

The Eramosa Karst Area of Natural and Scientific Interest (ANSI) in southeast Hamilton was described by Buck, Worthington, and Ford in 2003. The ANSI designated lands include areas described as “core”, “feeder”, and “developed”. The “core” area (an area of about 180 acres) has been designated as the Eramosa Karst Conservation Area. The “feeder” area covers lands immediately upstream of the major karst features. Feeder area lands that lie to the north and west of the intersection of Rymal Road and 2nd Concession Road are publicly owned. The Friends of the Eramosa Karst would like these public lands to be added to the planned Eramosa Karst Conservation Area. These lands total about 80 acres and are mostly contained within the polygon with the following four corners: 1) N 43°10’58.6” W 79°47’54.7”, 2) N 43°10’55.3” W 79°47’38.5”, 3) N 43°10’46.7” W 79°48’16.2”, and 4) N 43°10’39.7” W 79°47’45.2”.

We conducted a quick survey (about two hours total) of these public lands on Nov.20 and Nov.23, 2007. Lyn Hanna-Folkes (M.E.S. Geography), a local private consultant who has previously conducted vegetation surveys for the Hamilton Region Conservation Authority, identified the plant species described below. The number of plants mentioned here is a small fraction of the species present on the feeder property. This is due to the difficulty of identifying species in November (snow was covering the ground on the 23rd).

In the more open areas, the plants present include native species such as shrubby St. John’swort (*Hypericum* sp.), several species of *Aster* including New England Aster (*A. novae-angliae*), and several species of goldenrod (*Solidago* sp.). The plant coverage provides wildlife habitat and helps purify both water for the karst and air for everyone.

There are two hedgerows in this feeder area. The first runs from N 43°10’55.8” W 79°47’56.4” to N 43°10’43.8” W 79°48’01.6”. The second runs from N 43°10’56.9” W 79°47’44.8” to N 43°10’45.7” W 79°47’48.8”. These hedgerows are heavily vegetated and contain many mature trees. Native tree species in the hedgerows include shagbark hickory (*Carya ovata*), bur oak (*Quercus macrocarpa*), white elm (*Ulmus americana*), trembling aspen (*Populus tremuloides*), basswood (*Tilia americana*), and serviceberry (*Amelanchier* sp.). Native shrubs in the hedgerows include grey dogwood (*Cornus racemosa*), at least two berry species (*Rubus* sp.), several types of hawthorne (*Crataegus* sp.), and running strawberry bush (*Euonymus obovatus*). *E. obovatus* is only found in rich forest habitats in the southern part of Ontario. Native herbaceous species in the hedgerows include wild lettuce (*Lactuca canadensis*), strawberries (*Fragaria* sp.), and possibly willowherb (*Epilobium* sp.). The vegetated hedgerows are important as wildlife habitat (e.g., for food and cover for species such as cottontail rabbit). Also, the hedgerows are important sources of native species for revegetating the surrounding fields.

There are several trees scattered throughout the fields. The positions of several of them are listed in the following table.

N 43°10’54.3”	W 79°47’55.3”	Bur Oak	<i>Quercus macrocarpa</i>
N 43°10’54.1”	W 79°47’54.5”	Bur Oak	<i>Quercus macrocarpa</i>
N 43°10’51.2”	W 79°48’04.7”	Shagbark Hickory	<i>Carya ovata</i>
N 43°10’57.7”	W 79°48’02.6”	Bur Oak	<i>Quercus macrocarpa</i>

N 43°10'57.5"	W 79°48'00.9"	Shagbark Hickory	<i>Carya ovata</i>
N 43°10'56.7"	W 79°47'57.8"	Bur Oak	<i>Quercus macrocarpa</i>
N 43°10'47.3"	W 79°47'54.9"	Bur Oak	<i>Quercus macrocarpa</i>
N 43°10'47.3"	W 79°47'55.3"	Grey Dogwood	<i>Cornus racemosa</i>
N 43°10'47.2"	W 79°47'54.4"	Bur Oak	<i>Quercus macrocarpa</i>
N 43°10'47.2"	W 79°47'54.8"	Grey Dogwood	<i>Cornus racemosa</i>
N 43°10'46.9"	W 79°47'53.9"	Bur Oak	<i>Quercus macrocarpa</i>

These isolated trees are hunting perches for raptors, and the large shagbark hickory is a roost for wild turkeys.

The ecological functions of the Eramosa Karst ANSI would be improved, strengthened, and protected by adding this 80 acre section of the feeder area to the previously designated 180 acre Eramosa Karst Conservation Area. The alternative to adding these lands to the Conservation Area would be to develop the 80 acre area, resulting in severe disruptions to the functioning of the ANSI. The construction of roads, driveways, and other hard structures including homes and buildings would both destroy native species outright and would negatively impact both the quantity and quality of water leaving the feeder area and entering the core areas of the ANSI.

Recently, crustaceans were discovered living in the Olmstead Cave. Based on the common recent history of this area, it is likely that similar organisms also live in the Nexus Cave and in the cave that almost certainly exists on Phoenix Creek. These organisms are likely to have existed in the caves for thousands of years. It is important that both the quantity and the quality of the water reaching these caves not be disturbed by development in the feeder area. Hard surfaces built in the feeder areas would change runoff patterns, which would negatively impact the timing of water quantity. Materials washed off these hard surfaces (road salt, oils, detergents, heavy metals, etc.) are likely to be toxic. Also, fertilizers and pesticides used on lawns and gardens would also end up in the caves. It would be unfortunate if organisms that have existed in the caves for thousands of years were killed off in 2008 because of poorly planned development.

The Eramosa Karst Conservation Area is destined to become an isolated pocket of wildlife habitat stranded in an ocean of development. Development has already occurred to the north and east, and is ongoing to the south. Development to the west is currently being planned. The only question is whether the final size of the Conservation Area will be 180 acres (as currently designated), or 260 acres (if the feeder lands are added). It is well known from island biogeography that the number of species that an area can sustainably support increases greatly with increased size of the protected area. This is due to a number of reasons, such as the need to maintain adequate resource (e.g., feeding) areas and to avoid stochastic (chance) events such as local extinctions in isolated populations. The ecological functions of the Eramosa Karst ANSI are best maintained if the native plant species in the feeder area are not destroyed by roads, buildings, and other hard structures. The best way to promote the long term ecological stability of the Eramosa Karst ANSI would be to add the 80 acres of the feeder area to the currently designated Eramosa Karst Conservation Area.

Buck, Marcus J., Worthington, Stephen R.H., and Ford, Derek C. 2003. EARTH SCIENCE INVENTORY AND EVALUATION OF THE ERAMOSA KARST AREA OF NATURAL AND SCIENTIFIC INTEREST. Prepared for: Ontario Ministry of Natural Resources.