

## **Syllabus: ENR 6193, Class # 30638 1-credit Environmental Film Series**

Spring Semester, 2020. Seven consecutive Tuesday evenings starting January 21, 2020, through March 3, 2020, starting at 7:00 PM and ending at approximate times indicated below. With lively discussions by leading OSU and local experts after each film screening for app. 30 minutes. Free pizzas and beverages in the CBEC lobby at 6:30 PM at each event. Chemical and Biomolecular Engineering and Chemistry (CBEC) Building, Room 130. Details at: <https://odee.osu.edu/cbec-130> including where to park nearby.

Students registered in ENR 6193, Section 3681 must attend at least six of the seven Tuesday evening events, both the film screening and discussion afterwards. There will be a sign-in sheet at the CBEC 130 entrance which must be signed each week. Any absences beyond one of the seven events, even with a valid excuse, will need to be “made up” with an alternate assignment in order to receive a “Satisfactory” grade for the course. Also, for any five of the seven events, each student must write and submit an original essay of 500 to 600 words. These essays must in part apply ideas and information in the film and/or arising in the discussion afterwards to some “real life” situation, matter, or place with which the student has some familiarity, anywhere in the world. Essays must be submitted to the course Canvas/Carmen drop box by midnight of the second Tuesday after an event.

Instructor: David Hanselmann <http://senr.osu.edu/our-people/david-hanselmann>  
Lecturer and former Environmental Professionals Network Coordinator  
School of Environment and Natural Resources, Kottman Hall [hanselmann.3@osu.edu](mailto:hanselmann.3@osu.edu)  
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## 5<sup>th</sup> Environmental Film Series, Spring Semester 2020

OSU School of Environment and Natural Resources/ Environmental Professionals Network and OSU Sustainability Institute

January 21 CBEC Room 130, 7:00 to 9:00 PM

[Thomas Mangelsen](#) Live and in person, in a return visit to OSU and EPN, upon the opening of a year-long exhibition of his iconic photographs at COSI, don't miss the opportunity to interact with this renowned photographer and passionate wildlife conservation leader. Quoting From the Steve Johnson, Chicago Tribune arts critic review of Mangelsen's "A Life in the Wild" exhibition (coming to COSI mid-January), "For all the beauty and how-did-he-shoot-that wonder of the imagery, the exhibit throbs, too, with an environmental message: These creatures in these places are beyond special. In Mangelsen's compositions, there is something of the sacred to the line of gray wolves walking across a Yellowstone valley landscape or the moose on a small hill, reflected, along with the great Alaska mountain Denali, in the water below. These scenes are revealed to us not so we may glimpse a passing moment, in Mangelsen's vision, but so that we may prove ourselves worthy of seeing more like them."

Noteworthy too is Mangelsen's support for the federal Endangered Species Act, including opposition of de-listing the grizzly bear in the Greater Yellowstone Ecosystem. [Article](#) [Washington Post article](#) [The Gift of the Grizzly TEDx style talk in Jackson Hole in 2018](#)

[Biography](#) [Chicago Tribune exhibition review](#) [Wikipedia](#) [Jane Goodall shares Mangelsen story](#) [60 Minutes episode script and photos with Tom Mangelsen, Anderson Cooper, and Jane Goodall](#) [Mangelsen website per 60 Minutes episode](#)

### Program

Welcome and introduction of Tom Mangelsen, [David Hanselmann](#), OSU SENR Lecturer and former chief of soil and water resources at ODNR.

60 Minutes interview of Mangelsen by Anderson Cooper, with Jane Goodall, first airing May 6, 2018

Informal presentation by Tom Mangelsen, with select images and stories

Q&A/discussion: Mangelsen with OSU SENR Professor [Jeremy Bruskotter](#) and [Bill Stanley](#), state director for [The Nature Conservancy in Ohio](#) -- focused on wildlife and endangered species conservation and management.

Q&A/discussion with attendees

**January 28 CBEC Room 130, 7:00 to 9:00 PM**

[Ice on Fire](#) -exploring the devastating impacts of climate change – and potential solutions. 2019, 92 minutes. Produced and narrated by Leonardo DiCaprio. [Ice on Fire resources for understanding climate change](#) [Trailer](#)

[Gizmodo review: Finally, A Climate Change Documentary That Will Get You Excited to Fix It](#) [Hollywood Reporter review: “the filmmakers put considerable emphasis on the rise of renewable energy sources and new advances in carbon sequestration”](#)

## **Film Synopsis**

Produced by Oscar-winner Leonardo DiCaprio, George DiCaprio and Mathew Schmid and directed by Leila Conners, *Ice on Fire* is an eye-opening documentary that focuses on many never-before-seen solutions designed to slow down our escalating environmental crisis. The film goes beyond the current climate change narrative and offers hope that we can actually stave off the worst effects of global warming. Eleven years after Conners’ first collaboration with DiCaprio on *The 11th Hour*, which emphasized the problems of climate change, *Ice on Fire* instead focuses on the cutting-edge research behind today’s climate science – and the innovations aimed at reducing carbon in the atmosphere, which could pave the way for a reduction in the global temperature rise and a benefit to the planet’s life systems. With sweeping cinematography of a world worth saving, *Ice on Fire* was filmed across the globe, from Norway to Alaska, Iceland to Colorado, Switzerland to Costa Rica to Connecticut. The film highlights firsthand accounts of people at the forefront of the climate crisis, with insights from scientists, farmers, innovators and others. *Ice on Fire* emphasizes the importance of an immediate, two-pronged approach to reversing the crisis: reducing carbon emissions through traditional renewable energy sources and new ones, like tidal energy, and implementing “drawdown” measures, focusing on methods for drawing down and sequestering carbon, including direct air capture, sea farms, urban farms, biochar, marine snow, bionic leaves and others. While much of the political and economic focus has been on the energy sector, the film points out that drawdown (pulling CO<sub>2</sub> out of the atmosphere and oceans and sequestering it underground or into new materials) is perhaps the best hope for mitigating climate change. The film visits places such as: the Usal Redwood Forest Foundation in northern California, highlighting a carbon-storage project that focuses on reforestation and creates “biochar” to put CO<sub>2</sub> back into the soil; Ron Finley’s urban farm in Los Angeles, where members of the community grow food that takes carbon out of the air and is nutritious; Climeworks’ nimble direct air capture machine in Zurich; and Thimble Island Ocean Farm off the coast of Connecticut, where owner Bren Smith grows shellfish and seaweed that soak up more carbon than land-based plants and can be used for food, animal feed and fertilizer. *Ice on Fire* finds that while the risks and urgency may be higher than ever today, there are also greater opportunities for innovative solutions, offering a realistic but hopeful perspective on a key global issue that demands our attention. *Ice on Fire* is directed by Leila Conners; narrated by Leonardo DiCaprio

**Discussion Leader** [Tom Darrah](#) Assoc. Professor, OSU School of Earth Sciences

**February 4 CBEC Room 130 7:00 to 9:15 PM**

[A River Between Us](#) 2014, 90 minutes. Documenting a pathway for the largest river restoration project in America: To save a river, you must first heal a people. The Klamath River in Oregon and California. Produced by Jason Atkinson and Jeff Martin. [Trailer](#) [Review by an associate of two Oregon State University institutes – Natural Resources and Water and Watersheds](#) Another informed [review](#), by Jen Reynolds, Assoc. Professor, University of Oregon School of Law

OSU Film Series sponsors are pleased that the film's producer and narrator, a former Oregon state senator and candidate for Governor, Jason Allmand Atkinson, will attend and lead the discussion after the film. Details/links below.

### **Film Synopsis**

*A River Between Us* documents the largest river restoration project in American history. Nearly three hundred miles in length, flowing from southern Oregon to northern California, the vast communities of the Klamath River have been feuding over its water for generations, and as a result, bad blood has polluted their river and their relationships, equally. *A River Between Us* examines the complicated history of this conflict: how anger, fear and distrust have undermined the Klamath's communities for decades. Balancing the sheer beauty of the river's surface with its underlying ills of injustice and inequality, the film focuses on the personal stories of a group of individuals who finally chose to put the past behind them and came together to create a historic water rights compromise for the good of all. Most importantly, this documentary provides the solution to ending this generations-old conflict: In order to save a river, you must first heal a people. The film isn't simply a feature documentary; it's a cinematic call to action on behalf of the largest restoration project in American history. And by restoration, the film's first priority is people—restoring and rebuilding relationships among the vast communities living throughout the Klamath River basin, and hopefully, far beyond its borders. Because ultimately, *A River Between Us* isn't about fish or water rights or even a forty-year water war; it's about the harm people do to each other, and by extension, the damage people have done to one of this country's greatest wild rivers. What's amazing about this film is that it isn't focused on two opposing sides, but on those places where the two sides come together and find shared interests and passions.

### **Discussion leaders**

[Jason Allmand Atkinson](#), film producer and narrator. Former state senator and candidate for Governor of Oregon. [Wikipedia profile](#). [Huffington Post posts](#).

John Navarro, [Aquatic Stewardship Program](#) Administrator, ODNR Div. of Wildlife

**February 11, 2020, CBEC Room 130, 7:00-9:00 PM**

## **Celebrating Earth Day, 1970-2020 and beyond**

A look back to events leading up to the first Earth Day, the April 22, 1970 events involving over 20 million people, what they led to, and challenges of today and beyond.

### **Event schedule**

Welcome

A brief history of Earth Day and its origins. Timeline, before, during, after. OSU connections.

[Earthrise](#) 15 minutes of excerpts from the 30-minute 2018 documentary interviewing Apollo 8 astronauts who in late 1968 captured the first images of Earth from space. Instantly iconic, the images became a symbol of the need to care for Planet Earth, even helping inspire Earth Day 1970. [Trailer](#)

[Earth Days](#) 50 minutes from the 102-minute 2010 PBS American Experience documentary, *Earth Days – The Seeds of a Revolution*, with footage of 4/22/70 events. [Trailer](#)

Brief recollections by two people who planned Earth Day activities in 1970.

My vision for our Earth, environment, and society in 2070, local, global – A current OSU student

How and where to participate in Earth Day 2020 at OSU and in Columbus

Q&A/discussion with attendees and presenters

### **Links**

[Time, Inc. Interview of Earth Day organizer, Denis Hayes, April 19, 1970 about the history of Earth Day](#)

**February 18, 2020 CBEC 130, 7:00-9:00 PM**

Live and in person, Jason Ward, presenting episodes from his [Birds of North America](#). Ward is a birder, writer and the host of *Birds of North America* airing on Topic.com. He currently also serves as a community relations and outreach coordinator for the National Audubon Society in Atlanta, Georgia. Born and raised in The Bronx, NYC, his love for wildlife began at a young age as he fell in love with dinosaurs. An infatuation that provided him with an escape from the obstacles growing up in the South Bronx provided. Now, he gets to share his love for modern-day dinosaurs with the public, in his web series; "Birds of North America". Jason's mission is to change the way the public views wildlife, and to blaze a trail for future generations of children growing up in underserved communities.

### **Film Synopsis**

Jason Ward has been an avid birdwatcher since he was a kid growing up in the Bronx, where he spotted a peregrine falcon eating a pigeon on a ledge outside his bedroom window. In the first season of Topic's new series, the avian advocate and father of two traveled around the Northeast, from Cape May, New Jersey, to Maine, delighting audiences with his contagious curiosity about the natural world—and the creatures within it. Those creatures include those of the human variety, too, with guests such as comedian Wyatt Cenac, Dr. Drew Lanham of Clemson University, "The Birdist" Nicholas Lund, the American Museum of Natural History's Paul Sweet, and the Feminist Bird Club. (Plus Jason's younger brother Jeffrey, a fellow birder and formidable opponent in the brothers' annual bird count competition.) Get your binoculars ready. *Birds of North America* on Topic.com, now in its second season, has over 20 2-9-minute episodes and counting.

### **Links**

[Wikipedia](#) [Audubon](#) [The New Yorker](#) [The Verge](#) [Twitter](#) and many more

### **Discussion Leaders**

**Jason Ward**

**TBD**

**February 25, 2020 CBEC 130 7:00-9:00 PM**

[Living Soil](#) 11/2018, 60 minutes, by the [Soil Health Institute](#)

Our soils support 95 percent of all food production, and by 2060, our soils will be asked to give us as much food as we have consumed in the last 500 years. They filter our water. They are one of our most cost-effective reservoirs for sequestering carbon. They are our foundation for biodiversity. And they are vibrantly alive, teeming with 10,000 pounds of biological life in every acre. Yet in the last 150 years, we've lost half of the basic building block that makes soil productive. The societal and environmental costs of soil loss and degradation in the United States alone are now estimated to be as high as \$85 billion every single year. Like any relationship, our living soil needs our tenderness. It's time we changed everything we thought we knew about soil. Let's make this the century of living soil. [Trailer](#) [Lesson plans](#)

**Presenter and Discussion Leader:** [Rattan Lal](#), OSU Distinguished University Professor in the School of Environment and Natural Resources and leading world authority on soil health and carbon. App. 15-minute presentation on soils, agriculture, carbon, and opportunities to address climate change and carbon sequestration. [OSU story about Lal](#) [Japan Prize in Columbus Business First](#)

**Additional Discussion Leader:** [Fred Yoder](#), (invited) Madison County conservation grain farmer, co-chair, [Solutions from the Land](#) and [North American Climate Smart Agricultural Alliance](#), and past-president, [National Corn Growers Association](#)

### **Film Synopsis**

*Living Soil* tells the story of farmers, scientists, and policymakers working to incorporate agricultural practices to benefit soil health for years to come. *Living Soil* takes you on a journey from lush landscapes in Oregon, the sun-baked fields of California, the vast green acres of the Midwest, to the waterfront farming and fishing communities in and around the Chesapeake Bay. Each farmer shares a story as unique as the soil they manage with a shared theme that resonates throughout the film: Our soil is a special resource we should all cherish and strive to protect. Decades of conventional farming practices have done well to feed the increasing population of the world but have depleted our soils of nutrients and organic matter. The agronomists in *Living Soil* explain soil management practices they believe will reverse our declining soil health as well as benefit the air, water, and our personal health in the process. For the past several decades, conventional farming practices position a majority of the farmland throughout the United States as highly-tilled monocropping areas with exposed soil surfaces during part of the year. These exposed soils lose nutrients and carbon into the water and air. We travel to the Chesapeake Bay to hear farmers and environmentalists who have created a plan that includes incentives for farmers to begin cover crop practices throughout the state of Maryland. We travel around the bay to see how this strong public policy change has steered the actions of the agricultural industry and how those changes can create positive environmental and economic change. We hear from a self-described "water man" living downstream who has seen an enormous impact cover cropping practices have had to the fishing industry in the bay.

Also featured are scenes from soil-focused conventions taking place throughout the year where a large network of policymakers, scientists, manufacturers, agriculture retailers, and other soil health practitioners meet to discuss the latest scientific findings and develop new strategies to quickly incorporate the most up-to-date research. Traveling to laboratories to speak with the scientists performing the cutting-edge research, we learn about how soil health science has developed over time and where we can expect further developments in the future. *Living Soil* allows the audience to hear directly from agronomists working diligently to change the political and economic drivers shaping the way our society uses one of its most important resources. Special consideration is given to farmers that live and work the soil each and every day. Hopefully, the stories of these proactive farmers resonate as our growing population searches for ways to increase productivity of our soils. After viewing this film, the audience should have a greater understanding and appreciation for the hard-won efforts of several farmers and a greater appreciation for the resource that nourishes us, our *Living Soil*.



**March 3, 2020 CBEC 130, 7:00-9:00 PM**

[The Devil We Know](#) 2018, 90 minutes. A damning exposé of decades of intentional pollution of the Ohio River town, Parkersburg, West Virginia, with a harmful chemical used in the making of Teflon. Could an anti-regulatory environment make such matters even worse?

### **Discussion Leaders**

OSU is pleased that the driving force behind focusing attention on the PFOA issue in West Virginia and beyond and who led the legal fight for local residents, Cincinnati attorney [Rob Bilott](#), will co-lead the after-film discussion. His new book is [Exposure: Poisoned Water, Corporate Greed, and One Lawyer's Twenty-Year Battle Against DuPont](#), billed as *Silent Spring* meets *Erin Brockovich* in an eye-opening, riveting true story of the lawyer who spent two decades building a case against DuPont for its use of the hazardous, unregulated chemical PFOA, uncovering a history of environmental contamination that affects virtually every person on the planet, and the heartless behavior that kept it a secret for sixty years. Bilott is advising production of an upcoming related major motion picture, [Dark Waters](#), to be released 11/22/19, starring Mark Ruffalo in his role, and Anne Hathaway. Interesting and well worth reading:

[The Lawyer Who Became DuPont's Worst Nightmare in New York Times Magazine](#)

[Linda Weavers, PhD](#), PE, OSU Civil, Environmental, and Geodetic Engineering Professor, and Director, Ohio Water Resources Center.

[Directors and Producers](#) [Trailer](#) [Wikipedia](#) [Review in Variety](#) [Sundance Institute review including Director Stephanie Soechtig interview](#)

### **Film Synopsis**

When a handful of West Virginia residents discover DuPont has been pumping its poisonous Teflon chemical into the air and public water supply of more than 70,000 people, they file one of the largest class action lawsuits in the history of environmental law. As the citizens of Parkersburg rise up against the forces that polluted their town, the story builds out to dozens of other American cities. In fact, as many as 110 million Americans may be drinking water tainted with PFAS chemicals. Exposure to this class of chemicals has even become a global phenomenon, spreading to places like Italy, the Netherlands, and China. Parkersburg is ground zero for this story, but this clearly is not about one place or one chemical: because of the power of the chemical lobby, PFOA is one of more than 80,000+ untested chemicals that have been approved for use, their dangers unknown.