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A tall order for the Ontario landscape

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Mary Ormsby

Seven American schooners sliced through lake swells towards the *HMS Royal George*, intent on capturing the crew of 200 and pirating the Canadian-built British sloop.

The year was 1812, the United States had declared war on Britain and Lake Ontario was a deadly battle zone.

As the enemy jockeyed to trap the *Royal George*, the sleek gunship sped to safety in Kingston harbour where, three years earlier, it been hand-hewn from oak and white pine easily plucked from bountiful Ontario forests.

Industrious 19th century shipbuilding was a source of pride for locals who watched the *Royal George* and an armada of other craft roll off the Royal Naval Dockyard docks into the great lake.

It's also a reason why Queen's University professor Andrew Graham will plant 5,000 seedlings this spring on his Lansdowne, Ont., property about 50 kilometres from that historic Kingston naval cradle.

Private landowners like Graham are being recruited for a government program with tax incentives to replenish southern Ontario's tree population – denuded by 200 years of voracious human consumption – and restore the ecosystem to a healthier state. The 62-year-old prof



RICHARD GRIFFIN/SHUTTERSTOCK

has already plopped 35,000 seedlings into his own 100 hectares in the past four years to create a green legacy for his family and community.

"It's not about landscaping or making your property prettier," said Graham, whose woodlots are now thick with knee-high spruce, pine, cedar and larch.

"It's not about getting free trees. It's about replacing trees. We need those trees."

We need one billion of them – and about 100 years of furiously paced planting to make it happen, says Trees Ontario president and CEO Michael Scott.

"I often call trees the lungs of the earth because they absorb greenhouse gases and they emit oxygen," said Scott, whose non-profit organization helps plant about 2 million seedlings annually in rural Ontario.

"The role that trees play in protecting the environment, whether it's stabilizing groundwater soil conditions, cool a neighbourhood or capturing and storing carbon as the tree matures, is just magnificent."

Canadian forestry studies have indicated one billion indigenous trees in southern Ontario would produce a natural ground cover of 30 per cent – about the amount needed to best protect watersheds, wetlands, soil erosion and air quality. The city of Toronto's forestry department is aiming at that same coverage in urban neighbourhoods by 2020, up from the current 18 per cent.

Ontario abandoned raising trees in the mid-90s but returned three years ago when the United Nations launched its Billion Tree Campaign to encourage ecosystem protection. Premier Dalton McGuinty pledged to plant 50 million by 2020, the largest single commitment to the UN movement that promotes aggressive human intervention.

"Mother Nature is doing the best she can," said Scott, whose organization is partner in McGuinty's plan.

"But given the fact that man has removed so much natural cover, it's just not possible to sit back and hope that Mother Nature will look after the problem herself."

MOTHER NATURE BEGAN falling behind about the time Major General Isaac Brock needed wooden hulls, beams and masts for schooners, sloops and frigates to protect Upper Canada from American attack.

Shipyards and early public infrastructure projects like bridges and railways gobbled enormous timber tracts from Cornwall to Niagara in the 1800s. European settlers cleared ancient forests and woodlots for homesteads and livestock and crop farming. One particular crop fed a growing nicotine addiction as tobacco plantations flourished in the silty soils around Tillsonburg, Delhi and Aylmer. In more recent times – the last century – forests have been culled to accommodate residential and commercial sprawl. Meanwhile, tree-killing insects and disease have ravaged species like the native chestnut, American elm, and lately the ash. Sand dunes are growing, depleting moist earth where trees once stood.

Mother Nature also needs help with procreation.

Since not all trees produce seeds every year, experts trained to spot when trees are ripe with seeds collect them before they dry out or get eaten by animals. Seeds are sorted, and taken to nurseries where they will need about three years' growth before they can be "lifted" to an indigenous habitat.

Machines that can plant up to 7,000 seedlings daily are used on large properties like Graham's. On difficult or smaller terrain, it's people power. And it's all done quickly, within a four- to six-week period typically beginning in early April.

"Some people think when I say a billion trees that we just go out and spread seeds everywhere and hope they grow," Scott said. "But it has to be the right tree in the right place and using native seedlings in a way that best suits the area."

An urgency to replant is not new. In the late 1880s, the provincial government realized forests were taking a hit and paid farmers 25 cents to plant a tree – a good sum in those days – but the money ran out by the turn of the century.

There have been stops and starts in those efforts since. In the 1970s and '80s, between 20 to 30 million trees were planted annually but that screeched to a halt in the 1990s when the Ontario government closed all but one of its nurseries and annual plantings plummeted. Ontario's plan is reversing that: To date, 3.3 million trees have been placed on 392 properties.

The campaign is 90 per cent reliant on private citizens like Graham and his wife Katherine, a Carlton University professor willing to share large areas on which large, mature forests will flourish (and maximize carbon sequestration). Eligible landowners need at least four hectares and get professional help from local tree planting agencies. Landowners also have duties.

THE GRAHAMS PAID a biologist about \$1,500 to study their property and propose a planting plan. Once approved, the Grahams were required to maintain the growth for a 15-year minimum and each spring, groom the ground for the planting machines.

"It's really easy once it's up and running," Andrew Graham said, describing his 30-year-old property as "marginal" farmland and well suited for forests.

"What I would encourage is that anybody who owns land to (take) responsibility of what I call stewardship and (ask) `What's the best use of this land down the road?" There's marginal (farming) land all over the place that with a little bit of effort, (tree plantings) can make a big contribution."

Today, the forest's material contribution to the Napoleonic-era of Canadian naval history is wispy memory. The *Royal George* – once the largest British ship on Lake Ontario – was sold in 1837. The *Sir Isaac Brock* was partially built in Kingston but burned by the British on the dock so the advancing Americans couldn't have her. Other fleet mates have rotted on Lake Ontario's stoney bottom or sandy shoals.

Such trees must be replaced, said Graham, who feels "a sense of satisfaction" his daughter will eventually inherit family land with a mature forest that hearkens to the ancient forests that helped build Ontario.

"Cut down my trunk and make a boat," said the tree. "Then you can sail away . . . and be happy."

And so the boy cut down her trunk and made a boat and sailed away. And the tree was happy . . . but not really.

– Fom *The Giving Tree*, by Shel Silverstein