



Leave No Trace— Changing behavior in protected areas



Outdoor Ethics & Conservation Roundtable

December 10, 2025



Agenda

- Welcome and opening
- Safety moment
- Leave No Trace Science
- Announcements
- Closing
- Open discussion



Paul Schimke, National Capitol Area Council



Pledge

I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.





Scout Oath

On my honor I will do my best
to do my duty to God and my country
and to obey the Scout Law;
to help other people at all times;
to keep myself physically strong,
mentally awake, and morally straight.





Scout Law

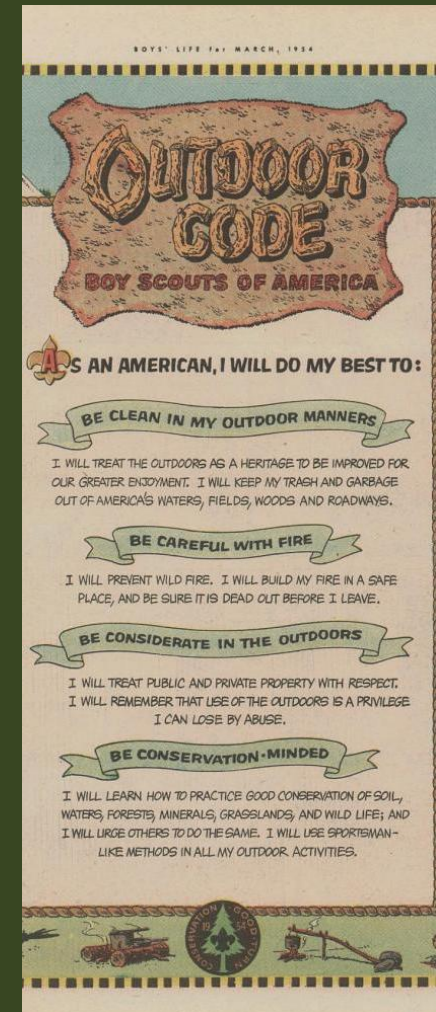
A Scout is:
Trustworthy, Loyal, Helpful,
Friendly, Courteous, Kind,
Obedient, Cheerful, Thrifty,
Brave, Clean, Reverent.





Outdoor Code

As an American, I will do my best to –
Be clean in my outdoor manners.
Be careful with fire.
Be considerate in the outdoors.
Be conservation minded.





Trip Planning

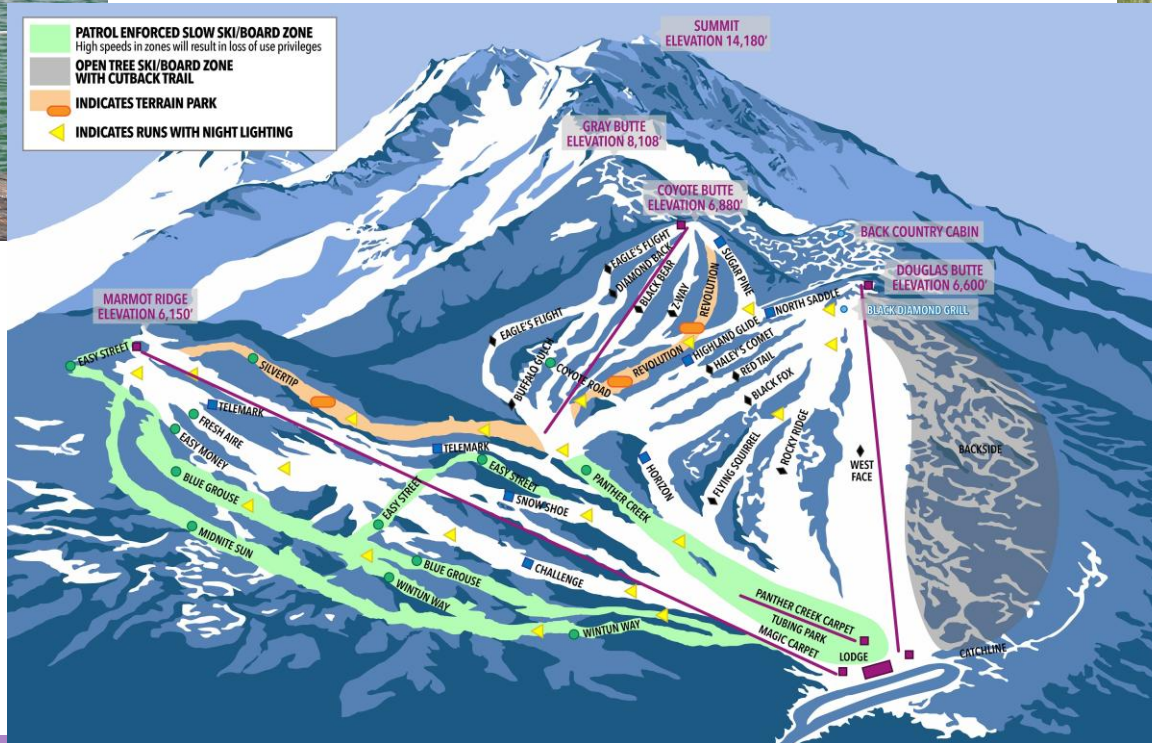


John Kinney, Twin Rivers Council

Safety Moment



THE IMPORTANCE OF TRIP PLANS



Why Trip Plans Save Lives

Every rescue story has two sides: the one where help knew where to look and the one where they didn't. The difference between a fast recovery and days lost in the wild often comes down to this simple act—did someone know where you went, when you planned to be back, and what route you intended to take?

What to include in your trip plan

Your plan doesn't have to be fancy. It has to be clear. Here's what matters:

Route details – trail name(s), direction of travel, and side trips if planned.

Estimated timeline – departure and return dates, with wiggle room for weather or delays.

Camp locations & bailouts – where you expect to sleep and what exits exist if things go sideways.

Water sources & resupply points – key logistical notes that give rescuers clues.

Emergency contacts – who to call if you miss check-in, plus your own ID info stashed in your pack.

For Water Treks:

<https://floatplancentral.cgaux.org/download/USCGFloatPlan.pdf>

NPS Hike Smart

<https://www.nps.gov/articles/hiking-safety.htm>



Leave No Trace Science

Dr. Derrick Taff, Penn State University
Leave No Trace Science Advisor



John Kinney, Twin Rivers Council

The Science Behind



**LEAVE
NO TRACE**

Dr. Derrick Taff
Science Advisor

Assistant Dean for Graduate Education and Research, College of Health and Human Development; Associate Professor, Department of Recreation, Park and Tourism Management, Penn State Univ.

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Emerging from the Pandemic

Outdoor Recreation Trends

- ***More than half of the U.S. population now participates in outdoor recreation at least once per month***, according to Leave No Trace research (Taff et al., 2021).
 - Outdoor recreation = Health, but protection of the resources is vital (Leave No Trace can promote health of the environment, and positive visitor experiences; Taff et al., 2019).
- ***20% of the U.S. population now considers themselves as NEW to outdoor recreation*** and interested in continuing outdoor activities in the future, based on Leave No Trace's post-pandemic Leave No Trace research (Rice et al., 2022; Taff et al., 2021).

Outdoor recreation participation – NOW...

Latest Outdoor Industry Association Report Suggests:

- **Grew by 4% in 2023, and another 3% in 2024**
- **Now ~57% of the US regularly participates in Outdoor Recreation**

Leave No Trace more important than ever...

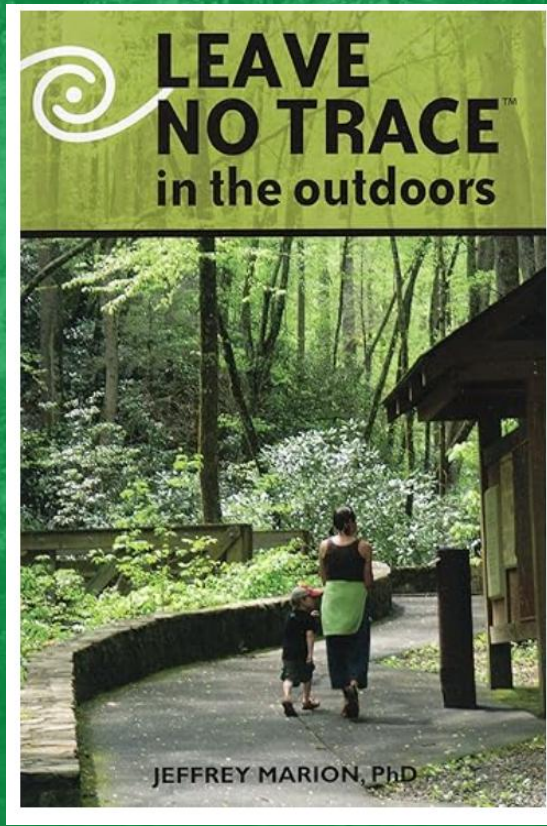


What is Leave No Trace Science?

Measuring and monitoring
efficacy through four
overarching approaches...



Recreation Ecology



Focuses on impacts to natural and cultural resources from recreation (origins of Leave No Trace)

- Systematic measuring and monitoring impacts;
- Observing behaviors that may cause impacts

Social Science

Human dimensions (e.g., knowledge, attitudes, behaviors) that influence natural and cultural resources, and other visitors

- Note* *Paired Ecological and Social are the ideal (although difficult to achieve, requiring pre-post, experimental design, and longitudinal data collection).*

Citizen Science

Volunteer-based monitoring of resources (mostly natural and cultural resources rather than human behavior)

- Ideal for long-term monitoring of resource conditions

Program Evaluation

Internal Evaluations of Impact and Efficacy (useful for benchmarking) longitudinally

- Constituent Surveys;
- Tourism Partners;
- Training Evaluations;
- Spotlights/Hotspots;
- Gold Standard Sites.

Using Our Science

Citizen Science	Program Evaluation	Recreation Ecology	Social Science
<p><u>Marketing and Communications:</u> Potential for highlighting partnerships and engaging public in data collection; lucrative depending upon location and demographic</p>	<p><u>Marketing and Communications:</u> Potential for highlighting effectiveness of programs to partners and public</p>	<p><u>Marketing and Communications:</u> Potential for highlighting effectiveness of programs to partners and public; lucrative depending upon location and demographic</p>	<p><u>Marketing and Communications:</u> Potential for highlighting effectiveness of programs to partners and public; lucrative depending upon location and demographic</p>
<p><u>Education Outcomes:</u> Informs practice (e.g., monitoring demonstrates that group size regulations decreased ecological impacts to campsites)</p>	<p><u>Education Outcomes:</u> Informs internal organizational strategies and goals for education, training, and all programs</p>	<p><u>Education Outcomes:</u> Informs practice (e.g., monitoring demonstrates that trail closure decreased ecological impacts to trail widening)</p>	<p><u>Education Outcomes:</u> Informs practice (e.g., behavioral intervention demonstrates increase in compliance with proper disposal of waste)</p>
<p><u>Scientific Outcomes:</u> Few; occasional potential for publications; conference presentations</p>	<p><u>Scientific Outcomes:</u> Few; occasional potential for publications; conference presentations</p>	<p><u>Scientific Outcomes:</u> Moderate; Enhancements with data collection/technology; strong potential for publications; conference presentations</p>	<p><u>Scientific Outcomes:</u> Extensive; strong potential for publications, particularly those that pair social and ecological data; conference presentations</p>

Overview of ~15 years of Research

General Perceptions of Leave No Trace

- Majority of recreationists believe that ***practicing Leave No Trace is easy and reduces environmental impacts.***
(Backman et al., 2018; Lawhon et al., 2013; Lawhon et al., 2019; Taff et al., 2014; Vagias and Powell, 2010).
- When educating the public or talking with land managers, try to focus on how ***EASY*** it is to practice Leave No Trace



Overview of Research

General Perceptions of Leave No Trace

- Most recreationists (even new) are aware of the phrase, “*Leave No Trace*”, but unaware that we are an organization with a lengthy history.
- Significant opportunity to educate new recreationists and reinforce belief in the organization’s mission.



Knowledge, Attitudes, and Behavior



Knowledge is important, but we must also strive to change attitudes to influence behaviors.

Reinforce Beliefs and Attitudes toward Leave No Trace (Easy and Effective)

Recent Land Manager Study

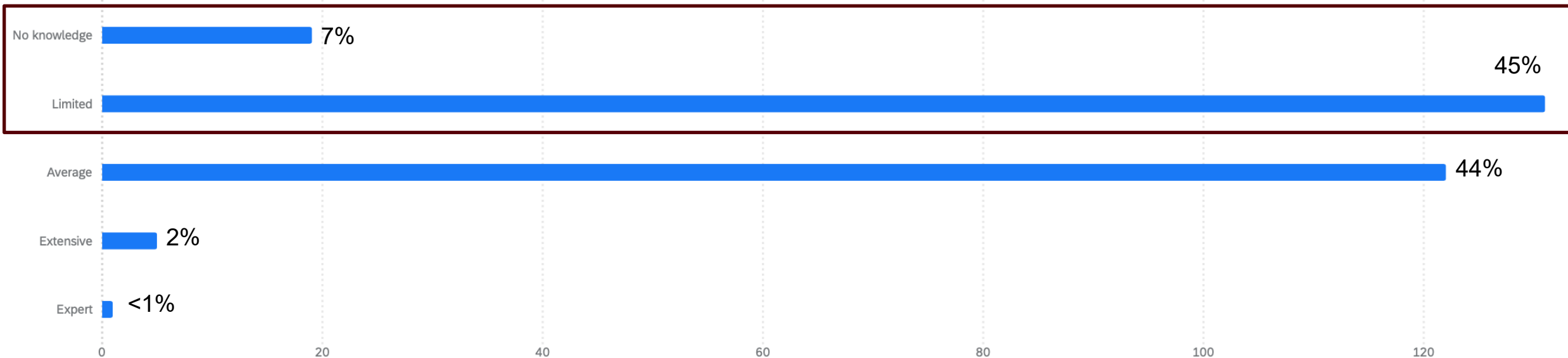
Reinforce these Positive Attitudes:

- 91% Agree or Strongly Agree - *Leave No Trace promotes and protects the health of the environment, and therefore also promotes healthy recreational experiences.*
- 90% Agree or Strongly Agree – *My agency/organization should promote Leave No Trace training for all staff/volunteers because it protects nature for future generations to enjoy.*

Recent Land Manager Study

How would you describe your typical visitor's knowledge of Leave No Trace practices?

How would you describe your typical visitor's knowledge of Leave No Trace practices? 278 ⓘ



**Why Leave
No Trace?**

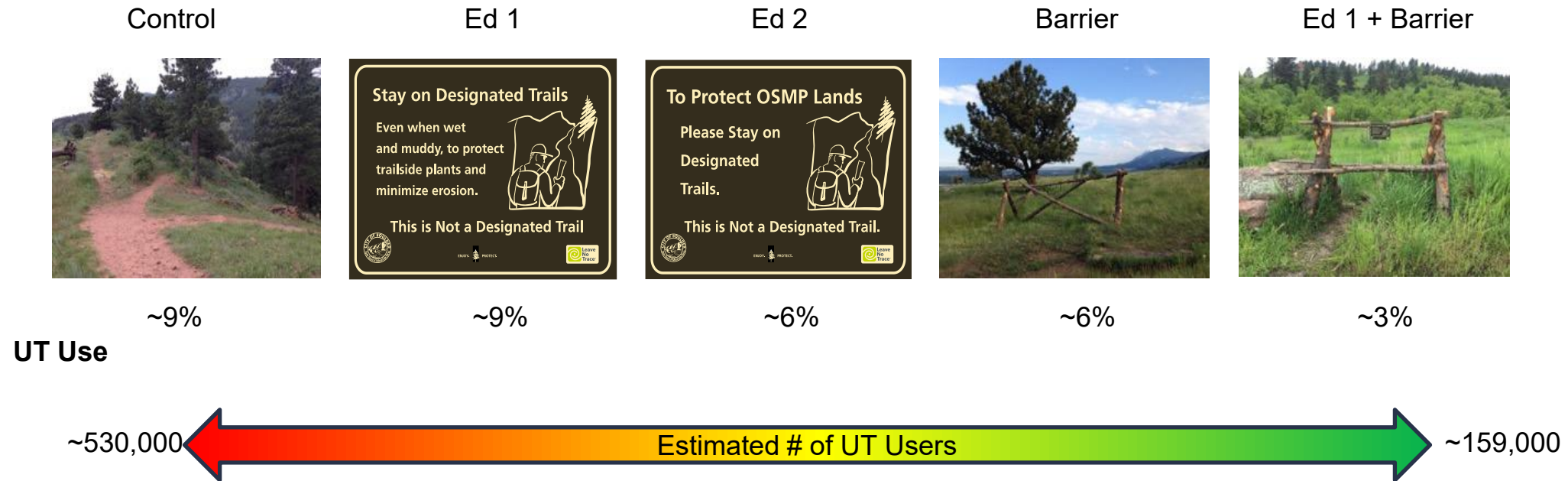
**Is it
effective?**



Traveling and Camping on Durable Surfaces

- Leave No Trace signage in conjunction with a small barrier like a log or fence is **97% effective at keeping hikers on designated trails**

Treatment



See: Schwartz, F., Taff, B. D., Lawhon, B., & VanderWoude, D. (2018). Mitigating undesigned trail use: The efficacy of messaging and direct site management actions in an urban-proximate open space context. *Environmental Management*, 62(3), 458–473.

<https://doi.org/10.1007/s00267-018-1054-1>

Respecting Wildlife

- Outdoor recreation can have substantial impacts on wildlife survival (Sytsma et al., 2022), but Leave No Trace education works. It is in **20% more effective in protecting wildlife than traditional park signage/messaging** (Freeman et al., 2023) than existing park messaging.



See: Freeman, S., Taff, B. D., Lawhon, B., Benfield, J. A., Kreye, M., Newton, J., ... & Newman, P. (2023). The Impact of Message Framing on Wildlife Approach During Ungulate Viewing Experiences in the Greater Yellowstone Ecosystem. *Journal of Interpretation Research*, 28(1), 7-24. <https://doi.org/10.1177/10925872231157596>

National Park Service

Yellowstone National Park
ID, MT, WY

Plan Your Visit · Learn About the Park · INFO · ALERTS · MAPS · CALEND RESERV

Studying Human Behavior Around Elk

Penn State students studying human interactions with elk in Mammoth Hot Springs.

Did you know Yellowstone has partnered with researchers at Penn State University to study people's behavior around elk? In collaboration with the park's social science program and the Leave No Trace Center for Outdoor Ethics, doctoral student Stephanie Freeman is studying how different messages influence how close people approach elk in Mammoth Hot Springs. The findings of this study will ultimately inform the park on better ways to communicate with people about **wildlife safety**, especially during times of the year when elk are more aggressive, like during the rut in autumn.

"After visiting Yellowstone National Park and seeing how close some people would approach wild animals, I became fascinated with studying the 'why.' Understanding the relationship between people and parks helps protect these special places for years to come!" – Stephanie Freeman, PSU Department of Recreation, Park and Tourism Management, PhD candidate

Dispose of Waste Properly

- Leave No Trace educational signs ***double people's recycling and waste disposal in national park campgrounds*** (Taff et al., 2022). This has the potential to dramatically increase recycling rates with the 70 million pounds of waste that the National Park Service manages annually (<https://www.nationalparkstraveler.org/2020/09/initiative-helps-national-parks-keep-millions-pounds-trash-out-landfills>).



Taff, B. D., Miller, Z., Lawhon, B., *Freeman, S., & Newman, P. (2022). Effective Communication and Campground Recycling: Lessons Learned from Yosemite, Grand Teton, and Denali National Parks. *Land*, 11(10), 1872. <https://doi.org/10.3390/land11101872>

Everyday Sustainable Behaviors



Beyond Parks and Protected Areas...

- ***Environmentally Sustainable Behaviors*** include things like recycling, using alternative transportation, reducing personal energy use and other activities of daily life that support an environmentally sustainable planet.
- People who Leave No Trace practice environmentally sustainable behaviors as much as ***2X more than the general public*** (Mateer et al., 2022).
- ***The more you learn about Leave No Trace education, the more likely you are to practice environmentally sustainable behaviors*** (Lawhon et al., 2021).

Mateer, T., Melton, T.N., Miller, Z.D., Lawhon, B., Agans, J.P., Lawson, D.F., Brasier, K.J., & Taff, B. D., (2023). The potential pro-environmental behavior spillover effects of specialization in environmentally responsible outdoor recreation. *Land*, 12(11), 1970. <https://doi.org/10.3390/land12111970>

Leave No Trace in Daily Life



**Start With Your Park/
Empezá por tu Parque**



**Minimize Single Use
Items/ Minimizá los items
de un solo uso**



**Properly Dispose of
Household Waste/
Disponé Adecuadamente
de los Residuos
Hogareños**



**Reuse Before Recycle/ Re-
utilizá Antes de Reciclar**



**Consider Alternative
Modes of Transportation/
Considerá Transportes**



**Minimize Energy
Consumption/ Minimizá el
Consumo de Energía**



Effectiveness of Leave No Trace (Youth)

- Leave No Trace youth-focused education ***significantly increases environmentally responsible attitudes and behaviors***. According to the American Camp Association, that means that Leave No Trace youth education could influence as many as 26 million youth campers a year to behave more sustainably (American Camp Association; Schwartz et al., 2018).
- Leave No Trace ***youth education significantly increases nature connection*** with kids (Schwartz et al., 2018).
- Leave No Trace education ***can significantly improve your confidence, communication and judgement as an outdoor educator*** (Bromley et al., 2013).



Effectiveness of Leave No Trace (Bouldering)

Revisiting bouldering education (2015 and 2023) – Significant improved attitudes and self-reported behaviors after implementation of Leave No Trace-specific educational strategies (hangtag; climbing stewards program).

Journal of Outdoor Recreation and Tourism 25 (2019) 16–23

Contents lists available at ScienceDirect

Journal of Outdoor Recreation and Tourism

journal homepage: www.elsevier.com/locate/jort

Research note

Leave No Trace bouldering ethics: Transitioning from the gym to the crag

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ARTICLE INFO

Keywords: Leave No Trace, Bouldering, Outdoor ethics, Rock climbing

ABSTRACT

Participation in bouldering has increased substantially over the past two decades, with indoor (gym) climbing and bouldering identified as the fastest growing sector of the climbing industry. Thus, for many, their experience with bouldering begins in the gym and then progresses to climbing outdoors. This raises questions regarding the extent to which those who initially learn in a gym setting are making a responsible transition to the outdoors by adopting behaviors that protect and preserve ecological and social conditions, thus ensuring the future of outdoor bouldering access. This article reviews on bouldering research conducted in Rocky Mountain National Park.

National Park Service


SEARCH MENU

ARTICLE

Sustainable Bouldering: Using Leave No Trace to Achieve Change

Rocky Mountain National Park

Bouldering is a popular form of rock climbing in Rocky Mountain National Park (RMNP) which contains world class bouldering destinations like Chaos Canyon, Emerald Lake, and Wild Basin. Bouldering routes, also known as problems, often require a sequence of dynamic, sometimes unconventional, movements for the climber to reach the top. Because these routes rarely exceed 15-20 feet, boulderers rely on crash pads and fellow boulderers to act as "spotters" for safety and fall protection. The sport has become increasingly popular due to the lack of specialized equipment needed, like ropes and other gear. Even though [Upper Chaos Canyon remains closed due to a recent rockslide on the South Face of Hallett Peak](#), bouldering season in well underway in RMNP.



Best Practices Current Research

Dispose of Waste Properly

Perceptions and behaviors associated with human waste management in alpine environments

- Rocky Mountain National Park's Longs Peak
- Grand Teton National Park
- Colorado 14ers



Hiker poop is causing a stink in the backcountry – but with this piece of kit, researchers have the solution

By [Julia Clarke](#) published December 7, 2024

A research project on Colorado's highest peak this summer reveals that hikers will pack their poop out, provided they're given what they need



When you purchase through links on our site, we may earn an affiliate commission. [Here's how it works.](#)



Best Practices Current Research

Respect Wildlife and Be Considerate of Other Visitors

- Examining perceptions and behaviors associated with lights





Dark Sky & Artificial Lighting Guidelines

Public lands and Tribal lands are some of the last vestiges of pristine or near pristine dark skies. Yet even in these areas, improper use of artificial light can negatively impact wildlife ecosystems, and visitors. For example, bat habitat can be affected by lighting, with some bats abandoning lit areas for hunting and other less sensitive species being attracted to light due to the concentration of insects. Migratory birds and sea turtles are attracted to and disoriented by artificial lighting, which draws them into urban environments where risk of fatal encounters is increased. When it comes to visitors, remember that people often come outdoors to escape the influence of artificial light and enjoy the starry night sky. Even minimal lighting, if improperly used and installed can be seen from great distances, impacting wildlife and human vision. Do your best to minimize your lighting impacts when enjoying the outdoors.

**When recreating at night, be prepared to see the stars!
Consider the following guidelines to reduce your impacts and help preserve the natural dark sky:**

- IS LIGHT NEEDED?**
First, ask yourself if additional light is needed to facilitate your activity. Often our eyes can adjust to the dark sky and still feel safe to enjoy recreational activities without artificial light. It takes between 20 to 30 minutes for the human eye to fully adjust to darker environments.
- REFLECTIVE TAPE**
For safety purposes, consider reflective tape or gear with reflective materials rather than using artificial lights
- LIGHT INTENSITY**
If artificial light is needed to facilitate your activity, use only the light intensity that is necessary (e.g., headlamps rather than vehicle headlights or the lowest setting needed on a headlamp). Use LEDs with warm colors such as yellow, amber or red at lower intensity levels, rather than white or blue lights, which can impact the health of wildlife and humans. These warmer lights also allow for human eyes to adjust more quickly to darkness after being turned off.

- DIRECTION OF LIGHT**
Keep all artificial lighting pointed down and only in the direction where light is necessary.
- LOW-LUMEN HEADLAMPS**
Depending on your outdoor activity, consider purchasing/using headlamps (and other types of outdoor-recreational lighting) with a low-lumen/intensity output that offers either a fully red/amber light or at least a red/amber light cover.
- SAVE ENERGY**
Save your batteries or energy and turn off all lights when not in use.
- AVOID HEADLIGHTS**
In campgrounds, only use vehicle headlights when driving or when absolutely necessary; avoid use while preparing camp. Plan ahead and prepare camp/tent set up before dark to avoid the need for lights.
- USE DARK SKY FRIENDLY LIGHTING**
In campgrounds, backyards, on campers, and other recreational vehicles refrain from decorative lighting, and when using purposeful lighting, use lights that are "dark sky friendly." The International Dark-Sky Association recommends using long-wavelength lighting with a color temperature of less than 3000 Kelvins, fully shielded and directed downward.

 Recommendations based on empirical science and co-created between Leave No Trace and the U.S. National Park Service Natural Sounds and Night Skies Division.


Enjoy Your World, Leave No Trace!

Fristrup, K., Miller, Z. D., *Newton, J., Buckley, S., Cole, H., Linares, C., Donners, M., Taff, B. D., Beeco, A., Barber, J., & Newman, P. (2024). National park visitors perceive benefits for themselves and wildlife under blended red-white outdoor lighting. *Sci Rep* 14, 21791. <https://doi.org/10.1038/s41598-024-71868-4>

Crump, M., Taff, B. D., Himschoot, E. A., Newton, J., Beeco, A., & Newman, P. (2024). Perceptions of Personal Lighting Devices and Associated Behaviors: Shifting Personal Norms and Behavior for Broader Conservation Actions. *Sustainability*, 16(5), 1871. <https://www.mdpi.com/2071-1050/16/5/1871>

Upcoming Leave No Trace Research



Our Work Is Grounded In Science

Leave No Trace is grounded in science and research and has been since its origins in the field of recreation ecology. This has evolved over the years as recreation-related impacts and associated monitoring has incorporated human dimensions of natural resources, striving to understand how and why humans cause impacts and, ultimately, how to influence behaviors to decrease recreational-related impacts. Our education and programming efforts are grounded in science and research.



Leave No Trace Scientists



Scientist Bios: Dr. Yu-Fai Leung



Scientist Bios: Dr. Lincoln Larson



2024 Research Grant

- Using Leave No Trace Principles and Practices to Enhance Visitor Use Management at Popular Frontcountry Recreation Sites
- Working within Pisgah National Forest and DuPont State Forest assessing social and ecological changes following implementation of a Leave No Trace education/messaging campaign

2025 Research Grant

The role of Leave No Trace-NPS Soundscape Guidelines in enhancing visitor experience and environmental responsibility

- Grand Teton National Park

Dr. Lauren Ferguson



Protecting the Sounds of Nature Guidelines

Natural sounds and natural quiet are critical components of the natural environment. Natural quiet is vital for wildlife survival so that they can locate predators and prey and communicate. Similarly, humans benefit from the sounds of nature, which can promote and facilitate a variety of health benefits. Furthermore, research has demonstrated that when people reduce human-caused noise in natural areas, they can experience more wildlife, decrease stress while increasing opportunities for restorative health, and accommodate more visitors into a given protected area -- without feeling as crowded.

Enjoy the sounds of nature by practicing the following guidelines:



LISTEN!

Engage your hearing to better understand the sounds around you. Experience the health benefits of being quiet – let the sounds of nature refresh your body and soul. This will help you appreciate the natural sounds around you and increase your chances of seeing more wildlife (at appropriate distances, of course).



PLAN AHEAD AND PREPARE

Consider your surroundings and match the sounds of your activity to your location (i.e., wilderness setting, consider preserving solitude through quieter behaviors vs. more developed areas where noise from humans might be more common).



BE CONSIDERATE OF OTHERS

Respect wildlife and be considerate of others by minimizing your noise footprint and being aware that the sounds you create may be considered as noise, and impact wildlife behavior and others.



BE QUIET

On the trail, consider being a quiet recreationist -- listen to nature's music instead of your speakers. If you listen to human-created music while recreating, use headphones or turn down the volume.



PLAN AHEAD

Plan ahead and prepare by reducing excessive or noisy gear. Silence your phone and look for mute options on other electronic equipment, such as watches and cameras.



QUIET HOURS IN CAMPGROUNDS

In developed campgrounds, reduce your noise by soundproofing generators, adhering to quiet hours, and keeping the volume turned down on electronics.



TRANSPORTATION SOUNDS

Reduce your carbon footprint while reducing your motorized transportation noise footprint. Use alternative transportation such as shuttles or bicycles when possible. Consider traveling at lower speeds and using noise-canceling mufflers while being mindful of your car alarm and horns. If you ride a motorcycle or an off-highway vehicle, recognize that the lower frequency sounds these vehicles produce travel further, so avoid excessive revving of engines whenever possible.



BEAR COUNTRY

In bear country, it may still be important to make noise to reduce your chances of negative bear encounters in the wild. The human voice is a minimum-impact bear deterrent, which can work to notify them of your presence; in emergency situations, bear whistles and horns may be effective.



BEHAVIOR CHANGES

Consider quieter behaviors when recreating outdoors at home, as they can lead to more bird songs and happier neighbors.



Recommendations based on empirical science and co-created between Leave No Trace and the U.S. National Park Service Natural Sounds and Night Skies Division.



Enjoy Your World, Leave No Trace!

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www.LNT.org

Dr. Will Rice



Dr. Jeremy Shellhorn



2025 Research Grant

Combining Art and Science to Leave No Trace on the Tundra: A Combined Descriptive and Evaluative Approach toward Durable Surface Hiking Compliance

- San Isabel National Forest



Current – National Mall and Rushmore Waste

Examining waste infrastructure (Big Belly's) and messaging on waste and recycling behaviors

Rushmore Example Messaging:

- 1st. *You are the solution to preserving this special place...*
- 2nd. *You have the power to either help or harm the health of this park...*
- 3rd. *If you care about the future of this special place...*
- 4th. *Don't be the person that hurts this special environment...*

The lowest ranking item out of the 13 we tested was *The Presidents are watching how you behave in this special place...*

“Please sort your trash and recyclable materials.”



Current – Yellowstone Wildlife Viewing

Improving understanding of wildlife viewing attitudes and behaviors

Lamar Valley -- “Serengeti of the U.S.”

Visitor study to improve messaging to visitors and Commercial Use Authorized (Guides) guidelines and best practices



Current – Great Smoky Mountain NP Lights

Improving understanding of campground lighting (how low can you go?)

- Evaluating camper perceptions of current, lower, and no lights in campground bathrooms
- Evaluating the influence of lighting conditions on wildlife



Current – New Zealand Human Waste Management:

- Māori and Mountaineer Perceptions and Behaviors
- Understanding appropriate solutions to addressing human waste at Aoraki-Mount Cook National Park, New Zealand

McLeod, L., North, C., Taff, B.D., Edelson, S.K., & Hine, D.W. (2025). Understanding solid human waste management by mountaineers in Aotearoa New Zealand: A segmentation approach. *Environmental Challenges*, 18. <https://doi.org/10.1016/j.envc.2024.101076>.



The screenshot shows a news article from RNZ. The header includes the RNZ logo and navigation links for News, Radio, Podcasts, Series, Topics, Te Ao Māori, Pacific, IndoNZ, and 中文. The article is categorized under ENVIRONMENT / TE AO MĀORI. The main title is 'Solving the human waste problem on our highest mountain'. Below the title, it says 'From Nighs, 10:18 pm on 17 May 2024' and provides social media sharing options. The text of the article discusses the work of University of Canterbury researchers Chris North and Toni Torepe with the New Zealand Alpine Club and Te Rūnanga o Arowhenua to address human waste disposal on Aoraki Mount Cook. It notes that human waste is currently flown off the mountain at a cost greater than hut fees. The article mentions that the researchers join Emile Donovan. Below the text is a video player for a 'Nights' segment from 17 May 2024, titled 'Solving the human waste problem on our highest mountain'. The video player includes a play button, a '+ Queue' button, and a download icon. The video thumbnail shows two people, a man and a woman, standing in front of a snowy mountain peak.

Current – Norway Northern Lights and Fire Impacts

- Working with Tour Guides to promote sustainable fire solutions and regenerative tourism



Chasing the Northern Lights Leaves Its Mark on Nature

Chasing the Northern Lights Leaves Its Mark on Nature

Tourists chasing the Northern Lights should ideally leave without a trace. Many opt for using pits instead of open campfires.

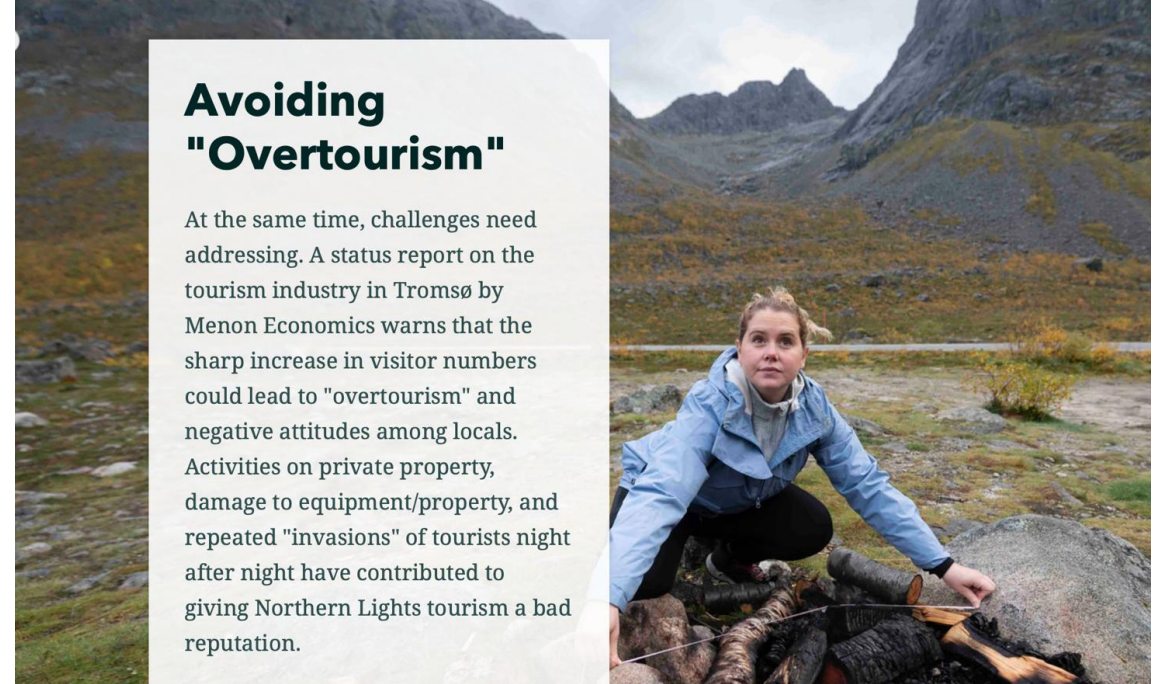
Jørn J. Fremstad
November 26, 2024



Chasing the Northern Lights Leaves Its Mark on Nature

Avoiding "Overtourism"

At the same time, challenges need addressing. A status report on the tourism industry in Tromsø by Menon Economics warns that the sharp increase in visitor numbers could lead to "overtourism" and negative attitudes among locals. Activities on private property, damage to equipment/property, and repeated "invasions" of tourists night after night have contributed to giving Northern Lights tourism a bad reputation.



Have Science Questions? Ask Our Science Partners

Dr. Derrick Taff



Dr. Ashley D'Antonio



Dr. Stephanie Freeman



Dr. Yu-Fai Leung



Ben Lawhon



Dr. Jeff Marion



Dr. Timothy J. Mateer



Dr. Anna Miller



Research Agenda

Key Priorities include Understanding the role of Leave No Trace and:

- Pre-post social and ecological assessments (changing behaviors and improving measurable resource conditions);
- New outdoor recreationists and new outdoor recreation activities;
- Education and Training effectiveness
- Understanding and overcoming barriers to compliance (e.g., properly disposing of human waste, respecting wildlife);
- Understanding the role of Plan Ahead and Prepare with onsite behaviors;
- Youth causal nature connection;
- Beyond the backcountry...
 - the Tourism sector
 - Sustainable event management
 - Causal relationship to everyday sustainable behaviors
- Relationship to well-being and health;
- Citizen Science monitoring (longitudinal influence examining how/if our efforts can reduce costs/improve conditions).



<https://lnt.org/our-work/research/>

Stay up-to-date on Research (our website and Google Scholar)

The screenshot shows a Google Scholar search for "leave no trace". The search bar at the top contains the text "leave no trace" and a search icon. Below the search bar, the results are displayed under the heading "Articles" with a subtext "About 4,530,000 results (0.15 sec)". On the left side, there are filters for "Any time" (with options: Since 2025, Since 2024, Since 2021, Custom range...), "Sort by relevance" (with option: Sort by date), "Any type" (with option: Review articles), and checkboxes for "include patents" (unchecked), "include citations" (checked), and "Create alert" (checked).

The search results list four articles:

- Beyond leave no trace** [PDF] academia.edu
GL Simon, PS Alagona - ... Place and Environment (Ethics, Place & ..., 2009 - Taylor & Francis
... **Leave No Trace** (LNT) has become the official education and ... and current practice of **Leave No Trace** in the United States, ... on the successes of **Leave No Trace**, while moving beyond its ...
☆ Save 📄 Cite Cited by 70 Related articles All 7 versions
- [BOOK] Leave No Trace in the outdoors**
J Marion - 2014 - books.google.com
... he member-driven **Leave No Trace** Center for Outdoor Ethics teaches people of all ages how to ... In its simplest form, **Leave No Trace** is about making good decisions to protect the world ...
☆ Save 📄 Cite Cited by 98 Related articles All 5 versions ⇨
- [PDF] Development of the US Leave No Trace program: an historical perspective** [PDF] tonyandkarina.com
JL Marion, SE Reid - ... and understanding of the national heritage, 2001 - tonyandkarina.com
... **Leave No Trace** (LNT) educational program. It begins with a review of the need for the program and **traces** it's ... actively sponsored **Leave No Trace** as our outdoor ethics program for non- ...
☆ Save 📄 Cite Cited by 109 Related articles All 6 versions ⇨
- Predicting behavioral intentions to comply with recommended leave no trace practices** [PDF] tandfonline.com
WM Vagias, RB Powell, DD Moore, BA Wright - Leisure Sciences, 2014 - Taylor & Francis
... as well as suggestions for those charged with disseminating **Leave No Trace** messaging. ...
Relationship between visitor knowledge of "leave no trace" minimum impact practices and ...
☆ Save 📄 Cite Cited by 86 Related articles All 6 versions

Take-home

- When educating the public or talking with land managers, try to focus on how **EASY** it is to practice Leave No Trace, and **WHY** it is effective at reducing environmental impacts and enhancing recreational experiences.
- More than half of the U.S. population participates in Outdoor Recreation, so **we have an important role to play in educating the public.**
- **Adopt emerging research** in your management plans and programming (e.g., use Leave No Trace-specific messaging!)
- **Become involved** in Leave No Trace research!
- Check out the **Website and Outsider** for frequent updates.



Thank you! Questions?



LEAVE NO TRACE

Dr. Derrick Taff
Science Advisor
Bdt3@psu.edu

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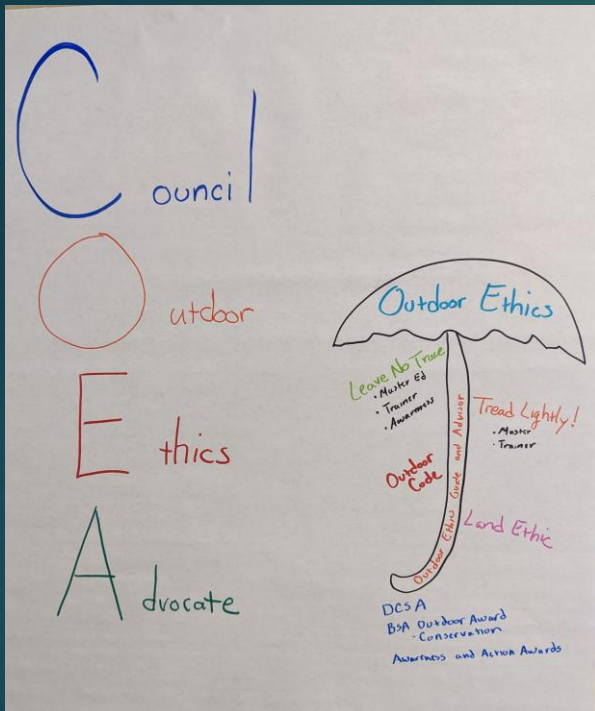
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Announcements



EvelynAnn Bruno, National Capitol Area Council



VIRTUAL TRAINING COURSE

JAN 24 & JAN 31, 2026

9:30-2:30 CENTRAL TIME, BOTH DAYS

REGISTRATION: SEND YOUR NAME, SCOUTING AMERICA ID #,
COUNCIL AND UNIT NUMBER TO MICHELLE BIERSTEDT –
MBIERSTEDT831@GMAIL.COM

Why Attend?

The council outdoor ethics advocate is a volunteer position that coordinates the local council's Leave No Trace training and similar outdoor ethics programs for Scouting America youth and adult members.

This training is meant to enrich the Scouting experience for the members, help reduce our impact on the land consistent with Scouting's historic message, and help ensure continuing access to public lands for Scouting purposes.

This training will give the Council Outdoor Ethics Advocate tools to coordinate with the council's Training, Camping, Conservation, and/or Program committees. Where appropriate, the council outdoor ethics advocate may also serve on one or more of these committees.

Prior training as a Leave No Trace Level 2 or Level 1 Instructor is preferred, but it is not required.



2027 Outdoor Ethics and Conservation Conference is Coming to Sea Base.



February 15 - 21, 2027



Our past conferences have been tied to the land, and now it's time to embrace Scouting America's aquatic adventure side, so we are headed to Sea Base for our next conference! Join us for a week of outdoor ethics and conservation education focused on both land and aquatic activities, hands-on field experiences, and Sea Base adventure opportunities. This event includes pre-conference training courses, sessions led by subject-matter experts, off-site environmental tours and much more!

Main Conference Dates: February 18 (afternoon) - February 21

Pre-Conference Dates: February 15 - February 18 (morning)

While on property, you will be staying in spacious bunkhouses with plenty of ground-level bunks to park your flip flops under. There are two cost options to choose from which include your housing and all meals while on site.

Full Week (February 15 - 21) \$325

The full-week option includes a pre-conference course or optional Sea Base activity of your choice and the main conference, but excludes any additional course/adventure fees that may apply.

Main Conference Only (February 18 - 21) \$230

Getting there is easy! Sea Base is served by airports in Miami, Fort Lauderdale or Key West. Shuttle service is available to and from these airports for a fee of \$55 each way if you don't want to rent a car.

Our planning team is working to bring our members some really great experiences and we hope to see you there! Stay tuned for more information as we finalize our plans.



SCHOLARSHIPS Available



Partial course scholarships are available for scouters needing financial assistance in order to attend a Scouting America Leave No Trace Level 2 Instructor Course. Please see our [Dan Howells Scholarship](#) webpage for more information.

The Dan Howells Memorial Fund was established to honor the memory of this passionate leader and his lifelong commitment to Leave No Trace and Scouting.

Thanks to the Howells' family and Leave No Trace for creating this wonderful way for us to honor Dan's legacy.



Scouting for Clean Waterways

- Sign up online to receive updates
- <https://www.scouting.org/outdoor-programs/scouting-clean-waterways>





Benefits for Scouting Units

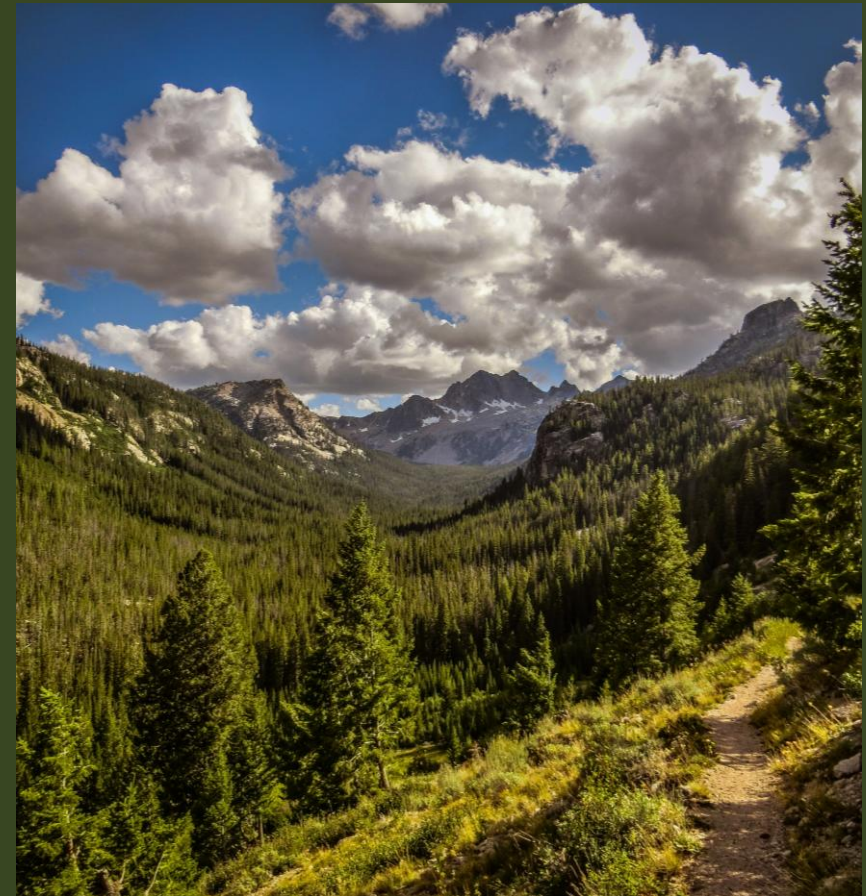
A Scouting for Clean Waterways project may be an ideal opportunity to invite community families to participate with your unit. The value of Scouting is easily demonstrated through community service and the participating families can be provided with a quick overview of how they can join our organization.





Please send in your photos of Outdoor Ethics education, Conservation projects, or great nature photos you've taken!

roundtable@scouting-oec.org



Matt Durrant, Crossroads of the West Council



Your feedback is a gift!
Was this roundtable helpful?
What would you like to see
covered in future roundtables?

roundtable@scouting-oec.org

Feedback !?



Recordings of Outdoor Ethics & Conservation roundtables are posted at <https://scouting-oec.org/roundtable>



Scouting America Outdoor Ethics & Conservation Virtual Roundtables

● Past Roundtable Resource Links - [see below](#)



Animal rules

“Has the deer a poetical weakness for singing waters, or a practical liking for a bed that cannot be approached without making a noise? Judging by the indignant flick of his great white flag it might be either, or both.”

Aldo Leopold, “Too Early” from A Sand County Almanac



CC A. Delray – The Forest Vixen



Thank you for attending.
See you next month!

Integrating the Land Ethic
into what you already do



EvelynAnn Bruno, National Capitol Area Council