

APPENDIX 5.2.7.1-1

June 15, 2015 Hayward Recreation Report

Recreation Report
for the
Hayward Hydroelectric Project
(FERC Project No. 2417)

Prepared for:

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Appendix A - Agency Correspondence

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1.0 INTRODUCTION

Lake Hayward is a 247 acre impoundment of the Namekagon River located in Sawyer County, WI. The lake contains 8.64 miles of shoreline, approximately 11 percent of which is accessible to the public. Lake Hayward is located adjacent to the City of Hayward, WI. The Hayward area, in general, is very popular with summer tourists from around the country. There are many area lakes with popular resorts that see a great deal of use in the summer. Lake Hayward itself sees only a fraction of the overall summer recreation taking place in the area. There are a number of homes along the shores of Lake Hayward, the owners of which take advantage of the recreational opportunities on the lake regularly. The area is also popular for winter recreation which includes snowmobiling and cross-country skiing. Again, only a small portion of the people participating in these winter activities do so on Lake Hayward itself during the bulk of the winter; however, a large internationally known cross-country ski race (The American Birkebeiner) crosses Lake Hayward, bringing thousands of skiers across the lake on one weekend each winter.

The Hayward Hydroelectric Project (FERC Project No. 2417) operates under a 30-year license issued by the Federal Energy Regulatory Commission (FERC). License Article 414 requires that the Licensee (Xcel Energy) monitor recreation use of the Hayward Hydroelectric Project area to determine whether existing recreation facilities are meeting recreation needs. Concurrent with filing FERC Form-80, required by section 8 of the Commission's Regulations (18 CFR 8.11), the Licensee shall file a report with the Commission on the monitoring results. This report shall include:

1. annual recreation use figures;
2. a discussion of the adequacy of the Licensee's recreation facilities at the project site to meet recreation demand;
3. a description of the methodology used to collect all study data; and
4. if there is a need for additional facilities, a recreation plan proposed by the Licensee to accommodate recreation needs in the project area.

In order to meet the FERC requirements, Great Lakes Environmental Center, Inc. (GLEC) consulted with Xcel Energy to devise and implement a plan of study aimed specifically at meeting all the FERC requirements. The goals of the Hayward Recreation Study were to:

- inventory the recreational facilities on Lake Hayward to determine their amenities and capacities;
- estimate the recreational usage on Lake Hayward both as a whole and at specific recreational facilities;
- determine the adequacy of each of the recreational facilities and their ability to meet the current recreational demand; and
- obtain feedback from users of the recreational facilities to help gauge facility adequacy and receive input from the public on recommended improvements to facilities.

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The Hayward Recreation Study was conducted from May 2014 through March 2015. This report was prepared by Great Lakes Environmental Center, Inc., 739 Hastings Street, Traverse City, MI. The report's principal author and Lead investigator was Chris Turner.

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2.0 METHODS

This section describes the methods used to collect, summarize and extrapolate the raw data acquired during the study. Each subsection focuses on the different types of data/information collected.

2.1 Inventory of Facilities

In order to list and inventory each of the facilities on Lake Hayward, GLEC used previous recreation studies, maps/aerial images of the area, internet resources and field visits to identify both public and private recreational facilities within the Project. Each public facility was visited to determine the amenities available and their capacity (e.g. number of parking spots, docks, boat ramps, etc.), and an initial overview of the apparent adequacy of the facility was noted. Section 3.0 describes each of the following public recreational facilities in detail:

- City of Hayward Boat Landing
- City of Hayward Beach and Park
- Tailwater Access and Canoe Portage
- Other Access Points

2.2 Interviews with Owners and Operators of Facilities and other Key Personnel

GLEC staff arranged phone interviews with key personnel associated with recreational facilities on Lake Hayward. These included owners and/or operators of facilities, Wisconsin Department of Natural Resources (WDNR) staff, public works staff, etc. Where possible, interviews were conducted with the same people that were interviewed for the 2009 recreation report. The goals of these interviews were to characterize current recreation, assess the adequacy of the facilities, identify any changes that have occurred since the last recreation report, and discuss improvements that are planned to take place over the next several years. Details of each interview are contained in Section 4.0.

2.3 Counts of Recreational Users

Daily recreational use estimates were made using data from a combination of sources including data collected from trail counters, counts/estimates of day-time recreational users from local sources, and other estimates of usage. The following subsections details each of the data collection efforts.

2.3.1 Trail Counter Data

During the study period, trail counters were installed at both the Hayward Boat Landing and the road into the Hayward Beach/Park (Figure 1). The trail counters that were installed use active infrared technology to obtain vehicle or pedestrian count statistics that include the date and time of the count as well as the total number of “events” (defined as a break in the infrared beam). The all-weather, portable, battery powered counting devices utilize active infrared

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technology to count vehicular or foot traffic in one-hour intervals continuously. In the case of the counter placed directly across the road which accesses the Hayward Beach/Park, an event was expected to be produced for every vehicle or pedestrian that passed on the road. The assumption was made that the same number of people that entered via the road also left via the road. A second counter was placed at the Hayward Boat Landing, directly across the landing area, but this counter received frequent vandalism and essentially no reliable data was obtained from it.

2.3.2 WDNR Creel Survey

During the same time period as this recreation study (May 2014 through March 2015), the WDNR conducted a creel survey on Lake Hayward which included direct counts of anglers on all portions of the lake. During these instantaneous counts, individual anglers were counted, and the type of angling activity (i.e., boat, shore, ice fishing) was noted for each person counted. Also included in the creel survey data was information regarding whether the party was a resident on the lake, or if they traveled from elsewhere to use the lake. For the purposes of this report, only counts of anglers who travelled to the lake (and thereby were assumed to have used one of the specific facilities) were used. Total recreation days were extrapolated from the creel survey instantaneous counts using the following equation (Morris (2007), as originally described by Schreuder et al. (1975)):

$$Recreation\ Days = \left(\frac{L}{n}\right) \times \sum_{j=1}^n \sum_{i=1}^{c_j} \frac{1}{u_{ij}}$$

Where:

L = the length of the season in hours,

n = the number of observations,

c_j = the number of people counted in the j^{th} observation, and

u_{ij} = the length of stay (in hours) reported by the i^{th} person in the j^{th} observation.

A stratified design was used, whereby the number of recreational visits (in recreation days) for the project was calculated separately for three day type categories: weekdays, weekend days, and peak weekend days. Extrapolations were made for each angling type and then these totals were summed to calculate an estimated number of angling visits for each month. Monthly estimates were then summed to calculate total estimated recreational use by anglers for the survey year.

Model Parameters

For all extrapolations, the following assumptions were made regarding model parameters. The length of the season in hours (L) was calculated as the recreation day length (in hours) multiplied by the number of days per month within each of the three day type categories (weekdays, weekend days, peak weekend days). The recreation day length was estimated as 16

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hours for May-August, 14 hours for September and April, 10 hours for October and March, and 8 hours for November-January. The monthly hourly totals were then summed separately for the three day type categories to calculate the final length of the season (L) for each day type.

The number of observations (n) was the number of instantaneous counts conducted by the creel clerk during the study period. Two separate instantaneous counts were made for each sampling date. The total number of observations equaled 192 during weekdays, 144 during weekends, and 18 during peak weekends.

The numbers of people counted (c_j) were based on direct angler counts recorded during each observation period.

Average length of stay (u_{ij}) was calculated using the results of party level creel interviews conducted during the same time period as the instantaneous counts. Average length of stay was estimated separately for the three types of anglers (boat, shore, ice).

The proportion of anglers that traveled to use the facility was calculated separately for each of the three types of anglers, and the final extrapolated user counts were adjusted to reflect the proportion of anglers who were visiting the site.

Lastly, in an effort to reduce double counting the shore anglers who used the beach/park area (including the ADA fishing pier), the estimated number of people using this area for shore fishing was subtracted from the data retrieved from the counter placed on the access road into his area. This allowed the data to be separated into people who accessed the beach/park area for the purpose of fishing and those recreating in other ways.

2.3.3 Counts/Estimates of Recreational Users from Local Sources

During the Hayward recreation study, we identified the following four sources of day-use recreation in addition to the Hayward Beach and Hayward Boat Landing:

- Tailwater fishing area and canoe portage;
- Ice fishing activities on Bartz's Bay;
- American Birkebeiner; and
- Pre-Birkie.

Tailwater fishing areas are available on both the north and south sides of the Hayward dam and a canoe portage route is available for canoeists wishing to safely bypass the dam. While no direct counts of users were performed in these locations, the operator of the Hayward Hydro (who also operates the Trego Hydro) was asked to estimate the usage at the tailwater areas. In addition, he was asked to compare the amount of use at the Hayward dam versus that at the Trego dam. A concurrent recreation study at Trego used a trail counter to monitor the usage at that dam's tailwater fishing areas and canoe portage, and the input from the hydro operator was used to extrapolate the use at Hayward from the data collected at Trego.

Ice fishing on Lake Hayward is largely concentrated to an area referred to as Bartz's Bay. Users park along Chippewa Trail and walk on to the lake through an area of private land. Estimates of these users were made by the WDNR as part of the creel survey which included data collection during the winter of 2014-2015.

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There are two organized cross-country ski race events that occur each year on Lake Hayward. These are the American Birkebeiner and the "Pre-Birke" which is sponsored by the Hayward Lions Club. Both races require registration and coordinators for each race provided the number of registered racers for inclusion in this report.

Other recreational activities occur in the vicinity of Lake Hayward, but do not occur at a designated facility and are therefore not included in the scope of this report. For example, a popular lumberjack show occurs throughout the summer and the Lumberjack World Championships are held in a bay of Lake Hayward each year. These events are well attended, but spectators do not have access to the lake nor do they recreate on the lake during the events. The previous Lake Hayward Recreation Report (2009) appears to have included the 12,000 to 15,000 spectators of these events and is one reason the recreational use numbers differ from this report.

2.3.4 Usage Numbers from Private Facilities

Lake Hayward contains two private lodging facilities (Comfort Suites of Hayward and Riverside Motel / Mallard's Landing) however neither of these facilities cater to Lake Hayward recreationists and therefore overnight recreational use was considered to be negligible.

2.4 Self-Reporting Surveys

GLEC developed a self-reporting survey form (Figure 2) that invited users of recreational facilities to provide information about themselves and their opinion of the recreational opportunities on Lake Hayward. GLEC designed, fabricated and installed weatherproof survey boxes (Figure 3) that housed both blank and completed surveys. These boxes were placed at the Hayward Beach and Hayward Boat Landing and were checked and the completed forms retrieved on a regular basis.

The self-reporting surveys were aimed at collecting two primary types of information:

1. Characterization information about the users of the facility (i.e. party size, length of stay, types of recreation activities, mode of travel, etc.); and
2. Opinions of the adequacy of facilities on Lake Hayward and suggestions for improvements to any of the facilities or recreational opportunities in general.

The characterization information was used to help make accurate assumptions during the extrapolation of counter and creel data and the information on adequacy helped to understand the public's viewpoint of any improvements that might be needed. Summaries of the self-reporting surveys can be found in Section 6.0.

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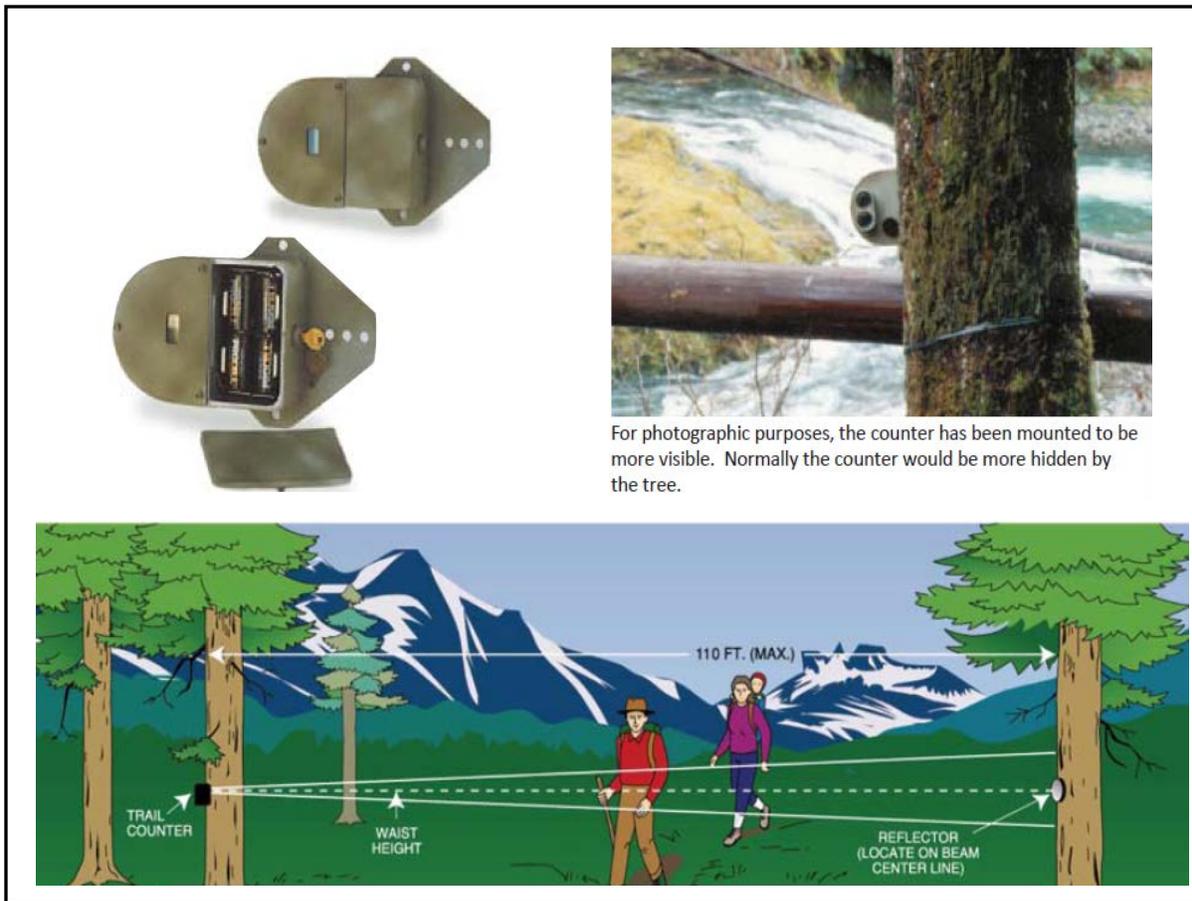


Figure 1. Infrared Pedestrian/Vehicle Counters used at Lake Hayward Recreational Facilities

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Figure 2. Lake Hayward self-reporting recreational use form

XCEL ENERGY LAKE HAYWARD RECREATIONAL USE SURVEY

1. How many people (on average) are in your party when you recreate in the Lake Hayward area? _____
2. What percentage of the time do you travel to the recreation areas on Lake Hayward by:
 Car/Truck: _____% Motorcycle: _____% Bicycle: _____% Foot: _____%
3. How many **DAYS** have you spent or do you plan to spend recreating in the Lake Hayward area in the following months?
 ___ March 2014 ___ April 2014 ___ May 2014 ___ June 2014 ___ July 2014 ___ August 2014
 ___ Sept 2014 ___ Oct 2014 ___ Nov 2014 ___ Dec 2014 ___ January 2015 ___ February 2015
4. How many **NIGHTS** have you spent or do you plan to spend recreating in the Lake Hayward area in the following months?
 ___ March 2014 ___ April 2014 ___ May 2014 ___ June 2014 ___ July 2014 ___ August 2014
 ___ Sept 2014 ___ Oct 2014 ___ Nov 2014 ___ Dec 2014 ___ January 2015 ___ February 2015
5. For the period from March 2014 through February 2015, what percentage of your time spent recreating in the Lake Hayward area is during:
 weekdays? _____ weekends/holidays? _____ (Total should equal 100%)
6. On average for the period from March 2014 through February 2015, how many hours do you spend each day that you recreate in the Lake Hayward area during each of the following times?
 6 am to 10 am: _____ 10 am to 2 pm: _____ 2 pm to 6 pm: _____ 6 pm to 10 pm: _____ 10 pm to 6 am: _____
7. What is the average length of your visit to Lake Hayward? _____ hours
8. For the period from March 2014 through February 2015, what percentage of your time recreating in the Lake Hayward area is spent accessed from each of the following recreational access areas? (Total should equal 100%)
 ___ Hayward boat landing ___ Hayward Beach/Park
 ___ Tailrace area ___ Other (specify) _____
 ___ Canoe Portage ___ Other (specify) _____
8. Which of the following activities in the Lake Hayward area do you usually participate in? (Check up to five)
 ___ Boat Fishing ___ Shore Fishing ___ Boating (canoe, sail, etc). ___ Walking/Jogging/Hiking
 ___ Swimming ___ Picnicking ___ Playing Sports ___ Biking
 ___ Hunting ___ Enjoying nature ___ Camping ___ Parking (sitting in car eating, viewing)
 ___ Jet skiing ___ Photography ___ Water skiing/tubing ___ Relaxing/Visiting
 ___ General Playing (playgrounds, etc) ___ Other (specify) _____
1. Please rate the status of the following facilities in the Lake Hayward area on a scale of 1 to 5 where:
1 = Facility is not at all adequate 5 = Present facility is totally adequate
If you have no knowledge of the specific facility, leave blank. Please provide comment where applicable to the specific facility.
Recreation Facilities
 A. Hayward boat landing area Rating (1-5): _____ Comment: _____
 B. Hayward Beach/Park area Rating (1-5): _____ Comment: _____
 C. Tailrace area Rating (1-5): _____ Comment: _____
 D. Canoe Portage area Rating (1-5): _____ Comment: _____
10. On a scale from 1 to 10, how would you rate your overall recreational experiences at Lake Hayward?
Very Poor 1 2 3 4 5 6 7 8 9 10 Very Good
11. Please make any comment you feel would be helpful about recreation at Lake Hayward.

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Figure 3. Examples of survey boxes installed at select recreational facilities.



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3.0 DESCRIPTIONS OF RECREATIONAL FACILITIES ON LAKE HAYWARD

Each of the public recreational facilities on Lake Hayward is described below, and discussions of the use and adequacy of each facility are discussed in subsequent sections of this report. Figure 4 displays a map of the area showing the location of each of the recreational facilities present on Lake Hayward during the study period.

Other facilities such as parks, trails and other recreation areas are present in the general area of Lake Hayward. These facilities, however, are not within the development/project boundary and are not included in this recreational report.

3.1 City of Hayward Boat Landing

The City of Hayward owns and maintains this single launch boat landing on the west end of the lake. It is the only public landing on the lake and consists of a cement launch with paved approach and no dock. The adjacent gravel parking lot is large enough to accommodate approximately 15 vehicles with trailers. The City does not charge a fee for the use of this launch and no other amenities are present. The landing is in good condition and is adequate for the light to moderate use it receives. A light pole situated in the parking area provides lighting during the evening hours. The parking lot also serves as overflow parking for users of the beach and park area.

3.2 City of Hayward Beach and Park

The City of Hayward owns this park on the west end of the lake. It consists of a 100 foot sand beach with designated swimming area, changing rooms, restroom facilities, playground, picnic areas and shore fishing opportunities. A paved parking lot is provided that can accommodate 24 vehicles (two parking spots are designated handicap spots). The area also features an Americans with Disabilities Act (ADA) compliant fishing pier that was constructed in the fall of 2013 which has been very popular with anglers. The area receives moderate to heavy use in the summer, especially on warm sunny days. Overall, the facility is in good condition and is adequate for the current usage. There is no fee associated with the use of the park or beach.

3.3 Tailwater Access and Canoe Portage

Xcel Energy owns, maintains, and provides public use of this area which includes tailwater fishing access on both sides of the river and canoe portage which consists of a take-out, signed trail, and put-in area. This enables canoeists who are navigating from an upstream location to a downstream location to safely bypass the dam. There are no fees associated with the use of this area. No additional amenities are provided and overall the area is adequate for the light but consistent use it receives.

3.4 Other Access Points

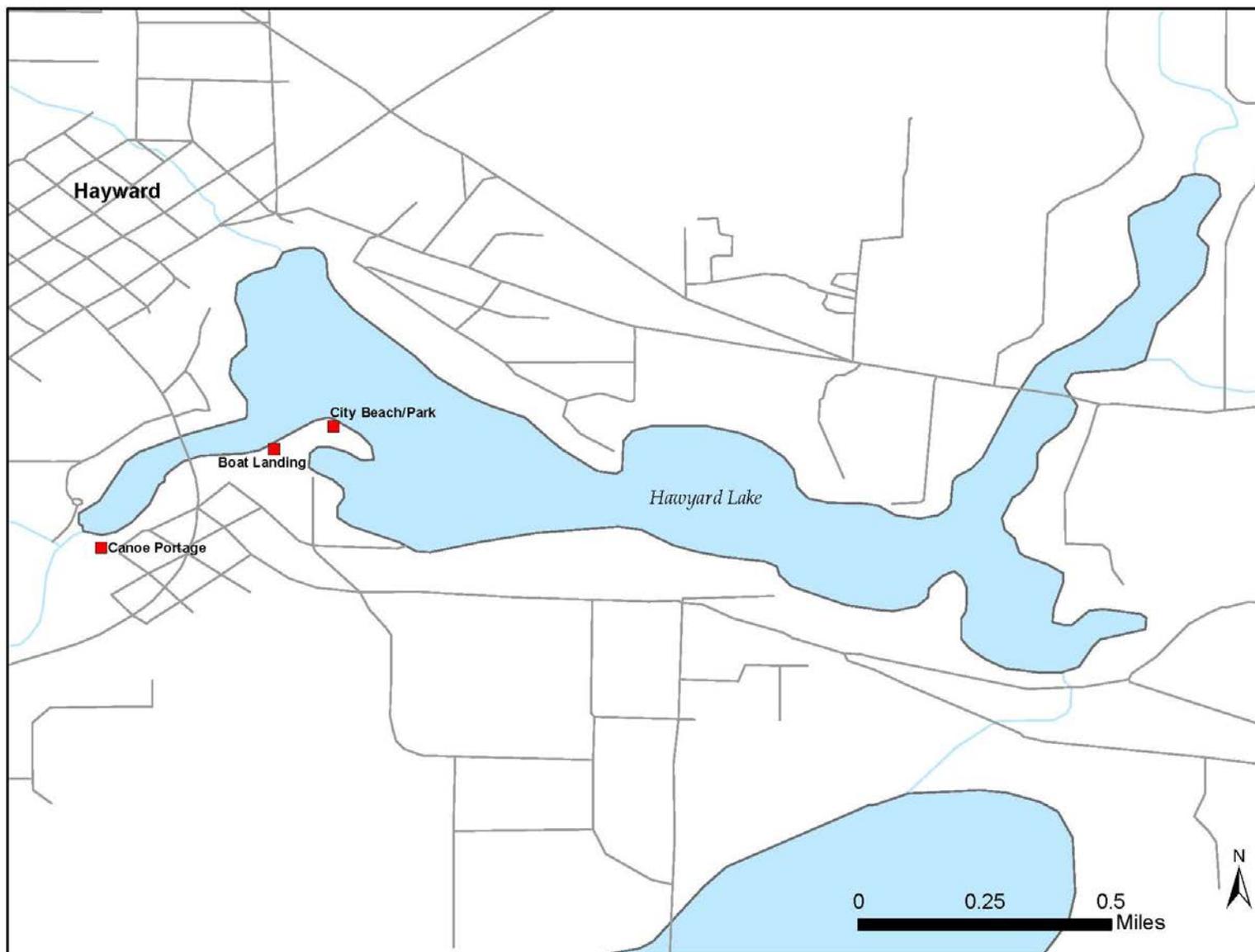
The City of Hayward owns one unimproved access on the north-central portion of Lake Hayward. There are no signs that indicate the location of this access, but it is open to the public. Since the access is not marked, it is currently not being utilized as a lake access.

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There is one additional access point off a local road, Chippewa Trail; that is popular with anglers in the winter who wish to walk out on to Bartz's Bay to ice fish. This consists of an unimproved trail on private land (essentially between two residential lots). Users park along Chippewa Trail which causes occasional traffic congestion.

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Figure 4. Map of Lake Hayward showing location of recreational facilities, 2014-2015.



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4.0 SUMMARIES OF INTERVIEWS WITH KEY PERSONNEL

This section provides a brief summary of the interviews with owners/operators of facilities and other key personnel that have detailed knowledge of the recreational facilities and opportunities on Lake Hayward.

4.1 Rick Peters, Conservation Warden - WDNR

Mr. Peters has been a warden in the Hayward area for the last two years, but grew up in the area and is therefore quite familiar with Lake Hayward and its recreational opportunities. He felt that the amount of recreation on Lake Hayward has increased only slightly over the last few years, though he has seen an increase in the “quiet water” sports of canoeing and kayaking. He sees anglers on a regular basis during the summer. According to Mr. Peters, the single boat landing on Lake Hayward is in good condition and meets the need for the light use it receives. He stated that the parking lot can be full at times, but this is due to being used as an overflow lot from the beach/park or Fishing Hall of Fame, not from users of the landing itself. Mr. Peters also noted that the beach area is very popular and the ADA fishing pier receives regular use. He has received no complaints about the landing of other facilities on Lake Hayward.

Mr. Peters also observes ice fishing activity throughout the winter that is largely confined to the Bartz’s Bay area. He recognizes that the land on which anglers walk to access the ice is private land, but to this point, he has not received any complaints from the landowners. During times of heavy ice fishing pressure, Chippewa Trail can be quite congested due to the vehicles that are parked along the road.

4.2 John McCue, Director – City of Hayward Public Works

Mr. McCue has been an employee of the City of Hayward since 2001 and the Director of Public Works since 2004. He oversees maintenance and improvements of the boat landing, beach and park. He stated that the boat landing receives moderate but consistent pressure and is in good condition. Mr. McCue noted that power loading of boats has caused some washout of the end of the landing’s concrete slab and has required additional rock to be added to the landing. According to Mr. McCue, there are no planned improvements to the boat landing at this time.

Mr. McCue discussed the beach and park which are owned and maintained by the City. He stated that all the areas are in good condition after a number of upgrades in recent years. The ADA fishing pier that was installed has been very popular with anglers and has received a lot of use. Mr. McCue noted that he has received positive feedback about the pier and has seen usage of the pier nearly every time he visits the area. The beach and park areas are also very popular and Mr. McCue stated that the area is very busy on warm summer days. The parking area at the beach itself can become full on many days, but the overflow parking near the boat landing is normally sufficient to handle the additional vehicles. Mr. McCue felt that, while overall recreational use of Lake Hayward has been fairly consistent over the last six years, use of the beach has definitely increased over the last few years. The City has recently completed an upgrade to the walking bridge that connects the boat landing parking area to the park and

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there is hope to bury an overhead power line near that bridge that often causes problems for anglers trying to cast from the walking bridge.

Mr. McCue was asked about the access to Bartz's Bay that is used by anglers during the ice fishing season. While this area is just outside of the Hayward City limits, Mr. McCue is very familiar with it. He stated that the parking along the road does cause some congestion and problems with snow-plowing.

Lastly, Mr. McCue mentioned a 50 foot strip of land that is owned by the City and is available as an undeveloped lake access for the public. The area contains no signage and currently the grass is mowed by adjacent neighbors, making it look like private land. Mr. McCue stated that there is currently no plan to modify this access area, but it may be considered in the future.

4.3 Ricky Reichert, Operator – Hayward Hydroelectric Project

Mr. Reichert has been operating both the Hayward and Trego Hydroelectric Facilities for the past five years. His duties typically have him on site at the Hayward Facility during weekdays, but he does observe the area during certain weekend times as well. Mr. Reichert described the public access areas which include tailwater fishing areas on both the north and south side of the river as well as a canoe portage. He noted that the use of each these areas is quite light and the current facilities are adequate for the amount of use. The only issue with any of the access points near the dam that Mr. Reichert mentioned was an area where rain runoff can tend to cause some washout, but there have been discussions of adding a drain to minimize or eliminate this issue. Overall, Mr. Reichert felt that recreation has remained fairly consistent over his five year tenure on both Lake Hayward itself and in the tailwater areas.

4.4 Jeff Homuth, Chair – Town of Hayward

Mr. Homuth has served as Chairperson for the Town of Hayward since 2001 and has worked for the Town for over 30 years. He stated that none of the established Lake Hayward facilities are within the Town of Hayward, although a small portion of the shoreline, including the private land used to access Bartz's Bay is in the Town. Mr. Homuth mentioned that the Town had looked at purchasing a peninsula of land in the Bartz's Bay area in hope of creating a new public access area that would include a fishing pier, campsites accessible by boat, picnic shelter, boardwalk and parking area. This plan was not accepted by the Town Board due to the costs associated with it.

Mr. Homuth felt that the overall recreation on Lake Hayward has increased somewhat over the last several years, but, in his opinion, the lake is still very underutilized. He stated that he does not know of any issues with the existing facilities, other than the congestion associated with the wintertime parking along Chippewa Trail, and added that additional access points would be a welcome addition to the lake.

4.5 Donna Sorenson, Creel Clerk – WDNR

Ms. Sorenson worked on Lake Hayward as a creel clerk for the creel survey that was performed during 2014-2015. She visited the area regularly and performed instantaneous counts of anglers as well as regular interviews with anglers. She described the amount of use on the lake

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as light to moderate at times, but the lake never seems to be crowded enough to cause user conflicts. Ms. Sorenson estimated that roughly half of the boat anglers use the boat landing and the remainder are residents that live on the lake. She stated that the boat ramp is in good condition and meets the current needs, although some additional lighting in the parking lot would be helpful to users.

Ms. Sorenson noted that the ADA fishing pier is very popular and she often saw it filled with anglers. She has heard from anglers that it would be preferable to have the fishing pier located in deeper water. She explained that a previous fishing pier was located in an area where the fishing was better and anglers had better success in that area. She stated that a second pier would be a welcome addition to the lake. Ms. Sorenson stated that she did see some anglers using the areas near the dam and the occasional use of the canoe portage. She also noted that shore anglers were commonly seen using an unimproved right-of-way access at the Highway 77 bridge, especially during the spring.

Ms. Sorenson's duties did not include counts or interviews of beach users, but she did state that the beach was often heavily used and many non-anglers were often seen using the beach and park. She stated that the beach/park area and parking lot can reach capacity on warm summer days. Overall, she felt that additional access points to the lake would be the biggest improvement that could be made to the Lake Hayward area.

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5.0 RECREATIONAL USE ESTIMATES

5.1 Daytime Recreational Use

As described in Section 2.0, daytime recreational use estimates were extrapolated from multiple sources including a WDNR creel survey, trail counter, and event registration. Clearly these methods do not account for recreational use on the flowage that is not associated with a monitored facility or controlled site (i.e. residents or users of other unmonitored areas); therefore recreational use extrapolations do not refer to the total use occurring on the lake itself, just at the monitored facilities. Use estimates are provided as “daytime” estimates. Nighttime usage (e.g. overnight stays by the user) are considered to be negligible given the fact that no campgrounds, resorts or other recreational overnight facilities exist on Lake Hayward.

Total annual daytime use for the study period was estimated at 20,356 recreation days (Table 1). Of the recreational daytime use, 42 percent occurred at the Hayward Beach and Park, 38 percent occurred in relationship to cross country ski races and thirteen percent was attributed to fishing activity on the lake. Activity associated with the tailwater fishing areas and canoe portage is estimated to have comprised six percent of the overall use.

Summertime use (May through September) of Lake Hayward exceeded wintertime use (11,933 recreation days versus 8,423 recreation days, respectively). If the Birkebeiner ski race did not cross the lake, the wintertime recreation is estimated to have been just 606 recreation days. Due the Birkebeiner events, February was the largest month for recreation throughout the year followed by June and July (39, 23, and 15 percent of the annual recreation, respectively).

During the summer months, total recreational use during weekdays exceeded use during weekends and peak weekend days (summer recreational holidays and their adjacent weekend days) (Table 2). Average use during any day of a peak weekend (134 visits) was higher than average use of either summer month non-peak weekend or weekday use (94 visits and 68 visits per day, respectively).

During the winter months, average daily use was heavier on weekends than on weekdays (135 versus 2 visits per day, respectively) again due largely to the ski races which were both held on weekends. Without the ski races, average weekend use would have been estimated at 5 visits per day throughout the winter. No peak weekends occurred during the winter months (Figure 5).

When calculated over the entire year, weekday use comprised 37 percent of all recreational visits, weekends comprised 57 percent and peak weekends comprised six percent. Average daily use across the entire year of study for peak weekends, non-peak weekends and weekdays was 134; 119; and 29 visits per day, respectively.

As one would expect, a fairly strong correlation between weather and recreational use has been documented in other recreational studies which included instantaneous counts of users and notations of current weather conditions. Temperature and weather conditions (i.e. sunny, cloudy, rain, snow, etc.) have a large effect on the number of recreational users on any given

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day. This leads to a potentially large variation in the amount of recreational use during any given year. Summers characterized by rainy or cool weather can be expected to yield lower recreational numbers than summers which include more fair weather days. The recreational estimates contained in this report are for the specific period of study and may not reflect recreational use during any other timeframe.

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Month	Hayward Boat Landing	Hayward Beach/Park	ADA fishing pier and adjacent shore	Bartz's Bay Ice Access	Tailwater Fishing Areas	Canoe Portage	Cross Country Ski Races	Totals by Month
May	181	506	307	-	188	70	-	1,252
June	174	3,867	384	-	252	59	-	4,736
July	294	2,193	340	-	220	24	-	3,071
August	174	1,570	284	-	155	108	-	2,291
September	113	262	86	-	92	30	-	583
October	42	120	27	-	58	20	-	267
November	-	13	-	-	-	-	-	13
December	-	22	-	102	-	-	-	124
January	-	7	-	74	-	-	-	81
February	-	12	-	30	-	-	7,817	7,859
March	-	7	-	72	-	-	-	79
April	-	-	-	-	-	-	-	-
Total by Facility	978	8,579	1,428	278	965	311	7,817	20,356

Table 1. Extrapolated daytime recreational use (in recreation days) at Lake Hayward – May 2014 to April 2015

June 15, 2015

		Weekday	Weekend	Peak Weekend
Summertime	May	703	219	330
	June	2,845	1,891	0
	July	1,717	707	648
	August	1,574	551	165
	September	328	189	66
	TOTAL	7,167	3,557	1,209
	# days	106	38	9
	Ave Per Day	68	94	134

		Weekday	Weekend	Peak Weekend
Wintertime	October	194	73	0
	November	12	1	0
	December	45	79	0
	January	33	48	0
	February	18	7,841	0
	March	6	73	0
	April	0	0	0
	TOTAL	308	8,115	0
	# days	152	60	0
	Ave Per Day	2	135	N/A

		Weekday	Weekend	Peak Weekend
Year	TOTAL	7,475	11,672	1,209
	# days	258	98	9
	Ave Per Day	29	119	134

Table 2. Comparison of extrapolated recreational use at Lake Hayward by type of day – May 2014 to April 2015

June 15, 2015

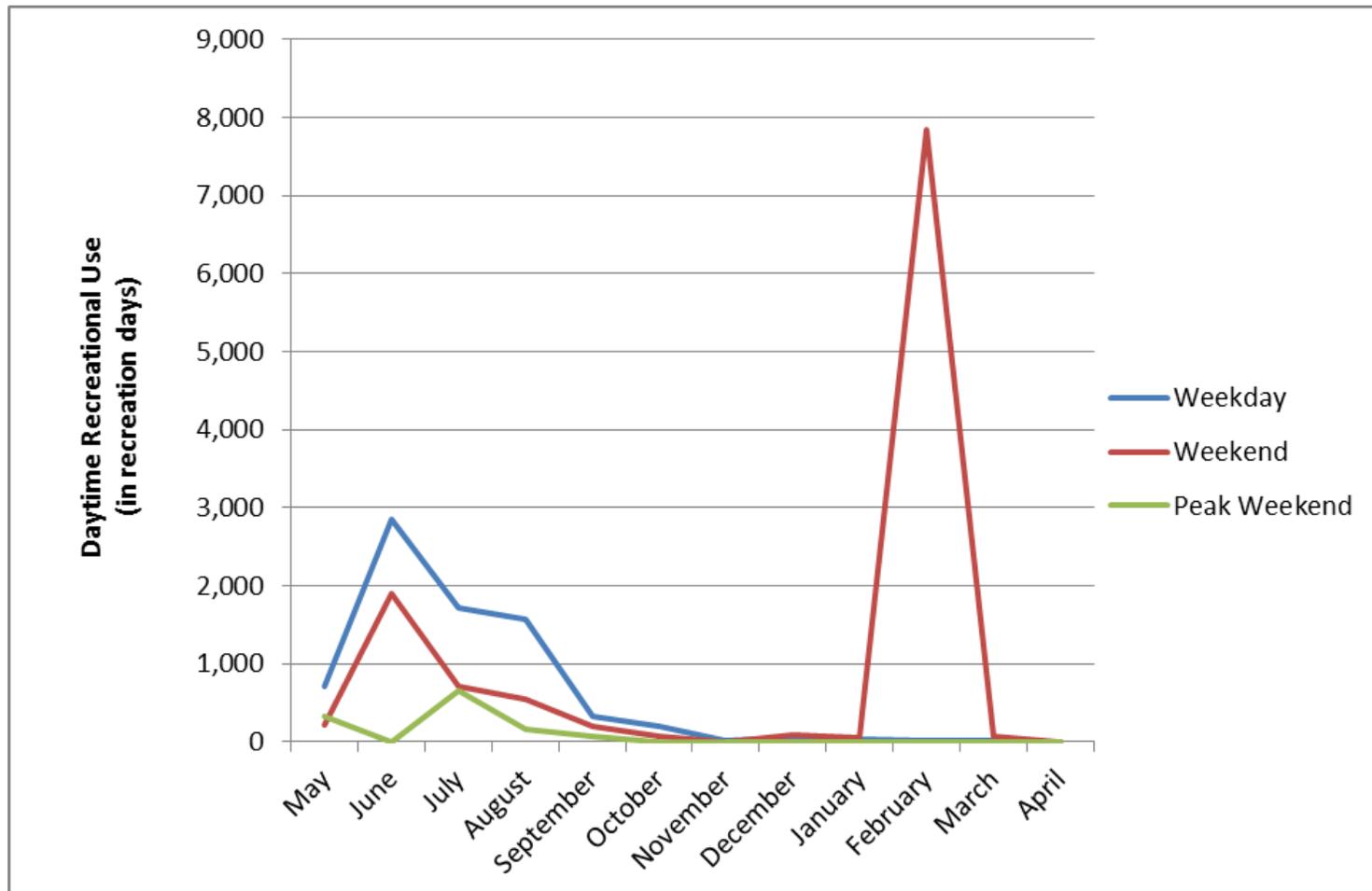


Figure 5. Extrapolated recreational use by month at Lake Hayward – May 2014 to April 2015.

June 15, 2015

6.0 RESULTS OF SELF-REPORTING SURVEYS

A total of 18 surveys were submitted and collected from the two survey box locations during the course of the study (Table 3). The majority of the surveys were collected during the month of July (12 of the 18 surveys), while no surveys were collected in May, June or at any time during the winter months. For many of the submitted surveys, not all sections were completed. Almost all respondents listed activities that were important and rated at least one individual facility.

Survey Collection Location	July	August	September	October	Total	Percentage
Hayward Boat Landing	3	0	0	1	10	55%
Hayward Beach	9	3	2	0	8	45%
Total (%)	12 (67%)	3 (17%)	2 (11%)	1 (6%)	18	100%

Table 3. Numbers and percentages of submitted surveys, by collection location, Hayward Recreation Report.

Respondents were asked to list up to five activities they considered to be important to them for the Lake Hayward area. Boat fishing was the most popular activity, followed by swimming and shore fishing (Table 4).

Activity	Respondents Reported
Boat Fishing	73%
Swimming	60%
Shore Fishing	60%
Enjoying Nature	53%
Boating	33%
General Play	27%
Walking/Jogging/Hiking	27%
Relaxing/Visiting	27%
Hunting	20%
Water Skiing/Tubing	20%
Snowmobiling/ATV	20%
Picnicking	13%
Photography	7%
Playing Sports	7%
Camping	7%
Biking	7%
Cross-county skiing	7%

Table 4. Percentage of respondents who reported listed activities as most important for the Hayward Hydro Project.

June 15, 2015

Overall, visitors were satisfied with the facilities on Lake Hayward. The average ratings (on a scale of 1 to 5) ranged from 2.8 for the tailwater fishing areas to 4.4 for both the Hayward boat landing and beach/park (Table 5). Each facility received at least one “5” (the maximum rating possible); the minimum rating for the boat landing and beach/park was a “3” and the minimum rating for the canoe portage was a “2”.

	Hayward Boat Landing	Hayward Beach/Park	Tailwater Fishing Areas	Canoe Portage
Minimum Rating	3	3	1	2
Median Rating	5	5	2.5	3.5
Maximum Rating	5	5	5	5
Average Rating	4.4	4.4	2.8	3.5
Standard Deviation	0.9	0.8	1.7	1.4
Number of responses	12	13	4	6

Table 5. Summary statistics for ratings (on a scale of 1 to 5) of recreation facilities on Lake Hayward.

Survey respondents were also asked to rate their overall recreational experiences on Lake Hayward on a scale of 1 to 10. A total of 15 surveys included this rating, resulting in an average rating of 8.4. The lowest rating received was a “4” and the highest rating was a “9”.

Comments provided by survey respondents (both facility-specific and general) provide valuable information about the public’s view of the adequacy of the recreational facilities and opportunities on Lake Hayward. Comments ranged from simple compliments, to suggestions of additions or improvements to specific facilities, to notes about cleanliness or other concerns. None of the comments made any mention of the facilities or Lake Hayward in general being busy or crowded. Comments from the collected surveys are summarized in Table 6. All four of the comments provided about the boat landing expressed a need for a dock to help loading and unloading boats. Several respondents suggested additions to the beach/park which could help improve cleanliness or usability of the area.

June 15, 2015

Facility	COMMENT
Hayward Boat Landing	Need a pier by boat landing
Hayward Boat Landing	Need a pier at the boat landing
Hayward Boat Landing	There needs to be a dock at the boat landing
Hayward Boat Landing	For single participant boating, would be nice to have boat dock
Hayward Beach/Park	Awesome
Hayward Beach/Park	Add shower to beach changing area
Hayward Beach/Park	Recommend fish sticks added to fishing areas
Hayward Beach/Park	Dirty beach (cigarettes in sand)
Hayward Beach/Park	Nice, quiet, beautiful beach; love the new dock
Hayward Beach/Park	Thank you for allowing dogs off-leash. This is the best
Hayward Beach/Park	Goose population makes its mark in all parks, but yours has been reasonably clean; nice bathroom.
Hayward Beach/Park	Smoking disposal cans by the beach area
Canoe Portage	Needs to be cleaned out
General	Concerned about invasive species
General	Weeds need to be addressed, Association has been started, but needs help
General	Best lake ever. Been enjoying Hayward lake and area for over 47 years

Table 6. Summary of comments provided during the Lake Hayward Recreation Study.

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7.0 DISCUSSION OF ADEQUACY OF CURRENT FACILITIES

Overall, the Lake Hayward area offers a good amount of recreational opportunity for both land and water users. There appears to be ample opportunity for day users but little opportunity for overnight recreational users (i.e. campers, etc.) but the Hayward area as a whole offers a great deal of overnight opportunities. The facilities are limited in number but in good condition, and receive regular maintenance and upgrades when required. The number and size/capacity of the facilities present appear sufficient to accommodate the current amount of use on all but the busiest of days. The sections below discuss the level of use and adequacy for day use boat and day use non-boat users.

7.1 Day use by boaters

The number of boaters on Lake Hayward appears to have remained fairly low over the last six years and does not appear to be causing any congestion, safety concerns or competition for space among recreationists engaging in different activities. The small size of the lake, coupled with the availability of numerous larger lakes in the area is likely to keep boating pressure low and help avoid safety risks, high chance of user interference, or high probability of environmental harm. The single boat landing is adequate for the current amount of use, although the parking lot can be overwhelmed by other vehicles at times. No complaints have been received of any competition for space or conflicts between anglers and recreational boaters.

7.2 Day use by Non-boaters

The Hayward Beach and Park is a very popular recreation destination for swimmers, shore anglers and other people wishing to take part in non-boat activities, especially during summer days. The beach and park areas receive heavy use during the summer when the weather is pleasant. This facility is the only public swimming area on the lake and is a popular recreation area due to its playground facilities, picnic areas and other such amenities. While it appears that these facilities are meeting the current demand of summertime day-users on many days, it would seem that the area does get overcrowded on certain days. Unfortunately, a large percentage of the shoreline of Lake Hayward is privately owned and there is little opportunity to create additional day-use areas to help distribute the current demand more evenly.

There are few areas around Lake Hayward where public shore fishing is possible, and only one ADA compliant fishing pier exists on the lake. The pier has been very heavily used since its installation, and it appears that the area could benefit from additional fishing piers or shore fishing opportunities in other areas of the lake.

June 15, 2015

8.0 RECOMMENDATIONS FOR THE FUTURE

Based on the results of this recreation study, including the evaluation of existing facilities and discussions with key personnel associated with Lake Hayward, we've made the following recommendations. Please note that these recommendations are solely the opinion of the author(s) and do not necessarily reflect those of Xcel Energy, the applicable resource agencies, or any of the organizations/persons referenced in this report.

City of Hayward

1. Consider adding a dock to the Hayward boat landing to make loading and unloading boats easier.
2. Evaluate the effectiveness of the light in the boat landing parking area to ensure adequate lighting for users.
3. Increase awareness (signs, etc.) of the damaging effects of power-loading a boat at landings. This can help decrease the need for maintenance of the landing area.
4. Consider ways to develop the access currently owned by the City on the north-central portion of the lake

Xcel Energy

5. Evaluate the potential erosion and washout of the tailwater fishing areas and add drainage as necessary.

June 15, 2015

9.0 REFERENCES

Morris, Randolph, P. 2007. The contribution of outdoor-based recreation opportunities to local economies: the economic impacts of rock-climbing to the Squamish region. Master's thesis. Simon Fraser University. 115 pp.

Schreuder, H.T., Tyre, G.L. & James, G.A. (1975). Instant- and interval-count sampling: two new techniques for estimating recreation use. *Forest Science*, 21(1): 40-44.

June 15, 2015

APPENDIX A

Agency Correspondence



1414 West Hamilton Avenue
P.O. Box 8
Eau Claire, WI 54702-0008

June 23, 2015

Ms. Cheryl Laatsch
WI Dept. of Natural Resources
N7725 Hwy 28
Horicon WI, 53032

Ms. Angela Tornes
National Park Service
626 E. Wisconsin Ave., Suite 400
Milwaukee, WI 53202

Nick Utrup
US Fish & Wildlife Service
4101 American Boulevard East
Bloomington, MN 55425

Mr. John McCue
City of Hayward Public Works
P.O. Box 969
Hayward, WI 54843

**Subject: Draft Recreation Report
Hayward Hydro Project (P-2417)**

Dear Ms. Laatsch, Mr. Utrup, Ms. Tornes and Mr. McCue:

Article 414 of the Federal Energy Regulatory Commission's (FERC) license for the Hayward Hydro Project requires Xcel Energy (licensee) to monitor recreational use within the project area to determine whether the existing recreation facilities are adequate for recreation needs. The Hayward Recreation Report addresses all of the items requested in Article 414. A summary of the reporting requirements is provided at the beginning of the report.

Please provide any comments you may have by July 25, 2015. If I do not hear from you by then, I will assume you are satisfied with the report and will file it accordingly with FERC. Should you have any questions, feel free to contact me by telephone at (715) 737-1353 or by e-mail at matthew.j.miller@xcelenergy.com.

Sincerely,

A handwritten signature in cursive script that reads 'Matthew Miller'.

Matthew Miller
Hydro Licensing Specialist

Enclosure: Draft Hayward Recreation Report

c: Hayward Project File



United States Department of the Interior

NATIONAL PARK SERVICE

Midwest Regional Office/ Wisconsin Field Office
Hydropower Assistance Program
626 E. Wisconsin Avenue, Suite 400
Milwaukee, WI 53202

August 3, 2015

Mr. Matt Miller,
Xcel Energy
P.O. Box 8
Eau Claire, WI 54702

Subject: Review of Draft Recreation Report for Hayward Hydro, FERC No. 2417

Dear Mr. Miller,

Thank you for sending the Draft Recreation Report for Hayward Hydro; we have the following comments.

The report and analysis are well done. We concur with all of the recommendations made in Section 8, "Recommendations for the Future" and believe Xcel Energy should bear the greater percentage e.g. 80%, of the financial burden of implementing the measures. This includes the improvements listed for properties owned by the City of Hayward as well as the Xcel Energy.

We appreciate the opportunity to provide comment. Feel free to contact me at 414.297.3605 or angie_tornes@nps.gov if you have questions.

Sincerely,

Angela M. Tornes

Cc:
Federal Energy Regulatory Commission
Cheryl Laatsch, Wisconsin Department of Natural Resources



June 15, 2015

Below is the text or summary of agency comments in bold italics with licensees' responses following.

National Park Service

The report and analysis are well done. We concur with all of the recommendations made in Section 8, "Recommendations for the Future" and believe Xcel Energy should bear the greater percentage e.g. 80%, of the financial burden of implementing the measures. This includes the improvements listed for properties owned by the City of Hayward as well as the Xcel Energy.

The recommendations for the City boat landing (dock, lighting, and signage) in Section 8 would fall under the responsibility of the City of Hayward and do not directly relate to the adequacy of the facility.

The decision to develop the City-owned parcel on the north-central portion of the lake for recreation purposes is the sole discretion of the City of Hayward. Furthermore, the report found no evidence of a need for additional recreation facilities.

Licensee's operator routinely inspects the tailwater area for evidence of washout, erosion or seepage as this may be evidence of a dam safety issue. Currently there is no need for erosion or drainage control in the tailwater area at this time.