

Grey Bruce Tree Care and Training Service 364 13th avenue Hanover, ON N4N 2W1

Kincardine Trails Network – Hazard and Danger Tree Assessment

Grey Bruce Tree Care and Training Services

This assessment is an approximation and is not guaranteed. Site and tree conditions are subject to change due to weather or other factors such as decay. Actual cost may change once all project elements are finalized.

Mission Statement

To create an inventory of hazard and danger trees throughout the Kincardine Trail Network, primarily ash trees.

Only trees that fall in the corridor of 30 feet on either side of trail center were marked unless they pose a significant risk to the trail/trail users.

Tree Categorization

All costs are with material/trees left on site

Category 1 Trees	Category 1 trees are trees that are easily felled and require little work
<i>o</i> ,	once the tree has reached the ground. These trees can vary in cost
	anywhere from \$10.00 – \$50.00 each depending on complexity and size.
Category 2 Trees	Category 2 trees are trees that are easily felled however require
	substantial groundwork once the tree has been felled. These trees can
	vary in cost anywhere from \$50.00 - \$125.00 depending on complexity
	and size.
Category 3 Trees	Category 3 trees are trees that require the use of some sort of
	mechanical advantage to fell the tree (ropes, pullies, wedges, come
	along etc.), however the tree can be felled from the ground. This
	category can also include trees that are of a large diameter and height
	and will require excessive bucking once the tree has been felled. These
	trees require individualized quotes due to varying tree and site
	conditions, as well as considerations that need to be taken during felling.
Category 4 Trees	Category 4 trees are trees that require being felled in sections using
	climbing and rigging techniques. These trees require individualized
	quotes due to varying tree and site conditions, as well as considerations
	that need to be taken during felling.

<u>Red Trail</u>

There is a significant amount of dead or dying trees on the Red Trail that would be considered hazard trees and pose a potential risk to trail users. The following is an approximate list of the hazard trees on the Red Trail that pose a risk to trail users and each tree's approximate value.

- Throughout the Red trail, there are approximately 91 trees that would fit into Category 1 trees with an approximate value of \$910 \$4,550 depending on tree complexity and time of completion.
- Throughout the Red trail there are approximately 58 trees that would fit into Category 2 trees with an approximate value of \$2,900 \$7,250 depending on tree complexity and time of completion.

Category 3-4 Trees

All numbers correspond to map of same trail name. All trees are ash trees unless otherwise specified.

Tree #	Description and Quote
1	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3
	- approx. \$175
2	Tree is dead/dying, tree can be wedged in a safe direction, will require little bucking – Cat. 3 -
	approx. \$125
3	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3
	- approx. \$150
4	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3
	- approx. \$150
5	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3
	- approx. \$150
6	Tree is dead/dying, tree can be wedged in a safe direction, will require little bucking – Cat. 3 -
	approx. \$125
7	Dangerous dead ash tree, can be felled from the ground, requires little bucking – Cat. 3 -
	approx. \$150
8	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3
	- approx. \$150
9	Large ash tree that will require being felled in sections due the surrounding area. – Cat. 4 -
	approx. \$650
10	Danger poplar tree that is dead/dying. Can be felled in a safe direction using ropes and
	wedges – Cat. 3 - approx. \$200
11	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3
	- approx. \$150
12	Danger poplar tree that is dead/dying. Can be felled in a safe direction using ropes and
	wedges – Cat. 3 - approx. \$250
13	Tree is dead/dying, tree can be wedged in a safe direction, will require little bucking – Cat. 3 -
	approx. \$120

14	Tree is dead/dying, tree can be wedged/roped in a safe direction, will require some bucking Cat. 3 - – approx. \$150
15	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3 - approx. \$150
16	Large cluster of 6 dead/dying trees – Trees can be roped/wedged in a safe direction – will require extensive bucking – Cat. 3 - approx. \$450
17	Cluster of 3 dead/dying trees that will require wedges, ropes to fell the trees safely – will require extensive bucking – Cat. 3 - approx. \$400
18	2 large dead/dying trees that will require wedges/ropes to fell safely – extensive amount of bucking required – Cat. 3 - approx. \$350
19	Cluster of 8 dead/dying trees that can be wedged in a safe direction – will require some bucking – Cat. 3 - approx. \$350
20	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3 - approx. \$175
21	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3 - approx. \$200
22	2 trees that dead/dying, tree can be wedged in a safe direction, will require little bucking – Cat. 3 - approx. \$225
23	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3 - approx. \$150
24	Tree is dead/dying, tree can be wedged in a safe direction, will require some bucking – Cat. 3 - approx. \$150
25	Tree is dead/dying, tree can be wedged/roped in a safe direction, will require some bucking Cat. 3 - – approx. \$200
26	2 trees, dead/dying , trees can be felled in a safe direction, will require some bucking – Cat. 3 - approx. \$225
27	2 trees, dead/dying , trees can be felled in a safe direction, will require some bucking – Cat. 3 - approx. \$225
28	Tree is dead/dying, tree will require wedges to fell in safe direction, will require some Cat. 3 - bucking – Cat. 3 - approx. \$150
29	2 trees, dead/dying , trees will require wedges to be felled in a safe direction, will require some bucking – Cat. 3 - approx. \$300
30	3 trees, dead/dying , trees will require wedges to be felled safely, will require some bucking – Cat. 3 - approx. \$400
31	2 extremely large dead/dying trees, trees will require wedges to be felled safely, will require extensive bucking Cat. 3 – approx. \$500
32	Face tree? Tree is very large and appears to be dying. Tree can be felled safely but will require extensive work and bucking – Cat. 3 - approx. \$600
33	Large cluster of 10 dead/dying trees, will require wedges to be felled safely, extensive bucking will be required – Cat. 3 - approx. \$500
34	Large dead/dying tree - will require wedges to be felled safely, extensive bucking will be required – Cat. 3 - approx. \$300
35	Large dead/dying tree right at max distance of corridor, requires wedges to fell safely, will require extensive bucking – Cat. 3 - approx. \$500
36	Danger hanger tree, dead/dying, can be felled safely, will require some bucking – Cat. 3 - approx. \$150

37	2 dead/dying trees, require wedges to fell safely, will require some bucking – Cat. 3 - approx. \$225
38	Large hanger tree, hung up in other surrounding trees, can be felled safely, will require some bucking – Cat. 3 - approx. \$300
39	2 large dead/dying trees, will require wedges to be felled safely, extensive bucking required – Cat. 3 - approx. \$350
40	Dead/dying tree, will require wedges to be felled safely, some bucking required – Cat. 3 - approx. \$150
41	Large dead/dying tree, will require wedges to be felled safely, some bucking require – Cat. 3 - approx. \$250
42	Danger tree, dead/dying, will require wedges to be removed safely, some bucking required – Cat. 3 - approx. \$250
43	Dead/dying tree, will require wedges to be felled safely, some bucking required – Cat. 3 - approx. \$175
44	Dead/dying tree, will require wedges to be felled safely, some bucking required – Cat. 3 - approx. \$175
45	2 large trees, clear to fell safely, will require extensive bucking – Cat. 3 - approx. \$200
46	Dead/dying tree, clear to fell safely, will require little bucking – Cat. 3 - approx. \$100
47	3 large trees, clear to fell safely, will require extensive bucking – Cat. 3 - approx. \$300
48	Large dead/dying tree, will require wedges to fell safely, little bucking required – Cat. 3 - approx. \$175
49	Large dead/dying tree, will require ropes and wedges to be felled safely, extensive bucking required – Cat. 3 - approx. \$350
50	Dangerous dead/dying tree, trunk is split at base and hung up on other trees, will require ropes and wedges to be felled safely, will require extensive bucking – Cat. 3 - approx. \$450
51	Very large dead/dying tree, requires wedges to be felled safely, extensive bucking required – Cat. 3 - approx. \$500
52	Dead/dying tree, will require wedges to be felled safely, some bucking required – Cat. 3 - approx. \$200
53	2 large dead/dying trees, will require wedges to be felled safely, some bucking required – Cat. 3 - approx. \$350
54	Large dead/dying tree, will require wedges to be felled safely – some bucking required – Cat. 3 - approx. \$250
55	Cluster of 10 dead/dying trees, some can be felled safely, some will require wedges to be felled safely, extensive bucking required – Cat. 3 - approx. \$550
56	Large dead/dying tree, many loose branches caught in canopy, requires wedges to fell safely, some bucking required – Cat. 3 - approx. \$300
57	Cluster of 11 dead/dying trees, some can be felled safely, some will require wedges to be felled safely, extensive bucking required – Cat. 3 - approx. \$600

There are also hazard trees that border along Helliwell Park where town employees can easily access.

The hazard tree problem on the Red Trail is consistent throughout the whole trail with small patches of trail that have little or no hazardous trees. Most of the hazard trees are of the ash species and are either dying or already dead. There are a substantial number of trees in categories 3 and 4 on this trail, mostly due to their large size, extremely hazardous conditions, and the tight environments where it is likely to

damage the surrounding bush during felling without some form of mechanical advantage. It is in my recommendation that the hazard trees be removed throughout the trail to reduce the risk to trail users.

An approximate time frame for the removal of the hazard trees on the Red Trail is 6-8 weeks.



A dead ash tree - shows severe decay Dead overhanging branches pose risk to trail users.



Large dead ash – tree has already lost limbs in canopy and is left with a large spiked limb that could fall on users.

Examples of Hazard Trees on Red Trail



Dead ash tree – has fallen from stump and has landed overhanging the trail, posing significant risk to trail users.



Large fallen dead ash - tree fell next to trail and is now overhanging at top.

Yellow Trail

The Yellow Trail, while having some trees that require more planning and work, the majority fall into category 1 and 2 trees. The following is an approximate list of the hazard trees on the Red Trail that pose a risk to trail users and each tree's approximate value.

- Throughout the Yellow trail, there are approximately 31 trees that would fit into Category 1 trees with an approximate value of \$310 \$1,550 depending on tree complexity and time of completion.
- Throughout the Yellow trail there are approximately 15 trees that would fit into Category 2 trees with an approximate value of \$750 \$1,875 depending on tree complexity and time of completion.

Category 3-4 Trees

All numbers correspond to map of same trail name. All trees are ash trees unless otherwise specified.

Tree #	Description and Quote
1	Cluster of 5 dead/dying trees, will require ropes and wedges to be felled safely, extensive
	bucking required - Cat. 3 – approx. \$450
2	Dead/dying tree, to be removed in sections due to fence, will require some bucking - Cat. 4 -
	approx. \$400
3	Cluster of 3 dead/dying trees, will require ropes and wedges to fell safely, some bucking
	required - Cat. 3 – approx. \$400
4	Dead/dying tree, remove in sections due to dog park, extensive bucking required - Cat. 4 - approx. \$450
5	Dead/dying tree, will require wedges to remove safely, minimal bucking required - Cat. 3 -
	approx. \$175
6	Dead/dying tree, will require ropes to remove safely, minimal bucking required - Cat. 3 –
	approx. \$175
7	2 dead/dying trees, will require wedges to remove safely, minimal bucking required - Cat. 3 -
	approx. \$200
8	Large dead tree, to be removed in sections, extensive bucking required - Cat. 4 – approx.
	\$600
9	Heavy leaner, lifting root-ball, tree is dying, will require wedges to remove safely, some
	bucking required - Cat. 3 – approx. \$300
10	Dead/dying tree, will require wedges to remove safely, some bucking required - Cat. 3 -
	approx. \$200
11	Dying maple tree, remove dead section only, some bucking required - Cat. 4 - approx. \$300
12	Dead poplar tree, will require ropes and wedges to fell safely, some bucking required - Cat. 3
	- approx. \$250
13	Dead poplar tree, hanger, can be felled safely, some bucking required - Cat. 3 – approx. \$200
14	2 dead poplar trees, will require ropes to be felled safely, some bucking required Cat. 3 – approx. \$300
15	Dead/dying tree, can be felled safely, some bucking required - Cat. 3 - approx. \$175

There are also hazard trees that border along Legion Park where town employees can easily access.

The hazard tree problem on the yellow trail is much less significant due to its shorter length. Most trees are ash, however there are several poplars that have begun to die or are dead due to the wet conditions in the swampy area bordering the trail. There are fewer trees that fall into categories 3 and 4 on this trail, however due to surrounding infrastructure, (such as the dog park and the fence that borders it), the trees that fall into categories 3 and 4 often require roping or removal in sections. It is in my recommendation that the hazard trees be removed throughout the trail to reduce the risk to trail users.

Since there are significantly less trees on the Yellow Trail, an approximate time frame for the removal of the trees is 2-3 weeks.

Examples of Hazard Trees on Yellow Trail



A large dead maple, overhanging dead branches pose a risk to trail users.



Uprooted poplar that has fallen and has become hung up amongst other trees and now overhangs the trail.



A large dead ash which has a slight lean toward trail – if tree fails it will pose a significant risk to trail users.

Northline Extension Trail

While there are many dead/dying hazard trees throughout the Northline Extension Trail, once again, most of the trees fall into Categories 1 and 2. While there are some trees that are in Category 1 on this trail the majority are in Category 2. The following is an approximate list of the hazard trees on the Northline Extension Trail that pose a risk to trail users and each tree's approximate value.

- Throughout the Northline Extension trail, there are approximately 39 trees that would fit into Category 1 trees with an approximate value of \$390 \$1,950 depending on tree complexity and time of completion.
- Throughout the Northline Extension trail there are approximately 60 trees that would fit into Category 2 trees with an approximate value of \$3,000 \$7,500 depending on tree complexity and time of completion.

Category 3-4 Trees

All numbers correspond to map of same trail name. All trees are ash trees unless otherwise specified.

Tree #	Description and Quote
1	Large dead tree, requires removal in sections due to power lines on north side that border
	the road, extensive bucking required - Cat. 4 – approx. \$600 – Also recommend rerouting
	trail to avoid sections that border power lines
2	Large dead tree, requires removal in sections due to power lines on north side that border
	the road, extensive bucking required - Cat. 4 – approx. \$750 – Also recommend rerouting
	trail to avoid sections that border power lines
3	2 large dead trees, requires wedges to be felled safely, some bucking required - Cat. 3 -
	approx. \$275
4	Cluster of 6 dead trees, can be felled safely, extensive bucking required - Cat. 3 – approx.
	\$450
5	Large dead tree, requires wedges to be felled safely, minimal bucking required - Cat. 3 –
	approx. \$150
6	Cluster of 12 dead trees, can be felled safely, extensive bucking required - Cat. 3 – approx.
	\$600
7	Cluster of 5 dead trees, will require wedges to fell safely, some bucking required - Cat. 3 –
	approx. \$ 400
8	Cluster of 5 dead trees, can be felled safely, extensive bucking required - Cat. 3 – approx.
	\$400
9	Cluster of 3 dead trees, one quite large in diameter, will require wedges to fell safely,
	extensive bucking required - Cat. 3 – approx. \$500
10	Large dead tree, can be felled safely, some bucking required - Cat. 3 - approx. \$150
11	Dead tree, must be removed in sections due to lean/load, some bucking required - Cat. 4 -
	approx. \$400
he Nort	hline Extension Trail has a significant amount of dead ash throughout, although there are fewe

The Northline Extension Trail has a significant amount of dead ash throughout, although there are fewer dead trees in the central and southeast portions of the trail. As previously mentioned, there are more trees that are in category 2 on this trail than any other. This is because although the trees are very hazardous and are tall in in height, there is also very little infrastructure, there is ample space to fell the

trees without damaging the surrounding trees/environment and most of the trees are not extremely large in diameter and will be able to be felled with minimal bucking. It is in my recommendation that the hazard trees be removed throughout the trail to reduce the risk to trail users.

An approximate time frame for the removal of the hazard trees on the Northline Extension trail is 4-6 weeks.



Dead ash tree – snapped off near base – tree now hung up and pointing back towards trail.

Examples of Hazard Trees on Northline Extension Trail



Dead ash tree – Power lines on north side of tree – tree must be removed in sections to avoid damage.



Dead ash tree – consistent size with the majority of trees that fall into Category 2

Davidson Center Trail

There is a significant amount of dead or dying trees on the Davidson Center Trail that would be considered hazard trees and pose a potential risk to trail users. The following is an approximate list of the hazard trees on the Davidson Center Trail that pose a risk to trail users and each tree's approximate value.

- Throughout the Davidson Center trail, there are approximately 96 trees that would fit into Category 1 trees with an approximate value of \$960 \$4,800 depending on tree complexity and time of completion.
- Throughout the Davidson Center trail, there are approximately 75 trees that would fit into Category 2 trees with an approximate value of \$3,750 \$9,375 depending on tree complexity and time of completion.

Category 3-4 Trees

All numbers correspond to map of same trail name. All trees are ash trees unless otherwise specified.

Tree #	Description and Quote
1	Cluster of 13 dead trees - will require wedges to fell safely, extensive bucking required – Cat.
	3 – approx. \$700
2	Cluster of 11 dead trees - will require wedges to fell safely, extensive bucking required – Cat.
	3 - approx. \$600
3	Cluster of 8 dead trees - will require wedges to fell safely, extensive bucking required – Cat. 3
	- approx. \$450
4	Cluster of 8 dead trees - some will require wedges to fell safely, some safe to fell, extensive
	bucking required – Cat. 3 - approx. \$400
5	Cluster of 7 dead trees, some will require wedges to fell safely, some safe to fell, extensive
	bucking required – Cat. 3 - approx. \$350
6	3 large dead trees – will require wedges to fell safely – some bucking required – Cat. 3 -
	approx. \$275
7	2 large dead trees -will require wedges to fell safely, some bucking required – Cat. 3 - approx.
	\$300
8	3 large dead trees - will require wedges to fell safely, extensive bucking required – Cat. 3 -
	approx. \$425
9	Very large dead tree - will require wedges and ropes to fell safely, extensive bucking required
10	– Cat. 3 - \$ approx. 450
10	3 dead trees – can be felled safely and will require wedges to fell safely, extensive bucking
	required – Cat. 3 - approx. \$300
11	3 dead trees – can be felled safely, extensive bucking required – Cat. 3 - approx. \$275
12	5 large dead trees – can be wedged downhill safely, extensive bucking required – Cat. 3 -
	approx. \$425
13	2 large dead trees – can be wedged downhill safely, some bucking required – Cat. 3 - approx.
	\$275

14	3 dead trees – one tangled amongst large maple tree – will require wedges to fell safely,
	some bucking required – Cat. 3 - approx. \$375
15	2 large dead trees – can be wedged downhill safely – minimal bucking required – Cat. 3 - approx. \$225
16	2 very large dead trees – can be wedged downhill safely – some bucking required – Cat. 3 - approx. \$400
17	8 dead trees – will require wedges to fell safely – minimal bucking required – Cat. 3 - approx. \$350
18	5 dead wedgeable trees – will require wedges to fell safely – some bucking required – Cat. 3 - approx. \$300
19	Large dead tree – must be felled uphill using wedges – extensive bucking required – Cat. 3 - approx. \$325
20	2 dead trees – can be felled downhill safely using wedges – minimal bucking required – Cat. 3 - approx. \$250
21	Large dead tree – will require wedges to fell safely – some bucking required – Cat. 3 - approx. \$225
22	2 large dead trees – will require wedges to fell safely – some bucking required – Cat. 3 - approx. \$250
23	Cluster of 13 large dead trees – will require wedges/ropes to fell safely – extensive bucking required – Cat. 3 - approx. \$650
24	Large dead tree – can be felled safely – extensive bucking required – Cat. 3 - approx. \$350
25	2 dead trees – will require wedges to fell safely – minimal bucking required – Cat. 3 - approx. \$200

The Davidson Center trail has many dead ash trees throughout. Since many of the trees are located on the large hillside that the trail runs along, it will require that most of these trees be felled down the hill. Due to this fact many of the trees fit into category 2, however there are still many trees that are of a very large size, have extremely tight conditions to fell, or are extremely hazardous and fit into category 3. Due to the lack of infrastructure in areas where there are dead trees, there are no trees that require being removed in sections on the Davidson Center trail. It is in my recommendation that the hazard trees be removed throughout the trail to reduce the risk to trail users.

An approximate time frame for the removal of the hazard trees on the Davidson Center trail is 6-8 weeks.

Examples of Hazard Trees on Davidson Center Trail



A large dead ash – showing severe decay, located directly beside trail posing significant risk to trail users.





A large limb that fell from the canopy and embedded in the ground. Fallen limbs can cause "struck-bys" which can cause severe injury or death.



Another large limb that fell from the canopy and embedded in the ground and the location in the tree that it fell from. Several large dead leaders remain overhanging the trail.

Green Trail

There are many hazard trees throughout the Green Trail and is consistent with the hazard trees of the Red Trail. However, due to its shorter length the trail has fewer hazard trees. The following is an approximate list of the hazard trees on the Davidson Center Trail that pose a risk to trail users and each tree's approximate value.

- Throughout the Green trail, there are approximately 56 trees that would fit into Category 1 trees with an approximate value of \$560 \$2,800 depending on tree complexity and time of completion.
- Throughout the Green trail, there are approximately 30 trees that would fit into Category 2 trees with an approximate value of \$1,500 \$3,750 depending on tree complexity and time of completion.

Category 3-4 Trees

All numbers correspond to map of same trail name. All trees are ash trees unless otherwise specified.

Tree #	Description and Quote
1	2 large dead trees – can be felled safely, some bucking required – Cat. 3 – approx. \$250
2	Large dead double leader tree – requires wedges to fell safely, some bucking required – Cat. 3 – approx. 300
3	Large dead tree – requires wedges to fell safely, some bucking required – Cat. 3 – approx. \$175
4	Large dead tree – tree must be wedged uphill, extensive bucking required – Cat. 3 – approx. \$300
5	3 large dead trees – requires wedges to fell safely, extensive bucking required – Cat. 3 – approx. \$400
6	Large dead tree – requires wedges to fell safely, extensive bucking require – Cat. 3 – approx. \$275
7	4 dead trees – bordering fence by Murray Blvd. – must be taken in sections, extensive bucking required – Cat. 4 – approx. \$750
8	Large dead tree – requires wedges to fell safely, some bucking required – Cat. 3 – approx. \$175
9	3 large dead trees – requires wedges and ropes to fell safely, extensive bucking required – Cat. 3 – approx. \$600
10	Dead danger tree – can be felled safely – some bucking required – Cat. 3 - \$175
11	7 dead trees – extreme danger hanger – wedges and ropes required to fell safely, extensive bucking required – Cat. 3 – approx. \$600
12	Large dead tree – can be felled safely, some bucking required – Cat. 3 – approx. \$200
13	Large dead tree – requires wedges to fell safely, some bucking required – Cat. 3 – approx. \$225
14	5 dead trees – some require wedges, some can be felled safely, some bucking required – Cat. 3 – approx. \$400
15	3 dead trees – can be felled safely, some bucking required – Cat. 3 – approx. \$300
16	2 dead trees – require wedges to fell safely, some bucking required – Cat. 3 – approx. \$275
17	11 dead trees – require wedges to fell safely, extensive bucking required – Cat. 3 – approx. \$600

18	6 dead trees - some require wedges, some can be felled safely, some trees will require
10	
	removal from creek bed, extensive bucking required – Cat. 3 – approx. \$650
19	3 dead trees - some require wedges, some can be felled safely, some bucking required – Cat.
	3 – approx. \$350
20	3 dead trees - some require wedges, some can be felled safely, some bucking required – Cat.
	3 – approx. \$350
21	5 large dead trees – bridge in way so trees will have to be felled uphill – will require wedges
	and ropes to fell safely, extensive bucking required – Cat. 3 – approx. \$600
22	3 dead trees - some require wedges to fell down hillside, some can be felled safely, some
	bucking required – Cat. 3 – approx. \$350
23	3 dead trees - some require wedges, some can be felled safely, minimal bucking required –
	Cat. 3 – approx. \$275
24	4 dead trees - some require wedges, some can be felled safely, some bucking required – Cat.
	3 – approx. \$350

Like the Red Trail, the hazard tree problem on the Green Trail is consistent throughout the whole trail with small patches of trail that have little or no hazardous trees. Again, most of the dead/dying trees are of the ash species and similar to the Red Trail, there are clusters of very large hazard trees scattered throughout. Due to its shorter length, there is less overall than the Red Trail, but otherwise hazard tree problem is much the same. It is in my recommendation that the hazard trees be removed throughout the trail to reduce the risk to trail users.

An approximate time frame for the removal of the hazard trees on the Green trail is 4-6 weeks.



Large dead tree – heavy lean toward trail, has lost limbs previously.

Examples of Hazard Trees on Green Trail



Overhanging dead ash – broken top on tree now overhangs trail, posing significant risk to trail.

Final Assessment

Throughout the Kincardine Trail Network, it is evident that ash tree/hazard tree problem has been left for too long. Due to this most of the ash trees along the trails have become extremely hazardous and unpredictable. Since the emerald ash borer has killed off almost all the ash trees, the trees tend to fail, either all at once due to root failure, or over time while large, heavy branches periodically fall from the canopy. While I only documented the trees that fell within the corridor of 30 feet from trail center on either side of the trail, there are still large numbers of dead ash trees scattered throughout the forests that have gone undocumented.

After thoroughly hiking through the Kincardine Trail Network, I am amazed that the municipality has not had a claim or had an injury take place due to the trees. All these trees are going to fall naturally at some point if they are not removed, and it's quite possible that one of these trees could impact a trail user. It is in my recommendation that as many of the ash and hazardous trees should be felled as is possible. It could be done in stages depending on severity of risk to the trail to spread the cost over several years, but during this time there is still a possibility of other trees falling as most of the trees are at similar stages of decay. These trees can be left throughout the forest after being felled and will become added habitat for wildlife and will decompose over time.

I recommend that as a first step, as many Categories 3 and 4 trees should be removed as possible. I would start by removing categories 3 and 4 trees on the Red Trail followed by the Davidson Center Trail, the Green Trail, the Yellow Trail and lastly the Northline Extension Trail. As a second step I would then recommend going through and removing all the Category 2 trees from the trails in the same trail order. And lastly, I would recommend going through and removing all Category 1 trees from the trails in the same trails in the same trail order.

As all this information is based on estimates, it is subject to change due changing tree conditions and factors such as weather. As previously mentioned, this is in no way a representation of all the dead ash trees and hazard trees that there are in the Kincardine forests, it is an estimated assessment of all the trees that pose a significant risk to the trails in those forests.

Final Hazard Tree Tally per Trail

<u>Red Trail –</u> 262 dead ash/hazard trees <u>Yellow Trail –</u> 69 dead ash/hazard trees <u>Northline Extension –</u> 137 dead ash/hazard trees <u>Davidson Center –</u> 282 dead ash/hazard trees <u>Green Trail –</u> 134 dead ash/hazard trees

> Total 884 dead ash/hazard trees documented

Chris Sanderson Grey-Bruce Tree Care