

STUDY 9.0 CREEL SURVEY 9-1

- 1. GOALS AND OBJECTIVES OF SURVEY 9-1
- 2. RELEVANT RESOURCE MANAGEMENT GOALS 9-2
- 3. BACKGROUND AND EXISTING INFORMATION 9-2
- 4. PROJECT NEXUS 9-3
- 5. STUDY AREA AND STUDY SITES 9-5
- 6. PROPOSED METHODOLOGY 9-5
- 7. CONSULTATION WITH AGENCIES, TRIBES, AND OTHER STAKEHOLDERS..... 9-7
- 8. WORK PRODUCTS 9-7
- 9. LEVEL OF EFFORT AND COST 9-8
- 10. SCHEDULE 9-8
- 11. REFERENCES 9-9

STUDY 9.0 CREEL SURVEY

The Project is located in Nance and Platte counties, where water is diverted from the Loup River and routed through the 35-mile-long Loup Power Canal, which empties into the Platte River near Columbus. The Project includes various hydraulic structures, two powerhouses, and two regulating reservoirs. Substantial fisheries have been established at the Project, and angling is a popular recreation activity at multiple locations. The District provides for public access and encourages recreational use of Project lands and waters.

No recent data is available to evaluate the composition, distribution, and utilization of the Project fisheries. Therefore, in response to a request by the Nebraska Game and Parks Commission (NGPC), the District will perform a creel survey of the Project fisheries spanning one open-water fishing season. A creel survey is a survey of anglers to determine the species and number of fish caught in a specific fishery over a specific time period. A creel survey is not a biological study; instead, it is a data-gathering tool for use in making recreational fishery management decisions. To be compatible with other Nebraska creel survey data, the survey of Project fisheries will employ methodologies used by NGPC. The creel survey data will be used in the development of a recreation management plan (see Study 8.0, Recreation User Survey) and will be available to assist the District and NGPC in managing fishery resources and public recreation at the Project.

1. GOALS AND OBJECTIVES OF SURVEY

“Describe the goals and objectives of each study proposal and the information to be obtained;” 18 CFR §5.11(d)(1)

The goal of the creel survey is to determine the status of Project fisheries and how the fisheries are used by anglers. The District desires to gain a better understanding of how Project fisheries are perceived and used by anglers.

The objectives of the creel survey are as follows:

1. To determine what species anglers are targeting and catching.
2. To determine anglers' catch rates.
3. To determine anglers' expectations and the degree to which they are satisfied.
4. To identify anglers' wants or needs.
5. To determine anglers' overall perception of Project fisheries.
6. To document survey results.

7. To provide information on Project fisheries to be used in conjunction with the results of Study 8.0, Recreation User Survey, and Study 10.0, Land Use Inventory, to develop a recreation management plan.

2. RELEVANT RESOURCE MANAGEMENT GOALS

“Address any known resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;” 18 CFR §5.11(d)(2)

NGPC manages Project fisheries for productive sport fishing via its state fishing regulations. The NGPC 2009 *Nebraska Fishing Guide* lists the following fish species as being accessible to anglers in Project fisheries:

- Loup Power Canal and Loup River – carp, channel and flathead catfish, freshwater drum
- Lake Babcock – bullhead, carp, channel and flathead catfish
- Lake North – carp, channel catfish, crappie, freshwater drum, walleye

Historically, NGPC actively stocked Project fisheries, including walleye in Lake North. Currently, NGPC has no ongoing stocking programs in Project waters.

3. BACKGROUND AND EXISTING INFORMATION

“Describe existing information concerning the subject of the study proposal, and the need for additional information;” 18 CFR §5.11(d)(3)

3.1 Nebraska Creel Survey Guidance and Methodologies

NGPC produced the *User’s Guide for Nebraska Creel Surveys* to provide guidance and methodologies to both NGPC staff and outside interests on how to design and perform creel surveys in Nebraska (NGPC, April 30, 1992). The User’s Guide includes an introduction to creel surveys, information on survey design and planning, instructions for conducting on-site creel surveys, and information on data analysis. The guidance and methodologies from this User’s Guide provide the basis for the proposed methodology discussed in Section 6 of this Study Plan.

3.2 General Information on Project Fisheries

Although no formal creel surveys have been performed for Project fisheries, the following general information concerning Project fisheries is known:

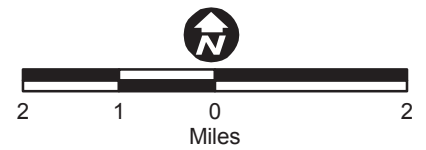
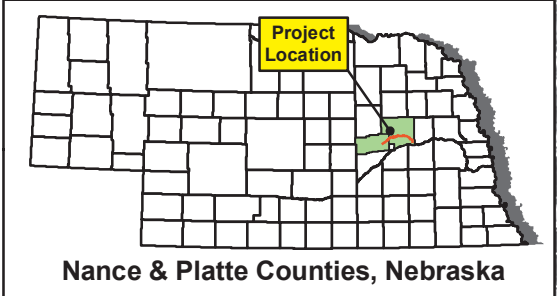
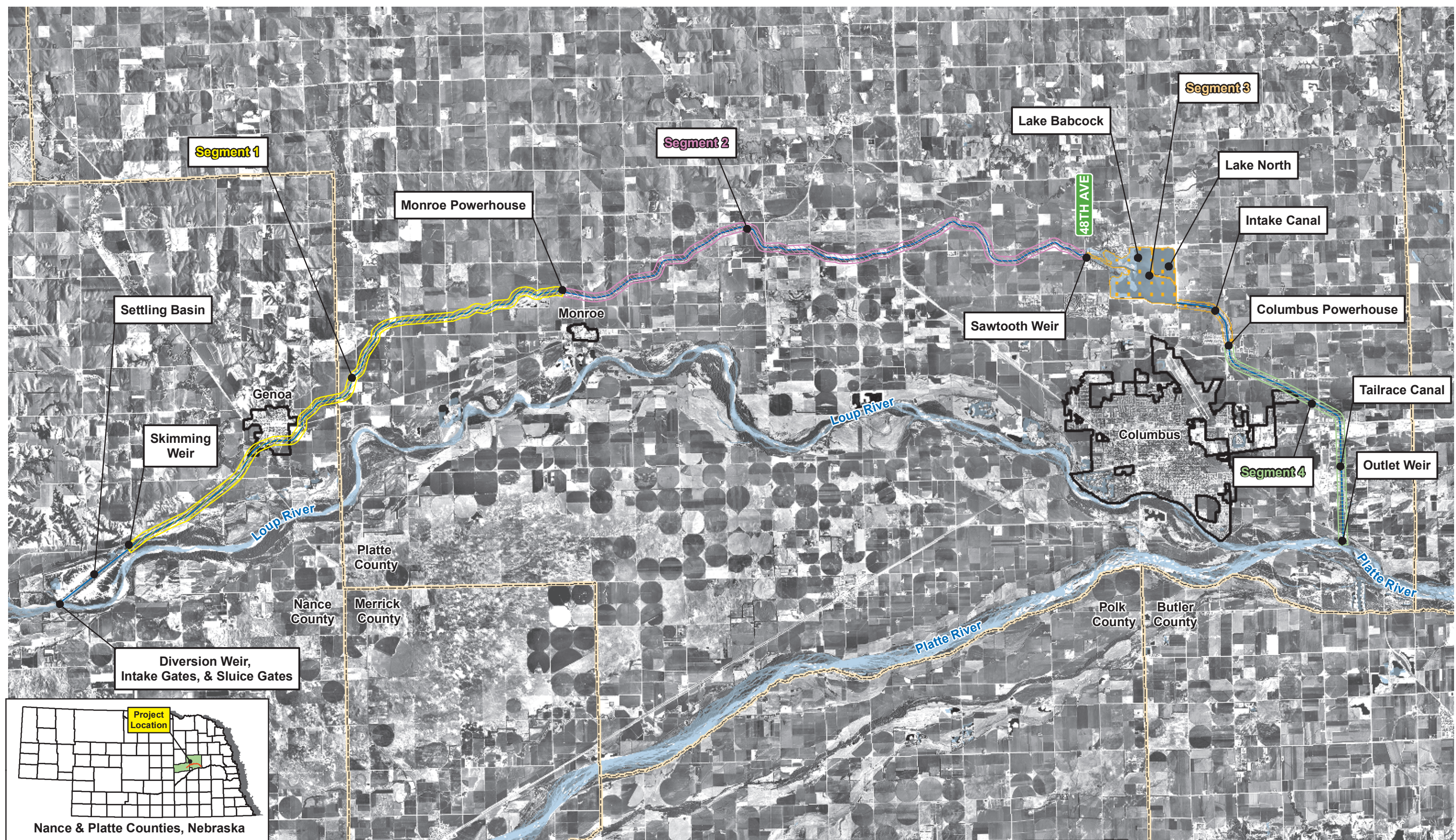
- Central to the District’s fishing opportunities is the Loup Power Canal (shown in Figure 9-1). The canal is approximately 35 miles long, has approximately 70 miles of shoreline (not including the 10 miles of shoreline surrounding Lake Babcock and Lake North), and is fully accessible to the public via access roads on both sides. The public access roads allow for fishing opportunities, specifically for carp, channel and flathead catfish, and freshwater drum, along the canal’s length. The canal’s most productive fishing opportunities occur at the Outlet Weir, siphons, Settling Basin, and in the tailwaters below the Monroe and Columbus powerhouses (NGPC, 2009).
- Lake North Park is the District’s most popular recreation area and provides unrestricted boat access to the 200-acre Lake North, another important Project fishery that contains carp, channel catfish, crappie, freshwater drum, and walleye (shown in Figure 9-1). Lake North Park features 2 miles of beaches and two boat ramps.
- Lake Babcock Park (aka Loup Park) provides fishing access to the 600-acre Lake Babcock, which contains bullhead, carp, and channel and flathead catfish (shown in Figure 9-1). At Lake Babcock, boats are restricted to 5 miles per hour with no wake, and no boating is allowed during waterfowl hunting season (NGPC, 2009).
- Project-related fishing opportunities also exist at Tailrace Park, which provides fishing opportunities for river species downstream of the Columbus Powerhouse and along the Tailrace Canal. Headworks Park also provides fishing access to small lakes and the Loup Power Canal, as well as access to downstream of the diversion wall on the Loup River on District owned property.

4. PROJECT NEXUS

“Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied;” 18 CFR §5.11(d)(4)

The following Federal regulations require that recreational resources, including fishing opportunities, be evaluated in relation to operation of the Project:

- Federal Power Act (FPA) Section 4(e) states that “In deciding whether to issue any license..., the [Federal Energy Regulatory] Commission...shall give equal consideration to...the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality” (16 USC 797(e)).



- Legend**
- Loup Power Canal
 - Corporate Limits
 - County Line
- Survey Segments**
- Segment 1
 - Segment 2
 - Segment 3
 - Segment 4



Creel Survey Study Area

Loup River Hydroelectric Project
 FERC Project No. 1256
 Proposed Study Plan

© 2009 Loup River Public Power District

DATE	March 2009
FIGURE	9-1

- FPA Section 10(a)(1) states that “All licenses issued under this subchapter shall be on the following conditions: (a)(1) That the project adopted, including the maps, plans, and specifications, shall be such as in the judgment of the [Federal Energy Regulatory] Commission will be best adapted to a comprehensive plan...for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including... recreational...” (16 USC 803(a)(1)).
- With regard to FERC relicensing, the Code of Federal Regulations (CFR) states that “recreation studies should be designed to identify current and future recreational needs and how those needs can be best met” (FERC, April 2004).

5. STUDY AREA AND STUDY SITES

The creel survey will be limited to fisheries in Project waters (that is, within the Project Boundary), as shown in Figure 9-1. Specifically, the survey will focus on the Loup Power Canal, Lake Babcock, and Lake North and will be divided into four segments as described in Section 6, Proposed Methodology, and shown in Figure 9-1. Although the survey generally will not include data collection associated with anglers on the Loup River or the Lower Platte River, the survey will capture angler counts and interviews of those anglers fishing immediately adjacent to either the Diversion Weir on the Loup River or the Outlet Weir on the Platte River.

6. PROPOSED METHODOLOGY

“A detailed description of the study and the methodology to be used;” 18 CFR §5.11(b)(1)

“Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers any known tribal interests;” 18 CFR §5.11(d)(5)

The methodology for the creel survey includes three tasks, described below. This methodology is consistent with the NGPC *User’s Guide for Nebraska Creel Surveys*, which represents current NGPC guidance and methodologies for NGPC-performed creel surveys (NGPC, April 30, 1992).

Task 1 Pre-Survey Activities

A survey schedule was determined using an unnamed NGPC software package specifically designed for the preparation of survey schedules using random, statistical formulas. Based on a number of user-supplied inputs, the NGPC software package provides a survey schedule allowing for an accurate, random sampling of anglers.

Surveys will be performed on 4 weekend days and 6 week days per month from May through September 2010. The District’s formal creel survey schedule is provided in Attachment A.

NGPC’s standard field count form and field interview form were modified to accommodate the collection of Project-specific details. Blank copies of the Project-specific field count form and field interview form are provided in Attachments B and C, respectively.

District representatives who are qualified scientists or District staff consisting of seasonal interns will act as survey clerks. NGPC will instruct potential survey clerks on established protocols and standard practices commonly used by NGPC during creel surveys prior to anyone acting as a survey clerk on behalf of the District. NGPC staff may also accompany survey clerks during the initial survey to demonstrate appropriate survey practices (NGPC, December 12, 2008).

Task 2 Field Survey Activities

The survey will consist of a stratified, random, roving design in which all survey activities (counts and interviews) will be performed from shore. For purposes of the survey, the Project will be divided into the following four segments (see Figure 9-1):

- Segment 1 – Skimming Weir to the Monroe Powerhouse
- Segment 2 – Monroe Powerhouse to 48th Avenue
- Segment 3 – 48th Avenue to the Columbus Powerhouse (includes Lake Babcock and Lake North)
- Segment 4 – Columbus Powerhouse to the Outlet Weir

To obtain an “instantaneous count,” anglers will be counted in a 2-hour time period. Angler counts will be coded by Project segment so that angler pressure on specific areas of the Project can be better documented. Further, the direction in which angler counts are performed should alternate between surveys (for example, Survey 1 should be performed east to west, Survey 2 should be performed west to east, and so forth). Details related to angler counts are shown in the field count form, provided in Attachment B.

Angler interviews could occur during or following the 2-hour instantaneous count period and would also be coded according to Project segment, as noted above. The District’s proposed survey will include interview questions aimed at determining angler species preference, angler expectations and needs, and the overall perception of Project fisheries. To obtain comprehensive survey data, the District will attempt to interview an amount of anglers equivalent to 50 percent of the total number of anglers identified during the 2-hour instantaneous count period. Further, an amount of anglers equivalent to 25 percent of the total number of anglers identified during the 2-hour instantaneous count period will be interviewed for “completed trip

information.” Completed trip information is obtained by interviewing anglers who have completed angling activities for the associated trip. Details related to angler interviews are shown in the field interview form, provided in Attachment C.

Task 3 Data Analysis

Data collected during Field Survey Activities will be evaluated for completeness and accuracy. Data will also be analyzed to determine angler effort, catch, and angler success, as described in Section 8.1).

7. CONSULTATION WITH AGENCIES, TRIBES, AND OTHER STAKEHOLDERS

During preparation of this Creel Survey Study Plan, the District worked cooperatively with NGPC staff to use existing NGPC guidance and methodologies for creel surveys. Specifically, the NGPC Fisheries Division in Norfolk, Nebraska, provided detailed information that has been incorporated and referenced in this study plan.

Furthermore, NGPC produced the survey schedule, field count form, and field interview form as shown in Attachments A, B, and C, respectively. The District will continue to work with agencies to resolve any issues or concerns during the course of the study plan meetings prior to preparation of the revised study plan.

8. WORK PRODUCTS

“Provisions for periodic progress reports, including the manner and extent to which information will be shared; and sufficient time for technical review of the analysis and results;” 18 CFR §5.11(b)(3)

8.1 Creel Survey Report and Supporting Documentation

The primary work product of the creel survey will be a Creel Survey Report that details creel survey findings using both text and graphics. Anticipated contents of this report include:

- Approach and methods
- Angler effort
 - Total angler trips and angler trips per month
 - Total angler counts and angler counts broken out by specific location and differentiated between boat and bank anglers
 - Fishing hours expended by angler
- Catch
 - Number of fish harvested and released by species
 - Length and frequency of caught individuals by species
- Angler success – Catch per Unit Effort (CPUE)

- Fish caught per hour and per month (derived from angler effort and catch data)

Secondary work products of the creel survey will consist of completed field count forms and field interview forms that will be collected throughout the duration of the survey.

Updates regarding the creel survey will be included in the study progress reports to be submitted to FERC in March 2010 and June 2010.

8.2 Adoption of Work Products by Other Studies or Parties

NGPC actively manages Project fisheries through the implementation and enforcement of fishing regulations. It is anticipated that NGPC will incorporate survey findings into its data library and may use these findings to modify existing fishing regulations specific to Project fisheries.

9. LEVEL OF EFFORT AND COST

“Describe considerations of level of effort and cost, as applicable.” 18 CFR §5.11(d)(6)

It is estimated that the creel survey will cost approximately \$80,000. This work will be completed by qualified scientists and District interns trained as survey clerks by NGPC.

The survey will consist of a stratified roaming survey in which all survey activities will be performed from shore; therefore, no watercraft or specialized equipment will be required.

10. SCHEDULE

“A schedule for conducting the study;” 18 CFR §5.11(b)(2)

“The potential applicant's proposed study plan must also include provisions for the initial and updated study reports and meetings provided for in §5.15.” 18 CFR §5.11(c)

The pre-survey activities are scheduled to begin in the first quarter of 2010, and the final Creel Survey Report is to be submitted in the fourth quarter of 2010. The majority of the work will occur in the spring and summer of 2010.

This schedule may be delayed if coordination with and review by NGPC is not timely or sufficient. As the survey is intended to satisfy standard NGPC guidance and methodologies, input from NGPC is crucial in survey design, field survey activities, data analysis, and documentation.

11. REFERENCES

16 USC 797(e). Federal Power Act, Section 4(e). Issue of licenses for construction, etc., of dams, conduits, reservoirs, etc.

16 USC 803(a)(1). Federal Power Act, Section 10(a)(1). Modification of plans; factors considered to secure adaptability of project; recommendations for proposed terms and conditions.

FERC. April 2004. “Handbook for Hydroelectric Project Licensing and 5 MW Exemptions from Licensing.” Available online at http://www.ferc.gov/industries/hydropower/gen-info/handbooks/licensing_handbook.pdf.

NGPC. April 30, 1992. *User’s Guide for Nebraska Creel Surveys*. NGPC Fisheries Division.

NGPC. December 12, 2008. Personal communication between Jeff Schuckman, NGPC, and Quinn Damgaard, HDR.

NGPC. 2009. *2009 Nebraska Fishing Guide: Regulations and Public Waters*. Lincoln, NE. Available online at www.ngpc.state.ne.us/fishing/guides/fishguide/FishGuide.pdf.

Attachment A – Creel Survey Schedule

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

CREEL SURVEY DESIGN PARAMETERS

```

]
]
] SURVEY MONTHS: 05/2010 TO 09/2010
]
] #WEEKDAYS/MONTH: 6 PERIOD LAKE SECTION
] #WEEKENDS/MONTH: 4 PROBABILITIES PROBABILITIES
] 1: .50 1: 1.0
] 2: .50 2: .
] TIME PERIODS/DAY: 2 3: . 3: .
] 4: . 4: .
] COUNTS/DAY: 1 5: . 5: .
] 6: . 6: .
] COUNT LENGTH(MIN): 90 120
]
] DAYLIGHT DESIGN - PROGRAM DEFINES DAILY START/STOP TIMES
]
] DAYS SELECTED AS HOLIDAYS:
] 05/24/10 07/04/10 09/06/10 . . . . .
]
] * ASTERICK INDICATES COUNTS/DAY WERE CHANGED BY PROGRAM. (RANDOM SEED: 8296715 )
]

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** MONTHLY TIME PERIOD LIMITS **

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MONTH=MAY YEAR=2010 DAILY START/STOP TIMES = 0630/2030
PERIOD 1 START/STOP TIMES = 0630/1330
PERIOD 2 START/STOP TIMES = 1330/2030

MONTH=JUN YEAR=2010 DAILY START/STOP TIMES = 0600/2100
PERIOD 1 START/STOP TIMES = 0600/1330
PERIOD 2 START/STOP TIMES = 1330/2100

MONTH=JUL YEAR=2010 DAILY START/STOP TIMES = 0600/2100
PERIOD 1 START/STOP TIMES = 0600/1330
PERIOD 2 START/STOP TIMES = 1330/2100

MONTH=AUG YEAR=2010 DAILY START/STOP TIMES = 0630/2030
PERIOD 1 START/STOP TIMES = 0630/1330
PERIOD 2 START/STOP TIMES = 1330/2030

MONTH=SEP YEAR=2010 DAILY START/STOP TIMES = 0700/2000
PERIOD 1 START/STOP TIMES = 0700/1330
PERIOD 2 START/STOP TIMES = 1330/2000

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CREEL SURVEY SCHEDULE FOR: LOUP CANAL

LISTING OF SELECTED DATES AND TIMES

DATE	TIME1	TIME2	TIME3	TIME4	PERIOD	DATE	TIME1	TIME2	TIME3	TIME4	PER
Sat, May 1, 2010	2000	.	.	.	2						
Thu, May 6, 2010	0730	.	.	.	1						
Sat, May 8, 2010	1600	.	.	.	2						
Mon, May 10, 2010	1530	.	.	.	2						
Fri, May 14, 2010	1900	.	.	.	2						
Sun, May 16, 2010	1630	.	.	.	2						
Thu, May 20, 2010	0800	.	.	.	1						
Sat, May 22, 2010	1030	.	.	.	1						
Wed, May 26, 2010	1130	.	.	.	1						
Mon, May 31, 2010	1800	.	.	.	2						
Tue, Jun 1, 2010	1800	.	.	.	2						
Thu, Jun 3, 2010	1600	.	.	.	2						
Sat, Jun 5, 2010	1500	.	.	.	2						
Thu, Jun 10, 2010	0730	.	.	.	1						
Sat, Jun 12, 2010	1730	.	.	.	2						
Mon, Jun 14, 2010	1830	.	.	.	2						
Wed, Jun 16, 2010	0630	.	.	.	1						
Sun, Jun 20, 2010	1200	.	.	.	1						
Tue, Jun 22, 2010	0700	.	.	.	1						
Sun, Jun 27, 2010	0800	.	.	.	1						
Thu, Jul 1, 2010	1230	.	.	.	1						
Sun, Jul 4, 2010	1400	.	.	.	2						
Thu, Jul 8, 2010	2000	.	.	.	2						
Sat, Jul 10, 2010	1030	.	.	.	1						
Fri, Jul 16, 2010	0700	.	.	.	1						
Sun, Jul 18, 2010	1700	.	.	.	2						
Wed, Jul 21, 2010	1600	.	.	.	2						
Sat, Jul 24, 2010	0830	.	.	.	1						
Mon, Jul 26, 2010	1630	.	.	.	2						
Wed, Jul 28, 2010	1400	.	.	.	2						
Sun, Aug 1, 2010	1300	.	.	.	1						
Mon, Aug 2, 2010	1200	.	.	.	1						
Sat, Aug 7, 2010	1530	.	.	.	2						
Mon, Aug 9, 2010	1000	.	.	.	1						
Sun, Aug 15, 2010	0730	.	.	.	1						
Wed, Aug 18, 2010	1930	.	.	.	2						
Fri, Aug 20, 2010	1030	.	.	.	1						
Tue, Aug 24, 2010	1030	.	.	.	1						
Fri, Aug 27, 2010	1930	.	.	.	2						
Sun, Aug 29, 2010	0700	.	.	.	1						
Wed, Sep 1, 2010	1600	.	.	.	2						
Mon, Sep 6, 2010	0830	.	.	.	1						
Wed, Sep 8, 2010	1500	.	.	.	2						
Sat, Sep 11, 2010	0830	.	.	.	1						
Tue, Sep 14, 2010	0930	.	.	.	1						
Fri, Sep 17, 2010	1200	.	.	.	1						
Sun, Sep 19, 2010	1430	.	.	.	2						
Mon, Sep 20, 2010	1330	.	.	.	2						
Sun, Sep 26, 2010	1530	.	.	.	2						
Tue, Sep 28, 2010	1700	.	.	.	2						

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 2 PERIODS/ 60 MINUTES COUNT LENGTH

May 2010						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 2000 . . . PERIOD#2
2	3	4	5	6 0730 . . . PERIOD#1	7	8 1600 . . . PERIOD#2
9	10 1530 . . . PERIOD#2	11	12	13	14 1900 . . . PERIOD#2	15
16 1630 . . . PERIOD#2	17	18	19	20 0800 . . . PERIOD#1	21	22 1030 . . . PERIOD#1
23	24	25	26 1130 . . . PERIOD#1	27	28	29
30	31 1800 . . . PERIOD#2					

Legend
JAN=830/1730 FEB=800/1800 MAR=700/1900 APR=700/2000 MAY=630/2030 JUN=600/2100

JUL=600/2100 AUG=630/2030 SEP=700/2000
OCT=800/1900 NOV=730/1730 DEC=800/1700
DAY START/STOP

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 2 PERIODS/ 60 MINUTES COUNT LENGTH

June 2010						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 1800 . . PERIOD#2	2	3 1600 . . PERIOD#2	4	5 1500 . . PERIOD#2
6	7	8	9	10 0730 . . PERIOD#1	11	12 1730 . . PERIOD#2
13	14 1830 . . PERIOD#2	15	16 0630 . . PERIOD#1	17	18	19
20 1200 . . PERIOD#1	21	22 0700 . . PERIOD#1	23	24	25	26
27 0800 . . PERIOD#1	28	29	30			

Legend	
JAN=830/1730	FEB=800/1800
MAR=700/1900	APR=700/2000
MAY=630/2030	JUN=600/2100
JUL=600/2100	AUG=630/2030
SEP=700/2000	OCT=800/1900
NOV=730/1730	DEC=800/1700
DAY START/STOP	

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 2 PERIODS/ 60 MINUTES COUNT LENGTH

July 2010						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 1230 . . PERIOD#1	2	3
4 1400 . . PERIOD#2	5	6	7	8 2000 . . PERIOD#2	9	10 1030 . . PERIOD#1
11	12	13	14	15	16 0700 . . PERIOD#1	17
18 1700 . . PERIOD#2	19	20	21 1600 . . PERIOD#2	22	23	24 0830 . . PERIOD#1
25	26 1630 . . PERIOD#2	27	28 1400 . . PERIOD#2	29	30	31

Legend

JAN=830/1730 FEB=800/1800 MAR=700/1900
 APR=700/2000 MAY=630/2030 JUN=600/2100
 JUL=600/2100 AUG=630/2030 SEP=700/2000
 OCT=800/1900 NOV=730/1730 DEC=800/1700
 DAY START/STOP

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

6 WKDAYS/ 4 WKENDS/ 2 PERIODS/ 60 MINUTES COUNT LENGTH

August 2010						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 1300 . . PERIOD#1	2 1200 . . PERIOD#1	3	4	5	6	7 1530 . . PERIOD#2
8	9 1000 . . PERIOD#1	10	11	12	13	14
15 0730 . . PERIOD#1	16	17	18 1930 . . PERIOD#2	19	20 1030 . . PERIOD#1	21
22	23	24 1030 . . PERIOD#1	25	26	27 1930 . . PERIOD#2	28
29 0700 . . PERIOD#1	30	31				

Legend	
JAN=830/1730	FEB=800/1800
MAR=700/1900	APR=700/2000
MAY=630/2030	JUN=600/2100
JUL=600/2100	AUG=630/2030
SEP=700/2000	OCT=800/1900
NOV=730/1730	DEC=800/1700
DAY START/STOP	

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 2 PERIODS/ 60 MINUTES COUNT LENGTH

September 2010						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 1600 . . PERIOD#2	2	3	4
5	6 0830 . . PERIOD#1	7	8 1500 . . PERIOD#2	9	10	11 0830 . . PERIOD#1
12	13	14 0930 . . PERIOD#1	15	16	17 1200 . . PERIOD#1	18
19 1430 . . PERIOD#2	20 1330 . . PERIOD#2	21	22	23	24	25
26 1530 . . PERIOD#2	27	28 1700 . . PERIOD#2	29	30		

Legend	
JAN=830/1730	FEB=800/1800
MAR=700/1900	APR=700/2000
MAY=630/2030	JUN=600/2100
JUL=600/2100	AUG=630/2030
SEP=700/2000	OCT=800/1900
NOV=730/1730	DEC=800/1700
DAY START/STOP	

COUNT TIME DISTRIBUTION FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 1 COUNTS/ 60 MINUTES COUNT LENGTH

MONTH MAY 630/2030

	PERIOD		TOTAL	WEEK_DAY						TOTAL
	1	2		SUN	M	W	R	F	SAT	
	N	N		N	N	N	N	N	N		N
TIME										
0730	1	.	1	.	.	.	1	.	.	1
0800	1	.	1	.	.	.	1	.	.	1
1030	1	.	1	.	.	.	.	.	1	1
1130	1	.	1	.	.	1	.	.	.	1
1530	.	1	1	.	1	.	.	.	.	1
1600	.	1	1	.	.	.	.	.	1	1
1630	.	1	1	1	.	.	.	.	.	1
1800	.	1	1	.	1	.	.	.	.	1
1900	.	1	1	.	.	.	.	1	.	1
2000	.	1	1	.	.	.	.	.	1	1
TOTAL	4	6	10	1	2	1	2	1	3	10

COUNT TIME DISTRIBUTION FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 1 COUNTS/ 60 MINUTES COUNT LENGTH

MONTH JUN 600/2100

TIME	PERIOD		TOTAL	WEEK_DAY						TOTAL
	1	2		SUN	M	T	W	R	SAT	
	N	N	N	N	N	N	N	N	N	N
0630	1	.	1	.	.	.	1	.	.	1
0700	1	.	1	.	.	1	.	.	.	1
0730	1	.	1	.	.	.	.	1	.	1
0800	1	.	1	1	.	.	.	.	.	1
1200	1	.	1	1	.	.	.	.	.	1
1500	.	1	1	.	.	.	.	.	1	1
1600	.	1	1	.	.	.	.	1	.	1
1730	.	1	1	.	.	.	.	.	1	1
1800	.	1	1	.	.	1	.	.	.	1
1830	.	1	1	.	1	.	.	.	.	1
TOTAL	5	5	10	2	1	2	1	2	2	10

COUNT TIME DISTRIBUTION FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 1 COUNTS/ 60 MINUTES COUNT LENGTH

MONTH JUL 600/2100

	PERIOD			WEEK_DAY						TOTAL
	1	2	TOTAL	SUN	M	W	R	F	SAT	
	N	N	N	N	N	N	N	N	N		N
TIME										
0700	1	.	1	.	.	.	.	1	.	1
0830	1	.	1	.	.	.	.	.	1	1
1030	1	.	1	.	.	.	.	.	1	1
1230	1	.	1	.	.	.	1	.	.	1
1400	.	2	2	1	.	1	.	.	.	2
1600	.	1	1	.	.	1	.	.	.	1
1630	.	1	1	.	1	.	.	.	.	1
1700	.	1	1	1	.	.	.	.	.	1
2000	.	1	1	.	.	.	1	.	.	1
TOTAL	4	6	10	2	1	2	2	1	2	10

COUNT TIME DISTRIBUTION FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 1 COUNTS/ 60 MINUTES COUNT LENGTH

MONTH AUG 630/2030

	PERIOD			WEEK_DAY						TOTAL
	1	2	TOTAL	SUN	M	T	W	F	SAT	
	N	N	N	N	N	N	N	N	N	
TIME										
0700	1	.	1	1	.	.	.	.	.	1
0730	1	.	1	1	.	.	.	.	.	1
1000	1	.	1	.	1	.	.	.	.	1
1030	2	.	2	.	.	1	.	1	.	2
1200	1	.	1	.	1	.	.	.	.	1
1300	1	.	1	1	.	.	.	.	.	1
1530	.	1	1	.	.	.	.	.	1	1
1930	.	2	2	.	.	.	1	1	.	2
TOTAL	7	3	10	3	2	1	1	2	1	10

COUNT TIME DISTRIBUTION FOR: LOUP CANAL

6 WKDAYS/ 4 WKENDS/ 1 COUNTS/ 60 MINUTES COUNT LENGTH

MONTH SEP 700/2000

	PERIOD			WEEK_DAY						TOTAL	
	1	2	TOTAL	SUN	M	T	W	F	SAT		
	N	N	N	N	N	N	N	N	N		N
TIME											
0830	2	.	2	1	.	.	.	.	.	1	2
0930	1	.	1	.	.	1	.	.	.	.	1
1200	1	.	1	.	.	.	.	1	.	.	1
1330	.	1	1	.	1	.	.	.	.	.	1
1430	.	1	1	1	.	.	.	.	.	.	1
1500	.	1	1	.	.	.	1	.	.	.	1
1530	.	1	1	1	.	.	.	.	.	.	1
1600	.	1	1	.	.	.	1	.	.	.	1
1700	.	1	1	.	.	1	.	.	.	.	1
TOTAL	4	6	10	3	1	2	2	1	1	10	

COUNT TIME DISTRIBUTION FOR: LOUP CANAL

 6 WKDAYS/ 4 WKENDS/ 1 COUNTS/ 60 MINUTES COUNT LENGTH

TOTAL

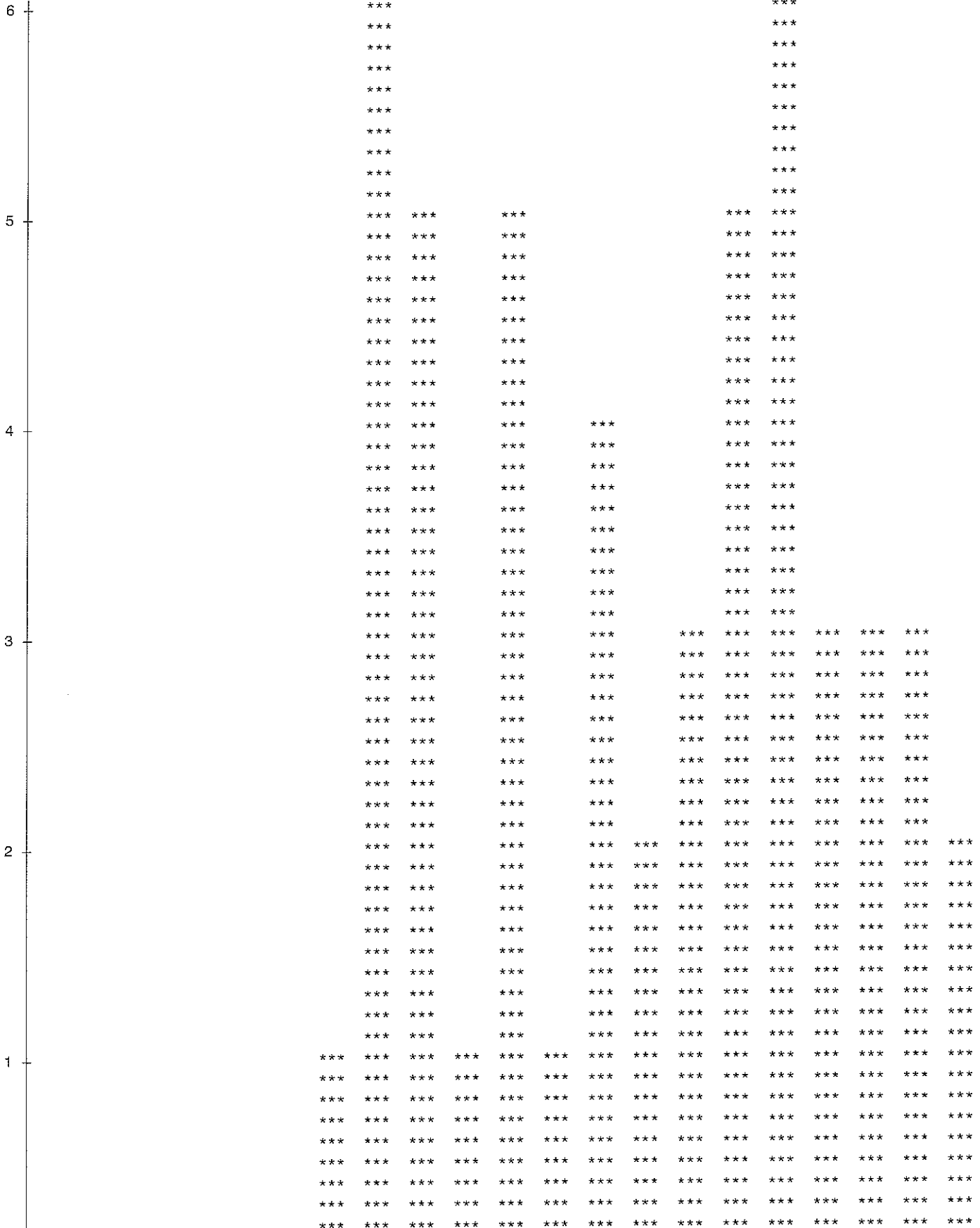
TIME	PERIOD		TOTAL	WEEK_DAY							TOTAL
	1	2		SUN	M	T	W	R	F	SAT	
	N	N		N	N	N	N	N	N	N	
0630	1	.	1	.	.	.	1	.	.	.	1
0700	3	.	3	1	.	1	.	.	1	.	3
0730	3	.	3	1	.	.	.	2	.	.	3
0800	2	.	2	1	.	.	.	1	.	.	2
0830	3	.	3	1	.	.	.	.	.	2	3
0930	1	.	1	.	.	1	.	.	.	.	1
1000	1	.	1	.	1	.	.	.	.	.	1
1030	4	.	4	.	.	1	.	.	1	2	4
1130	1	.	1	.	.	.	1	.	.	.	1
1200	3	.	3	1	1	.	.	.	1	.	3
1230	1	.	1	.	.	.	.	1	.	.	1
1300	1	.	1	1	.	.	.	.	.	.	1
1330	.	1	1	.	1	.	.	.	.	.	1
1400	.	2	2	1	.	.	1	.	.	.	2
1430	.	1	1	1	.	.	.	.	.	.	1
1500	.	2	2	.	.	.	1	.	.	1	2
1530	.	3	3	1	1	.	.	.	.	1	3
1600	.	4	4	.	.	.	2	1	.	1	4
1630	.	2	2	1	1	.	.	.	.	.	2
1700	.	2	2	1	.	1	.	.	.	.	2
1730	.	1	1	.	.	.	.	.	.	1	1
1800	.	2	2	.	1	1	.	.	.	.	2
1830	.	1	1	.	1	.	.	.	.	.	1
1900	.	1	1	.	.	.	.	.	1	.	1
1930	.	2	2	.	.	.	1	.	1	.	2

2000	.	2	2	.	.	.	.	1	.	1	2
TOTAL	24	26	50	11	7	5	7	6	5	9	50

CREEL SURVEY SCHEDULE FOR: LOUP CANAL

DISTRIBUTION OF SELECTED COUNT TIMES

Frequency



*** **

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2

TIME

Attachment B – Field Count Form

Nebraska Game and Parks Commission Fisheries Division CREEL SURVEY COUNT FORM

33-229/rev. 2-92

CATEGORY 1 — GENERAL INFORMATION

C																			
ID	LAKE CODE	LAKE SECTION	MO	DAY	YR	START POINT	CLERK INITIALS	SUPPLEMENTAL / USER DEFINED											

CATEGORY 2 — COUNT INFORMATION

TIME	ANGLER COUNTS			NON-ANGLER COUNTS	WEATHER RATING (EFFECT ON ANGLERS) 1 = NO ADVERSE EFFECT 2 = POSSIBLE EFFECT 3 = ADVERSE EFFECT
	# BANK ANGLERS	# BOATS	# BOAT ANGLERS		

COMMENTS

CATEGORY 3 — SITE INFORMATION

<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
WATER TEMP. (F)	WATER LEVEL	WATER TURBIDITY (SECCHI-CM)	ICE CONDITIONS	VEG. RATING	DOM. VEG. TYPE
	1 = BELOW NORMAL 2 = NORMAL 3 = ABOVE NORMAL		1 = SAFE 2 = UNSAFE 3 = MARGINAL	1 = SCARCE 2 = MODERATE 3 = ABUNDANT 4 = EXCESSIVE	1 = SUBMERGENT 2 = EMERGENT 3 = FLOATING 4 = COMBINATION

Attachment C – Field Interview Form

