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Voyageur Media Group, Inc.
A Force for Nature: Lucy Braun
Education: feature article

A Force for Education

E. Lucy Braun's Legacy Lessons

Dr. E. Lucy Braun inspired countless scientists and conservationists during a distinguished career that spanned from the 1900s to the 1960s. Dr. Braun was a pioneer ecologist, prolific writer, venerated professor, and an early leader in the American conservation movement. Her remarkable life and legacies are presented in *A Force for Nature: Lucy Braun*, a one-hour documentary set for national distribution in March of 2019. The documentary project also features a companion website and new educational materials designed to enhance use of the program in the classroom. E. Lucy Braun was a force for nature, but now her life will continue to be a force for education thanks to educators with the Richard and Lucile Durrell Edge of Appalachia Preserve System in Adams County, Ohio.

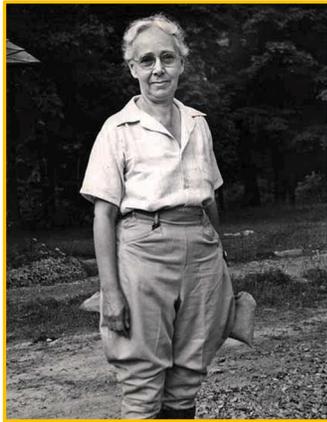


Photo 1: Dr. E. Lucy Braun in the field. Courtesy, University of Cincinnati.

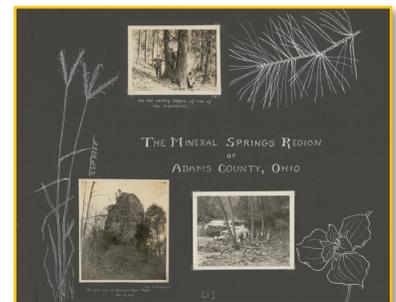
A Force for Nature: Lucy Braun is a co-production of Meg Hanrahan Media and Voyageur Media Group, Inc. Meg Hanrahan, who wrote, produced and directed the documentary, says "Dr. Braun's scientific contributions are comparable to 20th century figures like Rachel Carson and Aldo Leopold." She adds, "We are thrilled public television viewers, teachers and students across America have an opportunity to understand Braun's national achievements in the field of ecology, gender equality and the conservation of natural sites." Hanrahan partnered with staff from the Edge of Appalachia Preserve System to develop educational resources for the documentary project. These education materials are now available for free download on the Dr. E. Lucy Braun page of the Edge of Appalachia Preserve System's website:

<https://www.cincymuseum.org/dr-e-lucy-braun/>

E. Lucy Braun and the Edge

Dr. E. Lucy Braun had deep connections to the "Edge," as the preserve is more simply known. In 1911, E. Lucy Braun, while a botany student at the University of Cincinnati, studied ecosystems in the Mineral Springs Region of Adams County, Ohio. She would later document her Mineral Springs research in papers, books and a photographic album, one of seventeen albums she and her sister Annette compiled from their fieldwork throughout North America. In 1914, Dr. Braun became the third woman to ever earn a PhD from the University of Cincinnati. Dr. Braun served as a professor there for thirty-four years, inspiring countless students to become scientists. Her research culminated in her landmark book *Deciduous Forests of Eastern North America*, which was published in 1950. E. Lucy Braun also became a staunch conservationist after seeing so many of the old-growth forests she studied cut down for lumber. Braun helped to establish several conservation organizations, including the Nature Conservancy in Ohio.

Photo 2: E. Lucy Braun's "Mineral Springs" album from research in the 1920s: cover and overlay of three images. Courtesy, Braun Photographic Collection, Cincinnati History Library and Archives, Cincinnati Museum Center.



In 1959, under Braun's leadership, The Nature Conservancy acquired 42-acres known as Lynx Prairie in Adams County, Ohio. This initial acquisition led to the establishment of The Edge of Appalachia Preserve System, which is jointly administered by Cincinnati Museum Center and The Nature Conservancy in Ohio. The Edge protects 20,000 acres of forests, streams and prairies on the western flank or "edge" of the Appalachian Escarpment in Ohio. Chris Bedel, Executive Director, says, "E. Lucy Braun's life stands as testament to the positive impact one person has had on science, the nation's views on preservation and the greater understanding of the eastern forest past and present. Her story is an inspiration for educators, naturalists, humanists and budding scientists alike, especially young women."



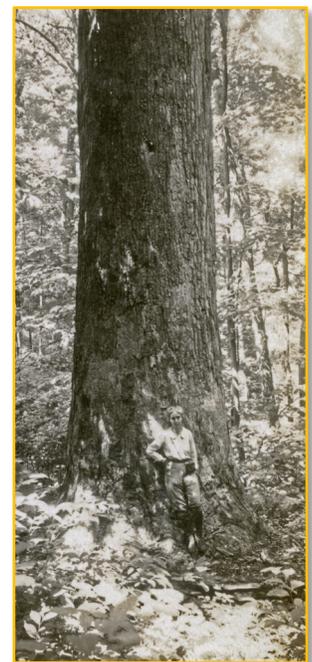
Photo 3: Photo: E. Lucy Braun stands beside a plaque designating Lynx Prairie as a National Natural Landmark in 1967. Courtesy, Lloyd Library and Museum, Ronald Stuckey Collection, photo by John Melvin.

E. Lucy Braun Lessons

The challenge of creating lesson plans based on the documentary was taken on by Robyn Wright-Strauss, Chief Naturalist, Edge of Appalachia Preserve System, and Catherine H. Knoop, Experiential Educator. Wright-Strauss and Knoop have developed numerous educational programs, lesson plans and workshops for students and teachers in the Appalachian region. The team began by watching *A Force for Nature: Lucy Braun* over and over again. "The first time we watched it together all we did was write down lots and lots of notes about things that we thought would engage students and be exciting for teachers to teach," says, Wright-Strauss. They organized the notes on a white board. "We filled a board at the Edge and started brainstorming," says Knoop. The documentary is too detailed for lower elementary students, according to Wright-Strauss. "We focused on lesson plans for upper elementary and high school grade levels." They also examined national academic standards for science, math and English Language Arts, as well as academic standards for social studies in Ohio and Kentucky. The team then organized core concepts by grade levels and subjects based on their experience and some guiding principles.

Develop a sense of place. "Developing a sense of place is crucial," states Catherine Knoop. "If the film can show people ways to develop a sense of place, to learn about where they live and protect where they live, that's a super message." Robyn Wright-Strauss adds, "Place based education is not something that gets talked about a lot, but it should. When we're talking about conservation and preservation, the big stories take place out West with the creation of America's national parks. That's fine, but to have E. Lucy Braun and her research focus on the eastern forests, that's huge. Not just for students in Appalachia, but for anybody in the eastern forest. Because, you never hear about that."

Make the materials relevant. Knoop believes that early curricula in our schools focuses too often on the exotic. "Students learn about the rain forests of the Amazon, before understanding the deciduous forests in their own backyard," says Knoop. Robyn Wright-Strauss adds, "Students often don't get a chance to learn about local plants and local people. Dr. E. Lucy Braun was such a big part of why the preserve is here, and nobody knows about her." Knoop concludes, "I think giving teachers materials that are based on something that is tangible, and ways to tie it to their student's lives is really important. Educators want to make things relevant. I think that when children are growing up they



need to learn about where they are, and what's there. And, I'm hoping that some of the lessons will get them out to discover, to explore that."

Photo 4: E. Lucy Braun stands at the base of a massive poplar tree located at Lynn Fork of Leatherwood in Perry County, Kentucky, during field work in 1935. The loss of Leatherwood to logging strengthened Braun's resolve as a conservation leader. Courtesy: Smithsonian Institution Archives.

The results are a series of eight lesson plans that consider school systems and students with limited resources. The lesson plans are designed for educators to show shorter, specific sections of the documentary. Meg Hanrahan produced the documentary with segments to better organize topics and to enhance classroom use. Teachers have a lot going on, "says Robyn Wright-Strauss, adding, "so to give them a game plan makes it easier for them." Several lessons include projects students can do right outside their school door. The team also wrote and posted materials for educators to prepare for the lesson plans. Their introduction gives educators some background information about Dr. E. Lucy Braun, and a summary of the lesson plans. They posted charts with information about how the lesson plans connect to academic standards. The team also compiled a Curriculum Master Resource List with books and web links to related information.



Photo 4 (left): Robyn Wright-Strauss, Chief Naturalist, Edge of Appalachia Preserve System. Courtesy: Edge of Appalachia Preserve System.

Photo 5 (right): Catherine H. Knoop, Experiential Educator (on right), works with teacher Shelley Inlow during Educator's Week, Hocking County, Ohio. June 2014. Courtesy: Lorrie Huysman.

Lesson Plan Summaries:

Upper Elementary:

"The Life of Dr. E. Lucy Braun." Students watch the section, "The Road Less Traveled," to help construct a timeline based on Lucy Braun's life, then a timeline based on the lives of their own family.

"Champions Among Us." Students watch the section, "Lynn Fork of Leatherwood," to learn about native *champion* trees (largest species in a state) and non-native trees.

"Treasure Chest of Science." Students are encouraged to keep a science journal or notebook after watching the section, "Mineral Springs."

Middle and High School:

"Change through Time." Student groups are assigned subjects in the documentary about the many changes in society, technology and the environment during the span of Dr. E. Lucy Braun's life and career. After watching the documentary and taking notes, each group then presents a summary of their assigned subject to the class.

"Documenting E. Lucy Braun." Students analyze why the documentary was made. The lesson also encourages students to create a short documentary about someone important in their own life.

"Joys and Hardship in the Field." Students examine the fieldwork conducted by E. Lucy Braun, as a means to conduct scientific research about an ecosystem near their school or home.

"Save the Big Trees." Students examine the history of conservation and preservation during E. Lucy Braun's lifetime. They are also encouraged to visit and write a report on a local conservation organization or location that is open to the public.

"Taking Action." Students focus on E. Lucy Braun's leadership as a conservation advocate. The lesson plan also encourages students to investigate potential careers in science or natural resources.

A Force for Nature: Lucy Braun was a collaborative project with numerous scholars, institutions and production professionals in Ohio, Kentucky and across America. "Collaboration is vital to the production of any quality documentary," says Meg Hanrahan. Staff from several departments of Cincinnati Museum Center supported the project. Chris Bedel, Executive Director, Edge of Appalachia Preserve System, served as a key advisor. Scott Gampfer and Jim DaMico from the Cincinnati History Library & Archives supervised a major effort to catalogue, conserve and



digitally scan over 1,700 photographs taken by Lucy Braun during research throughout North America. The museum's exhibition curators allowed the team to videotape numerous artifacts, documents and letters in the Braun collection. And, Elizabeth Pierce, President & CEO, and her administration provided on-going support to the project, including funds for a capacity premiere screening and panel discussion of the documentary in May of 2018. "This support was even more extraordinary when you consider the documentary was produced when the museum was undergoing a massive renovation project," says Meg Hanrahan.

Photo 6: The Eulett Center at the Edge of Appalachia Preserve houses both Cincinnati Museum Center and The Nature Conservancy's staff, a lab and space for educational programs and conferences. Courtesy: Edge of Appalachia Preserve System.

Conclusions:

The E. Lucy Braun educational materials are available to anyone throughout the world. They are especially important to communities in the Appalachian regions of America. Moreover, the education team wants future generations to understand the value of E. Lucy Braun's work. "We want to show Braun's scientific process, and the techniques she used to become successful." says Catherine Knoop. "Braun's ground-breaking research was done in the ecosystems where students live, and where I live now," adds Knoop. Dr. E. Lucy Braun's research is also validating according to Robyn Wright-Strauss. "It's moving to know your hill, your mountain, your patch of woods is valued by people from outside your region. They really care about it, and they're really interested, and they see that there's value in it," says Wright-Strauss. "It's a history from their region. It's something that they can take pride in."

A Force for Nature: Lucy Braun concludes with a montage of scholars who reflect on the legacies of Dr. Braun. Guy Denny, President, Ohio Natural Areas & Preserves Association states, "Her legacy was, number one, as an academic, **learn about it**. Number two, as a nature lover, **appreciate it**. Number three, as a citizen, **protect it**." The educational materials developed by staff from the Edge revolve around a fourth legacy – E. Lucy Braun's life itself. Dr. Braun was one of America's foremost ecologists and conservationists. Now, lesson plans based on her life will inspire future generations to understand, appreciate and protect the "exotic" ecosystems found in their own backyard.

- By Thomas M. Law, Associate Producer, *A Force for Nature: Lucy Braun*; President, Voyageur Media Group, Inc.

Additional Information/sidebars

We have listed additional information and potential sidebars about how readers may access the educational materials, the documentary, it's companion website, related workshops, a Lucy Braun Facebook page, and quotes from key participants.

Lesson plans: The education materials are now available for free download on the Dr. E. Lucy Braun page of the Edge of Appalachia Preserve System's website:

<https://www.cincymuseum.org/dr-e-lucy-braun/>

Companion website: Voyageur Media Group, Inc. hosts a companion website with news, articles, "behind-the-scene" videos, distribution information, educational resources and DVD order forms: <http://voyageurmedia.org/wordpress/lucy-braun/>

Related workshops:

Appalachian Green Teachers Conference at Burr Oak State Park, October 29-30, 2019:

<http://ruralaction.org/programs/environmentaled/appalachian-green-teachers-program/>

Educators at the Edge workshops, Series 5 includes Pioneering Ecologist, Dr. E. Lucy Braun, March 12, 2020: www.cincymuseum.org/educator-workshops

Facebook page: Meg Hanrahan Media has a Lucy Braun Facebook page for those who want news about the documentary, special screenings, related scholarship or to interact with the production team: <https://www.facebook.com/MegHanrahanMedia/>

How to get the documentary:

Streaming Video

WOSU Passport: <https://video.wosu.org/show/lucy-braun-force-nature/>

The documentary is available online via WOSU Passport, part of the PBS streaming service. WOSU members donate on a level of \$5 a month as a sustainer or \$65 a year to receive the WOSU Passport benefit.

Home DVDs

Home DVDs of *A Force for Nature: Lucy Braun* may be ordered from two sources:

WOSU Shop: <https://wosu.org/television/shop/a-force-for-nature-lucy-braun/>

Home DVDs may be ordered from the WOSU Shop portal for \$25 with a credit card. If you need help navigating the shop, or need help with payment, feel free to contact the WOSU TV Shop at 614-292-9678.

Voyageur Media Group: <http://voyageurmedia.org/wordpress/lucy-braun-dvds/>

You may order home DVDs for \$25 from Voyageur's website (check and Purchase Orders only). Please download and mail the order form.

Public television broadcasts

National broadcasts

A Force for Nature: Lucy Braun is being distributed to over 100 public television stations in the U.S. via the National Educational Telecommunications Association starting on March 23, 2019. Please contact the program director of your local public television station to get the documentary scheduled for broadcast in your area.

Regional broadcasts

A Force for Nature: Lucy Braun was originally broadcast on regional public television stations in the fall/winter of 2018, including CET (Cincinnati); KET (Kentucky); WOSU (Columbus) and Think TV (Dayton, spring of 2019). Please contact the program director of these public television stations for information about re-broadcasts of the documentary.

Quotes about Dr. E. Lucy Braun

Robyn Wright-Strauss, Chief Naturalist, Edge of Appalachia Preserve System

Learning about E. Lucy Braun's life serves as an inspiration to all of us. She was passionate, she was a leader, she was a fighter, and she didn't apologize for who she was. Her brilliance, dedication and ability to face challenges head-on are qualities that can help motivate us to be our best selves.

Catherine H. Knoop, Experiential Educator

Educators will find this documentary to be a wonderful teaching tool. Not only will it introduce their audience to E. Lucy Braun, it will demonstrate the components for investigative learning. With inquiry being stressed more in schools, learning techniques that helped E. Lucy Braun become a successful scientist and professional in her field will be introduced and demonstrated. Learning that a woman from her time period could accomplish research that led not only to knowledge, but also to preservation/conservation will demonstrate the importance of an individual and the difference one person can make. Let's use this documentary to encourage more Lucys!

Chris Bedel, Preserve Director, Edge of Appalachia Preserve System

E. Lucy Braun's life stands as testament to the positive impact one life, one woman, has had on science, the nation's views on preservation and the greater understanding of the eastern forest past and present. Both teachers and students alike will find her story compelling, and inspiring, and will give them hope that what they do really matters for generations to come. E. Lucy Braun pushed the boundaries of ecological science. She was a profound architect of the preservation movement in America. Her story is an inspiration for educators, naturalists, humanists and budding scientists alike, especially young women. Her work is a Titanic accomplishment for us all to aspire to achieve. E. Lucy Braun lived at a time when America had a decision to make. Do we continue the path of unbridled consumption of our natural world, or do we preserve it for future generations? Luckily for us E. Lucy chose the latter for her life's work and her story will inspire the next generation who may very well find themselves at a similar crossroads. Teachers and students across America will be stunned by the life and work of a woman scientist who somehow escaped popular notoriety. They will be inspired by her perseverance, brilliance and her tenacity to defend and study America's eastern forest. At a time in American history when it's difficult for young people to understand how they can make a difference, E. Lucy's life rises up on the screen to empower, embolden and encourage the next generation of students of the forest.

Meg Hanrahan, Writer/Producer/Director, *A Force for Nature: Lucy Braun*

Dr. E. Lucy Braun's story will be of interest to public television viewers anywhere. The program brings to light her role as one of our country's first ecologists. Along the way, we travel in time into the Appalachian hills and hollers, and back and forth across the U.S., with E. Lucy and her sister, Annette, as they explore natural areas of every sort. Most women will relate to the way E. Lucy faced what was a near impenetrable wall of gender barriers head on, to become a woman of many "firsts." Anyone interested in science, will marvel at her painstaking research to document forests, prairies and the botany and ecology of diverse ecosystems. And viewers who have concerns for the environment will appreciate her lifelong devotion and activism toward preservation of natural sites.