Appendix I – Recreation

RECREATION BENEFIT ANALYISIS

Marsh Lake, Minnesota

1.1 RECREATION BENEFIT ANALYSIS

Providing future recreational opportunities is an important part of this region by not only proving tourism dollars to the local economy but also providing a higher quality of life. An analysis of current local recreation, local user counts and studies, SCORP information, recreational professionals input and available State and Federal recreation was accomplished.

1.1.1 Recreation Benefits Without Site Facilities

Without the cost-shared proposed recreation features, recreation in the project area would be limited. Due to the lack of access to the project without the proposed recreation features, no recreation activities are forecasted to occur. Therefore no benefits were found for without-project conditions.

1.1.2 Recreation Challenges

The Marsh Lake Restoration plan with recreational features directly aligns with the Minnesota State Comprehensive Outdoor Recreation Plan (SCORP). Highlighted below are the five challenges listed for outdoor recreation in Minnesota along with the features included in this Feasibility Study that address these challenges.

- *Challenge #1 - Natural Resource Base*
  The highest priority is to address a declining natural resource base and the need to protect and restore the natural resource base on which outdoor recreation depends. Minnesota has a great deal of federal-, state- and county-owned or administered land, but most of it is in the northern third of the state and does not offer close-to-home recreational opportunities for most of the state's population. About two-thirds of all recreation use occurs within a half-hour drive from home, according to the 2004 Outdoor Recreation Participation Survey of Minnesotans.

- *Challenge #2 - Sustaining Existing Facilities*
  The Minnesota State Comprehensive Outdoor Recreation Plan (SCORP) calls for sustaining existing outdoor recreation facilities for future generations. The state still needs to invest in the outdoor recreation infrastructure to ensure that it is accessible, safe, energy efficient, economical to operate and maintain and flexible enough to accommodate changing needs.

  Project Features: Update Corps of Engineers Day Use facility at dam structure to include picnic area, comfort stations, and construction of a pedestrian bridge. Update boat ramps around Marsh Lake. Construct and update Canoe/Kayak launches and portage areas.

- *Challenge #3 - Healthy Lifestyle*
  SCORP noted the connection between outdoor recreation and a healthy lifestyle. If anything, this connection is even more relevant today. A 2006 survey by the United Health Foundation found that while Minnesotans are generally healthier than people in the rest of the country, yet there has been a 132 percent rise in the obesity rate of Minnesotans since 1990.

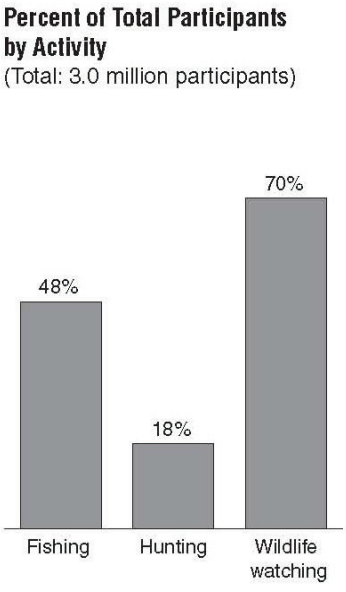
  Project Features: Pedestrian and bike bridge development across Marsh Lake spillway will provide connectivity to local and state bike trails. Canoe launch and portage area at dam location will provide connectivity for the Minnesota River State Water Trail.

- *Challenge #4 - Connecting People and Nature*
  SCORP identified the need to expand nature-based outdoor recreation experiences for young people by providing "near-by" access to nature and allowing time for frequent unstructured play and exploration. SCORP expands the theme to include reconnecting many adult Minnesotans with the outdoors.

  Project Features: Provide interpretive kiosks at existing boat ramps on Marsh Lake to interpret the environmental and cultural features of this project and area. These kiosks will also acquaint people with the myriad of recreational opportunities available to them and within the nearby Minnesota River Corridor.

- *Challenge #5 - Population Changes*
  Although Minnesota's population has increased in recent years the project area's population has experienced a decline. Minnesota's population has become older, more culturally and ethnically diverse and more concentrated in urban and urbanizing areas. These changes mean that who participates in outdoor recreation, what activities they participate in, where they participate, why they participate and when they participate also have changed. (Refer to Section 2.9 Social and Economic Conditions)

  Participation rates in some activities, such as fishing and hunting, are declining. At the same time, participation rates in other activities, such as ATV-riding and kayaking are increasing. (MN SCORP) The fastest growth in outdoor recreation participation is projected for activities that are popular with older adults. These adults are more active and living longer than past generations. Older adults tend to participate in low impact activities such as bird watching, wildlife photography, biking, hiking, and fishing. (US Forest Service; Customer Diversity and the Future Demand for Outdoor Recreation, 1994.)



  Project Features: Provide canoe/kayak access area and portage area near spillway. This will actually

provide a two for one – access to both the Minnesota River and Pomme de Terre River providing linkage to the Minnesota River State Water Trail. Update facilities at boat landings to include fishing and wildlife viewing platforms and interpretive kiosks. Update facilities to include accessibility.

1.1.3 Population Market Area

Population sources for Big Stone, Lac qui Parle, Swift and Chippewa Counties were obtained from the U.S. Census. For the purpose of this study, all four counties have been included in the Market Area population, see Table 1. A linear extrapolation of 2000-2008 US census figures was assuming a constant rate of change, was applied. This extrapolation methodology has been used in previous studies for MVP and is an acceptable method of acquiring quantifiable data and would reflect the best available data. This rate was calculated up to project year 2024 where the population was held constant to project year 2064. Due to the fluctuation of populations and increase in immigrants to the area[1], population trends appear to decline in the short term and plateau over time.

Table 1 – Market Area Population

Place	Base Population		Population Change	Population Predictions*					
	2000	2008	2000-08	2014	2024	2034	2044	2054	2064
Lac Qui Parle County	8,067	7,165	-11.2%	6,489	5,361	5,361	5,361	5,361	5,361
Chippewa County	13,088	12,414	-5.1%	11,909	11,066	11,066	11,066	11,066	11,066
Swiift County	11,956	11,035	-7.7%	10,345	9,193	9,193	9,193	9,193	9,193
Big Stone County	5,802	5,365	-7.5%	5,038	4,491	4,491	4,491	4,491	4,491
Regional Totals	**38,913**	**35,979**		**33,781**	**30,111**	**30,111**	**30,111**	**30,111**	**30,111**

*Linear extrapolation of 2000-2008 US census figures, assuming a constant rate of change.

1.1.4 Participation and Demand

The participation rate in per capita activity days for recreation activity was derived from reviewing the 2004 Outdoor Recreation Participation Survey of Minnesotans – Report on Findings. The rates used were taken from the South region for users. The participation rate change from 1999-2001 to 2005-2009 is from the Long-Term National Trends in Outdoor Recreation Activity Participation---1980 to Now, A Recreation Research Report in the IRIS Series. The rate was calculated up to project year 2034 in spite of unchanging regional population. This was based upon the growth in usage the Marsh Lake area has seen in the past several years as well as the growing older population who traditionally participate in more passive recreation such as wildlife viewing. [2] The increase in immigrant populations also plays a role in determining growth; day use activities are

[1] Pew Hispanic Center, (n.d.). *Demographic Profile of Hispanics in Minnesota, 2007.* Retrieved from http://www.pewhispanic.org

[2] Cordell, H. Ken, Green, Gary T., Betz, Carter J, USDA Forest Service, University of Georgia. May 2009. Long-Term National Trends in Outdoor Recreation Activity Participation –1980 to Now, A Recreation Research Report in the IRIS Series. Retrieved on September 14, 2009, from http://warnell.forestry.uga.edu/nrrt/nsre/IrisReports.html.

more prevalent in immigrant populations such as fishing and picnicking.[3] These participation rates are shown in Table 2.

Table 2 – Participation Rates (in Per Capita Activity Days) by Recreation Activity

Primary Activity:	Rate of Change	2004	2014	2024	2034	2044	2054	2064
Picnicking	0%	3.72	3.72	3.72	3.72	3.72	3.72	3.72
Wildlife Viewing	18%	18.84	21.99	25.14	28.29	28.29	28.29	28.29
Fishing	7%	1.76	1.87	1.97	2.08	2.08	2.08	2.08
Canoe/kayak	16%	0.51	0.59	0.66	0.74	0.74	0.74	0.74

Projected demands for (proposed) project-supported recreations are given in Table-3. The projected public use demand (in activity days) is calculated using recreation activity participation rates (Table-2), population projections for the surrounding counties from Table-1, recreation years and participation rates (per activity), and professional judgment in consultation with the MN DN, US Fish and Wildlife and other recreation and wildlife specialists. The years for depicting projected growth were chosen to reflect a fifty-year project life. Tables 3, 5 and 6 show 2014 as the first project year. This year is used in the tables because it is the proposed project construction completion date.

Table 3 – Market Area Activity Days

Primary Activity:	Year:									
	2014	2015	2016	2017	2018	2024	2034	2044	2054	2064
Market Area Population:	33,781	33,414	33,047	32,680	32,313	30,111	30,111	30,111	30,111	30,111
Picnicking										
Participation Rate	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72
Activity Days/Year	125,665	124,300	122,935	121,570	120,204	112,013	112,013	112,013	112,013	112,013
Wildlife Viewing										
Participation Rate	21.99	22.31	22.62	22.94	23.25	25.14	28.29	28.29	28.29	28.29
Activity Days/Year	742,892	745,351	747,579	749,576	751,341	757,076	851,968	851,968	851,968	851,968
Fishing										
Participation Rate	1.87	1.88	1.89	1.90	1.91	1.97	2.08	2.08	2.08	2.08
Activity Days/Year	63,076	62,749	62,414	62,071	61,720	59,451	62,679	62,679	62,679	62,679
Canoe/Kayak										
Participation Rate	0.59	0.59	0.60	0.61	0.62	0.66	0.74	0.74	0.74	0.74
Activity Days/Year	19,781	19,819	19,851	19,877	19,898	19,908	22,183	22,183	22,183	22,183

1.1.5 Estimate of Current and Future Usage of Proposed Activities

Lacking a comprehensive site design, Table-4, establishing the maximum design capacity value, is a conservative estimate based on a concept (See Section 7.2 of the main report). Satisfactory limits on site visitation, feature conflicts, and neighborhood impacts would be established during the design phase of the proposed project. Visitation, parking, etc., will be adjusted to minimize negative social affects and over-use. Annual Primary

[3] Dunn, Robert A. 2002. Managing for Ethnic Diversity: Recreation Facility and Service Modifications for Ethnic Minority Visitors. Prepared for the U.S Army Corps of Engineers, Engineer Research and Development Center.

Activity Days were developed for the four site oriented recreational activities listed below in table 4. This was calculated by multiplying (supply of units) x (people per unit) x (turn over rate) x (weeks in season) and divided by (weekend day use) x (recreation season use). This formula determines the annual activity occasions which in turn is used to develop Annual Primary Activity Days as shown in Table 5. Design capacity values were based on Carrying Capacity guidelines in the "Optimum Recreation Carrying Capacity" developed for the U.S. Department of the Interior in 1977.

A Primary Activity Day (or visitor day) is a standard unit of use consisting of a visit by an individual to a recreation area during a 24-hour period. People often engage in more than one activity occasion during any given recreational site visit. A person engaged in bicycling, walking/jogging, or picnicking, etc., tends to participate in more than one activity per day; they might also bird watch or photograph the outdoors on the same day. The Primary Activity Day therefore, is considered to consist of 1.25 activity occasions/day for most types of recreation. The Annual Primary Activity Days listed in Table 5 was derived from dividing the annual capacity in occasions by the activity day factor. This was necessary so as to avoid double counting of visitors engaging in more than one activity during the day.

Based upon the growth in usage the Marsh Lake area has seen in the past several years picnicking, fishing, canoeing and wildlife viewing, was projected at 40 percent of capacity the first year, 50 percent of capacity the second year, 60 percent capacity the third year, 80 percent capacity the fourth year and full capacity the fifth year.

Table 4 – Project Recreation Features: Maximum Capacity and Expected Use

Site Recreation, Design Capacity Values						
Primary Activity	(u)= Supply of Units	(p) = People per Unit	(t) = Turnover Rate	(s) = Weeks in Season	(w) = Weekend Day Use	(y) = Recreation Season Use
Picnicking	4	4	2	18	30%	70%
Fishing	21	2	2	22	20%	65%
Canoeing*	36	2	1	18	30%	65%
Wildlife Viewing	72.5					

*The limiting factor for supply of units for canoeing is the boat launch rather than the available area. Assuming 20 minutes per launch (1) over a 12-hour day

Table-5 shows estimated recreation site capacity (from Table-4, converted to activity days) by major recreation activities that would be supported by the project.

Table 5 – Estimated Annual Use, Per Site and Activity

Primary Activity:	Activity Occasions*	Conversion Factor	Activity Days (2014)	Activity Days (2015)	Activity Days (2016)	Activity Days (2017)	Activity Days (2018-2064)
Picnicking	2,743	1.25	878	1,098	1,317	1,756	2,195
Fishing	14,215	1.25	4,549	5,687	6,824	9,098	11,373
Canoeing	6,646	1.25	2,127	2,659	3,190	4,254	5,317
Total Site Activity Days			7,554	9,443	11,331	15,108	18,885
SUBTOTAL ACTIVITY DAYS			7,554	9,443	11,331	15,108	18,885
Wildlife Viewing**	72.5%	1.25	4,382	5,477	6,572	8,763	10,954
TOTAL ANNUAL PRIMARY ACTIVITY DAYS* **			**11,936**	**14,920**	**17,903**	**23,871**	**29,839**

* Capacity of Recreation Use in Activity Occasions = upts/wy
**72.5% of Total Activity Days for Site Recreation
***Annual Primary Activity Day numbers may contain rounding errors

1.1.6 Annual Recreation Benefits

Table-6 shows the projected recreation visitation over the life of the project. The design provides a positive social value in that less popular forms of recreation can also be supported and provided by the project's main features at little or no additional cost. Noting the excess demand for each activity, it is evident the project will provide a positive percentage of the market area recreation needs for years to come. Visitation growth of the project is tied to recreation growth as indicated by the Long-Term National Trends in Outdoor Recreation Activity Participation and the population growth expected for the region.

The numbers shown may be somewhat affected by final site design, as stated earlier. Other factors that could affect these values are: changes outside of the population value ranges estimated, enlarging the recreation sites and features, additional recreation features, climate change, or the addition of recreation features not supported by this project.

Table 6 – Project Recreation and Excess Demand

Primary Activity:		Year:									
		2014	2015	2016	2017	2018	2024	2034	2044	2054	2064
Picnicking											
(Table 3)	Market Zone Demand	125,665	124,300	122,935	121,570	120,204	112,013	112,013	112,013	112,013	112,013
(Table 5)	Demand Met by Proposed Facilities	878	1,098	1,317	1,756	2,195	2,195	2,195	2,195	2,195	2,195
	Excess Demand	124,787	123,203	121,618	119,814	118,009	109,818	109,818	109,818	109,818	109,818
Wildlife Viewing											
(Table 3)	Market Zone Demand	742,892	745,351	747,579	749,576	751,341	757,076	851,968	851,968	851,968	851,968
(Table 5)	Demand Met by Proposed Facilities	4,382	5,477	6,572	8,763	10,954	10,954	10,954	10,954	10,954	10,954
	Excess Demand	738,510	739,874	741,007	740,813	740,387	746,122	841,014	841,014	841,014	841,014
Fishing											
(Table 3)	Market Zone Demand	63,076	62,749	62,414	62,071	61,720	59,451	62,679	62,679	62,679	62,679
(Table 5)	Demand Met by Proposed Facilities	4,549	5,687	6,824	9,098	11,373	11,373	11,373	11,373	11,373	11,373
	Excess Demand	58,527	57,062	55,590	52,973	50,347	48,078	51,306	51,306	51,306	51,306
Canoe/Kayak											
(Table 3)	Market Zone Demand	19,781	19,819	19,851	19,877	19,898	19,908	22,183	22,183	22,183	22,183
(Table 5)	Demand Met by Proposed Facilities	2,127	2,659	3,190	4,254	5,317	5,317	5,317	5,317	5,317	5,317
	Excess Demand	17,654	17,160	16,661	15,624	14,581	14,591	16,866	16,866	16,866	16,866

1.1.7 Unit Day Values

The Unit Day Value (UDV) method was used to determine daily recreation benefits. This method was chosen because local wildlife and recreation experts were extremely knowledgeable and provided ample data regarding the existing recreation opportunities as well as needs and priorities for Marsh Lake. UDV was also chosen because the recreation facilities will not influence the project selection and the total project annual visits are also not forecasted to be more than 750,000.

Unit day values were developed for each recreational activity. This methodology relies on professional judgment to assign point values to five specific criteria:

- Recreation Experience—pertains to the availability and quality of activities on site.
- Availability of Opportunity—is specific to travel times and scarcity of activities.
- Carrying Capacity—concerns the level of site recreation development.
- Accessibility—pertains to the ease of access, specifically by automobile.
- Environmental—is specific to the aesthetic qualities of the site and surrounding areas.

The total points assigned are converted to a unit-day value, which is then applied to the estimated visitation to derive the overall benefits. The points were assigned to the criteria as outlined in Table-7. These points were then converted to a Unit Day Value using "General Recreation" point-to-value data for Fiscal Year 2010, with a range for general recreation of $3.58 -$10.75.

This method is outlined in the *Economics Guidance Memorandum 11-03, Unit Day Values for Recreation, Fiscal Year 2011*. The table provided in the memorandum was adjusted from Table K-3-1, Federal Register Vol. 44, No. 242, p.72962, December 4, 1979, using the CPI factor.

Point assignment for both types of recreation is assumed using parameters outlined in the memorandum and assumptions by a recreation professional. Points are adjusted, from a maximum assignment, by judgment factors set forth for each criterion. Maximum points vary according to the criteria and are shown in Table-7.

Table 7 – Unit Day Values

Criteria and (Maximum Points)	Picnicking	Wildlife Viewing	Canoe / kayak	Fishing
Recreation Experience (30)	12	23	23	23
Availability (18)	3	3	3	3
Carrying Capacity (14)	8	10	5	8
Accessibility (18)	12	15	7	7
Environmental Quality (20)	8	8	10	10
Total Points Assigned (100)	43	59	48	51
Unit Day Values*	**6.99**	**8.22**	**7.44**	**8.38**
2011 UDV = $3.58 -$10.75				

1.1.8 Benefit Computation

Recreation benefits attributable to the proposed site recreation facilities were based on projected demand for the primary activities listed in Table 6. These demand estimates over the period of analysis were used in conjunction with Unit Day Values developed for each of the recreational activities. Demand at each project year was multiplied by the appropriate Unity Day Value for each recreation activity. The value of the recreation activity at each project year was converted to a present worth value using a 4 1/8 percent annual interest rate. The sum of these present worth values, by recreational activity were converted to an average annual dollar value, given a 50 year project life and a 4 1/8 percent annual interest rate. Table 8 shows the Average Annual Benefit summary.

Table 8 – Project Recreation Average Annual Benefit

Picnicking	$	14,381
Wildlife Viewing	$	84,393
Fishing	$	89,327
Canoe/kayak	$	36,828
TOTAL ANNUAL AVG BENEFITS	**$**	**224,929**

The present value of estimated construction costs, contingencies, engineering, design, construction management, and interest during construction were calculated to be $447,800. This present value was amortized at 4 1/8 percent over the 50-year life of the project. The resulting annualized cost of $21,293.33 was added to the estimated annual operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) cost of $2,161 for a total annual cost of $23,454.33. The net annual benefits, or the annual benefits minus the annual costs, are $201,474.67. The benefit-cost ratio, or the annual benefits divided by the annual costs, was calculated to be 9.59. Therefore, the Marsh Lake proposed recreation plan is economically justified. The Federal costs of the Marsh Lake Ecosystem Restoration project with the recreation facilities would be approximately .4 percent greater than the Federal costs of the project without the recreation facilities, less than the 10 percent limit, in accordance with ER 1105-2-100.

1.2 REFERENCES

- 2004 Outdoor Recreation Participation Survey of Minnesotans – Report on Findings, Tim Kelly, Office of Management and Budget Services, Minnesota Department of Natural Resources, January 2005.

- Economics Guidance Memorandum 11-03, Unit Day Values for Recreation, Fiscal Year 2011, U.S. Army Corps of Engineers, November 2010.

- ER 1105-2-100, Planning Guidance Notebook, U.S. Army Corps of Engineers. April 22, 2000.

- Long-Term National Trends in Outdoor Recreation Activity Participation –1980 to Now, H. Ken Cordell, Gary T. Green and Carter J. Betz, May 2009.

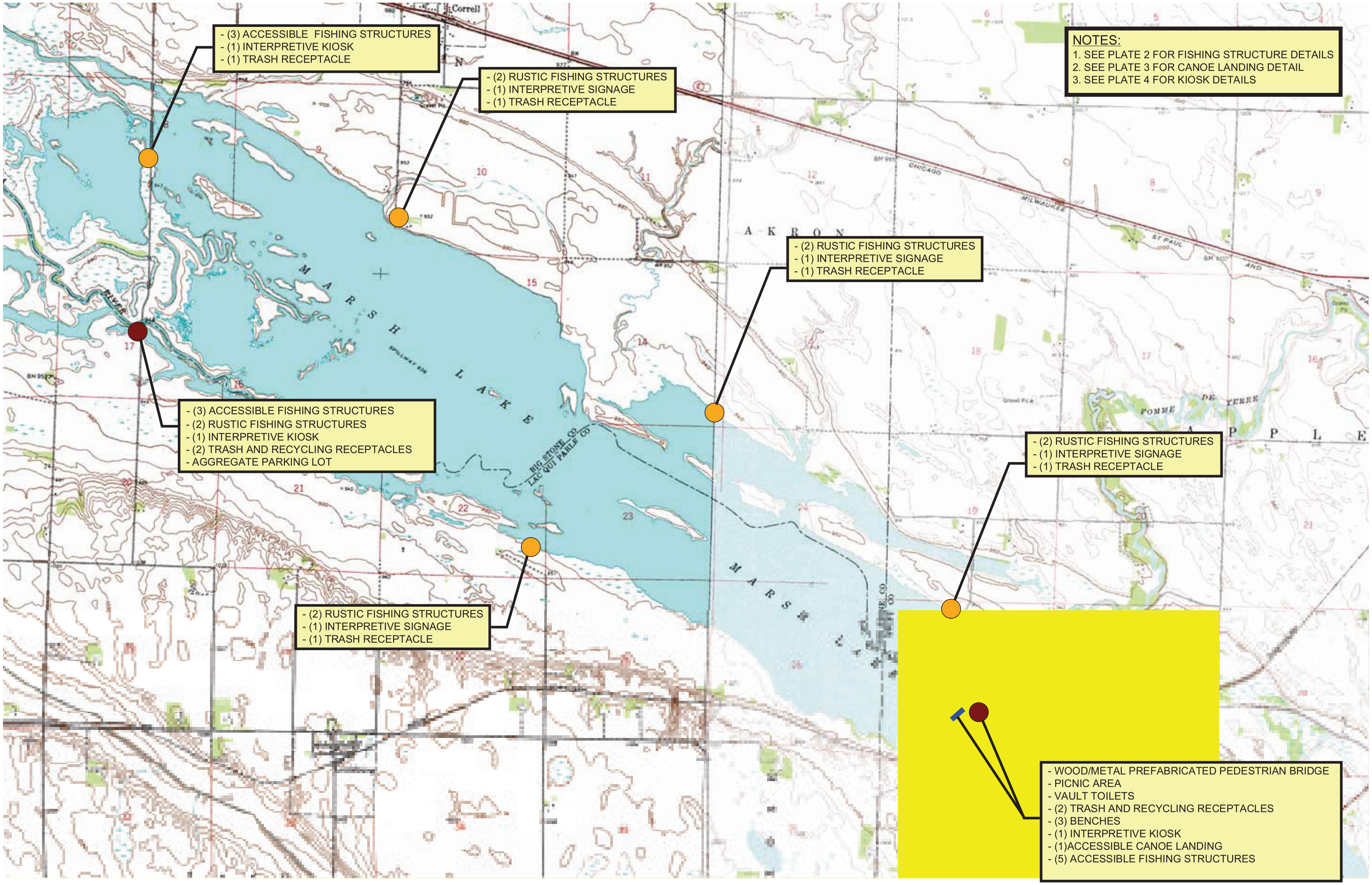
- Minnesota's Outdoor Legacy: Strategy for the 90's. Statewide Comprehensive Outdoor Recreation Plan for 1990-1994, Minnesota Departments of Natural Resources and Trade and Economic Development. 1990.

- Population Estimates: Metropolitan and Micropolitan Statistical Areas, U.S. Census Bureau. (2000). Retrieved on August 4, 2009, from http://www.census.gov/popest/metro/metro.html.

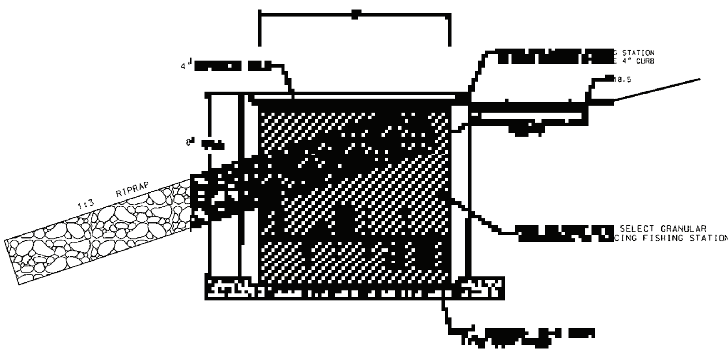
- The 2008-2012 Minnesota State Comprehensive Outdoor Recreation Plan, Office of Management and Budget Services. Minnesota Department of Natural Resources. 2007.

- Urban Research and Development Corporation, Guidelines for Understanding and Determining Optimum Recreation Carrying Capacity, Prepared for the U.S. Department of the Interior, 1977.

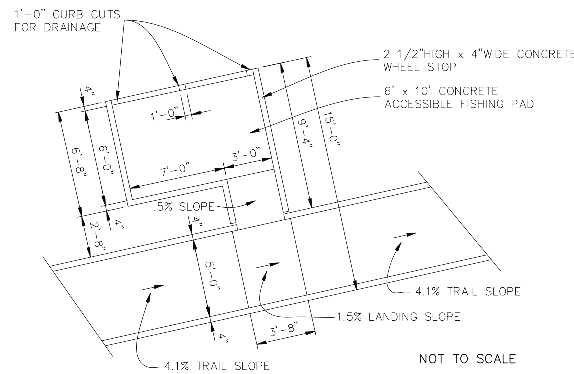
- Urban Research and Development Corporation, Recreation Carrying Capacity Handbook – Methods and Techniques for Planning, Design, and Management, Prepared for the U.S. Army Corps of Engineers, July 1980.


- (3) ACCESSIBLE FISHING STRUCTURES
- (1) INTERPRETIVE KIOSK
- (1) TRASH RECEPTACLE
- (2) RUSTIC FISHING STRUCTURES
- (1) INTERPRETIVE SIGNAGE
- (1) TRASH RECEPTACLE
NOTES:
1. SEE PLATE 2 FOR FISHING STRUCTURE DETAILS
2. SEE PLATE 3 FOR CANOE LANDING DETAIL
3. SEE PLATE 4 FOR KIOSK DETAILS
- (2) RUSTIC FISHING STRUCTURES
- (1) INTERPRETIVE SIGNAGE
- (1) TRASH RECEPTACLE
- (3) ACCESSIBLE FISHING STRUCTURES
- (2) RUSTIC FISHING STRUCTURES
- (1) INTERPRETIVE KIOSK
- (2) TRASH AND RECYCLING RECEPTACLES
- AGGREGATE PARKING LOT
- (2) RUSTIC FISHING STRUCTURES
- (1) INTERPRETIVE SIGNAGE
- (1) TRASH RECEPTACLE
- (2) RUSTIC FISHING STRUCTURES
- (1) INTERPRETIVE SIGNAGE
- (1) TRASH RECEPTACLE
- WOOD/METAL PREFABRICATED PEDESTRIAN BRIDGE
- PICNIC AREA
- VAULT TOILETS
- (2) TRASH AND RECYCLING RECEPTACLES
- (3) BENCHES
- (1) INTERPRETIVE KIOSK
- (1)ACCESSIBLE CANOE LANDING
- (5) ACCESSIBLE FISHING STRUCTURES
MARSH LAKE
AKRON
MARSH LAKE
POMME DE TERRE
APPLE
RIVER
Correll
CHICAGO MILWAUKEE ST PAUL AND
BIG STONE CO
LAC QUI PARLE CO

PROPOSED FISHING STATION

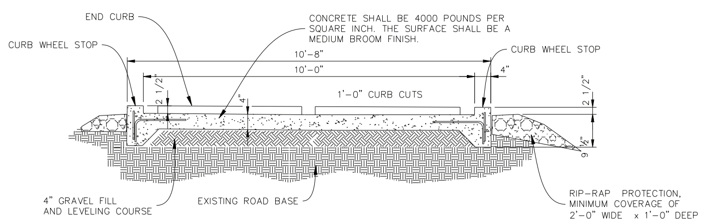


NOT TO SCALE



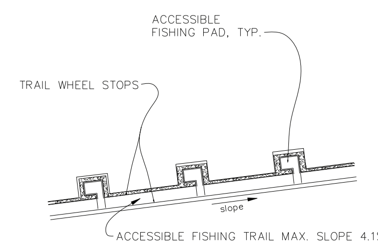
NOT TO SCALE

ACCESSIBLE FISHING RAMP
TYPICAL FISHING PAD



NOT TO SCALE

ACCESSIBLE FISHING RAMP
FISHING PAD SECTION VIEW



NOT TO SCALE

ACCESSIBLE FISHING RAMP
SITE PLAN

US Army Corps of Engineers®
ST. PAUL DISTRICT

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

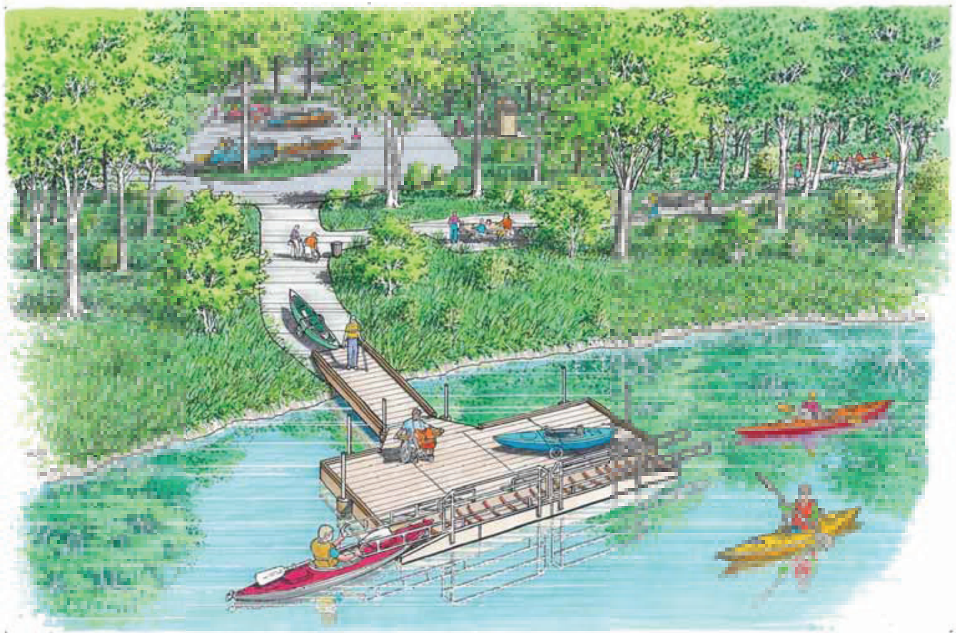
U.S. ARMY CORPS OF ENGINEERS
ST. PAUL DISTRICT
ST. PAUL, MINNESOTA

DESIGNED BY: | DATE:
DWN BY: RCM | CKD BY: | SOLICITATION NO.:
SUBMITTED BY: | CONTRACT NO.:
PLOT SCALE: | PLOT DATE: No | FILE NUMBER:
SIZE: | FILE NAME: MSHLKD_recplan2.dgn

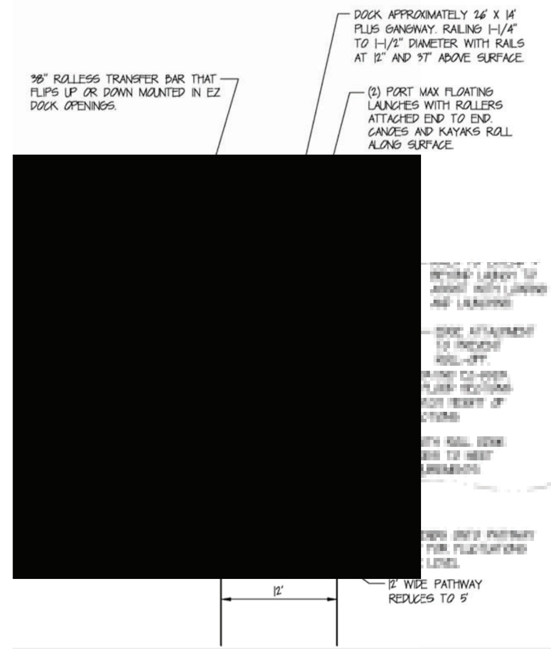
FEASIBILITY STUDY
MARSH LAKE
APPLETON, MN

ECOSYSTEM RESTORATION
FISHING STRUCTURE DETAILS

SHEET IDENTIFICATION
PLATE 2



* Pam Blough, PM Blough, Inc. (2/23/2009) *Universally Accessible Canoe and Kayak Launch.*
Retrieved from http://www.designingaccessiblecommunities.org



NOT TO SCALE

ACCESSIBLE CANOE
AND KAYAK LAUNCH*

US Army Corps of Engineers
ST. PAUL DISTRICT

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. PAUL DISTRICT
ST. PAUL, MINNESOTA

DESIGNED BY: | DATE:
DWN BY: RCM | CKD BY: | SOLICITATION NO.:
SUBMITTED BY: | CONTRACT NO.:
PLOT SCALE: | PLOT DATE: No | FILE NUMBER:
SIZE: | FILE NAME: MSHLKD_recplan3.dgn

FEASIBILITY STUDY
MARSH LAKE
APPLETON, MN

ECOSYSTEM RESTORATION
CANOE LAUNCH DETAIL

SHEET IDENTIFICATION
PLATE 3

EXAMPLES OF
INFORMATION/EDUCATIONAL
KIOSKS AND SIGNAGE*

*** Image collage courtesy of SRF Consulting Group, Inc.**

US Army Corps of Engineers
ST. PAUL DISTRICT

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. PAUL DISTRICT
ST. PAUL, MINNESOTA

DESIGNED BY:
DWN BY: RDH
CKD BY:
SUBMITTED BY:
PLOT SCALE:
PLOT DATE:
SIZE:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
FILE NAME: MarshLAD_Implant.dgn

FEASIBILITY STUDY
MARSH LAKE
APPLETON, MN

ECOSYSTEM RESTORATION
INFORMATION/EDUCATION KIOSK DETAILS

SHEET IDENTIFICATION
PLATE 4