

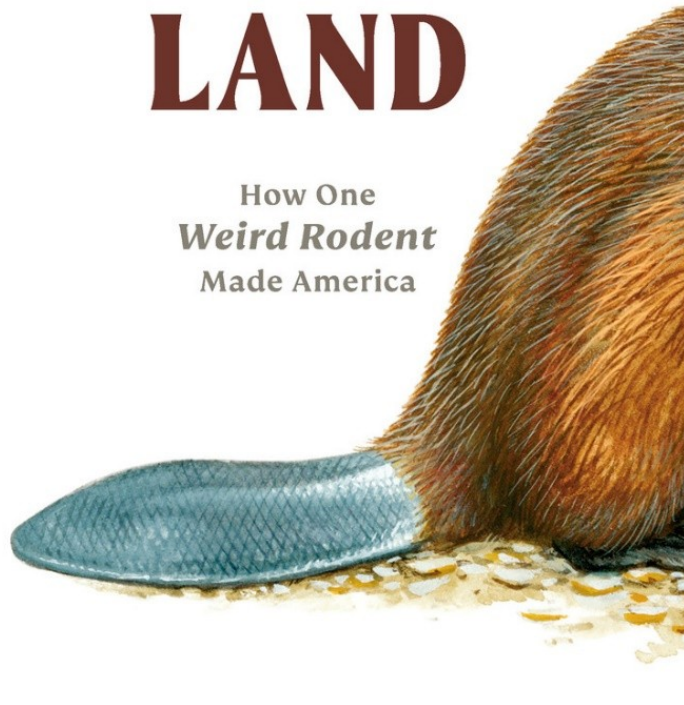
From Beavers to Microbes: How Beavers Help Biodiversity in the River we Cannot see

"Lyrically written, meticulously observed, and exhaustively researched, BEAVERLAND is going to break your heart—and then heal it with compassion, beauty, and wonder." —SY MONTGOMERY,
New York Times bestselling author of *The Soul of an Octopus*

LEILA PHILIP

BEAVER LAND

How One
Weird Rodent
Made America



BEAVER
TRUST

Leila Philip

May 20, 2026



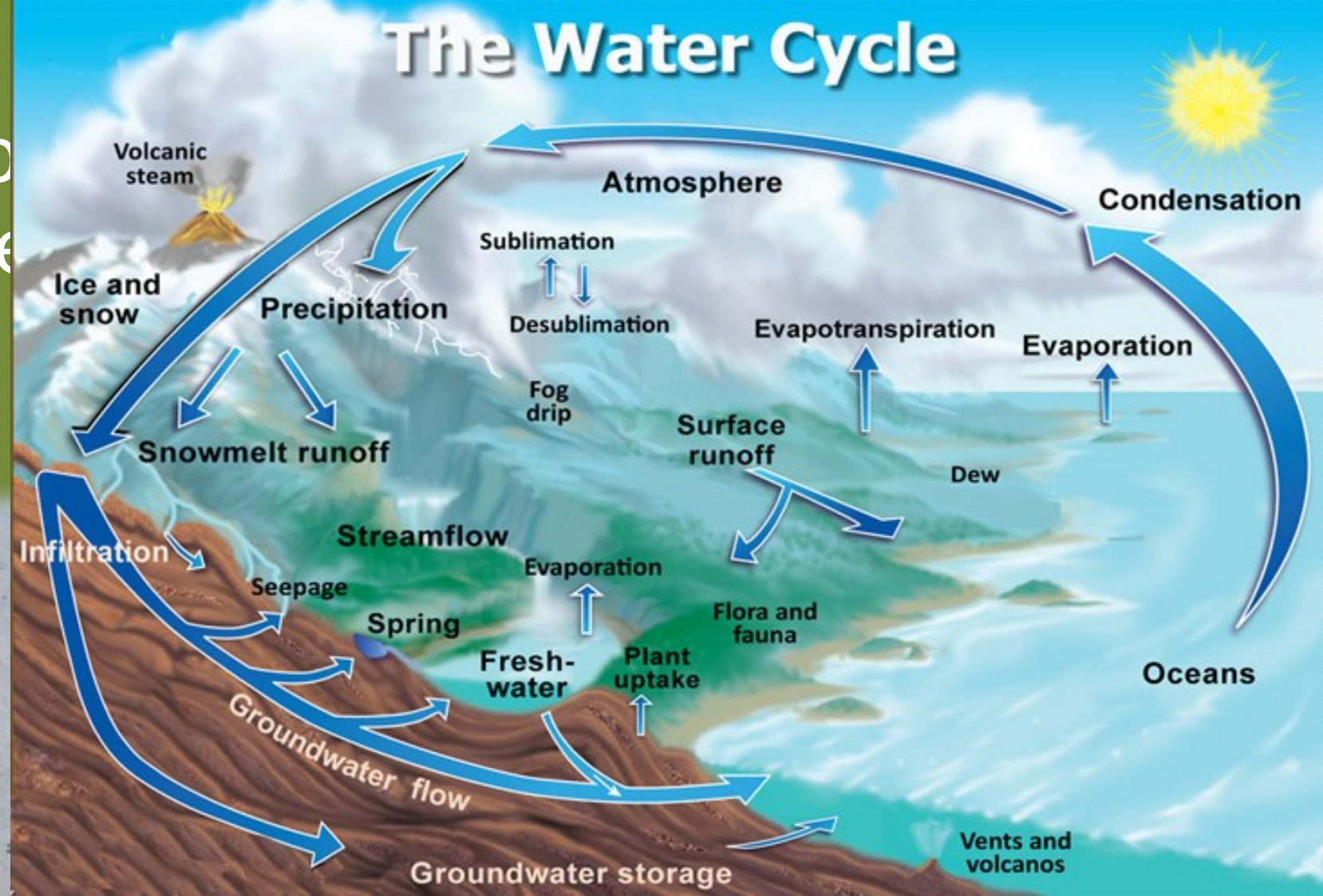
From Beavers to Microbes



Bio Film from Taylor B



From Beavers to
small water cycle



BEAVERLAND



Colorado, Dr. Emily Fairfax

BEAVER POPULATION IN NORTH AMERICA

BEFORE EUROPEAN COLONIZATION

60-400 MILLION

2023

10-15 MILLION

BEAVERS HAVE FASCINATED THE HUMAN IMAGINATION FOR CENTURIES

ABERDEEN BESTIARY



13th Century

HORTUS SANITATIS



15th Century

HISTORIA ANIMALIUM



16th Century



Castor Canadensis

Dorothy Burney Richards, the “beaver lady”

1894 - 1985



"A writer needs the creativity of a **scientist** and the precision of a **poet**" -- Vladimir Nabokov

THE “GREAT DRYING”: 1600-1900



Wyoming, Dr. Emily Fairfax

GAINS IN BIODIVERSITY

BEAVER-ALTERED PONDS

CONTAIN
15X

MORE PLANKTON AND
OTHER MICROBIAL LIFE

HOME TO
30% MORE
SPECIES OF ANIMALS

BEAVERS: ECOSYSTEM ENGINEERS



Connecticut, Leila Philip



Wyoming, Dr. Emily Fairfax

WHAT IS THE LARGEST ANIMAL CONSTRUCTION ON EARTH?

a beaver dam measuring

2,790 FT

*Northern
Alberta*

HOW MUCH WATER DOES THE AVERAGE BEAVER POND STORE?

1.1
MILLION GALLONS
above ground

6.7
MILLION GALLONS
under ground

Beavers ponding between the Drumlins, March 2022





Wild Life Camera Footage, Woodstock CT



The Newly constructed beaver Dam

January 20 3' high



March 25 5' high



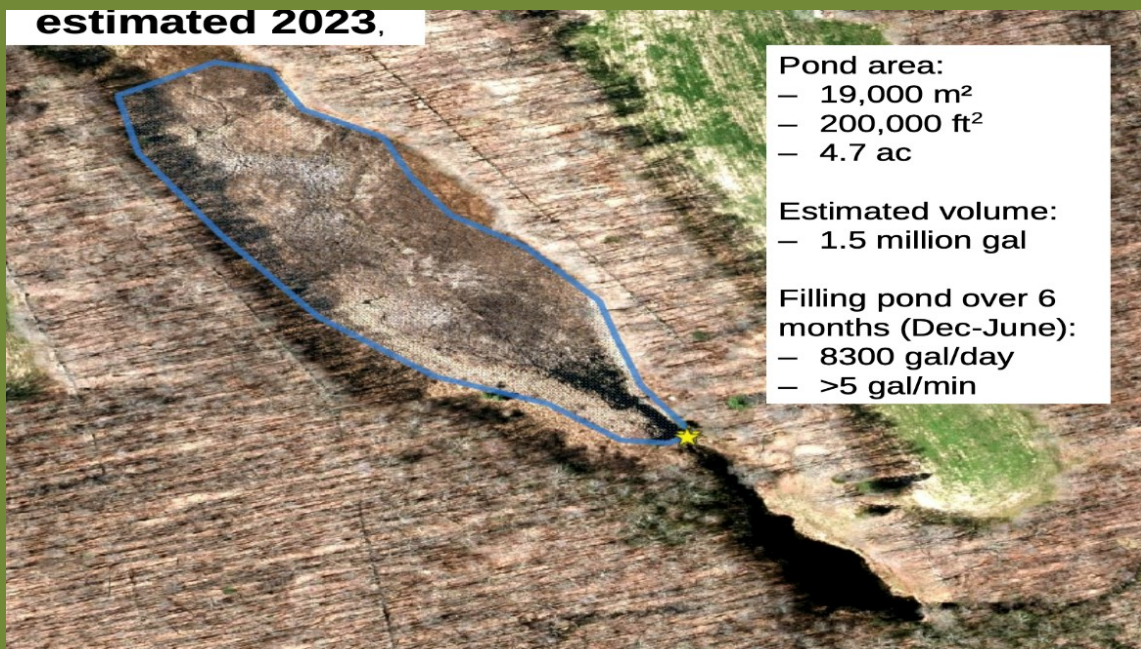
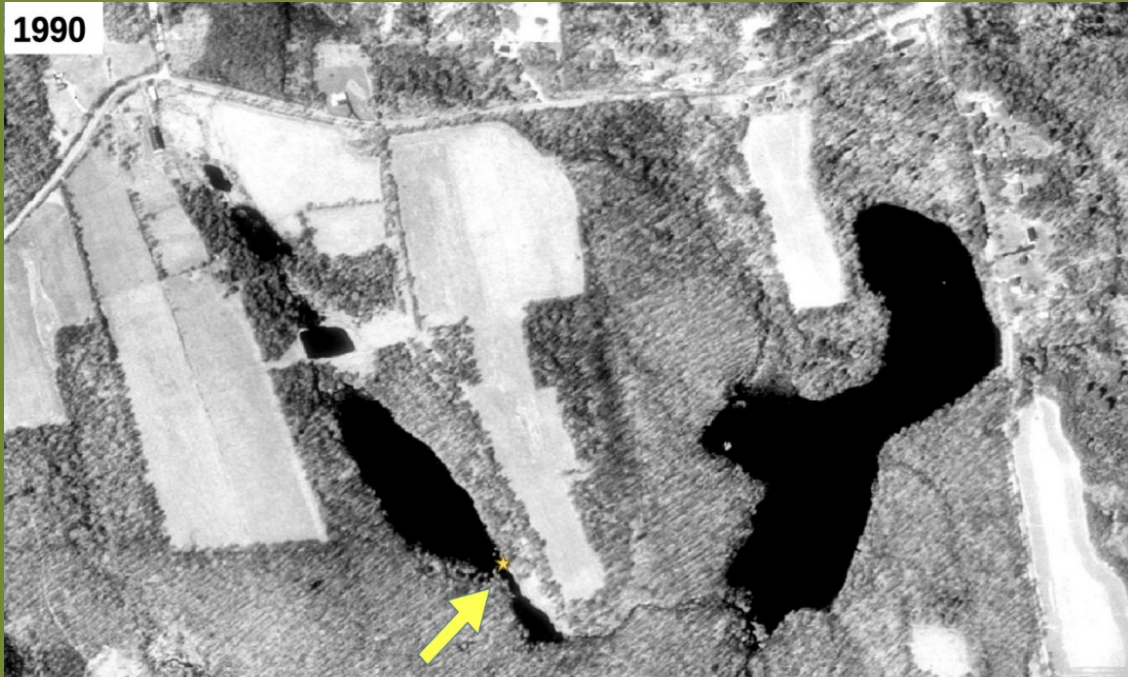


NEW LODGE

Photo - Deb Eccleston

3rd Beaver Dam July 26, 2023





estimated 2023,



Pond area:

- 19,000 m²
- 200,000 ft²
- 4.7 ac

Estimated volume:

- 1.5 million gal

Filling pond over 6 months (Dec-June):

- 8300 gal/day
- >5 gal/min

Partnering with Beavers for clean Water, October 2024

when we talk about beavers we are talking about water



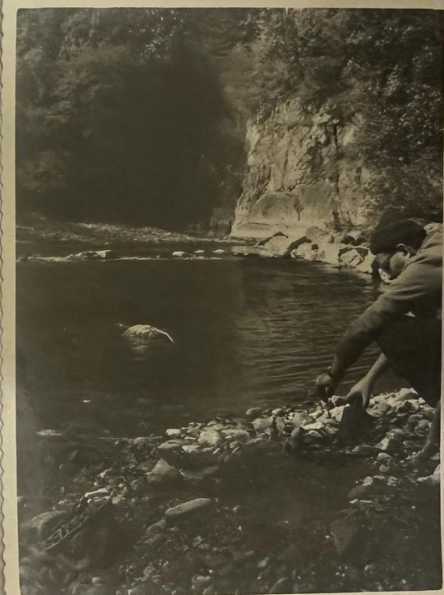
Stage Zero, McKenzie River, Oregon





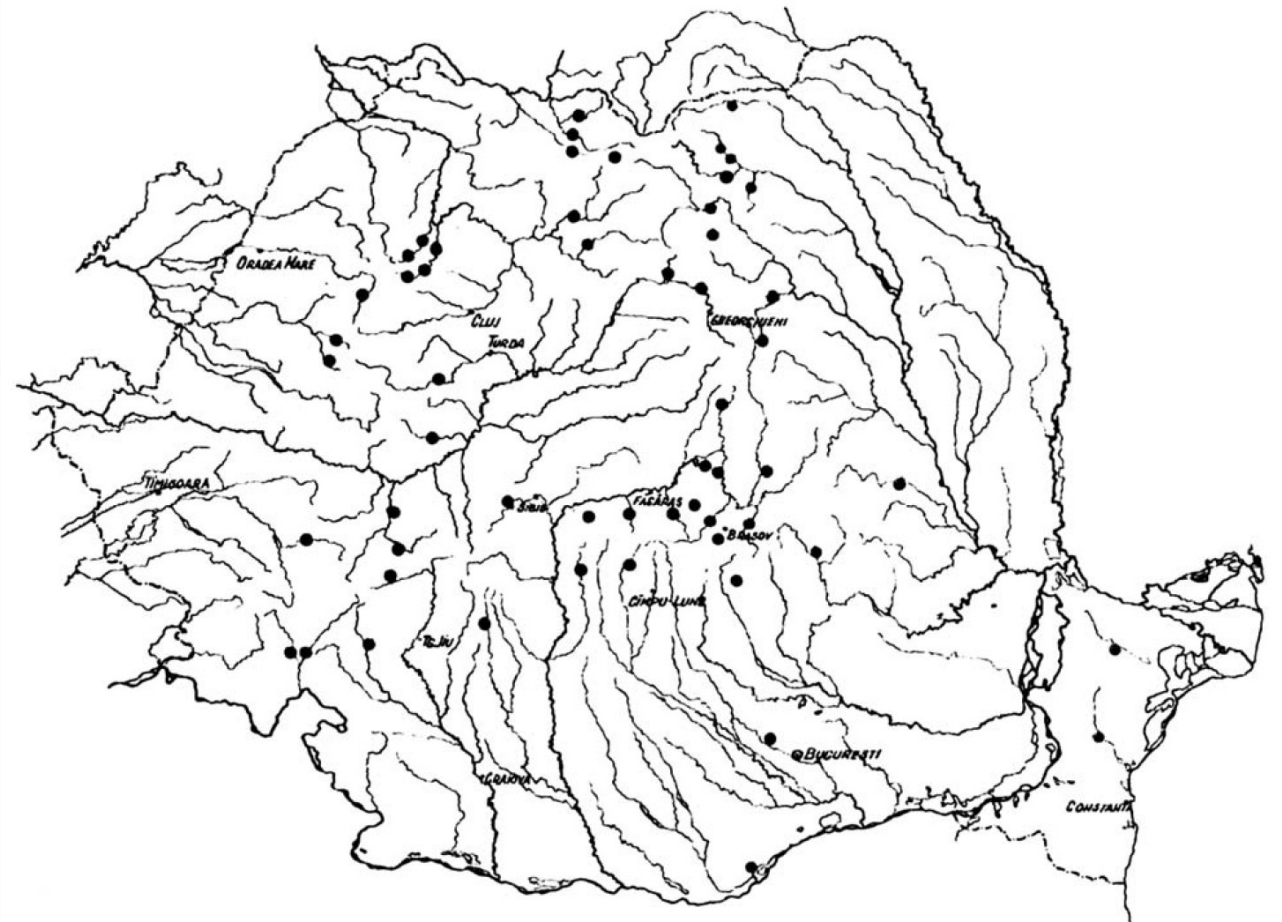
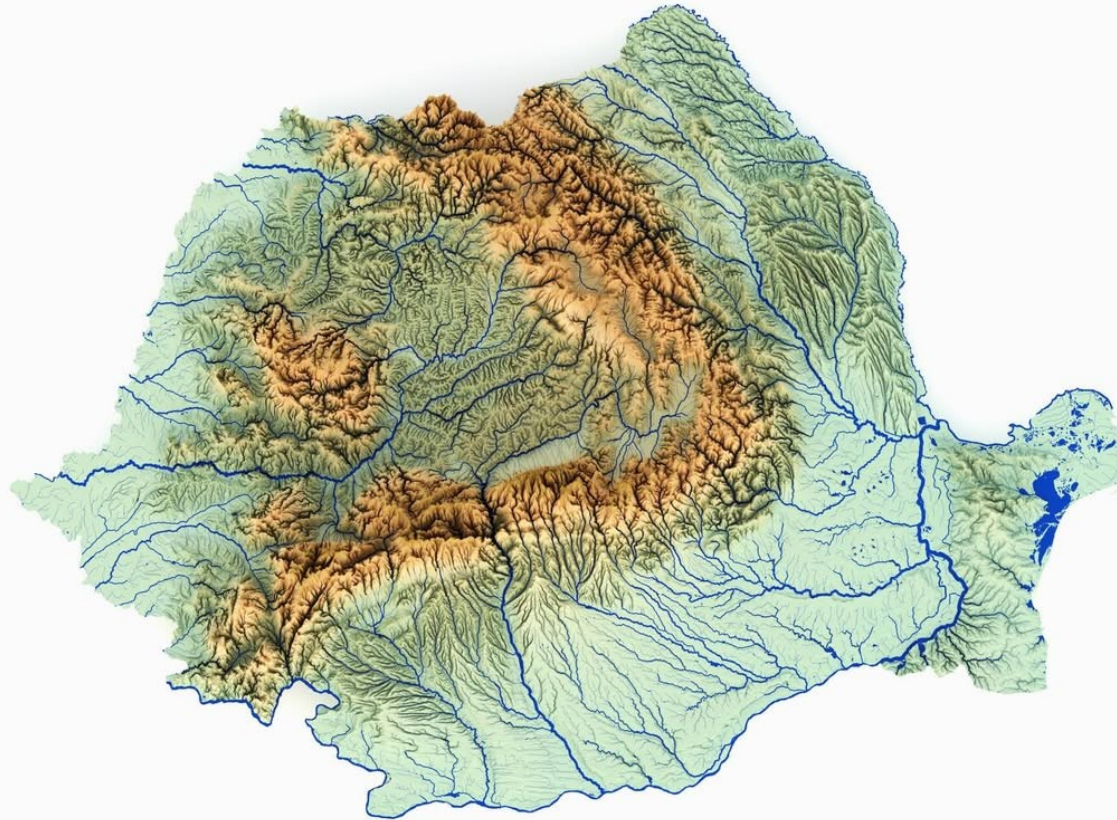
Clean, chill, nutrient cycle, sequester carbon

Traian Orghidan (1917- 1985) :



70 Rivers: 1946- 1951 “Biotopul Hiporeic”:

Hydrologic map
ROMANIA



©2026 Milos Popovic (<https://milospopovic.net>)

Data: ©World Wildlife Fund, Inc. (2006-2013) HydroSHEDS database <http://www.hydrosheds.org>

Traian Orghidan, "Biotopul Hiporeic," 1955

BULETIN ȘTIINȚIFIC
SECȚIA DE BIOLOGIE ȘI ȘTIINȚE AGRICOLE
ȘI SECȚIA DE GEOLOGIE ȘI GEOGRAFIE
Tomul VII, nr. 3, 1955

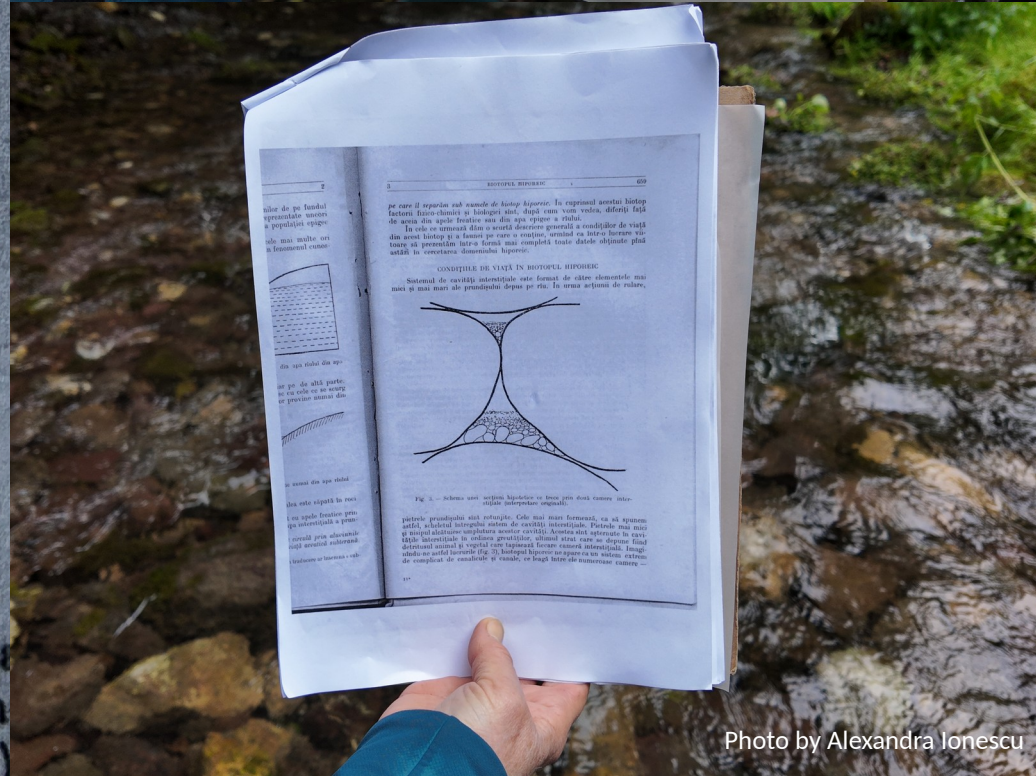
(13) (12)

UN NOU DOMENIU DE VIAȚĂ ACVATICĂ SUBTERANĂ: «BIOTOPUL HIPOREIC»

DE
TRAIAN ORGHIDAN

Comunicare prezentată de GR. ELIESCU, membru corespondent al Academiei R.P.R.,
în ședința aін 1 februarie 1955

În ultimii ani a fost cercetată în unele țări europene, ca Elveția, Franța,
R. P. Ungară și mai ales în R.P.R., fauna apelor subterane ce îmbibă prun-
dișurile văilor raurilor, după metoda imaginată de P. A. Chappuis (5)
Această metodă constă în



Sighiștel River



A new biotope, the “Flooded labyrinth”

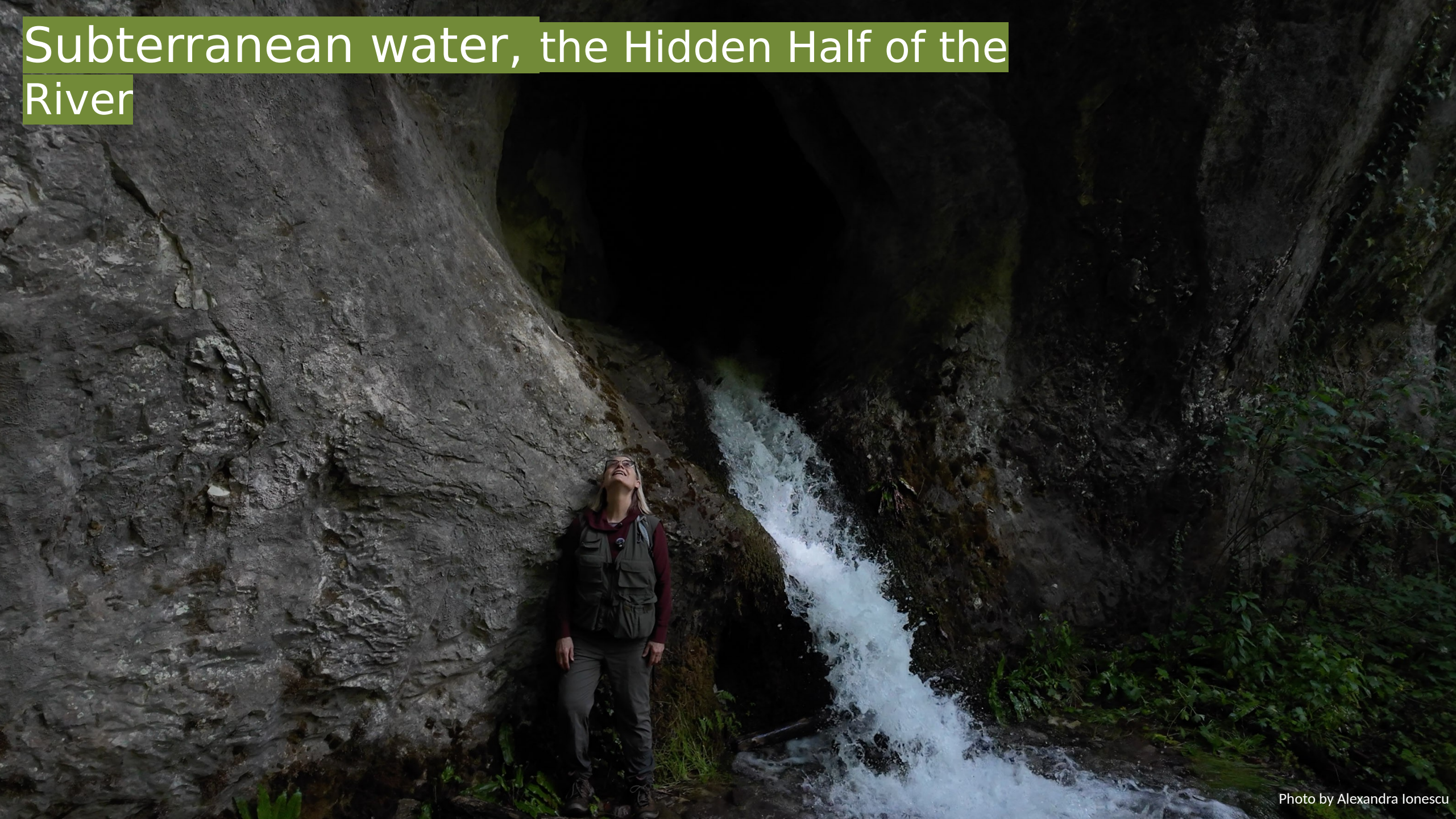


70 Rivers 1946-
Wells

Diggi

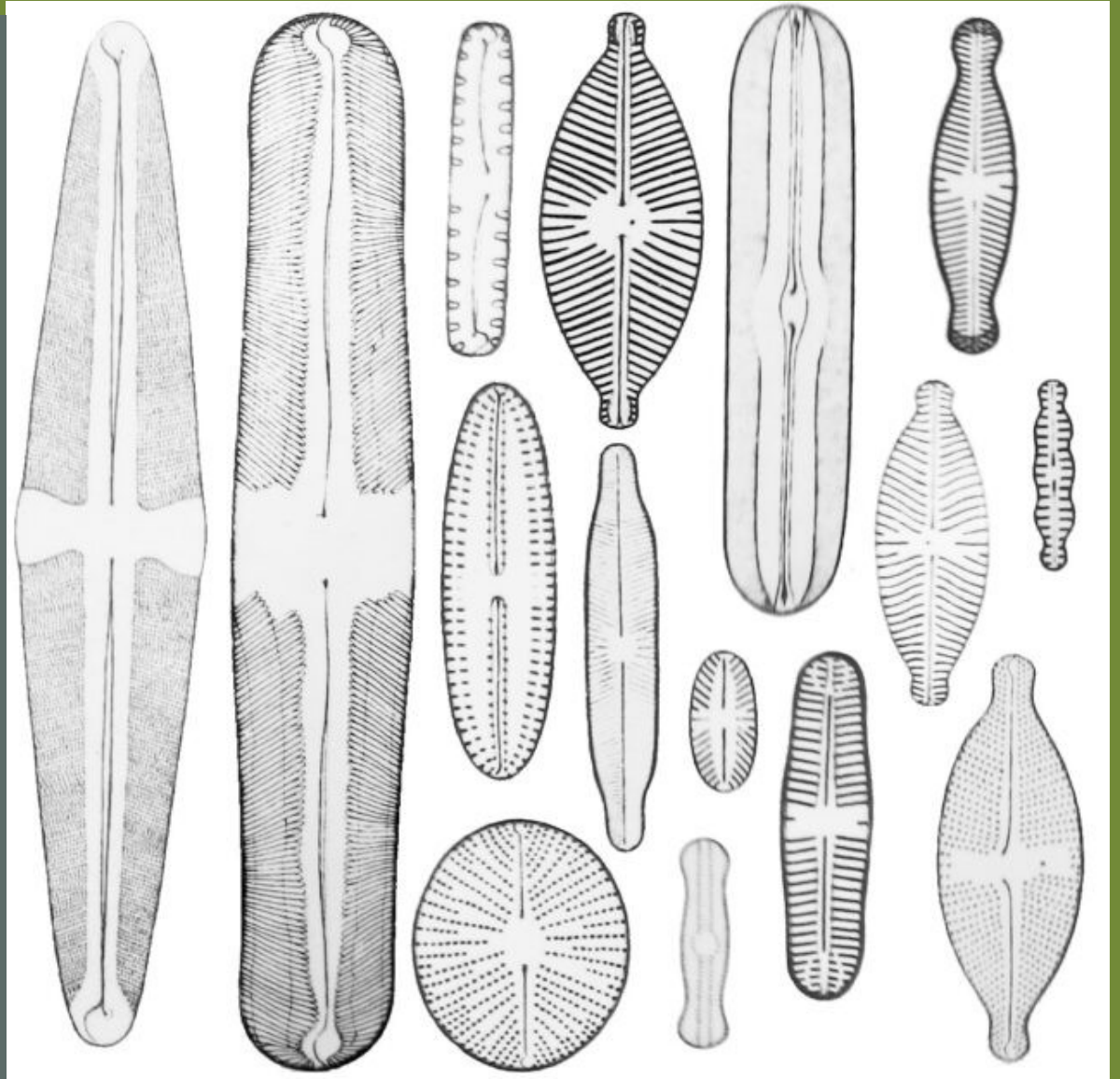
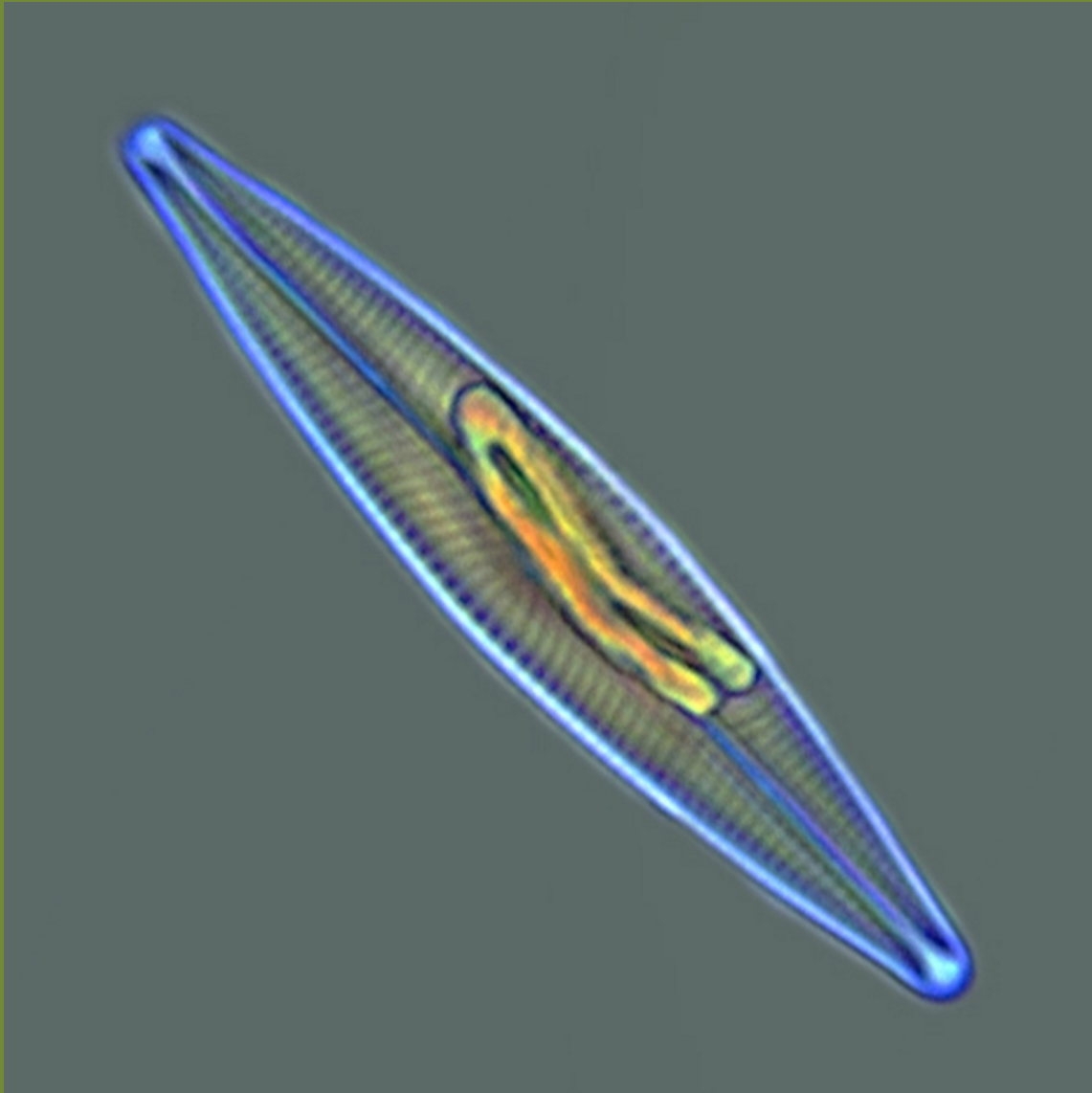


Subterranean water, the Hidden Half of the River

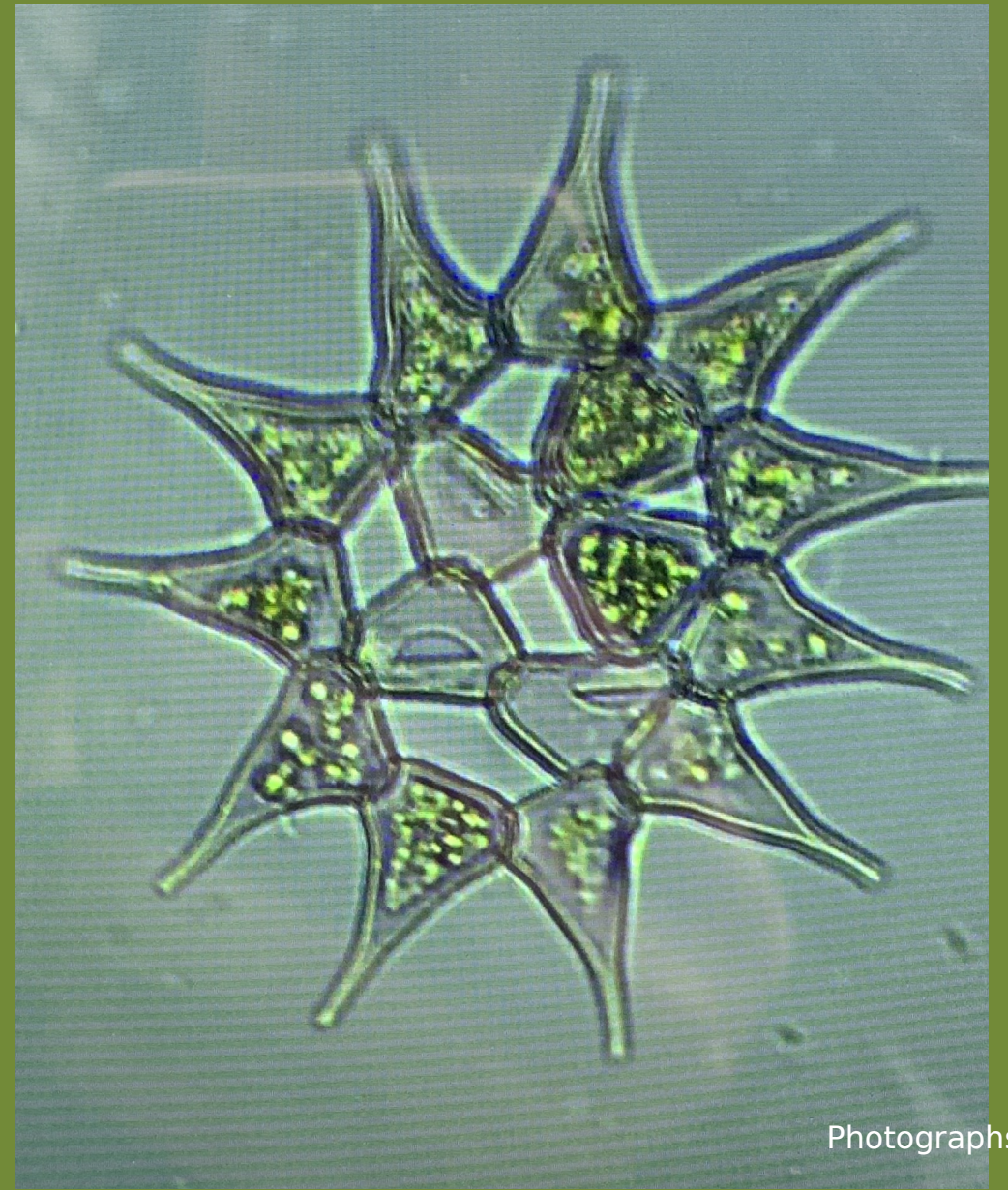
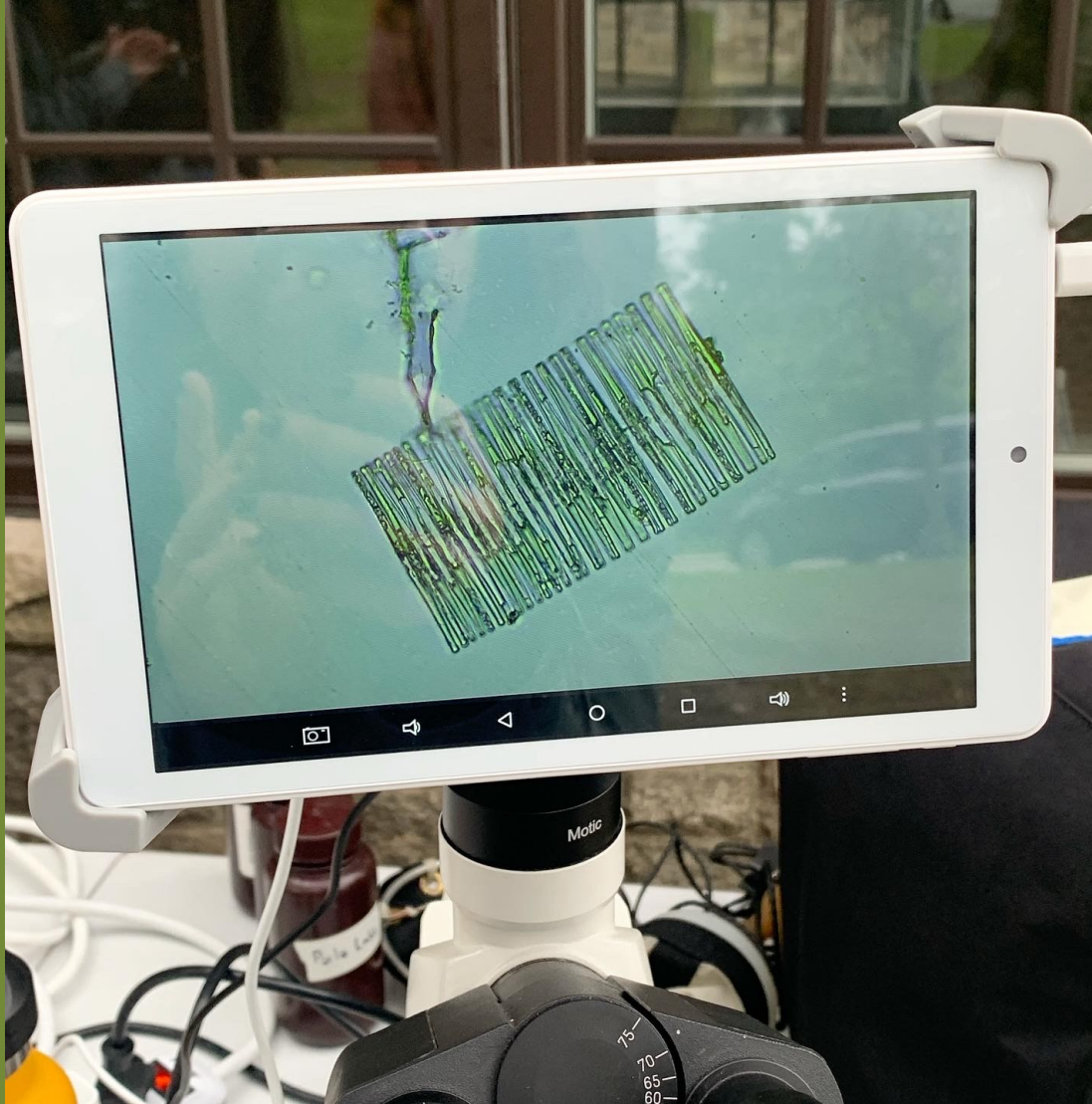




Biodiversity in the water below: Diatoms

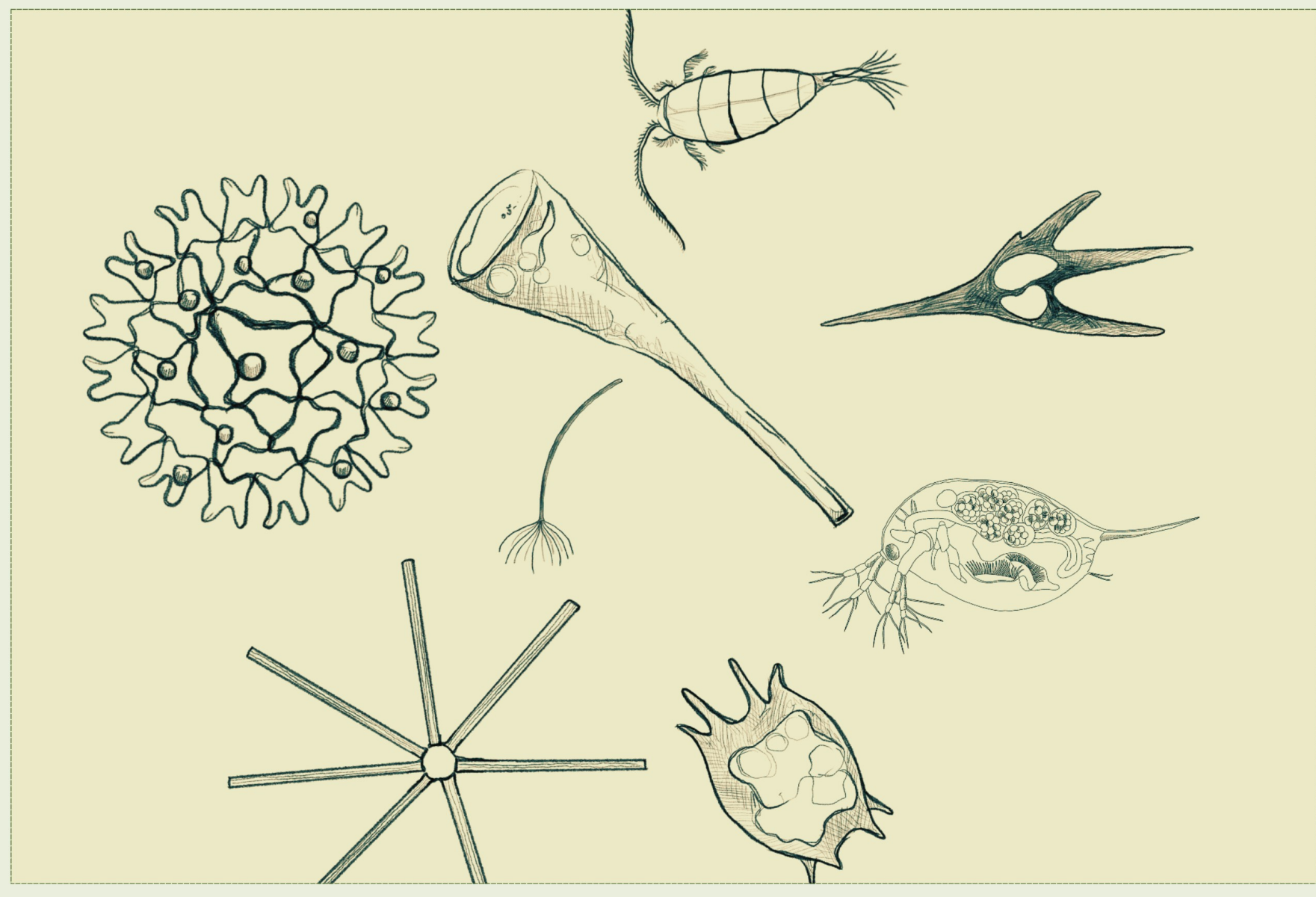


Periphyton, the River's Pasture



Photographs by Alexa





Daphnia Copepod Diatom Dinoflagellate Rotifer Ciliate Hydra Green Algae

WATER IS THE NEW GOLD

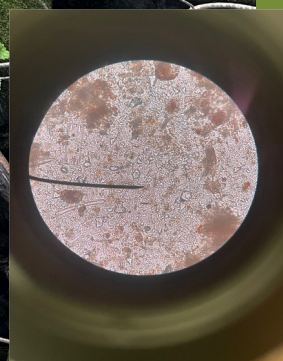
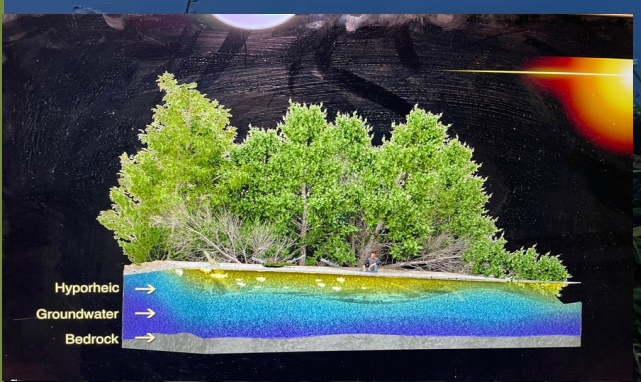
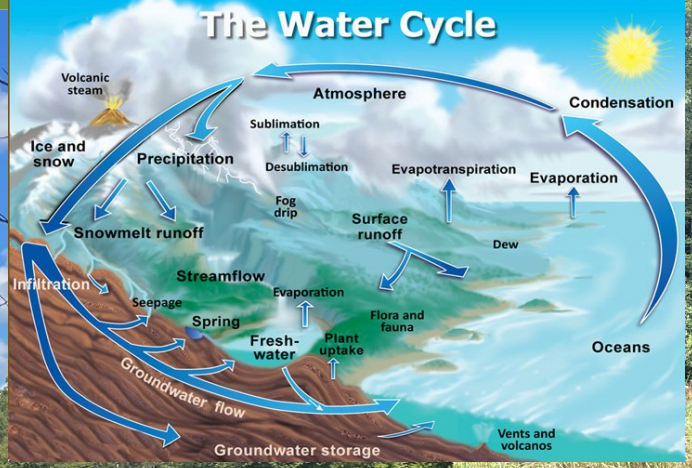


The power of the hidden half of the river system -- groundwater
Impact on biodiversity, nutrient cycling



Climate Resiliency

Drought, wildfire, flooding, sequester carbon, support biodiversity, increase groundwater
small Water cycle, (new water paradigm) impact on planetary heat & micro cosmos
(nutrient cycling, water cleansing & chilling)

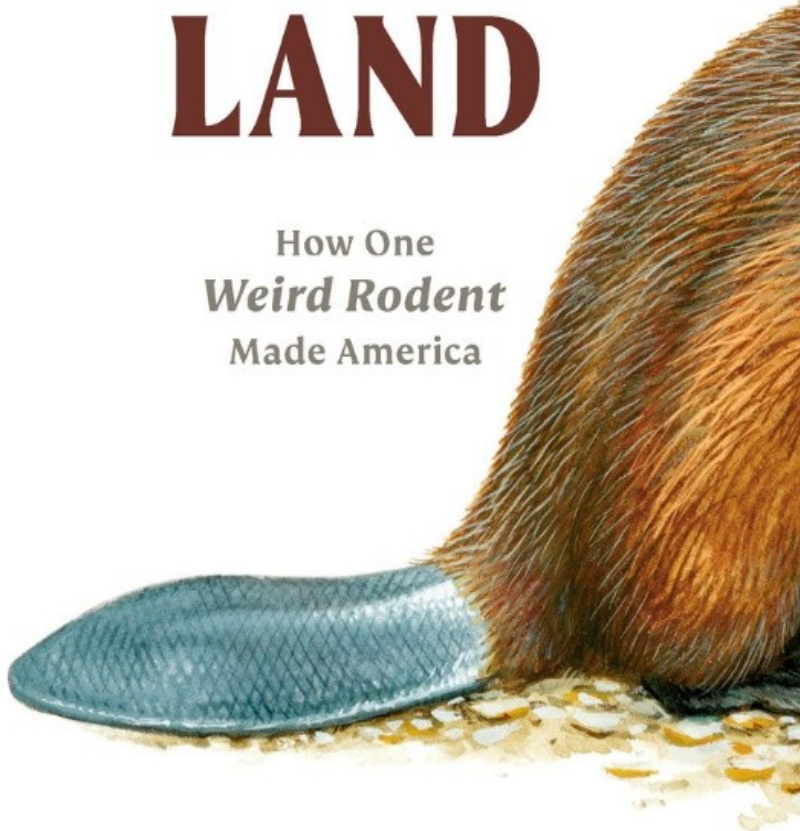


“Lyrically written, meticulously observed, and exhaustively researched, BEAVERLAND is going to break your heart—and then heal it with compassion, beauty, and wonder.” —**SY MONTGOMERY**,
New York Times bestselling author of *The Soul of an Octopus*

LEILA PHILIP

BEAVER LAND

How One
Weird Rodent
Made America



Professor Leila Philip
Brooks Chair in the Humanities
College of the Holy Cross

lphilip@holycross.edu

www.leilaphilip.com

Follow her adventures with beavers and rivers on
Facebook & Instagram

[@theleilaphilip](https://www.instagram.com/theleilaphilip)