

# Is it time to make ‘natural capital’ an asset class?

There’s no business case for leaving wetlands, rivers and other ecosystems alone, but momentum is growing to address the gap

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As the rain poured down on southern British Columbia’s Town of Gibsons the morning of Nov. 15, Michelle Lewis got her kids off to school and did what only someone in her position would do: Go pick up the municipal infrastructure director and drive around the village to see if the creeks, ditches, culverts and ponds were holding up to the deluge falling from an atmospheric river in the sky.

They drove up Gibsons Way to White Tower Park – a wooded, municipally owned wetland at the base of Mount Elphinstone, in the upper portion of the Sunshine Coast town. The pond levels were high, but the water wasn’t overtopping the banks. That was a good thing: The wetlands feed a creek that plummets down the slope and runs through private properties in Lower Gibsons before feeding out into the ocean.

That White Tower Park did its job by preventing stormwater runoff is no happy accident. The municipal government protects the park from development and occasionally dredges silt from the ponds to increase their capacity. Not only does the wetland absorb and slow the flow of potential floodwaters, it also filters out contaminants and stores carbon.

“The forest rots, and we let it be,” Ms. Lewis said. The idea of letting a forest rot may not sound like much, but it’s actually part of her job. As the municipality’s natural asset technician, she works to ensure that the natural resources the town relies on remain healthy, biodiverse and connected.

Natural assets, also known as ecoassets, refers to the stock of natural resources and ecosystems that provide a multitude of goods and services to governments and their populations. They include wetlands, rivers, lakes, forests, fields, coastal marshes, dunes and soils. Unlike agricultural or mining resources, natural assets aren’t subject to harvesting or extraction for the purpose of generating cash flow.

With less than 5,000 people spread over just four square kilometres, the tiny Town of Gibsons is a global leader in the field of natural asset management. In 2014, the town adopted an asset-management plan that explicitly recognized natural assets alongside traditional capital assets; this was a first for North America, and, possibly, the world. Soon after, it became a matter of municipal policy that before investing in built infrastructure that serves a single purpose, the town must first determine whether nature could do the same job at a lower price with added benefits.

This year, stark evidence of climate change piled up as the world suffered heat waves, wildfires, droughts, floods and storms. Nowhere in Canada has been as hard hit as B.C., with the deadly heat dome that claimed hundreds of lives this summer and the recent flooding that devastated communities and highways this fall. Scientists have warned with increasing alarm that this kind of destruction will become even more frequent and more intense as the world warms. It is against this backdrop that conversations around climate-change-related financial disclosure and natural asset management have been accelerating.

The idea that nature provides services to humans and should be protected isn’t novel. Public lands have long been safeguarded for a

host of reasons, including to stem biodiversity loss and mitigate flooding. But the idea that natural resources and ecosystems should be considered an asset class for the purposes of management and accounting is a relatively new one. “We see this as the next thing in sustainable finance,” said Joanna Eyquem, a managing director at the University of Waterloo’s Intact Centre on Climate Adaptation. “This is a shift in how we value things.”

The World Economic Forum last year estimated that more than half of the world’s total GDP is moderately or highly dependent on nature and its services, and is therefore exposed to nature loss. Released earlier this year, Britain’s 600-page Dasgupta Review on the Economics of Biodiversity argued that “nature needs to enter economic and financial decision-making in the same way buildings, machines, roads and skills do.”

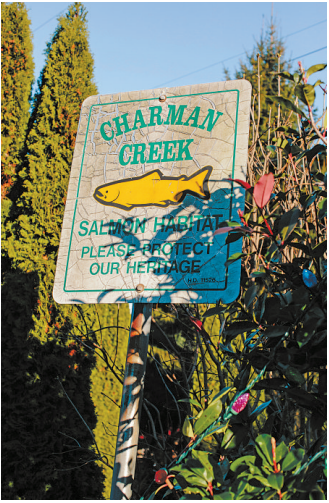
The point is to bring natural capital into the mix of options when governments consider how they might meet a particular need. Dozens of municipalities across Canada are already thinking this way. And there’s a reason local governments are leading the charge. They’re tasked with land-use planning and management, and are responsible for more than half of Canada’s infrastructure. They’re also the ones dealing most directly with the effects of extreme weather on their populations.

The private sector sees opportunity as well. The New York Stock Exchange (NYSE) and the Intrinsic Exchange Group (IEG), which provides advisory services to convert natural asset value into financial capital, recently announced the development of a new kind of investment vehicle, known as a natural asset company. Owners of natural assets, such as governments, will be able to create a corporation that holds the rights to the ecosystem services provided by a particular natural resource. IEG has developed an accounting framework to measure the ecological performance of the natural assets and determine the financial value of the flow of services they provide.

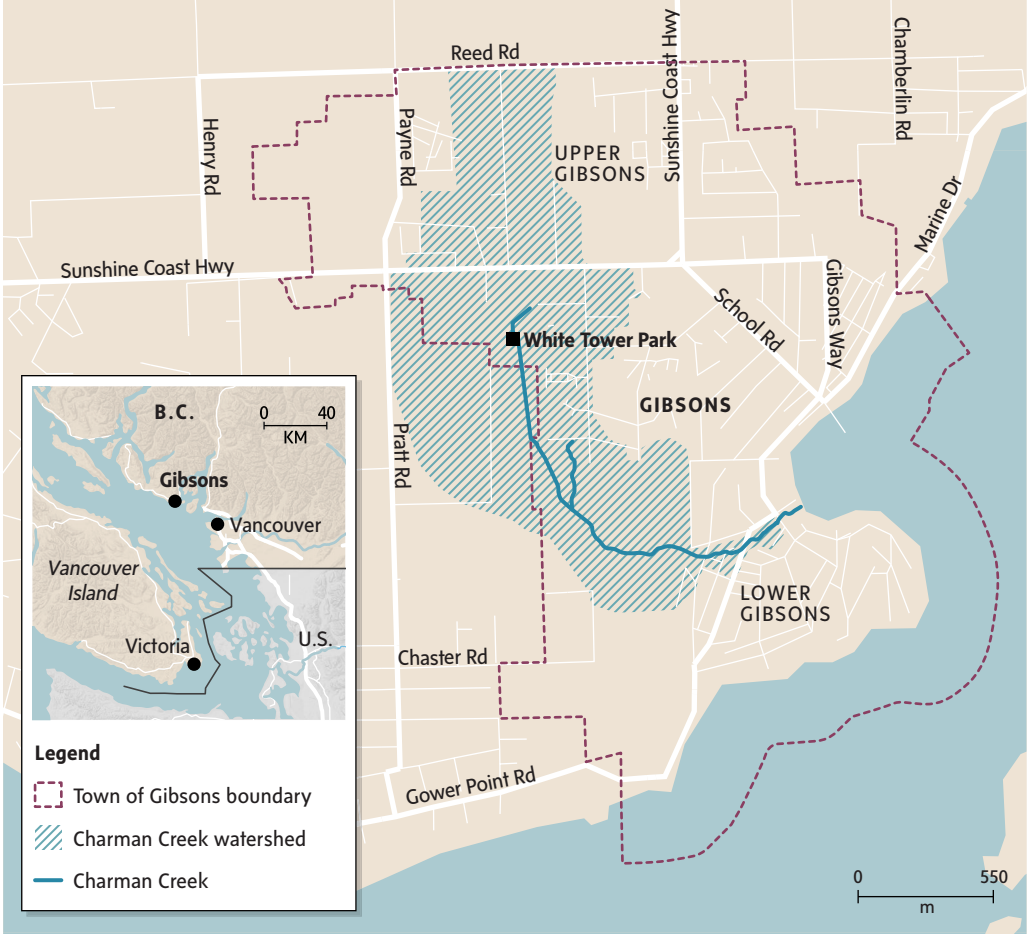
While natural assets may be soon be listed and traded on the NYSE, they’re still largely invisible on public-sector financial statements. That is of particular consequence: Almost 90 per cent of land in Canada is publicly owned. International and Canadian public-sector accounting standards exclude non-purchased natural resources from financial statements. Governments, then, often aren’t even aware of the goods and services that a specific natural asset provides, let alone the dollar value of those goods and services. So when an economic argument is made to develop a wetland, for example, decision makers don’t know the value of preserving the ecosystem. There’s no business case for leaving nature alone.

Momentum is growing to address this gap. The International Public Sector Accounting Standards Board (IPSASB) is studying the potential inclusion of natural resources in financial reporting, noting in its project brief that “items that are not recognized risk being mismanaged.” Importantly, Canada’s Public Sector Accounting Standards Board (PSAB) adapts IPSASB principles when developing future standards; if the international board moves forward with a natural asset class, it’s more likely that PSAB would, too.

Already, the Canadian board is

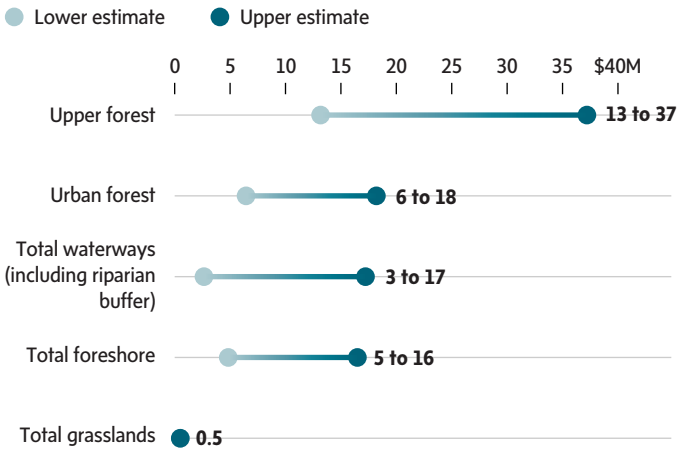


Charman Creek is one of the areas in Gibsons, B.C., that is monitored by natural asset technician Michelle Lewis during the atmospheric rivers. ABOVE, LEFT: JACKIE DIVES/THE GLOBE AND MAIL



MURAT YÜKSELİR / THE GLOBE AND MAIL, SOURCE: TILEZEN; OPENSTREETMAP CONTRIBUTORS; TOWN OF GIBSONS; THE MUNICIPAL NATURAL ASSETS INITIATIVE

## WEST VANCOUVER’S ESTIMATED ANNUAL SERVICE VALUE OF ITS NATURAL ASSETS



THE GLOBE AND MAIL, SOURCE: DISTRICT OF WEST VANCOUVER

examining the issue as part of the review of its conceptual framework. At a discussion group meeting last month, board chair Clyde MacLellan said PSAB wants to be part of the dialogue. “We’re not trying to stick our heads in the sand and ignore things,” said Mr. MacLellan, an FCPA and former assistant auditor-general of Canada. “But we’re aware of the challenges associated with this topic.”

The matter of valuation is where the discussion around natural assets becomes controversial and borderline existential. How do we put a price on nature? Should we even try? Who does it belong to, if anyone at all? The Mississippi River watershed includes two Canadian provinces and covers about 40 per cent of the continental United States. How could any government reasonably calculate the value of the portion of the watershed from which it derives services? If a wildfire or beetle infestation damages a forest, does the public-

sector entity have to write down the asset? If we think of nature as an asset, do we set it up for commodification and abuse?

A growing chorus is putting pressure on PSAB to work in earnest toward addressing these kinds of questions. Among the signatories of a letter urging the board to allow for the inclusion of natural assets are municipalities such as Toronto and Montreal, accountants, the Insurance Bureau of Canada, the Global Risk Institute, the Intact Centre on Climate Adaptation, conservation groups and the Municipal Natural Asset Initiative (MNAI), which works with local governments to help them manage nature through resilient infrastructure strategies.

MNAI executive director Roy Brooke said the exclusion of natural assets from financial statements is, well, a statement of its own. “By not including them,” he said, “governments are still putting a value on nature. It just happens to be zero.”

“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.”

On page eight of Gibsons’ financial statement for fiscal year 2013, there’s a note that made history: “The Town is fortunate to have many natural assets that reduce the need for man-made infrastructure that would otherwise be required,” the note says in part. This was, it is believed, the first time natural assets were mentioned in the financial statement of a Canadian municipality. It was a purely symbolic move. “We weren’t permitted to fully disclose the assets we were relying on,” said Emanuel Machado, Gibsons’ long-time chief administrative officer, chief resiliency officer and a founding member of MNAI. “It was like we were running an underground economy.”

That sentiment rings especially true in the context of the Gibsons aquifer, an underground layer of water-bearing, permeable rock that provides the town with drinking water. Due to accounting rules, it’s not on the books. And until the town commissioned a comprehensive mapping study, it also wasn’t well understood. The

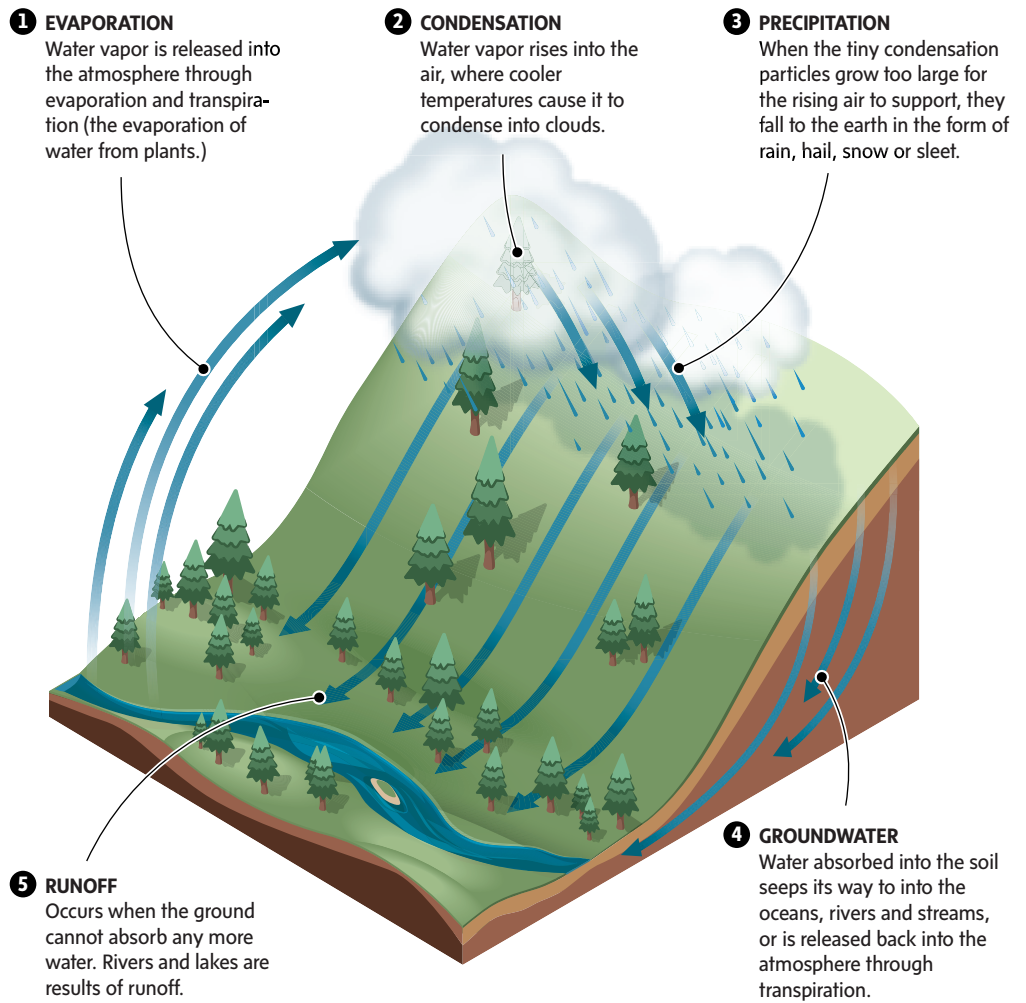




Helen Bobiwash, a member of Thessalon First Nation in Ontario, advocated for consultation with Indigenous communities on whether and how natural assets should be included in financial statements.  
GINO DONATO/THE GLOBE AND MAIL

THE HYDROLOGIC CYCLE

The hydrologic cycle involves the continuous circulation of water in the Earth-Atmosphere system. At its core, the water cycle is the motion of the water from the ground to the atmosphere and back again. Below is a simplified illustration of this extremely complex cycle



MURAT YÜKSELİR / THE GLOBE AND MAIL, SOURCE: NATIONAL WEATHER SERVICE

study showed that while the aquifer is situated right below Gibsons, its recharge area extends into a watershed beyond the town. Gibsons is working with provincial departments, the Sunshine Coast Regional District and First Nations to create a plan to regulate activities within the watershed. In addition, the town now requires a peer-reviewed study of any proposed development within its boundaries that could interfere with the aquifer.

Local governments are increasingly moving toward modern, structured asset-management plans like the one Gibsons developed. In Ontario, those plans are now regulated and must cover green infrastructure, which includes natural assets. In B.C., the government has promised to support the development of natural asset infrastructure for local governments and Indigenous communities.

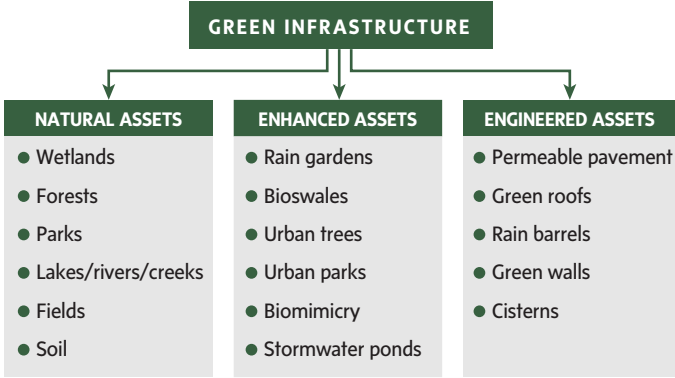
At the federal level, Ottawa recently announced a new \$200-million Natural Infrastructure Fund – a first-of-its-kind program that will support infrastructure projects that use natural or hybrid approaches.

Nearly 100 communities across Canada are already engaging in some kind of natural asset management, from creating inventories to modelling and valuation. The Town of Riverview, N.B., for example, modelled scenarios within the Mill Creek Watershed to see how four wetlands would respond under different climate and development conditions; protecting the wetlands, it was determined, could save the town upward of \$2.7-million in engineered stormwater management. The City of Saskatoon has created an inventory of natural assets and has identified and valued the services they provide.

Robert Siddall, an FCPA who has been involved in standard-setting in public-sector accounting for three decades, has seen first-hand what putting infras-

NATURAL ASSET VS. GREEN INFRASTRUCTURE

The terms natural asset and green infrastructure are often used interchangeably, but one is broader than the other. Whereas natural assets refers to the stock of natural resources and ecosystems that yield a flow of benefits to people, green infrastructure also includes designed and engineered elements that have been created to mimic natural functions and processes in the service of human interests



THE GLOBE AND MAIL, SOURCE: THE MUNICIPAL NATURAL ASSETS INITIATIVE

structure on the books can do for the maintenance of it. As Ontario's controller from 1998 to 2006, Mr. Siddall was responsible for implementing then-new PSAB accounting standards that required tangible capital assets to be included on financial statements.

It took a lot of time and energy to identify and value all the province's roads, bridges, highways, buildings and other capital assets, but it was important work that resulted in better maintenance of critical infrastructure. "Once we adopted tangible capital assets in the province," Mr. Siddall said, "the amount of time spent managing the assets was 10 times what it was before."

All these years later, it's crucial that governments think about the effects of global warming on all infrastructure – natural assets included. Otherwise, he said, "it's like making your home resilient to climate change, but forgetting that you also own a cottage."

The argument for including natural assets on financial statements can be summed in a phrase attributed to management theorist Peter Drucker: "What gets measured, gets managed."

PSAB, in this case, is the gatekeeper of what gets measured for accounting purposes. The fact that the conceptual framework is under review is, put simply, a big deal, since it sets out the principles that all standards are based upon. "It's once every generation that you would look at the conceptual framework," said Bailey Church, KPMG partner and leader of public-sector accounting advisory services. The review, which started in 2010, is expected to be completed next year. "Never overestimate the speed of accounting standard-setting," said Mr. Church, a CPA who signed the letter urging PSAB to include natural assets. "It's often faster watching grass grow."

What the board is currently proposing is this: Remove the exclusion of non-purchased natural resources from the framework, and then relocate it to a new standard on financial statement presentation. Standards are easier to change than the framework, so the board could conceivably strike a task force on the issue and remove the exclusion in the coming years. But for Ms. Eyquem, the time is now. "If we want to scale up nature-based solutions, they have to be worth something," she said at last month's PSAB discussion group meeting, which The Globe and Mail attended as an observer. "With the climate crisis and the degradation of natural assets, we're out of time."

PSAB defines an asset as having three essential characteristics: it has the capacity to provide future net cash flows or goods and services, or to reduce cash outflows; the public-sector entity can control access to the economic resource and its future benefits; and the transaction that gave rise to the entity's control has already occurred. Mr. Brooke and the other signatories to the letter to PSAB argue that non-purchased natural resources can and do meet those requirements.

While tangible capital assets are valued based on what it historically cost to build or purchase the asset, that's not an appropriate method for natural assets. The most frequently recommended approach to assessing the value of the goods and services provided by non-purchased natural resources is to calculate the replacement cost. Put simply, what would it cost to provide the same service by an engineered means?

In addition to issues around valuing the assets, there's the matter of outstanding land claims. According to the federal government, there are currently about 100 comprehensive land claim and self-government negotiation tables across the country. Helen Bobiwash, an FCPA who works predominantly with First Nations in financial management and reporting, raised this complexity at the PSAB discussion group meeting. Ms. Bobiwash, who is a member of Thessalon First Nation in Ontario, advocated for consultation with Indigenous communities on whether and how natural assets should be included in financial statements. First Nations governments, she noted, must follow PSAB standards, too.

"I have great difficulty with connecting dollar values to natural assets," Ms. Bobiwash told the group. How, she asked, do you put a price on nature, when it offers so many intangible and conceptual benefits, such as education, tradition, spiritual health and mental well-being? That being said, in a follow-up interview with The Globe, she said, "The accountant in me says, 'Yes, we need to include natural assets, just to demonstrate that there's a value there.'"

Even if natural assets were allowed to be reflected in financial statements, Mr. Church said, credit-rating agencies would likely factor them out and focus on real cash flows, since one entity's valuation approach could differ meaningfully from another's. Another concern, he said, would be if auditors can't get comfortable with a new, multibillion-dollar asset class, given the potential for overvaluation or undervaluation. "One government could look richer than another, even if it's not," he said.

To be clear, advocates of including natural capital on financial statements aren't trying to ascribe an accurate dollar value to nature. Just like the worth of a person is distinct from the salary she makes, so, too, is the worth of nature from the goods and services it provides. This is why proponents suggest determining a minimum value for natural assets, rather than trying to do the impossible by coming up with a "true" one.

"Financially," Mr. Machado said, "it's different from anything we've had to manage before."

forested area – a couple of hundred metres from the ponds Ms. Lewis surveyed that stormy Monday in November – there's an unused field. The land has had multiple incarnations. At one point, it was a fill site for contractors to dump debris, gravel and sand. After the town levelled it off and put down some grass seed, it became an equestrian riding ring.

Now, the town is looking to restore the wetland site to something closer to its natural state: a pond.

Stormwater management modelling showed that new development in Upper Gibsons could cause additional water runoff and flooding in Lower Gibsons. The municipality could either build a \$4-million concrete drainage system to send the water to the ocean, or it could expand the natural stormwater ponds in White Tower Park for less than \$1-million. The town has opted for the latter.

Those service delivery and cost comparisons were determined through a combination of software tools: the United States Environmental Protection Agency's stormwater management model and Stanford University's integrated valuation of ecosystem services and trade-offs (InVEST) model.

Such comparisons are at the heart of why people like Mr. Siddall want to see natural assets entrenched in government decision-making. He pointed to Amazon.com Inc.'s decision earlier this year to no longer consider building a warehouse on a wetland in Pickering, Ont. The city's mayor expressed disappointment in losing out on new jobs, development charges and tax revenues. "Politicians put value on economic development," said Mr. Siddall, who is a member of PSAB's discussion group. "The alternative of leaving land to nature is not valued the same way."

It's not only politicians and accountants who are involved in the emerging field of natural asset management. In B.C., the professional body that governs the province's engineers and geoscientists released new guidelines on asset management this summer that include the incorporation of natural assets. The University of British Columbia's civil engineering department this year added a new course that teaches the core concepts of natural asset management, beginning with the first step: creating inventories.

The District of West Vancouver was one of the first municipalities to work with ecological economists and compile an inventory. The 2019 inventory includes forests, waterways, coastal foreshore areas, grasslands and carbon stores such as soils; the total value of the district's natural assets was estimated to be as much as \$3.2-billion, with an annual service value of upward of \$90-million.

Isabel Gordon, a CPA and the district's director of financial services, noted that there's a huge infrastructure deficit at the municipal level in Canada. It's in the best interest of local governments, then, to consider alternatives to building more engineered assets that require costly maintenance and tend to provide a single service. Healthy natural assets, she said, can also be far more resilient to climate change. "The extreme weather in B.C. has raised everyone's consciousness," she said. "You ignore natural systems at your peril."

Mr. Brooke described inventories such as West Vancouver's as the gateway to natural asset management. That's why MNAI is working with CSA Group, a standard-setting not-for-profit association, to develop a national standard for municipal natural-asset inventories. Mr. Brooke is optimistic that once published in mid-2023, the standard will help mobilize and scale natural-asset management work.

After all, he said, taking stock of natural assets is the first step in taking better care of them. "If one understood the service value of natural assets and never came up with a dollar figure," Mr. Brooke said, "it'd be a darn sight better than today, where we're not valuing nature at all."

At the edge of White Tower Park's