

2022 CANADIAN LAND TRUST SUMMIT

SOMMET NATIONAL DES ORGANISMES DE CONSERVATION 2022

October 24 to 26 | Ottawa | 24 au 26 octobre

Thanks to our sponsors!

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Environment and
Climate Change Canada

Environnement et
Changement climatique Canada



Fondation de la faune du Québec





Conserving Ontario's Natural Heritage

The Niagara Escarpment

Manitoulin

The Huron Shore

The Saugeen Watershed



Escarpment Biosphere Conservancy

214 Reserves
21,139 acres
85 square km
70 “rare” species



An **Existential Crisis**.....And we are doing something

The Climate Crisis will destroy our grandchildren's lives

Greta Thunberg and

Millions demonstrating worldwide

David Suzuki, David Attenborough and You and Me

Yes, stop using fossil fuels

AndWe need to soak up the carbon dioxide

We are in the sixth extinction

Land Trusts are vital to prevent **OUR** extinction!

Ecological Services?

- Nature gives us:
 - Cleaner air, cleaner water
 - Fewer floods
 - Tourism
 - Better health
 - Lower carbon dioxide, etc, etc.
- (and all forfree?????)



Ecological Services



- MNRF says Nature's services are worth **\$84 billion** per year in Southern Ontario (incl Manitoulin)
- Acre of forest worth **\$1,800/year**,
wetland worth **\$6,100/year**

- Costs us all money when someone develops land or builds roads....
we all lose services!



Flooding??

Our forests and wetlands

- soak up
 - slow down and
 - store that water for months, and
 - slowly let it into creeks and rivers
- (unlike agricultural fields and subdivisions)



Service: Visiting Nature

- Birding: \$236 m/yr
- Cycling: \$326 m/yr
- Hiking, climbing: \$872 m/yr
- Recreation and Tourism worth \$1,722,200,000 (almost \$2 billion/yr): Greenbelt study



It's all worth \$85B/yr**?

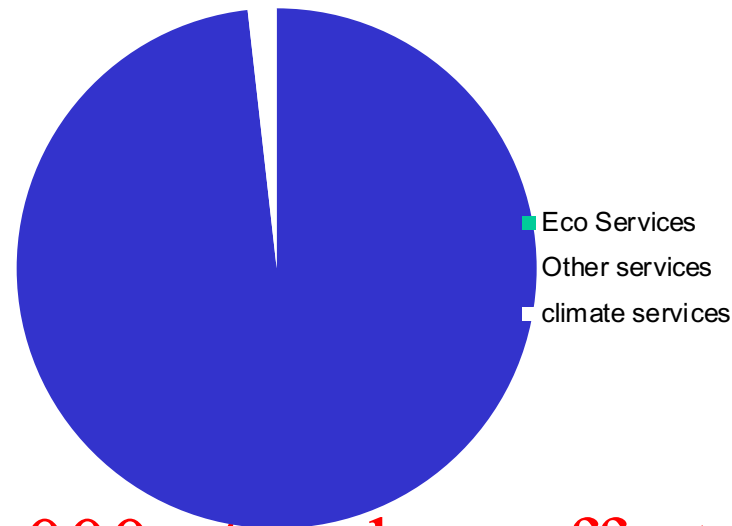
- \$27.2 billion of aesthetic value (looking at nature)
- \$25.4 billion of water supply
- \$20.8 billion of recreation services
- \$ 9.9 billion of water quality and waste regulation
- \$ 2.4 billion of habitat/biodiversity services
- **\$ 1.5 billion of climate regulatory services**
- \$ 0.6 billion of pollination services

* **Estimating Ecosystem Services in Southern Ontario
MNRF/SIG, 2009 (one of hundreds of corroborating
reports)

EBC's contribution

- \$40,000,000 of eco services EVERY year

- BUT



- Selling about \$100,000 of carbon offsets/yr
- (from about 780,000 tonnes of CO₂ to date)

Where have the trees gone?

- Half of the World's trees have been removed.
- Replacing them would only cost 1/1000 of the world's GDP (EO Wilson)



Service: Carbon Offsets

- EBC's forests soak up CO₂
- EBC's "Old" trees add more carbon/yr than young ones.....and....
- Only **15% of harvested wood lasts 100 years**,
.....it goes to
 - Landfill
 - **Down the toilet (25% of cut wood volume)**
 - Burned for fuel
 - Slash "returns" to CO₂ or Methane
 - Through Carbonzero, EBC has sold 50,000 tonnes of CO₂ offsets to help companies be carbon neutral



Where harvested fibre goes

Years	10	30	50	70	90	110
In use	35%	27%	22%	20%	17%	15%
Landfill	31%	35%	37%	37%	37%	
Energy	17%	17%	18%	18%	18%	
Emission	18%	20%	23%	25%	27%	



Tree Volume (m³/ha)

Years	20	40	75	100	125	150	175
Hardwoods	0	42	132	178	206	223	234
Softwoods	0	40	163	238	285	296	

(From EBC study)

Stored Carbon (T C/ha)

Years	20	40	50	75	100	125
Aspen	39	113	135	159	164	168
W. Birch	39	98	122	164	184	195
S. Maple	32	68	87	126	161	188
Oak	70	126	149	198	239	274

(From Ausable Bayfield Study)

Nature Magazine (busting myths)

11 Sept 2008 “Old Growth forests as carbon sinks”

- “The sequestered carbon dioxide is stored in live woody tissues and slowly decomposing organic matter.”
- “Old growth forests can continue to accumulate carbon, contrary to the longstanding view.”
- “Old-growth forests accumulate carbon for centuries”

CBC says

Canada's "managed" forests emit more carbon than they absorb
CBC News Robson Fletcher Feb 12 2019

Net carbon emissions from Canada's managed forests

Reported in megatonnes of CO₂ equivalent. Positive values mean net emissions, negative values mean net absorption. Click or tap to change between area types.

All areas Areas with forestry activity Areas with natural disturbances

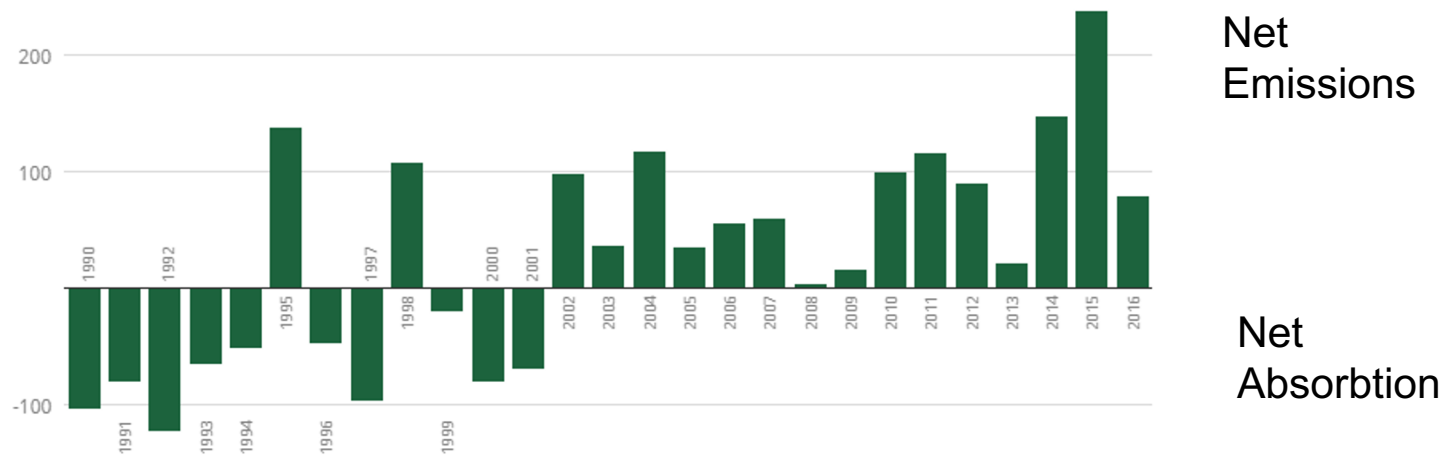


Chart: Robson Fletcher / CBC • Source: [Natural Resources Canada](#)



Ancient History

- EBC tried to market our offsets to 1000 corps
- EBC worked with Bluesource for years = 0
- Carbonzero offered us sales
- Sold \$115,000 to Ont Env't. Ministry
- Sold \$400,000 to Desjardins
- Latest sales to Kingston and Beanfield
- The only active program east of the Rockies

How much CO₂?



- We work with Carbonzero as our expert **EVALUATOR**
- They use established protocols to measure carbon
- We can only count “additionality”
 - Only counts if it’s better than average forestry
 - It’s called **ENHANCED** forestry
- We get a registered **VERIFIER** to confirm
- We work with an offset retailer, CARBONZERO
 - We sell on the **VOLUNTARY** market
- All our offsets are **REGISTERED and SERIALIZED with CSA**

“OFFSET” SALES

- Carbonzero retails our verified “enhanced” forestry as “voluntary” credits to buyers to offset their carbon use (travel, heating etc) ...
- We encourage our regular supporters to donate toward our “business as usual” level of forestry protection to support our ongoing stewardship and acquisition of new land.

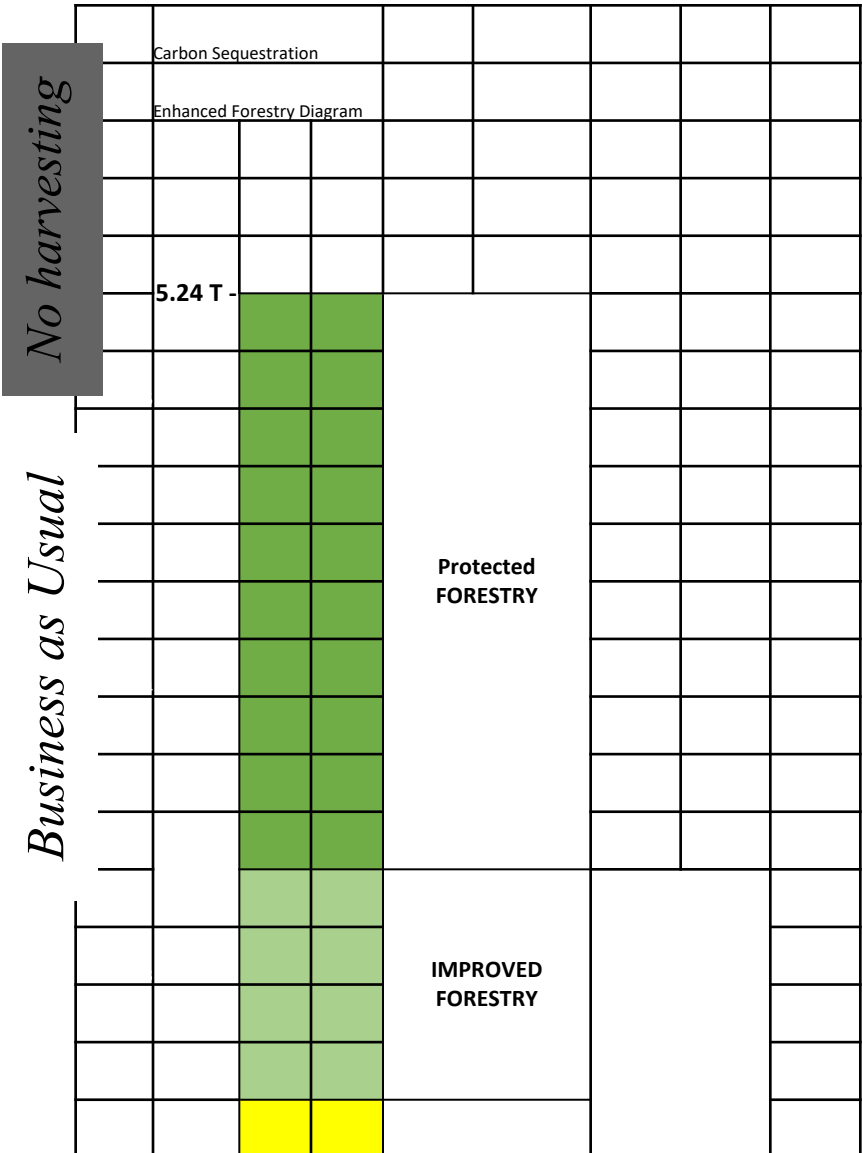
Details

Measure “typical” forest plots (14-30/year)

- Centre point loc’n, 10 m radius, distance to each tree, diameter (over 10 cm), species, angle to top, live, dead, snag
- Map area of forest the plot represents

Model results

- Subtract business as usual forestry
- Subtract “leakage” (fires, disease)
- Subtract “uncertainty”



Enhanced Forestry

- Our evaluator used the ISO 14064-2 VCS (verified carbon standard) “protocol”
- Calculated SSR (sources, sinks and reservoirs)
- Trees must be protected for 100 years
- (“improved” forestry is covered under a protocol which may yield a fraction of 3.17 tonnes of carbon per ha/yr.)
- There is (unfortunately) no accepted soil, wetland or grassland protocol in this region

HOW MUCH?

- 3.17 tonnes CO₂/acre: typical forest mgmt
With “normal” or improved forestry plus
- 2.07 tonnes CO₂/acre: “protected” forestry

- Just let trees grow to maturity

DIFFERENCE: 2.07 tonnes/acre

- We sell that as PROTECTED/ENHANCED forestry
- OLD trees soak up more and more carbon dioxide every year until they finally die
- And that carbon goes into the soil long term

Process

- Feasibility study
 - Estimated 50,000 tonnes over 10 years
 - Standards, protocols, SWOT, etc..
 - Market demand, program...
- Evaluation
- Verification
- Registration with CSA
- Sale to companies to offset their carbon use

“Tagging on” (Other trusts or landowners)

- Annual or bi-annual EBC updates
- Could add more of same region, same type
- Cost savings achieved through aggregation to evaluate and verify
- EBC revenue share model
- Short term solution until new protocol starts

Bloomberg

- The press has been critical of “protected” forests being used to also sequester carbon
- Yes, we protect forests, AND part of the reason is to protect carbon
- The more we sell offsets, the more forest we can protect
- The more forest we protect, the more we stop the climate crisis

Which offsets?

- We have sold our offsets back 15 years
 - We are now selling our current year's offsets
 - We have not sold our “future” offsets
 - Must agree not to harvest for 100 years
-
- This is not a tree planting project for future offsets from growing trees.

New “Canadian Biosphere Forest Initiative”

- Will use carbon finance for land conservation
- Target GHG removal, publicity
- Partner investors/corporations with conservers
- Emphasize overall community benefits from nature
- Flexible to allow new participants across Canada
- Reduced cost to measure and report
- Traceable from source forest/yr to purchaser

New Canadian Biosphere Forest Initiative

- Founding partners:
 - Carbonzero (markets, coordination)
 - NEL-i (design, technical)
 - EBC (vision, coord conservation partners)

Changes proposed

- Will look **forward**, not historical
- Will use an **international protocol**, not CSA
- Can use remote/drone sensing

BUT.....

- Still **not counting soil, wetlands or grassland**
- Still no Canadian regulatory forest offsets
(despite being lower cost than carbon capture and storage)

When?

- Express an interest at any time
- 2022: program design, review participants
- 2023 Q1: financial forecast, finance partners
- 2023 Q2: register landowners (incl trusts)
- 2023 Q3: initial forest measurements
- 2023 Q4: validation with selected protocols
- 2024: verification, pay for offsets
- 2025: add more land and participants

How much \$\$

- Conservative: 0.5 t CO₂/ac/yr forest
- Expected value: \$30-\$50 per tonne
- Example: EBC has 15,000 owned acres
 - = 7,500 tonnes
 - = \$225,000/yr

Do you create CO₂?

- Calculators available for:

- Travel by car, transit, plane
- Heating, electricity
- For example 5-50 tonnes/person per year

We like to translate that into forested acres
(about 5 tonnes/acre per year)

Then we add the acres you live on (no trees) and

- Add more for growing your food
- One example was 9.5 acres to sustain one's lifestyle

For “informal” sales of offsets we use Carbonzero's calculator.

CO₂ funding

- \$100 protects an acre of Donated forest
 - Worth \$2-\$5,000
 - We pay for only appraisal and legal costs
- That acre sequesters another 5 tonnes of Carbon (but only 0.5 T of paid offsets worth \$15/yr)
 - And protects \$2,500-\$6,000 worth of nature's
 - EVERY YEAR

Funding for every acre donated is a huge help

We can solve

- Acid rain: **solved**
- Pesticides: largely **solved**
- Ozone layer: **solved**
- Antibiotic resistance: in **progress**
- War: dramatically **reduced**
- World Poverty: greatly **reduced**
- Rising population: **slowing down** by 2050
 - Russia has lost 30 million people

AND NOW **LOSS OF BIODIVERSITY**
and **CLIMATE CHANGE!!!!!!**

Trees Protect our Health and Economy

- Cleaner water
- Cleaner air
- Fewer floods
- More crops (water and pollinators)
- More biodiversity
- More tourists
- More inventions
- Fewer hospital visits
- **A BETTER PLACE**



Carbonzero

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Réseau
de milieux
naturels protégés

