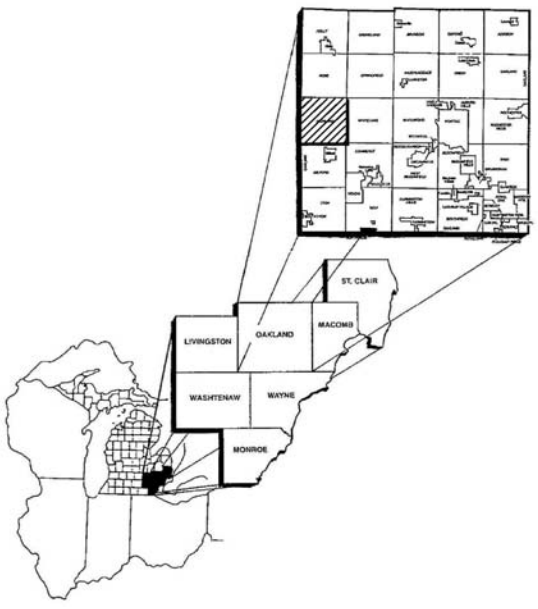
Community Description

This section of the Plan describes many of the area's natural and built features, as well as a description of the community's population characteristics. The purpose is to provide users of the Plan with an overview of the physical features and demographic trends of the Township, and provide a basis for the plan by identifying the unique features and opportunities the community has to offer.

Regional Setting

Highland Township is located in western Oakland County. The Township is bordered by Rose Township to the north, White Lake Township to the east, Milford Township to the south, and Livingston County's Hartland Township to the west. The Township is 30 miles northwest of Detroit, 25 miles south of Flint, 45 miles east of Lansing, and 25 miles north of Ann Arbor. M-59, a major east/west local access highway bisects the community, giving residents access to US 23 to the west and the more urbanized areas of southeast Michigan to the east.

Figure 1: Regional Overview



Oakland County is in southeast Michigan and is bordered by the counties of Lapeer to the north, Macomb to the east, Wayne to the south, and Livingston to the west. Oakland County is in the Southeast Michigan Council of Governments (SEMCOG) region. SEMCOG is the regional planning agency that conducts planning studies and maintains a comprehensive database of information about each community it serves. It is a source for some of the population and land use related data included in this report.

History of the Community

Rufus and Jesse Tenny traveling west from Rochester, New York, during 1832 were among the first settlers within the present Highland Township boundaries. Three years later in 1835 by act of the Michigan Territorial Legislature, Highland Township was officially established. The name "Highland" was derived from the Township's topographic characteristic of having the highest elevations relative to surrounding lands throughout Oakland County.

At the time of Highland Township's official establishment in 1835, then Michigan Governor, Lewis Cass, encouraged sale of lands located in Oakland County. Such land sales required cash from all purchasers at $1.25 per acre, and offered many desirable resources in the form of lakes, springs, streams and marshes, the latter providing winter hay for livestock. Sales were brisk, and a large measure of Township public land sold off by 1840.

The early Highland inhabitants like other settlers of their era constructed initial dwellings from logs, this material being abundantly available from land clearing operations. Although cleared land was fertile for raising crops, the glacial soil structure produced unwanted quantities of stones severely challenging to these early farmers' strength and implements. On the positive side, stones removed from fields were in some cases utilized for building both residences and barns. A number of these stone structures remain today particularly those with stone and mortar "Michigan basements."

The first town meeting was held in 1835 with 22 residents in attendance, and records show that one year later a total of $28 was expended in support of Highland Township's first year of expenses. The

initial school building was a two-room building constructed of logs in 1834, and served as a place for these early town meetings together with school classes and religious observances. The original log school house was located on the 240 acre Tenny farm settled in 1832 within Section 31 of the Township.

Native Americans inhabiting the area during these early years of development camped on land situated on the east side of Section 34 and were recorded as generally peaceful. Trails at that time were common throughout the Township. The principal trail in the Township was the Shiawassee Trail that entered Highland near the southeast corner of Section 35, and ran northwest where it intersected the Walled Lake Trail, a branch of the main Grand River Trail to the south.

Highland Township settlers were primarily farmers, however, manufacturing interests developed in the form of shops, blacksmiths, sawmills and grist mills, the latter being powered by water from the area's streams. By 1867, a former water-powered sawmill was converted to a pickle and vinegar works which by 1885 was producing 1,400 gallons of vinegar per day. The plant also manufactured and shipped out large quantities of pickles processed from cucumbers grown on surrounding Township farms. Reputed to be one of the largest pickle factories in Michigan, the plant ceased operations when destroyed by fire in 1896.

In 1871, the first train steamed through Highland Township and "Highland Station" as a village within parts of Sections 22 and 27 was platted. The railroad's impact on the Township produced accelerated growth both in farming and manufacturing transporting settler's produce to Detroit markets and returning with "store-type goods."

Throughout the 173 years since its establishment in 1835, Highland Township has generally remained an agricultural community. During recent years, however, following the region's continuing reduction in small or family-owned farms, large tracts of former cropland together with Highland's desirable lake-front property have been developed into single family subdivisions. Related commercial support development has also accompanied housing construction particularly along the M-59/Milford Road corridors running east/west and north/south respectively through the Township.

(INSERT HISTORIC PHOTO HERE)

Historic Resources

There are two historic sites identified on the Michigan Register of Historic Places in the Township. The Highland United Methodist Church, later known as the Highland Township Station House, which is located at 205 W. Livingston Road. It currently houses Senior Center activities and other community groups such as the Huron Valley Council of the Arts and the Huron Valley Youth Athletic League. Michigan listed the site in 1981, and received its national designation in the same year. The historic marker was erected in 1988. The second site is the Stone Rowe House. This site received its State designation in 1974, its national designation in 1975, the same year a historical marker was erected. The Stone Rowe House is located at 2360 Lone Tree Road.

In addition to unique historic resources, The National Trust's Main Street Revitalization Program has recognized Highland Township's downtown (Highland

Station) as the first Horse-Friendly downtown through Oakland County's Main Street Program. In addition, the Township was recognized as Michigan's first Equestrian Community by the State of Michigan in 2006.

Social Characteristics

This section identifies the Township's population characteristics. Highland Township's population characteristics are different from Michigan's or Oakland County's in a number of ways that may influence the recreational needs of the community. The following is a description of these characteristics and the impact they may have on recreation.

Population Trends and Projections

Between 1990 and 2000, Highland Township's population increased by 6.9%. This represents a numeric increase of 1,250 residents. During the same period, Oakland County's population increased by 10.2% or 110,564 residents, and Michigan's population increased by 6.9%, or 643,167 residents.

Table 1 Population

	Highland Township	Oakland County	Michigan
1990	17,941	1,083,592	9,295,277
2000	19,191	1,194,156	9,938,444
2008/2010 Estimate	19,675	1,204,265	10,428,683*
2030/2035 Projection	22,513	1,336,761	10,694,172**

*Reflects estimate for 2010. **Reflects projection for 2030.
Source: 2000 U.S. Census; SEMCOG Community Profile.

The Township's population is projected to grow by 17.3% by the year 2035, while the County's population is projected to increase by11.9%. This reflects the continual movement of southeast Michigan's population from more densely populated areas to less densely populated areas. In turn, the increased population indicates a need to continue expanding recreational opportunities in the Township.

The State's population increase is projected to be significantly smaller than the Township's, at 7.6% by 2030. In fact, compared to the rest of the Country, the U.S. Census Bureau ranks Michigan's rate of growth 40th among the states, and its projected numeric growth rate ranks 21st. The Michigan Department of Management and Budget reports that this reflects continued low birth rates and higher levels of out migration.

Population Characteristics

The following table illustrates the age distribution of Township residents, and how that distribution has changed since 1990.

Table 2 Age

	2000	1990 – 2000 Difference
0-4	1,425 (7.4%)	-.7%
5-9	1,596 (8.3%)	-.3%
10-14	1,630 (8.5%)	-.3%
15-19	1,462 (7.6%)	-.3%*
20-24	975 (5.1%	-1.4%*
25-34	2,381 (12.4%)	-5.5%
35-44	3,667 (19.1%)	+1.4%
45-54	2,904 (15.1%)	+3.6%
55-64	1,756 (5.3%)	-.8%
65-84	1,267 (8.2%)	+2.3%
85+	128 (2.3%)	+1.9%
Total	19,191	
Median Age	35.4	

Source: 2000 U.S. Census; SEMCOG Community Profile.

The data shows that, in general, the population is aging. The median age in the Township in 1990 was 30.6 years. In 2000, the median age was 4.8 years older, or 35.4 years

The number of children in the Township age 19 and under has decreased by 1.6%, and the number of older adults age 65 and up has increased by 4.2%. The largest change is in the 25-34 year old category, with a 5.5% increase. This increase in young adults will also create a future increase in children in the Township.

Looking forward, the age distribution continues to shift to an older mix of residents. According to a recent report published by the Research Institute for Housing America (Frey, 2006), pre-seniors (age 55-64) will show the greatest increase from 2000 to 2010, while young seniors (age 65-74) will follow as the greatest increase from 2010 to 2020. These population groups correspond to the baby boom generation.

Table 3 Age Projection

	2000 – 2030 Difference
0-4	-6.2%
5-17	-4.9%
18-34	+3.3%
35-64	+12.0%
Age 65+	+119.8%

Source: SEMCOG 2030 Regional Development Forecast

The table below illustrates other general population characteristics of Township residents.

Table 4 General Characteristics

	2000	1990 – 2000 Difference
Gender		
Male (%)	9,781 (51%)	+1.0%
Female (%)	9,410 (49%)	-1.0%
Race		
White	18,675 (97.4%)	-1.6%
Black	58 (.3%)	+.1%
American Indian and Alaska Native	89 (.4%)	-.2%
Asian or Pacific Islander	74 (.3%)	+.1%
Other	48 (.2%)	+.1%
More than one race	229 (1.1%)	n.a.

n.a.: not available.
Source: 2000 U.S. Census; SEMCOG Community Profile.

Household Information

Consistent with a rise in population, the number of households and housing units has risen since 1990, and is projected to continue rising into the future. Also consistent with an aging population, families with children have risen only slightly since 1990 (3.0%), contrasted with a significant rise in families *without* children (25.7%). In the long run, families with children will continue its minimal rise (2.3%), where the families without children will rise dramatically (47.2%).

Another regional trend that is impacting the Township is the number of people living in each household. Highland Township, as the region, is seeing a reduction in the number of people living together. More people are living alone, and household size has shrunk, due partly to fewer children in the community overall.

Table 5 Household Characteristics

	2000	1990 – 2000 Difference	2000 – 2030 Difference
Number of Households	6,786	+14.4%	+27.6%
Number of Housing Units	7,179	+14.4%	n.a.
Families with Children	2,966 (43.7%)	+3.0%	+2.3%
Families without Children	3,822 (56.3%)	+25.7%	+47.2%

n.a.: not available.
Source: 2000 U.S. Census; SEMCOG Community Profile.

Table 6 Persons per Household

	1990	2000	2030 Projection
Persons per Household	3.04	2.82	2.50

Source: 2000 U.S. Census; SEMCOG Community Profile.

Population with Physical Disabilities

The Census gathers data on six groups of disabilities for different age groups. The six disability groups include sensory, physical, mental, self-care, go-outside-home, and employment disabilities. The most relevant condition to a recreation plan is a physical disability. The following table recognizes the total number of Township residents that have any type of disability, and how many of these represent a physical disability. The special needs of these people should be considered when planning for parks and recreation facilities and programs.

Table 7 Population with Disabilities

	Number and Percentage per Age Group
Population Age 5-15	
Population Sample	264
Population with a Physical Disability	20 (7.5%)
Population Age 16-64	
Population Sample	2,862
Population with a Physical Disability	717 (25.0%)
Population Age 65 and Over	
Population Sample	1,061
Population with a Physical Disability	372 (35.0%)

Source: 2000 U.S. Census.

Socio-Economic Characteristics

Highland Township enjoyed an almost 50% rise in median household income between 1990 and 2000. A similar rise also occurred across the County.

Table 8 Median Household Income (1999 Dollars)

	Highland Township	Oakland County	Michigan
1990	$42,157	$43,407	$31,030
2000	$62,805	$61,907	$44,667
Households in Poverty	3.8%	3.8%	7.4%

Source: 2000 U.S. Census; SEMCOG Community Profile.

According to the Office of Labor Market Information, the July, 2008 unemployment rate for Oakland County was 7.3%, and 9.1% for the State. The largest employment sectors in the Township are manufacturing (21.7%), education, health and social services (16.5%), and retail trade (12.8%).

Table 9 Employment by Industrial Class

	Number and Percentage
Agriculture, forestry, fishing and hunting and mining	36 (.4%)
Construction	1,318 (13.2%)
Manufacturing	2,166 (21.7%)
Wholesale trade	351 (3.5%)
Retail trade	1,283 (12.8%)
Transportation and warehousing, and utilities	256 (2.6%)
Information	268 (2.7%)
Finance, insurance, real estate, and rental and leasing	545 (5.5%)
Professional, scientific, management, administrative, and waste management services	975 (9.8%)
Education, health and social services	1,646 (16.5%)
Arts, entertainment, recreation, accommodation and food services	552 (5.5%)
Other services	363 (3.6%)
Public administration	2.3 (2.3%)

Source: 2000 U.S. Census.

Physical Characteristics

This section of the Plan describes the area's natural and built features. The purpose is to provide users of the Plan with an overview of the Township's physical opportunities and constraints since recreation activities are so closely related to physical features.

Climate

Weather influences the types of recreation that an area can support. Highland Township, like the rest of Michigan, experiences seasonal changes, which means the area can support a variety of recreational activities ranging from outdoor swimming in the summer to sledding in the winter. Generally, January is the coldest month of the year with an average temperature of 23.0° F, and July is the warmest month of the year with an average temperature of 71.0° F. January has the highest average snowfall with 11.9 inches. Snow generally falls in seven of the twelve months of the year. June has the highest average precipitation rate with 3.12 inches and February has the lowest average with 1.55 inches. Prevailing winds are from the southwest.

Table 10 Temperature and Precipitation

Month	Average Daily Temperature	Precipitation (Inches)	
		Average	Average Snowfall
January	23.0	1.52	11.9
February	25.2	1.55	9.3
March	33.9	2.13	7.5
April	47.0	2.78	2.4
May	58.4	2.83	Trace
June	68.1	3.12	0
July	72.1	2.52	0
August	70.4	3.07	0
September	63.2	3.00	0
October	52.8	2.10	0.2
November	39.3	2.47	3.7
December	27.7	2.19	9.9
Annual	48.4	29.28	44.9

Source: USDA; weather.com; noaa.gov.

Topography and Soils

Nearly all of the hills and lakes in Oakland County were formed during the retreat of the glaciers, approximately 14,000 years ago.

Like much of Oakland County, Highland Township is relatively flat, but has many areas with rolling topography. Elevations range from a low of 950 feet above mean sea level in Section 36 to a high of 1,100 feet in Section 2, 5, 6, 7, 16, 18 and 21.

Soils information can be used to compare the suitability of large areas for general land uses. Soils across the Township fall into four broad categories. These categories are named after the major soils existing in each area.

1) Riddles-Marlette-Houghton: These soils are nearly level to steep, well drained, moderately well-drained and poorly drained, have a loamy and mucky texture and are present on moraines, till plains and in bogs. This soil category is found in the northern quarter of the Township, as well as in a small section of the Township's southwest corner. The upland soils (Riddles and Marlette) are suited for cropland and pasture, or building site development and septic tank absorption fields, but slow permeability and slope of these soils could be a limitation. The Houghton soils, or muck soils, generally occur in wetlands and are not suitable for building sites, septic fields or other development uses.

2) Fox-Oshtemo-Houghton: This soils category includes soils that are nearly level to hilly, well drained and very poorly drained, are a loamy, sandy and mucky texture, and appear on outwash plains, moraines, beach ridges and in bogs. This soil category is found on the western boundary of the Township, as well as through the Township's northern half. A small section of the Township's southwestern corner also contains this soil category. The Fox and Oshtemo (upland) soils are suited for woodland, wildlife habitat, building sites and septic tank absorption fields. However, they could be limited by slope or poor filtering capacity. The Houghton (muck) soils are found in wetlands and not suitable for development.

3) Oshtemo-Spinks-Houghton: This soil category is on nearly level to steep landscape features, is well drained and very poorly drained, and is sandy and mucky in texture. They are located on outwash plains, beach ridges, and moraines and in bogs. This soil category is found in the central portion of the Township, as well as throughout the southern half of the community. The Oshtemo and Spinks (upland) soils are generally used for woodland, wildlife habitat, and parks, as well as building sites and septic systems. However, poor filtering capacity could be a limiting factor. The Houghton (muck) soils are found in wetlands and are not suitable for development.

4) Urban Land-Spinks-Oshtemo: Urban land soils are so disturbed that their natural characteristics have been permanently altered. The Spinks-Oshtemo soils are on nearly level to rolling terrain, are well drained sandy soils found on outwash plains, beach ridges and moraines. This soil category is located in the center of the Township, to the community's eastern boundary. The developed portions of this soil category are used for residential and commercial land uses. The undeveloped Spinks and Oshtemo soils are suitable for woodlands, playgrounds, parks and wildlife habitat, as well as new building sites and septic absorption fields.

Water Resources

Watersheds

Highland Township is rich in water resources. It is within the watersheds of two main river systems – the Huron River and the Shiawassee River. A "watershed" is an area of land that drains to a river, stream or other waterbody. The Huron river watershed covers the eastern half and northwest corner of the Township (19,076 acres), while the Shiawassee River watershed covers the remaining portions of the Township (4,076 acres). Watershed and sub-watershed boundaries are shown on the Natural Features map on page 11 of this report.

Since 2000, the Federal Clean Water Act has required communities to apply for and receive a stormwater permit to discharge stormwater runoff from developed areas into waters of the State. Stormwater is the main cause of "non-point source pollution", or pollution that cannot be traced to a particular discharge such as an industrial or wastewater treatment plan. Rainfall or snowmelt moving over and through the ground picks up and carries pollutants to lakes, rivers, and wetlands, or even to underground sources of drinking water. Pollutants often found in stormwater runoff are numerous and include phosphorus and nitrogen, dirt

and sediments, oils/greases, vehicle lubricants, herbicides and insecticides, metals and garbage.

Highland Township received its stormwater permit in 2005 after completing a watershed management plan for the Kent Lake Subwatershed of the Huron River. This watershed management plan has implications for recreation planning in the Township because parks and other areas used for recreation can contribute to stormwater pollution, or be models of how land development should occur to protect water resources. Protecting water resources means clean drinking water supplies, property values, healthy wildlife habitats, and economic advantages derived from water-based recreation such as fishing, swimming and other activities.

The Kent Lake Watershed Management Plan identified several problems occurring in this watershed:

1) Phosphorus loading from over fertilization of lawns, sedimentation from construction and development, and failing septic systems can cause algae blooms in lakes, which reduces dissolved oxygen and threatens fish and other aquatic organisms.

2) Nitrogen loading from human (failing septic systems) and animal waste, decomposing organic matter and runoff from fertilizers also cause algae blooms in lakes.

3) Suspended sediments carry absorbed phosphorus and decrease dissolved oxygen levels in waterbodies. Sources of suspended sediments include runoff from disturbed land (construction activities and impervious surfaces such as roads and rooftops), poorly operating wastewater treatment plans, and erosion from stream banks.

4) Dissolved oxygen is depleted by excessive plant growth. As the plants die and start to decompose, they use up the oxygen in the water. In turn, this suffocates desirable fish, plants and other aquatic organisms vital to a healthy lake. As described above, excessive plant growth can be caused by increased levels of phosphorus and nitrogen coming from stormwater runoff and failing septic systems.

Because a key goal of the Kent Lake Subwatershed Management Plan is to restore water bodies for all recreation activities, including fishing and swimming, management and development of Township-owned recreation lands can be a part of the solution by implementing the following actions.

1) Protect existing wetlands in Township parks.

2) Provide riparian (lake/stream/wetland) buffers between developed areas of parks and water resources.

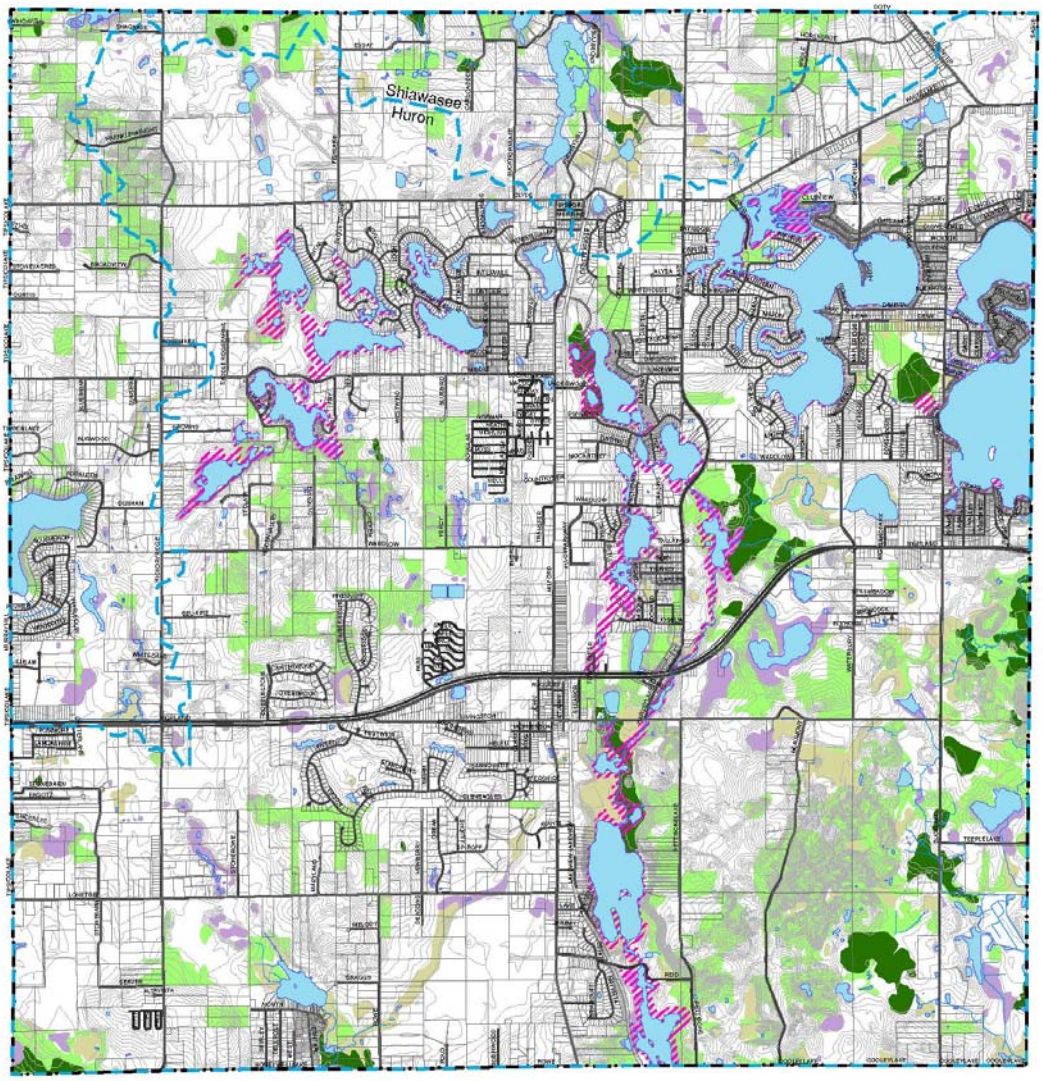
3) Regularly review maintenance practices of turf in Township parks to minimize the use of phosphorus.

4) Provide interpretive signage in parks that explains the Township's management techniques that protect water resources.

5) Educate residents about sensitive water features through recreation programs that increase their knowledge about how they can better protect water quality.

Lakes, Streams, and Wetlands

Highland Township has nearly two dozen lakes within its boundaries. These lakes have attracted residents to the area for both desirable residential settings and water-based active and passive recreation. The lakes cover approximately 1,682 acres, or 7.2 percent of the Towhship's land area.



Legend

- Emergent Wetlands
- Forested Wetlands
- Scrub-Shrub
- Woodlands
- Floodplain
- Topography
- Watershed Boundaries
- Lakes & Rivers
- Streams & Drains

NATURAL FEATURES MAP

Highland Township
Oakland County, MI

N

0 2,500 5,000 Feet

Carlisle/Wortman Assoc., Inc.
October 2008

The following table lists the lakes, their acreage, and location within the Township:

Table 11 Lakes

	Acreage within Township	Location (Section)
White Lake		12,13
Duck Lake		11, 12, 14
Lower Pettibone Lake		27, 34
Knoblok Lake		3
Dunham Lake		18, 19
Upper Pettibone Lake		10, 15
Moore Lake (Milford?)	Not on map	34
Grass Lake		13
Leonard Lake		14,15
Woodruff Lake	Not on map	9
Rowe Lake		32
Waterbury Lake		23
Harvey Lake		15
Highland Lake		17
Alderman Lake		14, 23
Pickerel Lake		27
Peninsula Lake		10
Downey Lake		22
Murray Lake		8
Charlick Lake		9
Tomahawk Lake	Not on map	9
Gourd Lake	Not on map	9
Kellogg Lake	Not in '94 Plan	
Taggett Lake	Not in '94 Plan	
Middle Lake	Not in '94 Plan	
Huff Lake	Not in '94 Plan	
Winegar Lake (WMP)	Not in either	
Total # Lakes	Total acreage	

Source: 2000 U.S. Census; SEMCOG

Many of the lakes throughout the Township are connected to one another by streams that drain one lake into another. For example, the Pettibone Lake complex creates a chain of lakes that drains into Milford Township.

Associated with streams and lakes are 1,711 acres of floodplains across the Township. Floodplains provide important storage areas for flood waters that occur after a large rain event, and during the spring high water season. Preserving floodplains helps to protect property and human life by limiting the flood hazards in built areas of the community. Floodplains are shown on the Natural Features Map on page 11.

The Township also has significant wetland resources, which are mainly located in association with its lakes and streams. Wetlands cover a total of 1,861 acres of land within the Township, and are categorized as Emergent wetlands (661 acres), Forested wetlands (478 acres), and Scrub-Shrub wetlands (722 acres). These categories correspond to the vegetation growing in each wetland. Emergent wetlands are dominated by herbaceous plants, such as cattails and reeds; forested wetlands are dominated by large trees; and scrub-shrub wetlands are dominated by lower growing shrubs. These resources are shown on the Natural Features Map on page 11. Wetlands are beneficial because they store stormwater runoff, and treat this runoff by allowing sediments to settle out of the water, and absorbing pollutants through wetland plants. They are also key to the life cycle of many species of wildlife.

Important Habitats

In 2000, Highland Township participated in a study conducted by the Michigan Natural Feature Inventory staff to identify important habitats within the Township. This study, called the Shiawassee and Huron Resource Preservation Project (S&H) identified 18 different areas of the Township that had high quality environmental resources. Each site was ranked using a point system of eleven possible points, based on five criteria: intactness, upland and wetland complexes, riparian corridors, significant forested tracts, and potential for restoration.

The top ranked site (with 11 points) was the Haven Hill Complex, located in Highland Recreation Area. Second and third ranked sites, with nine points,

were the Pettibone Lake Complex and the Alderman Lake Complex. These areas are vital habitats and should be considered for targeted protection practices. These areas are shown on page 15.

Vegetation

Oakland County lies in a deciduous forest zone in which the primary forest type is Beech and Maple. These plants prefer a deep organic soil that has plenty of moisture. Other vegetation types typical of the area include forested wetlands, emergent wetlands, bogs (acid wetlands), lake and stream sides (riparian areas), meadows and fields.

Five major forest types are found in the County: floodplain forests, mixed hardwoods, oak-hickory, beech-maple and pine-hardwoods. Early records indicate that conifers constituted an important element in Michigan's original forests; however, pure evergreen forests are characteristic only of the northern and western part of the Upper Peninsula.

Birch and tamarack wetlands, the latter being rare in the County, and several kinds of marshes are found in the area. Cattail marshes are most easily identified. In addition, there are dogwood-holly marshes, a few dogwood-willow marshes, as well as sedge-rush marshes.

A fairly unique environment in Oakland County is the bog. These are generally dominated by a single species, either tamarack, cedar or spruce, with a supporting shrub layer of leatherleaf, rosemary, and poison sumac.

The County's numerous lakes are not identical in soils quality and water clarity and, therefore, the vegetation supported on the shores is varied. Some lakes are completely enclosed by wetlands, others have forested, emergent wetland, or sandy shores. The land is low and level along most water courses that have not experienced flashy flows due to development and increased stormwater runoff. In the case where a natural environment has been maintained, the streams generally flow sluggishly in and out of the lakes and wetlands. Plants typical of this environment are similar to those floodplain forests and in wet meadows. (Source: Oakland County Parks Recreation Master Plan, 2007)

Wildlife

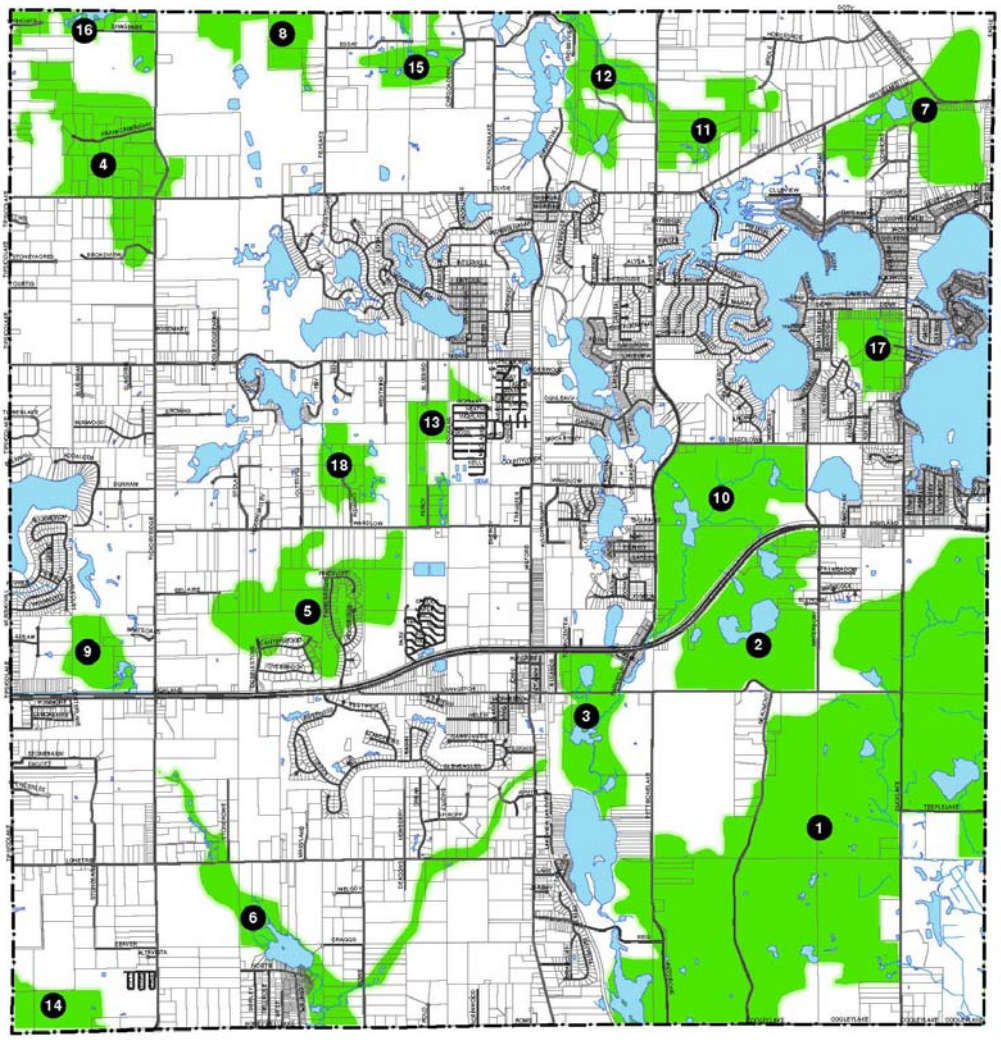
The larger species have moved north as urbanization has occurred. Many townships in Oakland County have numerous game species, such as deer, pheasant and ducks, and have hunting seasons on these animals. In addition, other wildlife species that have successfully adapted to urban life inhabit the Township, including raccoons, muskrats, opossum, turkey, rabbits, mice, rats, snakes, geese, birds, and fish.

Fishing is the major wildlife recreation pastime in the County, due to its abundance of lakes. The Department of Natural Resources Fisheries and Wildlife Division stocks some of the lakes and streams. Some of the county parks were stocked in the 70s and 80s with bass, pike, and rainbow trout, which seem to be preferred by anglers. (Source: 2007 Oakland County Parks and Recreation Master Plan.)

Sites of Environmental Contamination

The Michigan Department of Environmental Quality (MDEQ) maintains a list of sites that have environmental contamination through their Remediation and Redevelopment Division (RRD). The RRD administers Part 201 of the Natural Resources Environmental Protection Act (Public Act 451 of 1994 and formerly known as Act 307) and portions of the federal Superfund program.

Each site is categorized as to whether it is currently inactive, being evaluated, or being remediated.



Legend

MNFI Sites

#	Site Name	Points
1	Haven Hill Complex West	11
2	Waterbury Lake Complex	9
3	Pettibone Lake Complex	9
4	Hickory Ridge Complex	8
5	Wardlow Woods	8
6	Rowe Lake Complex	7
7	Section 1 Wetland Complex	7
8	Perch Lake South	7
9	West Highland Bog	7
10	Alderman Lake Complex	7
11	Section 2 Wetland Complex	6
12	Buckhorn Southeast	6
13	Section 16 Woods	6
14	Highland Corners	6
15	Section Four Complex	5
16	Tipsico Lake Complex	5
17	Seven Harbors Complex	5
18	Highland Lake	5

MICHIGAN NATURAL FEATURES INVENTORY MAP

Highland Township
Oakland County, MI

N

0 2,500 5,000 Feet

Carlisle/Wortman Assoc., Inc.
October 2008

The following table shows the sites on the DEQ's list, their location in the Township, the principal pollutants, and their current remediation status:

Table 12 Sites of Environmental Contamination

	Section	Contaminants
Inactive		
Willard Landfill	25	Benzene
East Livingston Road	22	Benzene, Methyl-tertiary-butyl ether
RGCW Disposal	25	Lead, Arsenic, Cyanide
Evaluation in Progress		
Hi-Mill Manufacturing Company	23	Chromium, Vinyl Chloride
Interim Response in Progress		
Numatics, Inc.	22	Perchloroethylene
Highland Precision Plant	22	PCB
Highland Plaza	29	Perchloroethylene
Milford Road Highland Area	22	Benzene, Perchloroethylene, Tetrachloroethylene

Source: www.deq.state.mi.us/sid-web/Part201ss/.

Existing Land Use

The land uses in the Township have changed substantially since the previous Recreation Plan was drafted in 1998. While it still retains much of its rural character, development in the Township has increased single-family residential land use by 86% since 1990. Concurrently, vacant land has diminished by 56% in this same time period. Residential development consists of large lots, small cottage developments around lakes, and the newer "cluster" development pattern, which reduces lot size in trade for open space in the subdivision.

Commercial and office land uses have increased by 40% since 1990, and continue to be oriented along M-59 and the southern portion of Milford Road. Similarly, higher intensity industrial land uses have increased by 18%, and are located on the north portion of Milford Road, as well as along M-59. Extractive operations are located in the north central area of the Township.

Recreation and conservation areas have increased by 6.3%, but constitute 22.5% of the total land uses in the community. The large acreage is primarily due to the Highland State Recreation Area, which covers 3,895 acres within the Township (5,900 acres total). Increases in recreation and conservation areas can also be attributed to the newer cluster pattern of residential development, often called Open Space or Conservation Subdivisions. This development pattern clusters homes close together, and leaves much of the site in an undeveloped condition. This pattern helps to preserve important natural features and the character that people desire in the area.

See the Existing Land Use map on page 19 that illustrates the land use distribution in the Township.

Table 13 Existing Land Use

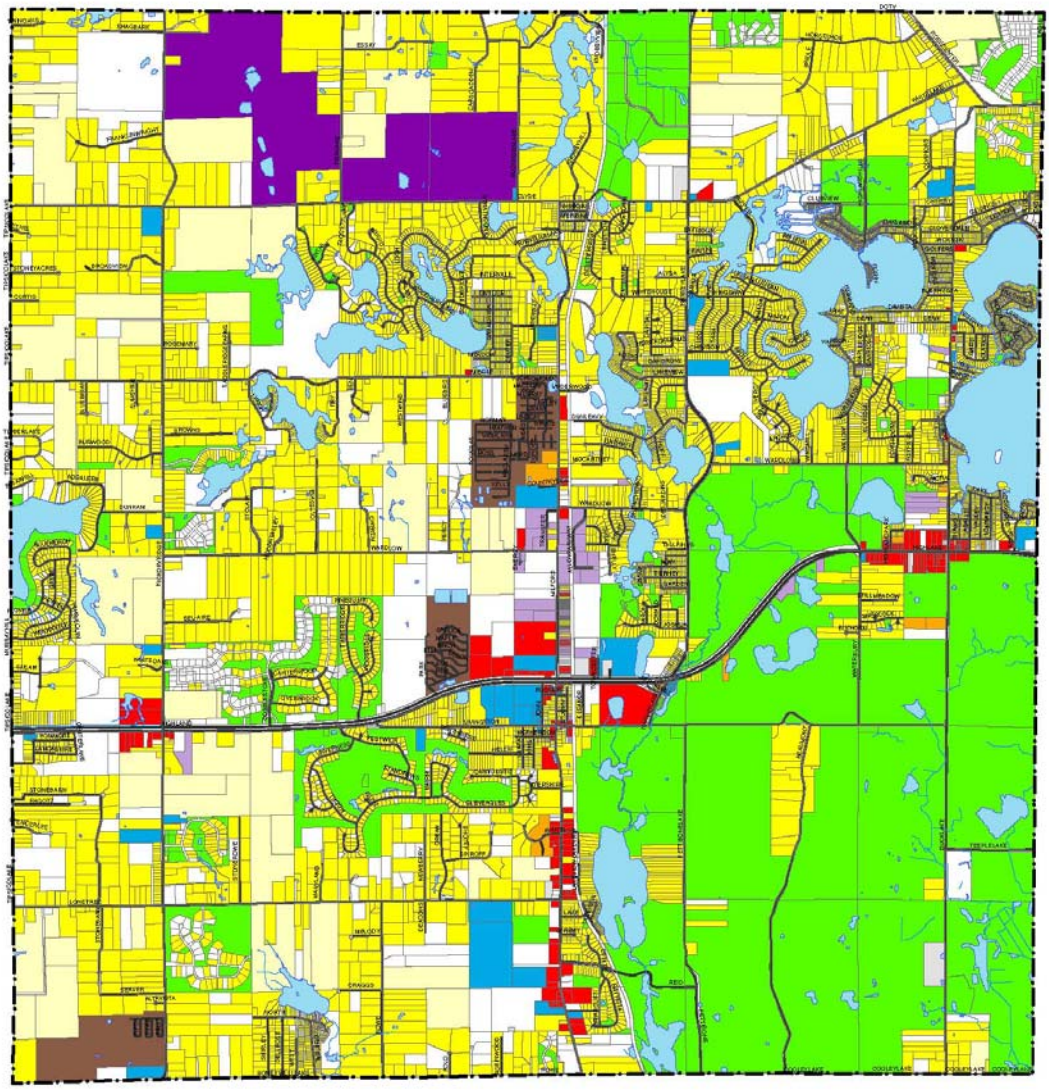
Land Use Classification	2000 (In Acres)	Percent
Single-Family Residential	8,315	35..9%
Multi-Family Residential	52	.2%
Mobile Home Park	373	1.6%
Public/Institutional	326	1.4%
Commercial and Office	303	1.3%
Industrial	139	.6%
Recreation/Conservation	5,213	22.5%
Agriculture	1,982	8.6%
Transportation, Utility, Communication	52	.2%
Road & Railroad Right-of-Way	1,476	6.4%
Extractive	674	2.9%
Vacant	2,565	11.1%
Water	1,682	7.3%
Community Total	23,152	100.0%

Source: Oakland County Landuse Dataset.

Transportation

Highland Township is central to many interstate highways and state roads. While the interstate highways are convenient to the Township, none pass directly through the area. M-59, Highland Road, is the primary east-west road in the Township. This four-lane divided roadway links the Township with Howell 13 miles to the west, and Pontiac 12 miles to the east. Other east-west roads include Lone Treed Road in the southern portion of the Township, and Clyde Road/White Lake Road to the north. Milford Road is the primary north-south road in Highland Township. Milford Road connects the Township to the Village of Milford one mile to the south, and the Village of Holly six miles to the north. Other north-south roads include Hickory Ridge Road on the west side of the Township and Duck Lake Road on the east side.

The Township is also accessible from three major highways: US-23 is four miles west of the Township, I-96 is seven miles south of the Township, and I-75 is ten miles northeast of the Township.



Legend

- Agricultural
- Single-family Residential
- Multiple-family Residential
- Mobile Home Park
- Commercial and Office
- Institutional
- Industrial
- Extractive
- Recreation / Conservation
- Transportation, Communication, and Utility
- Vacant
- Water

EXISTING LAND USE
Highland Township
Oakland County, MI

N

0 2,500 5,000 Feet

Carlisle/Wortman Assoc., Inc.
September 2008

Data Source: 2007 Oakland County Landuse Dataset

Administrative Structure

The Charter Township of Highland is organized to provide governmental services pursuant to the Charter Township Act. This particular legislation permits a general act township to provide more services, become responsible for certain community activities, and enact a budget supported by up to 5 mills. The Charter Act also precludes contiguous cities from annexation of township territory. Highland was incorporated under the Charter Act. The Township organization structure is shown below. The citizens of Highland Township elect a Supervisor, Clerk, Treasurer and four Trustees.

Table 14 Township Administrative Organization

Supervisor	Patricia M. Pilchowski
Clerk	Mary L. McDonell
Treasurer	Judith A. Kiley
Trustee	Mary Pat Chynoweth
Trustee	Raymond Polidori
Trustee	Barry Sherman
Trustee	Russ Tierney

A series of line departments and positions flow from each elected position regarding land use regulations, assessing, fire, police, and ordinance enforcement. The Township Board is comprised of seven members, all elected at large. The three operating officials serve as members of the Board, which is the legislative and overall policy making body in the Charter Township of Highland.

Parks and Recreation Committee

The Highland Parks and Recreation Committee is directly responsible to the Township Supervisor and Township Board. The Township established the committee to develop and maintain an up-to-date Recreation Plan and provide the Township Board with guidance related to implementing the Plan. Committee members include Township officials, school representatives, recreation providers, and interested residents.

Table 15 Highland Township Parks and Recreation Committee Members

Mary L. McDonell, Chair	Pat Hamlin
Melissa Dashevich	Bob Husic
Dave Gerathy	Steve Lonergan
Sharon Greene	Gayle Olson
Sue Grissom	Ken Petkwitz
Paul Gurzick	Thomas Philliben
Jean Haines	Roscoe Smith
Justin Haines	Anthony Zuk

Maintenance / Volunteers / Partnerships

While the Township does not have a park maintenance staff, the Township has partnered with the Huron Valley Soccer Club (HVSC) and the Huron Valley Youth Athletic Association (HVYAA) (formerly Hi-White) to manage its active recreation facilities. These organizations have been instrumental in the planning, construction, and regular maintenance of the Township's soccer fields and ballfields. Volunteers from each organization also maintain the restrooms and run the concession stands during regular season play and tournaments.

Both the HVSC and HVYAA are all-volunteer, non-profit organizations that provide opportunities for children to play on organized sports teams. Both organizations are run by a Board of Directors elected by the membership. The HVSC oversees both youth and adult soccer programs, and the HVYAA oversees youth and adult baseball and softball programs.

Another important partnership for providing additional facilities and programming is Huron Valley Schools through its Huron Valley Recreation and Community Education program. It offers a wide variety of both indoor and outdoor recreation

programming for children, youth, and adults at its facilities in Highland Township. Other organizations that play an important role in providing recreation land, facilities, and volunteer or financial support include:

- The Highland Conservancy
- Highland Equestrian Conservancy
- Huron Valley Lions Club
- Optimist Club
- Huron Valley Council of the Arts
- Youth football and lacrosse teams

Finance

The table below provides a summary of the Township's revenues and expenditures related to recreation. The Township Board approves all budget requests for recreation expenditures.

Table 16 Recreation Revenues/Expenses

		Senior Center	Community Parks	Township Total
2007	Revenues	$16,612	0	$2,458,863
	Expenses	$142,371	$22,511	$2,397,865
2008	Revenues	14,333	0	$2,508,947
	Expenses	$141,280	$33,604	$2,283,669

Source: Charter Township of Highland.

The Township general fund budgets for 2008 and 2009 are summarized in the table below:

Table 17 2008 and 2009 Budget Summaries

	2008 Actual	2009 Budget
Revenues		
Taxes	$517,470	$458,000
Licenses & Permits	$123,153	$95,000
State Share	$1,334,275	$1,300,426
Total Revenue	$2,508,947	$2,345,327
Expenditures		
Total Expenditures	$2,283,669	$2,345,327

Source: Charter Township of Highland.