

Nature's Role as Infrastructure

Howe Sound Community Forum
Gambier Island
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Nature

Is a fundamental component of an infrastructure system



Natural Assets

Provide ecosystem services and infrastructure services

In Gibsons, many of the key services we provide to our residents are delivered by nature:

- Gibsons Aquifer
 - ✓ Drinking water storage and filtration
- Creeks, Woodlands, Soil
 - ✓ Rainwater storage, treatment and conveyance
- Foreshore Area
 - ✓ Natural seawall protects people and property

What we call Infrastructure is really a Blend

Natural assets and
constructed assets

Interconnected with
and dependent on
nature to function
adequately

With this understanding, in 2014, the Town deemed nature to be its most valuable asset

- Redefined Infrastructure: to include inheritance of Natural Capital (NC)
 - ✓ Official Community Plan
 - ✓ Strategic Plan
 - ✓ Operational Plans
- New Policy – June 2014
 - ✓ Created new type(s) of assets
 - ✓ Natural / Biomimicry / Engineered
 - ✓ Distributed responsibility and allocated budget

To adequately
manage these
assets

We have created a revised practice that integrates nature into our decision making, using key principles of:

- Asset Management
 - ✓ Core business. Experienced staff. Tools
- Financial Planning
 - ✓ Risk and Liability. Valuation. Funding
- Ecology
 - ✓ Conditions. Services. Best Practices

Asset Management



Defining
our
approach

Natural capital: "Features in the natural environment that provide or support equivalent engineered municipal services"

Town of Gibsons Asset Management Policy, 2014

Financial Planning



How do we
value the
services
received
from nature?

And how do we represent that value in financial statements?

Conventional assets worth \$47M, but natural assets such as aquifers, creeks and forests not listed (yet!)

- Natural Capital has a financial advantage:
 - ✓ No upfront, replacement or depreciation costs
 - ✓ Carbon neutral, or even carbon-positive (carbon storage)
 - ✓ Lower operating costs – Aquifer / Ponds
 - ✓ Can last in perpetuity, if properly maintained
 - ✓ Multi-purpose

Can we Afford

Not to maintain it?

If we are relying on nature to provide key services:

What is a safe level of Risk and Liability?

- ✓ Changes in weather patterns
Older assets struggle. Natural infrastructure is more resilient
- ✓ Provision of drinking water
Storage and filtration left to nature. Monitoring in place
- ✓ Impacts of asset failure
Loss of life, property damage, business interruption
- ✓ Impacts of replacement or major repairs
Do we have the funds to replace with engineered option?

Ecology

- Condition assessment of assets
- Asset valuations using InVEST model
- Balancing ecological integrity with service provision

Our Goal

To have infrastructure assets that are the:

Most Natural

Most Reliable

Most Cost Effective

Most Energy Efficient

Over the long term asset life cycle...

Municipal Natural Capital Initiative

To scale up the Gibsons approach...

Partnership with:
- David Suzuki Foundation
- Sustainable Prosperity
- Brooke & Associates

- ✓ Help local gov'ts across North America incorporate natural capital into operations and decision-making
- ✓ Share policies, plans, best practices and valuation tools (eg. InVEST model)
- ✓ 6 BC pilots, 4 ON pilots under development
- ✓ Gibsons is the Living Laboratory for the project

What's in my backyard? (WIMBY)

- ✓ What natural asset in your area comes to mind?
- ✓ How does natural capital benefit your local economy and social well-being?

Questions?

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Extra Slides

Challenges and Opportunities

- Valuation
- Condition
- Jurisdiction

Nature is...

- Under-Valued, Under-Priced, Over-Used
 - ✓ Taken for granted, lack of metrics, environmental impact
- Infrastructure is decaying faster that we can afford to replace it
 - ✓ Canadian infrastructure worth \$538B
 - ✓ ~30% in poor condition
 - ✓ Lack of reliable funding
- Nature knows no boundaries

Service Delivery Model

- Fair Price Policy
- Deferred Works (conservation, density)
- Focus on Core Strengths –E/I/D –C/I/C
- Setting aside or investing % of value of asset
–ACFAR
- Breaking Down Departmental Silos

Making a (Financial) Statement

- *"The Town is fortunate to have many natural assets that reduce the need for man-made infrastructure that would otherwise be required. This includes the Gibsons aquifer (water storage and filtration), creeks, ditches and wetlands (rain water management) and the foreshore area (natural seawall).*
- *Canadian public sector accounting standards do not allow for the valuation and recording of such assets into the financial statements of the Town. As such, these natural assets are not reported in these financial statements. Nevertheless, the Town acknowledges the importance of these assets and the need to manage them in conjunction with man-made infrastructure."*