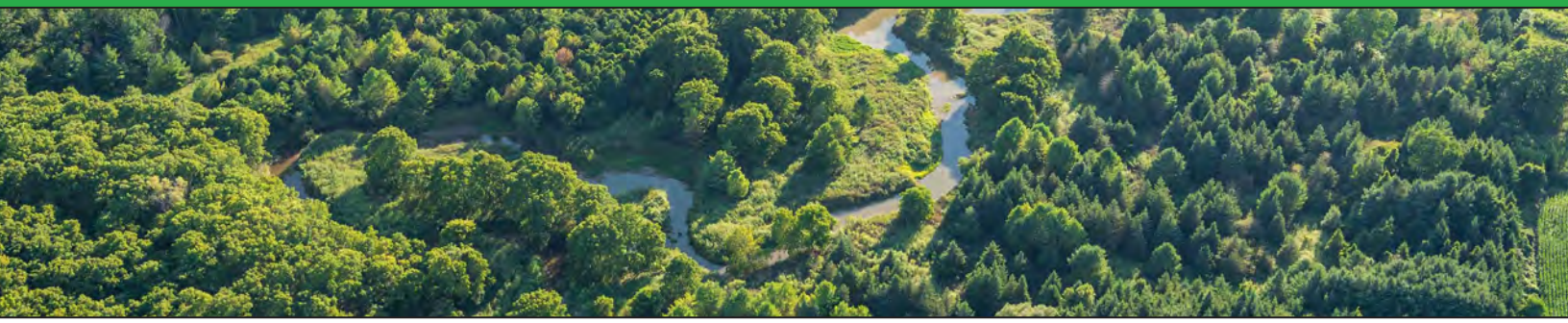
Ausable Bayfield

FOREST CONDITIONS



Forests and trees help maintain water quality and store carbon. They provide habitat as well as economic and recreational opportunities. In urban areas, they provide shade and a cooling effect, and act as a tool to manage stormwater. Forests absorb and re-direct water in ways that can mitigate and prevent downstream flooding. Forests need to be valued as important natural infrastructure.

Methods

Forest data was extracted from the Ausable Bayfield Conservation Authority (ABCA) natural heritage layer using Geographic Information Systems (GIS) digital mapping. Wooded areas included included deciduous and coniferous forests, treed swamps, and both young and mature plantations. Any heritage feature that was less than 0.5 hectares (1.2 acres), including street trees, small windbreaks or woodland patches, was not likely detected during this mapping exercise. It is important to note we have measured forest cover in the watershed but we have not extensively studied other forest conditions such forest health.

To determine a grade for overall forest conditions in each subwatershed, three indicators were given point scores, then averaged to determine a final grade for overall forest conditions in each subwatershed (Table 2):

- Forest cover was calculated as the percentage of forested area within a subwatershed.
- Forest interior was the percentage of forest cover after subtracting a 100-metre zone around the perimeter of each woodland.
- Streamside forest cover was the amount of forest cover within a 30-metre zone on both sides of an open watercourse.

Table 2: Forest condition indicator scoring and grading (adapted from Conservation Ontario).

Forest Cover (%)	Forest Interior (%)	Streamside Cover (%)	Point Score	Grade	Average Point Score	Final Grade
>35.0	>11.5	>57.5	5	A	>4.4	A
25.1-35.0	8.6-11.5	42.6-57.5	4	B	3.5-4.4	B
15.1-25.0	5.6-8.5	27.6-42.5	3	C	2.5-3.4	C
5.0-15.0	2.5-5.5	12.5-27.5	2	D	1.5-2.4	D
<5.0	<2.5	<12.5	1	F	<1.5	F

Results

Ten of 16 watersheds received D grades for overall forest conditions (Table 3, Map 3). Most watersheds received D grades for forest cover, F grades for forest interior, and D grades for streamside cover. Results were based on 2015 aerial photography.

Our current forest cover of about 14% is 4% higher than the 10% levels found in the 1949 Ausable Valley Conservation Report. That 4% increase is a result of reforestation efforts from the 1950s forward.

The many F grades for forest interior reflect the fragmented nature and small size of most woodlots in southwestern Ontario (Table 3, Map 3).

The Old Ausable Channel and Bayfield North subwatersheds scored highest for overall conditions, receiving A and B grades, respectively. These high grades result from Pinery Provincial Park in the Old Ausable Channel and large swaths of upland forest in Bayfield North.

Improving Forest Conditions

An average of 36,000 trees are planted annually across the ABCA area, totaling more than 185,000 trees over the past five years.

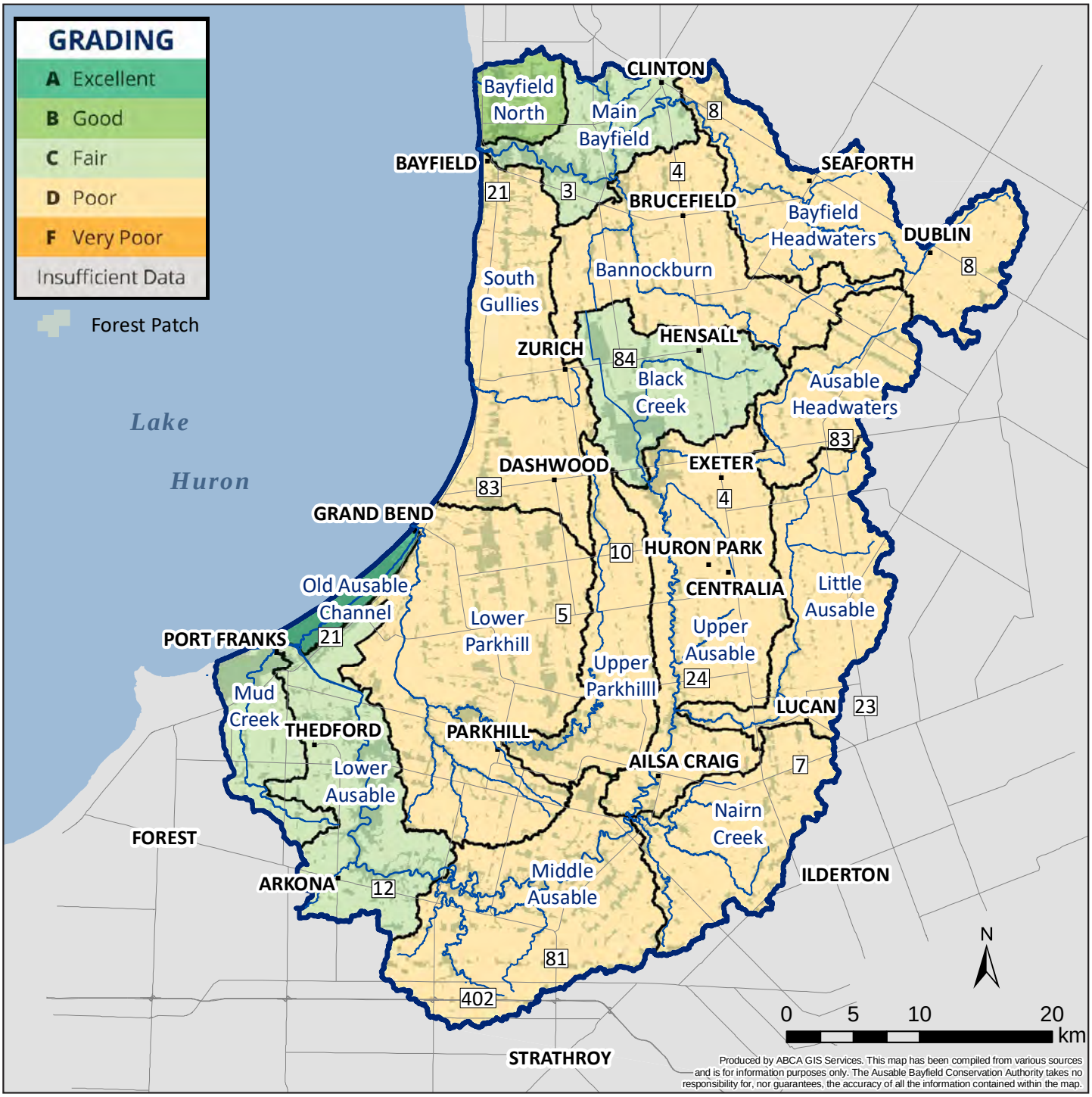
Tree planting at current levels helps to maintain existing forest cover and conditions, and offset forest losses which occur through land clearing and development.

Table 3: Percentage of forest cover, forest interior, and streamside cover, their grades, and overall forest conditions grade for each subwatershed.

Subwatershed	Forest Cover		Forest Interior		Streamside Cover		Overall Grade
	Percentage	Grade	Percentage	Grade	Percentage	Grade	
Ausable Headwaters	10.4	D	1.2	F	19.5	D	D
Bannockburn	10.8	D	1.4	F	26.3	D	D
Bayfield Headwaters	7.6	D	0.7	F	17.2	D	D
Bayfield North	30.5	B	9.0	B	63.9	A	B
Black Creek	20.6	C	9.6	B	31.7	C	C
Little Ausable	6.5	D	0.3	F	18.4	D	D
Lower Ausable	20.5	C	4.0	D	46.9	B	C
Lower Parkhill	14.7	D	3.6	D	26.0	D	D
Main Bayfield	22.9	C	4.7	D	54.8	B	C
Middle Ausable	13.6	D	1.9	F	42.7	B	D
Mud Creek	24.3	C	10.7	B	33.8	C	C
Nairn Creek	9.7	D	0.9	F	28.8	C	D
Old Ausable Channel	82.1	A	43.8	A	76.9	A	A
South Gullies	11.7	D	2.1	F	24.2	D	D
Upper Ausable	10.7	D	2.2	F	31.0	C	D
Upper Parkhill	14.1	D	2.3	F	40.3	C	D
Entire ABCA Area	14.2		3.3		32.6		

The most recent tree planting in the ABCA area has focused on windbreaks, buffer strips, and forest connectivity. These types of projects build ecosystem resiliency and protect water quality. These focused plantings may not result in large grade changes in the report card but they do help to maintain and improve watershed health.

This report focuses on forest quantity, which may overlook important declines in quality. A changing climate presents new challenges such as extreme weather, disease and pests. Planting a diversity of species, monitoring and reporting disease and pests, and removing invasive species can help improve forest health.



Map 3: Grade distribution of forest conditions in the Ausable Bayfield Conservation Authority area.