

MORGANS POINT	8	Lakeshore Savannah (Sugar Maple, walnut, Cottonwood, oak)	Town Park; Lake Erie peninsula; Town of Wainfleet	Lake Erie's easternmost lakeshore Savannah grove, with Old Growth trees up 73" diameter & 300 yrs. old, including ancient Black Walnut and 4 other Old Growth tree species. Thriving Old Growth Canada Yew is very rare on dunes. Some prairie grasses and wildflowers survive. Savannah restoration recommended.
SMEATONS RAVINE	4	CAROLINIAN Forest (maple, ash,oak, cedar, hemlock)	Regional Park; Rim of Niagara Gorge	Little known, hidden, dramatically deep gorge cut into side of Niagara Gorge, with overhanging rock amphitheatre & 40-foot falls, & unusual mix of Old Growth Chinkapin Oak, Tulip Tree, Basswood, with Hemlock & very accessible cliff-hanging White Cedars & Hemlocks. New site for Nationally Rare Red Mulberry.
DECEW FALLS GORGE	27	CAROLINIAN Forest (Sugar Maple, walnut, oak, ash, walnut)	private gorge Niagara Escarpment; City of Thorold	Niagara Escarpment's 1st waterfall gorge E. of Niagara Falls. Old Growth corridor on steep slopes, bottom, and rim of 130' deep gorge includes Sugar Maple, Hemlock, White Ash, Chinkapin Oak, Black Walnut, 4 ft. Red & White Oak; Flowering Dogwood very rare as Old Growth. Also Nationally Threatened Amer.Chestnut.
TERRACE CREEK GORGE	3	Hemlock-Northern Hardwoods (Sugar, Maple, Beech)	Short Hills Provincial Park; City of Thorold	Narrow corridor of ancient Sugar Maple, Hemlock, Beech, Red Oak, Basswood, Red Maple lining 75 ft.-deep gorge with 3 cascades. Terrace Creek Trail follows margin of gorge. Along this trail to the east is very mature 2nd-growth forest with champion- sized tall trees & rare species.
WOODLAND SCHOOL GROVE	3	CAROLINIAN Forest (Red Oak, Basswood, Beech, Sassafras)	School-owned; City of St. Catharines along QEW	Region's best small Old Growth Grove, surprisingly along QEW. Some of our largest oaks (52.5" diam.), 17 tree species, 9 which are Old Growth, incl. rare as Old Growth Sassafras, Hop Hornbeam, Flowering Dogwood carpeted with Nationally Rare White Wood Aster. Superb education opportunity for adjacent school (owners).
BEAMERS FALLS GORGE	1	Hemlock-Northern Hardwoods on gorge bottom	Conservation Area Niagara Escarpment; Town of Lincoln	Only surviving Old Growth Forest in gorge due to aggressive logging in the early 1900s. This & the newly discovered ancient broadleaf forest above it at Grimsby Point, complementing the famous ultra-old cliff- hanging White Cedars & Beamers Falls, enhance this site as one of Ontario's premier scenic treasures.
Niagara Gorge FIRST GROWTH STEEP SLOPE FOREST	40	Mix of Carolinian Forest, White Cedar, hemlock, 2nd growth & invasives	Regional Park; Slope of Niagara Gorge	Very steep, unstable slopes of Niagara Gorge were inaccessible & never logged but still deceptively contain young "First-growth" woods of Manitoba & Norway Maple, Paper Birch, White Ash, Cottonwood, because of collapsing soil, land slides, tree toppling. Still, Old Growth Hemlock, White Cedar, Hop Hornbeam survive.
SOUTH FONTHILL KAME RIDGE- RAVINE AREA	8	CAROLINIAN Forest (Sugar Maple, Tulip Tree, oak, Basswood, Bitternut)	Private; City of Thorold	Towering, ancient Sugar Maple, White Ash, Tulip Tree, Beech cover steep slopes, tall narrow ridges & deep vales of south end of this distinct glacier-created landscape. Unfortunately, rampant, irresponsible ATV use has created trails crisscrossing the forest, decimating wildflower colonies, & reducing the site's value.

GRIMSBY BEACH	0.5	CAROLINIAN Forest (Oak, Maple, Cherry)	Grimsby Town Park; Lake Ontario shore	200 year old Sugar maple, Shagbark Hickory, Black Cherry, 225 yr. old White Oak, & Canadian Champion Canada Plum grow in beachfront grove threatened by Town development plans.
Central Fonthill Kame Ridge-Ravine Area	8	CAROLINIAN Forest (Sugar Maple, Tulip Tree, Oak, Basswood, Hickory)	Private; City of Thorold	Central part of glacially-created ridge and ravine landscape contains 2 groves of Old Growth Carolinian Forest, one on sharp knoll, other in deep ravine. Large Pignut, Sassafras & rare White Wood Aster are most notable features; also ancient White Pine, White & Black Oak, Sugar Maple, Beech, White Ash.
South Queen Victoria Park Bluff	20	CAROLINIAN Forest (maple, tulip tree, walnut, oak, alt. with 2nd growth)	Regional Park; between Horseshoe Falls and Niagara Falls City	Clifton Hill Bluff's 1.5-mile southern extension, to 130 ft tall, covered by random alternation of Secondary Old Growth, & some Original Old Growth, next to 2nd Growth Mature & Young Forests, & non-native, scrubby invasive vegetation, with no pattern. Highlights: huge Black Walnuts, Tulip Trees, Red and White Oaks.
15-MILE POND BLUFFS	8	Scattered giant ancient oaks, pines in 2nd growth Carolinian Forest	Private lakeshore; City of St. Catherine & Town of Lincoln	Very large, ancient White, Red and Black Oaks, as well as large White Pines, Willow, scattered within Second Growth Forest along steep slopes that line 1.5 mile shoreline of 15-Mile Pond. It's unclear why these large trees were not cut during logging period a century ago.
GRIMSBY SCHOOL GROVE	2	CAROLINIAN Forest (Oak, Cherry, Wh. Pine)	School-owned; Town of Grimsby	55" diameter, 350 year old White Oak and giant Black Cherry and Red oak are centerpieces of this White Pine grove next to and owned by Grand Avenue School in Grimsby.
HOLLOWAY BAY DUNES	10	SAND DUNE - CAROLINIAN Forest (Maple, Oaks, Hickory)	Private dunes on Lake Erie shore; Town of Point Colbourne	Just west of Marcy's Woods, these dunes are broken up by houses and driveways but still contain fine Old Growth Sugar Maple, Red Oak, Basswood, Red Maple, and some ancient Hemlock and Black Maple, too. Being private, they have no protection.
Ridgemont Road Swamp Forest	13.5	Wetland Oak-Ash Bitternut Forest	Private; Town of Fort Erie	Very impressive Original Old Growth survivors surrounded by Second Growth Forest. Includes nearly 4 ft. diameter, 350 year old Bur Oak, massive White Oaks, Swamp Oaks, Sugar Maples up to 270 years old, with notable diversity of wildflowers, birds. Potentially threatened by logging.
Browns Point Heritage Trees	0	Shoreline giant Red Black, & White Oaks	Regional Park; Lower Niagara River Shore, Niagara-On- the-Lake	9 very large, Old Growth Heritage Trees (White, Red, Black Oaks) along shore bluff of Lower Niagara River, along remarkably tall, old Second Growth Forest that will become Secondary Old Growth Forest in 25 years; contains champion-tall Cherry, Pear, Walnut, Black Locust.
Victoria Lawn Cemetery Heritage Trees	0	Planted ancient giant Sugar Maples	Adjacent to Welland Canal, City of Thorold	17 massive Heritage Trees (Sugar Maple, Horse Chestnut) planted in the 1850s along the road paralleling Victoria Lawn & B'Nai Brith Cemeteries adjacent to Welland Canal in St. Catharines.
TOTAL ACRES	559	9 Forest Types	25 public, 8 private	

NIAGARA PENINSULA OLD GROWTH FOREST SURVEY

RANKING OF PHASE 2 OLD GROWTH FORESTS ACCORDING TO 8 VALUES

SITE 3 = Highest value 2 = medium, 1 = low value, 0 = none	Status of Protection	Uniqueness Value	Scientific Ecological Value	Historic Value	Scenic and Inspiratio nal Value	Wildlife Habitat Value	Rare Species	Ecotourism & Economic Value	Educational Value	Total Points
NAVY ISLAND	HIGH	3	3	3	3	3	3	3	3	24
BALLS FALLS GORGE	HIGH	3	3	3	3	3	2.5	3	3	23.5
WHIRLPOOL SLOPE FOREST	HIGH	3	3	3	3	3	3	2.5	2	23.5
Birthplace of Niagara Walnut Grove	HIGH	3	3	3	3	2.5	3	2.5	3	23
ST.JOHN'S WOODL'D CTR RAVINE	HIGH	3	3	3	3	2.5	2.5	3	3	23
LATHROP PRESERVE	MEDIUM?	3	3	3	3	3	3	2	3	23
GRIMSBY POINT	MEDIUM?	3	2.5	3	3	2.5	3	3	3	23
SWAYZE FALLS RAVINE	HIGH	3	2.5	3	3	2.5	2	3	3	22
SUGAR LOAF HILL	LOW- NONE?	3	2.5	3	3	2.5	3	2.5	2.5	22
HEMLOCK VALLEY	HIGH	2.5	2.5	3	3	3	1.5	3	3	21.5
Hamilton Naturalists Club Preserve	HIGH	2.5	2.5	2.5	3	3	3	1.5	3	21
CLIFTON HILL BLUFF	HIGH	3	2.5	3	3	1	2	3	3	20.5
ST.JOHN'S CONSERV. AREA	MED.- HIGH?	2	2.5	3	3	2.5	2	2.5	3	20.5
DECEW FALLS GORGE	MEDIUM?	2.5	2.5	2.5	3	2	2.5	0	2.5	20.5
NO. FONTHILL KAME RIDGE- RAVINE	NONE	2	2	2.5	3	3	2.5	2.5	2.5	20

ROCKWAY FALLS GORGE	HIGH	2.5	2.5	2.5	3	2	2	2.5	3	20
MORGANS POINT	MEDIUM?	2	2.5	3	3	2	2	3	2.5	20
12-MILE CREEK FLOODPLAIN	HIGH	2	1.5	2.5	2.5	2.5	2	3	3	19
SMEATONS RAVINE	HIGH	3	3	2.5	3	1.5	3	0	2.5	18.5
WOODLAND SCHOOL GROVE	MEDIUM?	3	2	2.5	2.5	1.5	3	0.5	3	18
SO. FONTHILL KAME RIDGE-RAVINE	NONE	2	2	2	2.5	2.5	2	2	2.5	17.5
TERRACE CREEK GORGE	HIGH	2	2	2	3	1.5	0.5	3	3	17
GRIMSBY BEACH	Threatened	2	1.5	2.5	2.5	1.5	1.5	2.5	2.5	16.5
Central Fontill Ridge/Ravine	NONE	0	2.5	3	3	2	0	2.5	3	16
BEAMERS FALLS GORGE	HIGH	2.5	2.5	2.5	2.5	2	0	1.5	2	15.5
NIAGARA GORGE FIRST GROWTH	HIGH	2.5	2.5	2.5	2.5	2	0.5	0.5	2.5	15.5
HOLLOWAY BAY DUNES	NONE	3	2.5	2	2	2	2	0	0.5	14
RIDGEMONT RD SWAMP FOREST	NONE	1	0.5	0.5	1.5	2.5	2	0	0.5	14
SO.QUEEN VICTORIA PARK BLUFF	MED.-HIGH	2	0.5	2	2	0.5	1	2	2.5	12.5
GRIMSBY SCHOOL GROVE	MEDIUM?	2.5	0.5	2.5	3	0.5	0	0.5	3	12.5
15-MILE POND BLUFFS	NONE	0.5	0.5	1.5	2.5	1.5	1	1.5	1.5	10.5
BROWNS PT. HERITAGE TREES	HIGH	1.5	0.5	3	2.5	0.5	0	1	2.5	11.5
Victoria Lawn Cemetery Heritage Trees	MED.-HIGH	1.5	0	2.5	2	0	0	0.5	2	8.5

SECTION 3: OLD GROWTH FOREST SURVEY OF NIAGARA PENINSULA – PHASE 1 REVIEW

Phase 1 of this survey was completed in October 2003 and the initial report entitled: "Old Growth Forest Survey of Niagara Peninsula, Project of Bert Miller Nature Club, First Phase Report to Trillium Foundation, October 2003" was submitted to the project sponsors The Bert Miller Nature Club and the Trillium Foundation. The report is available currently for download on the Bert Miller Nature Club website at:

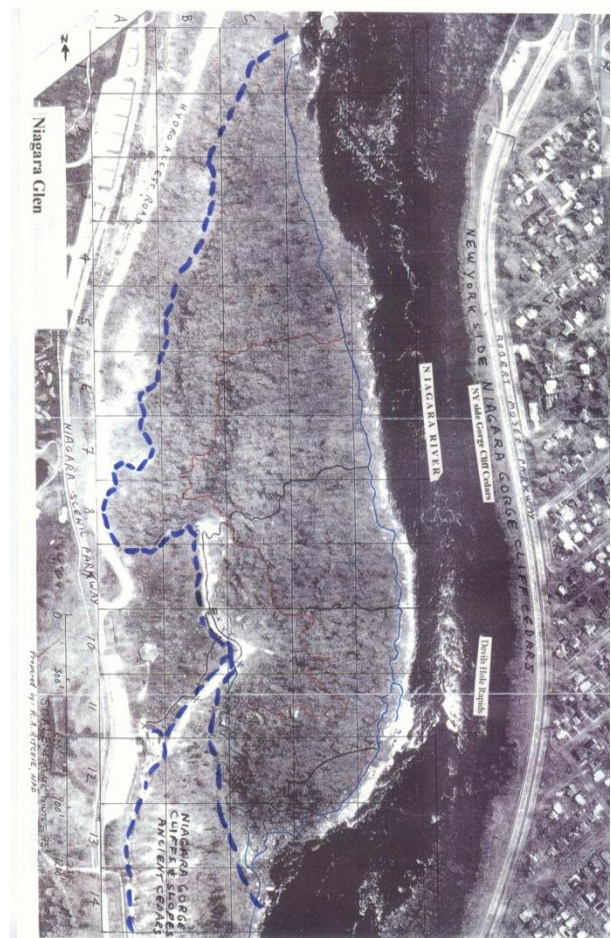
<http://www.bertmillernatureclub.org/assets/docs/library/OLD%20GROWTH%20FOREST%20SURVEY%20OCTOBER%202003.pdf>

The number and acreage of old growth forests is also notable compared to Western New York which the researcher of this project has extensively surveyed since 1983. In an area of 10,000 square miles, 2700 acres of 50 old growth forests has been discovered in Western New York, comprising $4/100^{\text{th}}$ of one percent of the area. In comparison, 22 sites covering 275.25 acres have been discovered in the roughly 300 square miles of eastern Niagara Peninsula surveyed. This is more than 3 times greater concentration ($14/100^{\text{th}}$ of one percent) than in Western NY.

Descriptions of Old Growth Sites

(editor's note: It is clear from Bruce Kershner's notes that he intended to write a final report that incorporated most of the material from the original 2003 Phase 1 document along with new findings from Phase 2 into a single report. However those sections were never written. I have opted to just include these brief summaries from Phase 1 along with the maps and photos that accompanied the materials given to us, since the Phase 1 materials are already published.)

NIAGARA GLEN 60a CAROLINIAN World-class nature preserve, one of Ontario's tallest forests, rare species, spectacular rock formations, gorge, Devils Hole Rapids, 130-foot Tulip Trees, rare Chinkapin Oak, Red Mulberry, towering Sassafras, 400 yr old Cedars



Map of Niagara Glen



Champion tuliptree, 130 feet tall, showing balding bark, buttressed base



Champion sassafras with bizarre old growth shape and old growth bark

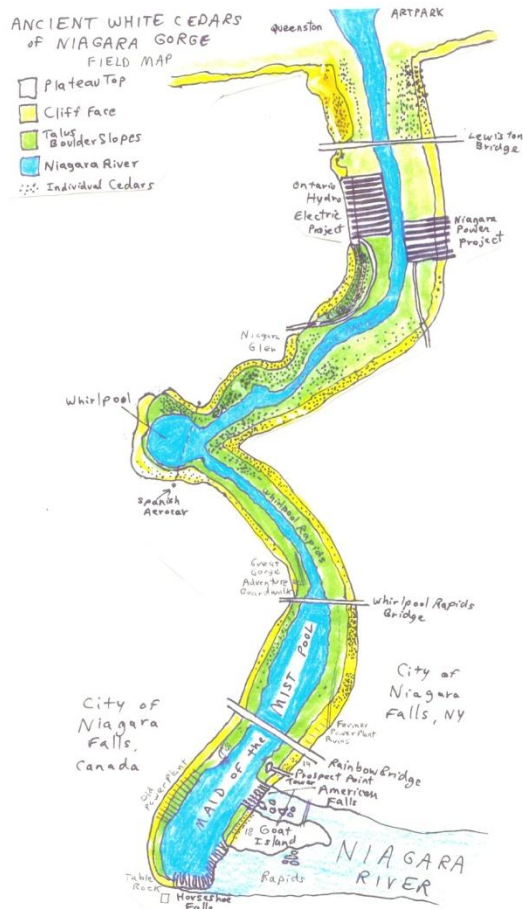


View looking up champion tuliptree trunk



Record-size river grape vine at least 175 years old

NIAGARA GORGE CEDARS 10a Cliff-Dwelling CEDARS 650 ancient orthern White Cedars along 7 mile of Niagara Gorge, pos. up to 600-800 yrs. old, extremely gnarled, bizarre growth forms, same number on NY State side, get to within 75 feet of the Falls



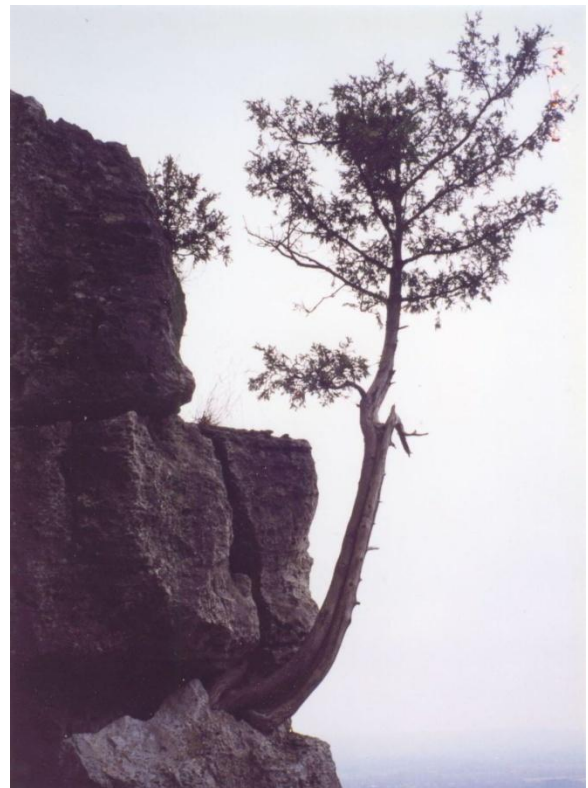
Ancient White Cedars of Niagara Gorge



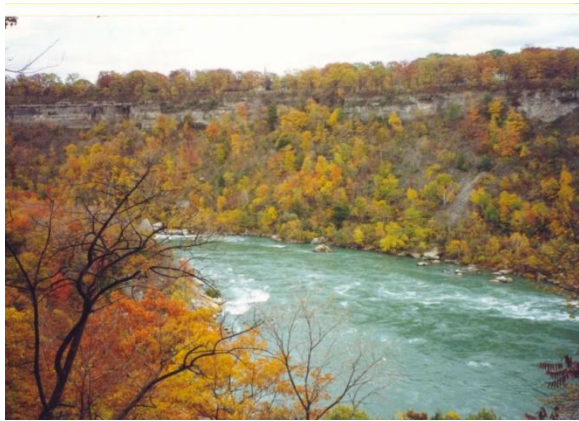
Ancient cedars on cliffs, up to 500-700 years old and 30 feet tall



View of Niagara Gorge cliff



Old growth cliff-dwelling cedar



View of Niagara Gorge



Ancient contorted cedar grows inside dark talus cedar grove



"Upside down" ancient cedar trunk grows upward from downward loop of "root"



Ancient cedars on talus slope, up to 500 years, 40 feet tall



View looking out of talus cedar grove

PARADISE GROVE 55v White-Red OAK
(former savannah) Greatest concentration of large
trees of any forest found in Niag. Peninsula.
Formerly an oak savannah, oaks up to 310 yrs old,
4.5 feet diameter



Paradise Grove



Old growth feature on white oak – knobby trunk



250 year old white oak



Scene of ancient white oaks



300 year old black gum



Niagara College students with ancient red oak

MARCY'S WOODS 65 CAROLINIAN Black MAPLE World's last old growth Black Maple forest, threatened by development. Contains more rare species than any site in Ontario. Incl. threatened hop tree, 300 yr old Black Maple, all Trillium species



Marcy's Woods



Primal forest scene only 500 feet from lake Erie



300 year old black maple



Red trillium in the spring, part of a large colony



Close-up of old growth black maple bark



Marcy's Woods – view from the wild beach

BROCK'S MONUMENT 15a White-Red-SCARLET OAK FOREST Canada's only Scarlet Oak forest; Canada's first National Trail, Bruce Trail, begins here next to Brock's Monument, follows Niagara Escarpment heading west from Niagara Gorge.



Brock's Monument Grove site

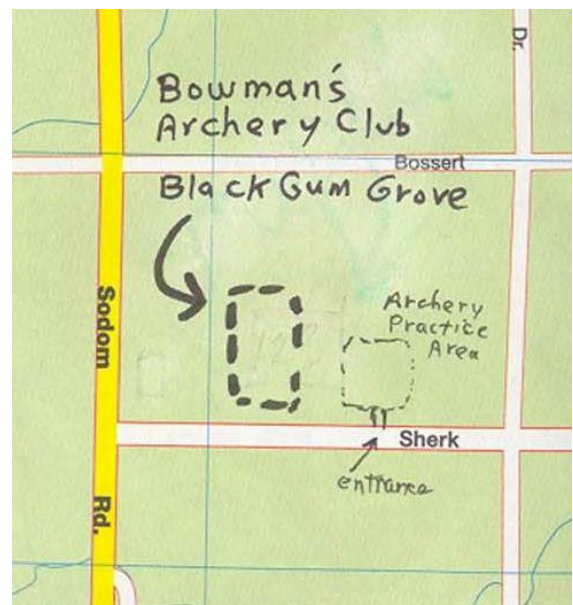


Where the Bruce Trail begins next to Brock's Monument Grove



Giant old growth scarlet oak in Brock's Monument Grove

BOWMANS ARCHERY CLUB 6a Lowland Swamp Oak-Red Maple- Ultra-old Black Gums, 300-450 yrs. old, possibly oldest hardwood forest in Niagara Peninsula. Protection status unknown.



GRAY FOREST SHUMARD 6a
 CAROLINIAN OAK-TULIP North America's
 one of only (and Canada's) two old growth
 Shumard Oak forests, outside U.S. Deep South.
 Grove is filled with rare tree species, very high
 biodiversity. Protection status uncertain



230 year old Giant shumard oak with Mrs. Gray next to it.



Close-up of shumard oak leaf and old growth bark

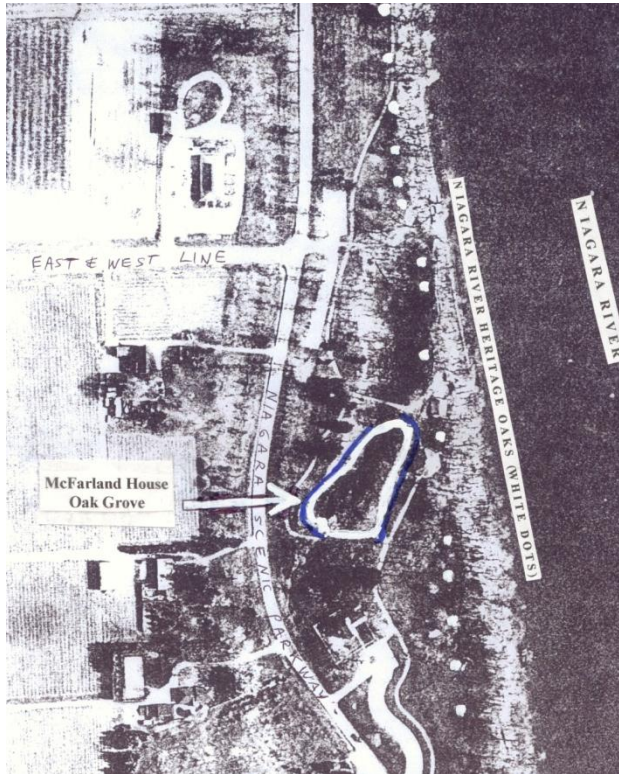


Unusual hollow ancient red maple engulfing project researcher

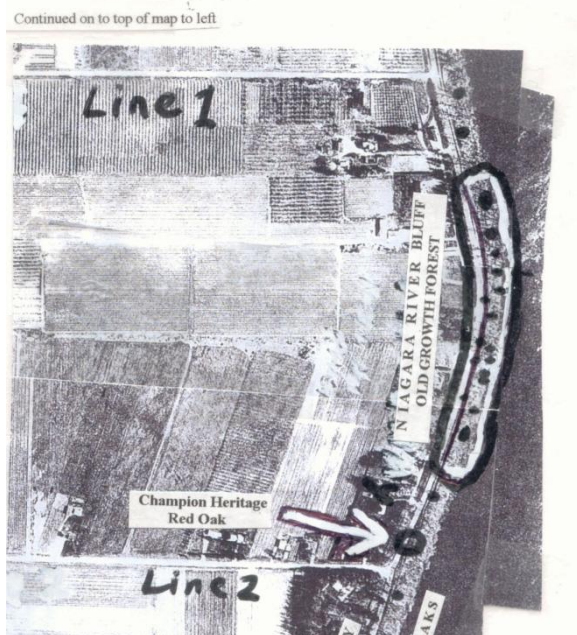


Old growth swamp white oak

NIAGARA RIVER BLUFF 5a White-Red OAK –Black Walnut Ancient woods along slopes or ravines of Niagara River, some containing giant oaks, incl. 4.5 foot diameter Black Walnut, oaks as old as 280 yrs. Old



Niagara River Bluff

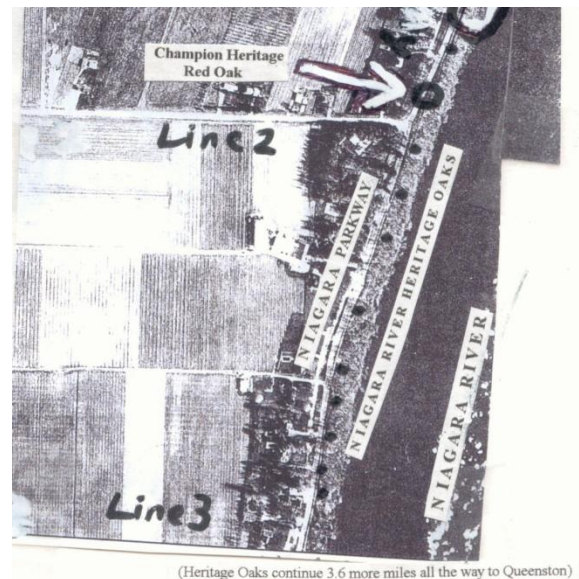


Niagara River Bluff



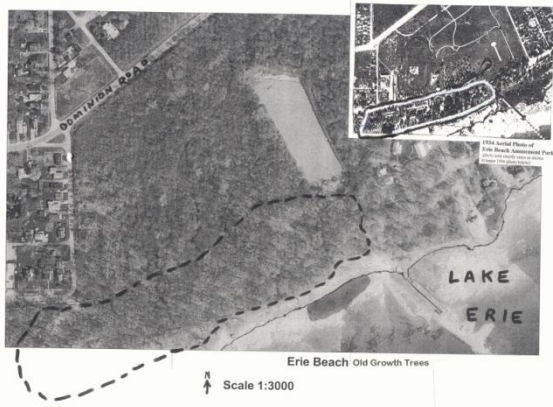
Niagara River Bluff Woods – Champion black walnut and University of Guelph student

NIAGARA RIVER HERITAGE 125a White-Red Oak "Necklace" or continuous line of 125 giant, ancient oaks & some Walnuts, up to 320 years old & 6 feet diameter, running 7 miles from Paradise Grove to Queenston



(Heritage Oaks continue 3.6 more miles all the way to Queenston)

ERIE BEACH GROVE 15a Oak, Maple, Cottonwood Assemblage of enormous trees once part of amusement park (closed 1933), new forest has grown up around them, many giant trees were part of original old growth forest



Erie Beach Grove



Fort Erie high school student taking core from old tree



Erie Beech Grove – Giant white oak



Giant smile cottonwood



Massive beach cottonwood sculpted by Lake Erie ice

SPLIT ROCK GROVE 1a Sugar MAPLE
Ancient Sugar Maples grow along Onondaga Escarpment ledge; historic Split Rock crevice is adjacent. Protection status uncertain.



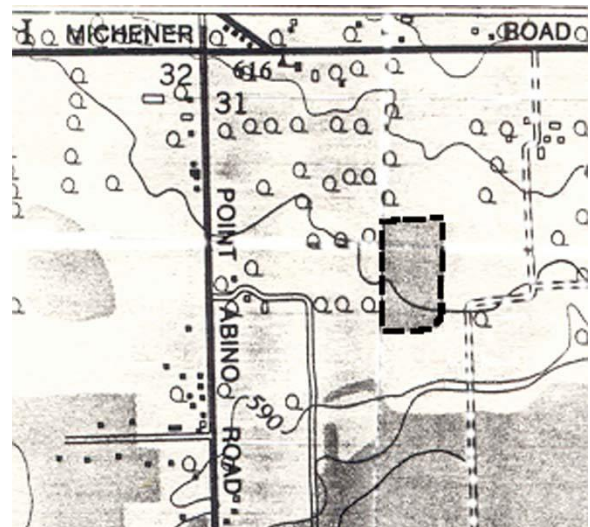
Split Rock Grove

OLIVER'S BUSH GROVE 3a Sugar Maple
Very old Sugar Maples once part of large forest, now a backyard residential grove. **NOW PLANNED TO BE LOGGED**



Oliver's Bush Grove – ancient sugar maples, stag-headed crown

PHILIPS SUGAR BUSH 5a Sugar MAPLE
300-400 year old Sugar Maples once part of sugar bush. Protection status uncertain.



Philips Sugar Bush



Philips Sugar Bush – 300-400 year old sugar maples , balding and shaggy bark



Stag-headed crown and shaggy old growth bark of sugar maple



Balding old growth bark of sugar maple



Close-up of shaggy old growth sugar maple

CALAJUIRO PARK 4a Red-Black OAK
Impressive large oaks fill this small suburban park



Calajuiro Park – ancient black oak

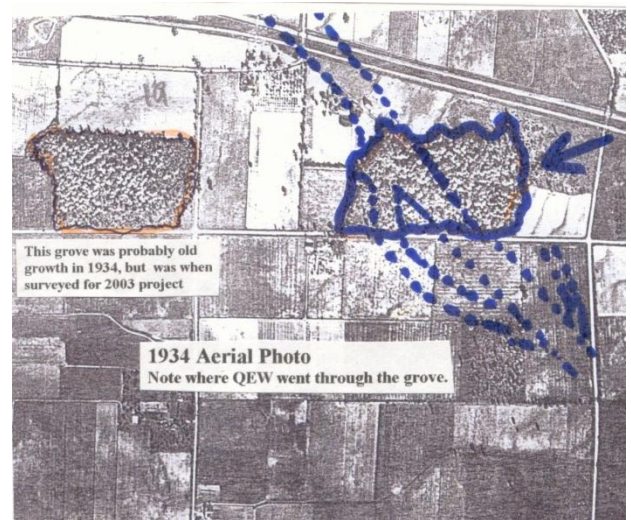
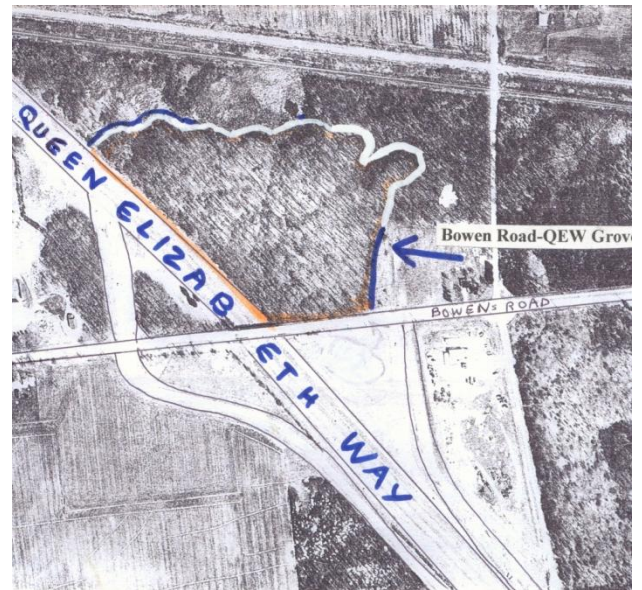


Calajuiro Park – ancient white oak

SKARRETT MAPLE GROVE 7a Sugar
MAPLE Ancient Sugar Maples grow along
Onondaga Escarpment. Protection status unknown

BRUCE TRAIL-FIREMANS 6a
CAROLINIAN OAK-TULIP Canada's first
National Trail, Bruce Trail passes through this
grove of secondary old growth oak forest

BOWEN ROAD-QEW GROVE 5a OAK-
MAPLE Large ancient oaks and maples along
QEW. Protection status uncertain.



Bowden Road- QEW Grove



Ancient black gum with old growth “Alligator Skin” bark



Black gum with old growth “balding bark,” blonde color

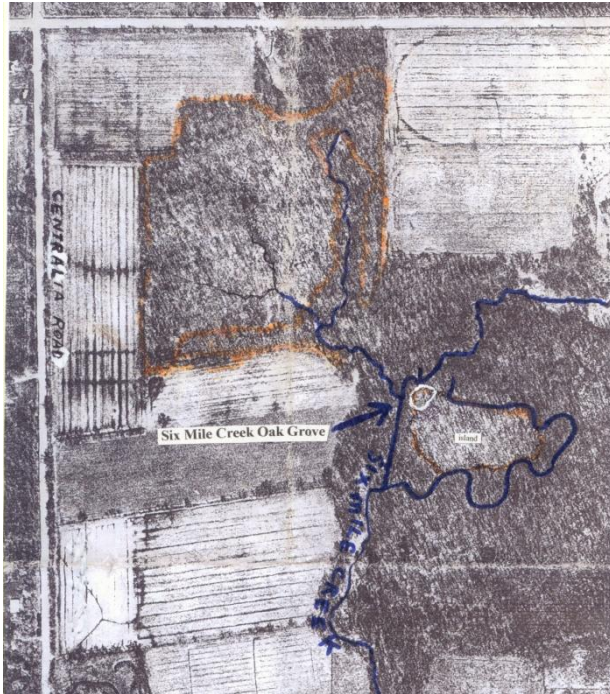


Black gum with old growth “deeply ridged” bark, rusty color



Bizzare trunk shapes of old growth black gum

SIX MILE CREEK OAK GROVE 0.65 Red-Swamp OAK Tiny remnant ancient oak grove on upland island. Protection status uncertain. Surrounding woods regularly logged.



Six Mile Creek Oak Grove

RIDGEMOUNT ROAD HYBRID OAK GROVE 0.6a Hybrid Bur-White Very unusual because of hybrid Bur Oak-White Oak trees. Has value as scenic buffer along Highway 3. Protection status uncertain.

WALDEN BLVD. OAK GROVE 0.75a Bur-White OAK Ancient woodland corridor separates homes from businesses in downtown Fort Erie. Protection status uncertain.



Walden Boulevard Oak Grove



Walden Boulevard Grove – old growth white oak

HIGENELL OAK GROVE 4a Red-White OAK Attractive secondary oak and maple grove near Bruce Trail and Niagara Escarpment. Protection status uncertain.

FRENCHMAN'S CREEK OAK GROVE 5a Red-White- Swamp OAK Formerly had impressive ancient oaks. OWNER LOGGED ENTIRE PROPERTY, INCLUDING OLD GROWTH, summer 2003



Frenchman's Creek Oak Grove



Old growth red oak before being cut down in spring 2003



Old growth swamp oak, before being logged in 2003



Old growth after being cut down in spring 2003



Old growth red oak after being cut down in spring 2003

SECTION 4: OLD GROWTH FOREST SURVEY OF NIAGARA PENINSULA – PHASE 2

Roster of Old Growth Forests

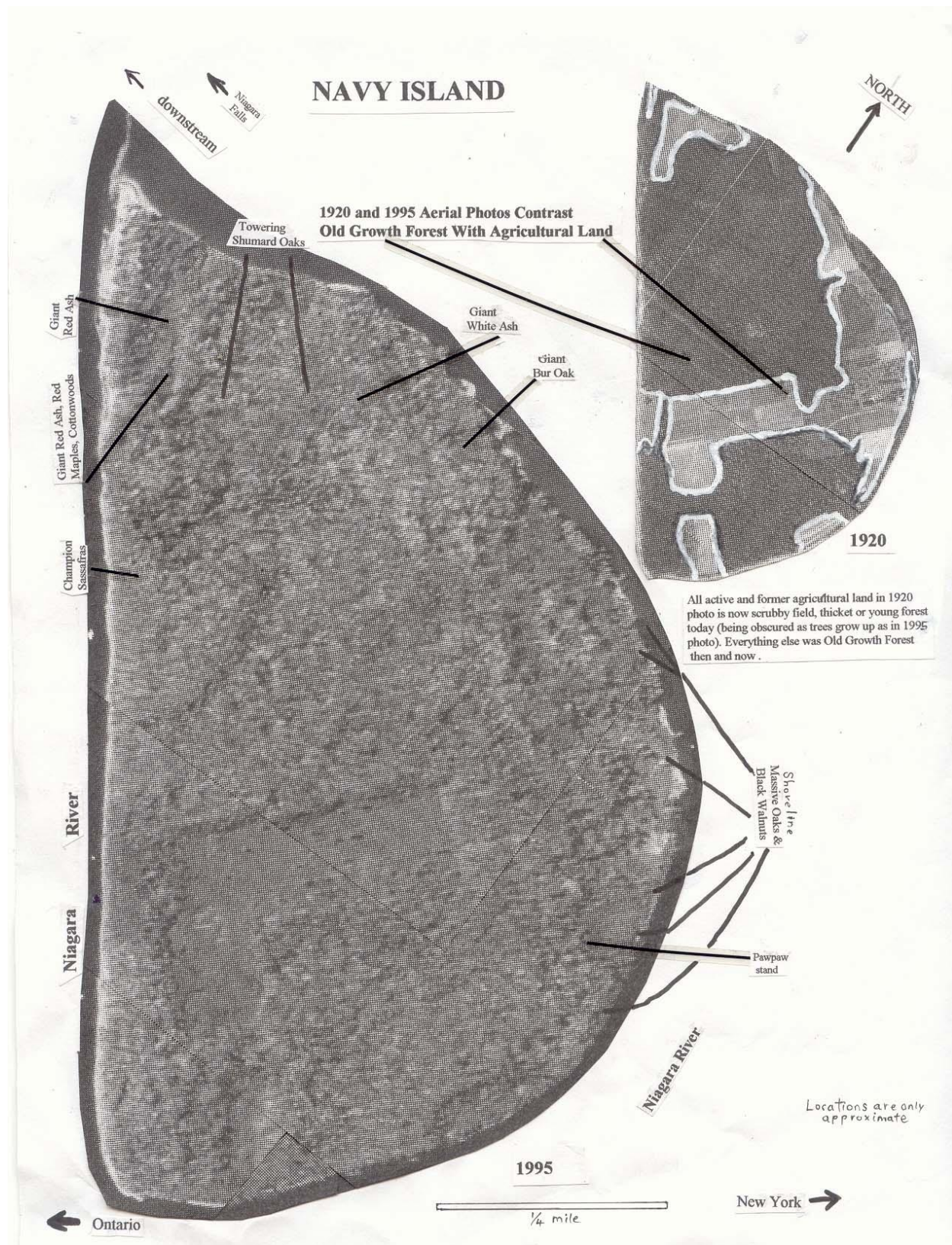
The Old growth Forests comprising the “Bi-National Niagara Corridor of Forest Antiquity” are shown on the following map, and listed below:

Ontario Sites (from upstream to downstream, south to north)

1. *Navy Island Ntl. Historic Site*: 210 ac. in Niagara River upstream of Falls; largest Old growth Forest on Canada-U.S. boundary. Massive, soaring wetland Oak-Hickory forest of type found nowhere else in world.
2. *Clifton Hill-Queen Victoria Park Bluff*: wooded bluff between Clifton Hill & the Falls, extending south for 2 miles; covered with 50 ac. of ancient trees, some giant, to 275 yrs. old., surprisingly undiscovered until now
3. *Niagara Gorge First-Growth Slope Forest*: 40 ac. of various forest types on unstable, very steep gorge slopes
4. *Whirlpool Basin Forest*: 25 ac. steep-slope Carolinian Forest surrounding famous Whirlpool, incl. huge tulip trees
5. *Niagara Glen*: 60 ac. Ontario's tallest hardwood forest, up to 134 ft, 400 yrs, at Niagara Gorge bottom, with rare towering sassafras, tulip tree, other Carolinian trees, spectacular rock formations, Devil Hole Rapids
6. *Smeaton's Ravine*: 4 ac. hidden ravine with 40-ft. falls, rare tree and several levels of rarely seen ancient forest
7. *Niagara Gorge Ancient Cedars*: 10 ac., 7-mile corridor of 700 ancient White Cedars, 500+ yr. old, on cliffs & talus slopes, north to Rainbow Bridge; some display fantastic & bizarre shapes.
8. *Birthplace of Niagara Walnut Grove*: 6 ac. of huge trees & Canada's largest forest-grown Black Walnut
9. *Bruce Trail Scarlet Oak Grove*: Scarlet Oak, a new tree for Canada, was discovered in this 15 ac. of 175-240 yr. red, white, black oaks, where both Bruce Trail & Niagara Falls were born, and near Brock's Monument
10. *Bruce Trail-Fireman's Park Grove*: 6 ac. 160-200 yr. Walnut-Maple Forest along Bruce Trail w. of Niagara River
11. *Calaguiro Park Grove*: 4 ac. of 200 yr. Red, White, Black Oaks near Niagara Escarpment, 2.5 mi. w. of the river
12. *Gray Forest Shumard Oak: Grove*: 1 of only 2 old growth stands in Canada of rare southern oak (6-ac., private)
13. *Necklace of Heritage Oaks*: 138 massive 180-325 yr. Oaks, up to 6-ft. thick, lining the Niagara River for 5 miles connecting Niagara-on-the-Lake to Niagara Gorge (with matching 'set' on NY side)
14. *Red Shale Ravine Grove*: Tiny riverside ravine grove of huge Sycamore, Maple, Walnut, even ancient Willow
15. *Niagara River Bluff Oak-Walnut Grove*: 3 ac. steep bluff grove of lower Niagara River with 250 yr., 5 ft. Walnut
16. *McFarland House Grove*: Tiny grove of giant White Oaks next to historic Niagara River front home
17. *Paradise Grove*: 55 acres of giant 275-year old Savannah White, Black and Red Oaks near Fort George

New York Sites (from upstream to downstream, south to north)

18. *DeVeaux Woods*: 10 ac. of 225-280 yr. towering, massive Red, White, Black Oaks close to Niagara Gorge
19. *Niagara Gorge Ancient Cedars*: 10 ac., 7-mile corridor of 574 ancient White Cedars, 500+ yr. old, on cliffs & talus slopes, north to Goat Island, within 75 ft. of American Falls; some display fantastic & bizarre shapes.
20. *Niagara River Red Shale Cliff Ancient Cedars*: ancient Red Cedars cling to cliffs directly over lower Niagara River
21. *Necklace of Heritage Oaks*: 100+ large Oaks, up to 300 yrs, paralleling NY side of Niagara River for 5 miles connecting Youngstown to Lewiston (matching the Ontario 'Necklace')
22. *Niagara River Bluff Ravine*: small ancient ravine grove on lower Niagara River bluff slopes
23. *Oakland Cemetery Grove*: 4-ac. incl. thick 6-ft. red oak, 300-yr white oak, 92-ft. sassafras, next to historic cemetery
24. *Four-Mile Creek Grove*: 4 ac. of 175-250 year large white, black oaks, sassafras on wild Lake Ontario shore and peninsula just east of Niagara River mouth



Navy Island in the Niagara River

NAVY ISLAND PRIMEVAL FOREST

The discovery of 210 acres of Old growth Forest on Navy Island, located in the middle of the Niagara River, just upstream from the Great Falls of Niagara

The forest is of global significance. It is the **largest broadleaf (“hardwood”) Old growth Forest on the Canada-U.S. boundary line** in Eastern (and probably all of) North America. In fact, it is surpassed in size only by the vast primeval pine forest on the Minnesota-Western Ontario boundary, and is the only known old growth-covered island in the three eastern Great Lakes. In addition, it

- **has the greatest Old growth tree diversity in Northeast North America**, with 25 species of Old growth trees, possibly more, including some species not recorded as old growth in this part of the continent: **Shellbark Hickory**, **Downy Serviceberry**, **Red Ash**, **Silver Maple**, **Pin Oak**
- **much of it is covered by a never previously recorded category of ancient forest: Old growth Shumard Oak-Pin Oak-Swamp Oak-Bur Oak-Shellbark Hickory Wetland Forest.** If preliminary data are confirmed by upcoming expeditions, this type of forest is not only exceedingly rare in mature form, but it would be the **world’s only known example in Old growth status**, new to the annals of science
- **contains numerous trees of record size**, some of which are either confirmed as, or are likely to be, the largest or tallest for their species in Canada**, or Ontario***. Some are normally shrub species which, in this remarkable old growth forest, grow to tree size or record size here.

(Code: **tree name in bold** = confirmed largest; non-bold name = probably largest)

Largest:

- Red Ash*
- Pin Oak*
- **Shellbark Hickory****
- White Ash**
- Sweet Cherry**

Tallest:

- **Red Ash***
- **Shellbark Hickory****
- **Shumard Oak****
- **Pin Oak***
- Sassafras*
- **Swamp Oak***
- Bur Oak**
- **Spicebush***
- **Pawpaw*** (also appears to be tied for tallest north of Virginia)

In addition, hanging from trees were the largest vines of Virginia Creeper (9” diameter at base) and Poison Ivy (7” diameter at base) that this investigator or any scientific colleague of his are aware of. Age estimates of 150 – 200+ years were concluded.

The rare and outstanding natural heritage features described above qualify Navy Island as a United Nations World Biosphere Reserve, especially in combination with the Bi-National Niagara Corridor of Forest Antiquity. Parks Canada, the federal parks agency that manages the island preserve, is now initiating the process of applying for this prestigious status. The magnificent Ancient Forest also complements the island’s rich human heritage that led to its designation as a National Historic Site. In particular, the Old growth Forest is a *human history* feature because it is a large-scale, rare example of the original landscape that the Native People and early settlers lived in and depended on. *Old growth Forests have been entirely overlooked by historians as historic sites just as important as historic buildings and artifacts. Further, ancient forests are much rarer.*

Navy Island is a still-unexplored rich archeological site. Remains of a 3000-year old man were unearthed in 1989. The French used the southern end for building and docking their ships during the 1700s, hence the name “Navy Island.” The British took possession in 1763 and continued it as a naval station until the War of 1812. The evidence that they cut the forest in the island’s southern part was obvious because 57 acres was Secondary Old Growth, with tree ages no older than 150 to 190 years. A careful search for evidence for past cutting was made in the northern half of the island, and absolutely none was found. Tree ages of 225 to 300+ years are common, as are the forest composition and visual features indicating great age and absence of logging for more than 225 years. The conclusion is that the northern forest tract of 143 acres is Original Old Growth. If