ELDORADO PARK AND AREA

Region of Peel	**NAI Area # 1104, 2354**	**Credit Valley Conservation Authority**
City of Brampton	**Size: 70 hectares**	**Watershed: Credit River**
Con 3W, Lots 2-3; Con 4W, Lots 1-4	**Ownership: 73% private, 27% public (City of Brampton)**	**Subwatersheds: Credit River - Norval to Port Credit; Levi Creek; Springbrook Tributary**

General Summary

This urban natural area flanks both sides of the Credit River as it passes through Brampton's Eldorado Park and includes additional natural area within the valley in the vicinity of Eldorado Park. The site is dominated by deciduous floodplain forest with some wetland and upland deciduous forest and is part of a major species movement corridor along the Credit River. The natural area has been fragmented by active recreational facilities including those associated with a golf course and Eldorado Park, although large blocks of natural habitat remain.

This natural area is large for an urban site and functions as a refuge for plant and animal species in the region. The area has high species diversity that includes five Species At Risk, as well as several regionally rare species.

NAI ELC surveyors, botanists and ornithologists inventoried vegetation communities, plant species and breeding birds (Table 1) and made incidental observations of other fauna with approximately 49% of the natural area covered (determined by access permission). With respect to the NAI core inventories (vegetation communities, plants, breeding birds), this area is considered to be data-complete. Additional incidental records were contributed by other observers. Fish were inventoried just downstream of this site and as there are no barriers between the sampling station and this natural area, the data was extrapolated upstream to this site.

Table 1: NAI Field Visits

Visit Date	Inventory Type
03 June 2005	Fish
25 May 2009	Fauna
15 June 2009	ELC, Flora
22 June 2009	Fauna
20 July 2009	ELC, Flora
22 July 2009	ELC, Flora
19 Aug. 2009	ELC, Flora

Natural Feature Classifications and Planning Areas

This natural area is part of:
PSW - Churchville-Norval Wetland Complex

Physical Features

This area is in the Peel Plain physiographic region; characterized by flat to undulating topography. Soils of this region tend to be sands and low-permeability clays deposited during the glacial retreat. The bedrock underneath these glacial tills is the red shale of the Queenston formation, one of the oldest bedrock types found in the Credit watershed.

The Credit River flows through this site. The natural area occupies one valley wall as well as part of the floodplain. The river has eroded high, steep banks on the outside banks of the channel meanders.

Human History

The nearby community of Huttonville is located about one kilometre upstream (northwest) of this natural area and the heritage village of Churchville is located two kilometres downstream (southeast)

of this site. When European's arrived around 1820, this area was densely forested with tall White Pines, and in these early days, the area was called "the Wolf's Den" as wolves were believed to live in the forest. Early industry included timber, grist and woollen mills along the Credit River (Kee, 1996), which suggests that logging, crop-growing and livestock-raising were common activities in the area.

Kenneth Chisholm and John and Matthew Elliott ran grain-processing mills (Eldorado Mills) here in the mid-1800's. Kenneth Chisholm's mother, Mary MacDonell, was the daughter of United Empire Loyalists and had received a land grant from the government in the neighbourhood of Eldorado Mills (Davidson, 1964, Rose, 1886, University of Toronto/University of Laval, 2000). One of the conditions on land granting was that at least a portion of land be cleared and put into agricultural use. The presence of grist mills at this site suggests that grain crops were a focus of early agriculture in the area.

Much of this land was purchased in 1925 by Canadian National Electric Railways who operated suburban light gauge rail service with a stop at what is now known as Eldorado Park. The park was popular with weekend picnickers from Toronto. There was a merry-go-round and ferris wheel within the park. In 1935, after the abandonment of the rail line, approximately 103 acres of this property was sold and became the recreational summer property of Camp Naivelt. At various points during the 1940's and 1950's, weekend visitors from Toronto to Camp Naivelt often numbered in the thousands and a children's camp operated until 1970. In 1970, half the acreage (~53 acres) was sold to the Township of Chinguacousy on the condition that it be maintained as parkland (Browne, 2006; City of Brampton, 2010; Grossman, pers. comm., 2011; Kennedy, 2009; R. Little, pers. comm., 2011; The Winchevsky Centre, Undated). The Township of Chinguacousy is now part of the City of Brampton, and Eldorado Park has been maintained as an active public park, including recreational and summer day camps.

Camp Naivelt has historically been and continues to be an important site of secular Jewish culture. Conservation and stewardship concerns have always been a priority of Camp Naivelt, and the landscape and site characteristics of the camp have generally remained unchanged since the 1930's. The camp has been developed and maintained with unpaved laneways, footpaths and grassy clearings, small, rustic frame cottages and a few communal structures that were originally erected during the early decades of Camp Naivelt. These lands have been identified for their archaeological potential due to their proximity to the Credit River, and in 2010, Camp Naivelt was designated as a heritage site by the City of Brampton (Grossman, pers.comm., 2011).

Land use within this natural area is predominantly recreational, including Eldorado Park, Camp Naivelt and the Lionhead Golf and Country Club. The Brampton city park is a public recreation area used for picnicking and walking along paths with large areas of the park manicured or occupied by parking lots and buildings/picnic shelters. Part of the privately owned portion of the natural area is a recreational cottage community (Camp Naivelt). Surrounding land uses include residences (both recent low-medium density housing and older housing on larger lots with established trees and vegetation), a golf course (with natural forest patches between fairways) and vacant land that is now proposed for residential development. A stormwater management pond is adjacent to the southeast part of the natural area.

Vegetation Communities

The general community types present here are deciduous forest (77%), mixed forest (4%), marsh (1%), deciduous swamp (10%), cultural meadow (5%) and cultural woodland (2%).

A total of 16 vegetation communities of 14 different types were mapped (Table 2) over the 49% of the area to which the ECL surveyors had access. One of the forest communities, a Fresh-Moist Black Walnut Lowland Deciduous Forest (FOD7-4), is provincially rare and is present as two separate patches in the area. Two communities were only taken to ecosite level: these are meadow marshes dominated by Reed Manna-grass (*Glyceria maxima*) for which no suitable ELC code exists.

This area falls within the Carolinian vegetation zone. Species characteristic of the Carolinian deciduous forests are present, including Shagbark Hickory (*Carya ovata*) and the regionally rare Spicebush (*Lindera benzoin*).

Table 2: ELC Vegetation Communities

Map reference *	Vegetation type	Size in hectares	% of natural area
FOD5-2	Dry-Fresh Sugar Maple – Beech Deciduous Forest	2.89	4.13
FOD6-5	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest	3.13	4.47
FOD7-3	Fresh-Moist Willow Lowland Deciduous Forest	4.11	5.87
FOD7-4	Fresh-Moist Black Walnut Lowland Deciduous Forest **PROVINCIALLY RARE S-rank S2S3**	0.45	0.64
FOD7-A	Fresh-Moist Manitoba Maple Lowland Deciduous Forest (2 communities)	6.14	8.77
FOD7-D	Fresh-Moist Red Maple Lowland Deciduous Forest	0.71	1.01
FOD8-1	Fresh-Moist Poplar Deciduous Forest	7.91	11.30
FOMM9-2	Fresh-Moist White Pine – Hardwood Mixed Forest	2.95	4.21
MAM2	Meadow Marsh dominated by *Glyceria maxima* – needs new ELC code (2 communities)	0.82	1.17
SWD4-4	Yellow Birch Mineral Deciduous Swamp	2.80	4.00
SWDM4-5	Poplar Mineral Deciduous Swamp	0.92	1.31
CUM1-A	Native Forb Old Field Meadow	1.00	1.43
CUM1-B	Exotic Cool-season Grass Old Field Cultural Meadow	1.94	2.77
CUW1-A2	White Pine Cultural Woodland	0.37	0.53
	TOTAL AREA INVENTORIED	**36.14**	

* Note: The map reference code refers to the vegetation type shown on mapping for this area and also to the Appendix list of species typically encountered in this vegetation type.

Species Presence

Vascular Plants

A total of 240 species of vascular plants are recorded for this area, of which 173 (70%) are native. One of these, Butternut (*Juglans cinerea*), is Endangered nationally and provincially, as well as being provincially rare (S-rank S3?; Table 3). Four Butternut trees were found in this area, two of which were heavily cankered with 60-70% of their canopy remaining alive. The third was in better condition, only moderately cankered with 90% of the canopy intact, and the fourth tree was young with no information on cankers recorded (Butternuts may not show cankering until older). Ten additional plant species are regionally rare (Table 4). Almost one-third of the 66 species of non-native plants are considered to be highly invasive.

Breeding Birds

A total of 69 species of breeding birds occur in this natural area, of which 67 (97%) are native. Most of these are believed to breed in the natural area with the exception of seven presumed migrants and four presumed visitors. Three are Species At Risk, Chimney Swift (*Chaetura pelagica*) (a visitor), Barn Swallow (*Hirundo rustica*) and Olive-sided Flycatcher (*Contopus cooperi*; Table 3). The Chimney Swift is Threatened both nationally and provincially. The Olive-sided Flycatcher is Threatened nationally and Special Concern provincially. The Barn Swallow is Threatened nationally.

This area supports five species of colonial-nesting birds, namely Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), Northern Rough-winged Swallow (*Stelgidopteryx serripennis*), Cliff Swallow (*Petrochelidon pyrrhonota*), and Barn Swallow. This area supports one species of waterfowl, Mallard (*Anas platyrhynchos*). The contiguous forest is sufficiently large enough to support

six species of area-sensitive forest interior birds, namely Hairy Woodpecker (Picoides villosus), Pileated Woodpecker (*Dryocopus pileatus*), Red-breasted Nuthatch (*Sitta canadensis*), Winter Wren (*Troglodytes troglodytes*), Black-throated Blue Warbler (*Dendroica caerulescens*), and Blackburnian Warbler (*Dendroica fusca*). The successional habitat supports one species of grassland bird, the Eastern Kingbird (*Tyrannus tyrannus*).

Fish
Two native fish species are recorded in the Credit River just downstream from this site. An additional two native species are known from historic (1984, 1985) records. The Credit River supports mixed warm/cool water fish communities. A creek draining into the river supports warm-water fish communities.

Butterflies and Skippers
A total of 11 species of butterflies/skippers are recorded as incidental observations, of which nine (82%) are native.

Dragonflies and Damselflies
A total of 12 species of dragonflies and damselflies are recorded as incidental observations, all of which are native. This was the only site visited during NAI fieldwork (2008, 2009) where Rainbow Bluet (*Enallagma antennatum*) was observed, a species considered regionally rare in adjacent Halton Region (Dwyer, 2006).

Herpetofauna
Six species of herpetofauna are recorded as incidental observations, all of which are native. One of these, Eastern Snapping Turtle (*Chelydra serpentina)*, is designated Special Concern both nationally and provincially (Table 3). The Eastern Snapping Turtle is also provincially rare. A single and potentially introduced Bullfrog (*Rana catesbeiana*) was heard calling from the stormwater management pond adjacent to this natural area. At least 20 Green Frogs (*Rana clamitans*) were observed in the area and American Toad (*Bufo americana*) adults and toadlets were abundant. The remaining herpetofaunal species are another turtle species and a snake species. Bull (1938) refers to Eldorado as having been a “well-known frog haunt” (presumably in the 1800’s).

Mammals
Nine species of common, native mammals are recorded as incidental observations. A Woodchuck (*Marmota monax*) den was observed in rocks under a bridge.

Table 3: Designated Species At Risk

Scientific name	Common name	COSEWIC	COSSARO	S rank	G rank
VASCULAR PLANTS					
Juglans cinerea	Butternut	END	END	S3?	G4
BIRDS					
Hirundo rustica	Barn Swallow	THR		S5B	G5
Chaetura pelagica	Chimney Swift	THR	THR	S4B	G5
Contopus cooperi	Olive-sided Flycatcher	THR	SC	S4B	G4
HERPETOFAUNA					
Chelydra serpentina	Eastern Snapping Turtle	SC	SC	S3	G5T5

Table 4: Regionally Rare Vascular Plant Species (Kaiser, 2001)

Scientific name	Common name	S rank	G rank
VASCULAR PLANTS			
Carex cephalophora	Oval-leaved Sedge	S5	G5
Ceratophyllum demersum	Common Hornwort	S5	G5
Elymus riparius	River Wild-rye	S4?	G5
Heracleum lanatum	Cow-parsnip	S5	G5
Lindera benzoin	Spicebush	S5	G5
Scutellaria parvula var. parvula	Small Skullcap	S4	G4T4
Symplocarpus foetidus	Skunk Cabbage	S5	G5
Teucrium canadense ssp. canadense	Canada Germander	S5?	G5T5
Triosteum aurantiacum	Coffee Tinker's-weed	S5	G5
Wolffia borealis	Dotted Watermeal	S4S5	G5

Site Condition and Disturbances

This is a large natural area under urban influence, and parts of the area have been highly fragmented by land uses.

Tree cover is patchy along the banks of the Credit River, which winds through this natural area and the overall species composition is influenced by its proximity to urban development and the extensive recreational uses. In spite of these disturbances, the biodiversity is relatively high.

Alien and invasive species are present in all parts of the area. Some communities are heavily infested with, or even dominated by invasives such as Garlic Mustard (*Alliaria petiolata*), Common Buckthorn (*Rhamnus cathartica*), Manitoba Maple (*Acer negundo*), Ornamental Jewelweed (*Impatiens glandulifera*), Reed Manna Grass (*Glyceria maxima*), Purple Loosestrife (*Lythrum salicaria*), Goutweed (*Aegopodium podagraria*) and Japanese Knotweed (*Polygonum cuspidatum*). These invasive species are extremely aggressive and once established can be very difficult to control. Old field communities that are naturalizing are dominated by invasive species. Heavy recreational use can exacerbate the introduction and spread of invasive species through the further dispersal of seeds.

Other moderate to significant disturbances impact this area. There are moderate levels of noise throughout, and significant amounts of dumping and garbage have occurred in some places. Heavy recreational use and well-marked trails are restricted to some parts of the area. Some forest communities show evidence of moderate amounts of selective cutting of trees and removal of much of the underbrush. Small to moderate-sized gaps in the forest canopy occur throughout the area, some caused by human activities and others by natural causes (such as wind-throw). One community shows evidence of a ground fire.

Light levels of tree disease occur throughout much of the area. While a variety of trees and diseases could be involved, Beech Bark Disease is widespread and the Butternut trees observed were generally affected by Butternut Canker.

Evidence of extensive flooding was present in several communities, which is not unusual on a floodplain. In many communities, there was evidence of light to heavy levels of browsing (rabbits or deer).

Ecological Features and Functions

Wetlands of this natural area are included in the provincially significant Churchville-Norval Wetland Complex.

With forest communities greater than 2 ha in size and wetlands over 0.5 ha in size, this natural area supports and sustains biodiversity, healthy ecosystem functions and provides long-term resilience for the natural system. The riparian areas provide a transitional zone between terrestrial and aquatic habitats, helping to maintain the water quality of the river, moderating the impacts of flooding, preventing erosion and sedimentation, and providing a movement corridor for plants and wildlife.

By containing a wide variety of habitat types, this natural area supports biodiversity, particularly for species that require more than one habitat type for their life needs. This area contains a provincially rare vegetation community and thus has the potential to support additional biodiversity above and beyond that found in common community types.

Nearby, across the golf course fairways, there are more natural patches, running generally along the crest of the slope, up the valley; and additional natural areas across Creditview Road to the southeast in the valley bottom. The golf course fairways have small, isolated patches of forest, as well as some narrow connections with the larger natural area. This natural area also links across Creditview Road to the north with the vegetated valleys of Springbrook and Churchville Creek tributaries of the Credit River. This relative close proximity of other areas of natural habitat creates above-average potential for wildlife movement between natural areas, species dispersal and recovery from disturbance, creating additional resilience for the ecosystem.

The Credit River runs through this area and thus, the natural area supports the connectivity function of the river and its tributaries providing natural habitat that facilitates the cross-regional movement of wildlife along this corridor between major provincial corridors.

Groundwater seepage was observed on the slope of one community.

Two communities have vernal pools.

This area supports a provincially rare vegetation community. The area also provides habitat for five Species At Risk (one plant species, three bird species and one turtle species), two provincially rare species and ten regionally rare plant species.

Interior forest habitat at this area supports six species of area-sensitive forest interior birds.

Five species of colonial-nesting birds, one species of grassland bird and one species of waterfowl nest in this area.

Wetlands of this area support the breeding of at least one frog species and one toad species.

Based on the above features, this area should be evaluated to determine if significant wildlife habitat is present in accordance with the Provincial Policy Statement, Region of Peel Official Plan, and Brampton Official Plan.

Although stormwater management ponds are excluded from NAI coverage, the NAI surveyors noted that the pond harbours a number of notable species such as Bullfrog and Rainbow Bluet (a damselfly).

Opportunities

Further fragmentation of this natural area is discouraged. Existing fragmentation could be mitigated by actively restoring small manicured areas of the public park to natural vegetation, or allowing manicured areas to re-naturalize. Existing linkages to other natural areas should be maintained. Recreational activities should be constrained to designated areas (e.g. trails) and these areas should be fortified against the impacts of use, to minimize the disturbance caused by recreation. This can be accomplished by ensuring trails are clearly marked, providing boardwalks in wet areas to discourage

trail-widening and erosion, and ensuring trails are in appropriate places (i.e. not straight up steep slopes prone to erosion; without hairpin turns that encourage shortcutting etc.).

The health of the Butternut trees present at this site could be assessed by a Butternut Assessor to determine whether any are candidates for inclusion in the Butternut recovery program.

The distribution and extent of invasive species in the natural area could be monitored. Control of at least some invasive species might be considered.

Since reptile and amphibian observations were only incidental, additional breeding surveys should be conducted to determine whether additional herpetofaunal species are present. Additional dragonfly/damselfly species may use this natural area, and further surveying at a variety of times throughout the summer and fall is desirable.

The presence of Chimney Swifts using this area suggests that they may be roosting nearby. The Village of Churchville is an older community with buildings that may have chimneys suitable for roosting. Dusk surveys for Chimney Swift roosts may be productive.

Data gaps exist for bats and small mammals in this area. Additional inventories targeting these groups may be productive given the availability of habitat for species of these groups.

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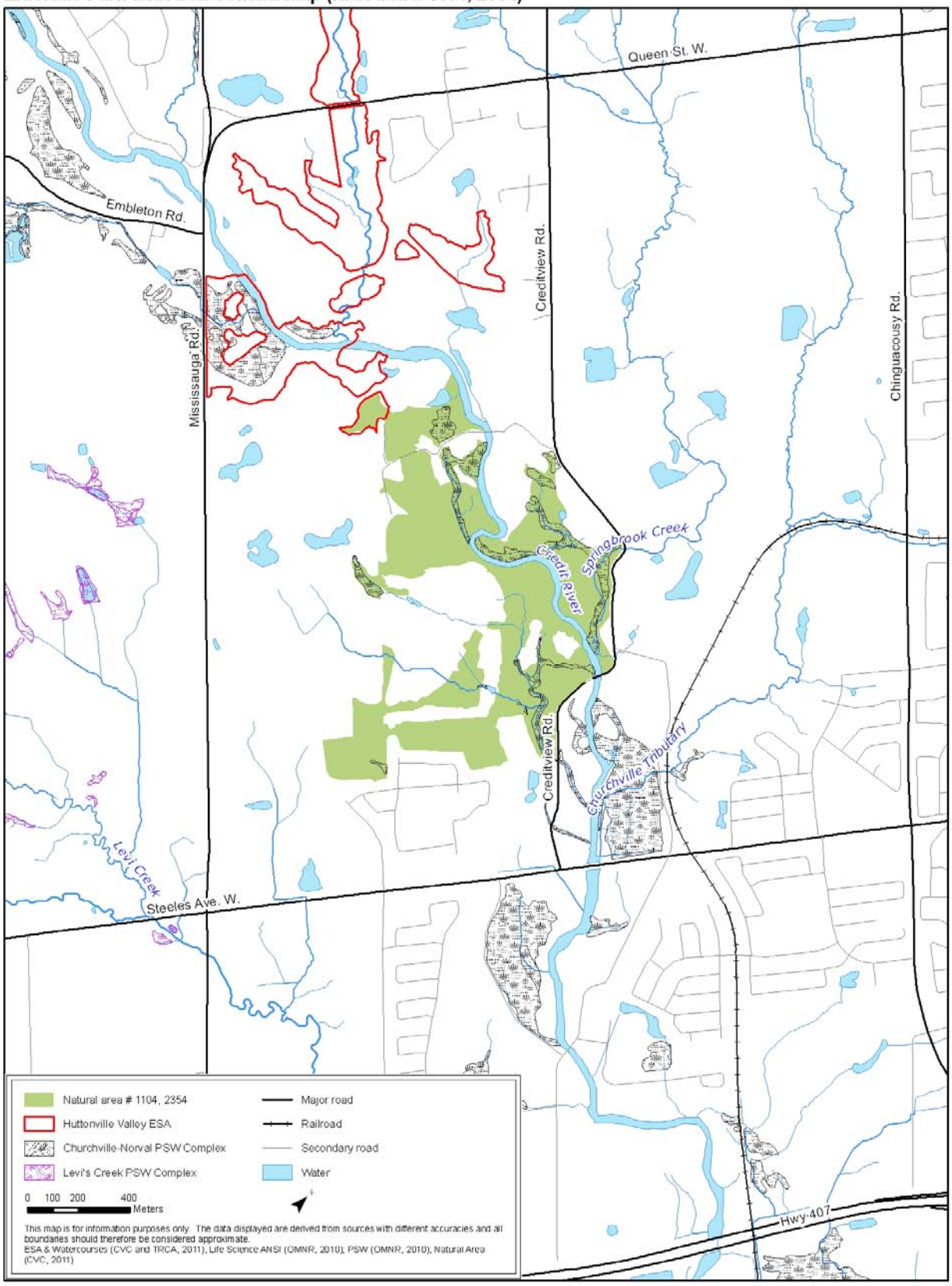
Thank you to *Eldorado Camp & Amusements Limited* for the contribution of information regarding Camp Naivelt and the history of land use and ownership in this natural area.

Eldorado Park and Area Context Map (NAI Area # 1104, 2354)



Eldorado Park and Area Vegetation Communities Map (NAI Area # 1104, 2354)