

Managing Forestry Projects with

Kaizen is an approach to continuous improvement that is based on the seemingly simple processes of setting standards, committing to those standards, and then improving on them. BC has some of the highest standards of forest regulations — and compliance with those standards — in the world. But the world around us continues to change, and the social and environmental elements of forest management are increasing in prominence. Likewise, First Nations are taking a more active role in management decisions. Standards that were good enough in the past are misaligned or insufficient to meet the challenges of today.

The default approach to forest management, even integrated resource management, has been to manage land for certain attributes within a defined area. We can define an area that should be a park, a cut block, or a tenure and develop a detailed understanding of that particular location. We then manage for a particular resource; trying to maximize production of timber, minerals, or other natural resources, while also trying to take care of wildlife and the environment. Nature does not read maps or abide by boundaries.

But what if there was a better way?

With its Millennium Goals as a backdrop, the United Nations has released reports detailing what benefits humanity actually receives from functioning and intact ecosystems. Looking at the big picture can change one's perspective on the value of ecosystems and the services they provide. Ecosystems don't just provide materials we can use, they sequester carbon from the atmosphere, provide clean water, produce soil, support food security, and much more.

How to Adopt an Ecosystems Services Mindset in Forestry

In the forest sector, rather than thinking about what constitutes a sustainable level of timber supply, forest management could consider what is sustainable in the context of maintaining ecosystem services. For example, land managers should ask themselves questions such as *“What resources are available to us if we want to maintain the forest's ability to provide clean drinking water?”*

We need to scrutinize the old model of being content to take one part of the ecosystem “back to square one,” simply because we are leaving other parts of the ecosystem untouched. Instead, consider how to approach resource development in a way that allows ecosystems to perform as well, or better, than they did before: forestry as an environmental service. This shift in mindset leads forestry companies to plan the activities they undertake in a certain harvesting block and across tenures to leave the natural environment more resilient, and better able to perform the ecosystem functions people rely on, than prior to the intervention.

Understandably, First Nations, the province, companies, and workers in the forest sector are all looking to generate a reasonable return from resource development. And as leaders across these sectors try to assess



Culturally modified tree, plank tree, Porcher Island. Photo credit: Moresby Creative, courtesy naturallywood.com.

the impact on the bottom line, there are two important considerations:

1. Environmental sustainability is profitable in many circumstances, helps build social licence, and tends to drive efficiency and innovation.
2. Indigenous land management results in decisions being made where the decision-makers live, which drives a more comprehensive and longer-term view of sustainability. That

Ecosystems Services in Mind

means prioritizing the timber supply for the future, which means prioritizing the systems and processes that will deliver it.

To avoid taking this approach in favour of maximizing timber supply in the short term, misses the bigger picture of future sustainability.

The Benefits of Working Alongside Indigenous Communities

Ecosystem health, including human health as part of the ecosystem, is determined by relationships. A healthy ecosystem of any kind will establish a dynamic balance, shifting and not toppling, creating room for all to thrive. Indigenous Elders have long taught a principle of “balance as Medicine” — in simple terms, this means Indigenous medicines work by restoring balance and healing connections. This principle applies to ecosystems just as it does to people.

The traditional ecological knowledge held by Indigenous communities, more accurately known as Indigenous Science, can be very beneficial to forestry businesses that are serious about developing an ecosystems services mindset. Indigenous Science comes from studying the land and making informed decisions based on a body of knowledge accumulated through experimentation and observation. It is not a dusty body of sacred knowledge, but a living process.

One prominent example is the traditional use of fire in land management for fire-dependent ecosystems. First Nations would burn mixed stands of forest regularly to keep the density of the trees low — this would not only improve foraging for wildlife, but it would burn up material that if left to accumulate could lead to more catastrophic fires in the future.

The sooner we transition to local, shared decision-making that prioritizes ecosystem health, the better.

Supporting Indigenous Science with Technology

Some forest managers are already doing an excellent job of seeking out and integrating Indigenous Science with the best of forestry practices and technology, resulting in improved ecosystem resilience. As we apply the knowledge we gain from Indigenous communities, we should use technology to magnify the positive outcomes. For example:

- Look at shifting climatic patterns, so that we’re planting trees that will be right for how the climate will be 100 years from now, as opposed to what it is today.
- Leverage remote sensing to survey the landscape and the trees so we can make decisions based on better data.
- Gain a better understanding of the role that non-

commercial tree species, like deciduous trees, can play in protecting communities from fire, sequestering carbon, building soils, and supporting wildlife.

Jason Fisher, LLB, RPF, is a partner in MNP’s Consulting Services team in Prince George. Jason helps clients who are exploring natural resource sector opportunities in the areas of forestry and sustainable resource management, policy development and impact assessment, and community and government relations.



Indigenous Peoples’ profound understanding of long-term forest health and ecosystem balance, gained through thousands of years of observation and interaction, can unlock new ideas on how best to undertake all these important initiatives.

These are examples of an ecosystems services approach in action:

- **Tsi Del Del Enterprises Inc.:** A joint venture of Tsi Del Del First Nation and Tl’etinqx Government teamed up with a drone seeding company to access a 52-hectare portion of the Chilcotin Plateau which was razed by the White Lake wildfire in 2017. The drones planted thousands of Lodgepole pine and Douglas-fir tree seeds to successfully start regeneration earlier and more broadly after a catastrophic fire.
Catastrophic fires can drastically change the hydrology and soil quality of a region; restoring the forest’s natural ability to improve water and soil quality more quickly could lead to positive impacts on public health and agriculture in that region.
- **Tanizul Timber:** Tanizul is using LiDAR and working with the University of Northern British Columbia to track pregnant moose populations to determine the best type of reserves to promote and preserve a healthy moose population. Moose are an important food source for many Indigenous populations and food security is one of the most important ecosystem services provided by forests.
- **Ćawak ?qin Forestry:** Ćawak ?qin is a partnership between the Huu-ay-aht First Nations and Western Forest Products to manage Tree Farm Licence 44 on Vancouver Island. The partnership has invested in detailed LiDAR data that will be used to make management decisions consistent with the Huu-ay-aht’s ongoing integrated resource management plan and the vision of Ćawak ?qin. For example, they are using LiDAR to identify tall trees over 70 metres and will be ensuring that robust forest reserves are in place around them.

These First Nations have been on these forest lands since time immemorial, and have observed that large trees are an anchor that stabilizes ecosystem health, which in turn improves local soil, air, and water quality for all.

While current planning paradigms include consideration of all the elements of ecosystems, they don’t encourage thinking about ecosystems as “systems.” To meet current challenges and expectations, let alone the challenges of a changing climate, those entrusted with forest management are uniquely positioned to improve the resilience of ecosystem services over time through active management. The tools are out there. The knowledge is out there. The practices are out there. Let’s celebrate and learn from those who bring them together to continuously improve forest practices and ecosystems.

To learn more, contact Jason Fisher at Jason.fisher@mnp.ca or 250-612-4014. ☒