

Restorative Forestry

A Guide for Landowner Forest Stewardship on Galiano Island



Learn about:

- forest ecology
- restoration practices
- ecological fuel management
- landowner resources



Galiano
Conservancy
ASSOCIATION

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Restoring the Balance q'úyél q'úwen

is an Indigenous-led, collaborative project that aims to improve the health and resilience of Galiano's forest ecosystems through community-led stewardship activities and workshops with local Indigenous rights holders. We have three focus areas for land stewardship:



Stewardship of Forests focuses on addressing the impacts from decades of destructive logging practices and neglect, accelerating the development of old-forest characteristics in younger stands



Stewardship of Deer focuses on returning balance to the island's hyperabundant deer population, benefiting biodiversity and local food sovereignty



Stewardship of the Understorey focuses on the revitalization of biodiversity on the forest floor, improving habitat and reviving traditional foods, medicines, and crafts

Restorative Forestry - also referred to as ecological forestry or regenerative forestry - integrates all three of these stewardship focus areas.

Unhealthy Forests

Crowded Conditions

Between 1960s and the early 2000s, about 50% of Galiano's forests were clear-cut. Much of this area has regenerated to dense, young Douglas-fir monoculture forests. These simplified stands consist of one conifer species growing at high density. Because they are crowded so close together, the trees are often stressed and cannot grow to a large, healthy size. Light is blocked from reaching into the understorey, resulting in dimly lit, bare, dry forest floor devoid of healthy undergrowth.



Risky Business

In young monoculture forests, the fuel load is high and the forest floor's moisture retention is diminished. Dead branches and small dead trees create a fire ladder connecting the ground to the canopy. Wildfires can move rapidly through these spindly trees, generating intense heat. Monocultures are also susceptible to pest outbreaks and diseases, such as root rots. In a changing climate, many of these forests may not reach maturity without some assistance from us.



Restorative Forestry

Restorative forestry reintroduces diversity into monoculture stands to promote long-term resilience and productivity.



Principles

Let the light back in

Remove dead suppressed trees and some living canopy trees to create gaps for light to enter.

Preserve diversity and legacy features

All forests have some existing habitat value. Preserve old trees, deciduous trees, shrubs, and large snags.

Knock down ladder fuels

Remove dead tree branches up to 2 - 3 m to reduce vertical fuel continuity.

Manage fine fuels

Process dead branches and tops into wood chips, biochar, nurse logs, or bioswales.

Retain and distribute logs

Larger logs can be left to rot on the ground, creating habitat and replenishing the soil.

Create legacy features

Big trees can be topped or girdled to accelerate the development of standing dead wildlife trees for cavity nesters.

Logs and wood chips can be combined to generate assembled nurse logs.

Reduce deer pressure

Installing barriers or partnering with local hunters will ensure that the forest can regenerate.

Support livelihoods

A percentage of trees can be sustainably harvested for firewood or building materials to help cover the costs of the work and generate employment.



Demonstration Sites

Come for a walk in the woods at a demonstration site to see restorative forestry in action!

Pebble Beach Reserve

Following extensive clear-cut logging and soil disturbance during MacMillan Bloedel's tenure, the GCA has been applying restorative forestry to the Douglas-fir plantations of the Pebble Beach Reserve since 2004. This is one of the longest-running forest restoration sites on the coast.

Quadra Hill Nature Reserve

This former MacMillan Bloedel forest lot also experienced extensive clear-cut logging, followed by gravel extraction and wetland drainage. Today, it is an active restoration demonstration site, showcasing a variety of distinct approaches to thinning and ecological fuel management.

Community Forest

Sections of the Community Forest are also undergoing restorative forestry treatments, including selective harvest of thinned stems for firewood and local building materials.

Galiano School

The Galiano School is a demonstration site for simple, low-cost ecological fuel management to minimize wildfire and ignition risk.





Young Douglas-fir Monoculture

where the sun don't shine

These dark, claustrophobic stands are a legacy of clear-cut logging, and they have low habitat value. The understory is bare, and not many animals or plants live here. There is no guarantee that they will mature into healthy forests without assistance, because they are highly susceptible to root-rot disease, pest outbreaks, and wild-fires. Many were purposely planted to be clear-cut again on a short rotation. Stands like this have high fuel loads, high fuel continuity, and pose a danger to our community.



Restored Forest

where we work together

How do we restore a forest? There are many tools we can use, but the central focus is always to create **space** for natural recovery, and to mimic natural disturbance to accelerate that recovery. Here are some of the practices we employ:

Variable Density Thinning



To let the light in and make space for diversity, we need to remove some of the Douglas-fir trees. We can harvest some for firewood or construction materials, and leave the rest on the ground to feed the soil and create habitat. Girdling and topping standing trees can also thin the canopy slowly while creating valuable standing dead trees for nesting habitat.



Enhancing Existing Diversity

Even the most simplified stands still have elements of biodiversity. By noticing and preserving these features, we preserve seed and food sources that will catalyze recovery after we've thinned the forest.



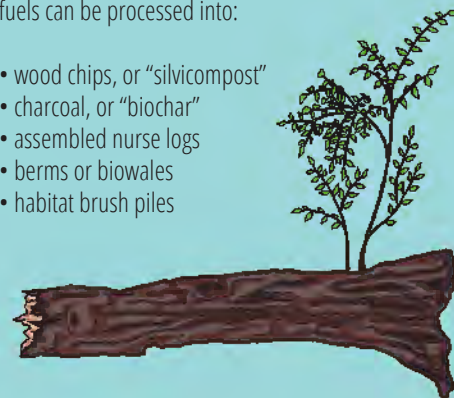
Planting in Gaps

Sometimes, there are not enough remaining seed sources to enable recovery of a healthy forest. We can add diversity by planting deciduous trees and shrubs in the larger gaps we create through thinning. These plants will create food and nectar sources for wildlife, and reduce wildfire risk.

Ecological Fuel Management

Thinning removes ladder and canopy fuels, but leaves a lot of material on the ground. The larger logs can be left in place to rot and become nurse logs, but excess fine fuels can be processed into:

- wood chips, or "silvicompost"
- charcoal, or "biochar"
- assembled nurse logs
- berms or biowales
- habitat brush piles



Hunting and Natural Predation

To ensure that a diversity of trees and shrubs can grow in the light-filled gaps we create through thinning, we need to reduce the density of deer on the landscape. Hunting and natural predation can return balance to the deer population. Hunting is also an important contributor to food security, and supporting Indigenous-led deer harvesting is key to meaningful reconciliation.



Mature Forest

where the wild things are

This is the future we are working to create in our forests through proactive restoration and thoughtful stewardship. The structure is open, with light-filled gaps and shady patches. A variety of evergreen and deciduous trees make up distinct canopy layers, and a rich understory has developed. Many different kinds of animals and plants can find homes here. We can practice ecological forestry to selectively harvest trees, bark, and the whole range of foods, medicines, and materials that a healthy forest provides.

Today, very few of these forests remain on our landscape. Whether or not future generations will have the opportunity to live in forests like this will depend on the choices we make today to protect those that remain and restore those that cannot recover on their own.

Plant a Seed

Are you a landowner seeking support in stewarding your forest? We can provide resources, knowledge, and expert consultation.



Get in Touch with our Leads

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Landowner resources and more information about Restoring the Balance projects, initiatives, and workshops can be found on our website.



We raise our hands to the Gencon Foundation for supporting Restoring the Balance



We are working together **nuts'a'maat** - with one heart and one mind - to restore the balance within the shared, asserted, and unceded traditional territories of the Hul'qumi'num-speaking First Nations Peoples and those who hold traditional rights, responsibilities, and Indigenous rights and title in and around what is now known as Galiano Island.



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