



ORION OAKS BASELINE PARK ANALYSIS

UPDATED: 4/24/17

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Park Location

Orion Oaks County Park is a 916-acre park located in northeastern Oakland County in Orion Charter Township.

Park Contact Information

2301 Clarkston Road

Orion, MI 48362

Park Office: (248) 625-0877

www.DestinationOakland.com

Township and Range

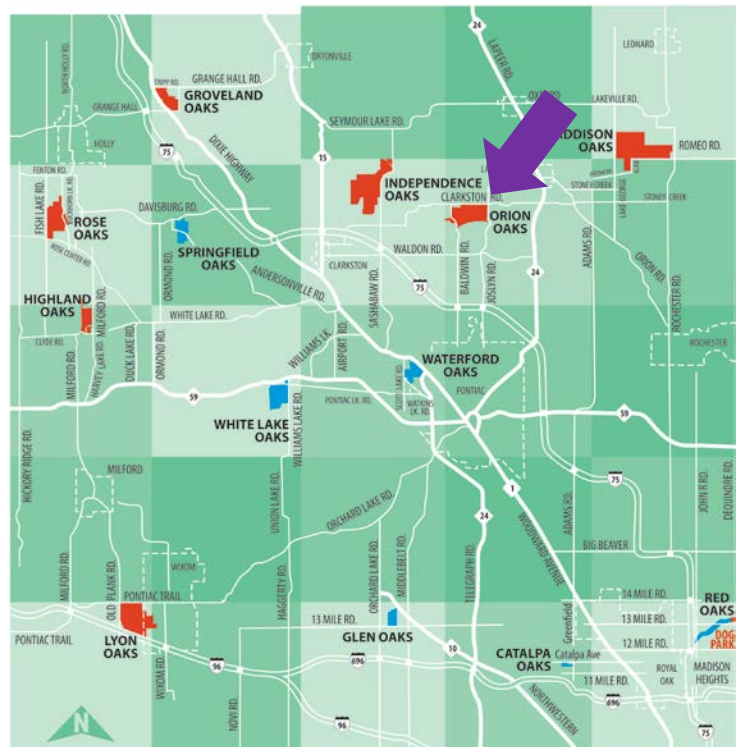
T4N R10E, Sections 16, 17, 18, 20 and 21



Community Context

The characteristics of Orion Oaks are unique and reflect the character of the local communities. It is important to understand the park within the context of its communities – Michigan, Oakland County, and Orion Township – for multiple reasons:

- To convey a ‘sense of place’ that is harmonious and complementary to the local environment
- To ensure that Oakland County Parks is not duplicating services provided by local recreational authorities or by the private, non-profit, or larger regional/state providers
- To collaborate with units of governments and organizations related to the Oakland County Parks mission to manage open space and natural areas and provide recreational facilities and programs on an inter-community, county and/or multi-county basis
- To develop facilities and programs that contribute to the implementation of local and county plans
- To ensure compliance with local and county regulations



Oakland County

Oakland County is located in southeast Michigan, approximately 20 miles northwest of Detroit, and covers **907** square miles (SEMCOG, 2015). The estimated population in 2015 was **1,242,304**. In 2010-2015, median household income was **\$66,426**. An estimated **10%** of the population lives in poverty¹ (U.S. Census Bureau, 2015).

According to Advantage Oakland, Oakland County employs nearly 690,000 workers with more than 260,000 commuting from outside the county. The top three employment sectors are Professional and Business Services (26%), Trade, Transportation and Utilities (18%), and Private Education and Health Services (16%). The county is home to nearly 1,000 firms from 39 foreign countries (EDCA).

Within the county, there are 30 cities, 21 townships, and 11 incorporated villages, in urban, suburban, and rural landscapes. The county is home to the headwaters of five major rivers, the Clinton, Flint, Huron, Rouge, and Shiawassee Rivers, all of which are important to the long-term health of the Great Lakes Ecosystem. Many diverse ecosystems are located in the county due to the area's complex topography and geological history and are an important element in the character of the county (OCPRC, 2013).

Oakland County Parks and Recreation

Oakland County Parks and Recreation (OCPR) provides parks and recreation services within the geographic boundaries of Oakland County, but are also open to visitors to the county. Since 1966, OCPR has expanded and diversified the park system from four parks to thirteen, now totaling over 6,700 acres. Key attractions include managed natural areas, nature centers, waterparks, golf courses, conference centers, campgrounds, fairgrounds and over 65 miles of park trails. OCPR also offers a variety of entertaining and educational recreation programs and services for various ages and abilities (OCPRC, 2013).

Orion Township

Orion Oaks County Park is located in Orion Township in the northeast quadrant of Oakland County. The township covers **33.33 square miles**. The estimated population in 2013 was **36,359** and the median household income was **\$76,769**. (U.S. Census Bureau, 2014).

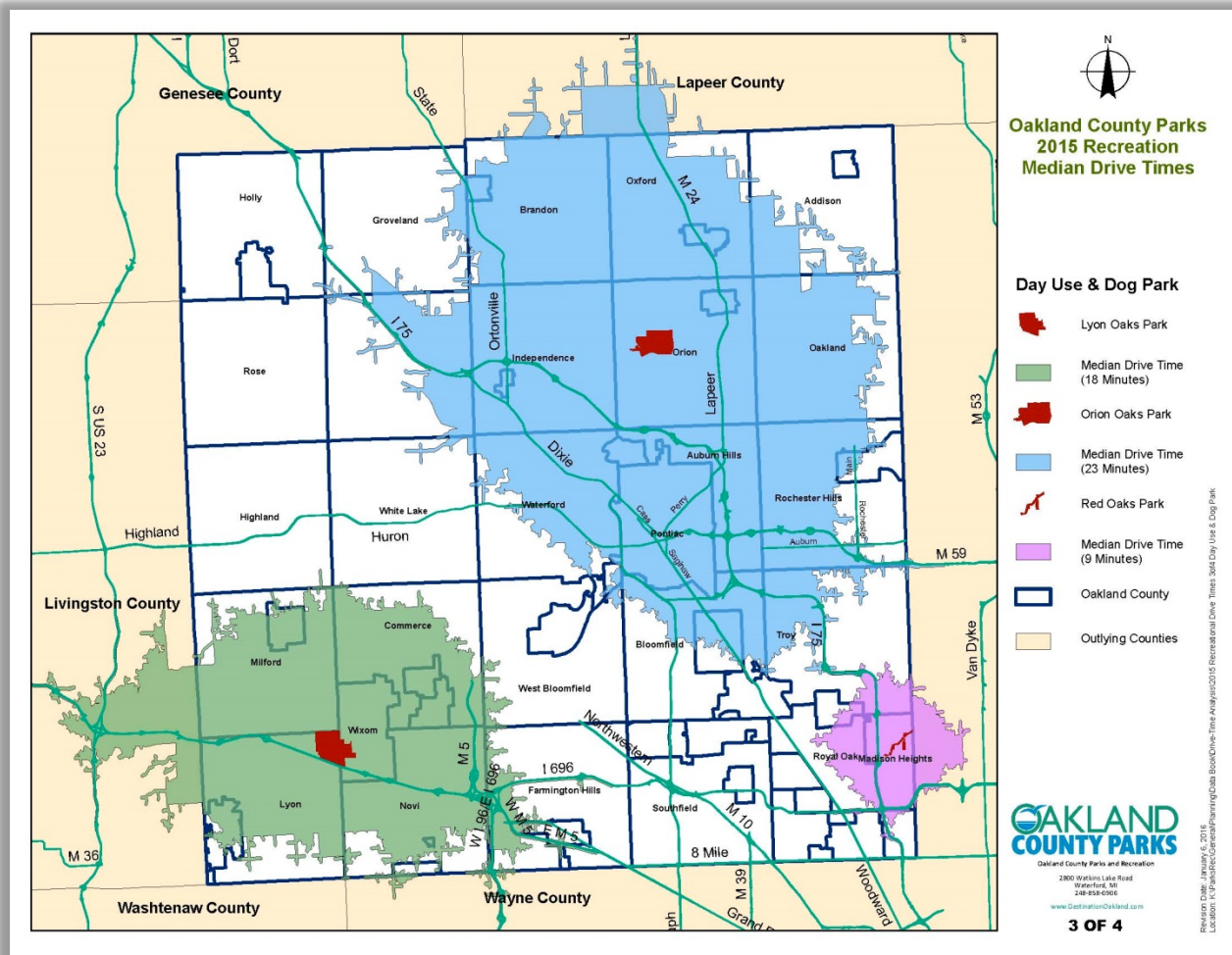
Description from Advantage Oakland: "Orion Township continues to be discovered by builders, who are carving out beautiful new subdivisions or utilizing single lots in what had historically been a rural community. The Scripps estate, across from the Township Hall, has been utilized in various business ventures over the years, most recently as Olde World Canterbury Village with a year-round Christmas theme. Ethnic weekends in the summer add to everyone's enjoyment of this quaint cobblestone village. Orion Township does not lack for recreation amenities including: the 4,500 acre Bald Mountain State Recreation area, the 900 acre Orion Oaks County Park, the 45 acre Civic Center Park with its sports fields and exercise trail; and finally, Friendship Park with 135 acres of play areas, sporting fields and plenty of open space."(Oakland County, 2012)

Drive-Time Service Area

This purpose of this section is to outline the geographic area that draws the majority of visitors to a specific park or facility (drive-time service area) and describe the demographic and socio-economic characteristics of the people who live there.

The drive-time analysis is conducted using park visitor home zip codes that are collected at point-of-sale. Please see the 2015 *Annual Dashboard and Data Book* for a detailed description of drive-time analysis methods (OCPRC, 2015). The median drive-time – indicating that half of all visitors drive for a specific length of time or less – is used to approximate the service area for each park and facility. The median drive time for visitors to the Orion Oak, calculated using hand-entered data for 2013, was 23 minutes. This drive-time radius is used for all park functions, including day use and dog park.

Figure A: Golf Course Drive-Time Map



Population and Income Trends

Population and income profiles are generated for the drive-time service area using Esri² ArcGIS Online. The estimated population in the drive-time service area in 2015 was 341,425 with a 0.55% annual increase in population forecast between 2015 and 2020. The population is becoming more diverse in race and ethnicity. The population profile and forecast reflects an aging population with the population 65 and older increasing by 21% from 2015 to 2020. Median age is 40.6 in 2015 and forecast to be 41.4 in 2020. The median household income in 2015 is estimated at \$65,835 and is forecast to increase at an annual rate of 3.56% between 2015 and 2020.

Table 1: Population Trends - 23-minute drive-time of Orion Oaks

Summary	Census 2010	2015	2020
Population	336,187	341,425	350,863
Households	127,767	130,894	134,826
Families	88,831	89,926	91,969
Average Household Size	2.58	2.56	2.55
Owner Occupied Housing Units	95,273	96,077	98,693
Renter Occupied Housing Units	32,494	34,817	36,133
Median Age	39.4	40.6	41.4
Trends: 2015 - 2020 Annual Rate	Area	State	National
Population	0.55%	0.15%	0.75%
Households	0.59%	0.21%	0.77%
Families	0.45%	0.06%	0.69%
Owner HHs	0.54%	0.19%	0.70%
Median Household Income	3.56%	2.79%	2.66%

Figure B: Population by Age – 23-minute drive-time of Orion Oaks

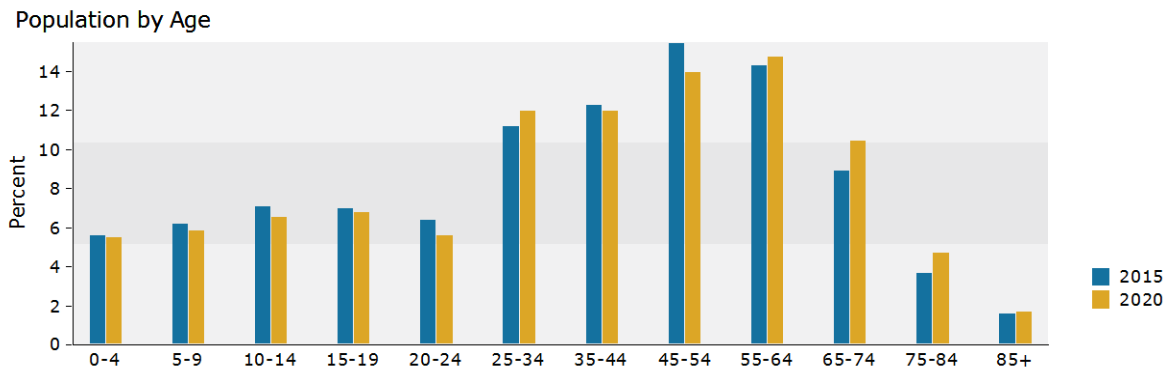


Table 2: Race and Ethnicity - 23 minute drive-time of Orion Oaks

Race and Ethnicity	Census 2010		2015		2020	
	Number	Percent	Number	Percent	Number	Percent
White Alone	264,275	78.6%	261,551	76.6%	261,195	74.4%
Black Alone	41,868	12.5%	45,324	13.3%	49,959	14.2%
American Indian Alone	1,149	0.3%	1,190	0.3%	1,240	0.4%
Asian Alone	14,388	4.3%	17,023	5.0%	20,170	5.7%
Pacific Islander Alone	74	0.0%	89	0.0%	101	0.0%
Some Other Race Alone	6,501	1.9%	7,249	2.1%	8,051	2.3%
Two or More Races	7,933	2.4%	9,000	2.6%	10,146	2.9%
Hispanic Origin (Any Race)	20,755	6.2%	23,271	6.8%	26,375	7.5%

Market Potential Index – Recreation and Pet-Related Expenditures

ESRI's Market Potential Index (MPI) measures the relative likelihood of the adults or households in the specified trade area to exhibit certain consumer behavior or purchasing patterns compared to the U.S. An MPI of 100 represents the U.S. average.

Table 3: Market Potential – 23-minute drive-time of Orion Oaks

Product / Consumer Behavior	Percent of Population	MPI
Bicycling (Road) in past 12 months	11.6%	118
Canoeing Kayaking in past 12 months	6.2%	116
Fishing (Fresh Water) in past 12 months	12.9%	104
Golf in past 12 months	11.8%	125
Hiking in past 12 months	11.4%	114
Horseback Riding in past 12 months	2.6%	107
Jogging/Running in past 12 months	13.8%	108
Walking for Exercise in past 12 months	30.6%	109
Overnight Camping Trip in past 12 months	13.2%	104
Households owning 1 dog	25.7%	107
Households owning 2 or more dogs	15.9%	99

Tapestry Segmentation

Tapestry Segmentation classifies neighborhoods into 67 unique segments based not only on demographics but also socioeconomic characteristics. It describes US neighborhoods in easy-to-visualize terms to help understand residents' lifestyle choices, what they buy, and how they spend their free time and help identify best customers, optimal sites, and underserved markets.ⁱ

The Esri Dominant Tapestry Map shows the tapestry segments within and surrounding the drive-time radius and provides a list of the Tapestry segments with hyperlinks to detailed descriptions. See *Planning Map Set*, pages 21-22 – Esri Dominant Tapestry Map.

The top five Tapestry segments within the drive-time radius are shown below. Each segment name is hyper-linked to the detailed Esri profile. After the name, we show the percentage of households that are included in each segment – within the drive-time radius and nationally. The Tapestry segment summary from the Esri profile is included with each entry.

[Savvy Suburbanites \(1D\)](#)

Describes 12.4% of households within the drive-time radius; 3.0% of households in the U.S.

Savvy Suburbanites residents are well educated, well read, and well capitalized. Families include empty nesters and empty nester wannabes, who still have adult children at home. Located in older neighborhoods outside the urban core, their suburban lifestyle includes home remodeling and gardening plus the active pursuit of sports and exercise. They enjoy good food and wine, plus the amenities of the city's cultural events.

[Green Acres \(6A\)](#)

Describes 8.5% of households within the drive-time radius; 3.2% of households in the U.S.

ⁱ <http://www.esri.com/data/tapestry>

The Green Acres lifestyle features country living and self-reliance. They are avid do-it-yourselfers, maintaining and remodeling their homes, with all the necessary power tools to accomplish the jobs. Gardening, especially growing vegetables, is also a priority, again with the right tools, tillers, tractors, and riding mowers. Outdoor living also features a variety of sports: hunting and fishing, motorcycling, hiking and camping, and even golf. Self-described conservatives, residents of Green Acres remain pessimistic about the near future yet are heavily invested in it.

[Rustbelt Traditions \(5D\)](#)

Describes 8.0% of households within the drive-time radius; 2.2% of households in the U.S.

The backbone of older industrial cities in states surrounding the Great Lakes, Rustbelt Traditions residents are a mix of married-couple families and singles living in older developments of single-family homes. While varied, the work force is primarily white collar, with a higher concentration of skilled workers in manufacturing, retail trade, and health care. Rustbelt Traditions represents a large market of stable, hard-working consumers with modest incomes but above average net worth (Index 111). Family oriented, they value time spent at home. Most have lived, worked, and played in the same area for years.

[Soccer Moms \(4A\)](#)

Describes 5.9% of households within the drive-time radius; 2.8% of households in the U.S.

Soccer Moms is an affluent, family-oriented market with a country flavor. Residents are partial to new housing away from the bustle of the city but close enough to commute to professional job centers. Life in this suburban wilderness offsets the hectic pace of two working parents with growing children. They favor time-saving devices, like banking online or housekeeping services, and family-oriented pursuits.

[Professional Pride \(1B\)](#)

Describes 5.9% of households within the drive-time radius; 1.6% of households in the U.S.

Professional Pride consumers are well-educated career professionals that have prospered through the Great Recession. To maintain their upscale suburban lifestyles, these goal oriented couples work, often commuting far and working long hours. However, their schedules are fine-tuned to meet the needs of their school age children. They are financially savvy; they invest wisely and benefit from interest and dividend income. So far, these established families have accumulated an average of 1.5 million dollars in net worth, and their annual household income runs at more than twice the US level. They take pride in their newer homes and spend valuable time and energy upgrading. Their homes are furnished with the latest in home trends, including finished basements equipped with home gyms and in-home theaters.

Site Analysis

Orion Oaks County Park is composed of 2 parcels totaling 916 acres.

Table 4: Parcel Table for Orion Oaks

Parcel ID	Acres	Deed/ Lease/ Easement / Agreement	Liber and Page
09-17-200-003	876.9	1980- Deed- DNR (LWCF 26-01099)	7931/192
		1986- Easement (AT&T)	09315/745
		1987- Quit Claim Deed (to RCOC)	09882/057/058/061
		1998- Easement, Sanitary Sewer (to Orion Twp.)	18570/845
		2002- Easement, sidewalk (to Orion Twp.)	26865/327
		2002- Easement, Sanitary Sewer (to Orion Twp.)	26865/331
		2011- Easement, Underground Gas (Consumers Energy)	43335/195
09-17-351-015 (from -006/-17-200-002/-18-426-004)	38.24	1980- Deed- DNR (LWCF 26-01099)	7931/192
		1981- Easement, Underground Gas (Consumers Energy). Westerly 60' of southerly 100' of parcel	8072/848

NOTE: DNR - 100% mineral rights

Physical Characteristics

Geologyⁱ

The property lies within the Washtenaw Subsection Ecoregion³ and the Jackson Interlobate Subsubsection⁴. This area is found between three glacial lobes and is characterized by ice-contact topography⁵ and glacial deposits⁶ (Albert, 1995). The landscape of the park was influenced by the area's glacial history, consisting of rolling terrain of uplands interspersed with kettle lakes and interconnected wetlands. The majority of the surface geology is outwash plain with end moraine at western uplands.

Soilsⁱⁱ

Soil maps indicate nineteen soil types on the property, ranging from very poorly-drained hydric soils of the wetlands to well-drained soils on the uplands. Notable soils include Houghton and Adrian mucks found in the wetlands around lakes and streams, and Spinks and Ormas loamy sand, a well-drained soil on the rolling hills.

Topographyⁱⁱⁱ

The property has some elevation, with a rise of 110'. Elevations range from 985' in the wetlands around Lake Sixteen to 1095' on ridgetops in the southwest quarter.

ⁱ See *Planning Map Set*, page 4 – Surface Geology

ⁱⁱ See *Planning Map Set*, page 5 – Soils

ⁱⁱⁱ See *Planning Map Set*, page 6 – Ten Foot Contours

Hydrographyⁱ

Lake Sixteen, at the southeast corner, is 104 acres and has a small island at the south end. It has approximately 2.5 miles of shoreline and is 30'+ in depth. The outlet is at the southwest end and flows south to a smaller lake within the park and continues to the adjacent Voorheis Lake. Tributaries of Sashabaw creek, some with drains and culverts, flow south through the park. A separate stream flows south through the west parcel to Mill Lake, south of the park.

Presettlement Plan Communitiesⁱⁱ

European pre-settlement vegetation consists mostly of Mixed Oak Savanna with Mixed Conifer Swamp and Shrub Swamp/Emergent Marsh in the wetlands (Comer & Albert, 1997).

Regional Context

Potential Natural Areasⁱⁱⁱ

Michigan Natural Features Inventory (MNFI) has identified a Priority Two Natural Area over the wetlands and around Lake Sixteen, and a Priority One Natural Area on the west parcel.

Watershed^{iv}

Orion Oaks is within the headwaters of the Clinton River Watershed and Upper Clinton Subwatershed (HUC-12 040900030102-MI Sashabaw Creek). Sashabaw Creek, a headwater stream and tributary to Clinton River main branch, flows through the park.

Green Infrastructure^v

All of Orion Oaks County Park is included in Oakland County's Green Infrastructure Vision. Orion Oaks is adjacent to naturalized or open space at Good Shepard Lutheran Church: Guest House Inc., (a Catholic addiction treatment center, which includes Round Lake); Orion Township's Community Center (Orion Center); and Orion Oaks Elementary School and Webber School, both Lake Orion Community Schools. Moose Tree Nature Preserve at Webber School is located in the woodland adjacent to the northwest corner of Orion Oaks and leased to Orion Art Center starting April 1, 2017.

Other nearby recreation or naturalized areas includes:

- Orion Township hall and civic center park
- Orion Township's Friendship Park
- Polly Ann Trail
- Bald Mountain State Recreation Area
- Keatington Cedars Homeowners Assoc. open space--riparian area
- Camp Agawam (shared use agreement with Boy Scouts and Michigan State Parks)

ⁱ See *Planning Map Set*, page 7 – Hydrography

ⁱⁱ See *Planning Map Set*, page 8 – Presettlement Vegetation

ⁱⁱⁱ See *Planning Map Set*, page 9 – MNFI Potential Natural Area

^{iv} See *Planning Map Set*, page 10 – Oakland County Subwatersheds

^v See *Planning Map Set*, page 11 – Green Infrastructure

Land Useⁱ

Zoning

The park is within the Recreation zoning district (REC-2).

Current Land Use

Current land use is focused on recreation. See Parcel Analysis section for information about easements and rights-of-way to which the property may be subject.

Surrounding Land Use

The majority of the properties surrounding Orion Oaks are single-family residential, ranging from low to high density. Other adjacent land use includes public/institutional, multi-family residential, and vacant property. See Green Infrastructure for list of key surrounding properties.

Past Land Useⁱⁱ

Historical aerial photographs provide a snapshot of past land uses and of the development of the park over the decades. 1940 aerial reveal open farmland, with adjacent houses by 1963 and residential development by 1974. Changes within the park include open fields, some with intervening tree rows, converting into woodlands by the 1980-90's. The 1980 aerial reveal dirt bike/ATV trails in the western open fields.

ⁱ See *Planning Map Set*, page 12 – 2015 Land Use

ⁱⁱ See *Planning Map Set*, pages 13-20 for views of the park from 1940 through 2015

Park History

Early History

Orion Oaks is located at the northwest corner of what was formerly known as Wildwood Farms Estate, property of William E. Scripps and used by his family and their guests. The entire estate encompassed 3,600 acres in Sections 16, 17, 20 and 21 in Orion Township.

Mr. Scripps created Wildwood Farms Estate by acquiring many area farms beginning in 1916. The exception was a 73-acre parcel at the northeast corner of the current Orion Oaks that was owned by Lucy and Jay Gingell who refused to sell to Mr. Scripps. Evidence of earlier farmsteads can be found in the park. There was a barn and house on the west side of the park along Baldwin Road and a barn on the southwest corner of Clarkston and Joslyn Roads. Stone fence rows can still be seen where rocks were piled as early farmers cleared the fields.

The Scripps family and their invited guests used the farm for horseback riding and fox-hunting. The fields that are now part of the park were used for agriculture. Those along Baldwin Road were planted in wheat, corn, potatoes and other crops at different times. The large fields west of Lake Sixteen on Joslyn Road were also used for crops. The Scripps farm was one of the first farms in Oakland County to be mechanized with tractors replacing teams of work horses.

Park History

The 916-acre Orion Oaks County Park was acquired by the Oakland County Parks and Recreation Commission in 1980. It was purchased from the State of Michigan Department of Natural Resources, who had acquired the property with the assistance of the Land and Water Conservation Fund.

Today, Orion Oaks has a 24-acre dog park, fishing and ice-fishing on Lake Sixteen, and a small boat launch for non-motorized boats. 13 miles of unpaved trails are available for hiking, mountain biking, cross-country skiing and on-leash dog-walking. Orion Township safety paths connect the park with the regional Polly Ann Trail. Accessible features include a wheelchair-accessible fishing pier and accessible parking spaces. 36% of the park is identified as natural area, including open space and natural areas in the Clinton River watershed.

(Barbara Stafford conducted an Orion Oaks County Park historical research project in 1998 for the Oakland County Parks and Recreation Commission. Historical information is excerpted from this study.)

Past Master Plans

This section is under development

Grant History

This section is under development





Natural Resources








The Michigan Natural Resources Inventory has described and abstracted 76 distinct natural community types within the State of Michigan (Kost, 2010). According to MNFI, 40 natural communities occur within Oakland County at varying degrees. To date, 9 natural community types have been identified at Orion Oaks. The wetland complex harbors important habitat for reptiles and amphibians, including the federally Threatened eastern massasauga rattlesnake; and Blanding's turtle, a state Species of Special Concern (ECT/HRM, 2015).



Orion Oaks has an extensive wetland and upland complex in the headwaters of the Clinton River Watershed. The grassland restoration project increases crucial habitat for grassland birds including northern bobwhite, eastern meadowlark, eastern bluebird, bobolink, American woodcock, dickcissel and grasshopper sparrow; the last two species state Species of Special Concern.

Table 5: Natural Communities at Orion Oaks

Natural Community		Description
	Lake Sixteen 1 – Lake	A 103.7-acre high-quality lake with 30+ feet in depth and ~2.5 miles of shoreline. Outlet flows south to Voorheis Lake. Fish survey documented bullhead catfish (51%), bluegill, pumpkinseed sunfish, largemouth bass, northern pike, and lake chubsucker (ECT, 2012). Invasive Mute Swan management conducted.
	Unnamed lake 1 – Lake	A 0.6 acre lake connected to Lake Sixteen to the north and Voorheis Lake to the south.
	Sashabaw Creek 2 – Creek	Sashabaw Creek, a WRC regulated Reid-Branch Drain, runs south and southeast throughout the property. A mostly sandy-bottomed stream. Photo credit: (ECT/HRM, 2015)
	Submergent marsh Within lakes	Occurs within lakes and ponds, especially within Lake Sixteen. Submerged rooted and non-rooted species include waterlily, pondweed, bladderwort and duckweed. Weedy species include the dominant Eurasian watermilfoil, with common waterweed, coontail, naiad, and curly leaf pondweed (ECT, 2012).

	Natural Community	Description
	<p>Emergent marsh</p> <p>3 – Wetland Complex</p>	<p>Part of the wetland complex, including the north and south lake edge of Lake Sixteen and forested wetlands. Species include common lake sedge, tussock sedge, water willow, arrow arum, soft-stemmed bulrush and narrow-leaf cat-tail (ECT, 2012).</p>
	<p>Southern wet meadow</p> <p>3 – Wetland Complex</p>	<p>A vulnerable natural community (S3/G4*) in the wetland complex along the margin of Lake Sixteen. Typical species include sedge, bluejoint grass, common boneset and meadowsweet. Some areas threatened by glossy buckthorn.</p>
	<p>Southern shrub-carr</p> <p>3 – Wetland Complex</p>	<p>Part of the wetland complex, including the center stream and southern boundary. A shrub-dominated wetland that typically includes dogwood, willow, swamp rose, and elderberry.</p>
	<p>Vernal pool</p> <p>Within Wooded Wetland Complex</p>	<p>A seasonal forested pools found in the center of the western half and of the park. Typically wet or ponded from November through May. Species may include red maple, yellow birch, sedge and ferns. Important habitat for frogs, salamanders, and fairy shrimp. Photo credit: (ECT/HRM, 2015)</p>
	<p>Southern hardwood swamp</p> <p>3 – Wooded Wetland Complex</p>	<p>A vulnerable natural community (S3/G3*⁷) found in poorly drained forested wetlands throughout the park. Typical species include maple, ash, cottonwood and basswood. Threatened by woody invasion, especially buckthorn.</p>
	<p>Dry-mesic southern forest (degraded Oak Barrens)</p> <p>4 – Woodland Complex</p>	<p>Woodland on ridges and upper slopes. Also known as oak-hickory forest. Areas of pine (white and Eurasian scotch and Austrian pine) overstory in the eastern half. Previously degraded, yet restoration potential to Oak Barrens, a rare natural community (S1G2?*), by prescribed fire, invasive plant removal and native seeding. Species include red oak, black cherry, white poplar, little blue stem, butterfly weed and goldenrod.</p>
	<p>Mesic southern forest</p> <p>4 – Woodland Complex</p>	<p>Woodland on lower slopes and edges of wetlands. Also known as mixed-deciduous woods or beech-maple forest. Typical species include sugar maple, beech, red oak, and American ash. Heavily cut historically.</p>


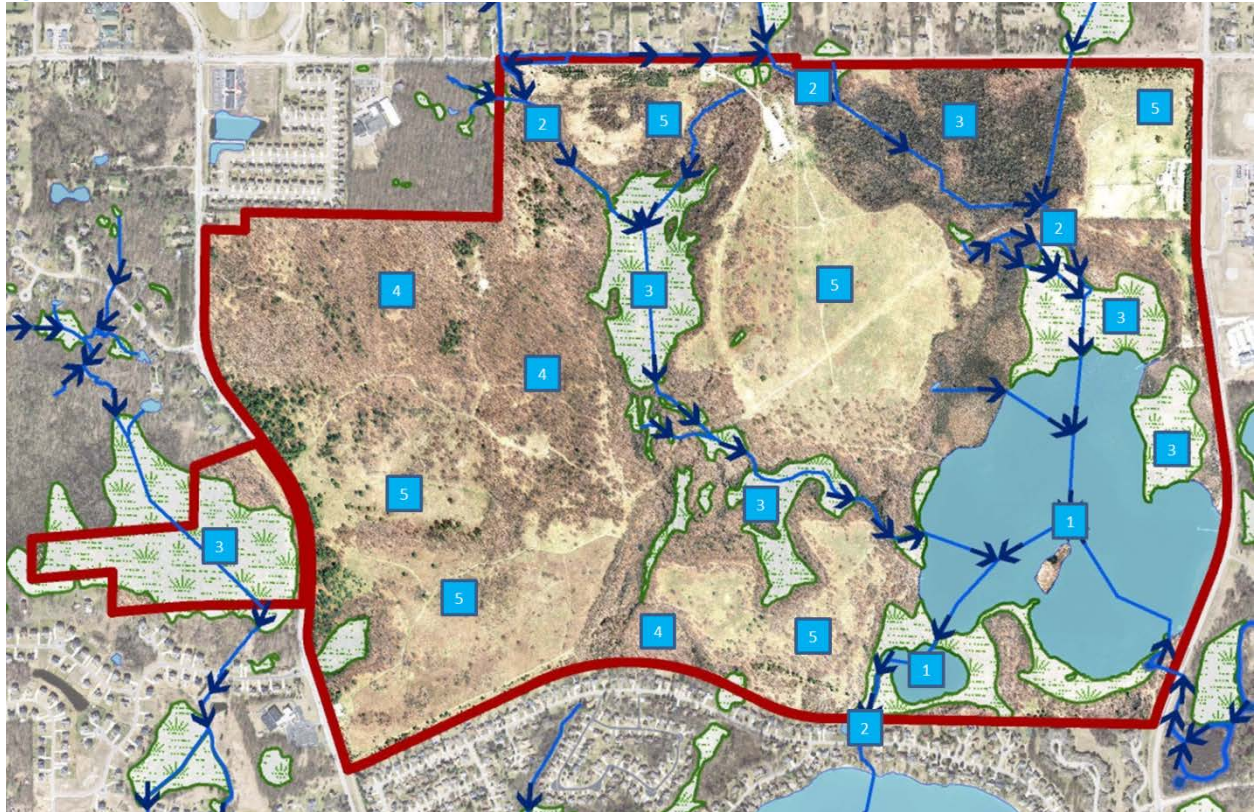
Natural Community	Description
 <p>Old field</p> <p>5 – Old Field</p>	<p>Extensive areas of old field are scattered throughout park. Some areas with planted conifers, invasive shrubs and spotted knapweed. Grassland restoration area managed by prescribed fire and knapweed beetles. Areas of historic field grown up in secondary growth woodland high in invasive species.</p>

Figure C: Natural Communities Map



Park Infrastructure and Assets

This section is under development

Park Maps

A standard set of planning maps are provided in a separate document - the *Planning Map Set*. This section provides other park maps, such as trails, campsites, and golf course features, which are specific to this park.

Figure D: Acquisition Grant Map

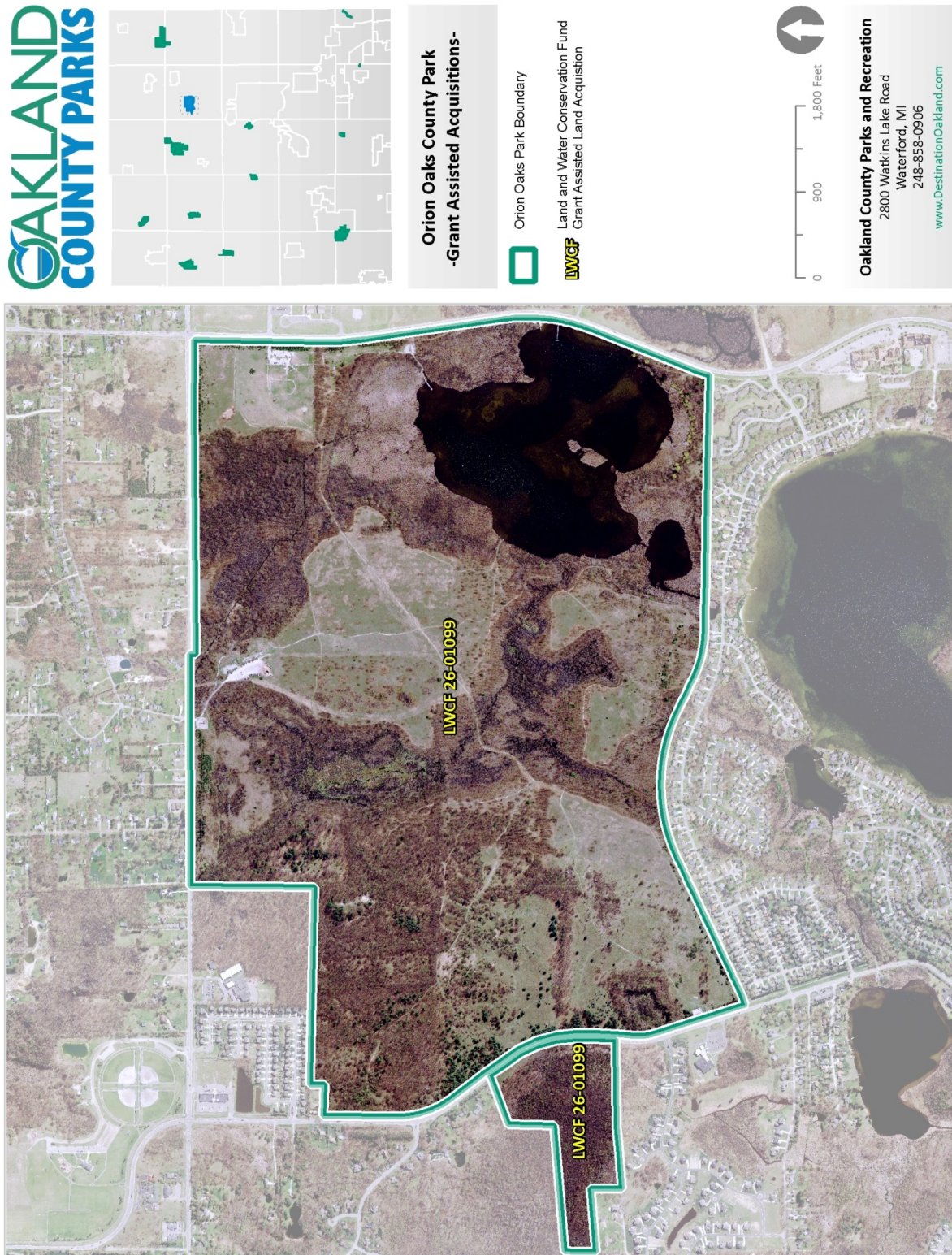
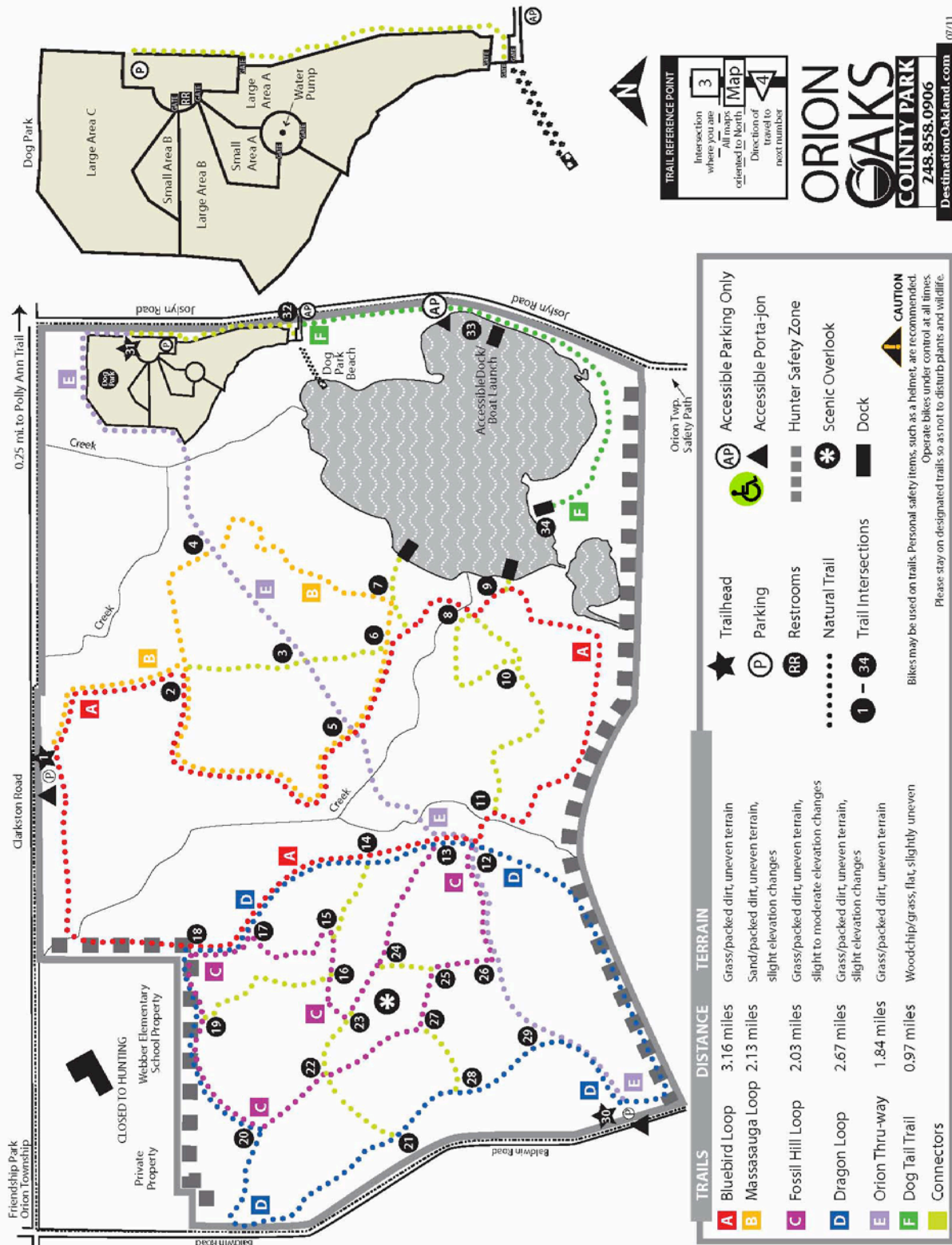


Figure E: Trail and Dog Park Map



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Notes

¹ How the Census Bureau Measures Poverty: “Following the Office of Management and Budget's (OMB) Statistical Policy Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).” (U.S. Census Bureau, 2015)

² Esri builds ArcGIS, which “connects people with maps, data, and apps through geographic information systems (GIS). It is a location platform that’s accessible to anyone, anywhere, anytime”. <http://www.esri.com/about-esri#what-we-do>

³ Ecoregion: An ecoregion (ecological region), sometimes called a bioregion, is an ecologically and geographically defined area that is smaller than an ecozone and larger than an ecosystem. Ecoregions cover relatively large areas of land or water, and contain characteristic, geographically distinct assemblages of natural communities and species.

⁴ Sub-subsection: Based on differences in climate, bedrock geology, glacial landform, and soils, the section, subsection, and sub-subsection levels of an ecoregion represent areas with distinctive natural conditions affecting species composition and productivity).

⁵ Ice-Contact Topography: This is a general term that refers to glacier-modified landscapes and includes many specific types of landforms, such as kames, eskers, moraines, kettles and outwash, among others.

⁶ Glacial Deposits: This refers to the rock and soil that is picked up and transported by glaciers as they create new landscapes and are eventually deposited by melting and retreating glaciers.

⁷ S/G refers to the State and Global Rank relating to the conservation status (relative imperilment) of the ecological community. A State Rank 1 is a critically imperiled with 5 or fewer occurrences, while a State Rank 3 is vulnerable or rare and typically has 21 to 100 occurrences statewide. See *Five-Year Parks and Recreation Master Plan 2013-2017* for more detail (OCPRC, 2/6/2014, pp. Chapter 6; page 10-11).