# **GAKLAND COUNTY PARKS**



**GROVELAND OAKS BASELINE PARK ANALYSIS** 



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## Park Location

Groveland Oaks County Park is a 361-acre park located in northwest Oakland County in Groveland Township<sup>i</sup>.

#### Park Contact Information

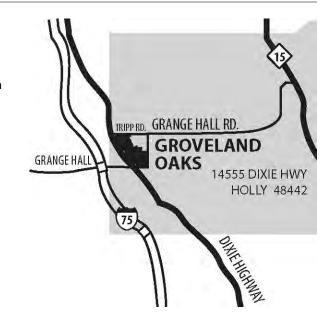
14555 Dixie Highway Holly, MI 48442 (248) 634-9811 www.DestinationOakland.com

#### Other Park Addresses

Maintenance: 5990 Grange Hall Road, Holly, MI Residential House: 6000 Grange Hall Road, Holly, MI

#### Township and Range

T5N R8E, Section 19 E  $\frac{1}{2}$  and SE  $\frac{1}{4}$  and Section 20 SW  $\frac{1}{4}$  and NW  $\frac{1}{4}$ 



Community Context

The characteristics of Groveland 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 Groveland 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 multicounty basis



To develop facilities and programs that contribute to the implementation of local and county plans

See Planning Map Set, page 3 – Location Map



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 2016 was **1,234,680** and the median household income was **\$69,354** (US Census Bureau, 11/18/2016). In 2010-2014, an estimated **10%** of households had income below the poverty level (ACS, 11/18/2016).

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.

#### Oakland County Parks and Recreation

Oakland County Parks and Recreation (OCPR) provides parks and recreation services within the geographic boundaries of Oakland County. Since 1966, OCPR has expanded and diversified the park system from four parks to thirteen, now totaling over 6,740 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.

## Main Street Program

Groveland Township participates in the Main Street Oakland County (MSOC) Affiliate Level program as part of a multi-community heritage corridor, primarily built prior to 1950. The proposed heritage corridor follows Dixie Highway and includes the townships of Groveland, Springfield and Holly. The MSOC program seeks to maximize the economic potential and preserve the heritage and sense of place of Oakland County's historic downtowns and commercial districts. Goals of MSOC Affiliate Level participation are to establish broad-based community support, prepare mission and vision statements, and to foster a historic preservation ethic. Participants are expected to track key statistics: net new jobs, net new businesses, and total public and private investment.

## **Groveland Township**

Groveland Oaks County Park is located in Groveland Township in the northwest quadrant of Oakland County. The township covers **36 square miles.** The estimated population in 2016 was **5,829** and the median household income was **\$85,784** (US Census Bureau, 11/18/2016). In 2010-2014, an estimated **8.4%** of households had income below the poverty level (ACS, 11/18/2016).

**Description from Township Website:** "Groveland Township sits in the midst of nature's best. The picturesque rolling landscape of woodlands, lakes and wildlife is a wonderful backdrop for your consideration. The area offers premium, secluded executive living with easy and convenient access to retail, professional, and medical services.

i https://www.oakgov.com/advantageoakland/programs/Pages/main-street.aspx



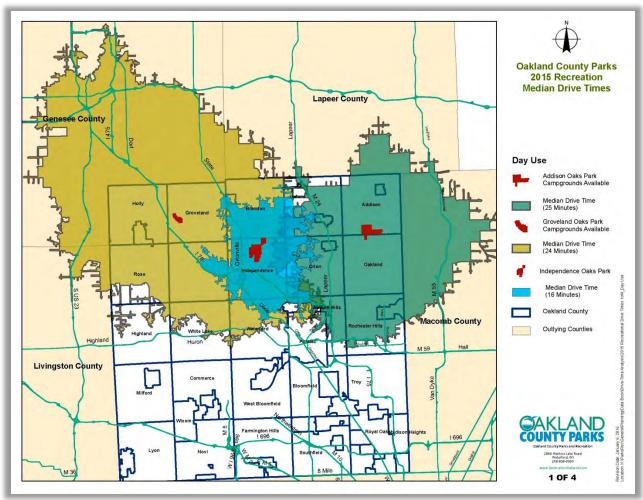
All season outdoor recreation includes golfing, fishing, camping, skiing, and horseback riding. Make this quiet community of friendly people the setting for your next development." (Groveland Township, 2014).

#### 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. 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. In 2015, the median drive time for visitors was 24 minutes.

Figure A: Day Use and Campground Median Drive-Time Map





#### Population and Income Trends<sup>i</sup>

Table 1: Population Trends - 24-minute drive-time of Groveland Oaks

Summary	Census 2010	2016	2021
Population	383,768	378,044	377,106
Households	150,087	148,571	148,519
Families	100,881	98,979	98,594
Average Household Size	2.52	2.51	2.50
Owner Occupied Housing Units	108,641	106,346	106,554
Renter Occupied Housing Units	41,446	42,225	41,966
Median Age	38.4	39.8	40.7
Trends: 2015 - 2020 Annual Rate	Area	State	National
Population	-0.05%	0.23%	0.84%
Households	-0.01%	0.28%	0.79%
Families	-0.08%	0.16%	0.72%
Owner Households	0.04%	0.27%	0.73%
Median Household Income	2.58%	2.26%	1.89%

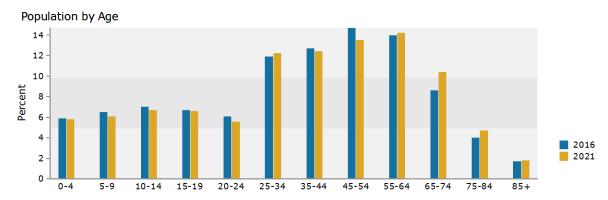
(US Census Bureau, 11/18/2016)

Table 2: Population by ratio of income to poverty level

Ratio of Income to Poverty Level	2010-2014 ACS Estimate	Percent	Margin of Error
Total	378,412	100.0%	4,824
Under .50	30,136	8.0%	1,920
.50 to .99	35,933	9.5%	2,204
1.00 to 1.24	16,360	4.3%	1,421
1.25 to 1.49	16,297	4.3%	1,365
1.50 to 1.84	22,746	6.0%	1,718
1.85 to 1.99	9,304	2.5%	1,148
2.00 and over	247,636	65.4%	3,855

(ACS, 11/18/2016)

Figure B: Population by Age – 24-minute drive-time of Groveland Oaks



(US Census Bureau, 11/18/2016)

i

Population and income profiles are generated for the drive-time service area using Esri ArcGIS Business Analyst Online.

Demographic data is compiled by Esri from US Census Bureau data. 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". <a href="http://www.esri.com/about-esri#what-we-do">http://www.esri.com/about-esri#what-we-do</a>



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Table 3: Race	and Ethnicity -	- 24 minute drive-ti	me of Groveland Oaks

	Census 2010		2016		2021	
Race and Ethnicity	Number	Percent	Number	Percent	Number	Percent
White Alone	307,774	80.2%	300,484	79.5%	297,666	78.9%
Black Alone	55,328	14.4%	54,370	14.4%	53,834	14.3%
American Indian Alone	1,836	0.5%	1,818	0.5%	1,829	0.5%
Asian Alone	5,046	1.3%	6,152	1.6%	7,187	1.9%
Pacific Islander Alone	90	0.0%	118	0.0%	142	0.0%
Some Other Race Alone	3,972	1.0%	4,370	1.2%	4,731	1.3%
Two or More Races	9,723	2.5%	10,732	2.8%	11,717	3.1%
Hispanic Origin (Any Race)	15,215	4.0%	16,935	4.5%	18,894	5.0%

(US Census Bureau, 11/18/2016)

#### 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 4: Market Potential – 24-minute drive-time of Groveland Oaks

Product / Consumer Behavior	Percent of Population	MPI
Walking for Exercise in past 12 months	27.6%	103
Households owning 1 dog	26.0%	106
Households owning 2 or more dogs	17.7%	108
Fishing (Fresh Water) in past 12 months	14.1%	114
Jogging/Running in past 12 months	11.9%	90
Bicycling (Road) in past 12 months	10.0%	101
Golf in past 12 months	9.8%	107
Hiking in past 12 months	9.4%	95
Canoeing Kayaking in past 12 months	6.2%	111
Horseback Riding in past 12 months	2.4%	97

#### Tapestry Segmentation<sup>1</sup>

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. ii

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.

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<sup>&</sup>lt;sup>i</sup> See *Planning Map Set*, page 21 – Dominant Tapestry Map

http://www.esri.com/data/tapestry



#### Green Acres (6A)

Describes 12.6% of households within the drive-time radius; 3.2% of households in the U.S.

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.

#### Traditional Living (12B)

Describes 11.2% of households within the drive-time radius; 2.0% 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.

#### Comfortable Empty Nesters (5A)

Describes 9.1% of households within the drive-time radius; 2.5% of households in the U.S.

Residents in this large, growing segment are older, with more than half of all householders aged 55 or older; many still live in the suburbs where they grew up. Most are professionals working in government, health care, or manufacturing. These Baby Boomers are earning a comfortable living and benefitting from years of prudent investing and saving. Their net worth is well above average (Index 363). Many are enjoying the transition from child rearing to retirement. They value their health and financial well-being.

#### Rustbelt Traditions (5D)

Describes 8.6% 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.

#### Savvy Suburbanites (1D)

Describes 7.6% 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.



## Site Analysis

## Parcel Analysis

Groveland Oaks County Park is composed of 3 parcels totaling 362 acres<sup>i</sup>. There is a leased house at 6000 Grange Hall. Copies of all documents cited in the Parcel Analysis are maintained in the Park Planning files.

Table 5: Parcel Table for Groveland Oaks

Parcel ID	Acres	Deed/ Lease/ Easement / Agreement	Liber and Page
02-19-201-005	165.91	1985- MNRTF Grant # TF 10-48	*
(From -004 and 402-001)		1987- Deed (Valley Investment Co.)	10082/419
,		1988- Consumers Energy Easement (from -002, prev. PIN)	11277/192
		1989- Deed (Balloon exchange of 0.4 acres)	10872/251
		1991- Mineral Deed (80% equity)	12491/102
		2008, 2012 - DNR Oil and Gas Lease (5.29	40508/264,278(2008);
		acres)	44397/158, 44526/540, 44713/229(2012)
02-19-426-001	42.27	1969- Open Space Land Program Grant # OSA-100	*
		1969- Deed (Hawley)	5238/414
		1990- Deed (DTE/Syndeco Realty Corp 1.087 acres)	11680/574
02-20-301-001	153.5	1969- Open Space Land Program Grant # OSA-89	*
		1969- Deed (80, 58.7 and 16 acres Mathews)	5325/865
		1976- (-2.9 to County of Oakland) **	6733/516
		1993- (2.9 acres to Groveland Twp.)**	13824/895

<sup>\*</sup> Contact OCPR Planning and Resource Development Unit for documents.

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<sup>\*\*</sup> Groveland Township Fire Station

<sup>&</sup>lt;sup>i</sup> Total park acreage is determined using Oakland County's GIS-based parcel database; this acreage may differ from the sum of acreages listed on individual deeds.



## **Physical Characteristics**

#### Geology<sup>i</sup>

The property lies within the Washtenaw Subsection Ecoregion and the Jackson Interlobate Sub-subsection. This area is found between three glacial lobes and is characterized by ice-contact topography and glacial deposits (Albert D. A., 1995). The following types of glacial forms are identified on the property:

- Ground Moraine low hill made of sheets of till.
- End Moraine a ridge or hill created from built-up till.
- **Till** Poorly-sorted sediment from melting glacial ice.

#### Soils"

Soil maps indicate nine soil types are found on the property, ranging from very poorly-drained to well-drained soils. Soils are mostly sandy loam, ranging from moderately well-drained to somewhat poorly-drained soils (NRCS) (USDA, 1982). Soils include:

- **10B,C- Marlette sandy loam**, 1 to 12 percent slopes. Moderately to well-drained soils found on low hills, ridges, and slopes. Runoff medium to rapid.
- 11B- Capac sandy loam, 0 to 4 percent slopes. Nearly level, somewhat poorly-drained soil in flat areas and on low hills. May be wet due to slow runoff.
- 12- Brookston and Colwood loams. Nearly level, very poorly-drained soils in flat areas and drainageways. Frequent ponding occurs. Water table at or above surface from October to May.
- **13B, C- Oshtemo-Boyer loamy sands**, 0 to 12 percent slopes. Nearly level to rolling, well-drained soils on broad hills to ridgetops. Slow runoff.
- 14B,C- Oakville fine sand, 0 to 18 percent slopes. Moderately to well-drained soil on flat areas and low hills. Slow runoff. High water table from November to April in lower elevations.
- **15B, C- Spinks loamy sand**, 0 to12 percent slopes. Nearly level to rolling, well-drained soil on flat areas to ridgetops. Medium to slow runoff.
- **17A- Wasepi sandy loam**, 0 to 3 percent slopes. Nearly level, somewhat poorly-drained soil on flat areas and low hills. Slow runoff. High water table from November to May.
- 27- Houghton and Adrian mucks. Nearly level, very poorly-drained soils in bogs or depressions. Frequent ponding occurs. Water table at or above the surface from November to May. The muck can be up to 60" thick.
- 41B- Aquents, Sandy and Loamy, Undulating. A somewhat poorly- and poorly-drained soil that has been altered. Area has been covered with fill material or soil has been excavated. Surface runoff is slow to ponded.

#### Topography iii

The park is fairly flat with slopes adjacent to the northwest quarter of the property and along Grange Hall Road. Elevation ranges from 1,000' near the northwest corner to 934' along Thread Creek near the northeast corner, with a rise of 66'. The elevation at Stewart Lake is 954'. Historical modifications that have affected the topography include:

- Development of former golf course at north end of property
- Dredging of Stewart Lake and deposit of dredged material

See Planning Map Set, page 4 – Surface Geology

<sup>&</sup>quot;See Planning Map Set, page 5 - Soils

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



#### Hydrography<sup>i</sup>

Stewart Lake is the major water body in the park. Thread Creek, other streams, and their associated intermittent streams and wetlands flow northward through the property. The outlet stream from Heron Lake at Holly State Recreation Area flows north into Stewart Lake. At the north outlet of Stewart Lake, Thread creek flows north past Tripp Road where it becomes a larger stream.

#### Presettlement Plan Communities ii

Presettlement data (Comer and Albert 1997) includes Oak-Hickory Forest over the majority of the park, with Mixed Conifer Swamp at the northeast corner.

### Regional Context

#### Potential Natural Areas<sup>iii</sup>

MNFI has identified a Priority 2 Natural Area through the middle of the property. Adjacent natural areas include a Priority 1 Natural Area to the east at Holly State Recreation Area and a Priority 3 Natural Area to the north along Thread Creek.

#### Watershediv

Groveland Oaks is in the Thread Creek subwatershed in the Flint River watershed. Thread Creek subwatershed is not covered by a subwatershed management plan. Groveland Oaks is the first park in Michigan to be environmentally certified by the Michigan Turfgrass Environmental Stewardship Program<sup>6</sup>, which focuses on stormwater management best practices.

#### Green Infrastructure<sup>v</sup>

Approximately half of the Groveland Oaks site is included in Oakland County's Green Infrastructure Vision<sup>7</sup>. The campground, former golf course, and open fields are excluded.

Groveland Oaks' Green Infrastructure is connected with Holly State Recreation Area (MDNR), to the east which connects with the environmental education camp, Camp Tamarack (United Jewish Foundation/Fresh Air Society/Jewish Community Centers).

Wetland connectivity along Thread Creek includes Simpson Lake to the northeast, and Heron Lake in Holly State Recreation Area to the southeast.

Several woodlands extend beyond the boundary, especially north along Thread Creek, and west into Holly State Recreation Area.

<sup>&</sup>lt;sup>i</sup> See *Planning Map Set*, page 7 – Hydrography

<sup>&</sup>quot;See *Planning Map Set*, page 8 – Presettlement Vegetation

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

iv See Planning Map Set, page 10 – Oakland County Subwatersheds

See Planning Map Set, page 11 – Green Infrastructure



## Land Use<sup>i</sup>

#### Zoning

The park property is zoned mostly Recreation/Conservation (RC), with Rural Estate/Farm in the north portion (RE/F) (Groveland Township, 2014).

#### Current Land Use

Current land use is focused on recreation and natural resource. A utility corridor runs north-south through the property – see Parcel Analysis section in the *Groveland Oaks Site Analysis* for information about easements and rights-of-way to which the property may be subject.

#### Surrounding Land Use

The major surrounding land uses are recreation/conservation, agricultural, and extractive, with single family residential located on the north side of the park. Surrounding properties include:

North and Northeast - Single family residential

East and Southeast - Holly State Recreation Area

#### Southwest

- Groveland Township Fire Department is located at the southwest corner of the park
- Commercial development is located along the intersection of Dixie Highway and Grange Hall Road

#### West

- Oak Haven Farm is located directly across Dixie Highway from the main park entrance. Property includes Grandma's Ice Cream Parlor
- Tri-City Aggregates a sand and gravel extraction company is located on Shields Road just west of Dixie
   Highway
- Mount Holly Ski and Snowboard Resort

#### **Northwest**

- The northwest corner of Dixie and Tripp is not part of the park property. The Bottoms Up restaurant and bar located on this property was formerly the clubhouse for the former golf course that is part of the park.
- Commercial development along Dixie Highway
- Hadley Cemetery

#### Past Land Use<sup>ii</sup>

Historical aerial photographs provide a snapshot of past land uses and of the development of the park over the decades.

#### 1940

- Stewart Lake is smaller, wetlands extend northwest and southeast
- Mostly open fields with swath of woodlands through middle
- Scattered wetlands throughout fields and wetlands
- Farms and orchards surround park

See Planning Map Set, page 12 – 2015 Land Use

<sup>&</sup>quot;See Planning Map Set, pages 13-20 Aerial Photographs



#### <u> 1963</u>

- Stewart Lake expanded, dam at north end, three islands created
- Orchards and plantings increased around lake
- Interior roads
- Created ponds (from dredged wetlands) are visible at northeast corner, in fields west of lake, and at southeast corner
- Residential development at northeast of park boundary
- Buildings along Dixie Highway

#### 1974

- Development around lake
- Large western wetlands are now ponds
- Golf course greens are visible in north half of property
- Dixie Highway entrance road established
- Unpaved campsite roads on east side of lake

#### <u> 1980</u>

- Two northern campground loops created
- Additional structures observed at maintenance area
- Extraction activity seen on properties west of park

#### 1990

- Boat dock and pedestrian bridge on Paradise Island
- Structures around beach and Day Use Parking Lot
- Golf course greens appear abandoned

#### 2000

Additional campground development—final campground loops

#### 2012

Former golf course becoming shrubby

#### 2015

No significant changes



# Park History

Stewart Lake and the windmill on Honeymoon Island – date unknown



## Early History<sup>i</sup>



Groveland Oaks (361 acres) is located in the east half of Section 19 (the parts that lie to the east of Dixie Highway) and the west half of section 20 in Groveland Township (most of the southwest quarter and the southern portion of the northwest quarter).

Figure C: 1823 Survey of Groveland Township, Sections 19 and 20 (BLM)

The General Land Office (GLO)<sup>8</sup> survey for Sections 19 and 20 of Township 5 North, Range 8 East in Michigan Territory was filed at the Surveyors General Office in Ohio

on October 15, 1823. The land on the section lines around Sections 19 and 20 is described in the surveyor's notes as "rolling land" with white and black oak and hickory.

See Figure F: Historic Plat Maps



#### Land Patents and Historic Plat Maps<sup>i</sup>

Land patents were recorded at the Detroit office of the GLO (BLM) and changes in ownership are illustrated on the historic plat books and county atlases that were available commercially.

#### Section 19 NE 1/4

- Land patent recorded for Edwin W. Fairchild and Marston W. Richards of Monroe County, New York on January 5, 1831
- 1872 and 1896 atlases: D. Hadley
- 1908 atlas: C.P. Feltshaw & Wife
- 1947 atlas: Wm. J. Tell (east side of Dixie only)

#### Section 19 E 1/2 of SE 1/4

- Land patent recorded for Franklin J. Herrick of Genesee County, New York on May 2, 1831 (80 acres)
- 1872 atlas: H. Smithingel;
- 1892 and 1908 atlases: James Hawley
- 1947 atlas: Harvey Hawley

#### Section 20 NW 1/4

- East ½: Land patent recorded for Don Carlos Cooper of Oakland County, Michigan on August 5, 1837
- West ½: Melvin Dorr of Detroit, Michigan Territory on June 8, 1837
- 1872 atlas: R.A. Hosner (east ½) and Mrs. H. Lennon (west ½)
- 1892 and 1908 atlases: J.W. Smith (east ½) and James Hawley (west ½)
- 1947 atlas: Wm. J. Tell

#### Section 20 SW 1/4

- East ½: Land patent recorded for Melvin Dorr of Oakland County, Michigan on August 18, 1837
- West ½: Land patent recorded for Melvin Dorr of Detroit, Michigan Territory on June 8, 1837
- 1872 atlas: G. Stewart (east ½) and Mrs. H. Lennon (west ½)
- 1896 atlas: G.H. Stewart (east ½) and James Hawley (west ½)
- 1908 atlas: Harriett Stewart (east ½) and James Hawley (west ½)
- 1947 atlas: Lamar K. Mathews

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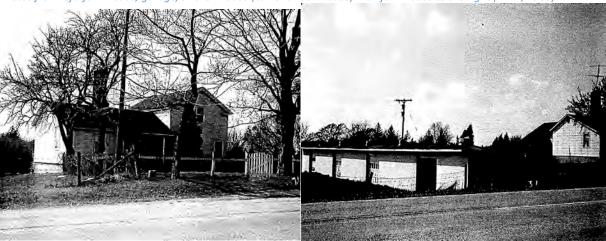
See Figure F – Historic Plat Maps



#### Farmhouse on Grange Hall Road

The historic atlases (1876, 1892, 1908 and 1947)<sup>i</sup> show a structure on the east half of the southwest quarter of Section 20 facing east on Grange Hall Road. In 1936, the Rural Property Inventories<sup>9</sup> documented this structure as a 2-story, 9-room wood frame home constructed in 1850 and owned by Millie Brown of Bloomfield Hills, Michigan. The property appraisal dated February 1, 1968 describes the farmhouse as a "two story old poorly kept farm house" (Irwin, 1968). The farmhouse is visible on the 1940, 1963 and 1974 aerial photographs; it is no longer present in the 1980 aerial photograph<sup>ii</sup>.

Photos from left: farmhouse; garage/chicken house (current Duck House) with farmhouse to the right (Irwin, 1968)



#### Farm Buildings

In 1936, the Rural Property Inventories documented other buildings on the property, including

- Barn rough lumber/concrete construction (1850) in fair condition
- Crib rough lumber/post construction in good condition
- Hen house rough lumber/concrete construction in fair condition
- Brooder house rough lumber/concrete construction in fair condition

The 1968 appraisal documented the following farm buildings

- Barn frame/asbestos in use and well-maintained
- Garage/Chicken Coop block and frame (Duck House)
- Old chicken coop or turkey house poor condition
- Garage –frame with rolled roof
- Open turkey facility
- Tool house

#### Mathews Residence and Guest House - Demolished

According to the 1968 appraisal, this one-story wood frame ranch bungalow was constructed in 1942 and extensively remodeled in 1953. The guest house was a frame one and a half story building (Irwin, 1968). These structures were demolished after the property was acquired in 1969.

#### Rental Houses - Demolished

Three small houses located along Grange Hall Road just east of the intersection with Dixie Highway were documented in the 1968 appraisal (Irwin, 1968):

<sup>&</sup>lt;sup>i</sup> See Figure F – Historic Plat Maps

<sup>&</sup>quot;See Planning Map Set, page 13-14 – 1940 and 1963 Aerials



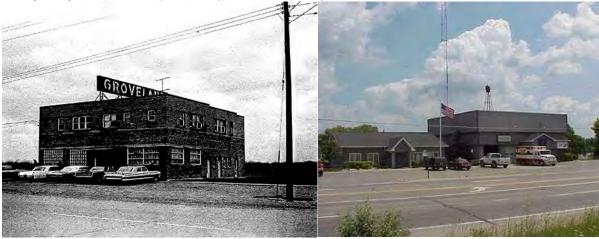
- 8091 Grange Hall Road one-story masonry block
- 8087 Grange Hall Road one-story masonry block
- 8097 Grange Hall Road one-story wood frame

The three houses are visible in the 1963 and 1974 aerial photographs. In 1980, the wood frame house has been demolished. In 1990, 1997, 2000 and 2002 aerial photographs, one masonry house remains (8091 Grange Hall Road). In the 2006 aerial photograph, all three houses are demolished.

#### Commercial Building / Current Groveland Township Fire Hall

A two-story masonry building was constructed in 1945 from the foundation of an old garage (Irwin, 1968). The garage can be seen in the 1940 aerial photograph and in the 1963 aerial photograph the replacement building is visible. The first floor of the building was used as a clinic by Dr. Mathews. There were four apartments upstairs. Part of the original purchase (2.9 acres) that this building is located on was split from Groveland Oaks in 1993 and transferred to Groveland Township, where it now houses Groveland Township Fire Department Station 1.





#### Mathews Groveland Estates Recreation Center

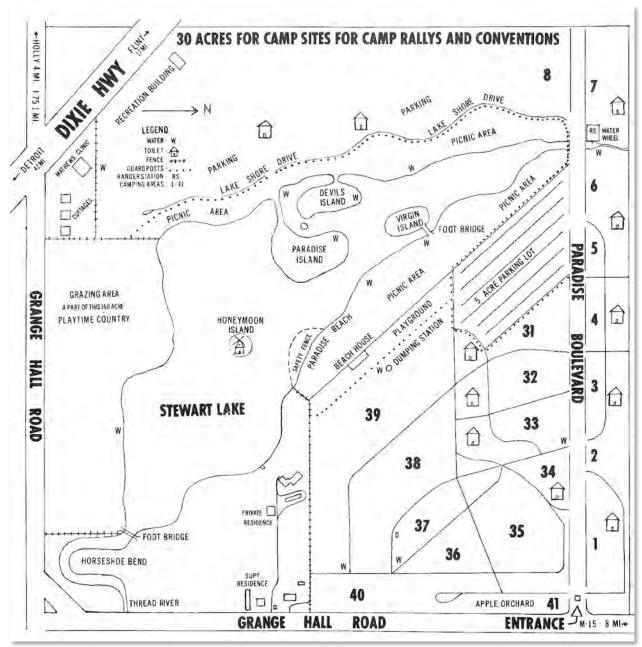
Part of the property was purchased by Lamar Mathews, an osteopathic physician, and his wife in 1945 as a weekend farm retreat, becoming their full time residence in 1952. Dr. Mathews built a Dutch windmill on the island in Stewards Lake in 1955 and began dredging and enlarging Stewart Lake in 1957. The Mathews' private recreation park opened in 1960 and featured sandy beaches and exotic animals (Mathews, 1994).

An publication promoted the private recreation park as "Mathews Groveland Estates Recreation Center in Michigan's Water-Winter Wonderland." The publication indicates that the lake was dredged and enlarged in 1957 and a man-made beach with imported sand created. The lake was stocked with perch, bluegill and bass. Three man-made islands (Paradise, Devils, and Virgin islands) located at the north end of the lake and were created by dredging the original wetland. The Mathews campground publication documents the presence of wells on each of the islands and seven artesian wells on the property (Groveland Estates, est. 1965).

http://www.grovelandfire.org/stat.htm



Map of Groveland Estates (Groveland Estates, est. 1965)

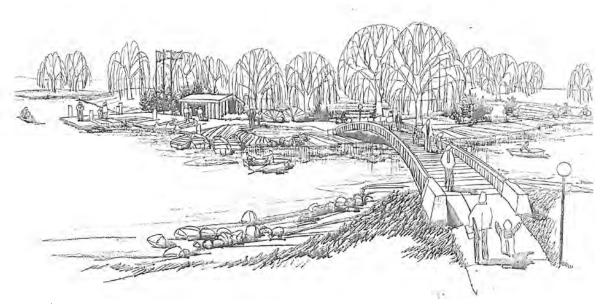


#### **Golf Course**

166 acres on the north side of the property that was purchased in 1987 consisted mostly of a golf course (Groveland Valley Golf Course). The current Bottoms Up Food & Spirits on the corner of Dixie Highway and Tripp Road was the clubhouse for the golf course and was excluded from the 1987 acquisition.



#### Past Master Plans



#### 1975 Master Plan

At the time the 1975 Master Plan was developed, Groveland Oaks had approximately 300 camper spaces and 130 group campsites on the east side of Stewart Lake. The plan envisioned long-range development for the entire 196 acres that included the west side of Stewart Lake to a maximum of 735 campsites, including 145 group campsites and 60 platform tent sites. A major collector road was designed to give access to 11 development clusters and a major activities center. Each cluster was designed to be serviced with a comfort station. Parking, play centers and open space was located between clusters. An administration building was proposed to be located near the contact station. (Anderson/Lesniak and Associates, 1975)





#### 1992 Master Plan

The 1992 Master Plan incorporates the 9-hole golf course that was acquired in 1987 and provides a design to transition it to an 18-hole course. The plan also proposed construction of a clubhouse and banquet facility with parking and access from Dixie Highway and a golf course maintenance facility with secure entrance located further north on Dixie Highway. The golf course proposals were not implemented.

Additional group campsites, individual modern and rustic campsites, playgrounds, and trails were proposed. The proposals that were implemented include group campsites and the nature trail located north of the campground. The cabins that were constructed in 1996 and 2002 were envisioned by this plan (Robert Ford & Associates, 1992).



## **Grant History**

#### **Acquisition Grants**

#### 1968: Open Space Land program Grant #OSA-089

Project Scope: Acquisition of 153.5/154.7 acres (in grant application=138 acres/ in 'description of property subject

to purchase'= 80+58.87+16=154.7 acres)

Final Grant Amount: \$197,850 (requisition \$57,057)

#### 1969: Open Space Land program Grant #OSA-100

Project Scope: Acquisition of 43 acres

Final Grant Amount: \$21,500 [See Revision for 43 acres development only of acquired land]

#### 1985: Michigan Natural Resources Trust Fund #TF1048

Project Scope: Acquisition of 165 acres

#### **Development Grants**

#### 1969: Open Space Land program Grant #OSA-100

Project Scope: Development of 43 acres. Fencing, sanitary facilities, roads, electricity, landscaping (tree planting

and seeding)

Final Grant Amount: \$21,500 [Revision of #OSA-100 Acquisition]

#### 1977: Land and Water Conservation Fund #26-01023

Project Scope: Trailer campground; water and electrical; street lighting; and gravel drive

#### 1980: Land and Water Conservation Fund #26-01104

Project Scope: 20 campsites with water and electrical; parking and access drive; 2 pedestrian bridges; storm

drainage; and landscaping

#### 1984: Land and Water Conservation Fund #26-01499

Project Scope: Boat rental facility with docks and decking; parking and access drive; pedestrian bridge; retention wall; and landscaping.

#### 1985: Michigan Natural Resources Trust Fund #TF1048 XX

Project Scope: Acquisition of 165 acres

#### 1986: Land and Water Conservation Fund #26-01452

Project Scope: Development of 40 campsites with water and electrical; roadway lighting; and landscaping

#### 1990: Land and Water Conservation Fund #26-01499

Project Scope: Play equipment and surfacing; walkways; site furnishings; water line; and landscaping



## Park-Wide Planning Areas

### 1. 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.

The natural areas at the park consists of woodlands, wetlands and naturalized or no mow areas. To date, 10 natural community types have been identified at Groveland Oaks.

Organic seeps and historic artesian wells are found through the mucky soils of the wetlands.



Table 6: Natural Features at Groveland Oaks

Natural Feature		Description
Stewart Lake A1 – Stewart Lake		31-acre, 55' deep lake with 2 miles of shoreline. A man-made beach is at the northeast edge of the lake. The lake has a road dam at the north outlet and a culvert at the south inlet under Grange Hall Road. The lake has been expanded by dredging, starting in the late 1950's, with material piled south of the lake. The three islands (Paradise, Devils, and Virgin) were created from the dredged material.
	Unnamed ponds	2 unnamed linear ponds at northwest section of park. South pond has adjacent marsh with reed canary grass. North pond with willow border.
	Thread Creek A2 -Creek	Thread Creek and its tributaries (some intermittent) flow north to Simpson Lake. It is a cold water fishery stream (Leonardi & Gruhn, 2001).
	Vernal pond	Seasonal forested pools scattered mostly throughout woodlands with some pools within lawn west of entrance road. Species include red maple, yellow birch, American elm, buttonbush, sensitive fern, and sedge.



#### **Natural Feature** Description Submergent marsh Found within Stewart Lake and Thread Creek. Submerged A3 - Wetland rooted and non-rooted species include pondweed, water lily, Complex; found in pond-lily and duckweed. A1 and A2 Part of the wetland complex scattered throughout nondeveloped areas of the park, especially in shallow areas along **Emergent marsh** shores of Stewart Lake, Thread Creek and streams. Species A3 - Wetland include sedge, bulrush, cat-tail, spike-rush, and reed canary Complex grass. Wetlands at southeast corner appear to be previously drained. Part of wetland complex scattered throughout non-developed Southern wet areas of the park. The ground-water influenced wetland is meadow dominated by sedge-- especially tussock sedge. Other species A3 - Wetland include swamp milkweed, Joe-Pye weed, aster and goldenrod. Complex Photo credit (ECT/HRM, 2015). Southern shrub-Part of wetland complex along Stewart Lake, and east and carr/Inundated north of campground. The shrub-dominated community shrub swamp includes willows, dogwood, elderberry, swamp honeysuckle and nannyberry. Buttonbush is found in the constantly wet soil A3 - Wetland of the inundated shrub swamp. Complex Hardwood conifer Part of wetland complex on poorly drained soils adjacent to swamp Stewart Lake, and east and north of campground. Species include red maple, tamarack, ash, red-osier dogwood, A3 - Wetland riverbank grape and honeysuckle. Complex Part of wetland complex along Stewart Lake, and along Southern hardwood streams and depressions east and north of campground. swamp/Floodplain forest Species include silver and red maple, swamp white and pin oak, green ash, slippery elm, cottonwood, and skunk cabbage. A3 - Wetland Complex **Dry-mesic** Second-growth woodland on ridges and upper slopes mostly southern forest at north half and southeast corner of the park. Species include A4 - Woodland white, black and red oak, sugar and red maple, shagbark Complex hickory and ash.



Natural	Feature	Description
	Mesic southern forest A4 – Woodland Complex	Woodland on lower slopes mostly at north half and southeast corner of the park. Species include sugar maple, American beech, white and red oak, slippery elm, ironwood, ash, and dogwood. Large willows are found around the lakes. Photo credit (ECT/HRM, 2015).
	<b>Old Field</b> A5 – Old Field	Open fields found throughout the park, including around campground, east of entrance road, ITC utility corridor, west of Stewart Lake and former golf course at north end. Species include scattered shrubs including invasive species. Other species include non-native grasses, aster, goldenrod, Queen Anne's lace, bee balm, and spotted knapweed.
	Native plantings	Bioswales planted in 2007 with native wetland plants along Stewart Lake lakeshore. Species include marsh blazing star, swamp milkweed, blue vervain and sedge.



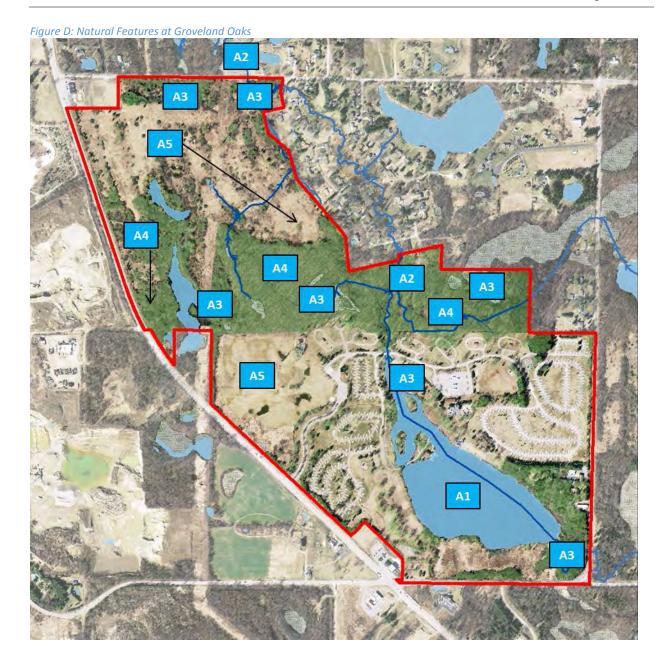




Figure E: Park map showing locations of planning units, campground areas A-F, and cabins 1-8 11. Former Golf Course 2. Park Entrances, Roadways and Parking: **Contact Station** 9. Central Recreation Area 10. Campground: Group Sites 8. Concession Area 7. Islands, Boat Rental and Beach



## 2. Park Entrances, Roadways and Parking

The public vehicle entrance is located on Dixie Highway. An automatic gate system for returning campers was installed in 2014. Groveland Boulevard is the two-lane that leads to the contact station and is the main artery through the park.

Photos from left: Main entrance; electronic gate





On the west side of Thread Creek, Lakeview Drive joins from the south. Several named campground loop roads branch off of Lakeview Drive. The Island Parking Lot is located at the end of Lakeview Drive. Groveland Boulevard continues on the east side of Thread Creek. The Day Use Parking Lot is located on the south side. Named campground loops branch off on the east side.

There are three driveways located off Grange Hall Road. The maintenance entrance is located off Grange Hall Road. The driveway leading to the leased residential house is located south of the maintenance entrance. An additional driveway further south leads to the "Duck House" cold storage building. A lane connects the maintenance yard with the public areas of the park.

Photos from left: Main maintenance gate; lane from maintenance yard to park







## 3. Maintenance, Utilities and Security

There are three buildings in the maintenance area off Grange Hall Road: Carpenter/Storage Building; Cold Storage Building; and the Maintenance Building. The Duck House cold storage building is located further south off of Grange Hall Road. A Storage Yard is located at the southwest corner of the property with access from a driveway Grange Hall Road – the drive is located close to the intersection with Dixie Highway.

Photos from left: Carpenter/Storage Building east side and west side





Photos from left: Maintenance Building south side (with park office entrance); Cold Storage Building





Photos from left: Duck House Building; Storage Yard







### 4. Technology

The Maintenance building and Contact Station have T-1 data connection lines. Wi-Fi is available to the public at the Beach and Concessions area, as well as Campground Area C.

#### 5. Non-Recreational Features

The rental house at Groveland Oaks, located south of the Maintenance Yard at 6000 Grange Hall Road, was constructed in 1980 as a park supervisor's residence. It is currently leased to a private party. The rental property inspection report completed on April 14, 2016 indicated the house was mostly in good condition with a few exceptions. The floor coverings are showing age and wear and need replacement. The roof and gutters were listed in fair condition and in need of repair.





#### 6. Park Trails and Non-Motorized Access

The Park Trail Loop links the concession areas, beach and isles. Three bridges along the Park Trail Loop lead to Paradise Island, Devil's Island, and Virgin Island.

Thread Creek Trail is a paved loop through the natural area north of the campgrounds.

The Wildlife Loop, a mowed grass trail connected to Thread Creek Trail, was created in 2012 through the fields west of the main entrance drive section of Groveland Boulevard.

Photos from left: Park Trail Loop near the beach; and Wildlife Loop







## Location-Specific Planning Areas

### 7. Islands, Boat Rental and Beach

There are three islands in Stewards Lake with recreational opportunities. Paradise Island is connected with both sides of the park by the paved Park Trail Loop and has the Boathouse (with Arcade), Boat Rental, and Pavilion. Devil's Island is linked by trail to the west side of Stewart Lake and has a rentable pavilion. Virgin Island is linked to the east side of Stewart Lake and has a rentable pavilion. A fourth island – Honeymoon Island – is no longer accessible except by boat; it previously had a windmill on it that was iconic to the former private campground. There is a sand beach on the east short of Stewart Lake with a waterslide at the north end. At the very north end of Stewart Lake is a small dam with a kiddie pool where Thread Creek enters the lake.

The Bike Rental facility was replaced in 2015. It is located on the north side of the Waterslide. Waterslide tickets are purchased at the Bike Rental.

Photos from left: Boathouse and Beach area; Waterslide and Bike Rental (replacement building under construction)





#### 8. Concession Area

The Concession Building and Pavilion is located on the west side of Stewart Lake between the Beach Area and Campground Section F. The Concession Building houses the Blue Water Grill, managed by OCPR.

Photos from left: Exterior of Concession Building; interior with the Blue Water Grill; Concession Building Patio









### 9. Central Recreation Area

The general recreational area, on the east side of Stewart Lake, serves both day use visitors and campers. It contains the Day Use Parking Lot, Picnic Areas, Activity Pavilion, Skate Park, Playground, Basketball Courts, Volleyball Courts, Activity Stage, and Mini-Golf.

Photos from left: Bike Obstacle Course; Playground





Photos from left: Activity Pavilion; Basketball Court





Photos from left: Mini-Golf; Activity Stage







## 10. Camping and Cabins

#### East Camping and Cabins

Campground facilities on the east side of Thread Creek/Stewart Lake include four campground loops with a total of 156 campsites. There are 3 cabins (cabins #2, 3, and 4) are located in the northeast corner and one cabin (#1) in the center. Four loops with picnic pavilions each accommodate 2 group campsites (Group Camp Areas #6-14). The Pines Restroom and Laundry Building is in the center of the area and has vending machines and firewood sales.

#### West Camping and Cabins

On the west side of Stewart Lake/Thread Creek, 5 campground loops contain a total of 112 modern campsites. There are 4 cabins (#5-8) located along the west shore of the north end of Stewart Lake. Two loops with picnic pavilions each accommodate 2 group campsites (Group Camp Areas #2-5) and one loop accommodates one group campsite and a picnic pavilion (Group Camp Area #1). Restroom buildings in Section A and Section C also have vending machines. A playground is located in Section C.

Photos from left: Full hook-up site; regular campsite





Photos from left: Cabin #1; Yurts





#### 11. Former Golf Course

The former golf course area consists of open space. Wells and other portions of golf course infrastructure are present. A thorough evaluation of the site is pending.



# Park Operations

### 12. Organized Programs and Events

#### **Campground Recreation Programs**

These are weekend programs targeted to campers at Addison Oaks and also designed to be a draw for families. Examples of family-friendly activities include: craft activities, bicycle parades, face painting, hayrides, live music or DJs, and magic shows.

#### **Special Events**

Special events that are organized and promoted by Oakland County Parks at Groveland Oaks include 4<sup>th</sup> of July Fireworks and Air Fair, a hot air balloon festival.

Photos: 2015 Campground Recreation program





## 13. Data Collection and Management

Estimates for monthly and annual numbers of park visits to Groveland Oaks are compiled from information entered by Contact Station staff at point-of-sale for campers and day use visitors. Staff also notes the number of vehicles with annual vehicle permits that pass the Contact Station. These data are accessed via RecTrac. The following items are tracked:

Campers – these include: Reservable campsite rentals; Walk-in campsite rentals; Cabin rentals; Yurt rentals; and Group campsite rentals. See Annual Data Book FY2015 for details about calculating visitors from camp rentals (OCPRC, 2015)

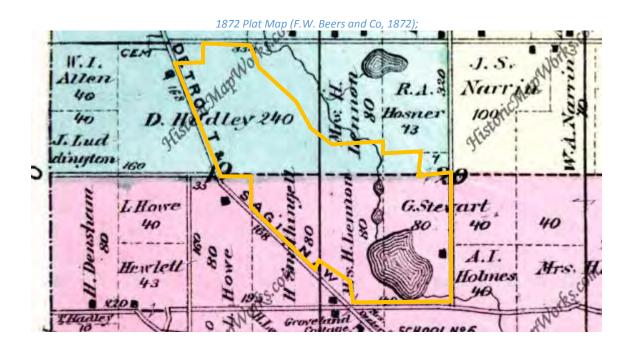
Day use visitors – vehicle permit sales (annual and daily) and entry of vehicles with annual vehicle permits. See Annual Data Book FY2015 for details about calculating visitors from vehicle counts (OCPRC, 2015)

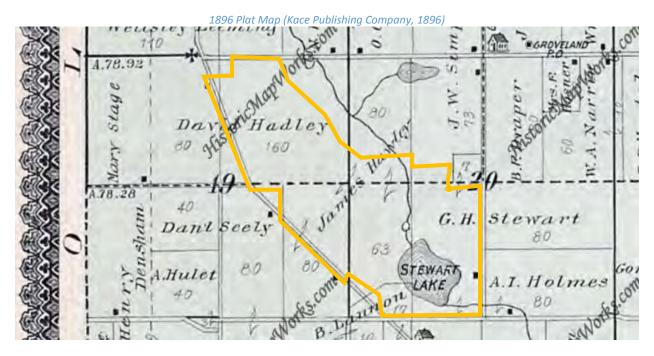


## Park Maps

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 F: Groveland Sections 19 and 20 Historic Plat Maps

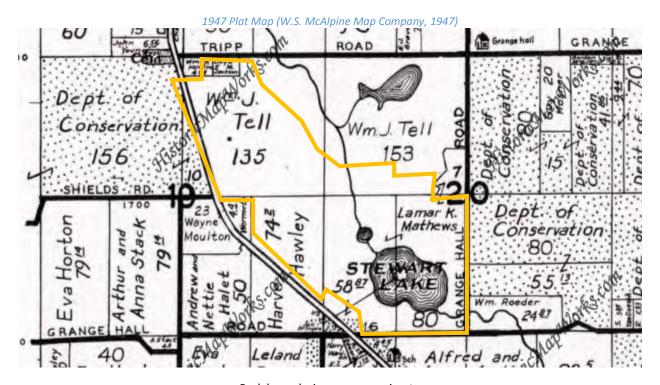




Park boundaries are approximate



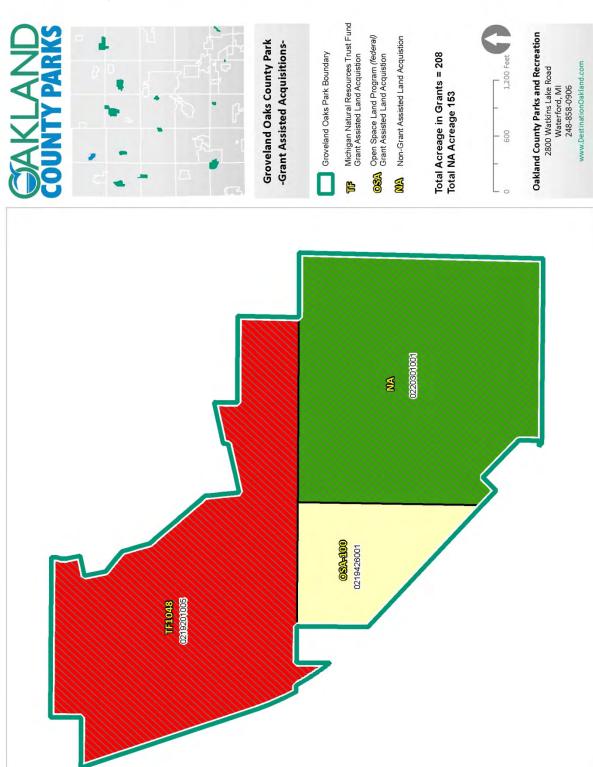




Park boundaries are approximate



Figure G: Parcels and Acquisition Grants





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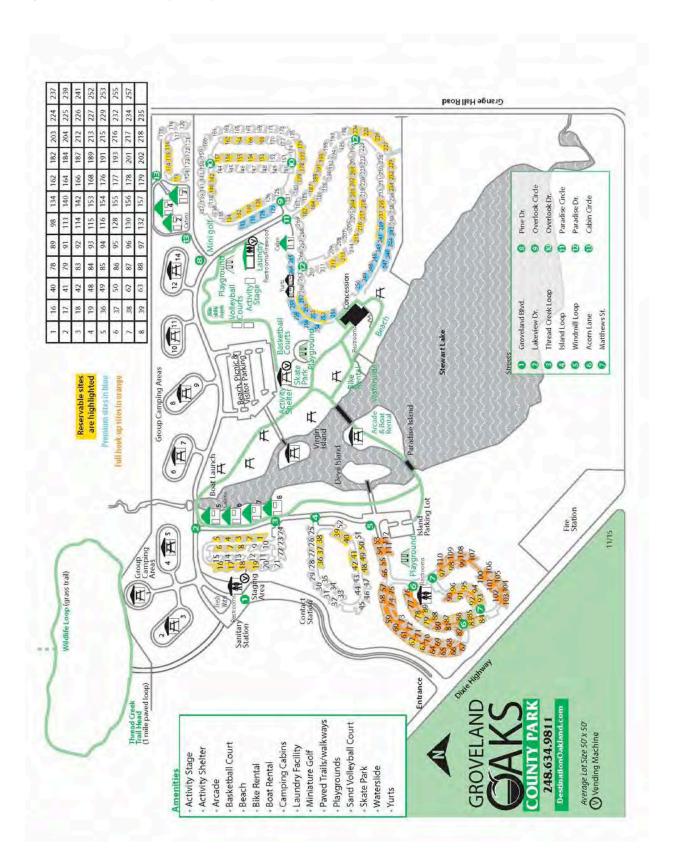


Figure H: Development Grants

Map will be added



Figure I: 2016 Groveland Campsite Map





## References

- ACS. (11/18/2016). American Community Survey Population Summary. ESRI/Business Analyst Online.
- Albert, D. A. (1995). Gen. Tech. Rep. NC-178. Regional Lanscape Ecosystems of Michigan, Minnesota and Wisconsin: a working map and classification, Tech. Rep. NC-178. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station.
- Anderson/Lesniak and Associates. (1975). Summary Report Groveland Oaks Park Master Plan Development.

  Waterford MI: Oakland County Parks and Recreation Commission.
- BLM. (n.d.). *General Land Office Records*. Retrieved from US Department of the Interior Bureau of Land Management: http://www.glorecords.blm.gov/
- Comer, P., & Albert, D. (1997). Vegetation circa 1800 Maps. Michigan Natural Features Inventory.
- ECT/HRM. (2015). *Herpetological Inventory Report*. Waterford MI: Oakland County Parks and Recreation Commission.
- EDCA. (n.d.). *Facts & Stats*. Retrieved from Advantage Oakland Economic Development & Community Affairs: https://www.oakgov.com/advantageoakland/business/Pages/county-profile-default.aspx
- F.W. Beers and Co. (1872). *Oakland County*. Retrieved from http://www.historicmapworks.com/Atlas/US/7617/Oakland+County+1872/
- Geo A. Ogle and Co. (1908). Standard Atlas of Oakland County, Michigan . Geo A. Ogle and Co. Retrieved from http://www.historicmapworks.com/Atlas/US/7659/
- Groveland Estates. (est. 1965). *Mathews Groveland Estates Recreation Center in Michigan's Water-Winter Wonderland*.
- Groveland Township. (2014). *Read More*. Retrieved 03 09, 2016, from Groveland Township: http://www.grovelandtownship.net/read\_more.php#.VuA6S\_krK00
- Groveland Township. (2014, October 10). *Zoning Districts Map.* Retrieved from Groveland Township: http://www.grovelandtownship.net/docs/Zoning\_Map\_10\_10\_14.pdf
- Irwin, R. M. (1968). *Appraisal of the Mathews Property, Groveland Township, Oakland County, Michigan.*Waterford, MI: Oakland County Parks and Recreation Commission.
- Kace Publishing Company. (1896). *Illustrated Atlas of Oakland County* . Retrieved from http://www.historicmapworks.com/Atlas/US/32464/Oakland+County+1896/
- Kost, M. (2010). Report Number 2007-21. Version 1.2. *Natural Communities of Michigan: Classification and Description*. Lansing, MI: Michigan Natural Features Inventory.
- Leonardi, J., & Gruhn, W. (2001). Flint River Assessment Special Report 27. Ann Arbor MI: Michigan Department of Natural Resources Fisheries Division.
- Mathews, A. L. (1994). Groveland Farm. personal correspondance.



- NRCS. (n.d.). Web Soil Survey. Retrieved from Natural Resource Conservation Service: http://websoilsurvey.nrcs.usda.gov/app/
- OCPRC. (2015). *Annual Dashboard and Data Book*. Waterford, MI: Oakland County Parks and Recreation Commission.
- Robert Ford & Associates. (1992). *Groveland Oaks Park Master Plan.* Waterford MI: Oakland County Parks and Recreation Commission.
- SEMCOG. (2015). *Community Profiles*. Retrieved from Southeast Michigan Council of Governments: http://semcog.org/Data-and-Maps/Community-Profiles
- US Census Bureau. (11/18/2016). Community Profile. ESRI/Business Analyst Online.
- USDA. (1982). Soil Survey of Oakland County. East Lansing, MI: United States Department of Agriculture.
- W.S. McAlpine Map Company. (1947). *Oakland County* . W.S. McAlpine Map Co. Retrieved from http://www.historicmapworks.com/Atlas/US/10602/Oakland+County+1947/

## Notes

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> <u>Sub-subsection</u>: 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.

<sup>&</sup>lt;sup>3</sup> <u>Ice-Contact Topography</u>: 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.

<sup>&</sup>lt;sup>4</sup> <u>Glacial Deposits</u>: 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.

<sup>&</sup>lt;sup>5</sup> <u>Potential Priority Natural Area</u>: Important ecological natural communities dominated by native vegetation identified by the Michigan Natural Features Inventory (MNFI). These sites represent the least disturbed natural areas remaining in the County. Initial delineation was done through aerial photo interpretation, with emphasis placed on intactness, wetlands and wetland complexes, riparian corridors, and forested tracts. Prioritization (ranked Priority One, Two and Three) is based on size, core area, stream corridors, land connectivity, vegetation quality, fragmentation and restorability of surrounding lands.

<sup>&</sup>lt;sup>6</sup> <u>Michigan Turfgrass Environmental Stewardship Program</u>: The Michigan Turfgrass Environmental Stewardship Program (MTESP) is a voluntary, proactive program designed to prevent pollution and reduce environmental risks on golf properties, sports fields, parks, school grounds, and lawn care companies. The program began in 1998 and represents a unique partnership between the Michigan Department of Agriculture, Michigan Department of Environmental Quality, Michigan State University, and the Michigan Turfgrass Foundation. Over 300 properties

#### **BASELINE PARK ANALYSIS**





have participated in the program and over 65 are certified. Certification requires compliance with environmental laws outlined in the program and elevated protection of natural resources. To learn more about the Michigan Turfgrass Environmental Stewardship Program go to: <a href="https://www.mtesp.org">www.mtesp.org</a>

- <sup>7</sup> Oakland County Green Infrastructure Vision: Oakland County's Green Infrastructure Vision was developed through a series of work sessions, facilitated by Oakland County Economic Development and Community Affairs between 2005 and 2009. Community participants inventories existing natural features, established collaboration opportunities, and considered how to set and achieve future goals. Access the Vision at <a href="https://www.oakgov.com/advantageoakland/media-center/Documents/gi">https://www.oakgov.com/advantageoakland/media-center/Documents/gi</a> poster.pdf.
- <sup>8</sup> <u>General Land Office</u>: On April 25, 1812, by an Act of Congress the General Land Office was created within the Treasury Department. In creating the General Land Office, Congress combined the functions previously scattered among three Federal agencies—Treasury, War, and State. The Secretary of the Treasury had directed the survey and sale of public lands. Treasury also maintained records and accounts. The Secretary of War administered military bounties and bounty lands. Patents were issued by the Secretary of State. As of 1949, the General Land Office is part of the Bureau of Land Management within the Interior Department, which manages the archive of public land records (BLM).
- <sup>9</sup> Rural Property Inventories: During the Great Depression, the Michigan Department of Treasury collaborated with the Works Progress Administration to undertake an extensive survey of nearly all land parcels in the state (excluding Wayne County). The survey served two purposes: it provided jobs for unemployed engineers, land surveyors, and appraisers while giving the state a basis for assessing property taxes. The project started late in 1935 and continued until 1942 (Michigan Historical Center).