Credit Valley Conservation
inspired by nature

Natural Asset Inventory and Condition Assessment

From street trees and parks to woodlands and wetlands

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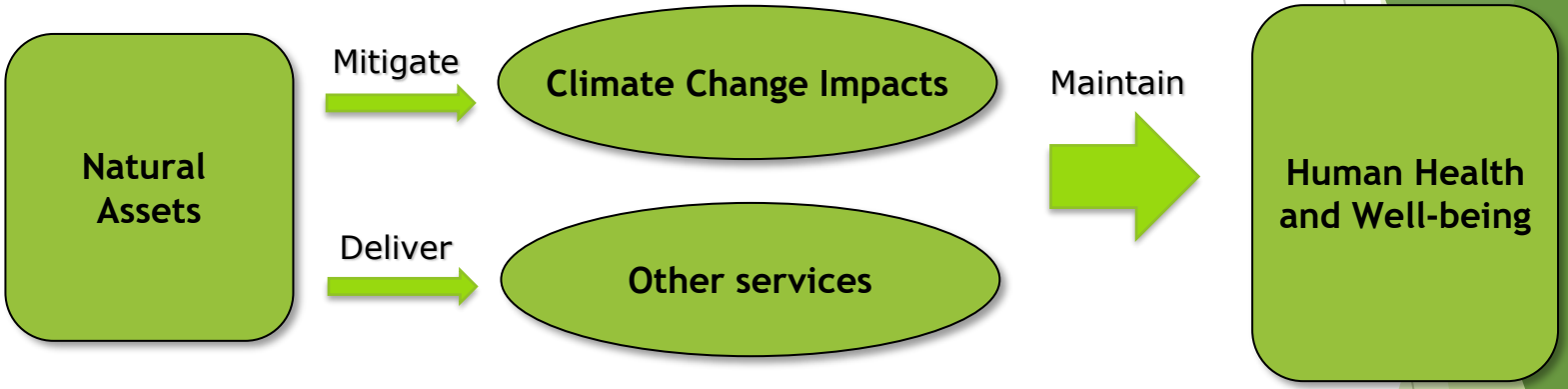
Possibility grows here.

Presentation Outline

- Role of Natural Assets in Climate Resilience
- Natural Assets: What are They?
- Rationale for including them in the Asset Management Planning
- Natural Asset Inventory
- Natural Asset Condition Assessment
- CVC’s Rapid Condition Assessment for Natural Assets
- CVC’s Rapid Condition Assessment for Street Trees and Open Space
- Take Away Messages
- Next Natural Asset Webinars


Climate Change: A Risk Business.....
Photo: Rob Bieber

Role of Natural Assets in Addressing Climate Change



Mitigation of Climate Change Impacts	Delivery of Services
• Carbon sequestration and storage • Stormwater management • Urban heat island reduction	• Recreation and tourism • Waste assimilation • Real estate value appreciation • Drinking water quality enhancement

- **Physical**
- **Mental**
- **Social**
- **Economic**

Natural Heritage System Protection and Climate Resilience

Protecting and restoring the natural heritage system and its natural assets is one of the most important climate change actions we can undertake for local ecosystems.

Defining Natural Assets

… the stock of natural resources or ecosystems that are relied upon and managed, or could be managed, by a municipality for the sustainable provision of one or more local government services.

GREEN INFRASTRUCTURE (GI)

Green Infrastructure Ontario Coalition

https://greeninfrastructureontario.org

Nature-based Solutions (NbS)/Nature-based Climate Solutions

Natural Infrastructure (NI)

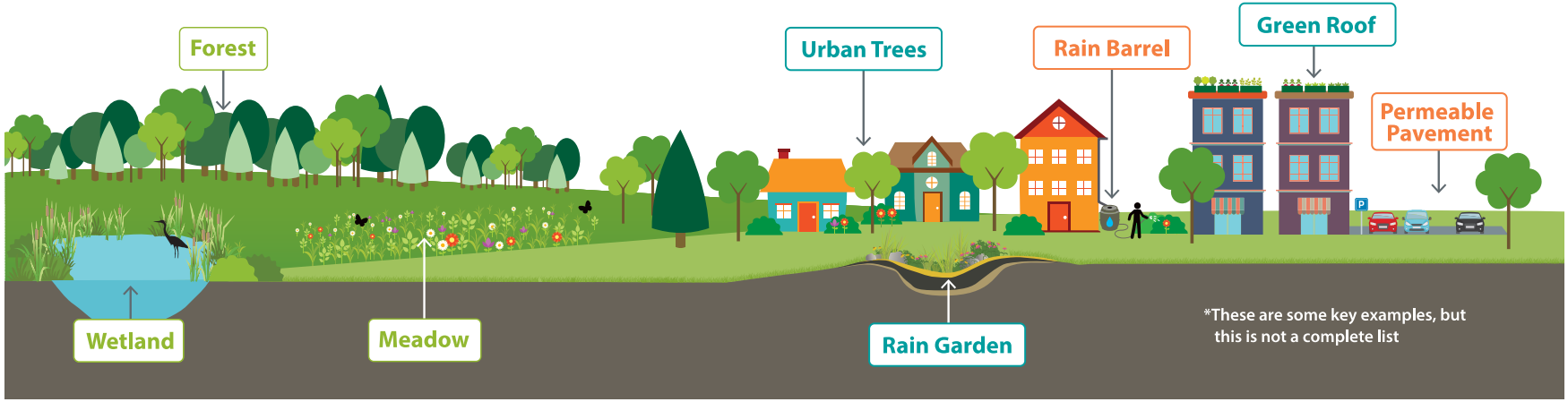
Low Impact Development (LID)

NATURAL ASSETS:*
- Wetlands
- Forests
- Parks
- Meadows
- Lawns and gardens
- Soil

ENHANCED ASSETS:*
- Rain gardens
- Green roofs and walls
- Bioswales
- Urban trees
- Naturalized stormwater ponds

ENGINEERED ASSETS:*
- Permeable pavement
- Rain barrels
- Cisterns
- Perforated pipes
- Infiltration trenches

GREY INFRASTRUCTURE:*
- Bridges
- Roads
- Parking lots
- Culverts
- Pipes

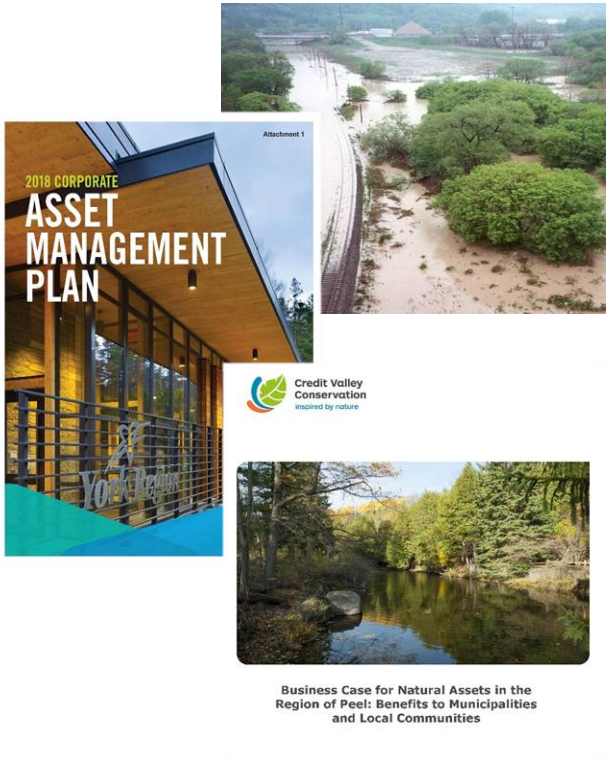


Rationale for Natural Asset Management (NAM)

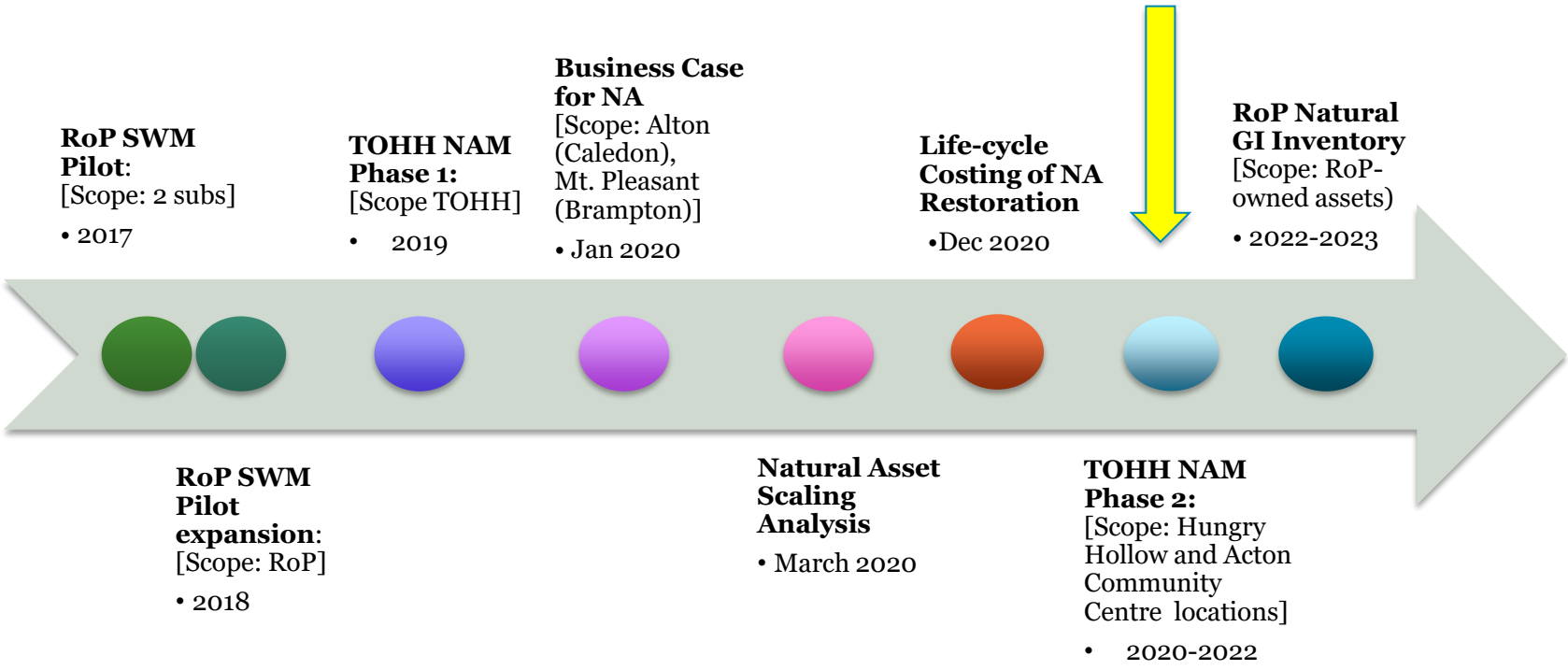
Goal: Help municipal partners to measure and manage the contribution of natural assets to municipal service delivery

Why include Natural Assets in AMP?

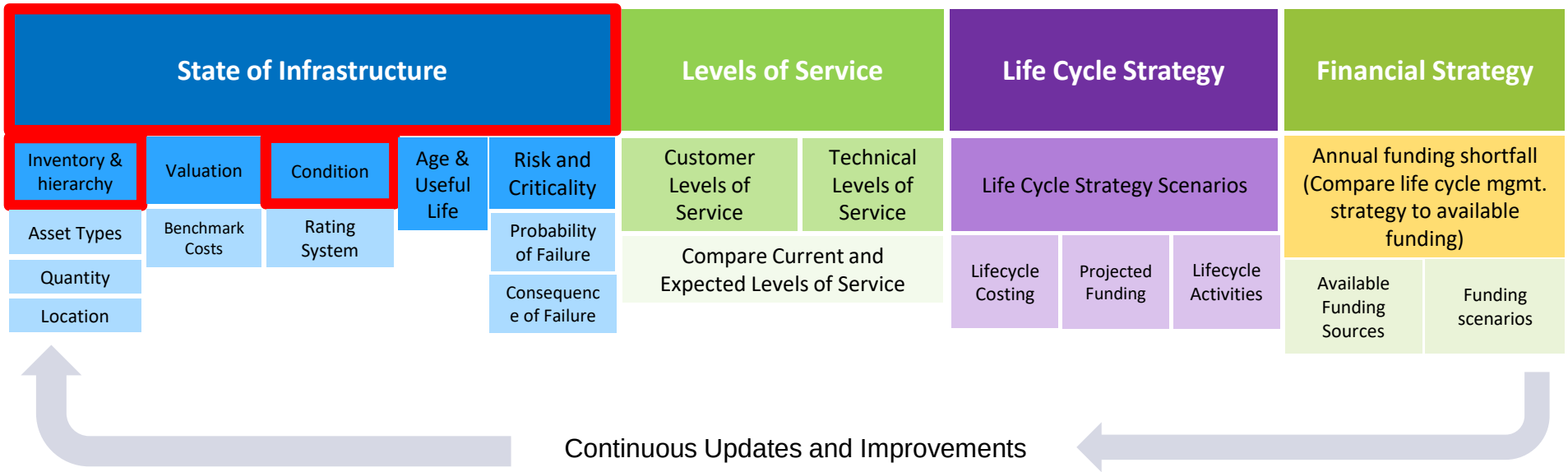
- Comply with the O.Reg.588/17
- Increase infrastructure asset portfolio resiliency to Climate Change
- Reduce the risk, capital and operating expenses of related grey infrastructure (as some natural assets can deliver equivalent services at lower cost/risk)
- Assist in maintaining the desired level of service



CVC- led Municipal Natural Asset Management (NAM) Projects

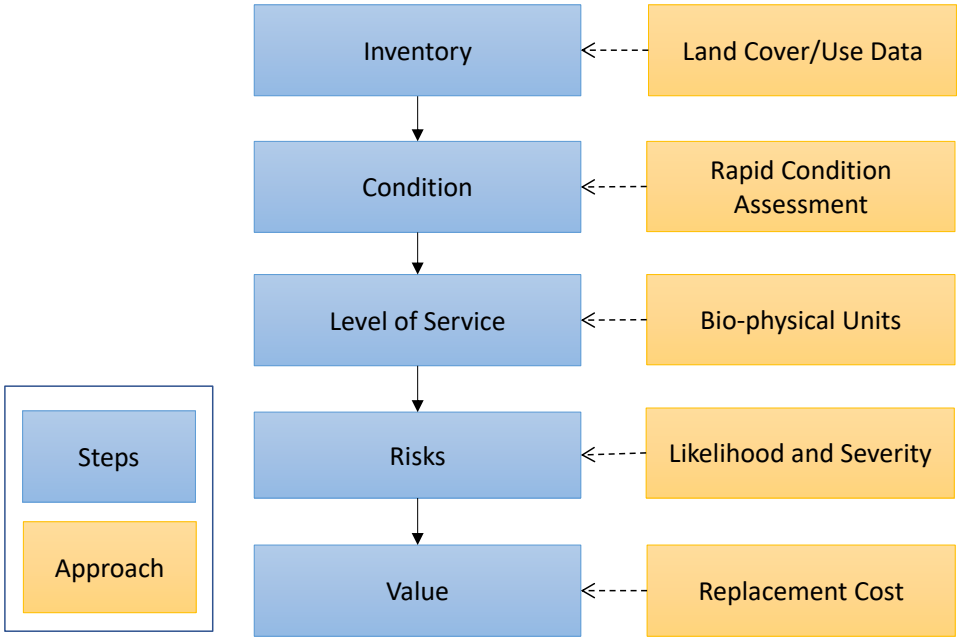


Natural Asset Management



Green Infrastructure ONTARIO COALITION

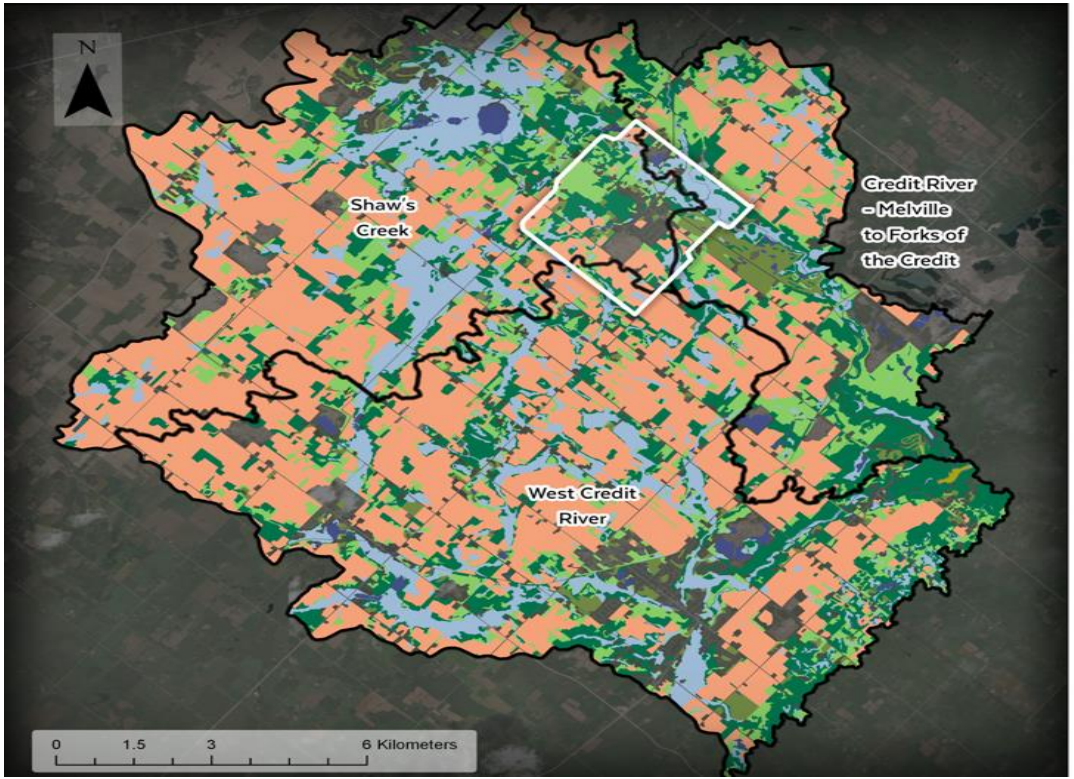
Inventory and Condition Assessment in NAM



Categorizing Natural Assets

Ecological Land Classification (ELC) Code	National Ecosystem Services Classification System
Cultural Woodland (CUW)	Grassland
Delicious Swamp (SWD)	Wetland
Cultural meadow (CUM)	Grassland
Mixed Swamp (SWM)	Wetland
Cultural Savannah (CUS)	Grassland
Thicket Swamp (SWT)	Wetland
Coniferous Plantation (CUP3)	Forest
Cultural Thicket (CUT)	Grassland
Coniferous Forest (FOC)	Forest
Coniferous Swamp (SWC)	Wetland
Mixed Forest (FOM)	Forest
Deciduous Forest (FOD)	Forest

Natural Asset Types



Land Classes of Alton Subwatershed Area

- Agroecosystem
- Forest
- Grassland
- Greenspace
- Watercourses
- Wetlands
- Barren/Rock and Sand
- Created Greenspace
- Open Water
- Scrubland/Shrubland
- Subwatershed
- Alton Study Area Boundary

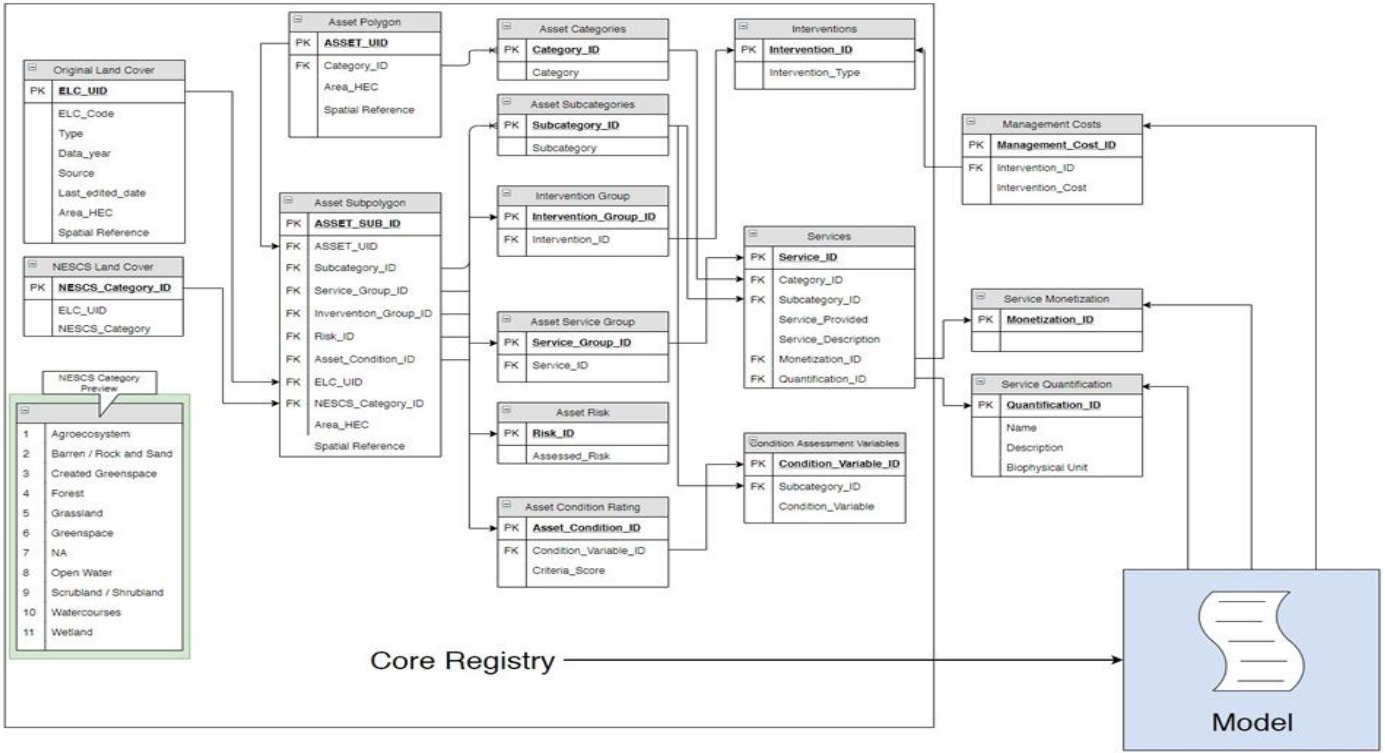
Center: 80°5'48"W 43°49'4"N

GREEN ANALYTICS
measuring environmental values

Integrating Natural Assets into Asset Management Plans – Outputs

- Inventory registry (including asset ID, area, condition assessment, level of service, etc.)
- Consistent with State of Infrastructure Report (where feasible)

Natural Asset Registry Database



Condition Assessment in the municipal asset inventory (example)

OBJECTID	NA_AREA	ELC_COD	TYPE	Source Da	Source of	Woodlan	LandU_Cl	Site_Nam	Conditior	Municip_Conditior	Type	Class
1	1	FOM	Mixed for	2018	2018 15cm	Woodlanc	Natural	Acton Con	4.727273	1 Very Good	Mixed For	Upland Fo
2	2	CUW	Cultural w	2018	2009 Orth	Woodlanc	Natural	Acton Con	3.963636	2 Good	Cultural W	Upland Fo
3	3	CUS	Cultural sa	2018	2018 15cm		Natural	Acton Con	4.6	1 Very Good	Cultural Sa	Meadow S
4	4	CUS	Cultural sa	2018	2018 15cm		Natural	Acton Con	4.381818	1 Very Good	Cultural Sa	Meadow S
5	5	SWD	Deciduous	2018	2009 Orth	Woodlanc	Natural	Acton Con	4.709091	1 Very Good	Deciduous	Swamp
6	6	CUM	Cultural m	2018	2018 15cm		Natural	Acton Con	5	1 Very Good	Cultural M	Meadow S
7	7	SWD	Deciduous	2018	2009 Orth	Woodlanc	Natural	Acton Con	4.745455	1 Very Good	Deciduous	Swamp
8	8	FOD	Deciduous	2018	2018 15cm	Woodlanc	Natural	Acton Con	4.654545	1 Very Good	Deciduous	Upland Fo
9	9	MOR	Recreatior	2018	2018 15cm		Agricultur		5	1 Very Good	Recreatior	Open Spac
10	10	MOR	Recreatior	2018	2018 15cm		Agricultur		5	1 Very Good	Recreatior	Open Spac

Rapid Condition Assessment Method

Our Natural Assets?

How many do we have?

Where are they located?

What type of natural assets?

What is their condition?

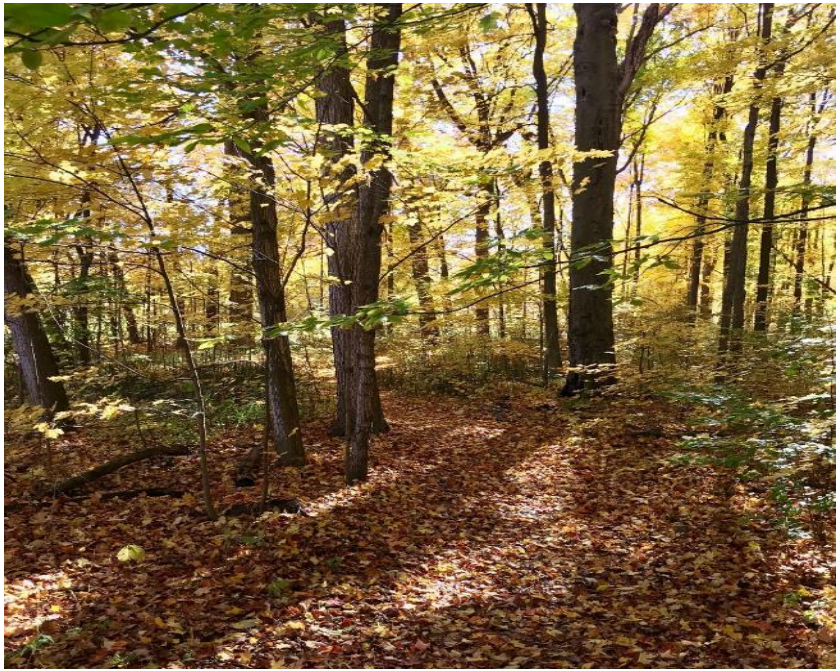
Where to start?

Natural Asset Inventory

An inventory of natural areas is critical to assess the condition of natural assets and to develop a Natural Asset Management Plan

The Challenge

- Limited Resources
- Limited Expertise



Rapid Condition Assessment Method

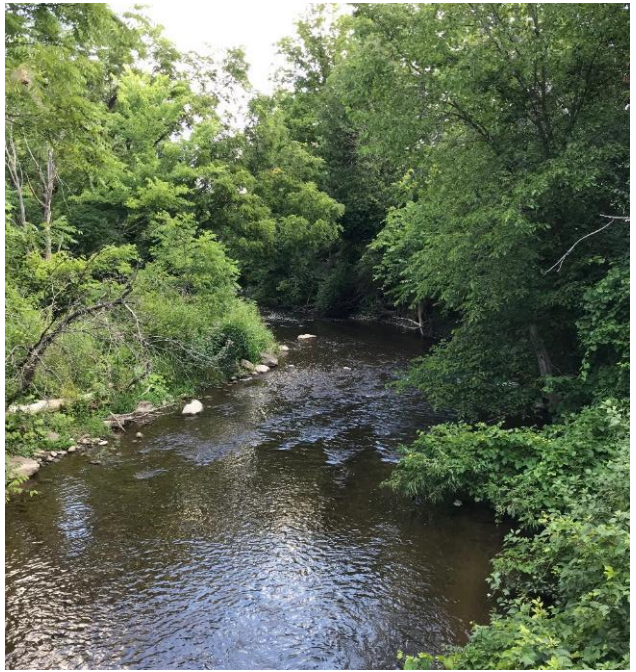
Provides an approach to conduct a high-level assessment of the condition of municipal natural assets

Based on simplified methods of

- Ecological Land Classification (ELC)
- Ontario Wetland Evaluation System

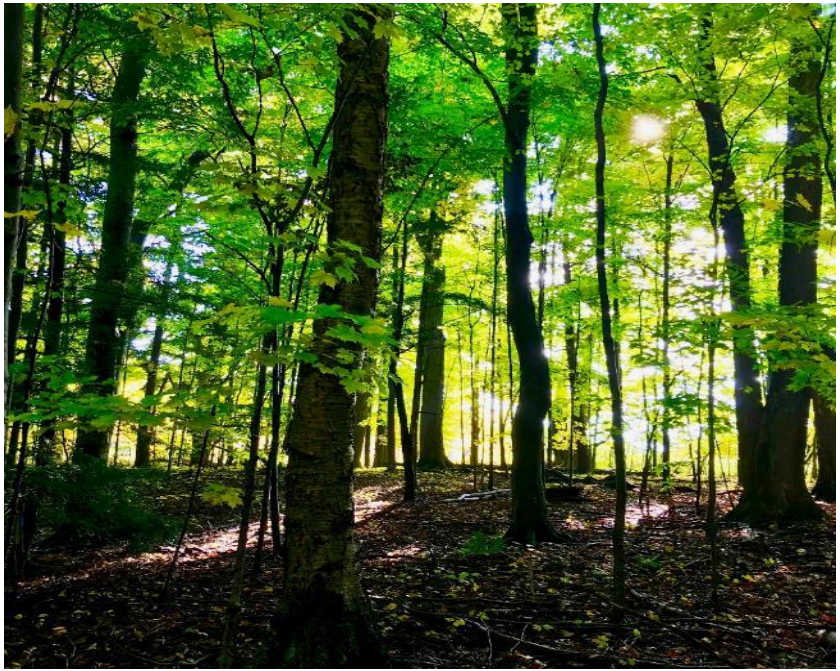
Who can apply it?

- Basic understanding of physical characteristics natural areas
- Surveyors could be university or college students in ecology, biology, or geography
- Not to replace technical assessments conducted by professionals
- Help identify when and where an expert opinion might be needed



Elements of an Asset

- Asset Size
- Vegetation Composition, Structure & Abundance
- Tree Size
- Abundance of dead trees and logs
- Disturbance Intensity
- Presence of High-Risk Invasive Species



Rapid Condition Assessment Method

Experienced people often have a sense of the condition of a natural area based on the presence or absence of certain elements

This approach attempts to identify and quantify those elements to assess asset condition

Application

- Designed to assess a variety of different types of natural assets
  - Woodlands
  - Wetlands
  - Meadows
  - Potentially Rivers & Stream

Rapid Condition Assessment Methodology (RCAM): Step 1- Field Assessments

Scorecards

Natural Asset Health Approximation

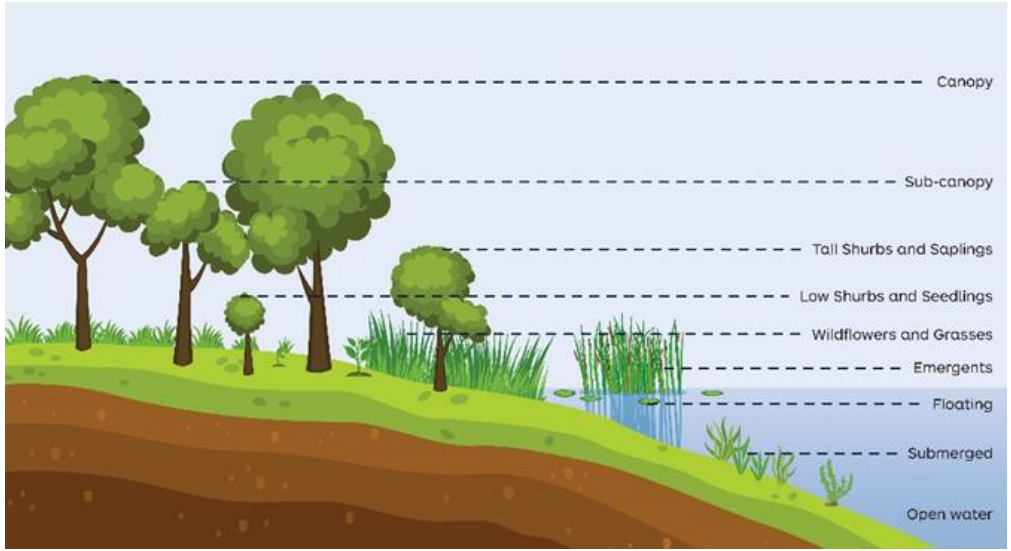
Site Name			
Asset ID			
Date (YYYYMMDD)			
Time (24:00)			
Surveyor(s)			
Easting		Northing	
Photo(s)			
Area (ha)			

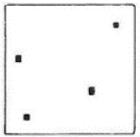
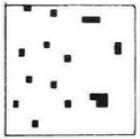
Type of Natural Asset or Vegetation Community	Forest	Plantation	Successional Woodland	Meadow
	Treed Swamp	Shrub Swamp	Marsh	Aquatic
	Fen	Bog	Other	

	Dominant Species List - Optional (Species in order of decreasing abundance (Ab ">>" much greater than, ">" greater than, "=" equal to)							
Layer	%Cover	Species 1	Ab	Species 2	Ab	Species 3	Ab	Species 4
Canopy trees								
Sub-canopy								
Tall shrubs & Saplings								
Low shrubs & Seedlings								
Wildflowers, Ferns, Grass-like								
Moss, Lichen, Liverworts, Fungi								
Broad/Robust Emergent								
Floating–leaved aquatic								
Free-floating								
Submergent								
Open water								
Manicured Lawn								
Bare Soil or Rock								
Impervious cover (e.g. roads, parking lots, buildings)								

Tree Diameter	0-10 cm	10–25 cm	25-50 cm	>50 cm	Total Cover	% Crown Mortality
Live					= 100 %	
Standing Dead					≠ 100 %	

Picture Guides



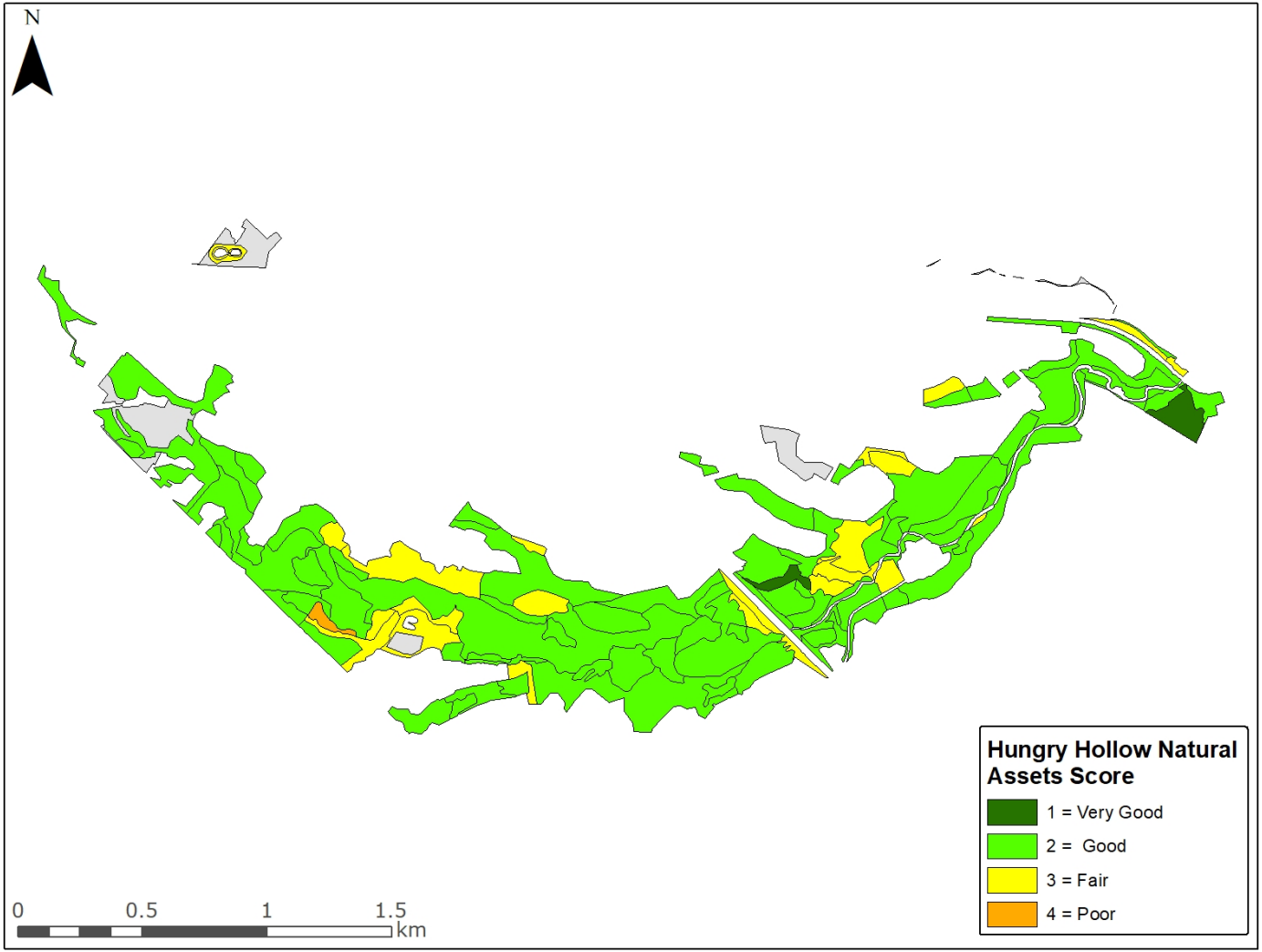
Indicator	Good (5 points)	Fair (3 points)	Poor (1 point)
Tree size	Mix of tree sizes with some exceeding 40cm	Most trees between 20-40	Most trees are under 20cm DBH
Tree Crown Mortality	< 10 % of trees have severe canopy decline	10 - 25% of trees have severe canopy decline	> 25 % of trees have severe canopy decline
Standing Dead Wood	At least 10% of standing trees are dead (2 of 20 trees).	Approximately 5% of standing trees are dead (1 of 20 trees).	Less than 5% of standing trees are dead (fewer than 1 of 20 trees).
Downed Dead Woody	Enough downed wood is present that you are constantly stepping over it while walking through the forest	Occasional downed wood	Virtually no downed wood
	Sum of points( ) / 5 = Category Score ( )		
Unauthorized Trails	None or Few and Faint	Occasional and clearly visible	Many and clearly visible
Dumping	None or light Local or widespread	Moderate Widespread	Heavy Widespread
Encroachment	None or light Local or widespread	Moderate Widespread	Heavy Widespread
Browse	None or light Local or widespread	Moderate Widespread	Heavy Widespread
Other Impacts	None or light Local or widespread	Moderate Widespread	Heavy Widespread
			
	Sum of points( ) / 5 = Category Score ( )		

Rapid Condition Assessment Methodology (RCAM): Step 2- Calculating the Condition Score

	A	B	C	D	E	G	H	I	J	K	L	M	N	O	P	Q	R
1	Site Name	Asset ID	Ecosystem	Condition	Size-Independent	Natural Asset Siz	Asset size	Strata	Open Water	Indicator	Date	Start Time	End Time	Surveyor 1	Surveyor 2	Surveyor 3	Surveyor 4
2	0	0	0	Please input natu	Please input natural area size, st	0		Please complete (	Please select open wa	Please complete ot	1/0/1900	12:00:00 AM	12:00:00 AM	0	0	0	0
3	Hungry Hollow	1	Deciduous Forest	3.74	2.40	7.97	5	1.9	0	4.31	6/22/2021	8:30:00 AM	12:00:00 AM	Scott Sampson	Joe Pearson	Natalie Rudkins	Lauren Moretto, Tatiana K
4	Hungry Hollow	2	Deciduous Forest	1.78	2.12	0.29	0	1.7	0	3.65	6/22/2021	9:24:00 AM	12:00:00 AM	Scott Sampson	Joe Pearson	Natalie Rudkins	Lauren Moretto, Tatiana K
5	Hungry Hollow	3	Meadow	2.17	1.51	2.8	3	0.6	0	2.92	6/22/2021	10:30:00 AM	12:00:00 AM	Scott Sampson	Joe Pearson	Natalie Rudkins	Lauren Moretto, Tatiana K
6	Hungry Hollow	4	Mixed Forest	3.65	2.32	5.29	5	1.6	0	4.35	7/7/2021	9:40:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
7	Hungry Hollow	5	Deciduous Forest	2.34	2.34	1.02	1	1.7	0	4.31	7/7/2021	10:00:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
8	Hungry Hollow	6	Mixed Forest	2.94	2.27	3.37	3	1.5	0	4.31	7/7/2021	10:30:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
9	Hungry Hollow	7	Meadow Marsh	1.47	1.80	0.21	0	0.6	0	3.81	7/7/2021	11:00:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
10	Hungry Hollow	8	Treed Swamp	1.90	2.23	0.29	0	1.7	0	4.00	7/7/2021	10:45:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
11	Hungry Hollow	9	Deciduous Forest	2.00	2.34	0.86	0	1.7	0	4.31	7/7/2021	11:35:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
12	Hungry Hollow	10	Successional Wo	1.73	2.07	0.64	0	1.7	0	3.50	7/7/2021	12:35:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
13	Hungry Hollow	11	Successional Shr	1.85	1.85	1.61	1	0.9	0	3.65	7/7/2021	1:00:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
14	Hungry Hollow	12	Successional Shr	2.05	2.05	1.88	1	1.3	0	3.85	7/7/2021	1:00:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
15	Hungry Hollow	13	Successional Wo	2.98	2.32	2.92	3	2.1	0	3.85	7/7/2021	1:00:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
16	Hungry Hollow	14	Successional Wo	1.83	2.17	0.25	0	1.5	0	4.00	7/7/2021	2:00:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
17	Hungry Hollow	15	Successional Wo	1.77	2.10	0.7	0	1.5	0	3.81	7/7/2021	2:05:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
18	Hungry Hollow	16	Meadow Marsh	1.19	1.53	0.03	0	0.5	1	3.08	7/9/2021	9:45:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
19	Hungry Hollow	17	Shallow Marsh	1.51	1.51	1.21	1	0.6	0	2.92	7/9/2021	9:00:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
20	Hungry Hollow	18	Meadow Marsh	1.14	1.47	0.93	0	0.5	0	2.92	7/9/2021	9:20:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
21	Hungry Hollow	19	Deciduous Forest	2.95	2.29	2.83	3	1.9	0	3.96	7/9/2021	10:15:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
22	Hungry Hollow	20	Treed Swamp	2.12	2.12	1.73	1	1.5	0	3.85	7/9/2021	10:35:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
23	Hungry Hollow	21	Treed Swamp	2.22	2.22	1.39	1	1.9	0	3.77	7/9/2021	11:25:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
24	Hungry Hollow	22	Deciduous Forest	1.55	1.88	0.55	0	1	0	3.65	7/9/2021	11:45:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
25	Hungry Hollow	23	Successional Shr	1.52	1.86	0.62	0	0.8	0	3.77	7/9/2021	12:15:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
26	Hungry Hollow	24	Treed Swamp	1.60	1.94	0.6	0	1	0	3.81	7/9/2021	12:40:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
27	Hungry Hollow	25	Mixed Forest	1.69	2.02	0.72	0	1.1	0	3.96	7/9/2021	1:00:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
28	Hungry Hollow	26	Successional Wo	1.55	1.88	0.89	0	1.1	0	3.54	7/9/2021	1:20:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
29	Hungry Hollow	27	Successional Wo	2.05	2.05	1.29	1	1.3	0	3.85	7/9/2021	12:00:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
30	Hungry Hollow	28	Mixed Forest	3.52	2.18	6.54	5	1.4	0	4.15	7/15/2021	7:45:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
31	Hungry Hollow	29	Successional Wo	1.81	2.15	0.59	0	1.9	0	3.54	7/15/2021	8:25:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
32	Hungry Hollow	30	Plantation	2.01	2.01	1.03	1	1.5	0	3.54	7/15/2021	9:00:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
33	Hungry Hollow	31	Meadow Marsh	1.43	1.43	1	1	0.6	0	2.69	7/15/2021	9:25:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
34	Hungry Hollow	32	Treed Swamp	1.63	1.96	0.4	0	1	0	3.88	7/15/2021	9:35:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
35	Hungry Hollow	33	Successional Wo	1.60	1.94	0.59	0	1.5	0	3.31	7/15/2021	9:50:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
36	Hungry Hollow	34	Successional Wo	2.81	2.14	2.32	3	1.7	0	3.73	7/15/2021	10:00:00 AM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
37	Hungry Hollow	35	Mixed Forest	1.55	1.88	0.57	0	0.8	0	3.85	7/15/2021	10:15:00 AM	12:00:00 AM	Joe Pearson			0
38	Hungry Hollow	36	Mixed Forest	2.02	2.02	1.5	1	1.2	0	3.85	7/15/2021	10:35:00 AM	12:00:00 AM	Joe Pearson			0
39	Hungry Hollow	37	Mixed Forest	1.85	2.18	0.41	0	1.7	0	3.85	7/15/2021	10:45:00 AM	12:00:00 AM	Joe Pearson			0
40	Hungry Hollow	38	Treed Swamp	1.72	2.05	0.06	0	1.2	0	3.96	7/15/2021	11:05:00 AM	12:00:00 AM	Joe Pearson			0
41	Hungry Hollow	39	Mixed Forest	1.61	1.94	0.87	0	0.7	0	4.12	7/21/2021	1:25:00 PM	12:00:00 AM	Joe Pearson			0
42	Hungry Hollow	40	Successional Wo	2.63	1.96	2.94	3	1.2	0	3.69	7/15/2021	11:40:00 AM	12:00:00 AM	Joe Pearson			0
43	Hungry Hollow	41	Meadow Marsh	1.11	1.45	0.69	0	0.8	0	2.54	7/15/2021	12:25:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
44	Hungry Hollow	42	Meadow	1.30	1.64	0.92	0	0.6	0	3.31	7/15/2021	12:30:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
45	Hungry Hollow	43	Mixed Forest	2.37	2.37	1.02	1	1.5	0	4.62	7/15/2021	12:50:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
46	Hungry Hollow	44	Coniferous Forest	1.92	2.25	0.4	0	1.3	0	4.46	7/15/2021	1:30:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0
47	Hungry Hollow	45	Meadow Marsh	1.44	1.77	0.12	0	0.9	0	3.42	7/15/2021	1:00:00 PM	12:00:00 AM	Joe Pearson	Natalie Rudkins	0	0

Database

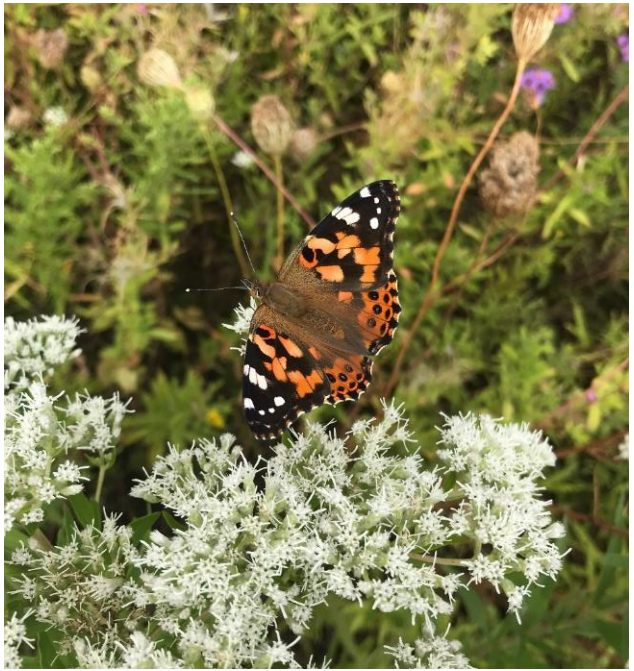
Global Parameters | Score Output | MaxScore | Site | Site 1 | Site 2 | Site 3 | Site 4 | Site 5 | Site 6 | Site 7 | Site 8 | Site 9 | Site 10 | Site 11 | Site 12 | Site 13 | Sit ...


N
0
0.5
1
1.5
km
Hungry Hollow Natural Assets Score
1 = Very Good
2 = Good
3 = Fair
4 = Poor

How Can It Help

Helps Land & Asset Managers:

- Document assets
- Assess asset condition
- Compare similar assets
- Rank assets
- Prioritize asset for management
- Monitor assets



Street Trees/ Lawn Assessment

- Designed for **quick, 1-3min assessments** of street trees and manicured lawns
  - Related to level of service, not ecological complexity
  - E.g. manicured lawn as soccer field
  - To **flag** street trees and lawns that require a **comprehensive examination**
- Incorporates **indicators of condition from other assessments** (e.g. Ontario Butternut Assessment Guidelines, CVC approaches)

Scorecards: Street Trees

Street Tree Condition Asessment

Site Name: Acton Community Centre:Tanners Drive/ Queen Street. Assessed trees on both sides of street between Browns Cres. and Bonnette St.

Surveyors:

CVC

GPS Unit #:

NHP9

Date/ Time:

August 13, 2021
10:28 - 11:25am (57min)

Required Information

#: ID Number for each tree. For multi-stemmed trees, record an additional letter for each stem e.g. 1a, 1b

1) SCORE 1 IF ABSENT, 3 IF PRESENT BUT MINOR, 5 IF EVIDENT IN MORE THAN TWO LOCATIONS ON TREE: Roots= exposed roots? **Shoots=** presence of epicormic shoots from trunk/ base?; **Trunk=** bark chipped/ cankers on trunk/ root flare/ holes?; **Leaf=** signs of stress on leaves, like spots, discolouration/ browning, etc?

2) Crown= % of dead crown: Score 1 point if 0-30%; 3 points if 31-60%; 5 points if >60%

3) *Cond= rounded overall condition score AUTOCALCULATED*

Pst= populate with X if evidence of pest spec adults, or white egg sacs)

***** = populate with X if:**
a) Cond score is above 3 or if any categor
b) it is believed that additional assessmen

Additional Information
DBH: diameter at breast height (cm); **Species**
Nat: X if non-native species
GPS: GPS location/ point number; **Notes:** ad

#	Roots	Shoots	Trunk	Leaf	Crown	Cond	Pst	***	DBH	Species	Nat	GPS	Notes
1	1	5	5	5	1	3	X	X	19.9	Quercus macroca		197	Start north side of Tanners at Browns Cres. 30% browse by LDD
2	1	1	1	1	1	1			9.5	Gymnocladus dio		198	
3	1	1	1	1	1	1			9.1	Gymnocladus dio		199	
4	1	1	1	3	5	2	X	X	13.8	Quercus rubra		200	LDD
5	1	1	1	3	3	2	X		14.2	Quercus macroca		201	LDD
6	1	1	1	1	1	1			9.8	Syringa reticu	X	202	

Scorecards: Street Trees

Street Tree Condition Asessment

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1) SCORE 1 IF ABSENT, 3 IF PRESENT BUT MINOR, 5 IF EVIDENT IN MORE THAN TWO LOCATIONS ON TREE: Roots= exposed roots? **Shoots=** presence of epicormic shoots from trunk/ base?; **Trunk=** bark chipped/

Very Good	Good	**Fair**	Poor	**Very Poor**
1	2	**3**	4	**5**

Notes
side of Tanners at Browns browse by LDD

6	1	1	1	1	1	1			9.8	Syringa reticu	X	202

Scorecards: Manicured Lawn

Manicured Lawn/ Open Space Condition Assessment

Site Name:
Hungry Hollow

Surveyors:
CVC

GPS Unit #:
NHP9

Date/ Time:
July 22, 2021

Required Information
#: ID Number for each manicured lawn/ open space site assessed

Mark with an X if present:
Patchy= patchiness of lawn (i.e. patches of dirt, browning?); **Flood=** evidence of flooding/ poor drainage?; **Litter=** pollution/ litter/ dumping?; **Depr=** depressions?

Rank the condition of the lawn from 1 to 5, considering the combined relative cover of all items above:
1= Very Good (Perfect lawn with little/ no patchiness/ discolouration/ depressions (i.e. covering <10% of lawn). Clearly well-maintained); **2= Good** (Imperfect lawn with patchiness/ discolouration/ depressions covering 10-20% of lawn. Occasionally maintained); **3= Fair** (Patchiness/ discolouration/ depressions cover 20-50% of lawn. Occasionally maintained); **4= Poor** (Patchiness/ discolouration/ depressions cover 51-80% of lawn. Rarely maintained); **5= Very Poor** (Patchiness/ discolouration/ depressi

Cond= rounded overall condition score
AUTOCALCULATED

Tree= estimate the relative % tree cover (if
Roots= (yes/no) exposed roots from trees

*** = populate with X if:
a) Cond score is above 3 or if any categ
b) it is believed that additional assessm

Additional Information
Age 25: note with X if manicured lawn/ gre

#	Patchy	Flood	Litter	Depr	Cond	***	Tree	Roots	Age 25	GPS	Notes
60	1	1	1	1	1		<5%	no		no	White colver/ plantains covering. Norway maple with several gypsy moths. Some minor patchiness around soccer field, likely from wear.
61	4	1	1	1	2		<5%	no		no	Woodchips cover most of area. Little lawn remains. Dog park
62	1	1	1	1	1		<5%	no		no	Dandelions, some plantains. Clippings returned after mowing.

Scorecards: Manicured Lawn

Manicured Lawn/ Open Space Condition Assessment

Site Name:
Hungry Hollow

Surveyors:
CVC

GPS Unit #:
NHP9

Date/ Time:
July 22, 2021

Required Information
#: ID Number for each manicured lawn/ open space site assessed

Mark with an X if present:
Patchy= patchiness of lawn (i.e. patches of dirt, browning?); **Flood=** evidence of flooding/ poor drainage?;

Very Good 1	Good 2	**Fair 3**	Poor 4	**Very Poor 5**

											Notes
62	1	1	1	1	1		<5%	no		no	Dandelions, some plantains. Clippings returned after mowing.

...s covering. Norway maple
...oths. Some minor patchiness
...ikely from wear.

...st of area. Little lawn

Street Trees/ Lawn Assessment: Photo Guides

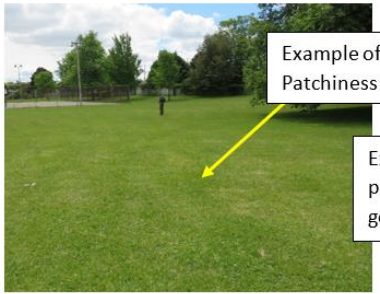
Exposed Roots

Examples of roots which are uncovered near the base of the tree. These are exposed to damage by trampling and the elements.

Examples of three points scored for roots (only one or two roots are exposed).

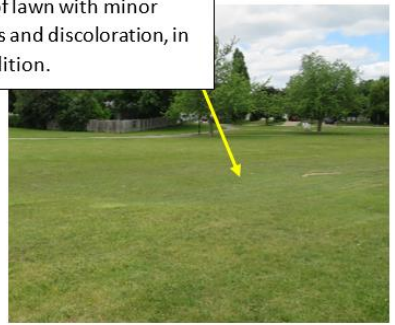
Example of five points scored for roots (more than two roots are exposed).

Patchiness/ Discoloration of Lawn



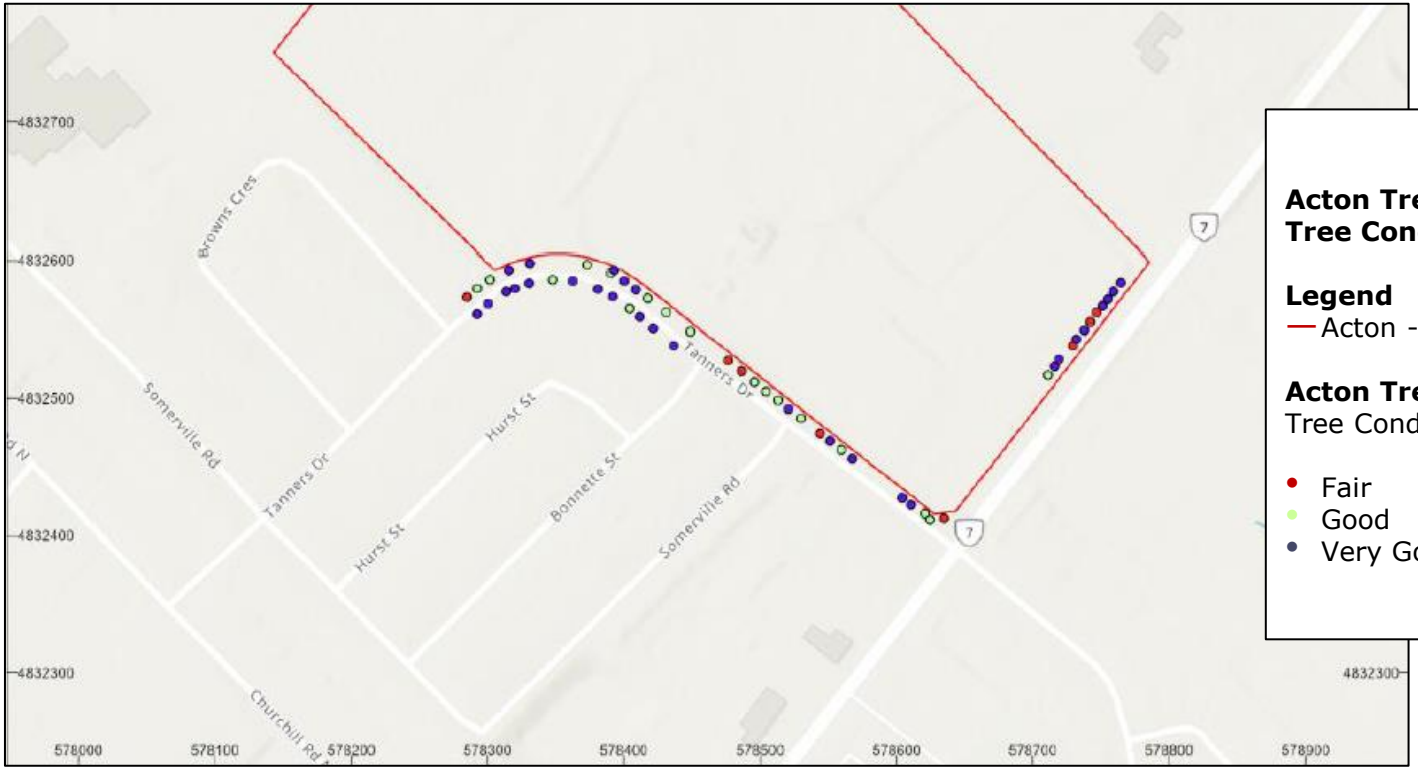
Example of lawn in very good condition. Patchiness and discoloration almost absent.

Example of lawn with minor patchiness and discoloration, in good condition.



Example of lawn in fair condition, where patchiness/ discoloration cover 21-50%.

Example Application: Street Trees around Acton Arena



Acton Tree Inventory – Tree Condition Rating

Legend

— Acton - study area

Acton Tree Inventory
Tree Condition Rating

- Fair
- Good
- Very Good

Key Take Away Messages

- Natural assets are important for climate change mitigation
- O. Reg 588 requires that municipalities include natural assets in asset management plans
- Establishing an inventory and assessing condition can help with municipal natural asset management
- This information will feed into next steps regarding level of service and life cycle costing

2022 STEP Webinar Series

- March 31 – Overview of the Ecological Land Classification System
- April 7 – Natural Asset Inventory and Condition Assessment (Part 1)
- April 28 – Fish and Wildlife Passage at Bridges and Culverts
- May 5 – Level of Service, Valuation and Life-Cycle Costing for Natural Assets (Part 2)
- June 2 – Climate Considerations for Management of Natural Features
- June 23 – CVC Ecosystem Offsetting Guidelines
- September 8 – Building Business Case for Natural Assets (Part 3)
- September 29 – Biodiversity Matters in Managing Natural Assets

https://sustainabletechnologies.ca/events/2022-webinar-series/

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