, animals, and the “outdoors,” children feel the fear of an unfamiliar place (Louv, 2006). With new curricula addressing global environmental issues, children have also begun to dissociate themselves from the emotional pain they experience when learning about environmental destruction (Sobel, 1996; Louv, 2006). Because they dissociate, children feel apathy

for the wonders of the natural world, instead of joy (Sobel, 1996; Louv, 2006). To ensure long-term local and global ecological health, it is essential that children, as the future stewards of our planet, feel a positive connection with and appreciation of their natural surroundings, including plants.

Plants, as a resource, have been a major part of providing food, medicine, clothing, shelter, and other needs for people in America and around the world. On a local scale, in the Pacific Northwest, people harvest and use wild plants for many



Photo by Kirsten Vinyeta

purposes. Whether providing food and medicine for their family, a product to sell for income, or sacred material for ceremonial use, many families rely on wildcrafted plants as well as cultivated plants (Jones & Lynch, 2002). People who gather plants have a strong ethic of reciprocity. However, when harvesting is done on a large scale, the gifts of plants are often taken for granted, and the habitat and ecosystems are negatively impacted. Human actions based on greed have created imbalances on the land that affect us all today.

Curricula for educating children on the importance of native plants are becoming more common in recent decades, particularly in the Pacific Northwest. Recently, interest has grown for lessons not only on botanical knowledge and plant identification, but also on human relationships with plants (Cramer & Einerson 2011; Lynch, 2005). The 2011-2012 Environmental Leadership Program (ELP) Plants and People Initiative aligns well with the increased desire in our area for curricula on native plants and the people who interact with them. This nine-month program aimed to reconnect children and adults with the natural world and inspire an ethic of reciprocity through learning about historic and contemporary plant-people relationships in the Pacific Northwest.

The focus of the Plants and People Initiative was ethnobotany: the study of the relationships between plants and people, past and present. In this program, undergraduate students learned about people-plant relationships in the Pacific Northwest. Using the knowledge gained, students developed, implemented, and shared transformative learning experiences for children in nature. The students created scientifically rigorous curricula, taught programs in classrooms, and facilitated field trip activities (Boulay & Lynch, 2011).

The Plants and People Initiative was a three-term project. The first course, ENV 411: Northwest Ethnobotany, offered fall term, was a content course. Although not required, this course gave students the opportunity to gain a foundation in local native plants and Pacific Northwest ethnobotany. Students acquired important knowledge about keystone



Photo by Kirsten Vinyeta

species and local issues that they could incorporate into their lesson plans. About 50% of the students who participated in the ELP program enrolled in the course. These students became a resource for their teams for important knowledge and understanding concepts directly related to the content of the lessons they created together.

In the fall term seminar, students explored how biodiversity of forest and other ecosystems in the Pacific Northwest is being tapped to promote both conservation and rural economic development. They investigated the complex economics, multi-faceted politics, and diverse cultural traditions associated with nontimber forest products and other plants. They looked at the ancient gathering practices of Native Americans, the introduced plants and traditions of immigrants, and the emerging practices of people seeking to reconnect with the natural world. Students created plant profiles of local native plants which were compiled into a full-color Northwest ethnobotany field guide.

Learning How to See

By Elise Downing

Over and over again in this course, we have talked about observing, about really looking, and trying to see the world around us clearly. This is why we journal with our plants, why we explored Devon's property in Cottage Grove, and looked at plants in beds. We went through all of this effort so that we could see the place we live in without the blinders that our education system, our culture, and our society put on us. By stripping away those preconceived notions about our environment, we learned about the vast resources our region possesses and about how some people have, could, and do use them. But, in taking those societal blinders off, we learned to see other things too: we learned to see the groups that are marginalized by land management systems, we learned to see how our society could approach the world's resources differently, and we learned to see our own blinders.

Over the past several months, I have learned how to learn about plants, but I think that process has also taught me how to see and learn much more about my region and the people here. As we journal we deeply immerse ourselves in a single plant. We observe the small, quiet happenings on a leaf or a flower. By looking at our world and our society from another perspective, as this class has taught me to do, we can see the problems within our own system that do not affect us. Through this course I have learned much more than how to identify plants and their uses; I have learned how to see through the eyes of others, and why that is so important.

Elise Downing is an undergraduate student in the Environmental Studies Program at the University of Oregon who participated in the Environmental Leadership Program in 2011-2012.

The winter term of the program introduced students to environmental education theory and practice. Students enrolled in ENV5 425: Environmental Education Theory and Practice, a course designed using the North American Association for Environmental Education Guidelines for the Preparation and Professional Development of Environmental Educators. In this course, students gained a working knowledge of best practices within the environmental education field through readings, guest lectures, fieldtrips, a Project Learning Tree certification workshop and their team projects. They learned how to create effective lessons by developing their own, step by step. They created rhyming clues for quests, games, and songs for classroom visits. Each team was tasked with creating lesson plans for the educational programs that they developed as agreed upon by their community partners.

...instead of feeling interest in and respect for plants, animals, and the “outdoors,” children feel the fear of an unfamiliar place.

In the spring term, after piloting the lessons and field trips they created, students developed their skills as educators by going out into the community and implementing their lessons. Each student completed 120 hours of service, including facilitating field trips, leading classroom lessons, and developing supplemental educational materials. Overall, the programs reached nearly one thousand students. Team members facilitated eight climbs into the canopy, led 400 children on hikes at Mt. Pisgah, developed and led 15 hours of lessons at Adams Elementary School and installed the beginnings of a native plant outdoor classroom. Throughout the process, they gathered and reflected on evaluations from participants and evaluated each other, improving at every opportunity. The work they did provided service to important community schools and groups, inspired and educated young people, and provided

them with invaluable skills and experience as well as professional development.

Connecting Theory and Practice

The Plants and People Initiative aligns with various environmental education theories and techniques. As with all ELP projects, it is a service-learning project, intended to provide equal parts educational opportunity and assistance and support to community organizations. The program is project-based, designed so that students gain skills in teamwork, problem solving, project management and planning, among others. The projects provide opportunities for creative thinking and self-initiative. The ethnobotany projects are place-based, focusing on local native plants and ecosystems as well as local cultural groups and their relationships with plants.

The program is an excellent model of the experiential learning cycle (5 E's) encouraged in environmental education. From the beginning, students engaged in activities that help them learn about local plants and people. They maintained focus on their final goal of developing and facilitating lessons as they explored and gathered tools and information throughout the term from readings, explanations from instructors, and activities directly related to building their lessons. To elaborate on their learning, students applied the concepts they have learned by testing their lessons on fellow classmates and eventually the school children themselves. Throughout their facilitation of lessons, students evaluated themselves and each other and are evaluated by instructors and team managers, completing the learning cycle and solidifying their knowledge while also examining areas for improvement (Jacobson et al., 2006).



Photo by Kory Northrop

People who gather plants have a strong ethic of reciprocity.

The Plants and People Initiative also incorporated a fun and exciting method called “Questing”. An educational technique that combines place-based and experiential learning, questing is a fun and interactive method of engaging learners of all ages. As Delia Clark and Steven Glazer, authors of the book *Questing*, explain, “Questing is creating and exchanging treasure hunts in order to collect and share your community’s distinct natural and cultural heritage, your special place and stories” (Clark & Glazer, 2004). Each quest is a treasure hunt focused on a character, environment, story, or aspect of the community. Clues lead the participant to a final hidden treasure box. Questing is interdisciplinary, educational, and fun. Learning happens at all points in the process: as students explore, research, and create the quest map and clues and as participants “play” or “follow” the quest to find the treasure (Clark & Glazer, 2004).

All teams worked to incorporate questing into their lessons and field trips. The process of creating the quests, including rhyming and hidden treasure, was fun for students and instructors alike. Students incorporated art, storytelling, music, math, science, and hands-on activities into the quests. A truly interdisciplinary method, questing allowed student facilitators to use their strengths to create meaningful lessons while also challenging themselves to teach new concepts in creative ways. Students’ enthusiasm and love for the environment was contagious and they became positive role models for the younger students they taught. The success of the program is measured by the way in which all involved now feel a stronger connection with and understanding of the plants and people around them as well as the entire ecosystem and community.

Devon Bonady is a Master’s student in the Environmental Studies Program at the University of Oregon.

Works Cited

- Boulay, Margaret C. and Kathryn A. Lynch. 2011. Promoting civic engagement: the Environmental Leadership Program at the University of Oregon. *Journal of Environmental Studies and Sciences*, 1. 189-193.
- Clark, Delia and Steven Glazer. 2004. *Questing. A Guide to Creating Community Treasure Hunts*. Hanover and London: University Press of New England.
- Cramer, Jennie and Jody Einerson. 2011. *From Salmonberry to Sagebrush: Exploring Oregon’s Native Plants*. Institute for Applied Ecology.
- Jacobson, Susan K., Mallory D. McDuff and Martha C. Monroe. 2006. *Conservation Education and Outreach Techniques*. Oxford: Oxford University Press.
- Jones, Eric and Kathryn A. Lynch. 2002. The Relevance of Sociocultural Variables to Nontimber Forest Product Research, Policy, and Management. In Jones, Eric T., Rebecca J. McLain and James Weigand, eds. 2002. *Nontimber Forest Products in the United States*. Lawrence: University Press of Kansas.
- Lynch, Kathryn A. 2005. *Nontimber Forest Products Curriculum Workbook*. Institute for Culture and Ecology. Portland, OR.
- Louv, Richard. 2006. *Last Child in the Woods. Saving our Children from Nature-Deficit Disorder*. NC: Algonquin Books of Chapel Hill.
- Sobel, David. 1996. *Beyond Ecophobia: Reclaiming the Heart in Nature Education*. Nature Literacy Series. Great Barrington, MA: The Orion Society.



Photo by Roger Hicks

New Graduate Students



Keats Conley

I grew up in Boise, Idaho, surrounded by the curves of foothills, the smell of sage, and the beige flowers of antelope-bitterbrush. I stayed close to home for college, attending The College of Idaho, a private liberal-arts college in Caldwell, a rural farm town that smells like sugarbeets and cow manure after it rains. I graduated in 2011 with my B.S. in environmental studies with a focus in conservation biology and a minor in creative writing. At the University of Oregon, I have concentrations in marine biology and environmental policy. My advisor is Dr. Kelly Sutherland, and my thesis research focuses on the ways coastal development may promote jellyfish blooms. In my free time I love training for mixed martial arts, poking around tidepools, and yoga.



Andrew Dutterer

I have spent most of my adult life planning my next fly-fishing adventure. Before attending UO, this passion led me to employment as a fly shop manager and steelhead guide in Maupin, Oregon - a rural Central Oregon town of 450 people on the lower Deschutes River. The river defined this community, and my almost daily forays to the Deschutes and elsewhere cultivated an inspired concern for the vitality of our rivers and the policies managing them. I aspire to contribute to watershed management decisions by innovating solutions to the allocation of water resources in the Western US. Perhaps my favorite thing to do is floating and camping on rivers, and I also enjoy hiking with my two dogs, barbecuing, and watching Chicago Cubs games.



Kaitlyn Grigsby (Ph.D. Program) Focal Department: Political Science

I graduated in 2011 from St. Mary's College of Maryland with a B.A. in environmental studies, biology, and public policy. In Maryland, I taught elementary students about the Chesapeake Bay while organizing college environmental activists. I also implemented a beach monitoring program for Olympic National Park through the SCA, developed a campaign against mountaintop removal coal mining with Ohio Citizen Action, wrote lesson plans and snorkeled for NOAA on Maui, and conducted research for the National Environment Agency of The Gambia while I was studying abroad. All of these experiences have culminated in my interest in international environmental policy and sustainable development in Africa.



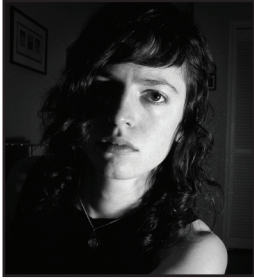
Shane Hall (Ph.D. Program) Focal Department: English

An avid fan of fishing, birding and bocce ball, I am fueled by copious amounts of coffee. A native of Lancaster, Pennsylvania, I've spent most of my adult life on the banks of the St. Mary's River in St. Mary's County, where I received my BA in English from St. Mary's College of Maryland. The location made up for its lack of name creativity by excellently facilitating kayaking, sailing and otherwise being outdoors near some water. My research interests focus on the ways language constructs and defines environmental and social justice issues in the United States and Global South.



Alayna Linde

I graduated from Pacific Lutheran University in 2010 with a B.A. in chemistry and minors in environmental studies and women's and gender studies. For the next year, I worked in outreach and education as a Lutheran Volunteer Corps volunteer at Citizens for a Healthy Bay, an environmental nonprofit in Tacoma, WA. I am interested in the intersection of humans and the environment, sustainability, and China. A Minnesotan by birth, I've sure taken a liking to the PNW over the last five years. I have dreams of becoming the next Bill Nye, mastering the ukulele, and learning to cook.



Lisa Lombardo

I had a typical Madison, WI, childhood: processed sugar, meat, and TV were off limits, so I spent my time making small objects out of Sculpey, dissecting oranges, and pretending to be Amish. Fast forward to 2006, when Beloit College gave me a B.A. in studio art and French, despite the fact that my senior show consisted of a series of portraits of Dick Cheney. Here in Eugene, I have come to enjoy nutria watching, letting my kale plants go to seed, and losing at trivia. I may or may not be doing my thesis on Nina Katchadourian's artwork.



Cris Piccioni

Cris Piccioni, a thriving Oregon transplant, is the most skilled operative the CIA has never tapped. Her myriad identities include a classical musician, a filbert farmer, a water laboratory analyst, and a full fledged academic. While collecting information on the shady characters in her cohort, she researches the political ecology of agricultural land use in the Willamette Valley.



Chithira Vijayakumar

It all began with a muddy childhood spent mostly in the woods and near the sea, in Kerala, India. I graduated in Economics, with a diploma in International Relations and Geopolitics, and worked with social change research centres, before deciding to return to my first love, writing. After a post-graduate diploma in Journalism, I spent two years at The Hindu, one of India's oldest English newspapers, as Reporter and Sub-Editor, and worked on art, heritage, literature, theatre and the environment. As Chief Editor to several magazines, I've written on human rights, tribal issues, the politics of water, and agriculture. All along the way, there have been martial arts, mountaineering, swimming, trekking, theatre, film-making, pottery, poetry, dancing, and entirely too much tea.



Kirsten Vinyeta

The offspring of a Spanish dreamer and a Midwestern wild child, I spent much of my childhood in the Catalan Pyrenees of Spain, until we moved back to my mother's Midwestern homeland where I nailed down my sexy "Wiscansin" accent. I earned my B.S. in landscape architecture from the University of Wisconsin in 2008, after which I worked for three years in an ecological restoration firm. Currently, I am a graduate research fellow for the Tribal Climate Change Project, and I intend to focus my thesis on the use of community photography as a tool to improve communication between American Indian tribes and federal land managers in a climate change context.



Marissa Williams

Growing up in the San Joaquin Valley of California, I became fascinated with the oblivious and wasteful motions of large-scale conventional agriculture. Harmful effects of pesticides, the gross injustice placed on immigrant farm workers, high rates of pollutants running off into waterways – all disregarded. I wondered how the current corporate system of farming could become more sustainable, while also being practical and socially desirable. This led me through disparate, yet interwoven avenues, arriving at my current setting. At this juncture, I wish to research people's willingness-to-pay for transitional organic produce, and provide insight into political actions and business plans that can

The Environmental Leadership Program

Environmental Education Teams

In our Environmental Education projects, students develop, implement, and share transformative learning experiences for children in nature. Students create scientifically rigorous curricula, teach programs in classrooms, and conduct field trip activities. This year's education projects all examine the complex relationships people have with plants. The Northwest is home to a great number of native plant species that humans have used for centuries. Unfortunately, many local children are unaware of the cultural and ecological importance of native plants. This year's educational projects all seek to address this gap.



Native Naturalists

This team, working in partnership with Mt. Pisgah Arboretum, developed four interactive “Stalking the Wild Camas” fieldtrip Quests for fifth graders. These fun educational treasure hunts were designed to inspire curiosity about our many local native plants used for food, healing, and cultural materials. In winter term, the team developed the field trip quests using interdisciplinary hands-on activities to engage children in learning about native plants and their human uses. In spring term, they facilitated the fieldtrips at Mt. Pisgah as well as an “Art in Nature” workshop at the Wildflower Festival in mid-May.

Exploring Ethnobotany

This team had the opportunity to work in partnership with parents, teachers, administrators, and children at Adams Elementary School to develop and implement a new K-5 curriculum focused on the theme of “Plants and People”. In winter term, the team developed interdisciplinary lessons to engage Adams’ students in learning about native plants and their human uses. In addition, they installed a small native plant garden at the school to support hands-on learning. In spring, they facilitated their lessons at Adams, as well as created and led an Earth Day Quest.



Canopy Connections

The Pacific Northwest is home to magnificent old-growth forests. Unfortunately, many local children have never had the opportunity to explore this enchanting ecosystem first-hand. The Canopy Connections Team develops and facilitates fieldtrips that give middle-schoolers an opportunity to climb into the canopy of an old-growth forest. This year, the team's mission was to inspire curiosity about local native plants used for food, healing, and cultural materials. In winter term, they developed hands-on activities to engage children in learning about native plants and their human uses. They visited classrooms in April, and led full-day fieldtrips twice a week in May. They worked in partnership with the H.J. Andrews Experimental Forest and the Pacific Tree Climbing Institute.

The Environmental Leadership Program

Conservation Science in Action Teams

In our Conservation Science in Action projects, students assist community partners by completing hands-on restoration projects, creating assessments and management plans, or acquiring and analyzing needed environmental data. This year's projects all utilize concepts of ecosystem processes – from floodplain dynamics to community ecology to pollination services – to improve environmental restoration and sustainable agriculture.

Stream Stewardship

In partnership with the McKenzie Watershed Council, the Stream Stewardship team got involved in several stages of stream restoration and monitoring. The students took complete responsibility for the restoration activities at one site, where they removed invasive vegetation, planted native trees, maintained plantings, established monitoring plots, and collected baseline data. They summarized their efforts in a report that provided recommendations for future management. At another site, they used surveying methods to characterize stream channel conditions. They compared their data to previously collected data to evaluate the impacts of large woody material placement on fish habitat. The students' restoration work improved water quality, fish and wildlife habitat, and scenic values. Their monitoring data helped the Council understand the effects, limitations and successes of restoration projects. Restorationists will be able to apply these lessons to improve important conservation actions.



Restoration Research

Less than 1% of the Willamette Valley's wet prairies remain today. Wet prairies are important for water quality, flood abatement, and wildlife habitat. Restored wetland prairies typically have much lower plant diversity than remnant native prairies. One possible reason is the uniform soil surface elevation at some restoration sites that were formerly leveled agricultural fields. In partnership with the Institute for Applied Ecology, Lane Council of Governments and City of Eugene, the Restoration Research team measured the variation in topography, water levels, and vegetation. Using their information as well as previously collected data, they examined how variation in soil height correlates with native plant diversity. The students' results build upon past research in the West Eugene Wetlands, answer questions about effective prairie restoration methods, and inform future restoration efforts.

The Environmental Leadership Program

Conservation Science in Action & Community Engagement Teams

Sustainable Farms

Native pollinators are declining globally due to habitat loss and fragmentation, pesticides, pollution, pathogens, invasive species, and climate change. Farmers have relied upon imported European honeybees for pollination of many crops, but honeybee populations have been impacted by parasitic mites and “colony collapse disorder.” In partnership with the Berggren Demonstration Farm, the Sustainable Farms team created a conservation plan for the farm that includes designs for pollinator hedgerows and an educational garden. They provided recommendations for pollinator-friendly farming practices such as creating feeding and nesting habitat through cover crops, interplantings, and nest site structures. In addition, they contributed to the farm and gained understanding of sustainable agriculture by assisting with farming tasks. In collaboration with local blueberry farmers, the team also conducted research on the role of native bumblebees in pollinating blueberry bushes. The students’ work will help local farmers improve pollination services and conserve native insects.



In our Community Engagement projects, students collect and share information with different audiences using creative methods, such as interpretive signs, social media, technical assistance documents, and oral histories. Students build communication skills and influence environmental issues through conservations within the community.



MyMcKenzie

The McKenzie River has long been important for drinking water, fish and wildlife habitat, recreation, hydropower, irrigation, transportation, and inspiration. However, it has been impacted by development, habitat loss, channelization, and water diversion. Despite these challenges, it is still an incomparable treasure and one of the last strongholds for wild salmonids. It is our hope and belief that people will protect and restore the McKenzie if they appreciate its special wild beauty. Through photography and creative writing, students created a portrait of the McKenzie River. As they discovered the river and its people, they sought to reflect the river’s colors and movement, as well as the many relationships people have with this remarkable place. They shared their creative interpretation with community members through a website, a public exhibit, and community events.

Environmental Studies Faculty & Student Achievements

Faculty Awards and Recognitions

Andrea Rempel (Environmental Studies) is speaking about passive solar heating in the Pacific Northwest at the American Solar Energy Society/World Renewable Energy Forum in Denver in May.

Rich Margerum (Environmental Studies, Planning, Public Policy and Management) published a book on collaborative planning. *Beyond Consensus: Improving Collaborative Planning and Management* discusses how collaborative efforts in public planning are implemented and identifies ways to improve their implementation and results.

Katie Lynch (Environmental Studies) was awarded Professor of the Term by the Mortar Board Honor Society. The Environmental Leadership Program, co-directed by Katie Lynch and **Peg Boulay** (Environmental Studies), was featured in a special edition of the *Journal of Environmental Studies and Sciences*.

Molly Westling (Environmental Studies, English) published an essay in *Teaching Ecocriticism and Green Cultural Studies*. Her essay, "Literature and Ecology," is included in the section on interdisciplinary encounters.

Matthew Dennis (Environmental Studies, History) received Provost's Senior Humanist Research Fellowship from the Oregon Humanities Center. Matt Dennis was also awarded a Massachusetts Historical Society/National Endowment for the Humanities Longterm Fellowship which he will use to spend four months of next academic year in residence in Boston.

Dr. Richard York (Environmental Studies, Sociology) received the Rural Sociology Best Paper Award; an Honorable Mention, Allan Schnaiberg Outstanding Publication Award from the American Sociological Association; and the Teaching and Mentorship Award from the American Sociological Association. He published "Choking on Modernity: A Human Ecology of Air Pollution" with Eugene A. Rosa in *Social Problems*, and "Environmentally Efficient Well-Being: Is There a Kuznets Curve?" with Thomas Dietz and Eugene A. Rosa, in *Applied Geography*. York was also promoted to Full Professor in ENVS and Sociology.

Student Awards and Recognitions

Alayna Linde, Marissa Williams, Chithira Vijayakumar, and **Shane Hall** won the International Leadership Syndicate competition with their proposal, "Healthy Home, Healthy Planet". The four will head to China this summer to implement their project, which teaches students and rural citizens how to construct and use Water Pasteurization Indicators.

Raj Vable was chosen as one of this year's UO Public Impact Fellowship recipients. He also received a Fulbright Award, and will study in India during the 2012-2013 academic year.

Kory Northrop won the U.S. Department of Transportation's Data Visualization Competition. He presented his work at the 2012 Transportation Research Board conference in Washington D.C. and received a scholarship from the U.S. government.

Ezra Marcowitz accepted a post-doctorate fellowship with the Princeton Institute for International and Regional Studies (PIIRS) and the Princeton Environmental Institute (PEI) for the fall of 2012, in their newly formed research community, "Communicating Uncertainty: Science, institutions and ethics in the politics of global climate change." He published "Is Climate Change an Ethical Issue? Exploring young adults' beliefs about climate and morality" in *Climatic Change*, and with A. F. Shariff, "Climate Change and Moral Judgment" in *Nature Climate Change*.

Sierra Deutch presented research at the 25th International Congress for Conservation Biology in Auckland, NZ in December 2011.

Bridget Sharry presented a paper at the Reading Nature Conference in Madrid, Spain in December 2011.