

The background of the slide is a composite image. The left side, separated by a diagonal line from the top-left to the bottom-right, shows an aerial photograph of a suburban neighborhood with many houses and streets. The right side shows a close-up of purple flowers, likely Garry Oaks, with green leaves and stems.

The Battle for Biodiversity:

Garry Oak Ecosystems and Invasive Species

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Presentation Outline

- What are Garry Oak ecosystems?
 - Why are they important? Why are they disappearing?
 - Recent examples of local damage, degradation, and destruction
- Invasive species
 - How are they getting here?
 - Current regulations and cautionary tales
 - Impacts – Small and broad lens
- Landscaping with associated native plants / how to support GOE's

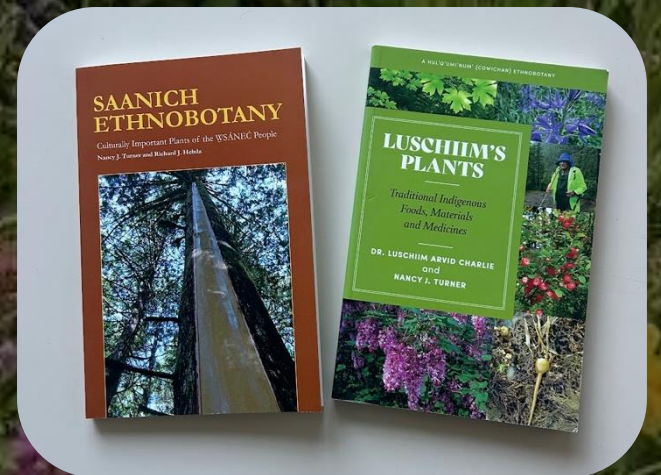
What is a Garry Oak Ecosystem?

- Ecosystems with naturally occurring Garry Oak trees, with some semblance of the ecological processes and communities that prevailed before European settlement - “Oregon White Oak”
- The most biodiverse terrestrial ecosystems in BC
- “Associated Ecosystems” – Rocky outcrops, coastal bluffs, maritime meadows, treeless grasslands, seasonal wetlands, etc.
- Deep Soil Sites (1.5%) and Scrub Oak Shallow Soil Sites (44%) - VI



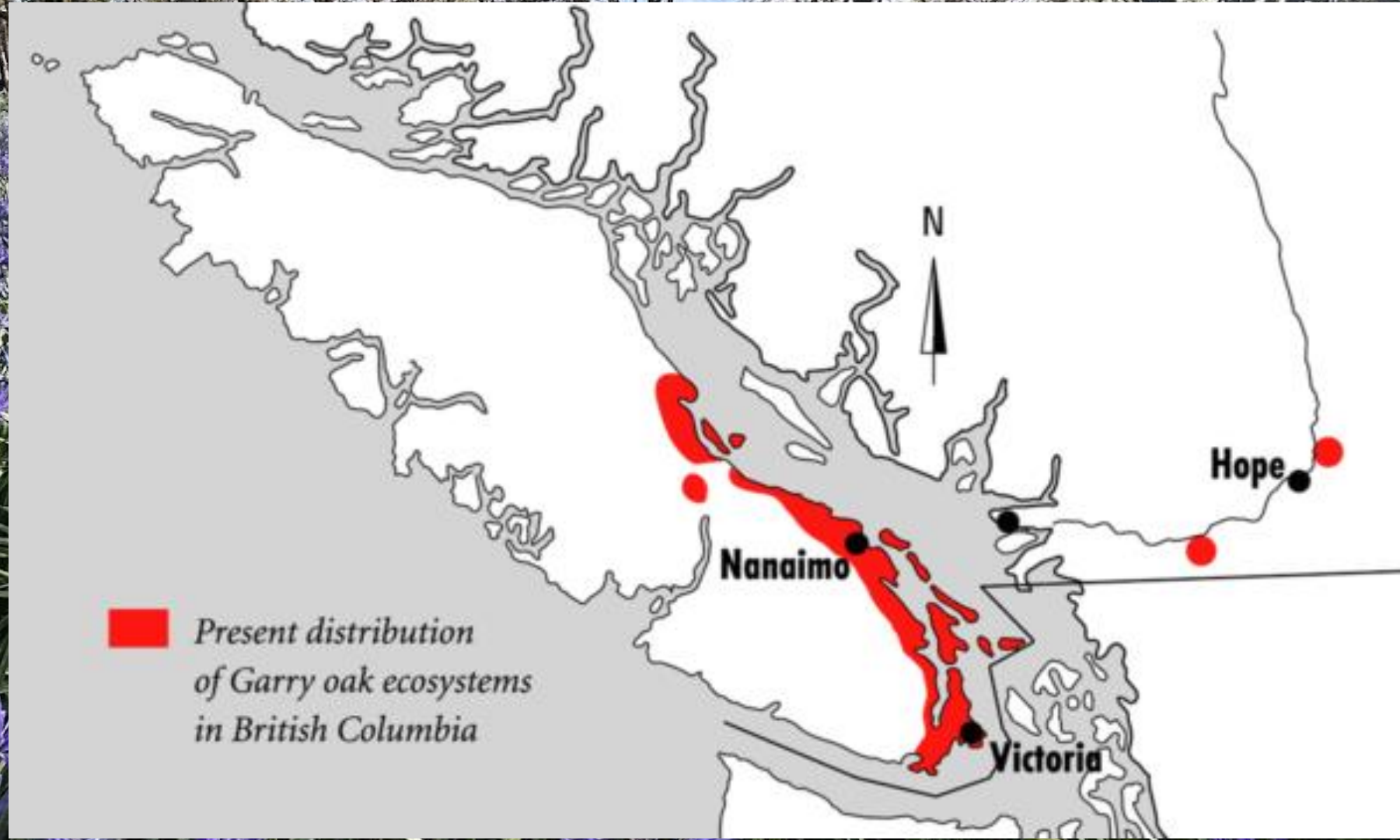
Eco-Cultural Landscapes

- The Coast Salish Peoples use low-intensity burning, weeding, selective harvesting, and seeding used to nurture the foods, medicines, and biodiversity found within Garry Oak ecosystems
- Coast Salish culture and Garry Oak ecosystems have co-evolved overtime – An eco-cultural landscape
 - CDF BEC Zone (0.3% provinces land area)
- Saanich Ethnobotany & Luschiim's Plants

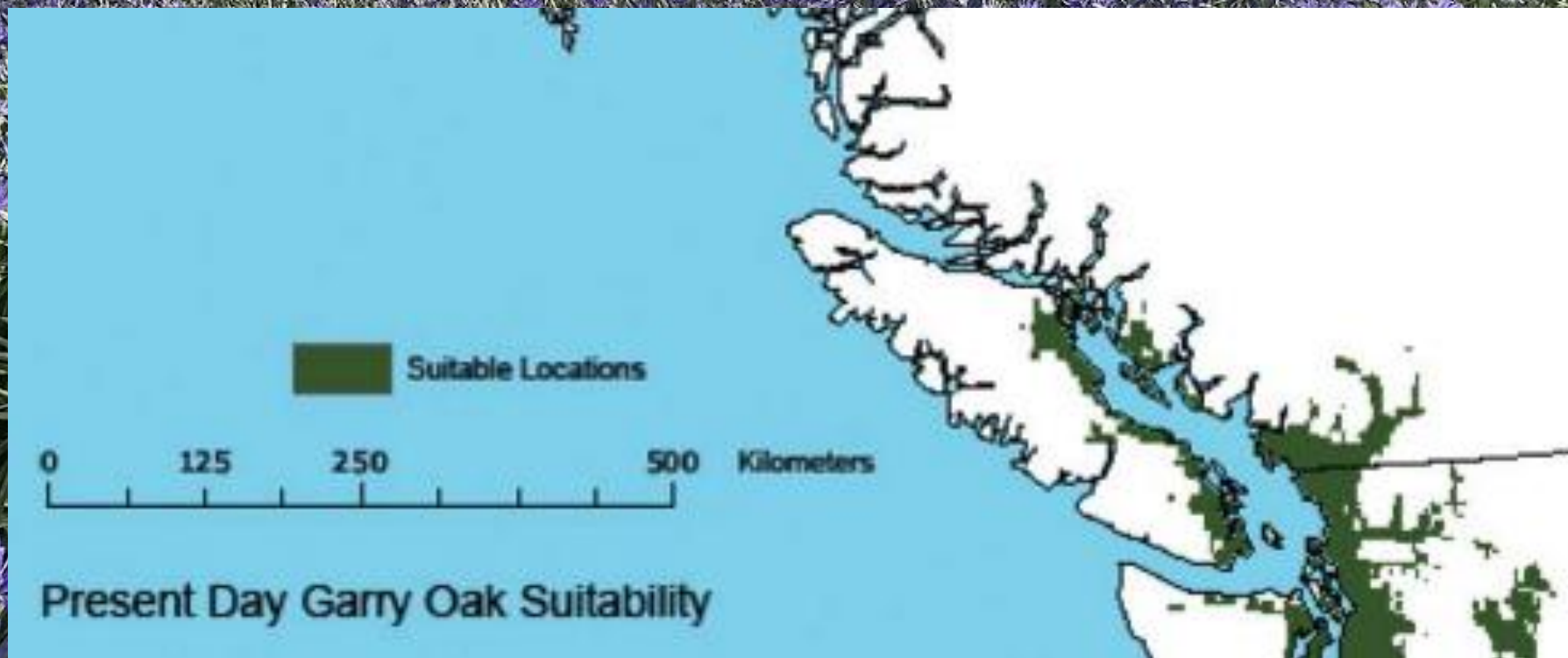


Why are GOE's Important?

- Species Diversity:
 - At least 694 species, subspecies, and varieties of plants
 - 104 species of birds, 7 amphibians, 7 reptiles, and 33 mammal species
 - 800 insect and mite species associated with the Garry Oak
 - Home to over 100 species at risk
- GOE's are predicted to expand their range under climate change conditions – They are inherently adapted to hot, dry summers
 - Nature-based solutions to combat the heat island effect in urban areas
 - Caveat – The associated biodiversity must be protected



Current Suitable Climates for GOE's (GOERT)



Great Camas



Spring Gold



Chocolate Lily



Woodland Star



Barestem Biscuitroot



White Fawn Lily



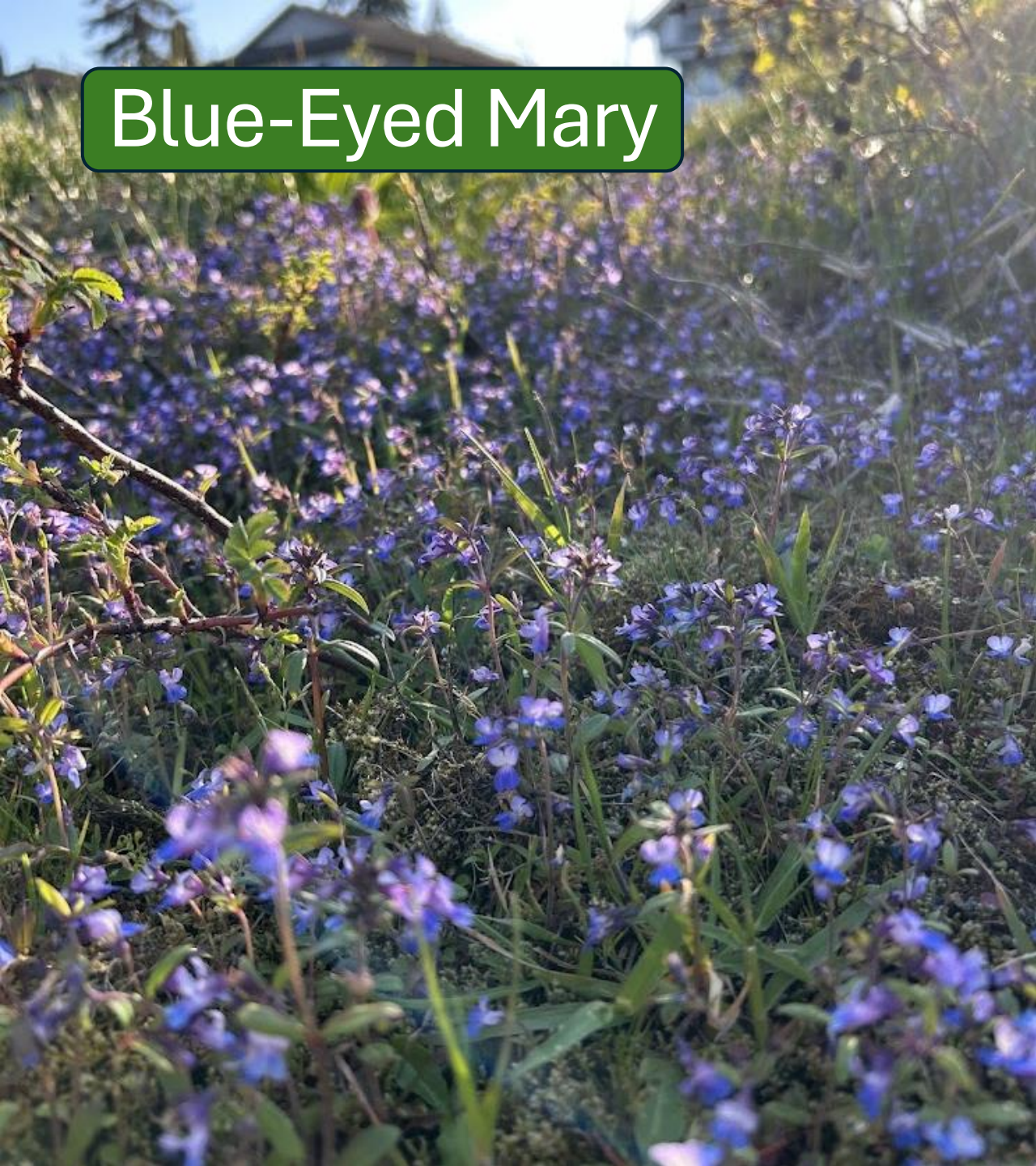
Sea Blush



Valley Tassels



Blue-Eyed Mary



Yellow Monkeyflower



Slimleaf Onion



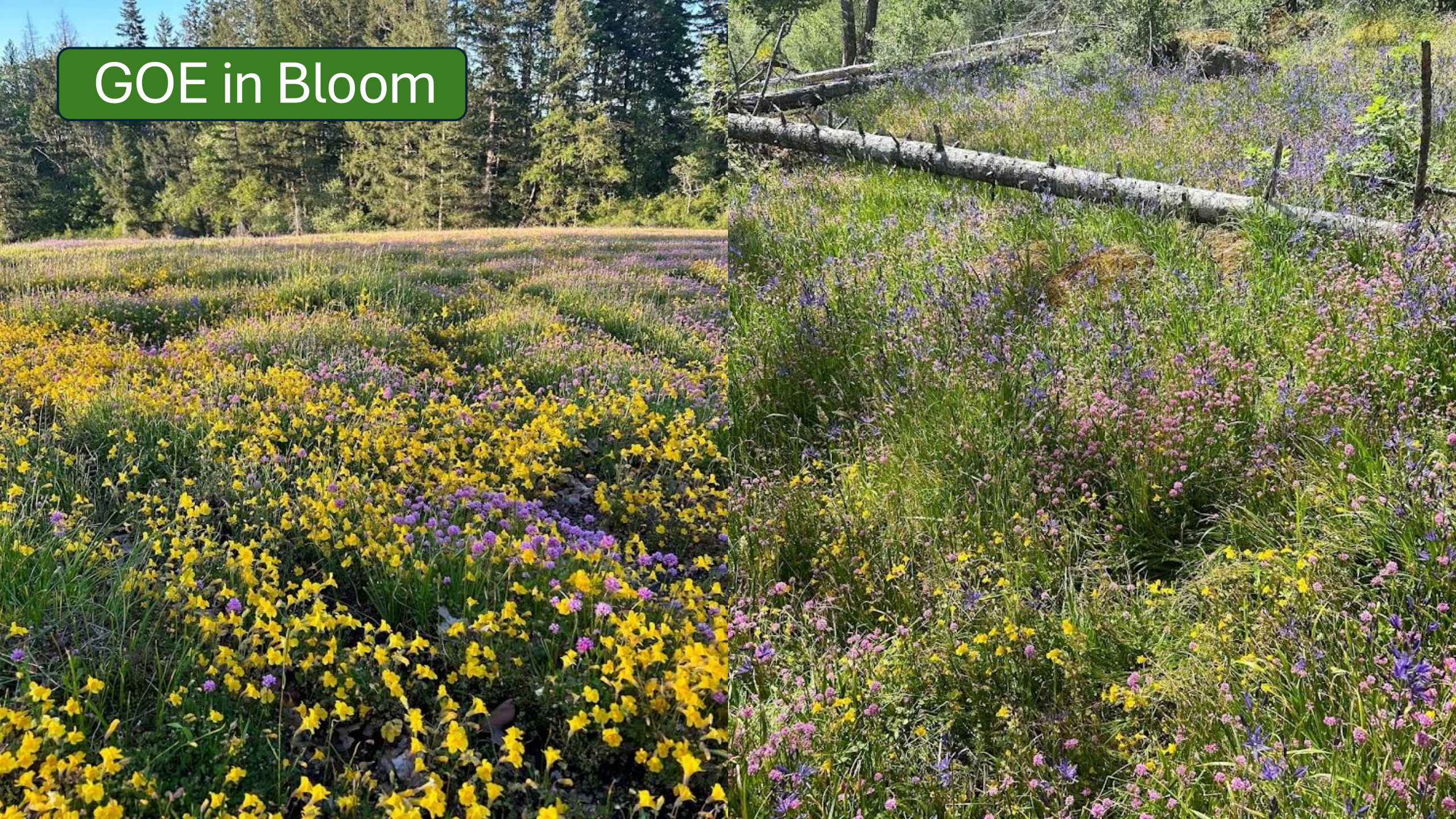
Broadleaf Stonecrop



GOE in Bloom



GOE in Bloom



GOE in Bloom





Something's Missing...



Retaining Only Garry Oaks is Insufficient



Why are they Disappearing?

- Colonization and land dispossession - Cultivated plants not recognized as cultivars, landscapes viewed as “laying waste”
- Land conversion to agriculture and urban development
- Fire suppression and encroachment of woody species
- Colonization by non-native and invasive species
- Trampling by people and pets
- Unfettered and unmonitored off-roading
- Overabundant deer populations
- Lack of legal protections, inadequate management

Housing Developments



2024



2025

Industrial Development



2025



PUBLIC HEARING APRIL 22, 2026

Rezoning Application No. RA503 – 950 Phoenix Way
"Zoning Amendment Bylaw 2026 No. 4500.249"
Rezone 950 Phoenix Way from Rural Resource [AR1] to Industrial [I4] with provisions (use, density, lot area, and lot coverage) and Parks, Recreation [PRC-1] to allow a future industrial and agro-industrial development.

2026

2024

Road Building



2022

2023

Off-Roading



2026



2023

Development Applications

LETTER: Stronger safeguards needed to protect Saanich's Garry oak ecosystems

Published 5:30 pm Sunday, March 29, 2026

Comment: Garry oak ecosystem is under great threat in Saanich

The dominant species in this area is Garry oak, and casual observations confirm that dozens of other species that co-evolved with this tree species are also present.



2026

2026



Trail Building

2025



2025

Plant Trampling



Plant Poaching and Picking



2026



2024

Invasive Species

- There are at least 173 invasive species identified in Garry Oak Ecosystems (GOERT) – Invasive plants include Scotch Broom, English Ivy, Daphne, Himalayan Blackberry, Spanish Bluebells, Gorse, Bur Chervil, Sweet Vernal Grass – With more each year
- While specific impacts can vary, the theme is the same - Overtime, they are displacing and replacing native plant communities

Scotch Broom

A landscape photograph showing a forest clearing. The left side of the image is dominated by dense, dry, brownish-grey bushes of Scotch Broom. The right side of the image shows a cleared area with bright green moss and grass. Tall evergreen trees are visible in the background. The image is split vertically to show the 'Before' and 'After' states of the clearing.

Before

After

Daphne

Before

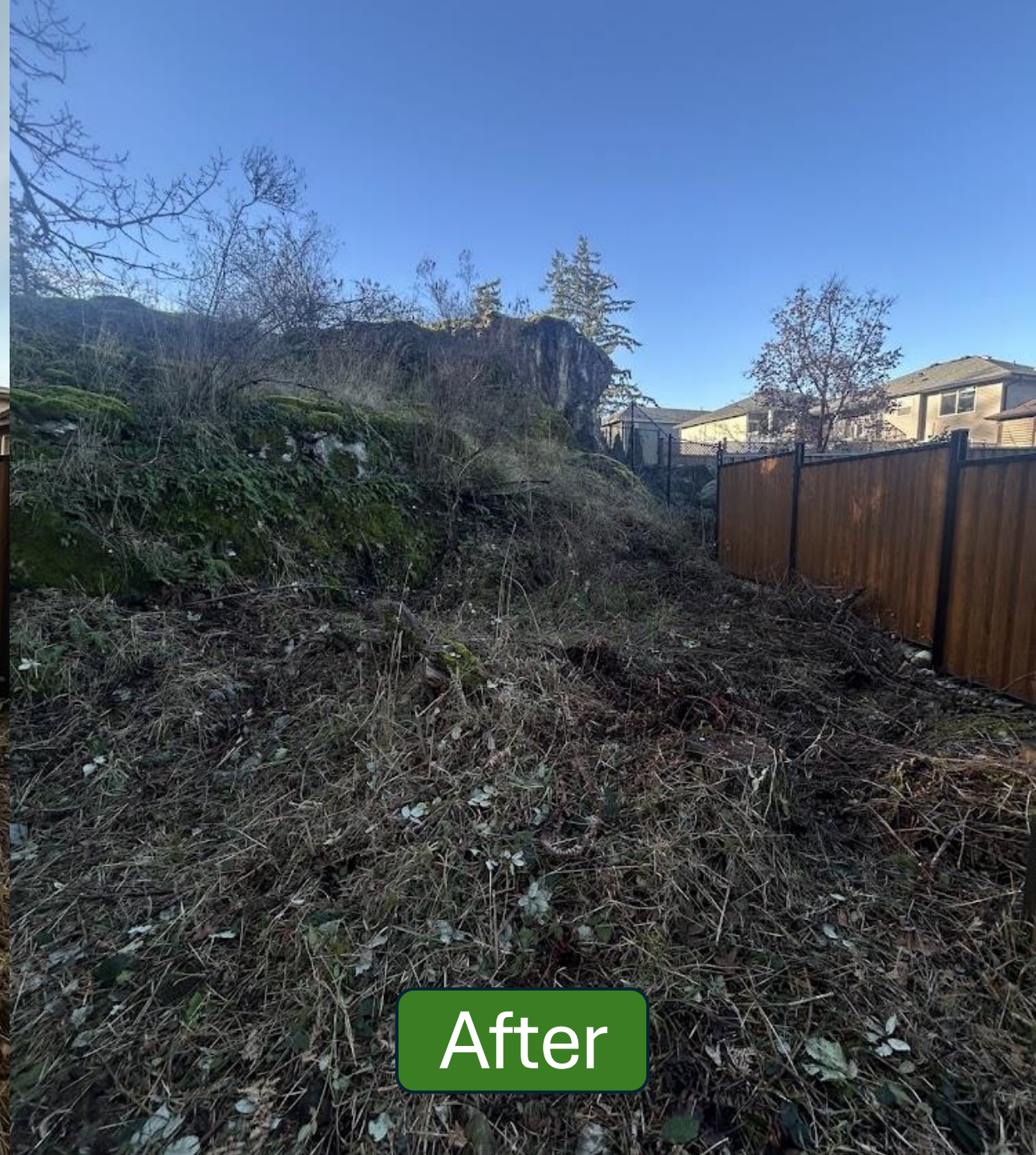
After



Himalayan Blackberry



Before



After

Sweet Vernal Grass

Before

After

How are Invasive Species Getting Here?

- Early explorers, settlers, and governments planted things intentionally - Scotch Broom and Captain Walter Grant (1850)
 - Ecological Imperialism
- Urbanization, international trade, resource extraction, tourism and recreation – Acting as major vectors and pathways for spread
- Mild weather in Southwestern BC
- Horticultural industry – Primary pathway for introduction / spread



The Landscape is Fundamentally Changed



Inadequate Invasive Species Regulations

- Many invasive species are still commercially available in 2026
- There is no provincial legislation banning the sale or trade of invasive species, despite communities asking for almost 20 years
- Municipalities do have the power under the *Community Charter*, Spheres of Concurrent Jurisdiction Environment and Wildlife Regulation to “...regulate, prohibit and impose requirements...” “...the sale of wildflowers” – City of Nanaimo leading the way



Cautionary Tales

- Invasive species availability is often seasonal in nature
- "Seedy Saturdays / Sundays" events often have invasive species
- Phrases like "Fast Growing" or "Rapid Groundcover" = Alarm bells
- Look for excessive or absurd "pollinator" marketing, unique names ("Nanho Blue" instead of "Butterfly Bush"), and avoid purchasing any product without species names present - "Wildflower Mix"

A photograph of a large tree trunk in a forest, heavily covered in dense ivy. The ivy leaves are green and have a characteristic five-lobed shape. The tree bark is dark and textured. In the background, other trees and foliage are visible, suggesting a wooded area.

Invasive Species – Small Lens

Impacts to SAR



Cultural Impacts



Increased Fire Risk



Man arrested after multiple fires set in Nanaimo

Published July 4, 2023 4:27 p.m. ET

Updated July 4, 2023 6:06 p.m. ET

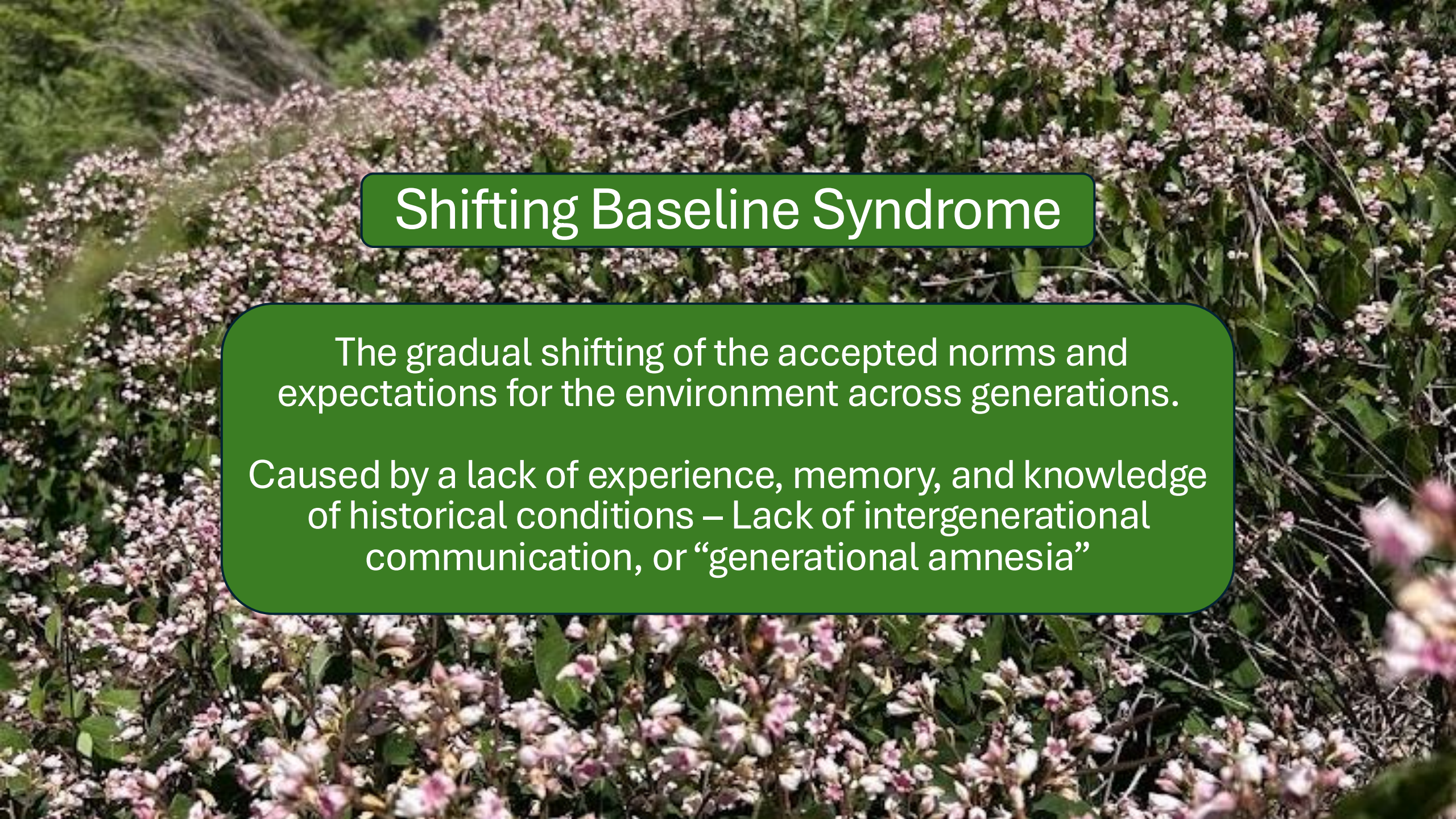
By **CTV News Vancouver Island**
Staff

Share this story:



A close-up photograph of a plant with thick, green, lanceolate leaves. The leaves are arranged in clusters along a brown stem. Some leaves show signs of being eaten, with small holes visible. The background is blurred, showing more of the same plant and some dry grass.

Invasive Species – Broad Lens



Shifting Baseline Syndrome

The gradual shifting of the accepted norms and expectations for the environment across generations.

Caused by a lack of experience, memory, and knowledge of historical conditions – Lack of intergenerational communication, or “generational amnesia”

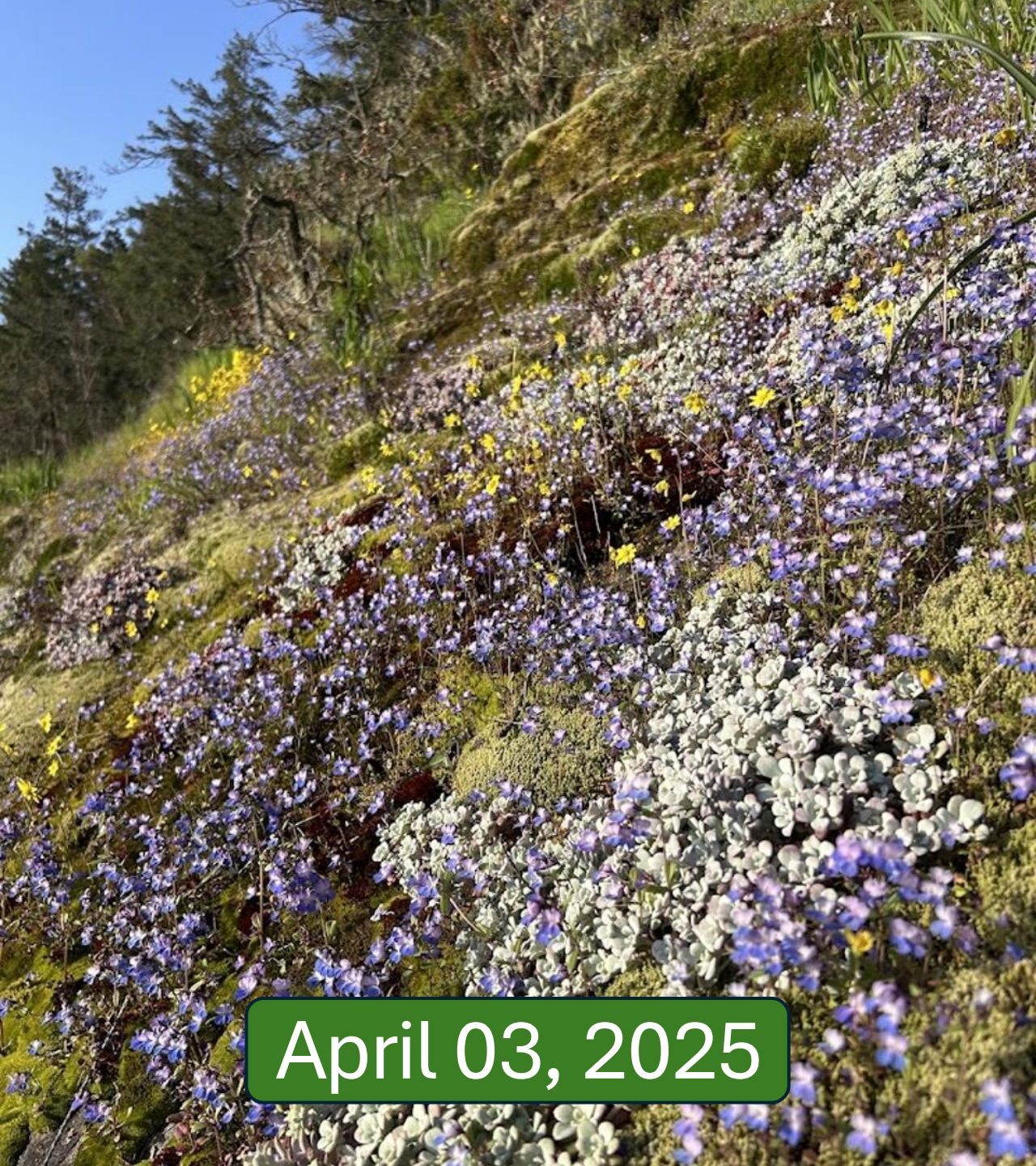
Common Spring Gold





Nanaimo, BC

February 25, 2026



April 03, 2025

Campbell River, BC

May 1980

Photo: Diana Thompson

A Nature Guide to ...

WOODHUS SLOUGH



... through the seasons

Feb 24



Mar 16



Mar 22



Apr 04



Feb 24



Mar 16



Where's the Common Spring Gold?

Mar 22

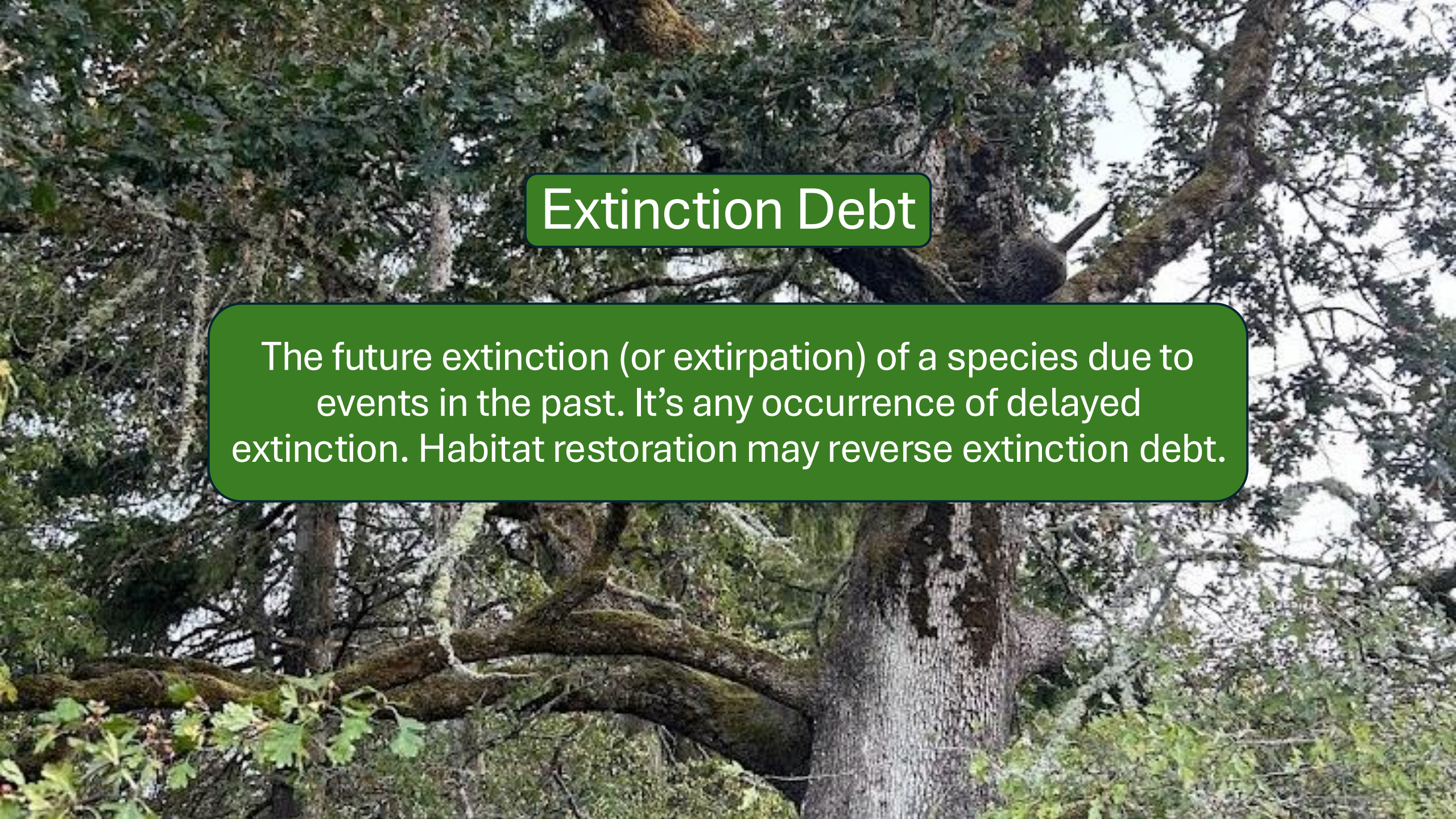


Apr 04



Campbell River, BC



A photograph of a dense forest with large, moss-covered trees. The image is used as a background for the text overlay.

Extinction Debt

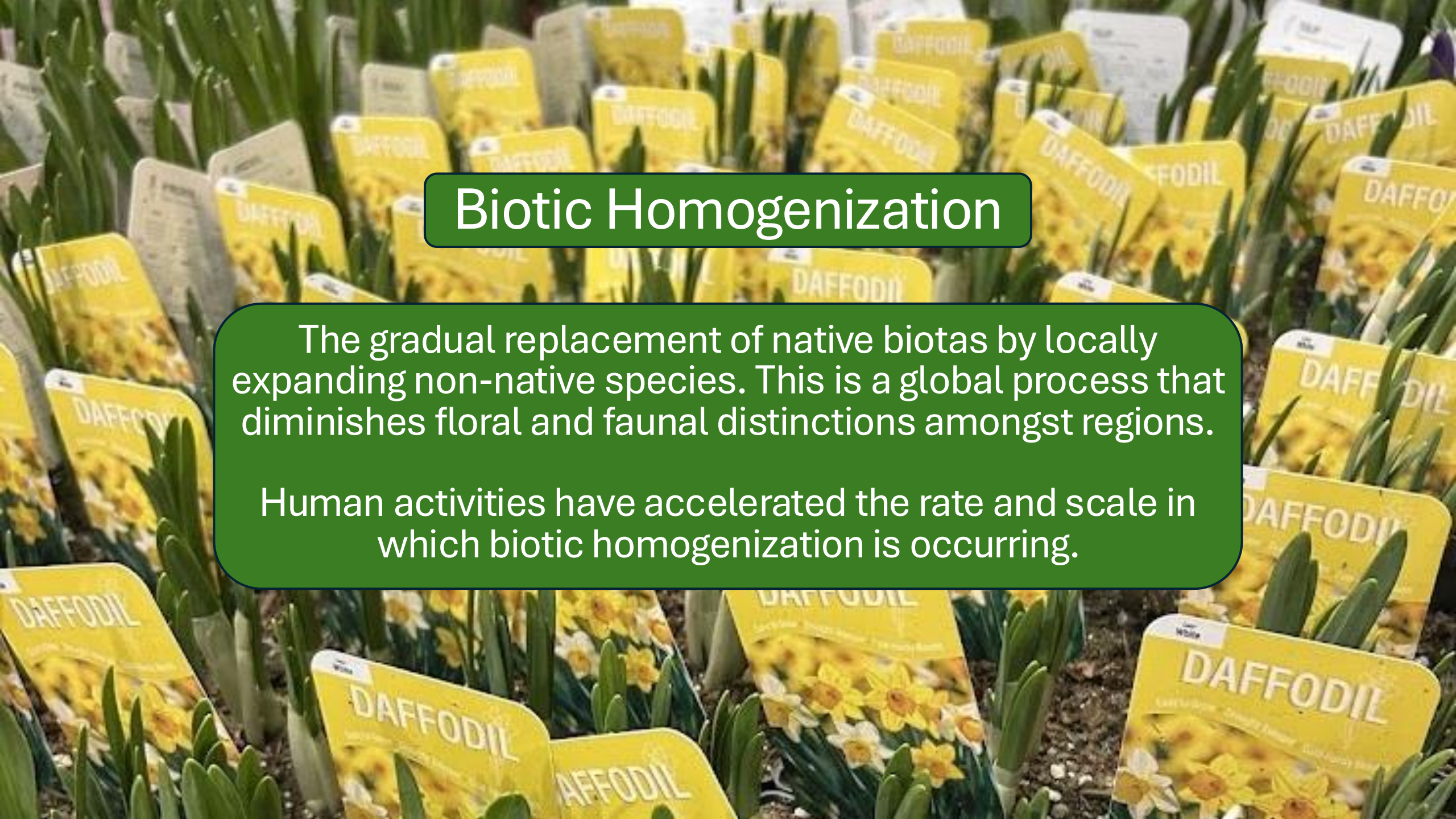
The future extinction (or extirpation) of a species due to events in the past. It's any occurrence of delayed extinction. Habitat restoration may reverse extinction debt.

Garry Oak Trees



Dense-Spike Primrose



The background of the slide is a photograph of a field of daffodils. Numerous yellow plastic plant markers are stuck in the ground among the green leaves and yellow flowers. Each marker has the word 'DAFFODIL' printed on it in bold, black capital letters. The markers are arranged in rows, suggesting a nursery or a research plot. The overall scene is a dense field of these plants and markers.

Biotic Homogenization

The gradual replacement of native biotas by locally expanding non-native species. This is a global process that diminishes floral and faunal distinctions amongst regions.

Human activities have accelerated the rate and scale in which biotic homogenization is occurring.

Standardized Landscaping



Protected Areas – Not Enough

- Most protected areas too small to protect viable, long-term populations of many species
- Many species are attracted to resources outside of protected areas
- Many species migrate between protected areas
- In the future, at least 70% of the world's land will exist outside of protected area - The “wild” must include private properties

A chain-link fence runs diagonally across the frame, separating the foreground from the background. The background shows a blurred industrial or construction site with wooden pallets and some greenery.

Castle Conservation

The belief that ecosystems and biodiversity are best protected by creating protected areas separate from human disturbance.

This fundamentally is at odds with ecosystems dependent on Indigenous Peoples and their cultural practices to exist.

The caretakers are removed from the food system.



Resilience and Functional Redundancy

E. ptilota



E. alsinoides



E. guttata



B. ferulifolia



Extreme Weather Event

"Function" Persists

Planting for Pollinators

- British Columbia has nearly 600 species of native bees, each with their own unique habitat, forage, and nesting preferences
- Specialists rely on either a single plant species, or a group of closely related plant species, to complete their lifecycle
- When we plan for specialists, generalists also benefit

Ocean Spray Fairy Moth



Death Camas Miner Bee



Photo: Thompson Hyggen

White-Crossed Seed Bug



Sara Orangetip



Photo: Donna Pomeroy

Oak Treehopper



Garry Oak Meadow Installation - September



Garry Oak Meadow Installation - October



Garry Oak Meadow Installation - October



Garry Oak Meadow Installation - January



Garry Oak Meadow Installation - February



Garry Oak Meadow Installation - April



Garry Oak Meadow Installation - May



Garry Oak Meadow Installation



Before



After

Steps for Success

- Density of plants, plugs, and seeds from the start
- New puppy is keeping deer browse in check
- Conifer encroachment not large concern – Proximity to ocean
- Mature trees and shrubs on site – Soil health, shade, moisture, etc.
- Follow-up weeding completed, early and often
- Easy access to water during droughty conditions
- Landowners actively learning and engaging the community

Supporting Garry Oak Ecosystems

- Choose to landscape with associated native plants
- Advocate for areas under threat – Cable Bay, Harewood Plains, etc.
- Support local environmental non-profits and stewardship opportunities, especially those Indigenous-led
- Report invasive species – Report Invasives BC App / iNaturalist
- Help stop the spread of invasive species - Play, Clean, Go
- Push for more encompassing invasive species regulations

Summary

- GOE's are biodiverse, culturally important spaces
 - Lead drivers of loss - Land development, fire suppression, invasive species
- There are a variety of invasive species threatening GOE's
 - Impacts to SAR, cultural impacts, increased fire risk
 - Shifting baseline syndrome, extinction debt, biotic homogenization
- There are a variety of avenues that the everyday person can support GOE's – Through stewardship, advocacy work, community science

A dense field of wildflowers, including purple, pink, and yellow blooms, with a green text box in the center.

Any Questions?