Public Lands & Climate Change 101 PowerPoint

Presentation Guide

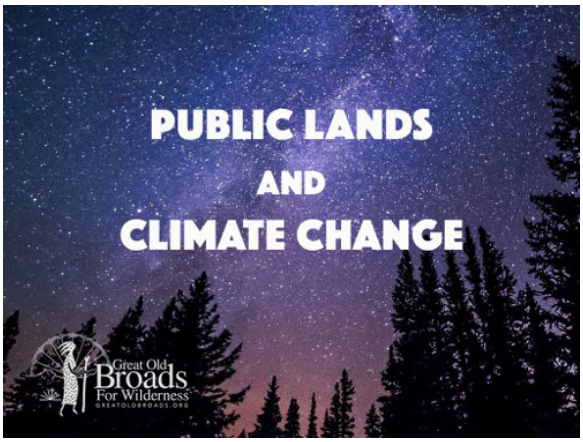
This guide explains the flow and content of the "Public Lands & Climate 101" presentation, which can be tailored to your audience and available time. We recommend you incorporate local examples whereever possible to really connect these issues to your community.

In this document you will find a screenshot of each slide in the PowerPoint, followed by two sections (where appropriate):

- Example language – outlines the concepts you want to communicate to your audience.
- Background information – helps provide a deeper look at the content.

Not all of this information may be needed in your presentation, however it will help guide the discussion for each slide and serve as a resource for you to further elaborate on a concept or cite sources. Please make the presentation your own and share with us whatever content you find most effective.

Don't have the time or venue for a PowerPoint? Consider this as a treasure trove of communication tools that you can incorporate into discussions, activities, or more informal outreach opportunities!



1. Example language: Welcome and thank you for coming… (*share a bit about yourself and your passion for public lands.*)

2. Example Language: We are one of the few public land conservation organizations led by women. We are national, but we emphasize local grassroots action. We value and promote women's leadership and experience.

3. Example Language: Founded in 1989 by a few feisty women hikers who were also activists, our founders saw an important voice was missing from the larger conservation movement—older woman—impassioned, experienced, and not afraid to speak out in defense of Mother Earth. Today we have members of all ages and genders—and 40 chapters across the US.

We take a three-pronged approach to what we do:

- Education…on threats to public lands and solutions to protect them including climate change on public lands, and how public land development increases greenhouse gas emissions (that's why we're here today).
- Stewardship…From ecological restoration to trail clearance, tree planting to removing obsolete fencing, wilderness solitude monitoring to documenting illegal off highway vehicle impacts, we do it all. (We'll talk more about that later).
- Advocacy…such as public testimony and comments on public land proposals, speaking out against activities that harm public lands and waters; and support for wilderness bills.

Facilitation Note: *You may substitute examples above for specific activities conducted by your Broadband.*

4. Example language: As Great Old Broads for Wilderness, we are constantly learning about and caring for our public lands. Today, we'll explore:

- What are public lands?
- How are public lands used?
- How are public lands and climate change related?
- How does public lands use impact climate change resilience?
- How can you get involved in these discussions about publlic land.

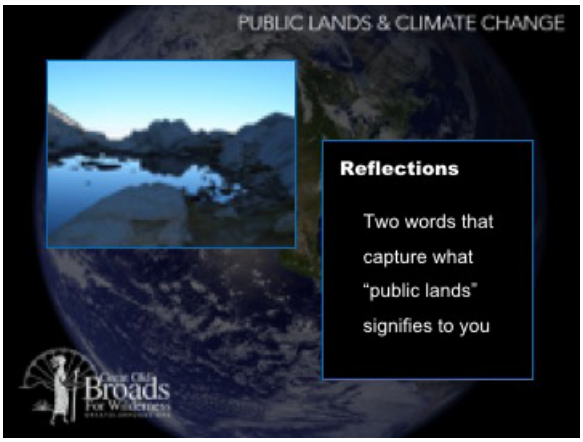
5. Example language: Today we are discussing public lands, but what ARE public lands? Broadly speaking, they are lands that belong to the public and are managed by various segments of government: federal, state, county, and municipal. Each manages the lands differently. Because the lands are held in trust for the public, every American has a say in how these lands are managed.

These lands have a complex history...

Facilitation Note: *Territory acknowledgment is a way to insert an awareness of Indigenous presence and land rights. It recognizes the history of colonialism and a need for change in our awareness of these issues. Before giving this presentation go to https://native-land.ca/territory-acknowledgement/ and enter the location of your presentation in order to identify the Tribes that are appropriate to acknowledge. This website offers many valuable resources to help you plan your words thoughtfully.*

Example Language: Right now, I am in (location), which is the ancestral territory of the (historical and current area Indigenous people). These lands were taken from indigenous peoples. Please take a moment with me to recognize the indigenous peoples whose land we stand on today and whose ancestral territories we now think of as public lands. If you don't know the ancestral occupants of the land you live, work, and play, you might ask why?

Facilitation Note: *This exercise is an abbreviated adaptation of curriculum created by The Wilderness Society.* **Source:** https://www.rei.com/blog/hike/your-guide-to-understanding-public-lands



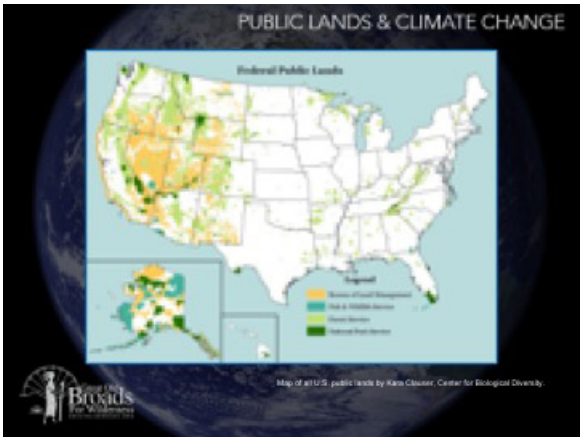
6. Example language: The ways each of us think about public lands are personal and can vary based on our experiences, knowledge of the land, and culture. We all have different images or memories when we think of public lands.

What comes to mind for you? Turn to the person next to you and share a few words that capture how you think of public lands, and perhaps an experience that comes to mind.

Facilitation Note: *Tailor this activity to audience size and time available. Give the group time to discuss for a minute and, if time allows, ask a few audience members to share their response. If the group is smaller, people can report back to the presenter directly. If the group is larger, you may use microphones, or just have your audience talk to their neighbors and move on. With a smaller group, if time permits, you may ask participants to write down a few words on post-it notes to display for the group and discuss. This exercise gives the audience a more personal understanding of public lands before discussing agency management and land impacts.*

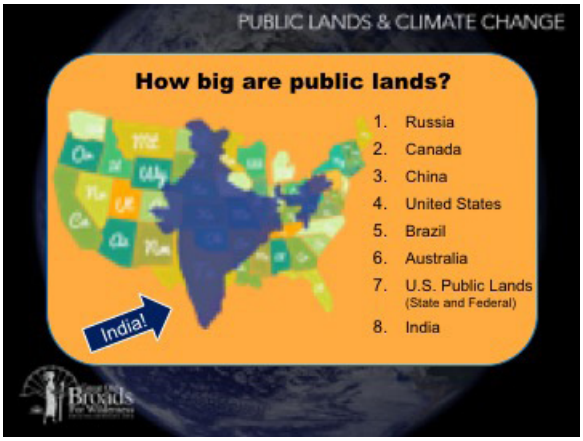
7. Example language: Through our conversations, we can begin to see the diversity of perspectives and experiences that are linked to public lands. Let's keep this in mind today as we learn more.

Facilitation Note: *This exercise is an abbreviated adaptation of curriculum created by The Wilderness Society.*



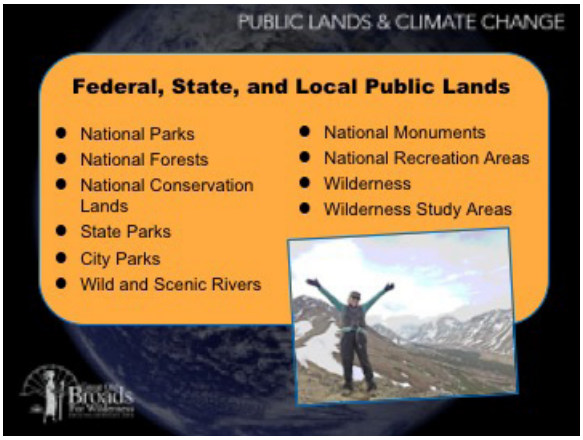
8. Example language: As I mentioned, federal public lands, (pictured here) are held in trust for all Americans. These lands are to be managed for the long-term health of the both land and the American people.

As you can see, public lands are not evenly distributed across our country. How much land are we talking about?



9. Example language: If all the public lands of the United States were combined into their own country, they would be the 7th largest country in the world, just after Australia and larger than India! That's 640 million acres.

Facilitation Note: *Important to note that this image is just to illustrate scale, it does not indicate the actual location of public lands.*



10. Example language: Remember, public lands aren't just national parks—your state, county, and local city parks count, too. And each is managed in a different way. Within the national park system alone, there are 28 different designations.

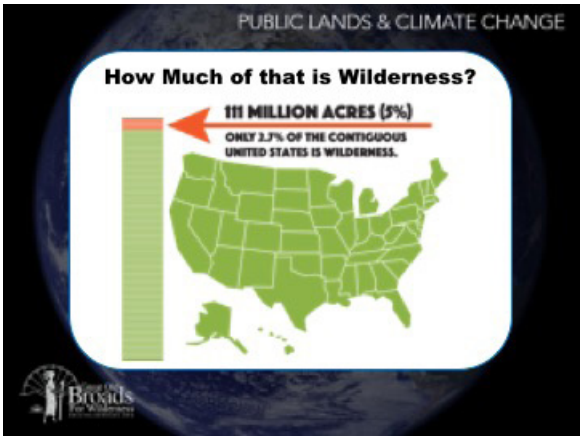
Facilitation Note: *Share examples of public lands in your community.*

Background Information: *In the late 1700s, according to the Public Lands Foundation, the U.S. government claimed many millions of acres of land from the Native Americans. At the same time, the government claimed land previously settled by Mexico, Canada, Russia, Spain, France, and England. It was in 1781 that New York State gave the federal government all of its "unsettled" land west of the colony to the Mississippi River. In just over 20 years, all land west of the colonies followed suit and was considered public domain. Eventually the government acquired 1.8 billion acres, most of which were later transferred to individuals, corporations, and states to create things like schools, railroads, and ranches.*

The late 1800s brought about "a preservation and conservation movement," according to a Congressional Research Service report. President Lincoln deeded Yosemite Valley to the state of California for a public park in 1864. And in 1872, President Grant signed a law, making Yellowstone the first national park in the nation. Over the next 100-plus years, 59 strictly regulated national parks followed, as well as a myriad of other public lands with differing designations.

Source: https://www.rei.com/blog/hike/your-guide-to-understanding-public-lands

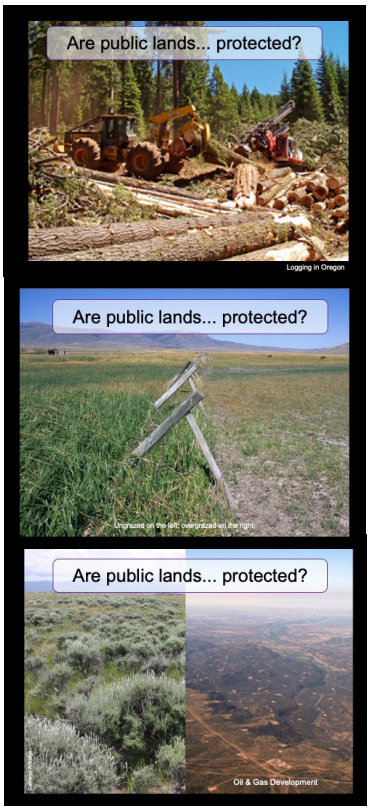
Additional links:
National Park Designations: https://www.nps.gov/goga/planyourvisit/designations.htm
Public Lands Foundation: https://publicland.org/wp-content/uploads/2016/08/150359_Public_Lands_Document_web.pdf
Congressional Research Service Report: https://fas.org/sgp/crs/misc/R42346.pdf
Yosemite Valley designation: https://www.loc.gov/item/today-in-history/june-30/
National Parks system: https://www.nps.gov/aboutus/national-park-system.htm



11. Example language: Approximately 5% of the entire United States is protected as wilderness areas. Alaska contains just over half of that amount. Only about 2.7% of the contiguous United States—an area about the size of Minnesota—is protected as wilderness.

We like to think of Wilderness as our gift to future generations of Americans. Wilderness is a refuge, provides a corridor for wildlife and ensures greater biological diversity. It is untamed forests, deserts, coasts, and mountains—a respite from a busy world where machines and permanent settlements aren't allowed.

Sources:
https://wilderness.net/learn-about-wilderness/fast-facts/default.php
https://www.greatoldbroads.org/what-is-wilderness-2/



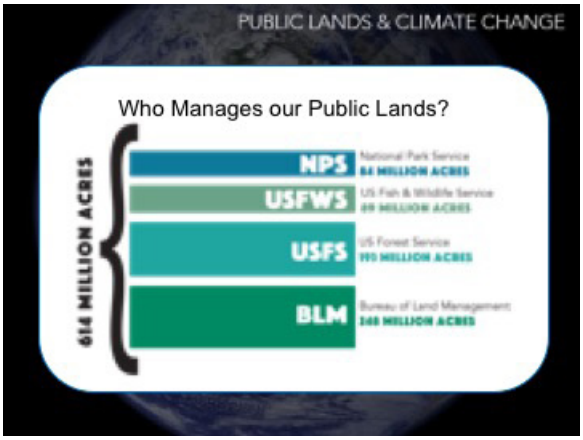
12, 13, 14. Example language: So if only 2.7% of the continental U.S. is protected as wilderness, what do the rest of our public lands look like? Are all public lands protected? Preserved in their natural condition? No, not exactly. Federal agencies manage public lands for multiple use, from recreation to timber harvest.

Some lands have special designations that protect them for recreation, conservation, or cultural significance. Other lands are preserved for healthy ecosystems.

There are also lands managed for commercial uses such as logging, grazing, and energy development. For instance, about 73% of the publicly-owned land in Western states is grazed, making up about 270 million acres, which is equal to the total acreage of OR, WA, CA, and ID combined.

Source: http://people.oregonstate.edu/~muirp/wpubland.htm

Facilitation Note: *Comment on the activities that occur on your community's public lands.*



15. Example Language: Let's dive a little deeper—who manages our public lands? In order to really understand why public lands vary from pristine wilderness to oil fields, we have to understand who is in charge. Each federal land agency has unique management mandates, objectives, and policies that guide the way the land is treated. It would take quite a bit of time to fully discuss the role each federal agency holds in managing public lands—we'll provide a brief overview today.

The Bureau of Land Management (BLM) is in charge of the most federal lands. They manage one in every 10 acres of land in the United States, and approximately 30 percent of the Nation's minerals.

The BLM has a multiple-use mandate stating that resources and uses on public land must be a balanced combination that will best meet the current and future needs of the people, and are found in every state and can include forests, mountains, sagebrush prairies, arctic tundra, and deserts.

Source: https://www.blm.gov/about/what-we-manage

The US Forest Service was established in 1905 to provide quality water and timber for the nation. Congress later directed the agency to broaden its management scope for additional multiple uses and benefits and for the sustained yield of renewable resources such as water, forage, wildlife, wood, and recreation.

Source: https://www.fs.usda.gov/about-agency/meet-forest-service

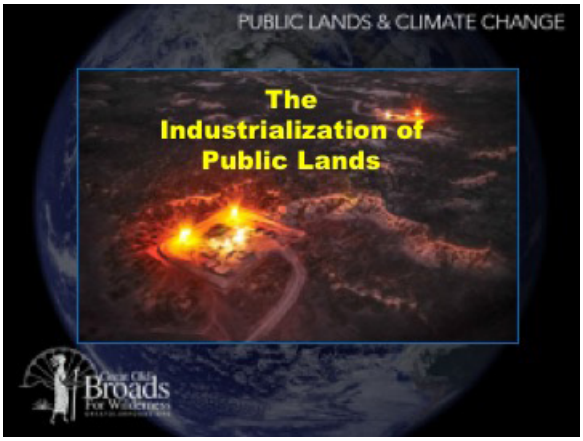
The US Fish & Wildlife Service manages the National Wildlife Refuge System. They operate over 70 National Fish Hatcheries and 65 fishery resource offices.

Source: https://www.fws.gov/help/about_us.html

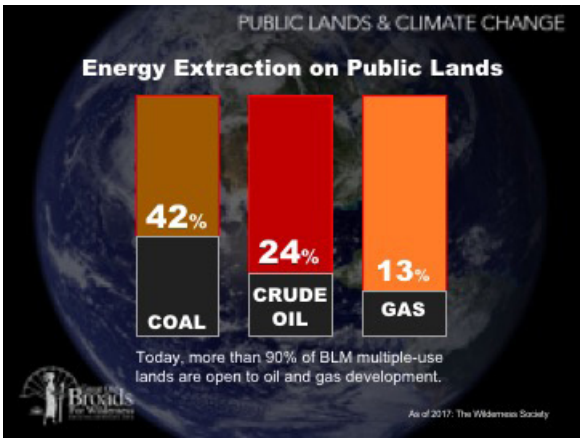
The National Park Service preserves the natural and cultural resources and values of the lands within the National Park System. Their focus is on preservation and education.

Source: https://www.nps.gov/aboutus/index.htm

16. Example Language: Now that we know who's in charge, back to the question of what protection and multi-use management of public lands really looks like.

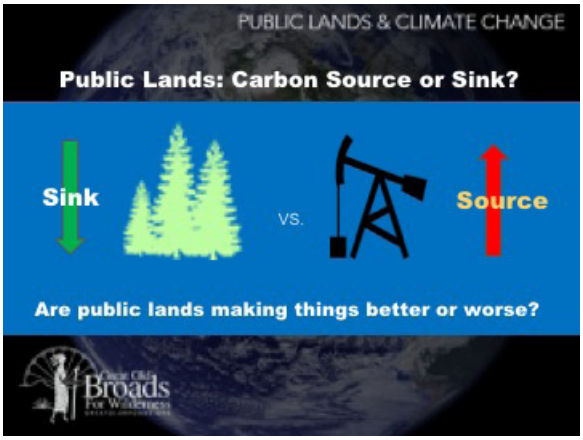


17. Example Language: There has been an increase in industrialization and intensive commercial uses on public lands, especially when it comes to oil and gas. When we look at these trends in the context of climate change, we find some startling impacts.



18. Example Language: Most people are unaware that public lands produce a huge amount of oil and gas. What are the impacts of these industrial uses?

Forty two percent of the nation's coal, 24% of the crude oil, and 13% of the natural gas comes from public lands. It turns out, multiple use on BLM land means that 90% of these lands are open to oil and gas development.



19. Example Language: Let's start by looking at carbon balance. The nation's public lands are home to old-growth forests, wetlands, marshes, and rich soils that store carbon.

When plants perform photosynthesis, they grab CO2 out of the air and lock up the carbon in the plant's structure and soils while releasing oxygen back into the atmosphere.

We call this a carbon sink because that carbon is sinking down into the earth and getting locked away.

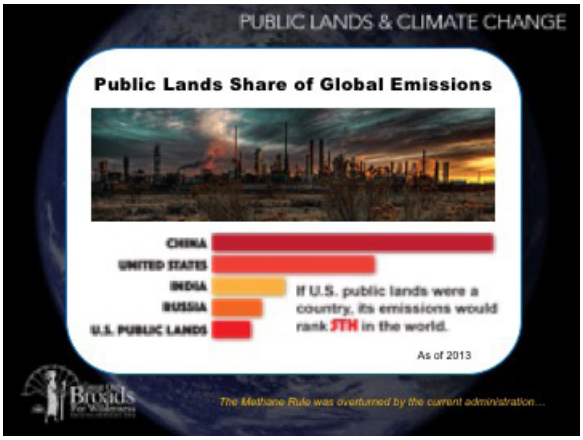
This is nothing new—FDR recognized the significance of America's national forests, calling them the "lungs of our land." That's our carbon sink.

Meanwhile, through current industrial uses of public lands, ancient carbon is removed in the form of oil and natural gas to be burned. This is a source for carbon to enter the atmosphere. If we compare the amount of carbon that public lands store to the amount of carbon we are pulling out of public lands, what is the balance? Are our management choices making things better or worse?

20. Example Language: Unfortunately, public lands emit more carbon than the ecosystems can sink (or store). Through oil and gas extraction, we are introducing 4.5 times the carbon into the atmosphere than our public lands can absorb. The current management of public lands is contributing to climate change. [*Really let this sink in for people*]

Facilitation Note: *This statistic applies to the lower 48 and does not include Alaska or offshore drilling in public waters.*

Source:
https://www.americanprogress.org/issues/green/news/2013/12/05/80277/the-clogged-carbon-sink-u-s-public-lands-are-the-source-of-4-5-times-more-carbon-pollution-than-they-can-absorb/



21. Example Language: To further put these emissions into perspective, if US public lands were a country, its emissions would rank 5th in the world, accounting for 20% of the nation's emissions

Facilitation Note: *The bar representing the United States counts all of the country's emissions including public lands. This is for comparison purposes to visualize how US public lands stack up against the country as a whole.*

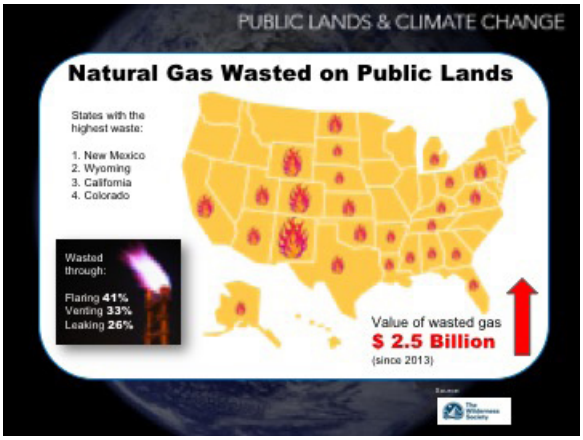
22. Example Language: Public land leases for oil and gas production issued in the last three years have continued to climb. If drilled, these leases could result in emissions from extraction of 1 billion metric tons of CO2e. End-use emissions would result in the release of 5.95 billion metric tons of CO2e.

These leasing decisions have significant and long-term ramifications for our climate and our ability to stave off the worst impacts of global warming. Emissions from public lands are on track to drastically exceed the level in line with what leading climate science says is necessary to avoid the worst effects of warming.

From 2017 to 2020, nearly 10 million acres of public land has been leased for new extraction. This is the same size as TEN Olympic National Parks. A third of this land is being leased for merely $2.00 an acre.

Even under a conservative "low-development scenario," where very few land leases are developed for oil or gas production, the potential emissions would still equal the total annual emissions of Brazil.

Source: *The Climate Report 2020: Greenhouse Gas Emissions from Public Lands by The Wilderness Society*



23. Example Language: Industrial use of public lands is not very efficient. The value of this gas lost to flaring, venting and leaking has been estimated at 2.3 billion dollars since 2013, equivalent to the emissions of 3.3 million cars being driven for an entire year. Much of the loss occuring through flaring and venting is intentional. The volatile compounds released are known to pose a significant threat to human health.

While natural gas burns cleaner than other fossil fuels when it is captured and burned appropriately, it is mostly composed of methane. These leaks release a very potent greenhouse gas into the atmosphere that contributes to global warming.

Background Info: This recent publication explores the underestimated impacts of oil and gas on methane emissions relative to other sources: https://www.nature.com/articles/s41586-020-1991-8 (**Note:** *this article is behind a pay wall*)

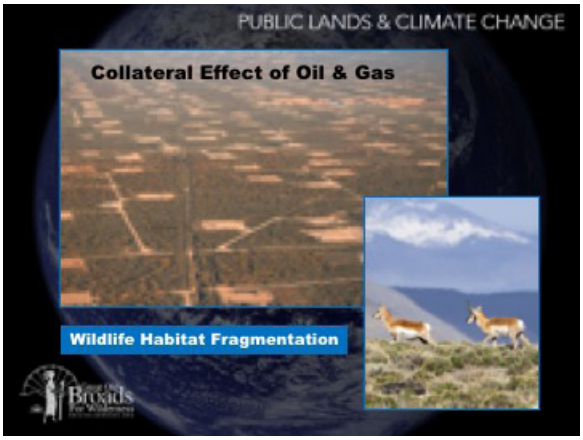
You can further explore these methane leaks, their impact on our country and our communities using The Wilderness Society's interactive online tool: https://www.wilderness.org/articles/article/natural-gas-waste-map

Scientists say the new findings reinforce that methane emissions from oil installations are far more widespread than previously thought. https://www.nytimes.com/2019/12/16/climate/methane-leak-satellite.html

Source: https://www.bbc.com/news/science-environment-35659947

Video links: http://theraucousrooster.com/2016/01/24/beyond-the-self-congratulatory-headlines-the-real-jerry-brown/

https://www.nytimes.com/2020/02/19/climate/methane-flaring-oil-emissions.html



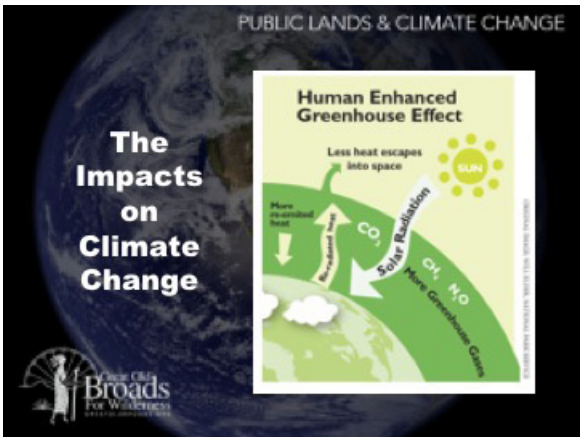
24. Example language: The last point I'd like to make about "multiple-use" oil and gas impacts to wildlife.

Energy development can be devastating to the landscape:

- Disrupt vegetation and soils.
- Water sources can be altered or depleted.
- Transmission lines and roads fragment habitat and displace wildlife populations.

In densely developed areas, with one drill pad per 10 acres, the pads and infrastructure can destroy up to 175 acres of habitat, the equivalent of 133 football fields, causing both direct habitat loss and indirect harm to wildlife as they avoid a larger area around the zones of drilling. A study near Pinedale, Wyoming, observed mule deer behavior before and during oil pad development. They found almost half of high-use habitat declined to medium-low or low-use levels, pushing wildlife out of the area.

Citation: *Sawyer, H., R. M. Nielson, F. Lindzey, and L. McDonald. 2006. Winter habitat selection of mule deer before and during development of a natural gas field. Journal of Wildlife Management 70: 396-403.*

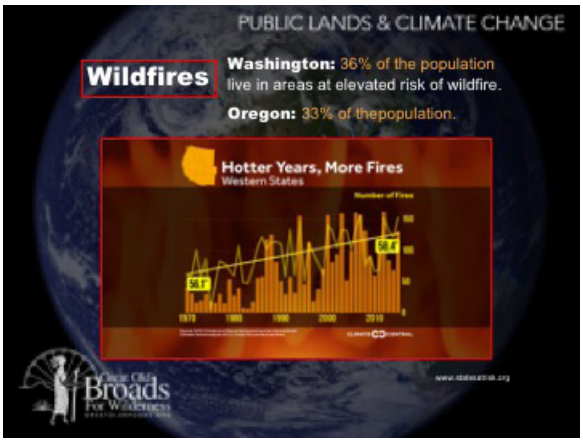


25. Example language: When these non-renewable resources leave public lands, they end up in the atmosphere where they contribute to the greenhouse effect. The greenhouse effect is the way in which heat is trapped close to the surface of the Earth by "greenhouse gases." These heat-trapping gases can be thought of as a blanket wrapped around the Earth, which keeps it warm. Some amounts of these gases are what make the Earth liveable—without them, our planet would be well below the freezing point of water. Greenhouse gases include carbon dioxide, methane, and nitrous oxides.

Source: https://climate.nasa.gov/faq/19/what-is-the-greenhouse-effect/

But when greenhouse gases are emitted from our public lands, they enter the atmosphere—thickening the blanket, raising global temperatures and altering the climate.

Background info: *Image source Project Learning Forests and Climate Curriculum Tree Activity 2. The blanket analogy is from NNOCCI's Reframing Climate Change communication toolkit. We are seeing changes in frequency and duration of wildfires, dramatic swings in rain and snowfall, harsh summer temperatures, and more. Now we can begin to understand the impact of climate change and what the future might hold.*

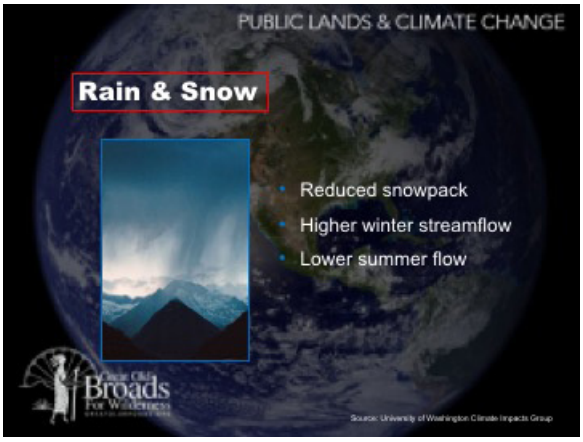


26. Example Language: Across the West, forests are getting drier and trees are stressed by lower water availability as more hot, dry, and windy days heighten wildfire conditions. In the Pacific Northwest, the size, duration, and number of wildfires are increasing.

It is estimated that human-caused climate change has contributed to an additional 10 million acres of forest fires during 1984–2015, nearly doubling the expected area.

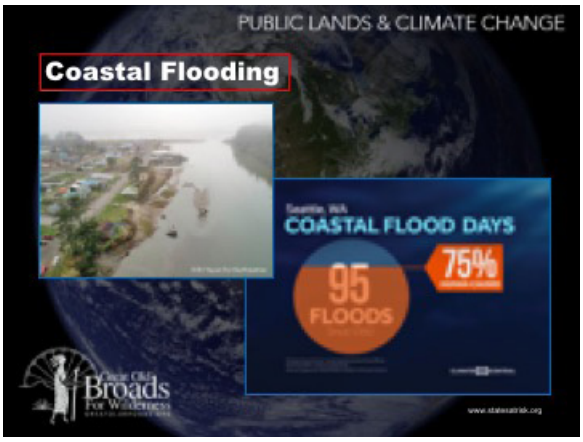
Wildfires pose a unique challenge to communities because there are now over 40-million homes in fire-prone landscapes across the West.

Source: http://assets.climatecentral.org/pdfs/westernwildfires2016vfinal.pdf



27. Example language: Snowpacks are now in a state of long-term decline—meaning reduced water storage, irrigation shortages, and winter and summer recreation losses. As snow-packs melt earlier, the higher winter streamflow increases the chance of rivers flooding, increasing the need for stormwater management and flood protection. With the melt happening earlier, there is a lower summer flow, which results in conflicts over water resources, reduced hydropower, and negative effects on salmon populations (and other wildlife dependent upon riparian systems).

Average winter precipitation is expected to increase over the long term, but year-to-year variability in precipitation is also projected to increase. Years of abnormally low precipitation and extended drought are expected and increases in extreme events, such as heavy rainfall, are also anticipated to occur more often. That can destabilize water management systems.



28. Example language: Rising sea levels are impacting shorelines, ecosystems, and coastal human populations. Over the last 100 years, 50% of coastal wetlands have been destroyed due to land use changes, sea level rise and extreme weather events.

The worst sea level rise projection, 4.3 feet by the end of the century, would heavily damage infrastructure throughout the Northwest, including low-lying urban areas of the Puget Sound and Portland, while deeply harming and displacing vulnerable coastal communities, including Indigenous groups.

29. Example Language: These climate impacts can have catastrophic impacts on sensitive species. Rising stream temperatures, intense storms, and loss of habitat are having catastrophic effects on species such as wild salmon, which are nearing extinction.

More intense winter storms cause higher river flows with more runoff, increasing sediments that can bury salmon eggs and reduce salmon survival.

Meanwhile, decreased summer flows are projected to threaten salmon spawning, compromising salmon hatchery and reintroduction efforts. These impacts could push this vital and iconic species toward the brink of extinction.

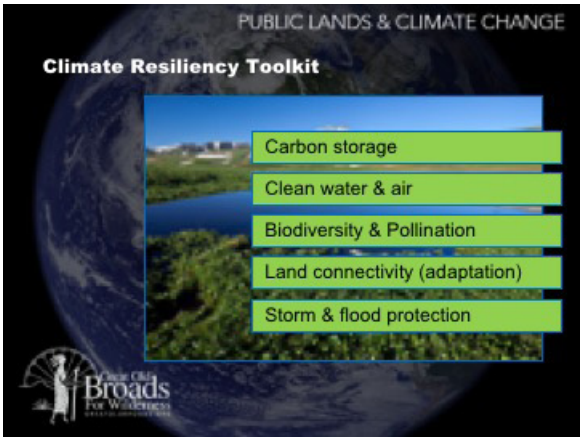
30. Example Language: Throughout the region, country, and world, climate change threatens us all. But these affects are not felt equally.

31. Example Language: Downstream and downwind from public lands, climate change has disproportionately impacted Tribal nations, communities who are dependent on natural resource economies, and lower income communities.

Indigenous ways of life are at risk because they rely heavily on the natural environment in ways that are critical to cultural survival. These communities—some of which were the first to draft climate adaptation plans—often have fewer resources to prepare for and cope with climate disruptions.

Air pollution is a powerful example of this disparity. 158 million Americans—nearly half of the country—live in counties where air pollution exceeds national health-based standards. Each year, air pollution causes 200,000 premature deaths.

32. Example Language: Industrialized management of public lands is a large contributor to climate change. Industrial activities on public lands are negatively impacting ecosystems and public health. Great Old Broads for Wilderness wanted to know if there were ways public lands can work to solve rather than contribute to climate change.



33. Example Language: Despite emmisions from industrial uses, America's intact public lands still offer much in the way of climate defense. Public lands remove and store carbon, provide clean air and water, serve as a buffer to severe storms, offer large natural areas to serve as habitat, protect biodiversity, and allow space for adaptation to changing conditions. They can be part of the climate solution.

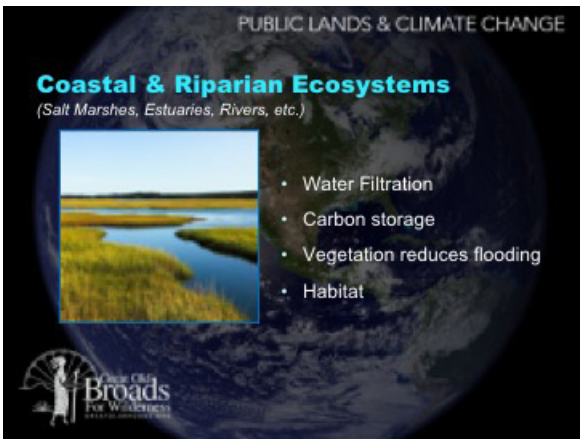
Studies show nature-based climate solutions can provide over 1/3 of the cost-effective actions needed between now and 2030 to stabilize warming to below 2 °C.

Source: https://www.pnas.org/content/114/44/11645

34. Example language: The public lands of the Northwest are the "crown jewel" of nature-based climate solutions. Forests on public lands in the Northwest, especially those with high carbon storage and low vulnerability to drought and fire, have the potential to lock up as much carbon by 2100 as burying 72,148 tanker trucks of gasoline, or eliminating ~6 years of current regional fossil fuel emissions.

Allowing forests to reach their full carbon sequestration potential on a global scale could provide 37% of the carbon reductions needed to stabilize our climate.

Background Info: *This information is sourced from this article: DOI: 10.1002/EAP.2039—Old-growth forests "have high above- and below-ground carbon density, high tree-species richness, and a high proportion of critical habitat for endangered vertebrate species, indicating a strong potential to support biodiversity into the future and promote ecosystem resilience to climate change." Land management can also mitigate the negative effects that climate-induced ecosystem transformations have on biodiversity and watersheds, which influence ecosystem services that contribute to human well-being."*



35. Example Language: Coastal ecosystems are even more efficient carbon sinks, absorbing as much as 10x more carbon per square foot compared to forests. These ecosystems, including oyster beds and seagrass beds, have been shown to reduce waves by 60% during extreme weather events.

Meanwhile, native species buffer rivers from rising summer temperatures and slow down runoff to protect species and downstream communities from flooding.

36. Example Language: Yet many public landscapes are in need of support and restoration to reach their potential. There are many ways that we can improve the health of public lands and contribute to climate resilience when we actively engage in public land stewardship.

37. Example Language: Whether we are gathering data, restoring native species, or repairing entire ecosystems, there are enormous opportunities to enhance our landscapes' natural climate resilience. Our Broadbands have helped restore forests after logging impacts, removed invasive species, and collected water monitoring samples, to name just a few examples.

38. Example Language: (*Plug in your own examples. This is a great opportunity to talk about the work your Broadband is doing. Or describe where your Broadband is growing and taking on new roles.*)

Learn more about your public lands, learn how they're being managed, and get involved!

39. Example Language: Visit our website at https://www.greatoldbroads.org to find your closest Broadband and find out how you can become involved. (*Offer the audience an invitation to any upcoming events that your Broadband is hosting.*)

40. Example Language: A grant helped us start this program and develop the curriculum to educate communities in the Pacific Northwest about public lands and climate change.

While that grant got us started, for the program to continue and expand to other parts of the country, we need your help. If you enjoyed, and learned from today's presentation, please consider making a tax-deductible donation to Great Old Broads for Wilderness, which is a 501(c)3 organization.

You can give us a check today <*point out who in the room will take checks*> or donate online at: https://www.greatoldbroads.org.

Questions?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