

May 20, 2016

Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

**FERC PROJECT NO. 2680-108
LUDINGTON PUMPED STORAGE PROJECT
RE: FINAL RECREATION STUDY REPORT**

Dear Ms. Bose:

Consumers Energy Company and DTE Electric Company are co-Licensees (“Licensees”) for the Ludington Pumped Storage Project (“LPSP”), FERC No. 2680. On January 13, 2016 FERC issued a letter to the Licensees regarding comments on the Initial Study Report filed on December 2, 2015 and Initial Study Report Meeting Summary filed on December 15, 2015 for the LPSP relicensing. On January 26, 2016 the Licensees filed a letter clarifying several statements in FERC’s January 13 letter. The Licensees also informed the Commission that, within 30 days of FERC’s January 13 letter, they would provide four of the five remaining reports and a proposed meeting date for stakeholder discussion. The fifth report providing the 2015 Recreation Study results was to be provided by May 20, 2016. The Licensees are hereby filing the 2015 Final Recreation Study Report. A copy of the Recreation Study Report will also be posted to the LPSP web page, which is:

<https://www.consumersenergy.com/ludingtonrelicensing>

A conference call to discuss the reports submitted on February 12, 2016 was held on Monday, March 21, 2016 beginning at 1:00 PM. Notes of this meeting were submitted to the Commission on March 29, 2016. Comments regarding the draft Recreation report provided during the conference call were addressed and incorporated into the Final Recreation Study Report, the subject of this filing. Pere Marquette Township (PMT) provided a draft of their formal comments submitted to FERC on May 3, 2016. The majority of these comments were addressed in the Final Recreation Study report. The limited comments not addressed did not pertain specifically to the Recreation Study but rather are associated with PMT’s desire for additional recreation opportunities closer to the LPSP project. These comments were not addressed because the purpose of this study is to evaluate existing recreation sites. One comment regarding playground equipment is being addressed by the Licensees in partnership with Mason County. The Licensees appreciate PMT’s desire to continue to work together collaboratively to address

these ongoing issues and are willing to continue to meet with PMT representatives to address their concerns. The Licensees propose to address any additional comments through ongoing discussions and, more formally, in the Draft License Application.

Please feel free to contact David McIntosh at (231) 779-5506, or by e-mail (David.McIntosh@cmsenergy.com) with additional questions.

Respectfully,

/s/ William A Schoenlein
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**RECREATION RESOURCES
STUDY REPORT**

**LUDINGTON PUMPED STORAGE
HYDROELECTRIC PROJECT
(FERC NO. 2680)**



Prepared for:

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May 2016

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LIST OF ABBREVIATIONS

ADA	Americans with Disabilities Act
DTEE	DTE Electric Company
FERC	Federal Energy Regulatory Commission
GPS	Global Positioning System
ILP	Integrated Licensing Process
LPSP	Ludington Pumped Storage Project
LWCF	Land and Water Conservation Fund
MW	Megawatt
NGO	Non-governmental organization
NOI	Notice of Intent
PAD	Pre-Application Document
PSP	Proposed Study Plan
RSP	Revised Study Plan
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SPD	Study Plan Determination

1 INTRODUCTION

Consumers Energy Company (Consumers Energy) and DTE Electric Company (DTEE), co-Licensees of the Ludington Pumped Storage Project (FERC No. 2680), are in the process of relicensing the existing 1,785 megawatt (MW)¹ Ludington Pumped Storage Project (LPSP or Project) with the Federal Energy Regulatory Commission (FERC). The Project is located along the Lake Michigan shoreline, in the townships of Pere Marquette and Summit in Mason County, Michigan and in Port Sheldon in Ottawa County, Michigan. The Ottawa County portion of the Project is limited to a 1.8 acre satellite recreation site (established as part of the Settlement Agreement approved by Commission Order on January 23, 1996 (74 FERC ¶ 61,055)). The Project's current license expires on June 30, 2019 and the Licensees are seeking a new license to continue to operate the Project.

The Licensees submitted a Pre-Application Document (PAD) and Notice of Intent (NOI) to FERC on January 21, 2014. The filing of these documents initiated the relicensing process for the Project under FERC's regulations governing the Integrated Licensing Process (ILP). On July 7, 2014, the Licensee submitted the Proposed Study Plan (PSP) document. The PSP contained the Licensees' proposed studies, responses to stakeholder study requests and a schedule for conducting the site tour and study plan meeting. As proposed by FERC, the site tour was held on July 30, 2014. The ILP-required study plan meeting was held on July 31, 2014. The purpose of the study plan meeting was to review and comment on the Licensees' PSP, to review and answer questions related to stakeholder study plan requests and to attempt to resolve any outstanding issues with respect to the PSP document. The Licensees filed a Revised Study Plan (RSP) on November 3, 2014.

On December 1, 2014, FERC issued its Study Plan Determination (SPD) in which many of the studies were approved or approved with FERC modifications, and FERC addressed stakeholder comments on the proposed studies.

¹ On May 7, 2012, FERC issued an Order Amending License to upgrade and overhaul all six pump-turbine/motor generating units at the Project, one unit at a time over the years 2013 through 2019. The proposed overhaul will increase the authorized installed capacity of the Project from the current 1,657.5 MW to 1,785 MW.

Included in the RSP was Study 4-Recreation Resources. FERC's SPD dated December 1, 2014, requested the following modification be made to Study 4.

- Revise Figure 4 to show the areas that are available and unavailable to the public, and include the acreage for these areas.

As stated in the RSP, the purpose of the study was to compile existing data and develop additional information to support a new FERC license application for continued operation of the Project. The primary goals of the study were to:

- Develop an inventory and condition assessment of the existing Project recreation facilities;
- Estimate the existing level of daytime and nighttime recreational use occurring at the Project;
- Develop a survey/questionnaire and administer the survey to Project recreational users to gather their perceptions and input on level of use, condition and adequacy, and potential enhancements of Project recreation facilities;
- Estimate future daytime and nighttime Project recreational use; and
- Identify the entities that operate and maintain the existing Project recreation sites and facilities.

2 STUDY AREA

The study area included lands and waters located within the Project boundary for the LPSP that are utilized for public access and/or recreation, including the satellite recreation area located in Port Sheldon.

The focus of the use and user survey were the public use and recreation areas located throughout the Project, which are located wholly within the FERC Project boundary. The six recreation sites that the study focused on are owned by the Licensees as Project recreation sites pursuant to the Project's FERC-approved recreation plan.²

Figure 2-1 illustrates the study area within the Project boundary, as well as the location of the recreation sites that were surveyed for recreational use. Table 2-1 lists the recreation sites and access areas where use counts and recreation surveys were conducted.

² The current recreation plan lists five sites and includes the Hull Field as part of the Mason County Campground. For the purposes of this study, Hull Field has been broken out as its own site.



Legend

- Recreation Site
- Project Boundary
- Non-Project Land
- County Boundary

Note: Project Boundary will be updated upon receipt of electronic files to reflect lands removed/to be removed from boundary.

Sources: ESRI, MiGDL, Consumers Energy Company

CONSUMERS ENERGY COMPANY
&
DTE ELECTRIC COMPANY

LUDINGTON PUMPED
STORAGE PROJECT
Recreation Resources
Study Area

FIGURE 2-1


Revised: 2/11/2016  14 Gabriel Drive
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Table 2-1: Public Recreation Sites and Access Areas Where Recreation Use Counts and User Surveys Were Conducted

Site ID	Site Name/Access Areas	Spot Counts	Calibration Counts	User Surveys
1	Reservoir Overlook	✓	✓	✓
2	Lake Michigan Overlook	✓	✓	✓
3	Mason County Day Use/Picnic Area	✓	✓	✓
4	Mason County Campground	✓	N/A ¹	✓
5	Hull Field	✓	✓	✓
6	Pigeon Lake North Pier	✓	✓	✓

¹ Calibration counts were not conducted at the Mason County Campground and actual use data maintained by Mason County was utilized.

3 METHODS

3.1 Recreation Site and Facility Inventory and Condition Assessment

3.1.1 Study Preparation

Prior to initiation of field inventory activities, existing information on the number and location of public recreation facilities at the Project was reviewed. Data reviewed included previously filed FERC Form 80s.

3.1.2 Field Work

Field work associated with the recreation site and facility inventory, and condition assessment was conducted on May 31, 2015. Field conditions during the inventory were mostly cloudy, cool and windy with temperatures in the low 40s. Ground conditions were mostly dry with no remaining snow cover. Field equipment used for the inventory and site condition assessment were a Trimble Juno Global Positioning System (GPS) unit and a digital camera to record the location and condition of the various recreation sites.

Inventory site visits were conducted by vehicle and on foot. Site inventories and assessments were documented in the field using the previously developed standardized recreation site inventory and assessment form (Figure 3.1-1)³. Information that was gathered during the inventory included whether the site was accessible by vehicle or foot; who owned and managed each site; the number and types of amenities available at the site; if the site provided any universally accessible facilities (generally consistent with the Americans with Disabilities Act (ADA)); if there was the potential for site expansion; the amount of available parking at the site; observed recreation activities; available services; general site condition; and the general aesthetics of the site.

Figure 3.1-2 shows the location of the recreation sites and facilities that were inventoried. Table 3.1-1 provides a list of the recreation sites that were evaluated as part of this study, including a summary of site ownership and management.

³ The standardized survey form was also included as Figure 5 in the RSP.

**Ludington Pumped Storage Project
Recreation Site Inventory and Assessment Form**

Inspector: _____ Date: _____ Time: _____ Photo No: _____
Project: _____ Site Name/Code: _____ Weather: _____

Facilities provided:

Campground _____ Picnic Area _____ Day Use/Overlook _____ Informal _____ Launch _____ Trail _____
Angler Access _____ Other _____

Access:

_____ Water access	
_____ Paved access	_____ # of lanes
_____ Unpaved access (conventional motor vehicle)	_____ # of lanes
_____ Unpaved access (4WD vehicle)	_____ # of lanes
_____ ORV access (ATV)	_____ width
_____ Foot access	_____ width

Ownership/Management

	Licensees	Federal	State	County	Local	Private	Other
Ownership	_____	_____	_____	_____	_____	_____	_____
Management	_____	_____	_____	_____	_____	_____	_____

Operations:

Staffed _____ Private _____ Seasonal _____ Commercial _____ Fee _____ Open/Closed _____

General Area:

Associated with other facilities or activities: _____
Potential/need for expansion/enhancement: _____
Topography: _____ Ground/canopy cover: _____
Erosion/Soils: _____ Compaction: _____
Approximate Shoreline Footage: _____ Vandalism: _____
ADA compliant/Obstacles _____

Sanitation Facilities: (Yes/No)

Type:	# of Units Unisex	# of Units Women	# of Units Men	Notes (ADA, etc)
Flush	_____	_____	_____	_____
Composting	_____	_____	_____	_____
Vault	_____	_____	_____	_____
Pit	_____	_____	_____	_____
Portable	_____	_____	_____	_____
Wilderness	_____	_____	_____	_____

Site Facilities:

#	Type	Repairs	Material Code	Other Info
_____	Picnic Tables	_____	_____	_____
_____	Grills	_____	_____	_____
_____	Firepit/ring	_____	_____	_____
_____	Trails (specify use)	_____	_____	Length? _____
_____	Shelter	_____	_____	_____
_____	Potable Water	_____	_____	_____
_____	Dumping Station	_____	_____	_____
_____	Boardwalk	_____	_____	_____
_____	Angler Platforms	_____	_____	_____
_____	Playground	_____	_____	_____
_____	Showers	_____	_____	_____
_____	Benches	_____	_____	_____
_____	Interpretive Display:	_____	_____	_____
_____	Store	_____	_____	_____
_____	Visitor Center	_____	_____	_____
_____	Bathhouse	_____	_____	_____
_____	Other: _____	_____	_____	_____

Material codes; (A) asphalt, (B) Brick, (C) concrete, (CG) compacted gravel, (CRS) crushed gravel, (FE) metal, (G) grass, (GTF) geo-tech fabric, (NS) native soil, (O) other/specify, (P/F) plastic/fiberglass, (RC) rock crib, (S) sand, (W) wood.

Activities observed:	# of Adults	# of Minors	Notes
Picnicking	_____	_____	_____
Camping	_____	_____	_____
Walking/hiking	_____	_____	_____
Disc Golf	_____	_____	_____
RC Aircraft	_____	_____	_____
Sightsee	_____	_____	_____
Fishing	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Parking Lots:

	Surface Code	Dimensions/Notes
# ADA spaces	_____	_____
# standard spaces	_____	_____
# Vehicle & trailer spaces	_____	_____
# of vehicles in lot	_____	_____
Spaces delineated	_____	_____
Curbs	_____	_____

Angler Access: (Yes/No)

	Number	Dimensions	Material	ADA	Notes
Dock/Pier:	_____	_____	_____	_____	_____
Float:	_____	_____	_____	_____	_____
Boardwalk:	_____	_____	_____	_____	_____
Platforms:	_____	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____	_____

Campground/Campsite:

	RV sites	Cabin sites	Tent sites	Wilderness sites
# of Group Sites	_____	_____	_____	_____
# of single sites	_____	_____	_____	_____
Access (foot, orv, car, boat)	_____	_____	_____	_____
On-site parking	_____	_____	_____	_____
Water front	_____	_____	_____	_____
ADA compliant	_____	_____	_____	_____
Utilities	_____	_____	_____	_____
Store: _____	Visitor Center: _____	Office: _____	Other: _____	

* (E) Electric, (S) Sanitation, (W) Water, (O) other (specify)

Boat Launch Facilities:

Hard surface _____ Gravel _____ Unimproved _____ Carry In _____ Launch/Load prep area: _____

Docks/Piers/Floats	Total Docks		Total Slips		
Material code:	#1 _____	#2 _____	#3 _____	#4 _____	#5 _____
Dimensions:	#1 _____	#2 _____	#3 _____	#4 _____	#5 _____
# of slips:	#1 _____	#2 _____	#3 _____	#4 _____	#5 _____
ADA compliant:	#1 _____	#2 _____	#3 _____	#4 _____	#5 _____

Overlooks/Observation Decks:

Covered: _____ Dimensions: _____ Material: _____ ADA: _____
Notes: _____

Site Aesthetics:

Viewshed from site: _____

- 1 – No noticeable development
- 2 – Very limited primitive development
- 3 – Five (5) or less buildings in view

- 4 – Six (6) to ten (10) buildings in view
- 5 – Ten (10) or more buildings in view
- 6 – Highly developed

Nature of abutting development/land use: _____

Audio perceptions from site: _____

Evidence of use at site: _____

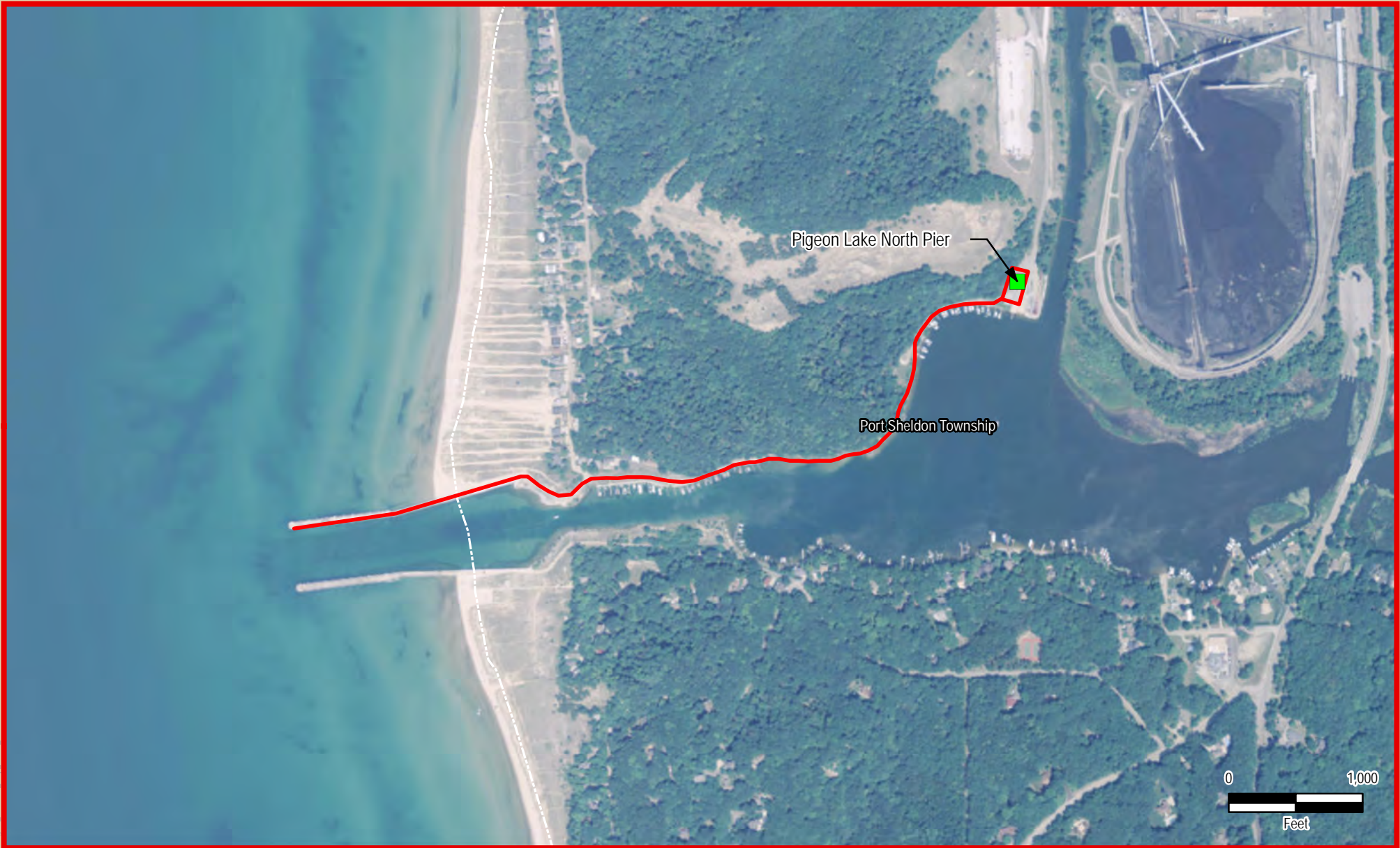
*(C) Compaction, (E) Erosion, (G) Garbage, (GD) Ground disturbance, (HW) Human waste, (UI) Unauthorized improvements, (V) Vandalism, (VR) Vegetation removal, (O) Other (Specify)

Evidence of Overcrowding: _____

*(A) Anecdotal information, (FA) facility/amenity @ capacity, (I) Improper parking, (S) Signage, (SD) site degradation, (U) Unauthorized sites, (W) Waiting lines, (O) Other (Specify)

Notes: _____

Sketch:



Legend

- Recreation Sites
- ▭ Project Boundary
- ▨ Non-Project Land
- ▭ County Boundary

Note: Project Boundary will be updated upon receipt of electronic files to reflect lands removed/to be removed from boundary.

Sources: ESRI, MIGDL, Consumers Energy Company

CONSUMERS ENERGY COMPANY
&
DTE ELECTRIC COMPANY

LUDINGTON PUMPED
STORAGE PROJECT
Recreation Site
Location Map

FIGURE 3.1-2

Revised: 2/11/2016


 14 Gabriel Drive
Augusta, ME 04330

Table 3.1-1: Name, Ownership and Management of Recreation Sites in the Project Boundary

Recreation Site Name	Site Ownership	Site Management
Reservoir Overlook	Consumers Energy and DTEE	Consumers Energy and DTEE
Lake Michigan Overlook	Consumers Energy and DTEE	Consumers Energy and DTEE
Mason County Day Use/Picnic Area	Consumers Energy and DTEE	Mason County
Mason County Campground	Consumers Energy and DTEE	Mason County
Hull Field	Consumers Energy and DTEE	Mason County
Pigeon Lake North Pier	Consumers Energy and DTEE	Consumers Energy and DTEE

3.2 Recreation Use Study

3.2.1 Study Preparation

The Licensees undertook a number of activities in preparation for the numerous components of the study which included use counts (spot counts and calibration counts) and user surveys (Recreation User Perception Survey).

Recreation use count (spot counts and calibration counts) dates were determined prior to initiation of field work. Survey days included both weekdays and weekend days from April 2015 through October 2015, as well as certain holidays. All survey days were randomly selected and survey routes were completed on a rotating basis at different times of day to account for time-of-day use patterns.

The Licensees reviewed readily available municipal and non-governmental organization (NGO) recreation plans for information regarding recreation use within the Project boundary. On October 22, 2015, in an effort to collect further information about recreation use of the Project, the Licensees contacted recreation departments or recreation/open space committees in the towns that have them, and obtained the latest versions of any recreation or open space plans adopted by the towns.

3.2.2 Field Work

The recreation use study occurred from April through October 2015. The exact dates varied based on operation of the sites. Pigeon Lake North Pier has set operating dates between April 15 to October 15, while the Mason County Campground typically operates between Memorial Day (late May) and October 15. The remaining sites are generally open from the beginning of April until the end of October depending on snow fall. The study spanned three seasons to capture different types of recreational use that occurred in spring, summer, and fall. All of the recreation sites are gated and/or closed during the winter months and are not maintained between November and March. A combination of spot counts and calibration counts were used to estimate recreational use at the Project over the course of the study. For the Mason County Campground, actual capacity data collected by Mason County were used to develop use estimates for this site.

Spot Counts

Spot counts are short duration counts, which provide a snapshot of use at each recreation site. They consist of travel to the site; counting the number of vehicles and users observed at the site; and noting the recreational activity that was being pursued. This information is used in estimating site use and site utilization (percent capacity). Spot counts were scheduled to be conducted on four (4) days per month: two (2) randomly selected weekdays and two (2) randomly selected weekend days. April and October counts were to be pro-rated based on the opening and closings of the individual recreation facilities. For months containing Memorial Day, July 4th, Labor Day, and Columbus Day, an additional spot count was scheduled to be conducted during the holiday weekend. Table 3.2-1 provides a list of spot count dates conducted at each of the recreation sites.⁴ Spot count information was documented on a standard form which can be found in Appendix A.

⁴ Section 3.3 describes the variances from the study plan.

Table 3.2-1: Recreation Use Spot Count Survey Dates at Each Recreation Site in 2015

	Spot Count – Survey Dates for Each Month in 2015						
Site	Apr	May	Jun	Jul	Aug	Sep	Oct ¹
Reservoir Overlook	21,25	6,10,24, 29,31	6,8,23	15,19,26, 27	1,20,30,	3,6,12, 19	4,10,18, 28,30
Lake Michigan Overlook	21,25	6,10,24, 29,31	6,8,23	15,19,26, 27	1,20,30,	3,6,12, 19	4,10,18, 28,30
Mason County Day Use/Picnic Area	21,25	6,10,24, 29,31	6,8,23	15,19,26, 27	1,20,30,	3,6,12, 19	4,10,18, 28,30
Mason County Campground	21,25	6,10,24, 29,31	6,8,23	15,19,26, 27	1,20,30,	3,6,12, 19	4,10
Hull Field	21,25	6,10,24, 29,31	6,8,23	15,19,26, 27	1,20,30,	3,6,12, 19	4,10,18, 28,30
Pigeon Lake North Pier	22,25	6,10,24, 29,31	6,8,23, 28	5,19,20, 26,27	1,5,20,23	3,6,12, 17,19	4,10,13

¹ Pigeon Lake North Pier and Mason County Campground closed on October 15th, all other sites remained open until the end of the month.

Calibration Counts

Calibration counts are used to estimate the average number of individuals per vehicle, length of stay at a site and to determine the type of recreation use individuals were participating in. In contrast to a spot count, which is a snapshot, calibration counts consist of visiting a site for approximately a two-hour period. As shown in Table 2-1, calibration counts were conducted at all of the surveyed recreation sites.

Calibration counts were planned to be conducted on four (4) days per month: two (2) randomly selected weekdays and two (2) randomly selected weekend days. April and October counts were to be pro-rated based on the opening and closings of the individual recreation facilities. For months containing Memorial Day, July 4th, Labor Day, and Columbus Day, an additional

calibration count was scheduled during the holiday weekend. The time of day each site was visited varied. Table 3.2-2 provides a list of calibration count dates conducted at each of the recreation sites. Table 3.2-3 summarizes the total number of spot counts and calibrations conducted at each of the recreation sites.⁵ Calibration count data was recorded on a standardized sheet that can be found as part of Appendix B.

⁵ Section 3.3 describes the variances from the study plan.

Ludington Pumped Storage Hydroelectric Project (FERC No. 2680)
RECREATION STUDY REPORT – RELICENSING STUDY 4

Table 3.2-2: Recreation Use Calibration Count Survey Dates at Each Recreation Site in 2015

	Calibration Count – Survey Dates for Each Month in 2015						
Site	Apr	May	Jun	Jul	Aug	Sep	Oct ¹
Reservoir Overlook	26,29	8,12,17, 23,30	5,21,25, 27	18,21	4,5,15,16	5,9,26, 27,29	3,12,24, 29,31
Lake Michigan Overlook	26,29	8,12,17, 23,30	5,21,25, 27	18,21	4,5,15,16	5,9,26, 27,29	3,12,24, 29,31
Mason County Day Use/Picnic Area	26,29	8,12,17, 23,30	5,21,25, 27	18,21	4,5,15,16	5,9,26, 27,29	3,12,24, 29,31
Mason County Campground	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hull Field	26, 29	8,12,17, 23,30	5,21,25, 27	18,21	4,5,15,16	5,9,26, 27,29	3,12,24, 29,31
Pigeon Lake North Pier	26,29	8,11,17, 23,30	5,21,25, 27	2,4,11,18, ,21	4,5,8,16	5,9,20, 27,29	7,11,12

¹ Pigeon Lake North Pier and Mason County Campground closed on October 15th, all other sites remained open until the end of the month.

Table 3.2-3: Recreation Use Spot and Calibration Count Totals at Each Recreation Site in 2015

Site	Number of Spot Counts	Number of Calibration Counts
Reservoir Overlook	26	27
Lake Michigan Overlook	26	27
Mason County Day Use/Picnic Area	26	27
Mason County Campground	23	N/A ¹
Hull Field	26	27
Pigeon Lake North Pier	28	28

¹ Calibration counts were not conducted at the Mason County Campground and actual use data maintained by Mason County was utilized.

Actual Use Records

Actual use records were utilized, where available, to aid in estimating and characterizing recreation use at certain recreation sites. Mason County currently charges a fee for campground use resulting in readily available registration records for the campground. Campground registration data assumed 3 persons per site, for individual campsites, to develop use estimates. In addition, Mason County keeps a record of the days that the picnic pavilion is rented and provided this information to aid in estimating use at the Mason County Day Use/Picnic Area.

The Licensees contacted the Mason County Disc Golf Organization and obtained the dates of two events that were held at the Mason County Day Use Area (Disc Golf Course) during the study. Attendance levels at these events are included in annual recreation use estimates.

Open-Space Planning Information

In order to obtain additional information on open-space and recreational planning initiatives in the Project area, the Licensees contacted the recreation department or recreation/open space committees in Pere Marquette Charter Township, Ludington, Port Sheldon, Olive Township, Summit Township, Mason County and Ottawa County. The Licensees initially obtained information on recreation and open space plans during the preparation of the PSP and the RSP. The Licensees contacted the towns or committees by email on October 22, 2015 and by telephone on January 8, 2016 to obtain the latest versions of any recreation or open space plans adopted by the towns. On November 2, 2015 the Licensee participated in a conference call with Pere Marquette Charter Township to discuss the Pere Marquette Charter Township Parks, Recreation & Open Space Plan 2015-2019.

3.3 Variance from Study Plan

The Recreational Resources Revised Study Plan required that a survey of users be completed from mid-April to mid-October, 2015. Four (4) spot counts (equally split between weekdays and weekend days) and four (4) calibration counts (equally split between weekdays and weekends) were planned to be conducted each month, although April and October counts were to be pro-rated based on the opening and closings of the individual recreation facilities. An additional spot

count and an additional calibration count were to be conducted during months with three-day holiday weekends (Memorial Day, July 4th, Labor Day, and Columbus Day). Due to unforeseen circumstances the data for four spot counts (June 28, July 5, August 3, and September 17, 2015) and three calibration counts (July 2, July 4, and July 11, 2015) at Hull Air Field, Lake Michigan Overlook, Mason County Day Use-Picnic Area and the Upper Reservoir Observation Platform were not received for data entry. This data represents a small portion of the total counts that were completed per site through the season. However, in order to ensure that use is fully captured, a 1.5 multiplier was applied to the seasonal average daily use for both weekend and weekdays, which was used as a substitute for the missing survey dates when calculating total use at each of the four recreation sites that had missing data. The 1.5 multiplier is consistent with the observed relationship between recorded campground use over the 4th of July weekend and average recorded summer campground use, which indicates that a 1.5 multiplier should fully capture the higher level of use that might have occurred on July 5 at the other sites. To be certain recreation use was not underestimated on the June 28, August 3, and September 17 dates, the 1.5 multiplier was applied to those dates as well. Recreation use was not adjusted at the Mason County Campground, for which use records were available and used to estimate site use, or at the Pigeon Lake North Pier, which was not affected by the missing data.

3.4 Recreation Use Perception Survey

3.4.1 Study Preparation

A Recreation User Perception Survey was utilized as part of this study. The survey is provided in Appendix C. The survey was used to gather information about who is using the sites, what recreation activities they are participating in at the site, and their views on existing Project recreation facilities and opportunities provided at the site. The survey was developed and reviewed as part of the study plan development process, and a draft survey was included in the draft and revised study plans. The survey was finalized in late 2014, prior to the initiation of the 2015 field season.

3.4.2 Field Work

The Recreation User Perception Survey was administered during calibration counts at all recreation sites and access areas listed in Table 2-1. If an individual had already participated in the survey, they were thanked and additional data was not collected.

The user perception survey was designed to gain information about who (resident and visitor) was using the recreation sites, whether they were participating as part of a group, what activities they planned to participate in, and their overall satisfaction with the site.

3.5 Data Entry and Analysis

3.5.1 Data Entry

Data collected as part of the study was entered into Excel spreadsheets and sorted by recreation site and survey date. Upon completion of data entry, all data was reviewed by a second individual to verify that data was entered correctly.

3.5.2 Data Analysis

3.5.2.1 Recreation Use

Project recreation use is derived from the recreation site use estimates that were developed for each recreation site, as described in the sub-section that follows. Overall Project use is presented in terms of the total number of recreation days spent at the Project. Consistent with FERC's definition, a recreation day was defined as each visit by a person to the Project for recreational purposes during any portion of a 24-hour period.

Recreation use estimates for each recreation site were developed based on use data obtained via spot counts, calibration counts, and recreation user surveys. The count data included average persons per party by season, number of recreationists observed, number of vehicles observed, and any non-recreational use observed. Where applicable, recreation use estimates also incorporated Mason County records of registrations for the campground and special event attendance at the Mason County Day Use Area.

Use estimates, in terms of recreation days, were developed for each type of survey day (weekday and weekend day) during each season; when totaled the weekday and weekend use figures provided a total use estimate for each season and for the year, 2015. Seasonal use was calculated by multiplying each day type by the number of that type of day per season. Recreation seasons were defined as follows:

- Spring: April 1 through May 22, 2015
- Summer: Memorial Day weekend (May 23) through Labor Day weekend (September 7), 2015, and
- Fall: September 8 through October 31, 2015

The Licensees obtained records from Mason County on recreation use associated with camping at Mason County Campground. Site use estimates for the campsites are based on recorded utilized capacity combined with an assumption of three (3) people per campsite, based on observed use.

For the majority of the recreation sites, spot count data served as the foundation for the use estimates. If non-recreational vehicles, such as Consumers security trucks and staff, were noted at a site, these vehicles were removed from the count so that the calculations would provide a clearer picture of recreational use. At each site, vehicle counts from each day surveyed were combined with seasonal observed persons per vehicle counts, determined from calibrations, to yield an estimated number of people per count. The spot counts also included counts of individuals observed. The larger of actual number of persons observed or the estimated number of persons based on vehicle counts was used for that day's estimate of use for the point-in-time estimates. The point-in-time estimate was combined with a seasonal daily turnover rate, based on the estimated length of time at each site as obtained from the user surveys and the length of the recreation day, to provide an estimate of the site's total daily use.

3.5.2.2 Recreation User Survey

The Recreation User Survey was designed to gather information about user characteristics, use patterns, and user preferences. Analyses of user characteristics typically relied on either

averages, as with age or distance traveled,⁶ or percentages, as with male and female. Percentages were developed to measure the relative level of participation in various activities, as reported by respondents to the surveys.

The Recreation User Survey includes questions asking recreationists to provide ratings, on a scale from 1 to 5, of various facility attributes and amenities. For these questions, the percentage of responses for each rating (e.g., a “5”) was calculated to provide information on the full range of responses received.

⁶ Distance traveled was calculated by using the respondent’s ZIP code and Mapquest.com driving directions.

4 RESULTS

4.1 Recreation Site and Facility Inventory and Condition Assessment

The Licensees conducted the recreation site and facility inventory and condition assessment in May 2015. The following sites were identified within the Project boundary: Mason County Campground, Hull Field, Mason County Day Use/Picnic Area, Reservoir Overlook, Lake Michigan Overlook, and Pigeon Lake North Pier (Table 3.1-1). Of these sites, three are recreation sites that are owned and managed by the Licensees and the remaining two are owned by the Licensees and managed by Mason County. The Licensees own a parcel of approximately 37 acres of undeveloped Project land outside of the reservoir fence line that is also open to the public.

The recreation sites located within the Project boundary were found to provide a variety of recreational opportunities for the public, including fishing, camping, picnicking, walking, disc golfing, flying model aircraft, and sightseeing.

All of the recreation sites within the Project boundary were found to be meeting their intended function and were in good condition. Condition and use assessments made in this section were based on information collected during the inventory such as evidence of erosion, compaction, vandalism, site degradation, or vegetation removal.

At each recreation site, a standard recreational site/facility inventory and condition assessment form was completed, photos were taken and a GPS point was recorded for all FERC approved amenities.

Site 1: Reservoir Overlook

This site is located within the Project boundary at the northern end of the reservoir. The overlook is owned and managed by the Licensees.

Site Inventory

Recreational facilities at this site include 83 vehicle parking spaces; two (2) portable toilets (including 1 ADA compliant) at the parking area; a pagoda shelter constructed of wood and metal; and nine (9) benches along a steep footpath to the pagoda. Both the parking area and footpath are constructed of asphalt. The pagoda structure provides views of the reservoir as well as of Lake Michigan. There is a bench built into the pagoda and an interpretive panel located on the second floor which describe the Project structures and how they work. Figure 4.1-1 shows the pagoda taken from the footpath. Figure 4.1-2 illustrates the view of Lake Michigan from the pagoda, while Figure 4.1-3 is a view of the reservoir.

Availability to Public

This site is generally open to the public seasonally (generally April-October) for day use recreation between dawn and dusk. The site is not maintained for winter recreation use.

Site Condition Assessment

Overall the site is currently functioning as intended.

Figure 4.1-1. Reservoir Overlook



View of Pagoda shelter from foot path

Figure 4.1-2. Reservoir Overlook



View of Lake Michigan from Pagoda shelter

Figure 4.1-3. Reservoir Overlook



View of Reservoir from Pagoda shelter

Site 2: Lake Michigan Overlook

This site is located within the Project boundary just north of the power plant on the eastern shore of Lake Michigan. The overlook is owned and managed by the Licensees.

Site Inventory

Recreational facilities at this site include 34 vehicle parking spaces, 2 portable toilets (1 ADA compliant, as the Reservoir Overlook and Lake Michigan Overlook sites share the portable toilets), a footbridge over Lakeshore Drive, and multiple interpretive displays and panels. The walking path to the Overlook is constructed of asphalt.

Availability to Public

This site is open to the public seasonally (generally April-October) for day use recreation between dawn and dusk. The site is not maintained for winter recreation use.

Site Condition Assessment

There was a minimal amount of compaction noted during the site visit. No compaction or erosion related to recreation use was noted during the site visit. Overall the site is currently functioning as intended.

Figure 4.1-4. Lake Michigan Overlook



View of Interpretive Displays at Site

Site 3: Mason County Day Use/Picnic Area

This site is located at the northwestern corner of the Project boundary. The day use/picnic area is owned by the Licensees and managed by Mason County.

Site Inventory

Recreational facilities at this site include 62 vehicle parking spaces (50 inside the gate, 12 outside the gate), a picnic pavilion (34 tables), restrooms (ADA compliant), a 72 goal disc golf course, and a playground.

Availability to Public

This site is open to the public seasonally (generally April-October) for day use recreation between dawn and dusk. Parking is available outside the gate for users after the gate is locked. The site is not maintained for winter recreation use.

Site Condition Assessment

There was minor erosion and ground disturbance noted during the site visit. Trails for the disc golf course are compacted due to recreation use. Overall the site is currently functioning as intended.

Figure 4.1-5. Mason County Day Use/Picnic Area



View of Picnic Pavilion

Site 4: Mason County Campground

This site is located at the northern edge of the Project boundary. The campground is owned by the Licensees and managed by Mason County.

Site Inventory

Recreational facilities at this site include 2 ADA parking spaces (1 at gatehouse and 1 at bath house), restroom/shower house (ADA compliant), campground with 56 campsites, 4 cabins, picnic area with shelter (8 tables), playground, 3 benches, a foot path to Hull Field, and an interpretive display.

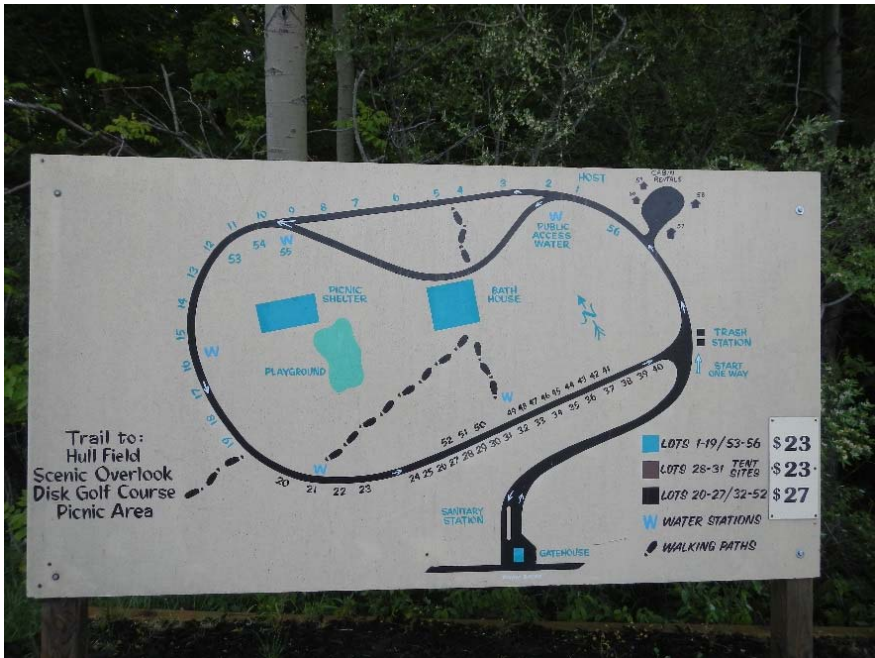
Availability to Public

This site is open to the public seasonally (generally Memorial Day Weekend-Labor Day Weekend). The site is not maintained for winter recreation use.

Site Condition Assessment

There was compaction and ground disturbance noted during the site visit. Trails to the playground and to Hull Field were compacted due to recreation use. The playground equipment is older, however, overall the site is currently functioning as intended.

Figure 4.1-6. Mason County Campground



Map of Campground

Figure 4.1-7. Mason County Campground



Campground Entrance Station

Site 5: Hull Field

This site is located at the northern edge of the Project boundary adjacent to the Mason County Campground. Hull Field is owned by the Licensees, managed by Mason County and operated by the Twisted Sticks Radio Control Club through a lease with Mason County, for flying radio control model aircraft. The club has a primary interest in sport flying and the public is invited to watch at any time.

Site Inventory

Recreational facilities at this site include approximately 18 vehicle parking spaces, a portable toilet, 2 benches, 5 picnic tables, a pavilion shelter, 14 airplane platforms, a large mowed field and a footpath to Mason County Campground.

Availability to Public

The field is open to the public to view flying at the field. To fly aircraft pilots must possess a current Academy of Model Aeronautics card and join the club. The site is not maintained for winter recreation use.

Site Condition Assessment

No compaction or erosion related to recreation use was noted during the site visit. Overall the site is currently functioning as intended.

Figure 4.1-8. Hull Field



View of Plane Platforms and Pavilion

Site 6: Pigeon Lake North Pier

This site is located 70 miles south of the Ludington Pumped Storage reservoir. This is a satellite Project recreation facility adjacent to the Consumers Energy Campbell Coal Plant. This site was added to the Project in 1996 in order to provide public recreational access to Lake Michigan. The pier is owned and managed by the Licensees.

Site Inventory

Recreational facilities at this site include 18 vehicle parking spaces, two (2) fishing platforms, eight (8) benches, and a boardwalk. The boardwalk, located on the northern shore of Pigeon Lake, provides two fishing platforms containing benches, rod rests along the railing, and ADA accessible rod rests. The boardwalk leads to the Pigeon Lake North Pier which extends approximately 700 ft. west into Lake Michigan with several places along the pier that provide fishing opportunities.

Availability to Public

This site is open to the public seasonally (April 15-October 15). The site is not maintained for winter recreation use.

Site Condition Assessment

Bottles, trash and carvings in the wooden benches were all noted during the site visit. Overall the site is currently functioning as intended.

Figure 4.1-9. Pigeon Lake North Pier



View of benches on boardwalk fishing platform

Figure 4.1-10. Pigeon Lake North Pier



Fishing access on Pigeon Lake North Pier

4.2 Recreation Use

The recreation use and user survey results yielded a significant amount of data. In total 158 spot counts and 136 calibration counts were made at the 6 recreation and access sites included in the study throughout the course of the recreation study season. Recreation use was estimated based on use data collected via spot counts, calibration counts, and available use records. Based on data collection from April 2015 through October 2015, the Project-wide annual recreation use of surveyed recreation and access sites in 2015 is estimated to be 49,876 recreation days. Table 4.2-1 provides a breakdown of Project-wide estimated use, by season. As shown, approximately 37,731 days of the recreation use occurred during the summer accounting for 75.6% of the recreation days. Approximately 9,745 days of the use were in the fall (19.5%). Recreation use was lowest in spring (4.8%).⁷

Table 4.2-1: Estimated Use at the LPSP Recreation Sites; Annual Total Use for 2015 and by Season

Recreation Site	Estimated Annual Use (2015)	Estimated Spring Use	Estimated Summer Use	Estimated Fall Use
Reservoir Overlook	6,064	159	4,739	1,166
Lake Michigan Overlook	8,675	445	5,922	2,308
Mason County Day Use/Picnic	14,044	497	10,577	2,970
Mason County Campground	13,667	447	10,693	2,527
Hull Field	1,047	0	941	106
Pigeon Lake North Pier	6,379	852	4,859	668
Total	49,876	2,400	37,731	9,745

4.3 Recreation Use by Activity

Based on observations of recreation use made during spot counts and calibration counts, the most popular recreation activity type at the LPSP is camping, followed by disc golf and walking/jogging/hiking. Table 4.3-1 summarizes the estimated use in each activity type Project-wide. As shown, an estimated 13,667 recreations days, or 27% of the total number of recreation days at the Project were spent participating in camping.

⁷ Figures shown do not sum exactly to 100 percent because of rounding.

Disc golf accounted for the second most frequent recreational use with an additional 13,531 recreation days, or 27% of the total number of recreation days at the Project, based on the observed patterns of use at the Project. As discussed in the following section, much of the use in this category was observed to occur at the Mason County Day Use/Picnic Area. The next most popular recreation uses of the Project include sightseeing (21%), walking/jogging/hiking (19%), remote control aircraft (1.6%), fishing (1.4%), and picnicking (1%). Uses that accounted for less than 1% of total recreation use at the Project include riding bikes, photography, and “other.”

Table 4.3-1: Recreation Use by Activity Type based on Spot Counts and Calibration Counts in 2015

Recreation Activity	Estimated Use (Recreation Days)	Percent (%) of Recreation Use
Camping	13,667	27.4%
Disc Golf	13,531	27.1%
Sightseeing	10,621	21.3%
Walking/Hiking/Jogging	9,332	18.7%
RC Aircraft	800	1.6%
Fishing	702	1.4%
Picnicking	516	1.0%
Bike riding	416	0.8%
Other Recreation Activity	146	0.3%
Photography	146	0.3%
Total	49,877	100.0%

4.4 Recreation Use by Site

Table 4.2-1, in Section 4.2, shows a breakdown of recreation use by season, while Table 4.4-2 shows a breakdown of recreation use by activity type per recreation site surveyed. In addition to determining the type and amount of use at each of the surveyed recreation sites, the degree to which each recreation site had the capacity to sustain the recreation activity occurring at a site was estimated. Table 4.4-1 provides a breakdown of percent capacity utilized for each site. Percent capacity for sites where use was estimated based on parking lot usage was determined by the available amount of parking at each site versus the average number of parking spaces that were occupied during surveys during summer weekends. The maximum capacity use observed is also presented. Percent capacity of the Mason County Campground was estimated based on 2015 campsite utilization.

Reservoir Overlook

Estimated annual use of the Reservoir Overlook was 6,064 recreation days in 2015. The overlook was estimated to be utilized at 2% of capacity on average during summer weekends, based on parking area usage, with peak usage observed at 6% of capacity. Sightseeing (65%) was the most popular recreation use at the boat launch followed by walking/jogging/hiking (23% of the use) and disc golfing (10% of the use).

Lake Michigan Overlook

There were a total 8,675 recreation days spent at the Lake Michigan Overlook in 2015. The site was estimated to be utilized at 5% of capacity, based on the summer weekend average parking area usage for average summer weekend. The maximum observed level of capacity use at the site was 17%. Seventy-three percent (73%) of recreation use at the overlook was sightseeing, followed by walking/hiking/jogging, which accounted for 20% of use.

Mason County Day Use/Picnic Area

Annual recreation use of the Mason County Day Use/Picnic Area was estimated to be 14,044 recreation days in 2015. Based on parking lot usage, the site was estimated to be utilized at 11% of capacity (summer weekend average), with peak observed use at 39% of capacity. Disc golfing accounted for 88% of the recreation use at this site, followed by walking/hiking/jogging at 7% of the use and picnicking at 4% of the use.

Mason County Campground

Annual recreation use at the Mason County Campground was estimated to be 13,667 recreation days in 2015. Based on utilization of the existing campsites, the utilization for this site was estimated to be at 57% capacity use in the summer, with peak holiday capacity use at 98%. Camping accounts for the primary recreation use for those at the campground.

Hull Field

Annual recreation use at Hull Field was estimated to be 1,047 recreation days in 2015. Based on parking lot capacity, the site was estimated to be utilized at 3% capacity (summer weekend average). The maximum observed capacity use, based on parking lot usage, was 13%. On an annual basis, 76% of the use was for flying remote control (R/C) planes. Other recreation activities included walking/hiking/jogging at 17% of use and disc golfing at 7%.

Pigeon Lake North Pier

The estimated total number of recreation days at the Pigeon Lake’s North Pier during 2015 was 6,379. Based on parking lot usage, it is estimated that the site is utilized at 12% of its capacity on average during summer weekends. The maximum observed capacity use of the parking lot was 38%. Walking/hiking/jogging use was the most popular recreation activity, with 79% of the observed use at the pier. Fishing accounted for 11% of recreation uses, with bike riding (6%), sightseeing (2%), and photography (1%) also observed.

Table 4.4-1: Recreation Site Capacity Utilization by Site

Recreation Site	Recreation Days	Average Summer Weekend Percent Capacity Utilized	Maximum Observed Percent Capacity Utilized
Reservoir Overlook	6,064	2%	6%
Lake Michigan Overlook	8,675	5%	17%
Mason County Day Use/Picnic Area	14,044	11%	100%-special event 39%-non-special event
Mason County Campground	13,667	57%	98%
Hull Field	1,047	3%	13%
Pigeon Lake North Pier	6,379	12%	38%

Notes: Maximum Observed use at the Mason County Day Use/Picnic Area was during the disc golf tournament when the parking lot was at capacity and attendees parked roadside. For the rest of the summer recreation season, maximum use observed was 39%.

Campground data are based on average summer use as opposed to average summer weekend use.

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Table 4.4-2: Percent of Recreation Use by Activity at Each Site

Recreation Site	Camping	Fishing	Picnicking	Walk/ Hike/ Jog	Riding Bikes	Sightseeing	R/C Planes	Disc Golf	Photography	Other Recreation Use
Reservoir Overlook	0%	0%	0%	23%	0%	65%	0%	10%	1%	1%
Lake Michigan Overlook	0%	0%	0%	20%	0%	73%	0%	6%	0%	0%
Mason County Day Use/Picnic Area	0%	0%	4%	7%	0%	1%	0%	88%	0%	0%
Mason County Campground	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hull Field	0%	0%	0%	17%	0%	0%	76%	7%	0%	0%
Pigeon Lake North Pier	0%	11%	0%	79%	6%	2%	0%	0%	1%	1%
Total Project-Wide Use	39%	2%	1%	18%	1%	1%	2%	35%	0%	0%

Totals shown may not sum to 100% because of rounding.

4.5 Recreational User Survey

A total of 171 recreation user surveys were collected during calibration counts. In the Recreation User Survey, recreationists were asked for some basic information about themselves and their visit to or use of the Project. The survey also asked for opinions regarding a number of aspects of the recreational opportunities offered in connection with the Project. Basic information and opinion questions included in the survey are summarized in Table 4.5-1. A copy of each survey form is included in Appendix C.

Table 4.5-1: Informational and Opinion Questions Included in the Recreational User Survey

Informational Questions
How many in your group, including yourself?
Have you ever visited the Ludington Pumped Storage Project area before?
What is your zip code or county of residence?
What is your primary reason for your visit today?
Opinion Questions
During your visit today what is your perception of the amount of use occurring at this site?
Please rate the following for this location: facility condition, variety of amenities, parking, accessibility, and overall quality? Please explain any poor ratings.
What, if anything, enhanced your recreational experience today?
What, if anything, detracted from your recreational experience today?
Does this recreational facility serve your interests? If not, why?

Informational Question Responses

Basic information on survey respondents was summarized from the survey results and is shown in Table 4.5-2. For recreationists not visiting with a large group (30 or more), the average size of the group that the respondent was visiting the Project with was 2.4 persons. When the large groups are included, the number of persons per group rises to 7.7. Based on their reported place of residence, recreationists traveled an average of 122 miles to recreate at the Project's Ludington recreation sites. One-third of recreationists traveled 10 or fewer miles, with 60 percent traveling 50 or fewer miles. Fourteen recreationists (33%) reported their residences as being more than 150 miles from the Project. At the Pigeon Lake North Pier site, recreationists traveled an average of 23 miles. Roughly half (48%) of the recreationists were from 10 or fewer miles away, with 96% from 50 or fewer miles.

Table 4.5-2: Summary of Responses to Recreational User Survey Informational Questions

Informational Question	Number of Responses	Response Summary
How many in your group, including yourself?	90	Average group size excluding large parties (30 or more) = 2.4 Average group size overall = 7.7
Have you ever visited the Ludington Pumped Storage Project area before?	92	Yes = 84% No = 16%
What is your zip code or county of residence? (Calculated travel distance based on zip code)—Ludington Locations	42	Average distance traveled to Project recreation site = 122 miles
What is your zip code or county of residence? (Calculated travel distance based on zip code)—Pigeon Lake Locations	23	Average distance traveled to Project recreation site = 23 miles

Recreationists were also asked to indicate what recreational activities they have participated in at the Project, by season. Overall, 96 individuals responded to this question and the results of their responses are summarized in Table 4.5-3.

Table 4.5-3: Primary Activity of Recreationist

Activity	Primary Activity
Disc Golf	18%
Flying RC Aircraft	15%
Hiking	15%
Camping	14%
Fishing from Shore/Pier	9%
Walking	8%
Other	7%
Nature Observation	3%
Running	3%
Biking	2%
Driving for Pleasure	2%
Sightseeing	2%
Dog Walking	1%
Picnicking	1%

Opinion Question Responses

In terms of level of use, recreationists rated the site where they were interviewed on a scale of 1 (Not Crowded) to 5 (Extremely Crowded). A summary of ratings and the number of responses given is provided in Table 4.5-4. More than half of the recreationists perceived the amount of use at Project recreation sites to be Not Crowded (59%). Only 4 percent of respondents perceived the use at the Project sites to be Extremely Crowded. The Mason County Day Use/Picnic Area was perceived as Somewhat Crowded to Extremely Crowded (a 4 on the scale) or Extremely Crowded by 37 percent of those surveyed. However, all of those recreationists who indicated a high level of use at the site were surveyed during the Labor Day disc golf tournament. Pigeon Lake was considered the least crowded site, with 85 percent of recreationists perceiving the level of use as Not Crowded.

Table 4.5-4: Recreational User Ratings Level of Use, Reported as Percent of Respondents

	Number of Responses	Respondents' Ratings				
		5 Extremely Crowded	4	3 Somewhat Crowded	2	1 Not Crowded
Level of Use	93	4%	9%	14%	14%	59%

Survey respondents were asked to rate several aspects of the recreational sites, facilities and amenities provided at the Project on a scale of 1 (poor) to 5 (excellent). A summary of ratings and the number of responses given for each facility or amenity is provided in Table 4.5-5. Not all of those surveyed responded to each question.

As shown in the table, the overall quality of the recreation sites/facilities and amenities was rated highly, with 63% of respondents rating the facilities as Excellent,(5) and 22% rating them as Fair-Excellent (4). Thirteen percent (13%) gave the facilities/amenities a Fair (3) rating, while two percent (2%) of respondents considered the overall quality to be less than Fair.

Parking also rated well. Sixty-six percent (66%) of respondents rated the parking as Excellent (5), with 19% rating parking as Fair-Excellent (4) and 10% rating the parking as Fair (3).

Facility conditions also received positive responses, with 65% rating the facility conditions as

Excellent (5) (the most common response), 23% rating the facility conditions Fair-Excellent (4), and 9% rating the conditions as Fair (3).

Regarding the variety of amenities, 39% of respondents rated the existing variety of amenities as Excellent (5), 19% as Fair-Excellent (4), and 38% as Fair (3). With respect to accessibility, survey respondents had positive perceptions, with 69% of respondents rating the access to be Excellent (5), 19% Fair-Excellent (4), and 10% Fair (3).

Table 4.5-5: Recreational User Ratings of Recreation Sites, Facilities and Amenities, Reported as Percent of Respondents

Site/Facility/Amenity	Number of Responses	5 Excellent	4	3 Fair	2	1 Poor
Parking	94	66%	19%	10%	5%	0%
Facility Condition	95	65%	23%	9%	2%	0%
Variety of Amenities	94	39%	19%	38%	2%	1%
Accessibility	94	69%	19%	10%	2%	0%
Overall Quality	95	63%	22%	13%	2%	0%

Percentages shown may not sum to 100% due to rounding.

Recreationists had an opportunity to provide an explanation to the open-ended request to “Please explain any low ratings” associated with the responses provided in Table 4.5-5. A total of 6 responses were mentioned. Respondents could, and did, address more than one topic. The most common response topic was related to parking concerns during the Labor Day disc golf tournament at the Mason County Day Use/Picnic Area. Other frequently mentioned topics were: more water/sewer hookups, request for clear maps, and better signs on small roads. The responses are summarized in Table 4.5-6.

Table 4.5-6: Summary of Open-ended Responses to: “Please explain any low ratings”

Response	Location	Number of Responses
Parking	Mason County Day Use/Picnic Area (comments were given during the disc golf tournament)	3
More water/sewer hookups	Mason County Campground	1
Request for clear maps	Mason County Day Use/Picnic Area	1
Better signs on small roads	Mason County Day Use/Picnic Area	1
Total		6

The survey asked: What, if anything, enhanced your recreational experience today? This question received 51 comments. Ten (10) different topics received two or more comments each, with an additional nine topics being mentioned once. The response received most frequently was weather (10). Two other comment topics were mentioned 5 or more times: rangers/friendly people (8) and nature/wildlife/setting (5). Table 4.5-7 summarizes the comments received.

Table 4.5-7: Summary of Open-ended Responses to: “What, if anything, enhanced your recreation experience today?”

Response	Number of Responses
Weather	10
Rangers/friendly people	8
Nature/wildlife/setting	5
Quiet/not crowded	4
Boardwalk (Pigeon Lake)	3
Trails/walking	3
R/C planes and flying	3
Benches	2
Disc golf course	2
Informative postings/board	2
Other (once each)	9
Total	51

A total of 16 comments were provided in response to the question: What, if anything, detracted from your recreational experience today? The response received most frequently was noise (5). The comments received are presented in Table 4.5-8.

Table 4.5-8: Summary of Open-ended Responses to: “What, if anything, detracted from your recreation experience today?”

Response	Number of Responses
Noise	5
Need signage	3
Weather/bugs	2
Other (once each)	6
Total	16

A total of 61 comments were provided in response to the question: Do you have any additional comments? The response received most frequently was appreciate the site (16). Other comment topics mentioned 5 or more times were: better signage needed (6) and improve restrooms (Pigeon Lake) (5). The comments received are presented in Table 4.5-9.

Table 4.5-9: Summary of Open-ended Responses to: “Do you have any additional comments?”

Response	Number of Responses
Appreciate the site	16
Better signage needed	6
Improve bathrooms (Pigeon Lake)	5
Boardwalk at Pigeon Lake is well-maintained	2
Enjoy beauty of site	4
Needs maintenance/landscaping	4
Enjoy benches	2
Good place for running/walking	2
Open year round/gates open	2
Need trash cans	2
Improve access	2
Other	14
Total	61

4.6 Information from Local Recreation Departments and Municipalities

The Licensees reviewed existing local plans, ordinances, and guidelines that may affect the use of and/or management of lands inside the Project boundary. Table 4.6-1 lists the Open Space and Recreation Plans for the communities in the Project area. A summary of the Project-related recreation acknowledgments and recommendations from these plans are detailed in Table 4.6-2. The Licensees contacted these entities to make sure the plans reviewed for this study were the most recently published versions.

Table 4.6-1: Open Space Plans and other Regional Plans Reviewed

Municipality	Open Space and Recreation Plans Reviewed
Pere Marquette Charter Township	Pere Marquette Charter Township Parks, Recreation & Open Space Plan 2015-2019
Ludington	City of Ludington Community Recreation Plan January 2016 to December 2021
Mason County	2013-2014 Mason County Master Plan Update 2013-2017 Mason County Five-Year Recreation Plan
Ottawa County	Ottawa County Parks, Recreation & Open Space Plan 2016
Port Sheldon Township	Port Sheldon Township Community Park, Recreation, Open Space and Greenway Plan 2016
Olive Township	Olive Township 2009 Master Plan
Summit Township	None available

Table 4.6-2: Summary of Project-Related Recreation Acknowledgements and Recommendations from Open Space Plans and Regional Plans

Municipality	Project-Related Recreation Acknowledgements	Recreation Recommendations
Pere Marquette Charter Township	Mason County Campground and Picnic Area Hull Field	Seek opportunities to provide access to the area's outstanding Lake Michigan based fisheries. Develop non-motorized trails for walking, biking, hiking and running.
Ludington	No discussion of Project Recreation Sites.	N/A
Mason County	Mason County Campground and Picnic Area Hull Field	Improve campsites at the campground – acquire land, continue to improve accessibility, enhance recreational programs and facilities.
Ottawa County	Pigeon Lake North Pier	Long-range vision for Greenway trail opportunities which should include a continuous trail from Pigeon Creek Park west to Lake Michigan.
Port Sheldon Township	No discussion of Project Recreation Sites.	N/A
Olive Township	No discussion of Project Recreation Sites.	N/A
Summit Township	N/A	N/A

4.7 Michigan Statewide Comprehensive Outdoor Recreation Plan

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a strategic planning document prepared by the state that is used over a five year period to determine eligibility for Land and Water Conservation Fund (LWCF) funding apportionment to fulfill the state's recreational needs. The SCORP also allows states to fulfill National Park Service goals.

Michigan's SCORP is a five-year strategic plan that shapes investment by the state and local communities in priority outdoor recreation infrastructure and programming. It is designed to evaluate ongoing and emerging outdoor recreation trends, needs, and issues, as well as establish priority strategies for achieving outdoor recreation goals (PSCI, 2012).

Supply of Outdoor Recreation

Michigan has over 100 State Park and Recreation Areas which include 142 campgrounds and over 850 miles of trails. These State Parks and Recreation Areas offer a range of activities from camping, hunting and fishing to disc golf and whitewater paddling. Michigan also has four State Forests which are managed for resource protection, natural resource based economic activity and recreation. There are state game areas, which provide hunting opportunities in the southern portion of the state and over 1,100 public water access sites throughout the state with access to lakes, rivers and streams for boaters and anglers. Every community in Michigan is within 50 miles of a State Park or Recreation Area. The state is also home to thousands of community playgrounds, parks, greenways, trails, nature preserves, and beaches.

Recreation Trends

In a survey conducted for the development of the SCORP, participants identified the top outdoor recreation activities in Michigan based on the level of participation. Biking topped the list as the most participated in activity. This was followed in order of most participation by camping, fishing, walking, hiking, play outdoor games/sports, hunting or trapping, swimming, boating and finally visit playgrounds. Walking outdoors was identified as the most important outdoor activity to twenty-nine (29) percent of users. Thirty-three (33) percent of all survey respondents said their participation in outdoor recreation has increased in the last five years.

State Parks experienced an increase in day use during the period between 2007 and 2011 with the greatest increase in 2011 due to the implementation of a program which made it easier for residents to visit the parks on a regular basis. In contrast, camping at State Parks saw a decrease over the same time period.

Goals and Objectives

The overarching goal for the 2013-2017 SCORP is to protect and manage Michigan's diverse and abundant natural assets to meet the fun, relaxation, and health needs of Michigan's residents and visitors, and the economic development needs of the state and local communities. To meet this goal, the following objectives were reported:

- Improve the collaboration and cooperation between all outdoor recreation providers to ensure that Michigan's recreation system meets the needs and desires of its residents and visitors, and that users are made aware of opportunities throughout Michigan's outdoor recreation system.
- Ensure the maintenance and continuous improvement of outdoor recreation facilities.
- Improve access to and connectivity between recreational opportunities.
- Integrate the provision of outdoor recreation with economic development plans and activities to advance economic prosperity.
- Market outdoor recreation opportunities and their associated amenities to ensure that residents and visitors alike are aware of all opportunities and communities are realizing the economic benefits associated with those opportunities.
- Contribute to the protection of Michigan's high-quality natural resources and help residents and visitors gain appreciation of those resources through interpretation and programming.

4.8 Project Area Population Trends and Projected Recreation Demand

4.8.1 Projected Population Growth

Consideration of future recreation demand relies on both expected population changes in the region, and on expected changes in recreation participation. Results of the user surveys suggest

that most recreationists utilizing the Projects' recreation sites are residents of the Project region. Population projections for the counties within the Project's region are provided in Table 4.8-1. As shown, collectively the population of the area within which the Project is located is expected to grow 3.8% over the period 2015-2040.

Based on the ZIP code data collected as part of the User Recreation Survey, the large majority of the visitors to the Project live within 50 miles of the Project. Therefore, when evaluating future recreation demands, six-county West Plan Region identified by the West Michigan Shoreline Regional Development Commission was selected to serve as the basis of the population component of the recreation demand forecast. These counties are: Lake, Mason, Muskegon, Newaygo, Ocean, and Ottawa (portion). Table 4.8-1 below presents the 2010 Census count and the 2015 and 2040 population projections⁸, as well as the percent. The region is expected to grow by a total of 3.8% between 2015 and 2040. Based on this change, growth was extrapolated to provide population projections through 2060. As shown, from 2015 to 2060 the population is expected to increase from 340,162 to 363,361, a 6.8 percent increase.

⁸ West Michigan Shoreline Regional Development Commission, 2015.

Table 4.8-1: Population Projections for the Counties within the Project’s Region

County	Census 2010	Projection 2015	Projection 2040	% Change, 2015 to 2040	2060 Extrapolated Projection	% Change, 2015 to 2060
Lake	11,539	11,394	11,497	0.9%	11,577	1.6%
Mason	28,705	28,656	29,305	2.3%	29,814	4.0%
Muskegon	172,188	171,133	172,698	0.9%	173,912	1.6%
Newaygo	48,460	48,021	48,266	0.5%	48,455	0.9%
Oceana	26,570	26,150	24,987	-4.4%	24,128	-7.7%
Ottawa (portion)	52,826	54,808	66,333	21.0%	76,822	40.2%
Total	340,288	340,162	353,086	3.8%	363,361	6.8%

Source: Census 2010 counts and 2015 and 2040 population projection are from the West Michigan Shoreline Regional Development Commission. For the purposes of this study, the 2060 population projection was extrapolated based on the projected 2015 to 2040 growth.

4.8.2 Projection of Project Recreation Days

To evaluate the ability of the facilities at the Project to meet future recreation demands, projections of recreation days were made through 2060, by activity at each location. The projections are based in part on growth coefficients developed as part of *Outdoor Recreation Trends and Futures: A Technical Document Supporting the Forest Service 2010 RPA Assessment. Projections of Outdoor Recreation Participation to 2060*, published by the United States Department of Agriculture (USDA) Forestry Service (Cordell, 2012), uses a combination of income, age, gender, and ethnicity to develop projected national participation rates (expressed as an index) for various recreational activities. Because these projections rely upon many different variables, the growth rates are more robust than simply using population projections to forecast growth in recreation demand. Table 4.8-2 below presents the USDA’s growth rates for recreation participation assuming mid-range population growth.

Table 4.8-2: Recreation Participation Index, through 2060, United States

Recreation Resource Type	2010 Baseline¹	2015 Indexed Participation Rate (interpolated)	2060 Indexed Participation Rate²	Growth Rate (percent), 2015 to 2060	Growth Factor 2015 to 2060
Camping	1.001	1.001	1.026	2%	1.02
Fish	1.000	0.995	0.970	-3%	0.97
Picnic	1.001	1.001	1.026	2%	1.02
Walk/ Hike/ Jog	1.003	1.006	1.097	9%	1.09
Ride Bikes	1.003	1.006	1.097	9%	1.09
Sight see	1.002	1.002	1.035	3%	1.03

¹Source: Cordell, 2012.

²Ibid.

The recreation participation growth factors shown above forecast changes in individual participation rates for various recreation activities. To obtain a full understanding of how recreation use is expected to change, population growth factors must be combined with the participation growth factors. As shown in Table 4.8-1 above, the Project area growth rate through 2060 is projected to be 6.8%. Therefore, the population growth factor of 1.068 will be multiplied by the activity-specific growth rates shown in Table 4.8-2. These growth factors are shown in Table 4.8-3, which includes the calculated recreation days growth factors (participation rate growth factor multiplied by the population growth factor). Unfortunately, the recreation coefficients do not include disc golfing or flying of remote control aircraft. For the purposes of this study, disc golf and remote control aircraft flying are assumed to grow at the rate of the fastest growing activities—walking/jogging/hiking and riding bikes.

Table 4.8-3: Derivation of Recreation Projection Index, through 2060, Local Project Area

Recreation Resource Type	Recreation Participation Growth Factor (RPGF) 2015 to 2060 (varies by activity)	Population Growth Factor (PGF) 2015 to 2060 (constant for all activities)	Recreation Days Growth Factor, 2014 to 2060 (RPGF x PGF)
Camping	1.02	1.07	1.09
Disc Golf	1.09	1.07	1.16
Sight see	1.03	1.07	1.10
Walk/ Hike/ Jog	1.09	1.07	1.16
R/C Aircraft	1.09	1.07	1.16
Fishing	0.97	1.07	1.04
Picnicking	1.02	1.07	1.09
Bike Riding	1.09	1.07	1.16
Photography	1.07	1.07	1.14

As shown above, all of the recreation activities, with the exception of fishing, are projected to increase faster than the population of the local area. These growth coefficients were used to project recreation activity by site through 2060. The activity mix presented previously serves as the baseline 2015 numbers from which the projections were made. Table 4.8-4 below presents, for the year 2060, the projected number of recreation days by activity at the Project.

Table 4.8-4: Projected Recreation Use by Activity Type, 2060

Recreation Activity	2014 Use (Recreation Days)	2060 Projected Use (Recreation Days)	Percent (%) of Recreation Use
Camping	13,667	14,942	26%
Disc Golf	13,531	15,709	27%
Sightseeing	10,621	11,706	20%
Walking/Hiking/Jogging	9,332	10,851	19%
R/C Aircraft	800	929	2%
Fishing	702	729	1%
Picnicking	516	564	1%
Bike riding	416	484	1%
Photography	146	167	0%
Other Recreation Activity	146	169	0%
Total	49,877	58,309	

Note: Figures shown may not sum to 100% because of rounding.

4.8.3 Projection of Facility Demand and Capacity

The activity-specific growth rates are the basis for projecting future recreation days at each site, based on that facility's recreation mix. For example, there are three different recreation activities that take place at Lake Michigan Overlook. The number of recreation days in 2015 associated with each of the three activities is projected to increase by the growth factor for 2060. To forecast site-wide recreation use, the projected use for each of the activities observed at Lake Michigan Overlook is summed. Table 4.8-5 presents the number of recreation days projected for 2060 at each site within the Project.

Table 4.8-5: Projected 2060 Recreation Days by Site

Season	2015 Estimated Recreation Days	2060 Projected Recreation Days	Percent Growth, 2015 to 2060
Reservoir Overlook	6,064	6,808	12%
Lake Michigan Overlook	8,676	9,700	12%
Mason County Day Use/Picnic Area	14,044	16,262	16%
Mason County Campground	13,667	14,942	9%
Hull Field	1,047	1,216	16%
Pigeon Lake North Pier	6,379	7,321	15%
Annual Total	51,892	58,309	12%

The growth rates for each recreation site serve as the basis for projecting future parking lot demand figures, and thereby capacity, in terms of average summer weekend use. Table 4.8-6 presents the level of parking lot use projected for 2060 at each site within the Project. As shown, it is projected that all of the recreation sites at the Project will be under-capacity on the average summer weekend in 2060. Parking area use is anticipated to be less than half of the available capacity on the average summer weekend days in 2060.

Table 4.8-6: Projected 2060 Average Summer Weekend Use by Site

Site	Available Spaces	2060 Projected Average Spaces in Use, summer weekend	Percent Capacity
Reservoir Overlook	83	2.2	3%
Lake Michigan Overlook	42	2.5	6%
Mason County Day Use/Picnic Area	62	8.1	13%
Hull Field	15	0.6	4%
Pigeon Lake North Pier	16	2.2	14%
Total	218	15.6	7%
Site	Available Sites	2060 Projected Average Sites in Use, summer weekend	Percent Capacity
Mason County Campground	60	38	68%

5 DISCUSSION

5.1 Recreation Site and Facility Inventory and Condition Assessment

The recreation site and facility inventory and condition assessment for the LPSP identified six (6) recreation sites that are located within the FERC Project boundary. Three (3) of the recreation sites that provide access to the Project are operated by the Licensees. The remaining sites included in the inventory are managed by Mason County and opened to the public.

Recreation sites located at the Project were found to provide a wide array of recreational opportunities for the public, including disc golfing, fishing, bike riding, picnicking, sightseeing, birding, camping and remote control aircraft flying.

All recreation sites within the Project boundary were found to be meeting their intended function.

5.2 Recreation Use

Based on use counts and registrations, the Licensees estimated total recreational use of the LPSP to be 49,876 recreation days in 2015. Use was highest in the summer (75.6%), followed by the fall (19.5%), and spring (4.8%)⁹. The most popular recreation sites at the Project were the Mason County Day Use/Picnic Area (14,044 recreation days) and the Mason County Campground (13,667 recreation days). The most popular recreation activity at the Project was camping (27.4%), followed by disc golf (27.1%) and sightseeing (21%).

Recreation use at each of the recreation sites included in the survey was also analyzed. At the Mason County Day Use/Picnic Area, where recreation use was highest, the most popular activity was disc golf, followed by walking/hiking/jogging and picnicking. At the Mason County Campground, camping was, as would be expected, the most popular activity.

⁹ Figures shown do not sum to 100 percent because of rounding.

Recreation site utilization was examined from both a current utilization perspective, and also from the perspective of future demand. Currently, recreation site utilization at all sites was found to be well below the design capacity of the site. The highest utilization rate, based on parking area capacity, was found to occur at the Pigeon Lake North Pier, which had a 12% of capacity utilization rate in 2015. Utilization of campground that serves the LPSP was evaluated based on campsite capacity. On average in the summer, the utilization rate for the Mason County Campground was 57% of capacity. The results of the use and capacity portions of the study demonstrate that the recreation areas that serve the LPSP have use levels that are well within the existing capacity of the existing recreation areas.

5.3 Recreation User Surveys

Another important component of the study was the survey of recreational users to get their perspective on various aspects of the recreation sites, facilities, amenities and opportunities provided at the Project. User surveys included both ratings and open-ended questions about the users' recreational experiences at the Project, as well as objective questions about the users' residence and patterns of use at the Project. The survey found that use is primarily by recreationists who live within 50 miles of the Project. The majority of respondents were return users, with 84% of recreationists indicating they had visited the Project before. Based on the user surveys, the most popular recreation activities reported were disc golf, hiking, camping, and Remote Control aircraft use.

User surveys asked respondents to rate several aspects of their recreation experience, on a scale of 1-5, with 1 being a "poor" rating, 3 being a "fair" rating, and 5 being an "excellent" rating. The vast majority of survey respondents gave an "excellent" or "fair-excellent" rating for parking (85%), facility condition (88%), accessibility (79%), and variety of amenities (59%). The "overall quality" of the sites and facilities were rated by 85% of respondents as "excellent" or "fair-excellent". Recreationists were also asked to rate the perceived level of use at the recreation site. Regarding level of use, by far the largest percentage (73%) of respondents gave a rating of 1 ("not crowded") or 2 (between "not crowded" and "somewhat crowded"), while 14% of respondents indicated that the sites were "somewhat crowded" (rating of 3). Only 4% indicated the sites were "extremely crowded".

Additional questions allowed users to indicate the factors or issues that enhanced or detracted from their recreational experiences at the Project that day. The most frequently mentioned factor detracting was noise (5 respondents). Factors identified most often by survey respondents that enhanced their recreation experience included the weather (10 respondents), rangers/friendly people (8 respondents), and nature/wildlife/setting (5 respondents). Weather was also mentioned routinely as a contributing factor, as was location/close to home.

6 LITERATURE CITED

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APPENDIX A – STANDARD SPOT COUNT FORM

Recreation Spot Count Form

[illegible]

Recreation Spot Count Form

Date:

Observer:

Weather:

Notes:

Number of People Participating in Activity During Visit (use numeric value)

APPENDIX B – STANDARD CALIBRATION COUNT FORM

Recreation Use Calibration Sheet

Ludington Pumped Storage Project - Site: _____

Observer: _____

Date: _____

Time Start:

Time End:

Notes:

[illegible]

APPENDIX C – RECREATION USER PERCEPTION SURVEY

Recreation User Perception Survey
Ludington Pumped Storage Project

Interviewer: _____ Date/Time: _____ Rec Site: _____

Weather: _____ Air Temp: _____ Declined Survey: _____

Good Afternoon. My name is _____ and I am conducting a recreation user survey of visitors to the Ludington Pumped Storage Project area for Consumers Electric and DTE. We are surveying users for their views on the public recreation sites and facilities associated with the Project. Your responses will provide CE and DTE with user perceptions with Project facilities. Responses from this survey will remain anonymous. Would you mind answering a few questions?

1. Have you participated in this survey effort before?

Yes _____ Thank you for your time. We are only interviewing each person once with this survey.

No _____ Continue with Survey

2. How many in your group, including yourself? _____

3. Have you ever visited the Ludington Pumped Storage Project area before? Yes __ No __

4. What is your Zip Code? _____ or Country of Residency? _____

5. What is your primary reason for this visit today?

Biking ☐ Birding ☐ Camping ☐ Disc Golf ☐ Dog Walking ☐

Driving for Pleasure ☐ Educational Programs ☐ Fishing from Boat ☐

Fishing from Shore/Pier ☐ Flying RC Aircraft ☐ Hiking ☐ Hunting ☐

Nature Observation ☐ Orienteering ☐ Other: _____ Photography ☐

Picnicking ☐ Running ☐ Sightseeing ☐ Skiing ☐ Snowshoeing ☐ Walking ☐

6. During your visit today what is your perception of the amount of use occurring at this site?

1	2	3	4	5
Not Crowded		Somewhat Crowded		Extremely Crowded

7. Please rate the following amenities at this location.

	Excellent		Fair		Poor
Facility Condition	1	2	3	4	5
Variety of Amenities	1	2	3	4	5
Parking	1	2	3	4	5
Accessibility	1	2	3	4	5
Overall Quality	1	2	3	4	5

Please explain any poor ratings.

8. What, if anything, enhanced your recreation experience today? _____

9. What, if anything, detracted from your recreation experience today? _____

10. Does this recreation facility serve your interests? Yes____ No____

If not why? _____

11. Do you have any additional comments regarding recreation opportunities associated with the Ludington Pumped Storage Project? _____

Thank you for your time and input.

**APPENDIX D – QUESTIONNAIRE SENT TO OPEN SPACE
COMMITTEES**

Seiders, Heather

From: Seiders, Heather
Sent: Friday, October 23, 2015 9:35 AM
To: 'stdwkelly@gmail.com'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: Summit Recreation or Master Plan

Tracking:	Recipient	Delivery	Read
	'stdwkelly@gmail.com'		
	Hayen, Rita	Delivered: 10/23/2015 9:35 AM	Read: 10/23/2015 11:06 AM
	Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com)		
	'David C. McIntosh'		
	Richard D. Castle		
	Whelpley, Angela	Delivered: 10/23/2015 9:35 AM	Read: 10/23/2015 9:39 AM

Good morning,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to know if Summit Township has a Recreation Plan or Master Plan that we can review as part of our study. If so, can you tell us how to obtain a copy?

Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



14 Gabriel Drive, Augusta, ME 04330
T: 207.620.3830 | F: 207.621.8226 | C: 207.215.0308
awhelpley@trcsolutions.com

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Heather Seiders
Environmental Specialist



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Seiders, Heather

From: Seiders, Heather
Sent: Friday, October 23, 2015 9:28 AM
To: 'info@portsheldontwp.org'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: Parks and Recreation Plan

Tracking:	Recipient	Delivery	Read
	'info@portsheldontwp.org'		
	Hayen, Rita	Delivered: 10/23/2015 9:28 AM	
	Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com)		
	'David C. McIntosh'		
	Richard D. Castle		
	Whelpley, Angela	Delivered: 10/23/2015 9:28 AM	Read: 10/23/2015 9:39 AM

Good morning,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to know if your Parks and Recreation Plan has been completed. If so, can you tell us how to obtain a copy?

Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



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Seiders, Heather

From: Seiders, Heather
Sent: Thursday, October 22, 2015 3:42 PM
To: 'parksmgr@pmtwp.org'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: Pere Marquette Charter Township Parks, Recreation and Open Space Plan

Tracking:	Recipient	Delivery	Read
	'parksmgr@pmtwp.org'		
	Hayen, Rita	Delivered: 10/22/2015 3:43 PM	Read: 10/22/2015 3:43 PM
	Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com)		
	'David C. McIntosh'		
	Richard D. Castle		
	Whelpley, Angela	Delivered: 10/22/2015 3:43 PM	Read: 10/22/2015 3:46 PM

Good afternoon,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to confirm that we are utilizing your current recreation and open space plan. The plan that we have is the Pere Marquette Charter Township Parks, Recreation and Open Space Plan. Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



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Seiders, Heather

From: Seiders, Heather
Sent: Thursday, October 22, 2015 3:57 PM
To: 'ocparks@miottawa.org'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: Parks, Recreation and Open Space Plan

Good afternoon,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to confirm that we are utilizing your current recreation and open space plan. The plan that we have is the Parks, Recreation and Open Space Plan for Ottawa County.

Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



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awhelpley@trcsolutions.com

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Seiders, Heather

From: Seiders, Heather
Sent: Friday, October 23, 2015 9:31 AM
To: 'todd@olivetownship.com'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: Olive Township Master Plan

Tracking:	Recipient	Delivery	Read
	'todd@olivetownship.com'		
	Hayen, Rita	Delivered: 10/23/2015 9:31 AM	Read: 10/23/2015 11:06 AM
	Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com)		
	'David C. McIntosh'		
	Richard D. Castle		
	Whelpley, Angela	Delivered: 10/23/2015 9:31 AM	Read: 10/23/2015 9:39 AM

Good afternoon,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to confirm that we are utilizing your current plan containing information on recreation. The plan that we have is the Olive Township Master Plan.

Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



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Heather Seiders
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Seiders, Heather

From: Seiders, Heather
Sent: Thursday, October 22, 2015 3:54 PM
To: 'jmriffle@masoncounty.net'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: Mason County Recreation Plan

Tracking:	Recipient	Delivery	Read
	'jmriffle@masoncounty.net'		
	Hayen, Rita	Delivered: 10/22/2015 3:54 PM	Read: 10/22/2015 4:23 PM
	Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com)		
	'David C. McIntosh'		
	Richard D. Castle		
	Whelpley, Angela	Delivered: 10/22/2015 3:54 PM	Read: 10/22/2015 3:57 PM

Good afternoon,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to confirm that we are utilizing your current recreation plan. The plan that we have is the Mason County Recreation Plan.

Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



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Seiders, Heather

From: Seiders, Heather
Sent: Thursday, October 22, 2015 3:52 PM
To: 'cvansickle@ci.ludington.mi.us'
Cc: Hayen, Rita; Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com); 'David C. McIntosh'; Richard D. Castle
Subject: City of Ludington Community Recreation Plan

Tracking:	Recipient	Delivery	Read
	'cvansickle@ci.ludington.mi.us'		
	Hayen, Rita	Delivered: 10/22/2015 3:52 PM	Read: 10/22/2015 4:24 PM
	Whelpley, Angela M. (Augusta,ME-US) (anile@trcsolutions.com)		
	'David C. McIntosh'		
	Richard D. Castle		
	Whelpley, Angela	Delivered: 10/22/2015 3:52 PM	Read: 10/22/2015 3:57 PM

Good afternoon,

As you may know, Consumers Energy and DTE Electric are relicensing the Ludington Project (FERC No. 2680) and are currently conducting studies as part of the FERC relicensing process for the Project. TRC is the recreation consultant for the Licensees and we are conducting a study to identify the amount of recreational use at the Ludington Project recreation facilities. As part of the study, we are reviewing available recreation and open space plans for information regarding recreation use within the Project boundary and immediate vicinity. We would like to confirm that we are utilizing your current recreation plan. The plan that we have is the City of Ludington Community Recreation Plan.

Angela Whelpley is available during the next week to discuss the current plans you have on file. Please let her know if mornings or afternoons work best for you. We look forward to hearing from you.

Thank you.

Heather Seiders

on behalf of:

Angela Whelpley

Angela M. Whelpley
Environmental Specialist
Civil Designer



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