

Coastal Amphibians



Some natural history &
conservation stories



Barb Beasley

For the Lasqueti Island Nature Conservancy
Earth Day AGM



Talk Outline



- A bit of natural history on some of BC's coastal amphibian species & their habitats.
- The troubles amphibians face and how to help conserve them.
- A beaver biology quiz - test your knowledge.





Northwestern Salamander



Northern Red-legged Frog



Western Red-backed Salamander



Long-toed Salamander



Western Toad



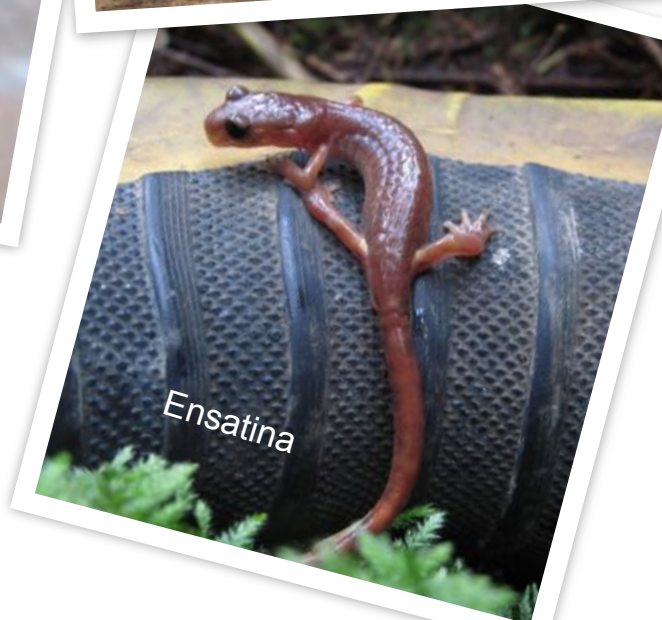
Wandering Salamander



Rough-skinned Newt



Pacific Treefrog



Ensatina

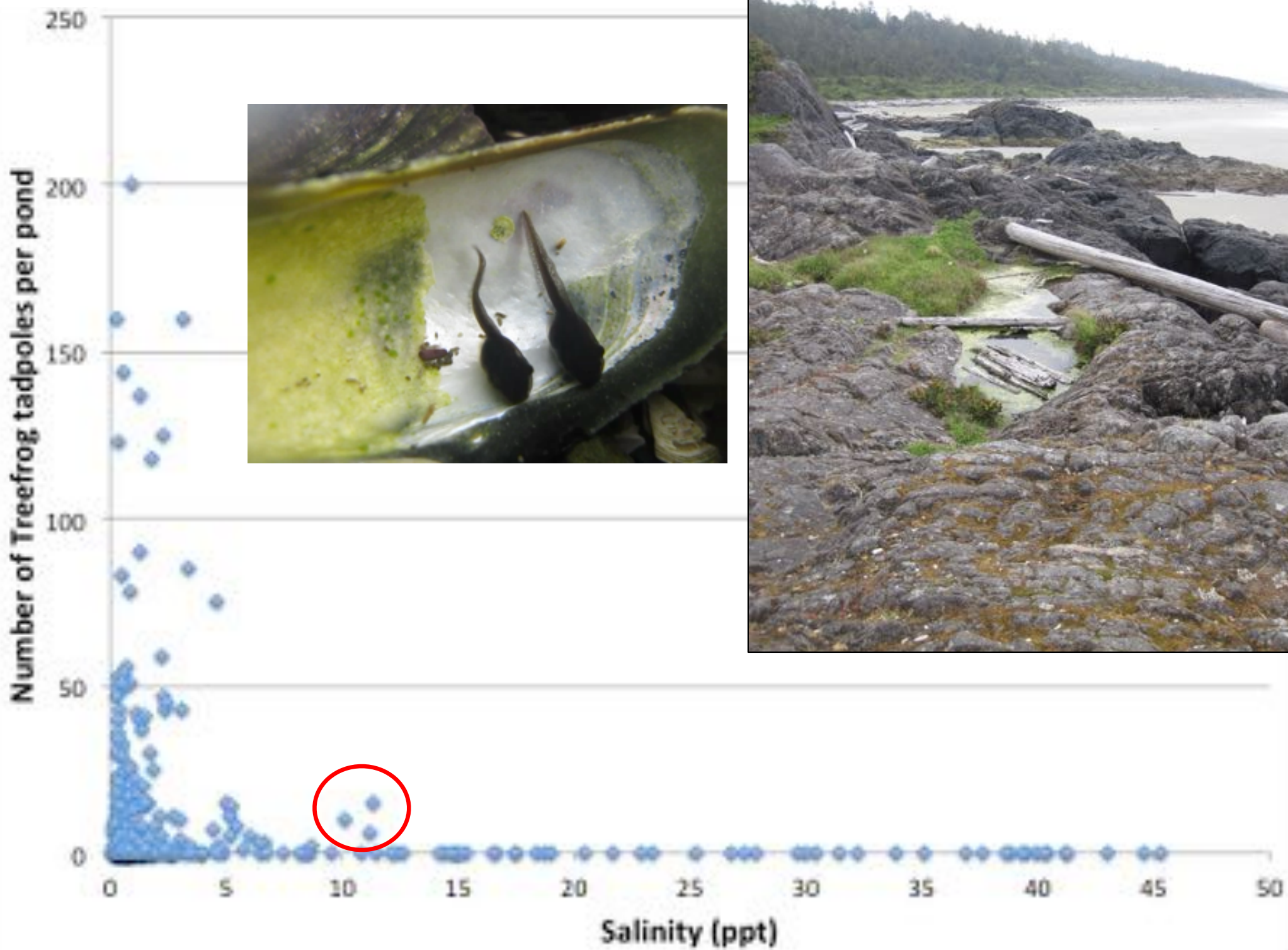


Pacific Treefrog
Pseudacris regilla



Treefrogs can tolerate some salt.







Salinity of saltiest pond
with tree frogs: 11 ppt

Salinity of seawater:
32-35 ppt

Photo: Nora Boileau Morrison

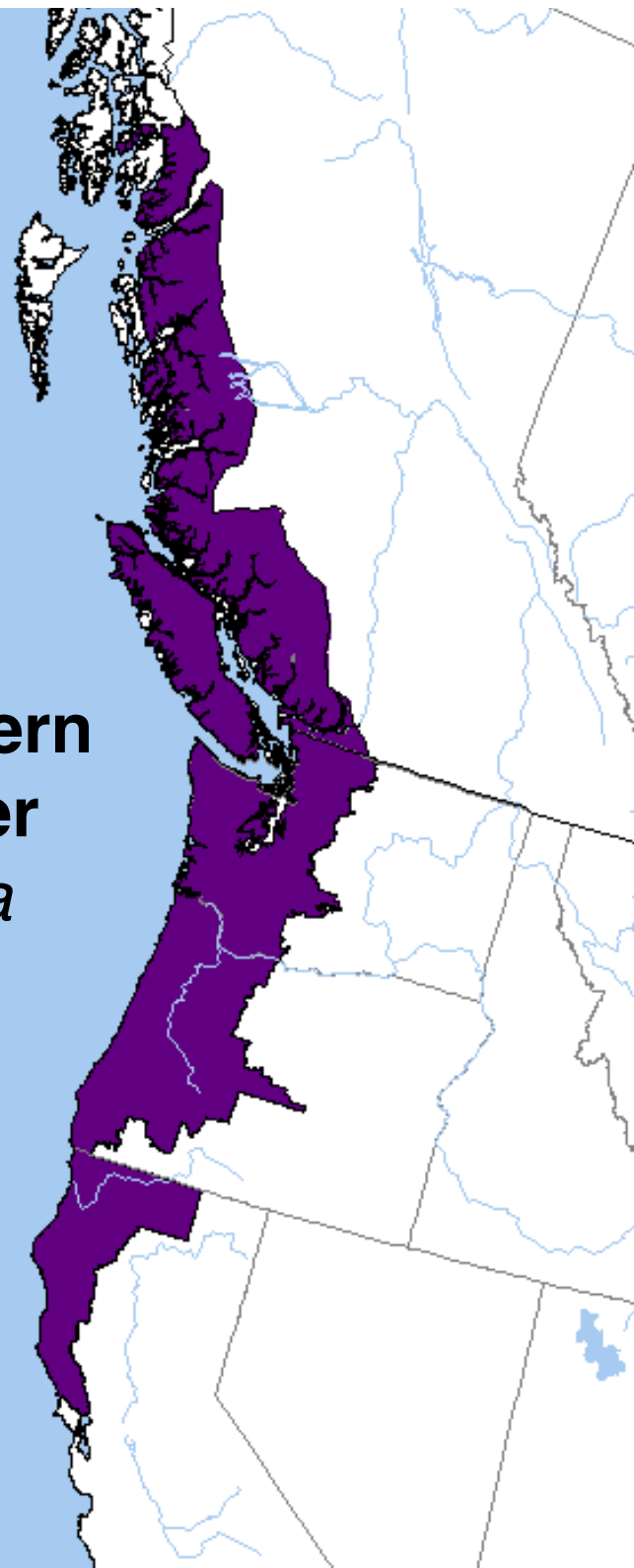


Tetrodotoxin to deter predators





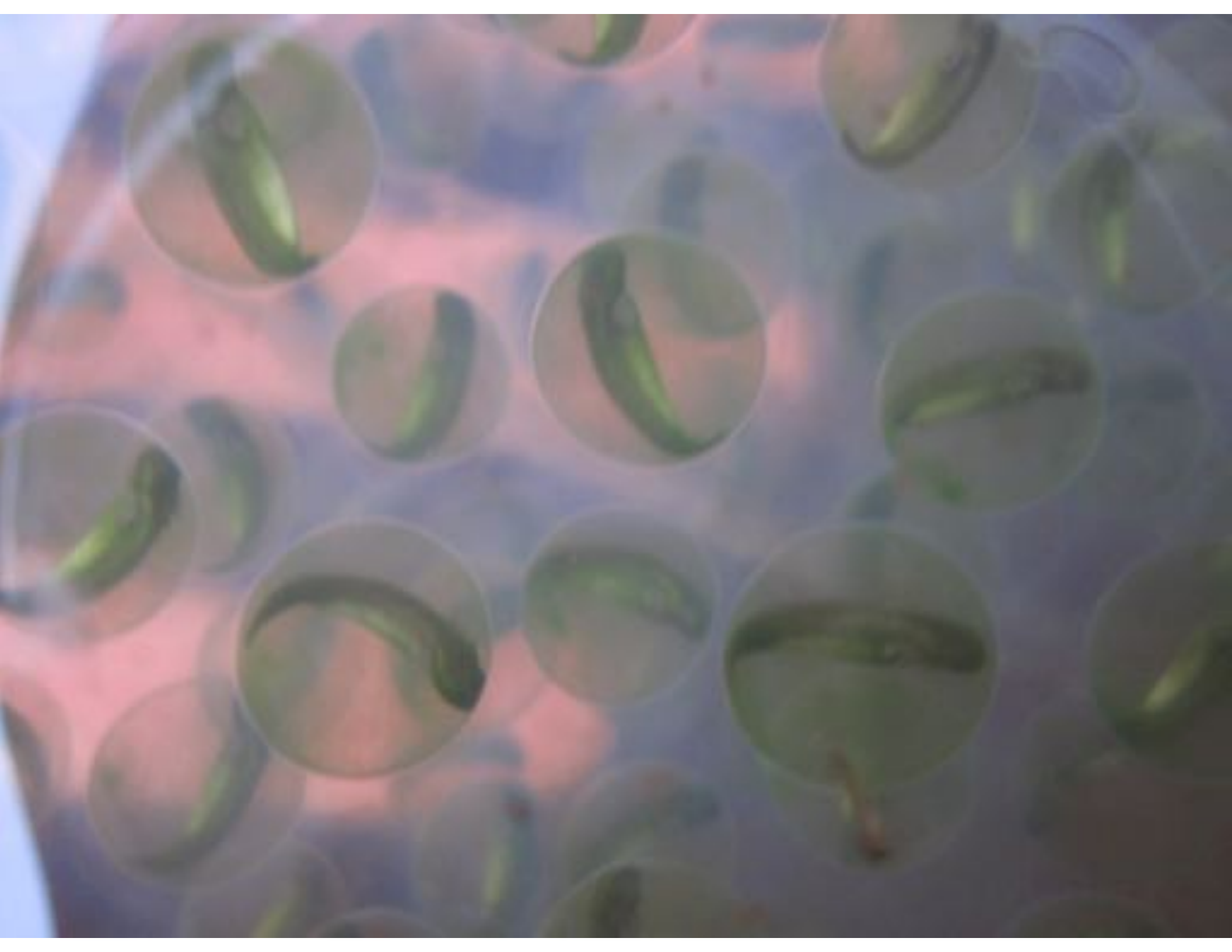
**Northwestern
Salamander**
*Ambystoma
gracile*







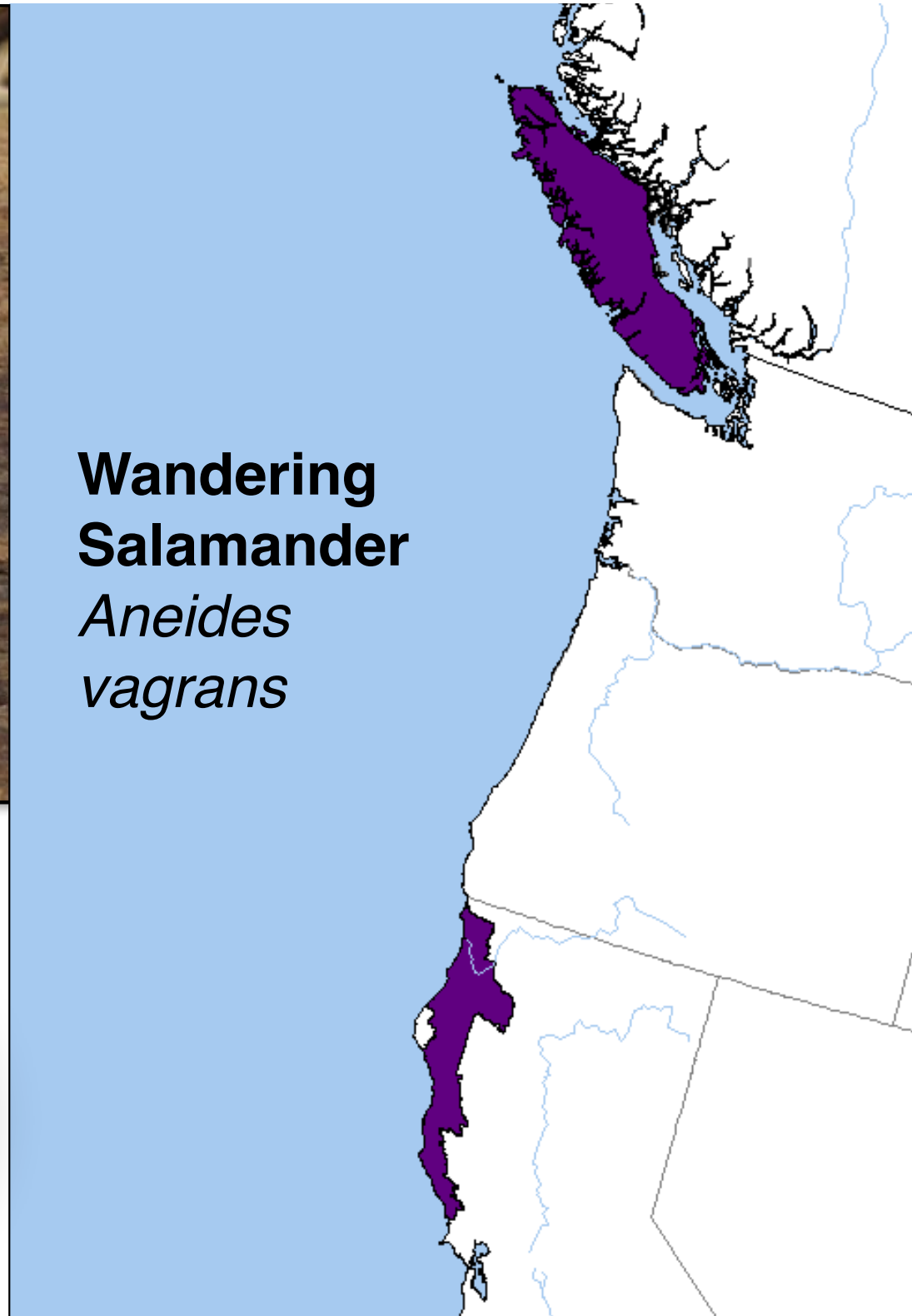








**Wandering
Salamander**
*Aneides
vagrans*



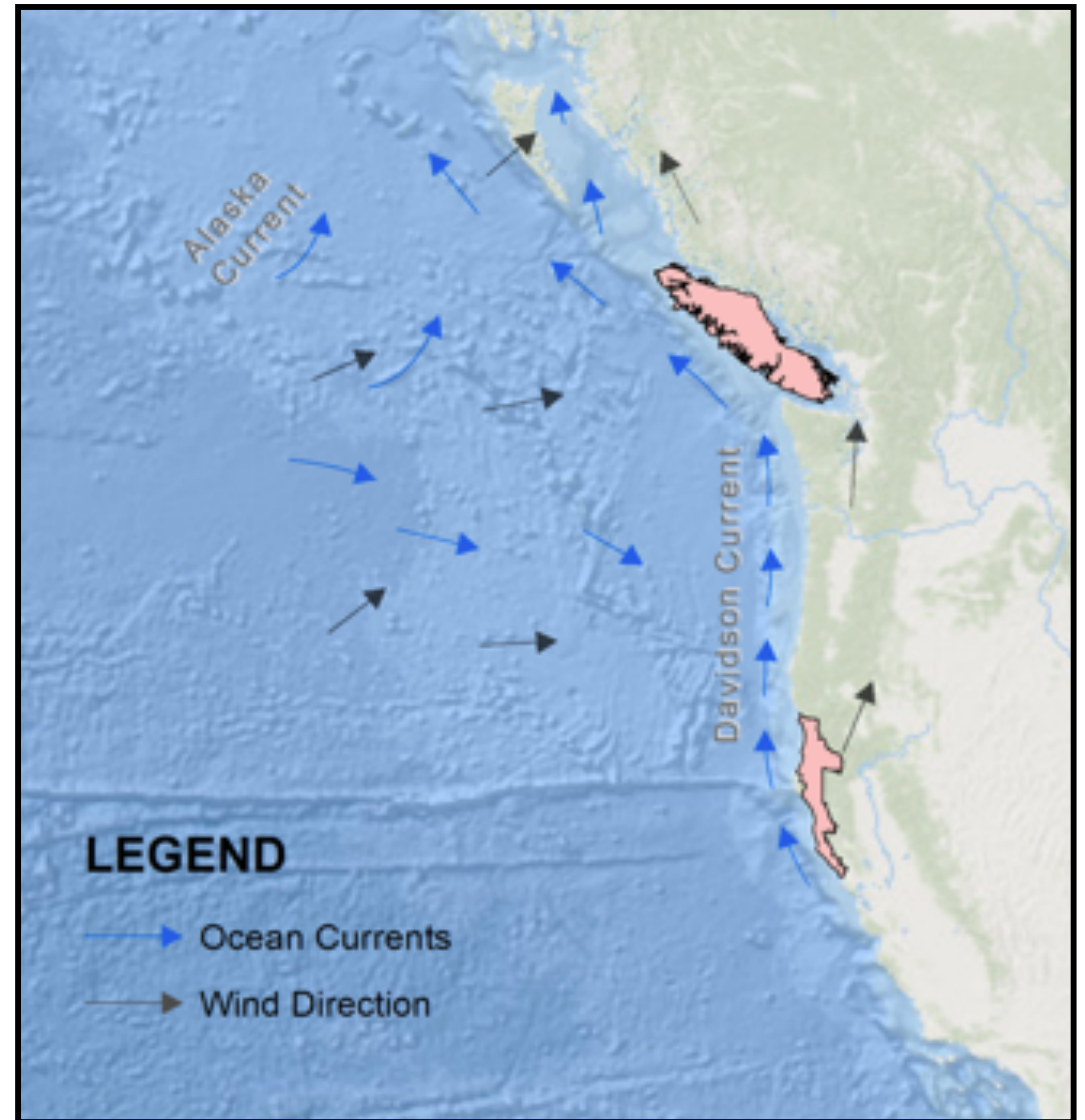


1 Survived in glacial refugia on Vancouver Island



2 Introduced in Tanoak bark at leather tanneries

Three Hypotheses for the Wandering Salamander's Disjunct Distribution



3 Drifted north inside drift logs in the Davidson Current

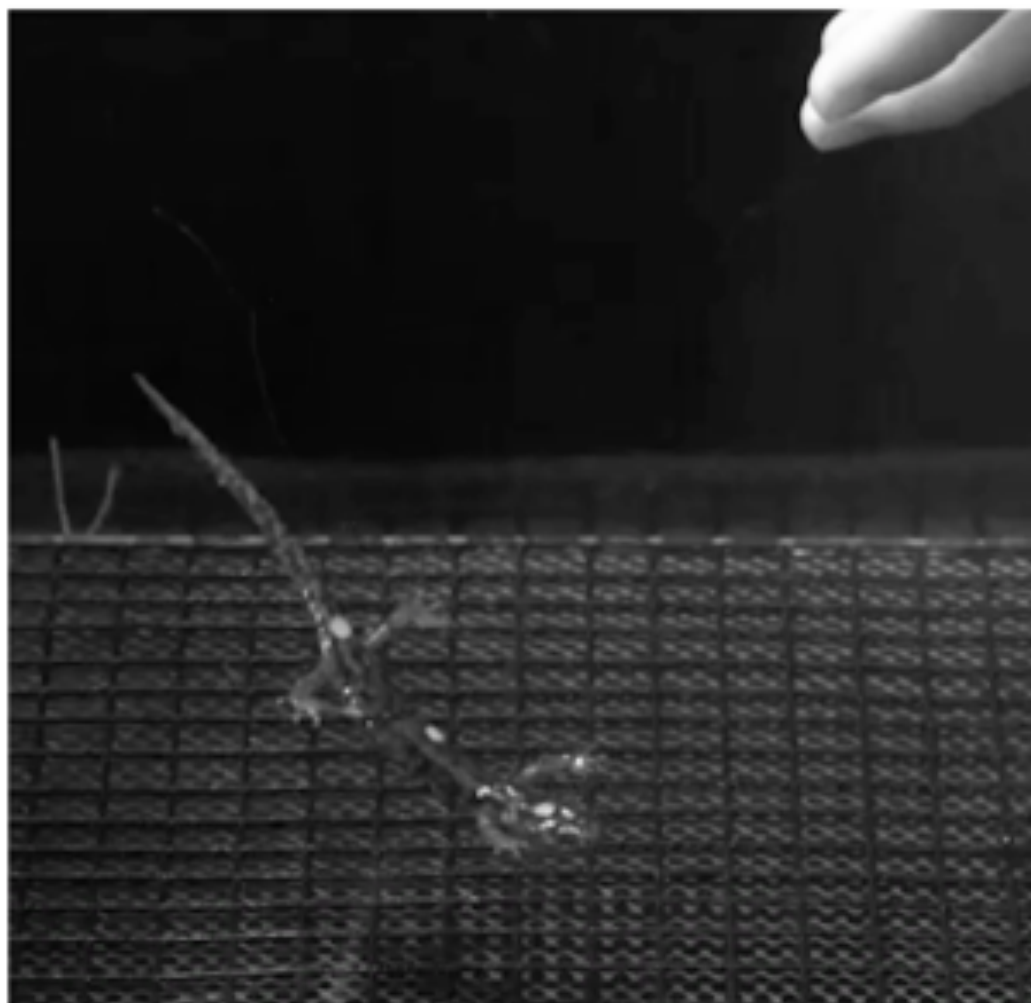


Skydiving Salamander.

With the greatest of ease it twists and turns from the tops of redwood trees.

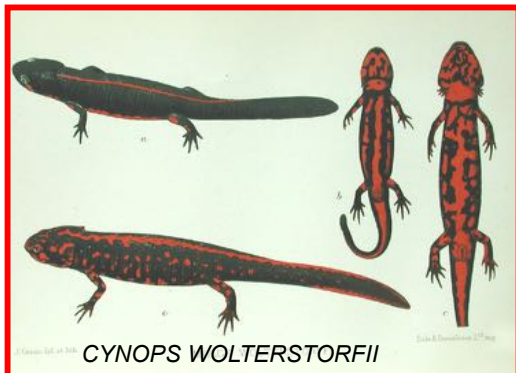
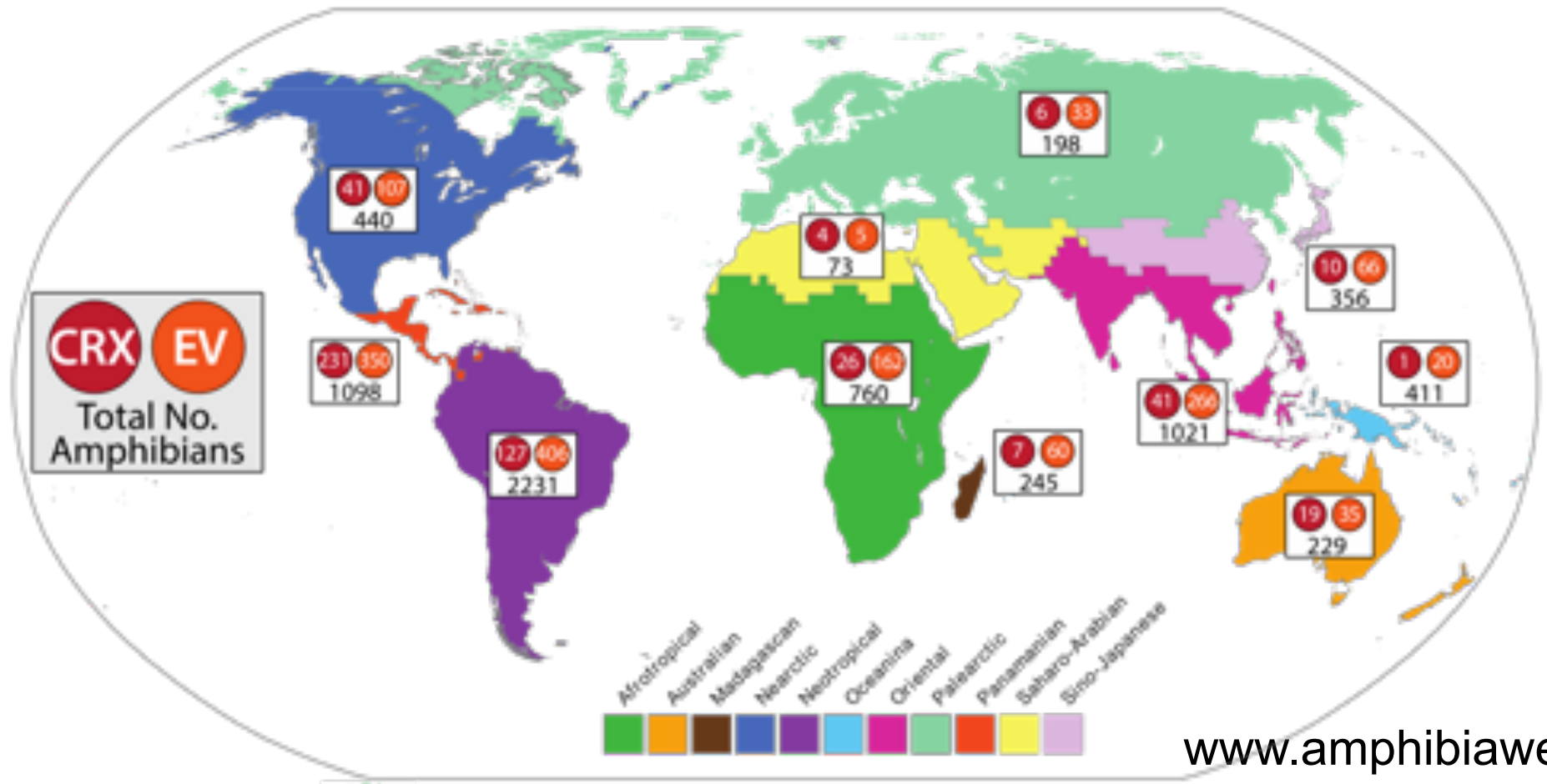


Give this article

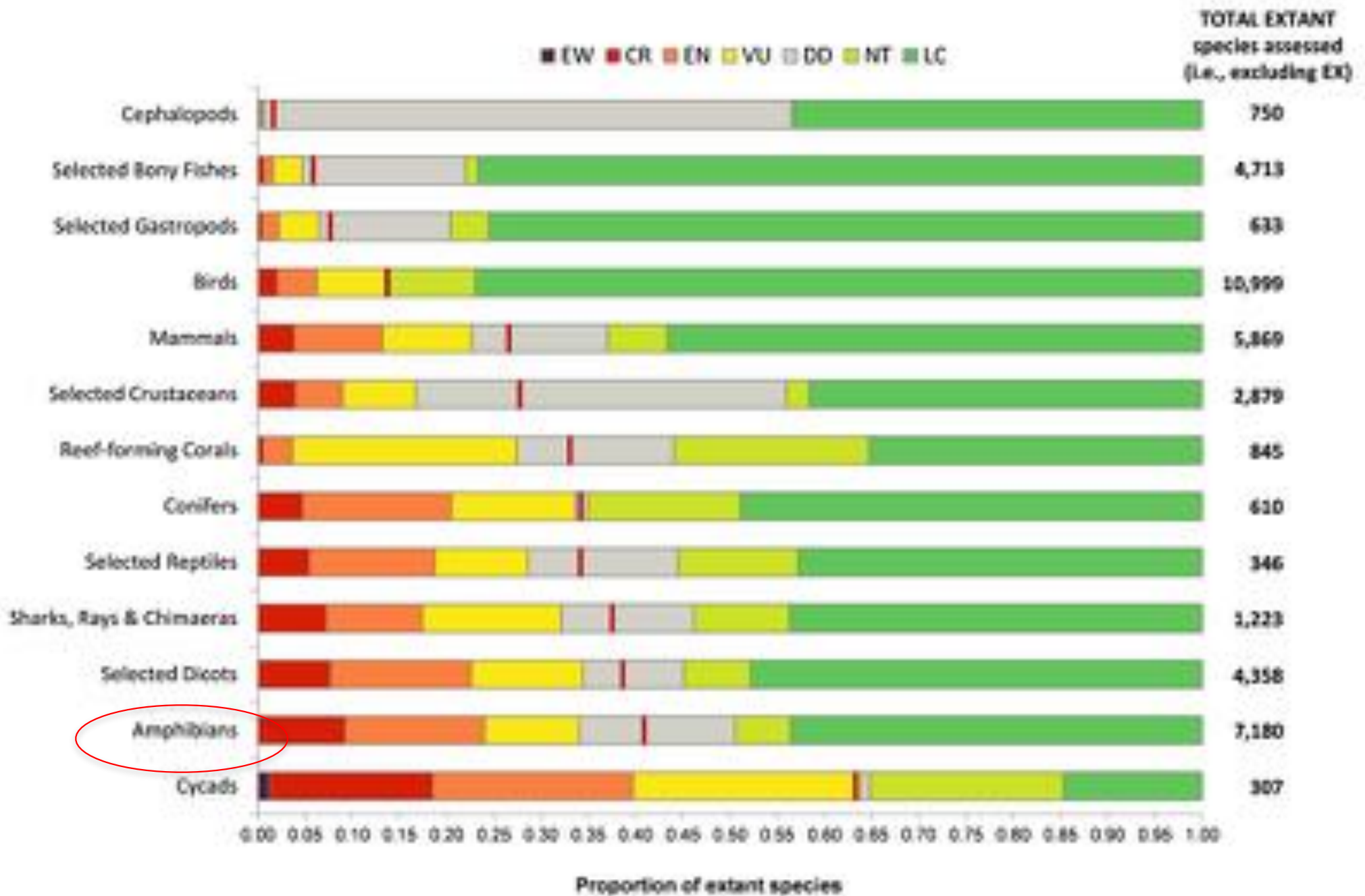


The graceful gliding of the wandering salamander in a wind tunnel. Video by Roxanne Makasdjian/Christian Brown.

Amphibians are in trouble around the world



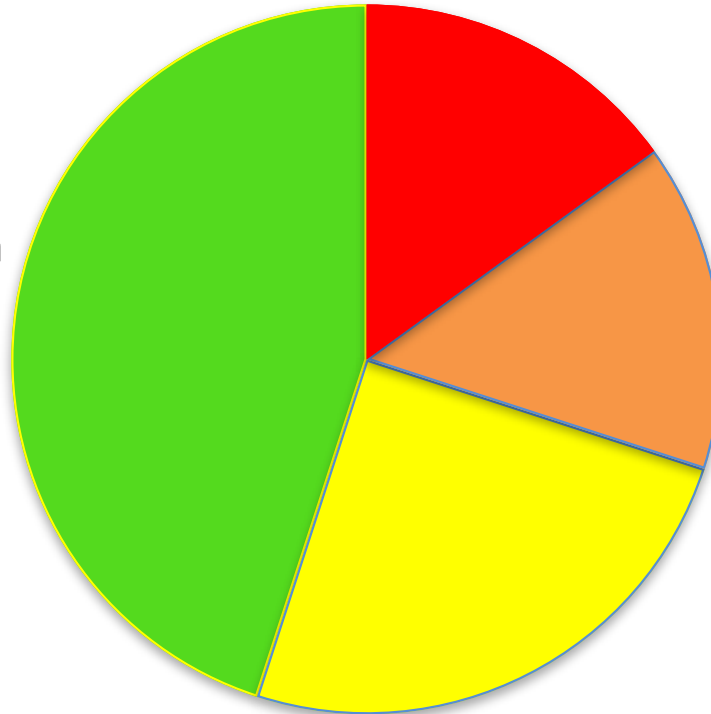
More amphibians at risk than most other taxa



>50% of BC's amphibians are at risk

**COSEWIC Level of Risk
for 20 BC species**

- Endangered
- Threatened
- Special Concern
- Not At Risk



Habitat Loss

Pollution

Disease

Climate Change

Roads

Invasive spp

T
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Projects to help conserve amphibians & their habitats



Surveys to identify important habitat



Photo Nicole Gerbrandt

Protection under the Forest and Range Practices Act

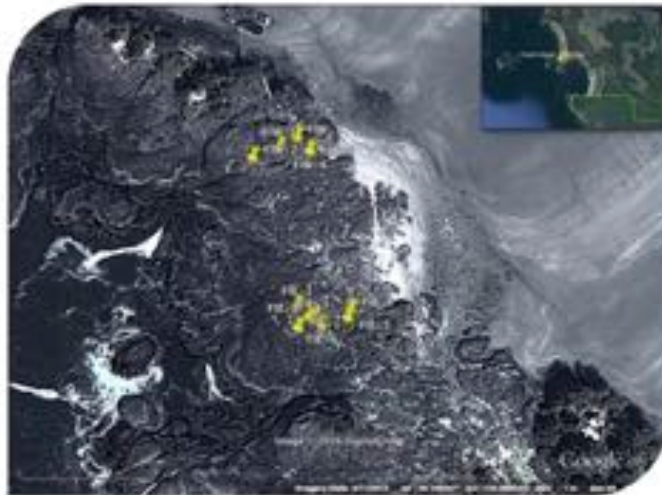


Outreach to District Councils & land use planners

Amphibian Breeding Sites in Tofino



Known breeding habitat for the Northern Red-legged Frog south of the Tofino Community Centre.

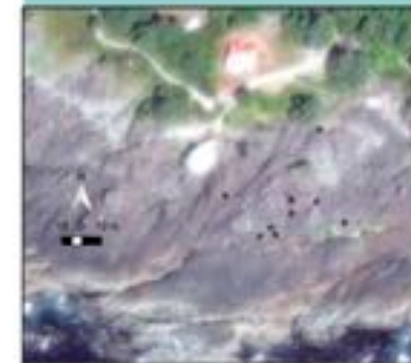


Spray zone ponds surveyed in 2016 for breeding Pacific Treefrogs at Frank Island, Chesterman Beach in Tofino.

Amphibian Breeding Sites in Ucluelet



Important breeding habitat for the Northern Red-legged Frog at the Ucluelet Aquifer site and around the Junction.



Sites where ponds in the spray zone were surveyed in 2016 for breeding Pacific Treefrogs and Rough-skinned Newts. Side map shows ponds at Amphitrite Point.

Helping Amphibians Cross the Highway







2012-04-25 9:17:00 PM T

±0 8°C



PC90HD COVERT PRO

RECONYX

2012-04-25 9:18:00 PM T

±0 8°C

PC90HD COVERT PRO

RECONYX

2012-04-25 9:19:00 PM T

±0 8°C

PC90HD COVERT PRO

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2012-04-25 9:20:00 PM T

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PC90HD COVERT PRO

RECONYX

2012-04-25 9:21:00 PM T

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RECONYX

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±0 8°C



PC90HD COVERT PRO

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RECONYX

Education & surveillance for bullfrogs



Massive bullfrog caught in small Beaver Creek pond

[Scott McKenzie](#) / Alberni Valley Times

June 11, 2014 12:00 AM



Russ Schut holds up a massive bullfrog he caught over the weekend. Photograph By Submitted

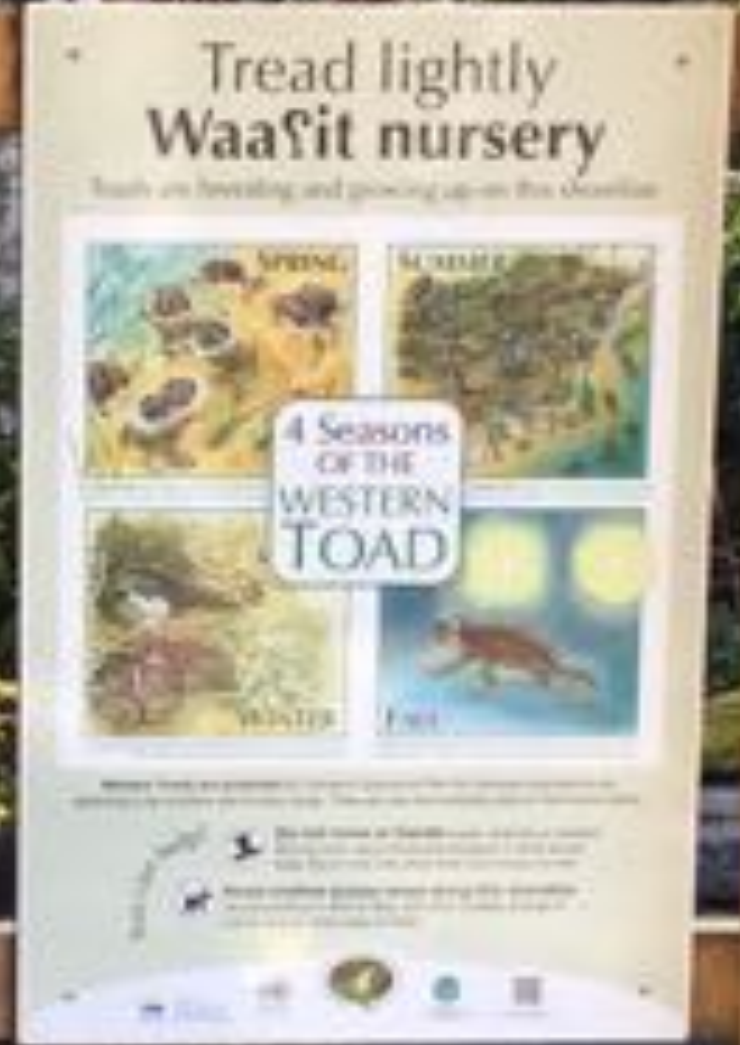


Protection of juveniles from trampling at recreational beaches



Restore riparian habitat & install barriers to improve juvenile survival





Raise awareness with educational signs, social media posts & on-line surveys to gauge what matters to residents

What you can do...



Protect habitat!

**Give
amphibians
space in
wetlands,
riparian areas
& forests**

Donating Land



Covenant Your Land



Conservation Covenants

A conservation covenant is a legal agreement designed to protect significant ecological values of a property. It is a voluntary agreement made between a landholder and one or two conservation organizations, such as the SSI Conservancy.

**Reduce
fertilizer &
pesticide
use!**

**Permeable skin
& egg capsules
make
amphibians
vulnerable to
chemicals**

JOURNAL ARTICLE

TOXIC EFFECTS OF THE HERBICIDE ROUNDUP[®] REGULAR ON PACIFIC NORTHWESTERN AMPHIBIANS

Jeffery J King and R Steven Wagner

Northwestern
Naturalist

Vol. 91, No. 3 (WINTER
2010), pp. 318-324 (7
pages)

Published By: Society
for Northwestern
Vertebrate Biology







**Keep
amphibians
wild in the wild!**

**Don't move
them from pond
to pond**

Report your sightings






Menu

Home > Environmental protection and sustainability > Plants, Animals & Ecosystems > Wildlife > Wildlife Data & Information >

- Human-Wildlife Conflict
- Wildlife Health
- Wildlife Conservation
- Wildlife Data & Information
 - Search for Wildlife Data & Information
 - Standards & Guidelines for Wildlife Data & Information
 - **Submit Wildlife / Plant Data and Information**
 - Data Submission Templates
 - Spatial Data Files
 - Submit Inventory Projects
- Wildlife Habitats
- Together for Wildlife

Submit Wildlife / Plant Data and Information



Anyone can submit wildlife and plant data to the province! If you have completed a scientific research project or just detected a species-at-risk in

Secure Data

Wildlife data and information submitted to the province will be publicly available; however, some data may be secured to protect a species or ecosystem from persecution or harm, for proprietary reasons or to protect government interests.

- [Find out more about the Species and Ecosystems Data and Information Security Policy](#)

Contact Information

If you have any questions, [contact the provincial specialist for wildlife species information.](#)

Welcome the beaver to your watershed!



Steve from Washington, DC, USA Wikimedia Commons (CC BY-SA)

How many species of beaver
are there in the world?

A.1

B.2

C.4

D.8

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True, or false - the beaver is
the largest rodent in Canada.

A. True

B. False

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A. True

B. False

What do beavers and frogs have in common?



- A.They can live as long as 12 years.
- B.They have webbed hind feet.
- C.They are ecosystem engineers.
- D.They are indicators of healthy wetland ecosystems.
- E.All of the above.

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Why do beavers build dams?

- A. To flood as much area as possible so they can swim everywhere.
- B. To keep the entrance of their lodge underwater to keep out predators.
- C. To store wood that they want to eat later.
- D. Because the sound of running water keeps them awake at night.



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Why are a beaver's front teeth yellow?



Sylvain Haye (CC BY-SA)

- A. Their teeth get stained by the tannins in the bark they chew.
- B. They don't brush after every meal.
- C. The enamel on their teeth is rich in iron.
- D. They are coprophagous, meaning they eat their own feces.

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Sylvain Haye (CC BY-SA)

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How many beavers live together in a lodge?

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- B. Only the male and female and their single kit.
- C. A family of 5 or 6.
- D. 25 when all the cousins come to visit.



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True, or false - a beaver can cut down 200 trees (some up to 5 feet in diameter) in a year.

A.True

B.False

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B.False

True, or false - beaver poop
can be used to start a fire.

A.True

B.False

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A.True ???

B.False

Thank you to our project supporters!



ANCIENT SPIRIT, MODERN MIND



Parks
Canada

Parcs
Canada

Recommended Resources

Corkran & Thoms 2006: field guide with species accounts & identification keys* (best guide for eggs & larvae).

• Matsuda et al. 2006: field guide for BC frogs & salamanders

Online:

<https://bcreptilesandamphibians.trubox.ca>

<http://www.amphibiaweb.org>

<http://www.sararegistry.gc.ca> (for species at risk)

<https://arcg.is/1OTWP8> (StoryMap on Wandering Salamander)

<https://arcg.is/Cn8Cf0> (StoryMap on the SPLAT Project)