

## **Ethical Issues in Ecological Restoration**

EVST 570\_01, Fall 2020

MW 4:00—5:20 pm; NAC 105

CRN: 72586

**Prof. Dan Spencer**

Office: JRH 107A; Tel: 243-6111

Office Hours: MWF 11:10 am – 12:00 pm. Thu 3:00-4:30 pm

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“The real future of environmentalism is in rehabilitation and restoration. Environmentalists have told the story of the Garden of Eden and the fall from grace over and over again. But we haven’t yet told the story of redemption. Now we need to tell that story.” • Steven Pyne

### Course Description

With the increasing ability to use science and technology to manage and restore damaged ecosystems comes a host of ethical and philosophical issues. A central theme in this class is integrating the restoration of ecosystems with the restoration of human communities to create sustainable bioregions and landscapes. We will be looking at developing a “restoration ethic” as a philosophical and moral grounding for this work, with the premise that restoring the earth requires restoring ourselves to the earth in the process. Yet, just because increasingly we can restore ecosystems does not necessarily mean that we *should* do so in all contexts. Hence the first section of the course reviews central concepts and practices in ecological restoration while looking at restoration projects in the Upper Clark Fork River watershed and western Montana. As a class we will examine community dimensions of the restoration process of the Upper Clark Fork watershed in the Deer Lodge Valley under way as part of the Superfund clean-up of the Clark Fork River. The second section of the course examines the ethical dimensions of several current case studies concerning restoration in wilderness to explore the question of whether active restoration in wilderness is ever ethically merited. The final section of the class is an extended philosophical exploration of what counts as “good” restoration, and why. Within this discussion we will look at emerging issues around restoration in the context of novel ecosystems and climate change. Over the course of the semester students will have the opportunity to develop a framework for what counts as good restoration in our changing, dynamic 21<sup>st</sup> century context.

### Objectives & Learning Outcomes:

Upon completion of this course, students should be able to:

1. Analyze, critically evaluate, and correctly apply basic ethical concepts and forms of moral reasoning from the field of environmental ethics to contemporary issues and practices in the field of ecological restoration.
2. Think critically about the moral, social and environmental effects of the practices of ecological restoration in diverse social and ecological contexts.
3. Apply moral analysis to a contemporary case study in restoration in the Upper Clark Fork River watershed.
4. Incorporate information literacy into the moral analysis of restoration issues and writing assignments by finding, evaluating, analyzing, and synthesizing information from diverse sources.

- Write more clearly and effectively about complex ethical issues related to ecological restoration and be able to communicate these issues and multiple perspectives fairly and clearly to diverse audiences.

## Required Texts

*Nature By Design.*

Eric Higgs (MIT Press: 2003; ISBN: 0-262-58226-0)

Readings on Moodle

ZOOM LINK FOR MW CLASSES: <https://umontana.zoom.us/j/94216584659>

## Course Schedule

\* = Meet outdoors, weather permitting

Date	Class Topic and Assigned Readings	Reading Location
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Introduction: Key Concepts in Ecological Restoration and Ethics

8/19 W 1	Introduction to the course	
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8/24 M 2	What is Ecological Restoration? International Principles and Standards for the Practice of Ecological Restoration, 2 <sup>nd</sup> edition. Sections 1 & 2	
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Moodle 1 Ch 1: "Overview: Basic Terms and Concepts" Clewell & Aronson,

Moodle 2 Ch 2: "Values and Ecological Restoration" Clewell & Aronson, Moodle 3

### I. RESTORATION IN THE UPPER CLARK FORK WATERSHED

8/26 W 3	Restoring the Upper Clark Fork: The Work of the Clark Fork Coalition and the Watershed Restoration Coalition	
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Read: [Clarkfork - Halfway to healing at the coalitions cattle ranch](#)

[Clarkfork - Our Work, What we do to Restore the upper Clark Fork](#)

<https://clarkfork.org/our-work/what-we-do/restore-the-best/upper-clark-fork/upper-clark-fork-restoration-projects/>

<http://fwp.mt.gov/mtoutdoors/HTML/articles/2019/Upperclarkfork.htm>

Clark Fork Coalition: Transformation: Restoration on the Dry Cottonwood Creek Ranch 2017

Moodle 4 [Listen](#) to Nora Saks's prize-winning podcasts on Butte, Richest Hill, especially Episode 5, "Out of the Frying Pan, Into The Fire,"

available at: <https://buttepodcast.org/episode-05-out-of-the-frying-pan-into-the-fire/>

Recommended Scan: <https://dojmt.gov/lands/upper-clark-fork-river-basin/>

*Speaker: Will McDowell, Clark Fork Coalition*

8/28 F Superfund Sites Field Trip in the Upper Clark Fork Watershed  
Leave UM at 7:30 am; return by 6:00 pm

\* 8/31 M 4 Key Concepts in Ecological Restoration

Ch 3: "Disturbance and Impairment" Clewell & Aronson, Moodle 5  
Jim Harris & Rudy van Diggelen: "Ecological Restoration as a Moodle 6  
project for global society"  
Jelte van Anandel and Ab P. Grootjans: "Concepts in Moodle 7  
Restoration Ecology"

\*9/2 W 5 Restoration of the Confluence of the Blackfoot & Clark Fork  
Rivers Field Trip to Milltown Dam Overview Site: Leave UM 3:30 pm; return 6:00 pm

The Three R's of the Milltown Reservoir Superfund Project Moodle 8  
How Public Participation Redefined Superfund Law at Milltown, MT Moodle 9  
YouTube video: Breaching the Dam: [Video - Breaching the Dam](#)  
Opportunity, MT: "Toxic Turmoil": [Missoulin article about the people of Opportunity](#)

*Speaker: Mike Kustudia, Manager, Milltown State Park*

9/7 M LABOR DAY: NO CLASS

II. RESTORATION IN WILDERNESS & INDIGENOUS PERSPECTIVES

9/9 W 6 Ethical Dilemmas in Restoration in Wilderness

Peter Landres et al: "Naturalness and Wildness: The Moodle 10  
Dilemma and Irony of Ecological Restoration in Wilderness"  
Peter Landres: "Let It Be: A Hands-Off Approach to Preserving Wildness in Moodle 11  
Protected Areas"  
Gregory Aplet & David Cole: "The Trouble with Naturalness: Moodle 12  
Rethinking Park and Wilderness Goals"  
The Wilderness Act of 1964 Moodle 13

\*9/14 M 7 Wilderness Management and Restoration

Beth Hahn, Peter Landres, Eric Biber, Dan Spencer “Asking the Right Questions: Integrating Law, Science, and Ethics to Support Decisions about Ecological Intervention In Wilderness” Moodle 14  
Michael Soulé: Should Wilderness Be Managed? Moodle 15

Recommended: John Hendee et al: “Wilderness Management: Philosophical Directions” Moodle 16

*Sign up for Restoration in Wilderness Case Studies*

\*9/16 W 8 Ethics and the Environment: An Overview

Andrew Light and Holmes Rolston III: “Introduction: Ethics and Environmental Ethics” Moodle 17  
Clare Palmer: “An Overview of Environmental Ethics” Moodle 18

\*9/21 M 9 Overview of Ethical Issues in Ecological Restoration

Dan Spencer: “Ethics and Restoration: A Fascinating and Vexing Time” Moodle 19  
Marion Hourdequin: “Ecological Restoration” Moodle 20  
Eric Higgs: “What is Good Ecological Restoration?” Moodle 21  
Spectrum Exercises on Ecological Restoration (if possible)

9/23 W 10 Restoration and Wilderness: Case Study I in Managing for Wildness and Naturalness in Wilderness: Fisheries restoration in the Stephen Mather Wilderness, North Cascades National Park, WA

Readings: On Moodle  
(Paper due: 9/30)

9/28 M 11 Restoration and Wilderness: Case Study II in Managing for Wildness and Naturalness in Wilderness: Whitebark Pine Restoration in Wilderness

Readings: On Moodle  
(Paper due: 10/5)

9/30 W 12 Restoration and Wilderness: Case Study III in Managing for Wildness and Naturalness in Wilderness: Herbicide application on non-native plants in Saguaro National Park, AZ

Readings: On Moodle  
(Paper due: 10/7)

*Essay on the Ethics of Restoration in Wilderness due in class for 9/23 Facilitators*  
III. Ethical Issues & Debates in Ecological Restoration

\*10/5 M 13 Early Critics: Restoration as Faking Nature?

Robert Elliot: “Faking Nature” Moodle 22

- Eric Katz: “The Big Lie: Human Restoration of Nature” Moodle 23
- Eric Katz: “Another Look at Restoration: Technology and Artificial Nature” Moodle 24
- Andrew Light: “Ecological Restoration and the Culture of Nature: A Pragmatic Perspective” Moodle 25
- Essay on the Ethics of Restoration in Wilderness due in class for 9/28 Facilitators*
- \*10/7 W 14 Early Debates on Restoration vs. Preservation
- Read articles in this order:
- William Jordan: “Sunflower Forest”: Ecological Restoration as the Basis for a New Environmental Paradigm” Moodle 26
- G. Stanley Kane: “Restoration or Preservation? Reflections on a Clash of Environmental Philosophies” Moodle 27
- William Jordan: “Weeding Key Biscayne” Moodle 28
- Essay on the Ethics of Restoration in Wilderness due in class for 9/30 Facilitators*
- \*10/12 M 15 What is Good Restoration? Introduction to Higgs’ *Nature by Design* Introduction to *Nature By Design* (pp. 1-14) Higgs, NBD Ch.1: A Tale of Two Wildernesses: Jasper National Park, Higgs, NBD Meet Disney World Ch. 2: Boundary Conditions (skim 59-75) Higgs, NBD
- \*10/14 W 16 Defining Ecological Restoration and The Question of History in Restoration Ch. 3: What is Ecological Restoration? Higgs, NBD Ch. 4: Historicity and Reference in Ecological Restoration Higgs, NBD
- \*10/19 M 17 The Risks of Commodification & Professionalization Ch. 5: Denaturing Restoration Higgs, NBD Ch. 6: Focal Restoration & Ch. 7: Nature by Design Higgs, NBD
- \*10/21 W 18 Community Participation in Restoration: Focal Restoration and Wild Design *SER News* on Participatory Restoration pp. 1-18 Moodle 29 K. Suding et al., “Committing to Ecological Restoration” Moodle 30
- Recommended: Borgmann, “Focal Practices” Moodle 31
- Critical Response essay on “Ethical Issues and Debates in Ecological Restoration” due in class*
- 10/26 M 19 Holistic and Reciprocal Restoration I: Indigenous Ways of Knowing
- Robin Kimmerer: Selections from *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants.* Moodle 32
- 10/28 W 20 Holistic and Reciprocal Restoration II: Restoration & Reciprocity Robin Kimmerer: “Restoration and Reciprocity: The Contributions of Traditional Ecological Knowledge” Moodle 33
- Robin Kimmerer: “The Sacred and the Superfund” Moodle 34
- 11/2 M 21 Restoration, Politics & Justice II: Urban Restoration & Justice

Colette Palamar: “From the Ground up: Why Urban Ecological Restoration Needs Environmental Justice”	Moodle 35
Michelle Garvey: “Novel Ecosystems, Familiar Injustices: The Promise of Justice-Oriented Ecological Restoration”	Moodle 36
Colette Palamar: “Restorashyn: Ecofeminist Restoration”	Moodle 37
<u>Due in class: Higgs Critical Response Essay</u>	

#### IV. Restoration in an Age of Novel Ecosystems & Climate Change

##### 11/4 W 22 Restoration in an Age of Climate Change: I

Allen Thompson and Jeremy Bendik-Keymer: Introduction: Adapting Humanity	Moodle 38
Ned Hettinger: Nature Restoration as a Paradigm for the Human Relationship with Nature	Moodle 39

Class Facilitators:

##### 11/9 M 23 Restoration in an Age of Climate Change: II

William Throop: Environmental Virtues and the Aims of Restoration	Moodle 40
Ronald Sandler: Global Warming and Virtues of Ecological Restoration	Moodle 41

Class Facilitators:

##### 11/11 W VETERANS DAY – NO CLASSES

##### 11/16 M 24 Restoration in an Age of Climate Change: III

Eric Higgs: History, Novelty, and Virtue in Ecological Restoration	Moodle 42
Andrew Light: The Death of Restoration?	Moodle 43

Class Facilitators:

##### 11/18 W 25 Wrap up & Discussion: What Makes an Ethic of Good Restoration?

Final Exam Period: Friday November 20, 2020, 1:10-3:10 pm

Due: Final Paper Project

#### **UM COVID-19 Policies for Classes & Classrooms:**

- Mask use is required within the classroom
- Each student is provided with a cleaning kit. The expectation is that students will clean their personal work space when they arrive for class, and before they leave the classroom
- Classrooms may have one-way entrances / exits to minimize crowding

- Students are discouraged from congregating outside the classroom before and after class
- Specific seating arrangements will be used to ensure social distancing and support contact tracing efforts
- Class attendance will be recorded to support contact tracing efforts
- Drinking liquids and eating food is discouraged within the classroom (which requires mask removal)
- If the class is being recorded, students must be notified of the recording
- Stay home if you feel sick and/or if exhibiting COVID-19 symptoms
- If the student is sick or displaying symptoms, contact the Curry Health Center at (406) 243-4330
- UM Coronavirus Website: [UMT Corona Virus information](#)
- UM COVID-19 Fall 2020 website: [UMT Fall 2020 Corona virus](#)
- Strongly encourage students to remain vigilant outside the classroom in mitigating the spread of COVID-19

### **Zoom & Moodle:**

Given the ongoing COVID-19 pandemic, it is likely that at some point in the semester we may need to go to teaching remotely via Zoom exclusively. Classes will be taught in-person as long as possible, but also will be broadcast and recorded using Zoom at this link: [Zoom Classroom Link](#) Each recorded class session will be posted to Moodle, so if you have to miss a class, you can watch it later.

### **Office Hours:**

Due to the COVID-19 pandemic and the need for social distancing, I will hold my office hours remotely via Zoom this semester. You may set up a time with me ahead of time for my office hours, or “drop by” and wait in the waiting room until I am able to let you in. That will ensure confidentiality for each person using office hours. The Zoom link for the MWF 11:10 am-12:00 pm office hour is: [Zoom Link MWF Office Hours](#) The Zoom link for the Thur 2:00-4:00 pm office hour is: [Zoom Link TR Office Hours](#) . If those times don’t work for you, I am also available by appointment. Email me at [Daniel.spencer@umontana.edu](mailto:Daniel.spencer@umontana.edu) for an appointment.

### **WEIGHT AND TIMELINE OF ASSIGNMENTS**

The total number of points available for class assignments is 500 points.

			<u>%</u>	<u>due date</u>
1. Wilderness Restoration Case Study Facilitation	25	5%		Sept 23, 28 or 30
2. Wilderness Restoration Case Study Essay	100	20%		Sept 30, Oct 5 or 7
3. Early Debates Critical Response Essay	100	20%		Oct 21
4. Higgs Critical Response Essay	125	25%		Nov 2
5. Climate Change & Restoration Class Facilitation	25	5%		Nov 9 or 16
6. Final Paper Project	125	25%		Nov 20

1. Ethical Analysis of a Case Study in Restoration in Wilderness: Class Facilitation and Reflective Essay. Each class member will have the opportunity to work in a small group to facilitate class discussion on a case study involving restoration in wilderness, using a framework by Peter Landres of the Aldo Leopold Wilderness Research Institute. The case studies and instructions for the class facilitation will be given in class. The dates for the case studies are Wednesday, September 23, Monday, September 28, and Wednesday, September 30. Each student will then write up a 6-8 page reflective essay on her/his case, reflecting on and analyzing the ethical dimensions of the case, and making a recommendation for how best to resolve it. Specific instructions will be given in class. Essay due in class on Wednesday, September 30, Monday, October 5, or Wednesday, October 7.

2. Critical Response Essay: Each student will have the opportunity to write a critical response essay to one set of article(s) assigned for Section III of the class: “Ethical Issues and Debates in Ecological Restoration.” Dan will organize a class discussion of the texts. You will then choose one set of essays from class on either October 5 (Elliott, Katz, Light) or October 7 (Jordan and Kane) and write a critical response paper to the articles discussed in that class. Your paper should contain (a) a clear summary exposition of the main points of the readings (3-4 pages) as well as (b) your thoughtful assessment of and response to the arguments and ideas presented in the text (3-4 pages). With which author(s) do you agree most, and why? (Total Length: 7-8 pages, double-spaced), Due in class Wednesday, October 21.

3. Critical Response Essay Eric Higgs’ Nature By Design: An 8-10 page critical response essay to the primary course text, Eric Higgs’ book, *Nature by Design: People, Natural Process, and Ecological Restoration*. The first part of this essay should be a thoughtful exposition (i.e. summary and explanation) of the overall argument and main themes from the book with 1-2 paragraphs dedicated to each chapter (Note: this should be a well-written, flowing essay, not a compilation of chapter summaries. *Develop* Higgs’s argument to reflect how he does this in the book). The second section should be your response to the issues Higgs raises and argues about what counts as *good* restoration, and *why*: where do you agree with Higgs, disagree, and why? Does Higgs provide a helpful framework for assessing the ethical dimensions of ecological restoration? Where is his framework most helpful, least helpful, and where could it or should it be developed further or differently? Due in class, Monday, November 2.

NOTE: Your audience for the papers in 1, 2, & 3 is someone who has *not* read these texts. This means your exposition section must be clear and sufficiently well-developed so that the position and arguments of the author(s) would be clear to someone who has not read them, and would satisfy the author of a fair representation of his or her arguments.

4. Class Facilitation of readings from Ethical Adaptation to Climate Change: These two classes will each focus on a different section of the text, *Ethical Adaptation to Climate Change*. Student teams will facilitate each class. In preparing for class, assume that everyone has read the chapters carefully, so you do not need to present on the content of the chapters. Rather, briefly summarize some of the central issues, and then facilitate a critical conversation on the key themes and concepts, and what contributions, if any, they make to the discussion of what counts as *good* ecological restoration and why. Plan to have a structured facilitation for the first 20-25 minutes, and then open discussion of the readings from there.

#### 5. FINAL PROJECT ESSAY:

Throughout the semester, we have considered the philosophical question, “What is *good* ecological restoration?” We have looked at this question through several lenses, especially through Eric Higgs’s text, *Nature By Design*. For this essay, use Higgs’s text as a departure point to investigate and analyze in greater depth *an issue* you believe is central to the question of *good* ecological restoration, but that Higgs either does not address, or addresses inadequately. Your paper should *not* be a rehashing of the issues in Higgs or your response paper to Higgs, but rather a new and more in-depth examination of *other* dimensions you



believe need to be factored into the question of what counts for good ecological restoration, and why. Draw on other authors (including those we read in class or others you bring in), to help develop your analysis. What I am looking for in this essay is your ability to take the conversations and readings we have engaged this semester about good ecological restoration as a *starting point* that you move beyond and address a new or additional issue(s) in greater depth. Your final essay should be 8-10 pages, double-spaced. Please clear your topic with me prior to writing it.

Bring your completed essay to our classroom (if possible) during the final exam period, Friday, November 20, 1:10—3:10 pm, where each of you will have the opportunity to share a synopsis of what you have written (if we are meeting remotely at this point, we'll do this discussion via Zoom).

#### CLASS POLICIES:

Note Re Papers: Papers are due in class on or before the date listed in the syllabus. Unless you have made a prior agreement with me, I will take off one grade level (A becomes A-) for each class day an assignment is late. Papers with an undue number of errors of punctuation, spelling, or grammar will be marked down and may be returned ungraded for correction. Written work will be evaluated in terms of your depth of critical analysis, thoughtfulness of reflection, clarity of writing, and ability to address issues raised in the text and in class on the topic at hand. Grades given reflect the following criteria of judgment:

- F: Failure to meet minimum requirements
- D: Unsatisfactory, but some effort to meet minimum requirements
- C: Satisfactory; meets minimum requirements of assignment but not much more
- B: Good to Very Good: thoughtful reflection, good analysis, clear writing style
- A: Excellent depth of critical analysis, thoughtfulness of reflection, and writing style; demonstrate creativity and mature analytical skills in going beyond the primary requirements of the assignment

Attendance: Regular attendance and participation in the class is expected. More than three (3) absences will result in losing any benefit of the doubt on your final grade. More than four (4) absences will result in one grade reduction. More than five (5) absences will result in a failing course grade. Late arrivals in class will count as an absence. (Note: If you have a valid reason for missing several classes, such as illness or other conflicting commitments, you still must speak with the instructor).

Academic Dishonesty and Plagiarism: All work submitted is expected to be the student's own. Any acts of plagiarism or academic dishonesty will result in automatic failure of the course, and may result in further academic punishment. If you have any doubts about definitions of plagiarism or academic dishonesty, please review the relevant sections of the University Catalog.

Students with Disabilities: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommason Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification. I am in the process of converting all of the materials in the class to an accessible format. If you find any course materials are not in an accessible format for you, please let me know and I will work with DSS to change the format.

#### Important University Policies, Dates and Deadlines

For Important Dates and University policies, check Cyberbear at [UMT Cyberbear](#)

Incomplete Grade: Please see the criteria that must be met for an Incomplete in the University Catalog. No exceptions will be made for these criteria.

Moodle: Course assignments and readings are also posted on Moodle, which may be accessed at [UMT Moodle](#)

Readings on Moodle, ENST 570\_01, Fall 2020  
Ethical Issues in Ecological Restoration

1. International Principles and Standards for the Practice of Ecological Restoration, 2<sup>nd</sup> edition. Sections 1 & 2 ([SER International Standards](#))
2. Andre F. Clewell and James Aronson. 2013. "Values and Ecological Restoration" in *Ecological Restoration: Principles, Values, and Structure of an Emerging Profession* (Second Edition). Washington DC: Island Press, pp. 15-31.
3. Andre F. Clewell and James Aronson. 2013. "Overview: Basic Terms and Concepts" in *Ecological Restoration: Principles, Values, and Structure of an Emerging Profession* (Second Edition). Washington DC: Island Press, pp. 3-13.
4. Clark Fork Coalition: "Transformation: Restoration on the Dry Cottonwood Creek Ranch" 2017 4a. 2005 State of the Clark Fork: Understanding Our Watershed  
[www.clarkfork.org/publications/state\\_of\\_clark\\_fork/index.html](http://www.clarkfork.org/publications/state_of_clark_fork/index.html)
5. Andre F. Clewell and James Aronson. 2013. "Disturbance and Impairment" in *Ecological Restoration: Principles, Values, and Structure of an Emerging Profession* (Second Edition). Washington DC: Island Press, pp. 33-51.
6. Jim A. Harris and Rudy van Diggelen. Ecological restoration as a project for global society. In Jelte van Andel and James Aronson, eds. *Restoration Ecology: The New Frontier*. Malden, MA: Blackwell, 2006, 3-15.
7. Jelte van Andel and Ab P. Grootjans. Concepts in restoration ecology. In Jelte van Andel and James Aronson, eds. *Restoration Ecology: The New Frontier*. Malden, MA: Blackwell, 2006, 16-28.
8. EPA: "Integrating the "3 Rs": Remediation, Restoration and Redevelopment."
9. David Brooks. "How Public Participation Redefined Superfund Law at Milltown, Montana." *Montana Magazine*, Autumn, 2015.
10. Peter Landres, Mark Brunson, and Linda Merigliano. Naturalness and Wildness: The Dilemma and Irony of Ecological Restoration in Wilderness. *Wild Earth*, Winter 2000/2001, Publication #417, 77-82.
11. Peter Landres. Let it Be: A Hands-Off Approach to Preserving Wildness and Naturalness in Wilderness. In David N. Cole and Laurie Yung, eds. *Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change*. Washington, D.C.: Island Press, 2010, 88-105.
12. Gregory Aplet & David Cole. The Trouble with Naturalness: Rethinking Park and Wilderness Goals. In *Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change*. David Cole and Laurie Yung, eds. Washington D.C.: Island Press, 2010, 12-29.
13. The Wilderness Act of 1964.

14. Beth Hahn, Peter Landres, Eric Biber, Dan Spencer. 2017. "Asking the Right Questions: Integrating Law, Science, and Ethics to Support Decisions about Ecological Intervention in Wilderness." *Restoration Ecology*, 2020: doi: 10.1111/rec.13104
15. Michael Soule. 2001. Should Wilderness Be Managed? In Ted Kerasote, ed. *Return of the Wild: The Future of Our Natural Lands*. Washington DC: Island Press, 2001: pp. 136-152.
16. John Hendee, George Stankey, and Robert Lucas. 1990. Wilderness Management: Philosophical Directions. In John Hendee, George Stankey, and Robert Lucas, eds. *Wilderness Management*. Golden, CO: North American Press, 1990; pp. 3-25.
17. Andrew Light and Holmes Rolston III. Introduction: Ethics and Environmental Ethics. In Andrew Light and Holmes Rolston III, eds. *Environmental Ethics*. Malden, MA: Blackwell, 2003, pp. 1-11.
18. Clare Palmer. An Overview of Environmental Ethics. In Andrew Light and Holmes Rolston III, eds. *Environmental Ethics*. Malden, MA: Blackwell, 2003, pp. 15-37.
19. Dan Spencer. 2016. "Ethics and Restoration: A Fascinating and Vexing Time." *SER News*, Vol. 30, Issue 4, August 2016.
20. Marion Hourdequin. 2015. "Ecological Restoration" in *Environmental Ethics: From Theory to Practice*. London and New York: Bloomsbury, pp. 169-193.
21. Eric Higgs. 1997. What is Good Ecological Restoration? *Conservation Biology*, Vol. 11, No. 2, April 1997, 338-348.
22. Robert Elliot, "Faking Nature." *Inquiry* Vol. 25, No. 1, March 1982, 81-93. Reprinted in Robert Elliot, ed. *Environmental Ethics* (Oxford: Oxford University Press, 1995), 76-88.
23. Eric Katz. The Big Lie: Human Restoration of Nature. *Research in Philosophy and Technology*, 1992, Vol. 12, 231-243.
24. Eric Katz. 2000. Another Look at Restoration: Technology and Artificial Nature. In Paul Gobster and R. Bruce Hull, eds. *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington DC: Island Press, 2000; pp. 37-48.
25. Andrew Light. 2000. Ecological Restoration and the Culture of Nature: A Pragmatic Perspective. In Paul Gobster and R. Bruce Hull, eds. *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington DC: Island Press, 2000; pp. 49-70.
26. William Jordan. Sunflower Forest: Ecological Restoration as the Basis for a New Environmental Paradigm. In A. Dwight Baldwin, Jr., Judith de Luce, and Carl Pletsch, eds. *Beyond Preservation: Restoring and Inventing Landscapes* (Minneapolis: University of Minnesota Press, 1994), 17-34.
27. G. Stanley Kane. Restoration or Preservation? Reflections on a Clash of Environmental Philosophies. In A. Dwight Baldwin, Jr., Judith de Luce, and Carl Pletsch, eds. *Beyond Preservation: Restoring and Inventing Landscapes* (Minneapolis: University of Minnesota Press, 1994), 69-84.

28. William Jordan. Weeding Key Biscayne. In William R. Jordan, III, *The Sunflower Forest: Ecological Restoration and the New Communion with Nature* (Berkeley: University of California Press, 2003), 10-27.
29. *SER News*: “Participatory Restoration”. Volume 34, Issue 2, pp. 1-18.
30. Katherine Suding, et al.: 2015. Committing to Ecological Restoration. *Science* 8 May 2015, Vol. 348, Issue 6235, 638-640.
31. Albert Borgmann. Excerpts on focal practices from *Technology and the Character of Contemporary Life*. Chicago: University of Chicago Press, 1984, 200-208.
32. Robin Kimmerer. Selections from *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Minneapolis: Milkweed, 2013.
33. Robin Kimmerer. Restoration and Reciprocity: The Contributions of Traditional Ecological Knowledge. In *Human Dimensions of Ecological Restoration: Integrating Science, Nature, and Culture*. Dave Egan, Evan Hjerpe, and Jesse Abrams, eds. Washington D.C.: Island Press, 2011, 257-276.
34. Robin Kimmerer. “The Sacred and the Superfund” from *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Minneapolis: Milkweed, 2013.
35. Collette Palamar. 2010. From the Ground Up: Why Urban Ecological Restoration Needs Environmental Justice. *Nature and Culture* Vol. 5, No. 3, Winter 2010; pp. 277-298.
36. Michelle Garvey: Novel Ecosystems, Familiar Injustices: The Promise of Justice-Oriented Ecological Restoration. *Dark Matter*: [Dark Matter](#)
37. Collette Palamar. 2006. Restorashyn: Ecofeminist Restoration. *Environmental Ethics*, Vol. 28, Summer 2006, pp. 285-301.
38. Allen Thompson and Jeremy Bendik-Keymer. “Introduction: Adapting Humanity.” From Allen Thompson and Jeremy Bendik-Keymer, eds. *Ethical Adaptation to Climate Change: Human Virtues of the Future*, pp. 1-23.
39. Ned Hettinger. “Nature Restoration as a Paradigm for the Human Relationship with Nature.” From Allen Thompson and Jeremy Bendik-Keymer, eds. *Ethical Adaptation to Climate Change: Human Virtues of the Future*, pp. 27-46.
40. William M. Throop. “Environmental Virtues and the Aims of Restoration.” From Allen Thompson and Jeremy Bendik-Keymer, eds. *Ethical Adaptation to Climate Change: Human Virtues of the Future*, pp. 47-62.
41. Ronald Sandler. “Global Warming and Virtues of Ecological Restoration.” From Allen Thompson and Jeremy Bendik-Keymer, eds. *Ethical Adaptation to Climate Change: Human Virtues of the Future*, pp. 63-79.
42. Eric Higgs. “History, Novelty, and Virtue in Ecological Restoration.” From Allen Thompson and Jeremy Bendik-Keymer, eds. *Ethical Adaptation to Climate Change: Human Virtues of the Future*, pp. 81-101.

43. Andrew Light. "The Death of Restoration?" From Allen Thompson and Jeremy Bendik-Keymer, eds. *Ethical Adaptation to Climate Change: Human Virtues of the Future*, pp. 105-121.