

Perspectives on Beaver in the Lake Champlain Watershed

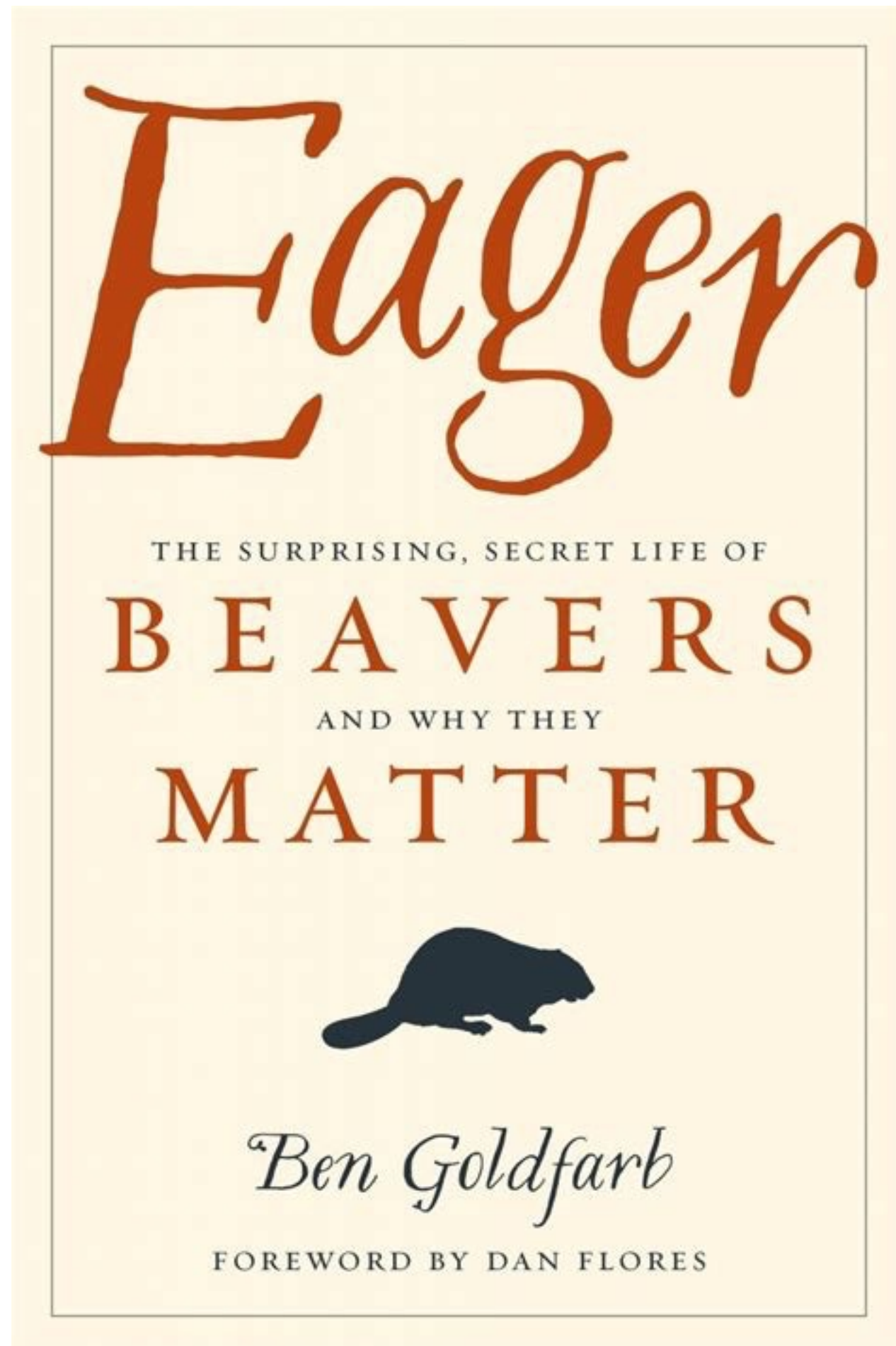
A view from ground-level

Robert Hyams February 4, 2025

**Beavers
are having
themselves
a moment!**



Prominent Books...

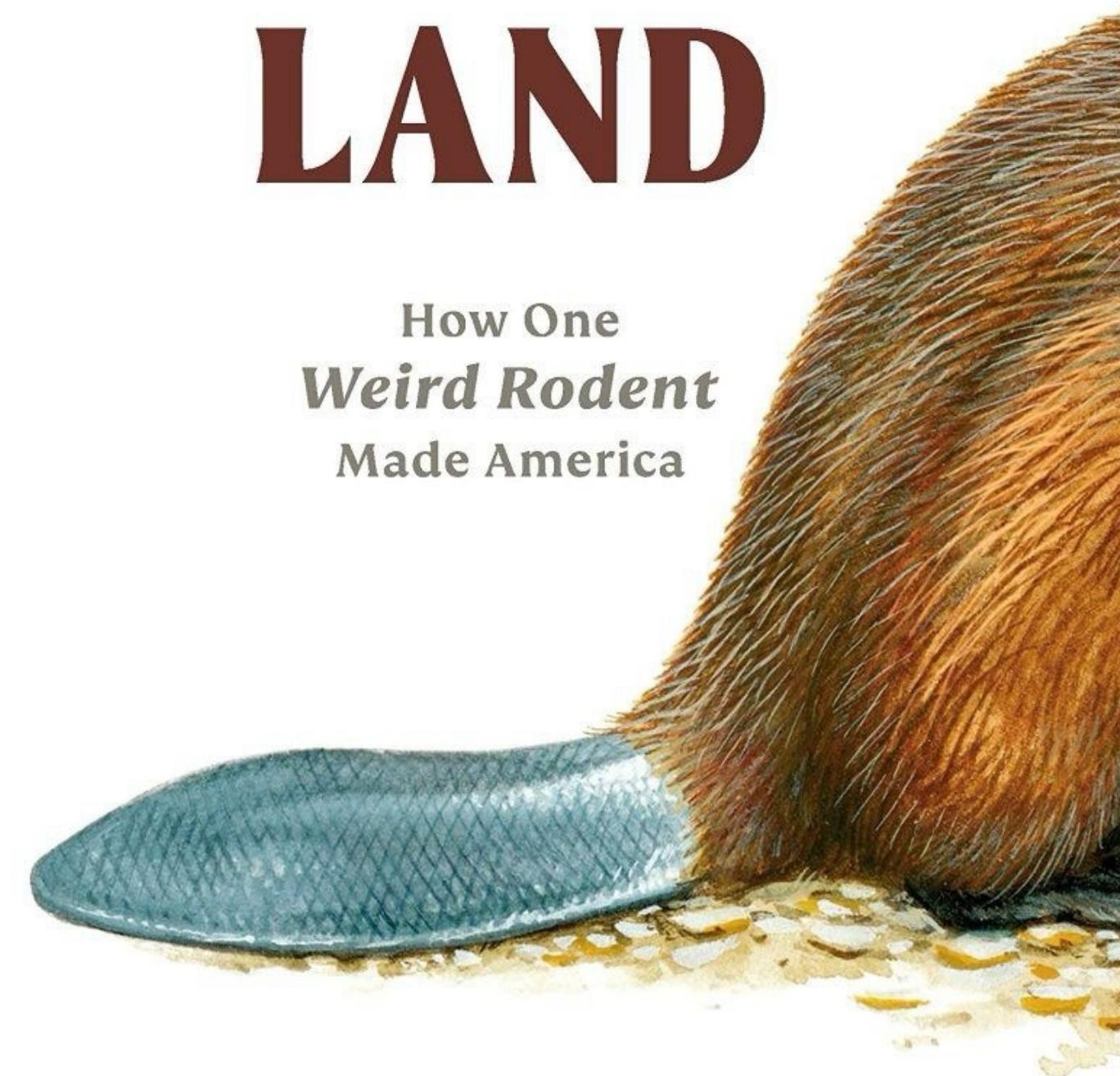


“Lyrically written, meticulously observed, and exhaustively researched, BEAVERLAND is going to break your heart—and then heal it with compassion, beauty, and wonder.” —**SY MONTGOMERY**,
New York Times bestselling author of *The Soul of an Octopus*

LEILA PHILIP

BEAVER LAND

How One
Weird Rodent
Made America



International Conferences...



Vermont House Committee Hearings....multiple

[← BACK](#)

Wednesday January 29, 2025

BEN GOLDFARB

[Testimony follow up on Beavers](#)

2026/Workgroups/House Environment/Beavers

[Supporting Beavers to Achieve Restoration Goals](#)

2026/Workgroups/House Environment/Beavers

BREHAN FURFEY

[Beaver Baffle Info Sheet](#)

2026/Workgroups/House Environment/Beavers

[Beavers in Vermont](#)

2026/Workgroups/House Environment/Beavers

[Follow up on Beaver Testimony](#)

2026/Workgroups/House Environment/Beavers

[Emailed Follow up Regarding Beaver Testimony](#)

2026/Workgroups/House Environment/Beavers

JOHN ABERTH

[Testimony on Beavers](#)

2026/Workgroups/House Environment/Beavers

And, whom am I ?

12 years of running a business engaged in restoration of plant communities and streamscapes. We employ a range of practices seeking those that make both ecological and operation sense.

(worked extensively on 2/3 sites featured in Shayne Jacquith's presentation last week)

- 12 years of running a business engaged in restoration of plant communities and streamscapes. We employ a range of practices seeking those that make both ecological and operation sense.

- an INTP...(for any Myers-Briggs fans)

As of February 2024, Vermont's Use Value Appraisal (UVA) Program, commonly known as Current Use, has over 19,600 parcels enrolled, totaling more than 2.5 million acres. This represents about one-third of Vermont's total acreage.

legislature.vermont.gov

Regarding the number of landowners, data from 2019 indicates that there were approximately 12,000 property owners enrolled in the program at that time. This comprised about 8,000 forest landowners and 4,000 agricultural landowners.

vermontwoodlands.org

12,000 private property owners + 273 towns = **12,273**, the number of vermonter landowners that potentially find themselves confronted by the prospects of a beaver colony.

Beaver Tolerance Continuum

Yes; all in on
Beavers!

Beavers;
absolutely not
having it!



Beaver Tolerance Continuum

Yes; all in on
Beavers!

Beavers;
absolutely not
having it!



10-15%

10-15%

Beaver Tolerance Continuum

Yes; all in on
Beavers!

Beavers;
absolutely not
having it!



10-15%

10-15%

Beavers; we get it...but
really, on our land?

70-80%

Ecosystem Services - are the direct and indirect benefits that natural ecosystem provide to humans.

Ecosystem Services - are the direct and indirect benefits that natural ecosystem provide to humans

And a short list of those provided by beavers and beaver complexes:

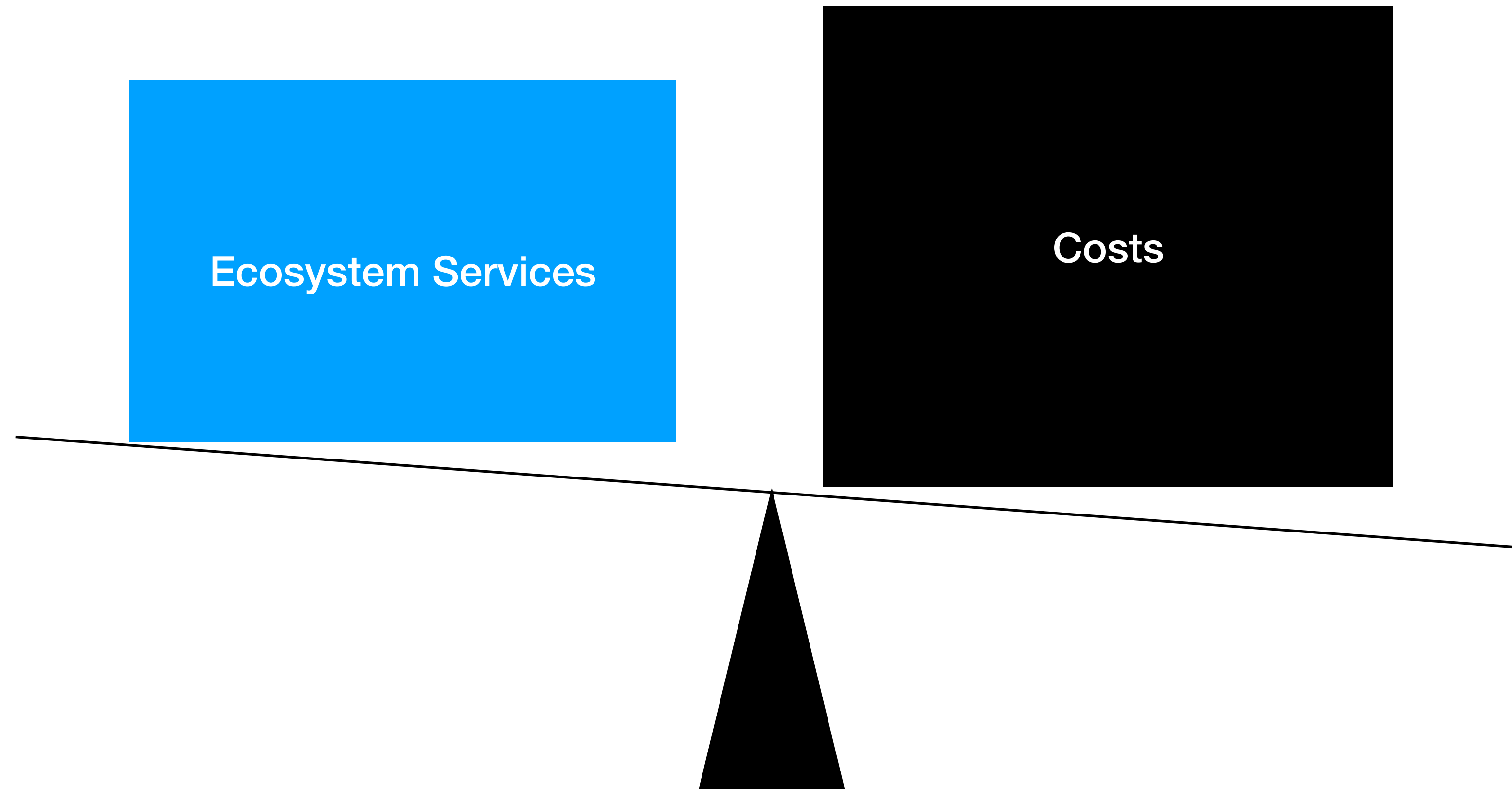
- flood moderation
- groundwater recharge
- hyporheic exchange
- moderation of stream flows
- climate (temperature) moderation
- habitat for wildlife of interest
- reduced of sediment transport
- attenuation of phosphorus

Ecosystem Services - are the direct and indirect benefits that natural ecosystem provide to humans

And the Costs...(there's no such thing as a free lunch)

- flooding of arable lands
- damage to infrastructure
- increasing fluvial erosion hazard (in some instances)
- loss of 'legacy' trees
- cherry picking
- making recreational access more difficult

As the property owner likely sees it....



How do we make it right by landowners?

1. Address the costs:

- help monitor complex for hazardous conditions
- install flow control devices to maintain inundation leve
- install beaver deceivers to protect infrastructure
- install protection for selected trees

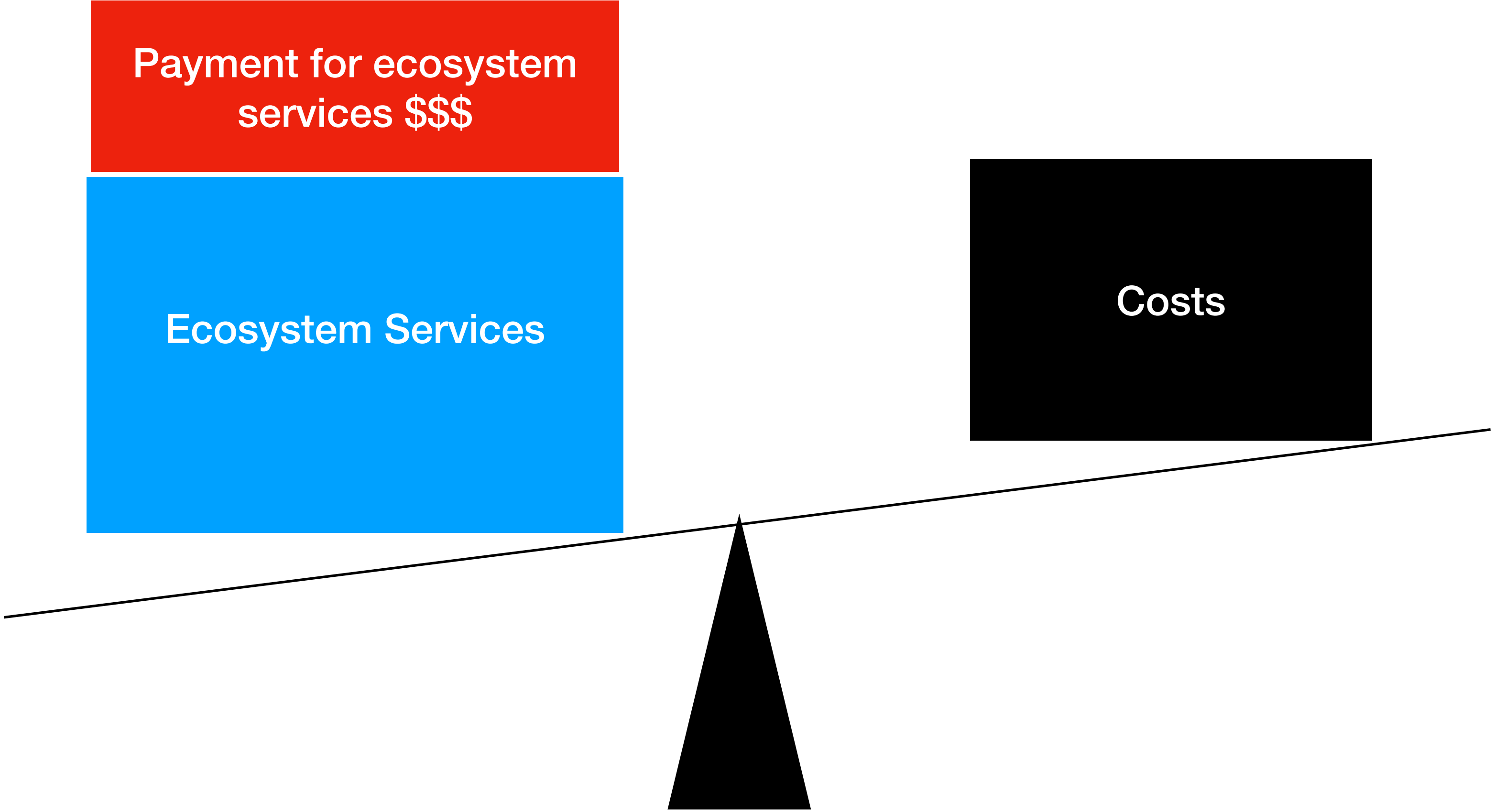
2. Pay landowners for phosphorus!

Ecosystem Services - are the direct and indirect benefits that natural ecosystem provide to humans

- flood moderation
- groundwater recharge
- moderation of stream flows
- climate (temperature) moderation
- habitat for wildlife of interest
- reduced of sediment transport
- **attenuation of phosphorus**

A truly unique moment in time, as we have a fully monetizable ecosystem service!

Now, as the property owner sees it....



How do we credit landowners for phosphorus attenuation generated by a beaver complex? See Geprags Site Analysis.

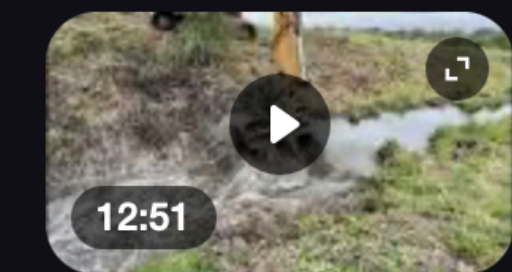


Neighboring watershed
April 2023



Neighboring watershed
January 2025

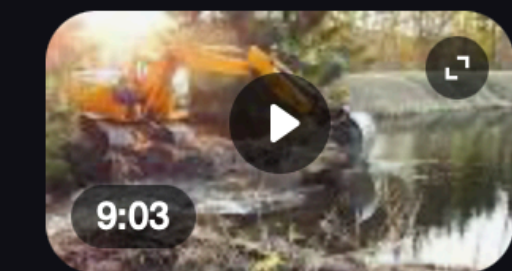
Removing 4 Beaver Dams With Excavator



Bulldozer & Truck 5T Pushing Siol Into Water Remove Trash And Delete Deep Pond ... Excavator Vs Beavers Dams - **Beaver Dam Removal With ...**

YouTube · AFH Projects
3.2M+ views · 5 years ago

Huge Beaver Dam Taken Down By Excavator



A huge **beaver dam** taken down by excavator. I removed the **beaver dam** with an excavator from a big beaver pond. Draining the beaver pond with ...

7 key moments in this video

The Combine Forum
<https://www.thecombineforum.com> › threads › beaver-...

Beaver control, blowing dams

Oct 22, 2019 — Tannerite works. Glue a cap on 1 end of a piece of 1.5" abs, and a threaded end on the other. Mix up the tannerite and fill the tube full.

Reddit · r/homestead
90+ comments · 7 years ago

Beaver dam problems in homestead creek. Best way to ...

In many places beaver impoundments are classified as wetlands, and intentional **beaver dam** removal constitutes wetland destruction.

95 answers · Top answer: Anytime of beaver hears running water it builds a dam. There's a guy up in ...

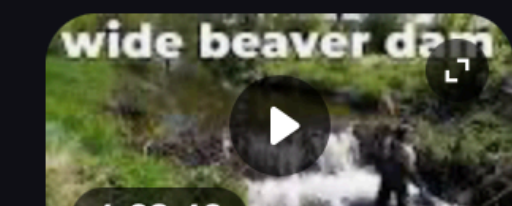
9ft tall **beaver** damn breaks emptying large lake ... Oct 28, 2016

Beaver building a homemade **dam** : r/oddlysatisfying Jan 19, 2023

More results from www.reddit.com

YouTube · msTECH86
52.7K+ views · 1 year ago

Large And Wide Beaver Dam For Demolition - Manual Beaver ...

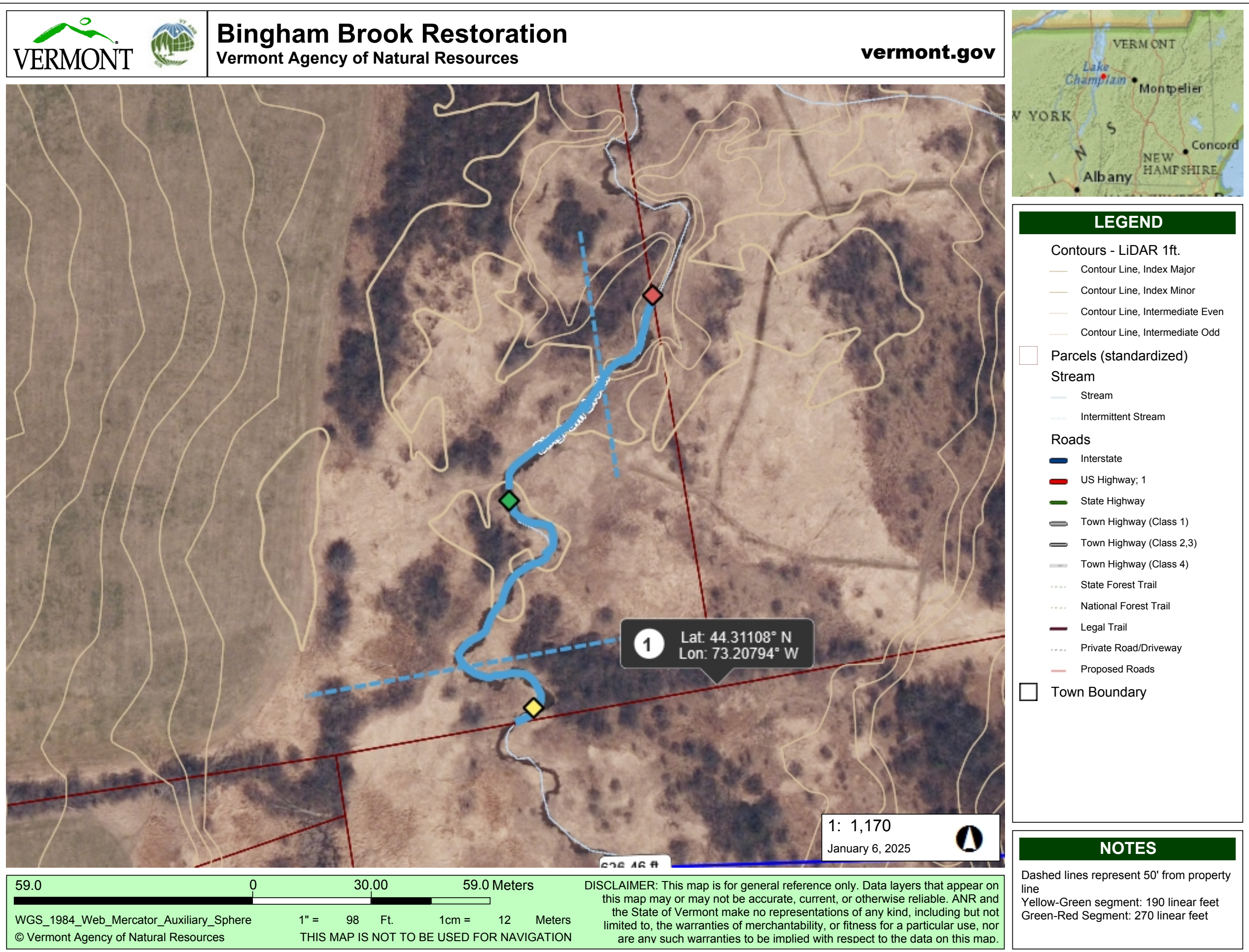


Large And Wide **Beaver Dam** For Demolition - Manual **Beaver Dam** Removal No.114 Basic information: Location: Poland Date of recording: May 2023 ...

Based on Google search results, the answer is an emphatic YES

case study - Bingham Brook

450' of streamscape restoration; NNIP control, wood additions, restoration plantings on 2nd order stream in Charlotte



From: C CIV USARMY CENAE (USA)
Sent: Monday, January 27, 2025 3:36 PM
To: Habitat Restoration Solutions / Riverscape Ecology <habitatrestorationvt@gmail.com>
Cc: zoe.j.sheldon@gmail.com; Robert Hyams <robert@gmavt.net>
Subject: RE: [Non-DoD Source] Bingham Brook

Hello Bob,

Upon review of the materials provided, the following information will need to be submitted to complete an application under Pre-Construction Notification of the attached Vermont General Permits (GPs):

Attached application form (note, a couple of versions are attached. Please use whichever works for you).

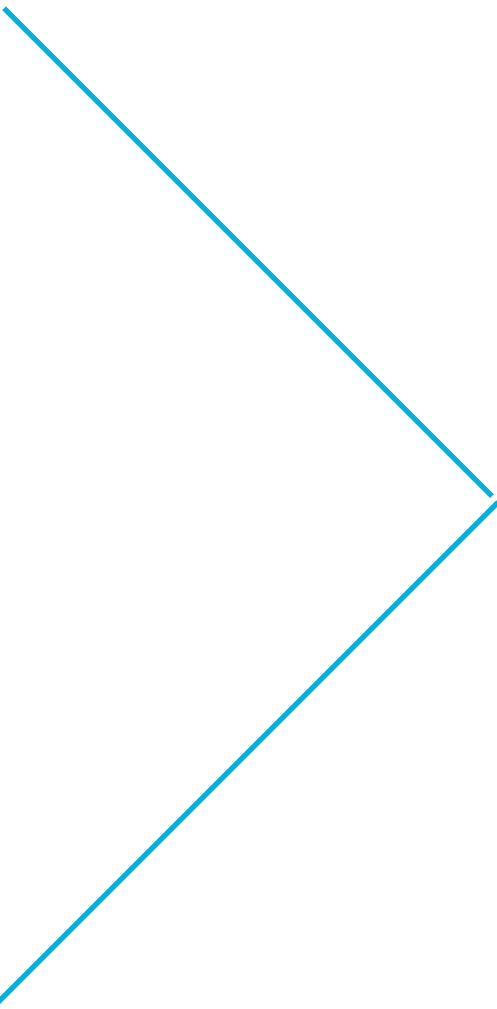
1. Provide a plan view and cross section demonstrating the proposed treatment areas. The plans should clarify how frequently structures will be placed along the reach and the expected quantity of PALs vs. BDAs.
 - Project plans should include a flow arrow.
 - Include “typicals” showing how PALs and BDAs will be constructed.
 - Plans should show the ordinary high water mark of Bingham Brook, and/or describe the width of the stream channel that correlates with the ordinary high water mark (OHWM) through the treatment reach (include this information on plan view and cross section). Include relevant dimensions.
 - Block 22 of the application form pertains to the project’s anticipated impacts within waters of the U.S. Please provide a sq. ft. area of impact below the OHWM. This impact area correlates with the areas of the stream channel to be impacted by the structures themselves, and indirectly by aggradation and scour (below the OHWM).
3. Will any earth disturbance (e.g. sod harvesting within the floodplain) be necessary to construct the in-stream structures? This information will be important relative to question #4, below.
4. Has any coordination with the **Vermont Division of Historic Preservation taken place on this project?** There are sensitive archaeological areas nearby and we will coordinate with their office as part of our review. However, I just wanted to confirm if there’s been any communication to date.
5. What is the size of the downstream culvert referenced in the project narrative?
6. Please provide a plan showing the treatment reach relative to adjacent properties. **Will the project impact adjacent properties? If so, how? Was a hydraulics analysis conducted to understand and identify the anticipated extents of impoundments and water levels? Does the project have the potential to cause flooding on other properties? Please describe.**
7. **Has an application been submitted to the VTDEC Wetlands Program and VTDEC Rivers Program?** If so, what is the status of those reviews? Please provide a copy of the state applications for our records.
8. How will the site be accessed to perform the stream enhancement/restoration work? Please show/describe on the project plans. State whether it will be necessary to operate any heavy equipment or machinery in waters of the U.S., including wetlands.
9. Are wetlands present along the stream channel and are their delineated boundaries known? Please describe.
10. The narrative discusses adaptive management. For your awareness, additional work areas beyond what is applied for and authorized under the general permit (and shown on the project plans) would need to be reviewed/approved prior to implementation.
 - The narrative describes photo points and transects will be used to monitor the site. If adaptive management is anticipated in accordance with this proposed monitoring, we may be able to incorporate this plan into a condition of our authorization. However, I would need **additional details (e.g. timing of monitoring, expected adjustments and subsequent treatment practices, etc.)** shown/described on a plan. This may be used to allow for some future maintenance and adjustments over time.
11. Do you have photos of the subject area?
12. Does this project have any source of federal funding?

Beavers beat us to it...no regulatory compliance, no paperwork, no problem.



Ecosystem Services - are the direct and indirect benefits that natural ecosystem provide to humans

- flood moderation
- groundwater recharge
- moderation of stream flows
- climate (temperature) moderation
- habitat for a wide array of wildlife
- reduced of sediment transport
- attenuation of phosphorus



Resiliency, in the face of
climate change and
global warming