



# Fireside Chat Curriculum: Supplemental Materials

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Image: Luke Gardone, 2022

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In fulfillment of the requirements for the degree of Bachelor of Science

White Mountains Project Center, Lincoln, New Hampshire

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# Authorship

Chapter / Section	Primary Author	Primary Editor
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1b. Alpine Zone fragility and Environmental concerns	Richard Healey	Richard Shaw
1c. Trail Use and Environmental Awareness changes due to COVID-19	Richard Healey	Richard Shaw
2a. Sponsors	Richard Shaw	Luke Gardone
3a. Environmental Education	Luke Gardone	Richard Healey
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3c. Student Feedback & Performance	Luke Gardone	Richard Healey
3d. Benefits Beyond Environmental Learning	Luke Gardone	Richard Healey
4a. Fireside Chats	Richard Shaw	Luke Gardone
4b. Types of Learners	Richard Shaw	Luke Gardone
Conclusion	Drafted by all	Edited by all
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Introduction	Richard Healey	Edited by all
Objective 1: Establish course learning outcomes, target audience, and geographic boundaries	Richard Shaw	Richard Healey
Objective 2: Identify themes to include in the curriculum	Richard Shaw	Luke Gardone
Objective 3: Analyze applicable strategies surrounding experiential learning	Luke Gardone	Richard Shaw
Objective 4: Develop a Fireside Chat Curriculum	Richard Healey	Richard Shaw
Objective 5: Iterative design process	Richard Healey	Luke Gardone
Conclusion	Drafted by all	Edited by all
Appendix	Richard Shaw	Edited by all

# Authorship

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Fireside Chat Format	Richard Shaw	Richard Healey
Fireside Chat Topics	-----	-----
Topics Introduction	Richard Healey	Luke Gardone
Topic: Three E's	Richard Healey	Luke Gardone
Topic: Trail Science	Richard Healey	Richard Shaw
Topic: Leave No Trace	Richard Shaw	Richard Healey
Topic: Accessibility	Richard Shaw	Richard Healey
Topic: Partnership	Richard Shaw	Richard Shaw
Topic: Educating the masses	Richard Shaw	Luke Gardone
Topic: Trail Management	Luke Gardone	Richard Healey
Topic: Technology	Luke Gardone	Richard Shaw
Topic: Conservation vs Preservation	Luke Gardone	Richard Healey
Topic: Science vs Practice	Luke Gardone	Richard Healey
Topic: Wildness	Richard Shaw	Luke Gardone
Topic: Free Topic(s)	Richard Shaw	Luke Gardone
Conclusion	Richard Shaw	Luke Gardone

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## Appendix A: Timeline

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
O1 Establish target audience, course learning outcomes, and geographical boundaries							
O2 Explore Potential Themes							
O3 Analyze Applicable Strategies Surrounding Experiential Learning							
O4 Develop a fireside chat curriculum							
O5 Iterative Design Process				<b>Pilot Fireside Chat</b>			

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## Appendix B: Preamble

We are a group of students from Worcester Polytechnic Institute in Massachusetts working with the World Trails Network which is a nonprofit organization that works to improve trails. We are surveying hikers to learn about trail etiquette and problems facing trails. This research will be used in the development of a trail education curriculum. This curriculum aims to improve the quality of trails and trail maintenance. This survey should only take (this many) minutes to complete and is completely voluntary. You may withdraw from the survey at any time. Your identity and any identifying information will remain confidential.

We appreciate your time and participation in the survey. If you have any questions, please email us at [gr-A22FiresideChat@wpi.edu](mailto:gr-A22FiresideChat@wpi.edu). Our faculty advisor Corey Dehner can also be reached at [cdehner@wpi.edu](mailto:cdehner@wpi.edu). We are happy to share the final report if requested. Upon completion, it can also be found online at “[digital.wpi.edu](http://digital.wpi.edu)” under the name Fireside Chat Curriculum.

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## Appendix C: Survey

Background:

1. **Name (optional)** \_\_\_\_\_

2. **Age**

a. **18-21** \_\_\_

b. **22-29**

c. **20-39**

d. **40-55**

e. **56-64**

f. **65+**

Hiking can be thought of as a long outdoor walk in nature for the purpose of the next questions.

1. **How many times have you hiked (at any location) in the past year?** \_\_\_\_\_

1. **How many times have you hiked the White Mountains in the past year?** \_\_\_\_\_

1. **Have you ever camped on the trails in the White Mountains inside designated campsites?** Y / N

1. **Have you ever camped on the trails in the White Mountains outside designated campsites?** Y / N

1. **Have you ever hiked to the alpine zone in the White Mountains? (The alpine zone is an area above the treeline and below the snowline in the mountains.)** Y / N

1. **Have you gone camping in the alpine zone in the White Mountains?**

a. **Yes**

b. **No**

c. **I don't know/unsure**

Please review the following statements and check the box that best reflects your level of agreement with them.

Question	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
9. I have a good understanding of "trail etiquette" and what it means.					
10. The trails in the White Mountains are better maintained than other mountain trails.					

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Question	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
11. The trails in the White Mountains are often overcrowded in the summer					
12. The trails in the White Mountains are often overcrowded in the spring and fall					
13. I frequently go off the trail when I hike in the White Mountains					
14. frequently have to pass hikers that are slower than me on the trail.					
15. I frequently hike with a group of 5 or more people.					

## 16. Which of these items do you pack when going on a hike?

- Appropriate footwear (shoes that have traction, support, and comfort)
- Paper trail map
- GPS (battery powered)
- Charged cell phone
- Water
- Food
- Rain gear and quick-dry layers
- Safety items like an emergency fire signal and/or whistle
- First Aid Kit
- Knife or multitool
- Sun protection (sunscreen, sunglasses, hat and/or sun-protective clothing)
- Shelter, emergency shelter and/or space blanket
- Trash bags
- Bug spray or bug net
- Flares

## 17. How many times have you been hiking in the past year?

- I have not hiked in the past 12 months
- 1-3
- 4-8
- 9-12
- 12+

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**18. Of these trail issues which have you noticed?**

- Erosion (soil loss on trails)
- Wrappers or other forms of trash
- Overcrowding of people (primary effects of traffic on the trail only, not secondary effects like pollution or environmental effects)
- Lack of wildlife
- Damaged flora/vegetation by trampling
- The creation of accidental trails by visitors

**19. How often do you deviate from the marked trails?**

- Never • Sometimes • Usually • Always
- 

**20. Rate your level of concern with an x in the appropriate box:**

	1 (Not concerned)	2	3 (Neutral)	4	5 (Very Concerned)
Overcrowding of trails					
Lack of spatial awareness from other hikers					
Litter on the trails					
Rudeness of other hikers					
Hikers bringing pets					
Dangerous wildlife					
Vegetation endangerment					

**21. What best describes your level of hiking skill and experience**

- Novice
- Moderate
- Advanced
- Expert

**22. If you have any comments, suggestions, or even concerns about trail etiquette or our project as a whole, please write them here.**

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## Appendix D: Interview Questions

### Appendix D1

Experiential Learning Expert:

1. How did you get into [insert position]?
2. What do you find is the best way to keep students engaged?
3. Which experiential learning methods have you found to be particularly beneficial to student understanding?
4. How do the effects of experiential learning vary across age groups?
5. What challenges do you face when administering experiential learning?
6. Based on your understanding of our Fireside chat curriculum, are there any active learning methods that you think would be particularly useful to us?
7. Are there any studies or documents you think we should see?
8. Do you have any recommendations for resources that we should review and/or additional people that might offer insight into experiential environmental education?

### Appendix D2

Trail Expert:

1. We understand from our research that you do [insert position]. We would love to hear more about how you got into your current career position.
2. What inspired you the most to become [insert position] and what's keeping you here?
3. What advice would you give to novice hikers?
4. What are the biggest issues facing trails and the solutions being implemented so far?
5. Why do you think trail etiquette is important? How about trail management?
6. Are there any studies or documents you think we should see?
7. Is there anyone else you think we should talk to about our project and could you help us get in contact with them?

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## Appendix E: Focus Group Questions

Post-Pilot Focus Group:

1. Did everyone have a good time during the fireside chat?
2. Was the fireside chat similar to what you anticipated?
3. What was your favorite part of the fireside chat?
4. If you had to change one aspect of the fireside chat what would you change?
5. Did you learn something about trail etiquette that you didn't know before the fireside chat?
6. Will anything in this fireside chat change your behavior while you are on mountain trails or hiking through the alpine zone?

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## Appendix F: Questions for experiential learning observation

1. At what point during the session does the audience seem the most engaged? What was the instructor doing during this segment?
2. At what point does the audience seem the least engaged? What was the instructor doing during this period?
3. Was there any theme that tied together all of the experiential learning segments? Were there certain strategies used throughout the lesson?
4. How does the instructor interact with the audience? Is he/she standing in front of them? Is he part of the group?
5. How did the lesson start? Did it start in a classroom and move to another location? Did the group stay outdoors for the entirety of the session?
6. (Possible question for the instructor) What is the protocol when things don't go to plan? What do you do in the case of bad weather?
7. How large is the class? Does it seem like a larger class is possible? Would a smaller class be more effective?
8. Who are the most vocal and engaged students? What traits do these vocal students have in common?
9. Who are the quietest and least engaged? What traits do these quiet students have in common?

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## Appendix G: Figures

**Appendix G1: Location of the Alpine Zone (Kobal, 2018)**

**Appendix G2: Scientific works on trails (Salesa, 2020)**

**Appendix G3: Distribution of world research on trails (Salesa, 2020)**

**Appendix G4: The 9 different learning styles separated out into a grid (Learning, 2022)**

**Appendix G5: The six different thinking hats are shown. Each one is meant to help break the problem-solving process into bite-sized pieces (Bono, 2022).**

**Appendix G6: Flow chart of project objectives.**

**Appendix G7: Image of a crowd of hikers on the Franconia Ridge trail. (Best Times to Day Hike, 2020)**

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## Appendix H: Interviewee Table

<b>INTERVIEWEE</b>	<b>TYPE OF INTERVIEW</b>	<b>JOB TITLE</b>	<b>ORGANIZATION</b>
Nancy Ritger	Educator	Adventure education specialist	AMC
Jeff Marion	Environmental Expert	Recreation Ecologist	USGS
Maeve Milkulski	Target Audience	Summit Steward	WTN
Alex DeLucia (he/him)	Environmental Expert	Director of Trails	AMC
Doug Betchel	Environmental Expert	President of the NH Audubon	NH Audubon
Cristin Bailey	Environmental Expert	Forest service trail manager and trail supervisor	AMC
Laura Waterman	Environmental Expert	Author	Waterman Fund
Mike Benson	Environmental Expert	Forest trail manager	USFS
Morgan Ruoss	Target Audience	Summit Steward	WTN
Emily Davenport	Educator	LNT awareness trainer	LNT
Jill Weiss	Educator	Professor of Environmental Studies	SUNY College of Environmental Science & Forestry
Emily Davenport	Educator	LNT Awareness Trainer	LNT

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## Appendix I: Note Taking Format

Chat	Topics
1.	1.

Chat #	Note	Inspiration	Relevance	Topics
1				<input type="text"/>
2				
3				
4				
5				
6				
7				
8				
9				
10				

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## Appendix J: Interview Notes Comparative Matrix

**Themes:**

Themes Fragility Politics Solutions Overuse Uninformed Hikers Dialogical Approach Miscellaneous

Note #	Note	Interviewee	Keywords	Theme
1				
2				
3				
4				
5				
6				
7				
8				
9				

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## Appendix K: Curriculum Conservation vs Preservation

<b>Recommended Reading/Material</b>	"What are We Trying to Preserve?" <i>Wilderness Ethics: Preserving the Spirit of Wilderness</i> by Guy and Laura Waterman
<b>Summary</b>	<i>This reading dives more into the idea of preservation. It poses the question of what we are trying to protect and why we are trying to preserve it.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ The Waterman's want to preserve the sense of <u>wildness</u> through some amount of preservation, but how can one experience the wild if it is always protected?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Is there an area in nature that you always want to see preserved? One that is important to you? Where is this place and why do you feel attached to it?</li> <li>➤ Do you prefer the idea of preservation or conservation? Why? What factors does the choice between them depend on?</li> </ul>
<b>Alternative Reading/Material</b>	"Conservation vs Preservation: The Differences" by Our Endangered World <a href="https://www.ourendangeredworld.com/eco/conservation-vs-preservation/">https://www.ourendangeredworld.com/eco/conservation-vs-preservation/</a>
<b>Summary</b>	<i>This article breaks down the similarities and differences between conservation and preservation in a very easily digestible format.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Try to think of examples of conservation vs preservation before you read the article. Were your examples grouped in the right categories? Did you have misconceptions about what each word meant?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ What balance of conservation vs preservation is correct? Is there even a correct balance?</li> <li>➤ If the answer is preservation, then are you willing to sacrifice other people's lives/livelihoods in order to preserve nature? Who has the right to make that decision? If anybody?</li> </ul>

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## Appendix L: Curriculum Educating the Masses

Recommended Reading/Material	<p>"Getting to Yes Negotiating an Agreement Without Giving in" by Roger Fisher and William Ury  <a href="https://www.pwsausa.org/wp-content/uploads/2017/02/Module-4-attachment-Getting-to-Ye-s.pdf">https://www.pwsausa.org/wp-content/uploads/2017/02/Module-4-attachment-Getting-to-Ye-s.pdf</a></p>
Summary	<p><i>This source is an explanation on how to have a productive discussion with people who disagree strongly with you.</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ This resource wasn't designed for trail work, try to keep that in mind as you read and pick out what strategies are useful for you and which ones are not.</li> <li>➤ The article talks a lot about "shared interests," what interests might you share with people who are difficult on the trail? How might you use those interests to change their behavior?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ What was the most difficult conversation you have had on the trail? What came of it? Were you able to change their behavior?</li> <li>➤ How can negotiation ju-jitsu be used on trails? Have you ever tried it?</li> </ul>
Alternative Reading/Material	<p>"How Can You Change Someone's Mind?"            Hugo Mercier  <a href="https://www.youtube.com/watch?v=58jHhNzUHm4">https://www.youtube.com/watch?v=58jHhNzUHm4</a></p>
Summary	<p><i>This TED-Ed video goes into detail about the best ways to change somebody's mind, and the misconceptions about how best to do it.</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Think of some people that you have met where you haven't been able to change their mind. Be prepared to discuss some of these examples in the chat and explain why you failed.</li> <li>➤ Remember a time someone has made a convincing argument to you. Be prepared to discuss this in the chat as well.</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ What are the values that are held by people who might be difficult to talk to on the trail? Why aren't they following the rules? How can you relate to them?</li> <li>➤ Which of these three are the most important to change someones opinion: who they trust, what they believe, what they value/</li> </ul>

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## Appendix M: Curriculum Leave No Trace

<b>Recommended Reading/Material</b>	<p><i>Leave No Trace: Skill and Ethics</i>  <a href="https://lnt.org/wp-content/uploads/2022/10/PNW-SE.pdf">https://lnt.org/wp-content/uploads/2022/10/PNW-SE.pdf</a></p>
<b>Summary</b>	<p><i>This reading gives a description of each of the seven Leave No Trace principles. It is a great starting point for beginners and a great conversation starter for more experienced trail users.</i></p>
<b>Pre-Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ Pay attention to which principle you have the most trouble following.</li> <li>➤ Keep track of how many of the principles you were already aware of.</li> </ul>
<b>During Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ What LNT principles did you find surprising? Which principles were you already aware of?</li> <li>➤ Many people find the "Leave what you Find" principle difficult to follow, why do you think that is?</li> </ul>
<b>Alternative Reading/Material</b>	<p>Leave No Trace: How it Came to be.  <a href="https://ijw.org/leave-no-trace-how-it-came-to-be/">https://ijw.org/leave-no-trace-how-it-came-to-be/</a></p>
<b>Summary</b>	<p><i>This is a history of Leave No Trace, detailing what led to its creation and how it has evolved since then.</i></p>
<b>Pre-Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ The LNT principles used to be very different, think about how the priorities of the LNT principles have changed since they were created.</li> <li>➤ In some of the early versions of the LNT principles, pay attention to the dispersal vs. containment practices they are promoting, which strategy makes more sense to you?</li> </ul>
<b>During Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ Some believe that LNT principles are important for camping, but not as important for hiking. How do you feel about this idea? Are the principles suited well for hiking?</li> <li>➤ Are there any principles that you are surprised got left behind/combined?</li> </ul>

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## Appendix N: Curriculum Partnership

<b>Recommended Reading/Material</b>	Cultivating Collaboration: Don't Be So Defensive! <a href="https://www.youtube.com/watch?v=cwSTNvdgYMM">https://www.youtube.com/watch?v=cwSTNvdgYMM</a>
<b>Summary</b>	<i>This source is a TED talk about how to collaborate better with people</i>
<b>Pre-Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ While watching the video, think of different organizations and how they interact with each other. Are those interactions red or green zone interactions?</li> <li>➤ Think about when defensiveness is useful and when it is counterproductive.</li> </ul>
<b>During Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ Were you surprised by the results of the red-zone vs green-zone chickens? Why or why not</li> <li>➤ Have you ever been in a situation where you have felt like a red-zone chicken? What caused it? How could you have prevented it?</li> </ul>
<b>Alternative Reading/Material</b>	"Why and How Do Nonprofits Work Together?" by May Samali, Nathalie Laidler-Kylander, Bernard Simonin, Nada Zohdy <a href="https://planetropicsdigest.org/features/the-sustainable-nonprofit/why-and-how-do-nonprofits-work-together/#:~:text=individuals%20member%20organizations.,Collaboration,review%20of%20their%20joint%20efforts.">https://planetropicsdigest.org/features/the-sustainable-nonprofit/why-and-how-do-nonprofits-work-together/#:~:text=individuals%20member%20organizations.,Collaboration,review%20of%20their%20joint%20efforts.</a>
<b>Summary</b>	<i>This article is about non-profits and the strategies they use in order to help them work together.</i>
<b>Pre-Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ Think of non-profit trail organizations, why do you think there isn't more collaboration? Is it a geographical problem or is it more than that?</li> <li>➤ Pay attention to the differences between cooperation, collaboration, and coordination, which one will be the most useful for trail organizations?</li> </ul>
<b>During Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ How does this article relate to the chat about having discussions with difficult people?</li> <li>➤ What are the benefits of organizations partnering up? What are some of the potential consequences?</li> </ul>

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## Appendix O: Curriculum Partnership

<b>Recommended Reading/Material</b>	"Scott, Hillary, and Ma Bell" pg. 106 Wilderness Ethics
Summary	<i>This story is about communication devices and their effect on the spirit of adventure and wildness. It describes several different stories at different periods of time showing the development of communication technology, and how that development affects a person's connection with nature.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Why do stories of death in the wilderness enhance the sense of adventure?</li> <li>➤ Do you think the 1985 team felt a deeper connection to nature when they didn't bring communication equipment with them?</li> <li>➤ Is it still possible to achieve the same sense of adventure today as Scott did in 1912?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ What does the word "adventure" mean to you?             <ul style="list-style-type: none"> <li>○ What are some memorable adventures you have had in your life?</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>○</li> <li>➤ Is it unethical to put yourself (and others) in unnecessary danger by neglecting to bring proper communication equipment? Why? Or why not?</li> <li>➤ Does technology impose on the sense of adventure while hiking?</li> <li>➤ What technology bothers you while you are hiking? What technology doesn't bother you?</li> </ul>

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Alternative Reading/Material	"Aircraft and Wildness" pg 133 Wilderness Ethics
Summary	<i>This reading is about the use of aircraft in the backcountry. It explains why a helicopter may be disruptive to someone who wishes to view nature, but also acknowledges the positives that aircraft bring such as search and rescue.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ What role should helicopters play in hiking? What is the proper balance?</li> <li>➤ This excerpt was written before drones were prominent, can drones replace some of what helicopters do? Does seeing a drone while hiking bring out the same reaction as a helicopter?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Has anybody experienced a helicopter flying overhead while hiking? How did it make you feel? How do you imagine it would make you feel?</li> <li>➤ Should there be some sort of warning for hikers when helicopters are expected to be in the area of a trail? What would that look like?</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Should tourist flyovers be allowed in wilderness areas?</li> </ul>
Alternative Reading/Material	<a href="https://www.youtube.com/watch?v=v74_mf2usc0">https://www.youtube.com/watch?v=v74_mf2usc0</a>
Summary	<i>Youtube timelapse video showing the growth of cities and technology along with the destruction of nature.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Reflect on how you view this city's growth. Are you impressed by it or horrified?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Is the impact of these cities more noticeable during a timelapse rather than real-time?</li> </ul>

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## Appendix P: Curriculum The Role of Activism

Recommended Reading/Material	"Hike the Divide" documentary (90 Minutes) <a href="https://www.hikethedivide.com/film">https://www.hikethedivide.com/film</a>
Summary	<i>This is a documentary which uses hiking and trails as a way to inspire people to make a change in the world. The focus of the documentary is mostly on climate change.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ He talks to all sorts of people throughout the documentary, why do you think he chooses to do this rather than talking to a bunch of experts?</li> <li>➤</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Why do you think that Connor DeVane chose hiking and trails as a means to spread his message?</li> <li>➤ Connor says that the climate movement has been dominated by privileged people, do you agree with this statement? How can we fix that perception?</li> </ul>
Alternative Reading/Material	"Why the Lorax Lost" <i>Wilderness Ethics: Preserving the Spirit of Wildness</i> by Laura and Guy Waterman
Summary	<i>This story gives a harsh criticism to how the Lorax handled activism in the Dr. Seuss story.</i>
	<i>It goes into detail and explains why the Lorax lost and how to avoid such failure in the future.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Before you do the reading, what are your thoughts on the Lorax? What do you know about it already? Once you have finished the reading, have your thoughts on the Lorax changed at all?</li> <li>➤ Pay attention to the idea of responsibility throughout this reading. Did the reading change who you believe is responsible for issues in the world? Why or why not?</li> </ul>

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During Chat Questions	<ul style="list-style-type: none"> <li>➤ Do you think blaming the consumers just as much as the corporations is fair?</li> <li>➤ Is it on the Lorax to be able to reach the public or the public to listen to the Lorax?</li> </ul>
<b>Alternative Reading/Material</b>	<p>"Why Martin Luther King Jr.'s Lessons About Peaceful Protests Are Still Relevant" by Zeke Miller</p> <p><a href="https://time.com/5101740/martin-luther-king-peaceful-protests-lessons/">https://time.com/5101740/martin-luther-king-peaceful-protests-lessons/</a></p>
<b>Summary</b>	<p><i>This source is an explanation of Martin Luther King Jr's activism attempts and peaceful protests. The source goes into detail about why they were successful.</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ What do you already know about Martin Luther King Jr. and his activism? Does this article change anything you already knew?</li> <li>➤ Think of MLK Jr, as well as other peaceful protesters such as Gandhi. Why were their protests so</li> </ul>
	<p>successful? What about a peaceful protest made it more persuasive?</p>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Think of protests of the past couple of years. Were they successful? Were they peaceful?</li> <li>➤ MLK Jr was assassinated. Did this aid the efforts of the protests? How did his loss affect the world?</li> </ul>

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## Appendix Q: Curriculum The Three E's

<b>Recommended Reading/Material</b>	"Values in Conflict in the Backcountry" <i>Wilderness Ethics: Preserving the Spirit of Wilderness</i> by Laura and Guy Waterman
<b>Summary</b>	<i>This reading gives 4 different scenes that each have a situation with nebulous morality. Each of these 4 situations have something wrong with them, but they also all have their benefits. The reading is a discussion about how many of the values about trail use are in conflict.</i>
<b>Pre-Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ Look at the four fictional situations that the authors present for the reader. Which of these situations do you have a problem with? Which of them do you not?</li> <li>➤ Look out for the three E's of trails when you are reading through. Which of these stories pertains to ethics, etiquette, or aesthetics?</li> </ul>
<b>During Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ Have you ever been on a trail and been taken out of the experience by some sort of bad aesthetic?</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Have you seen people practicing bad trail etiquette? What examples of this do you have? What bothered you the most?</li> </ul>
<b>Alternative Reading/Material</b>	Trail Etiquette 101: The Basic Rules of Hiking <a href="https://bearfoottheory.com/trail-etiquette-hiking-rules/">https://bearfoottheory.com/trail-etiquette-hiking-rules/</a>
<b>Summary</b>	<i>This article goes into the etiquette of hiking and what should or should not be done in situations you might find yourself in on the trail.</i>
<b>Pre-Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ What hiking etiquette were you already aware of before reading this article? Did you know the rules of right of way?</li> <li>➤ Think about how having good trail etiquette will improve the other two E's, how do the three E's relate to each other? Be prepared to discuss in the chat.</li> </ul>
<b>During Chat Questions</b>	<ul style="list-style-type: none"> <li>➤ While trail etiquette may change frequently, ethics largely stays the same. Why does this happen? Can you think of examples?</li> <li>➤ The LNT principles are mentioned in this article, but they are not the extent of trail etiquette, why do you think that is?</li> </ul>

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## Appendix R: Curriculum Trail Management

<b>Recommended Reading/Material</b>	"Fay's Quandary" <i>Wilderness Ethics: Preserving the Spirit of Wildness</i> by Laura and Guy Waterman
<b>Summary</b>	<i>This story details a man from the 1800s struggling with the idea of making new trails. He realizes that creating trails damages the environment and takes the spirit of wildness away from an area.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Why do you think Fay places value in the trees? What about them is deserving of value?</li> <li>➤ Is there a balance between sharing nature with others and preserving nature's beauty? The more people who see nature, the more impact we will have.</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ How do you think Fay would react if he saw the trails today?</li> <li>➤ Have you ever bushwacked? Do you agree with Fay wanting to limit new trails?</li> </ul>
<b>Alternative Reading/Material</b>	Best Strategies for Maintaining Your Trails <a href="https://appalachian.org/wp-content/uploads/2016/07/Trail-Maintenance-Handout-PDF.pdf">https://appalachian.org/wp-content/uploads/2016/07/Trail-Maintenance-Handout-PDF.pdf</a>
<b>Summary</b>	<i>This article is a brief description of different trail management strategies, to teach people how best to manage/build trails. This source is best used in tandem with another source as it is pretty short.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ What do you already know about trail management strategies, is there anything that this article missed?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Were you aware of all of these trail management strategies? Which ones were you not aware of?</li> <li>➤ Which trail management strategies do you think work the best?</li> </ul>

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## Appendix S: Curriculum Trail Science

<b>Recommended Reading/Material</b>	<p>"Assessing the influence of sustainable trail design and maintenance on soil loss" by Jeff Marion  <a href="https://appalachiantrail.org/wp-content/uploads/2020/04/marion-wimpey-sustainable-trail-design-2017.pdf">https://appalachiantrail.org/wp-content/uploads/2020/04/marion-wimpey-sustainable-trail-design-2017.pdf</a></p>
<b>Summary</b>	<p><i>This article goes into immense detail about the best ways to construct and maintain a trail. It discusses the pitfalls of fall-line trails, and how side-hill trails are a much more efficient use of resources.</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Did you already know this information before you read the paper?</li> <li>➤ Are there ways to make sidehill trails more mainstream? Is it even worth it to advocate for them or should people focus on the trails that are already in place?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Is it worth removing a historical trail if it means saving the environment within the trail? The trail to Franconia Ridge might not be possible as a sidehill trail. Does it make sense to deprive people of nature in order to save it?</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Water drainage is one of the most significant impacts that side-hill trails look to minimize. What are ways to minimize the impact of water on a fall-line trail? Which ones are most successful?</li> </ul>
<b>Alternative Reading/Material</b>	<p>"How Trail Designer Build Good Hikes" Video  <a href="https://laughingsquid.com/strategic-hiking-trail-design/">https://laughingsquid.com/strategic-hiking-trail-design/</a></p>
<b>Summary</b>	<p><i>This video is a much lighter way to look at trail science ideas without having to read through academic papers.</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Trails are described almost as a portal into a natural world. Think of experiences you have had where you have forgotten that you were walking on a trail and felt as if you were walking through the wilderness.</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Are efforts to maintain fall-line trails futile? What should be done about popular fall-line trails such as Franconia Ridge?</li> </ul>

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## Appendix T: Curriculum Wildness

Recommended Reading/Material	"What is the Wild?" pg. 30 of <i>Wilderness Ethics</i> by Laura and Guy Waterman
Summary	<i>This is a brief excerpt explaining how "the wild" is defined. The reading has several quotes within it and discusses humans' connection to nature. It poses the question "is there anywhere left on the planet that is untouched by humans?"</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Pick out a favorite quote or two from the reading and be prepared to explain why you like the quote.</li> <li>➤ Is the spirit of exploration and adventure contradictory to preservation? Should we continue to try to explore places that have never been explored by humans? If not then what are saving those places for?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Do you agree with the comparison of wilderness to cathedrals? What is similar about them? What is different?</li> <li>➤ Can you think of an experience you had that brought you closest to this idea of the Wild?</li> </ul>
Alternative Reading/Material	<i>To Build a Fire</i> by Jack London
Summary	<i>This is a brief excerpt of a man attempting to survive a freezing environment. He journeys with a dog toward his friends in temperatures of 75 degrees below zero. He doesn't respect the wilderness and the cold and has to struggle to keep himself alive.</i>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>➤ Pay attention to the man's mindset throughout the story. Does he ever learn to respect the cold?</li> <li>➤ Why do you think the dog was a part of this story? What does the dog represent?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>➤ Was the man doomed from the beginning of the trip? Was he correct to assume that he got unlucky?</li> <li>➤ Danger seems to be ever present in the wild, especially in this situation, why do you think that is an important aspect of wilderness?</li> <li>➤ What is the coldest cold you have ever experienced?</li> </ul>

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## Appendix U: Curriculum Accessibility

Recommended Reading/Material	<a href="https://www.railstotrails.org/build-trails/trail-building-toolbox/design/accessibility/">https://www.railstotrails.org/build-trails/trail-building-toolbox/design/accessibility/</a>
Summary	<p><i>This source is an article about trail accessibility. Included in the article is one video that could be watched in addition to the reading, however it is optional. Please note, (Video: Designing and Building Accessible Trails: 60 minutes)</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>• Pay attention to how much goes into making a trail accessible. What are the pros and cons of making a trail more accessible?</li> <li>• Think of famous trails like Franconia Notch. Should these trails be made more accessible because of their fame?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>• What difficulty level are you comfortable with while hiking?</li> </ul>
	<ul style="list-style-type: none"> <li>• Is there a correct balance between trail difficulty and trail accessibility? What is that balance?</li> </ul>
Alternative Reading/Material	<a href="https://www.healthline.com/health/outdoor-health/hiking-is-becoming-more-inclusive">https://www.healthline.com/health/outdoor-health/hiking-is-becoming-more-inclusive</a>
Summary	<p><i>This is a short article detailing an avid black hiker's struggles hiking. He nervous about hiking for much of his life because of stories he was told as a child.</i></p>
Pre-Chat Questions	<ul style="list-style-type: none"> <li>• Derick Lugo got questioned on the Appalachian Trail. Despite the intentions of the hikers when they asked those questions, do you think that they made him feel more or less welcome?</li> <li>• Are there similarities between the fight for accessibility for racial groups and accessibility for the physically challenged?</li> </ul>
During Chat Questions	<ul style="list-style-type: none"> <li>• Who is responsible for getting more people into hiking? Is it on hikers and trail organizations?</li> </ul>

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## Appendix V: Curriculum Landing Page



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### Fireside Chat Curriculum - Landing Page

#### Fireside Chat

Fireside chats are a dialogical-based constructivist curriculum, meaning the class builds on students' preestablished knowledge with discussion. The overarching goal is to convey information and even cause a behavioral change in its participants. 2-10 (or so) participants come together to share their unique perspectives and experiences about a specific topic. A facilitator sends out a reading and pre-chat questions for the participants. During the chat, the facilitator guides the conversation with premade during-chat questions. It is a highly intimate and educational experience. The subject matter for this group of Fireside chats is trail issues in the White Mountains, but the Fireside chats can be held about any desired subject matter.

#### Suggested Materials

In each folder lies suggested and recommended media to consume before the chat. This includes readings, videos, podcasts, pictures, and potentially more. This is intended to get all participants to the same knowledge base and encourage initial thoughts on the topic. Facilitators can and should add to these supplemental materials with a small description explaining why it pertains to that specific topic. Other topics/themes may be created with their own folder as well!

#### Setting, Environment, and Atmosphere

The context around fireside chats is very important as participants are expected to share deep thoughts about a subject matter. Participants need to feel comfortable in order to dive into a conversation with both effective listening and communication skills. Outdoor chats immerse participants in the very subject they are discussing and the dark creates a curtain to lessen the tension and pressure of eye contact. The fire also serves this purpose as it usually helps draw eyes away from solely the speaker. Food is a great way to get people moving, happy, and comfortable as eating is a fantastic bonding activity. As for the timing, the time of year should allow for comfort and comfortable clothing is a must. The chat is effective for as long as participants can stay engaged, which is usually between one and two hours.

We recommend conducting each Fireside chat...

- Outdoors, preferably in the dark (when the discussion starts)
- Around a fire
- With comfortable seating
- As a potluck, with every participant bringing their own dish to share
- Encourages communication among participants while eating before the chat
- Lasts about one hour but can be effective for longer
  - Nobody should dominate the conversation; the facilitator should take more control when the flow of the conversation is compromised

#### Topics

Topics for each fireside chat are chosen by the facilitator. Recommended topic orders exist in another document in this very google folder. Further descriptions for each topic are found in their own respective documents. Here are all of the current topics in no particular order for reference:

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- > Trail etiquette, ethics, and aesthetics (The Three E's)
- > Leave No Trace awareness
- > Trail science
- > Educating the masses
- > Accessibility on trails for differently abled people
- > Partnership
- > Conservation vs preservation in science
- > LNT Principals
- > The role of Activism
- > Trail Management
- > Technology
- > Wildness

Each topic here serves a purpose and identifies a controversial or important aspect of trails. Alternative and/or additional themes are encouraged as participants have unique backgrounds and experiences. Guests specialized in a specific topic are encouraged to attend fireside chats to give their perspectives and knowledge. Because guests have been found to be an important aspect of fireside chats, flexibility in this curriculum is an important consideration to accommodate their specializations.



(Source: <https://unsplash.com/s/photos/campfire>)

We are a project group from Worcester Polytechnic Institute located in Worcester, Massachusetts, USA. Our names are Ricky Healey, Rick Shaw, and Luke Gardone. We developed this curriculum in collaboration with Nathaniel “Nat” Scrimshaw from the World Trails Network - Hub for the Americas and our advisor Corey Dehner.