

Figure 6. Map of Stephens Lake illustrating zones STL-A to STL-E, and GR-A.

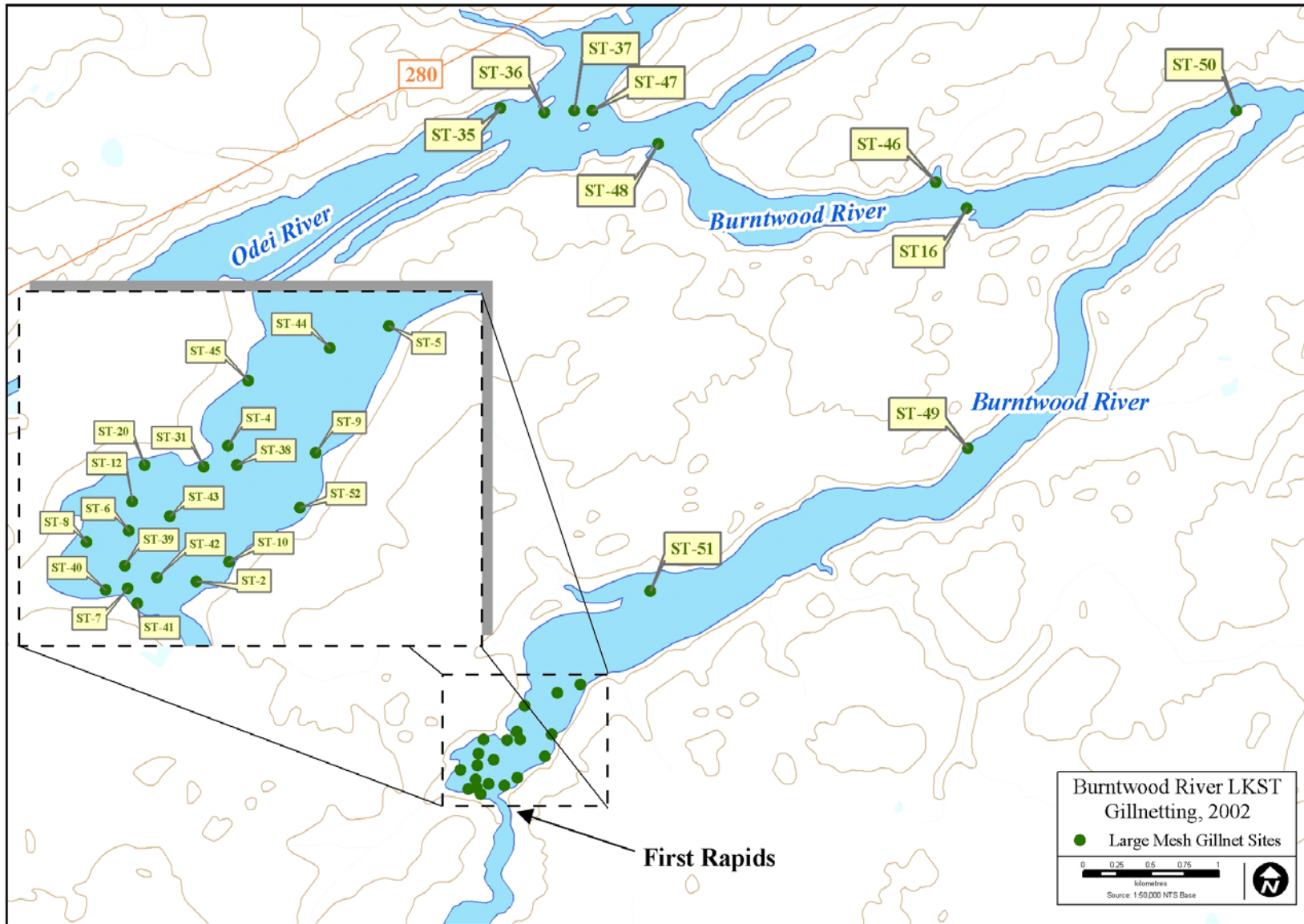


Figure 7. Map of gillnetting sites fished for lake sturgeon in the Burntwood River between 05 June and 18 July, 2002.

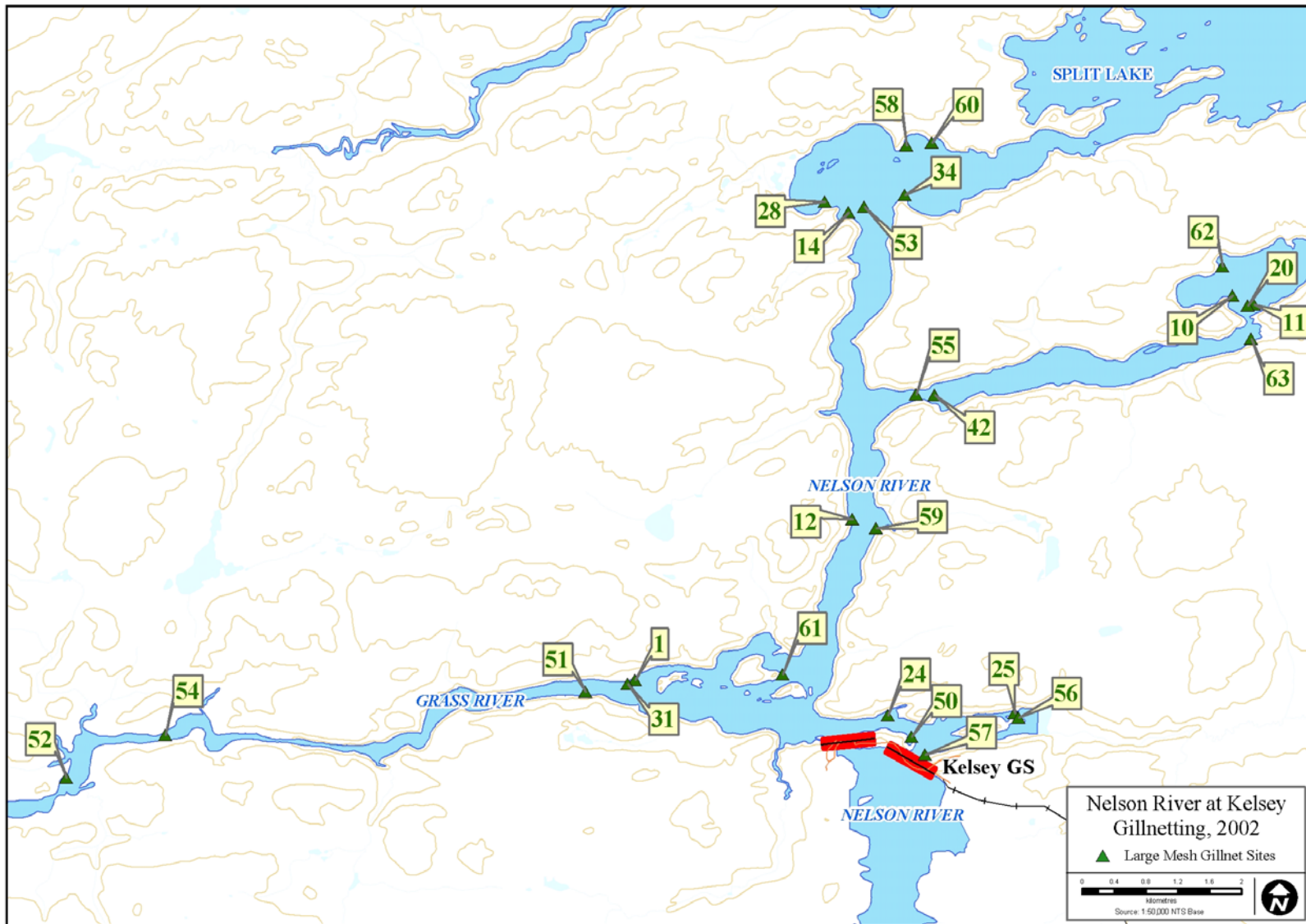


Figure 8. Map of gillnetting sites fished for lake sturgeon in the Nelson River and lower Grass River in the vicinity of the Kelsey GS between 08 June and 10 July, 2002.

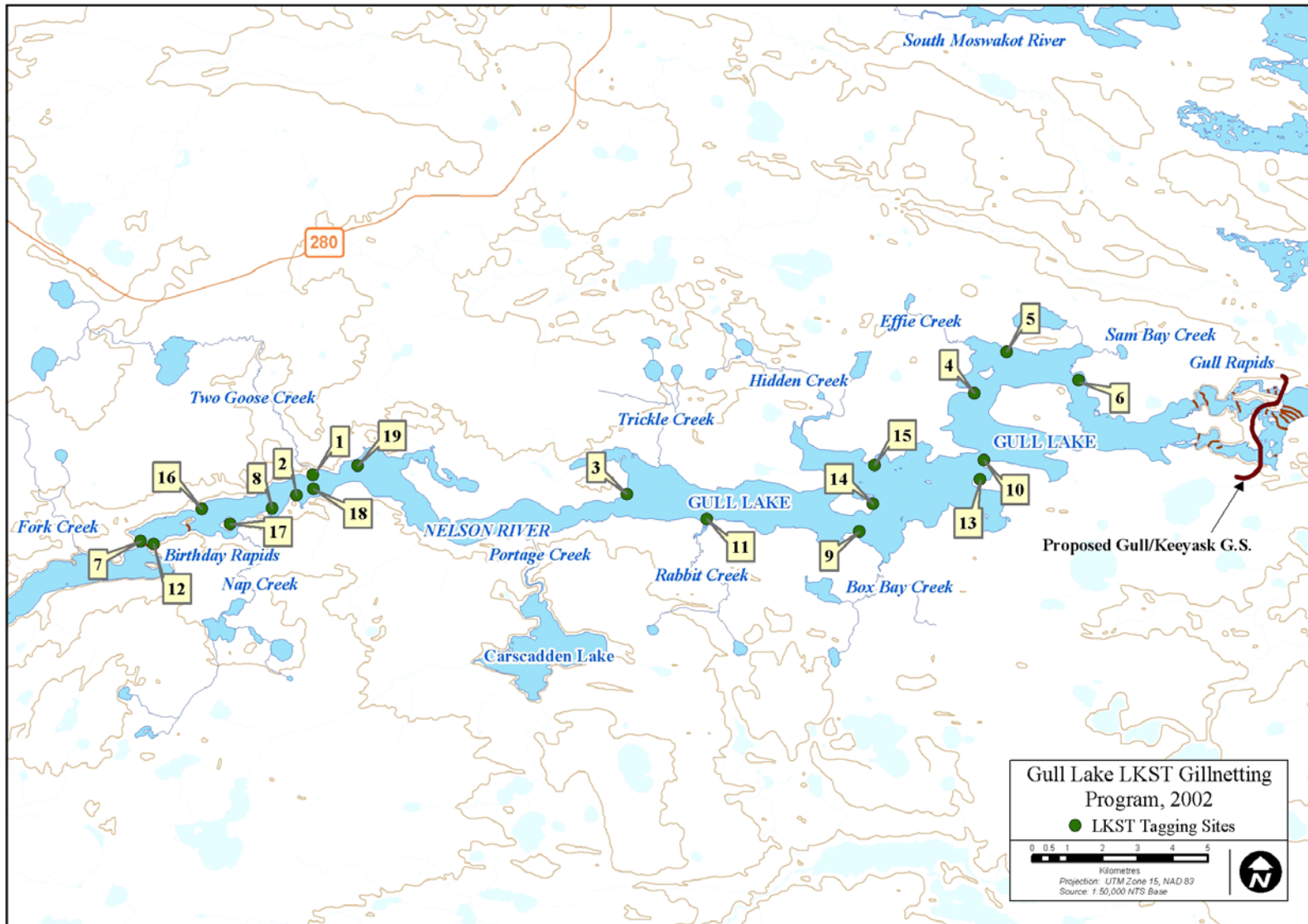


Figure 9. Map of gillnetting sites fished for lake sturgeon in the Nelson River between Birthday and Gull rapids between 07 June and 15 July, 2002.



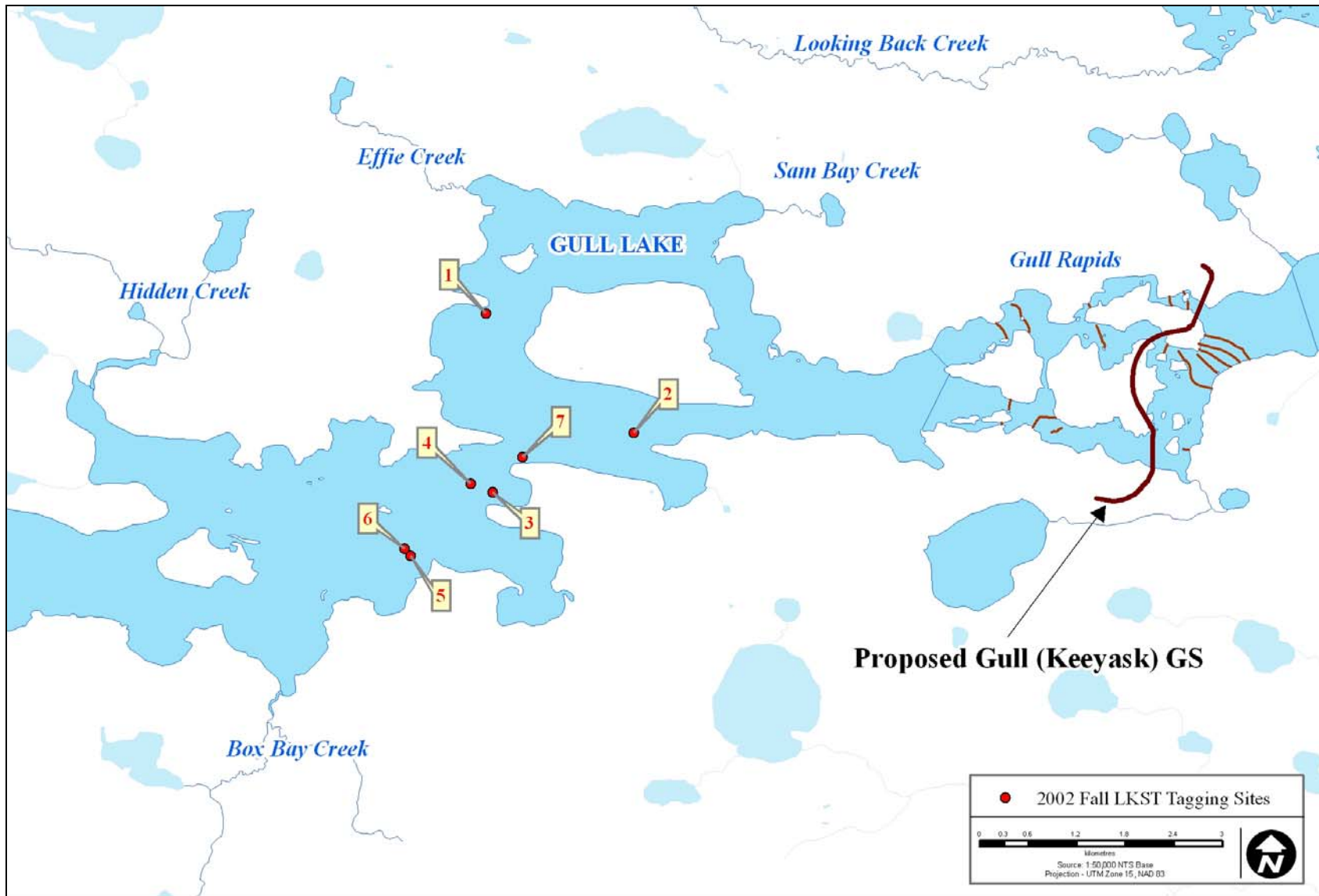


Figure 10. Map of sites fished for lake sturgeon in Gull Lake between 01 and 10 October, 2002.

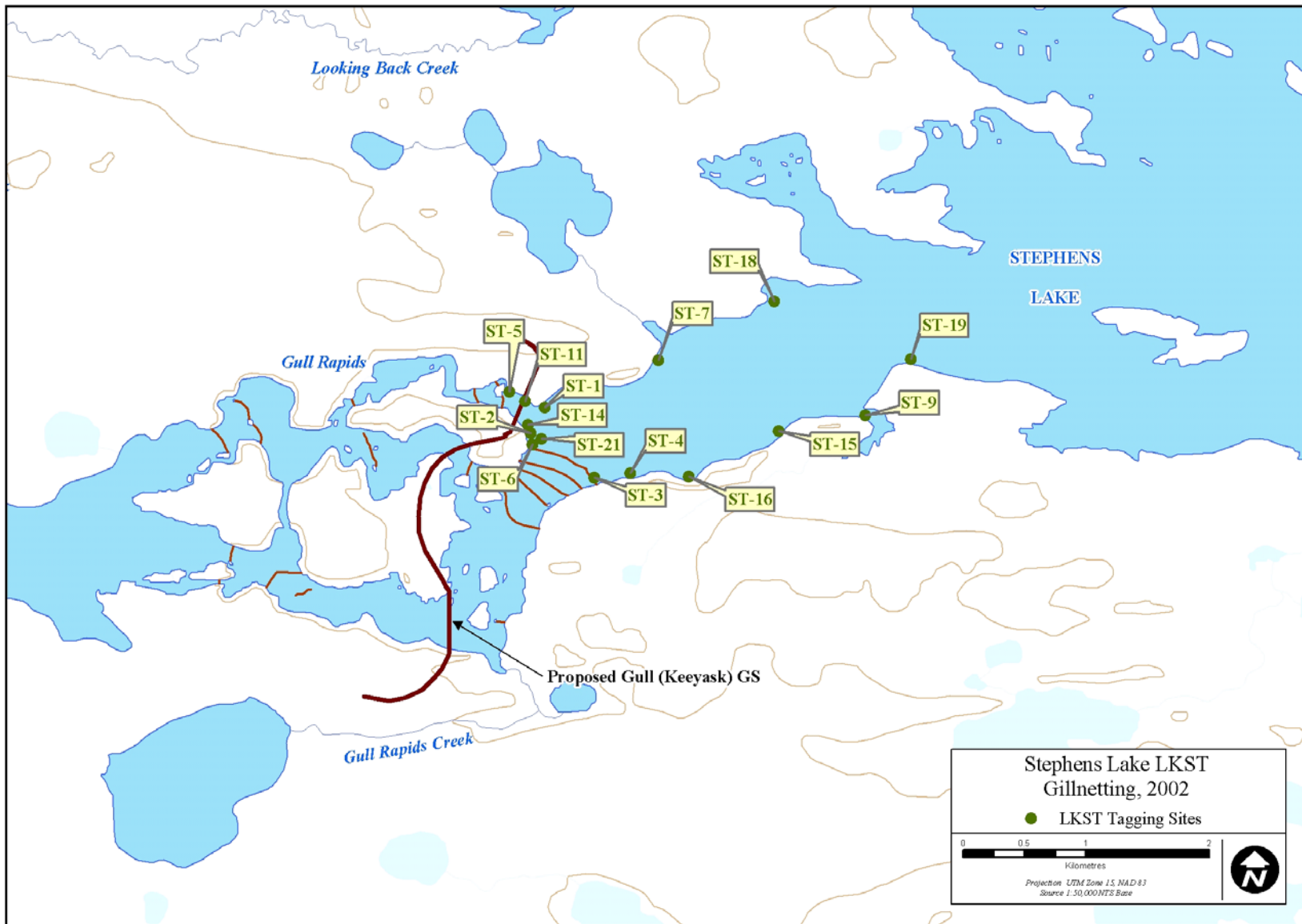


Figure 11. Map of gillnetting sites fished for lake sturgeon immediately downstream of Gull Rapids between 12 June and 15 July, 2002.

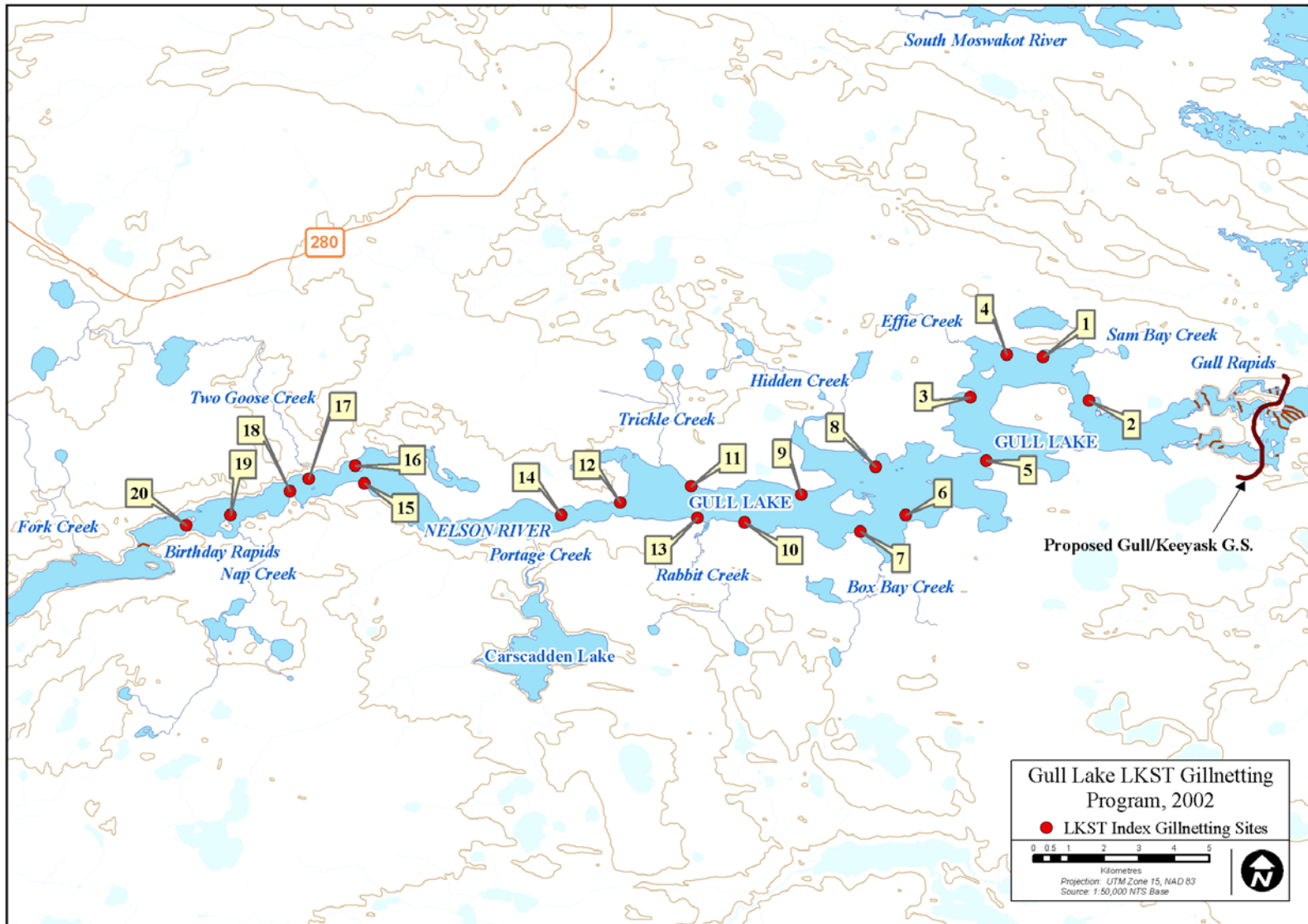


Figure 12. Map of twenty index gillnetting sites fished for lake sturgeon in the Nelson River between Birthday and Gull rapids from 04 to 14 July, 2002.





Figure 13. Photograph of larval drift nets used during lake sturgeon investigations in the Keyask Study Area, 2002.



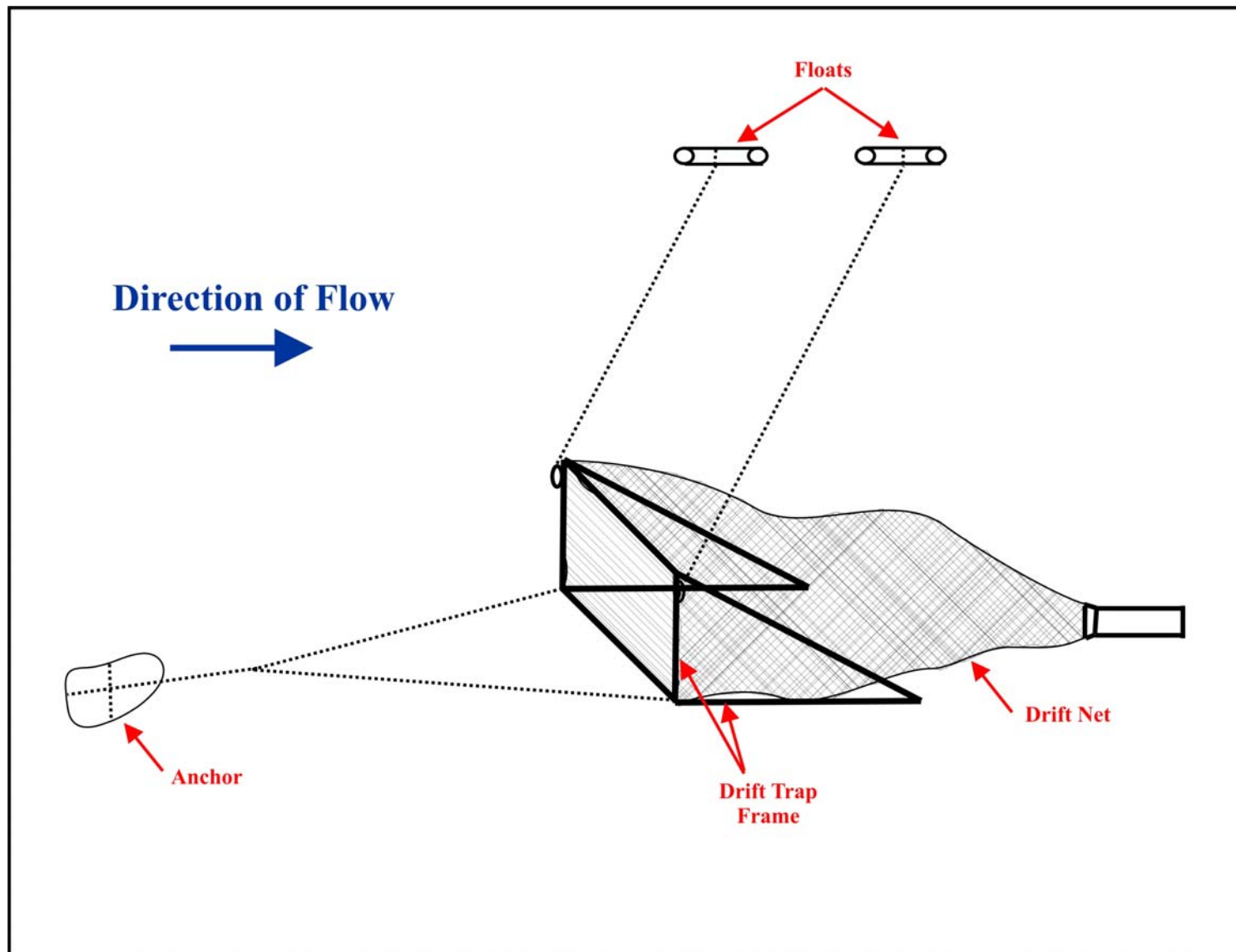


Figure 14. Diagram of larval drift net assembly used during lake sturgeon investigations in the Keyask Study Area, 2002.

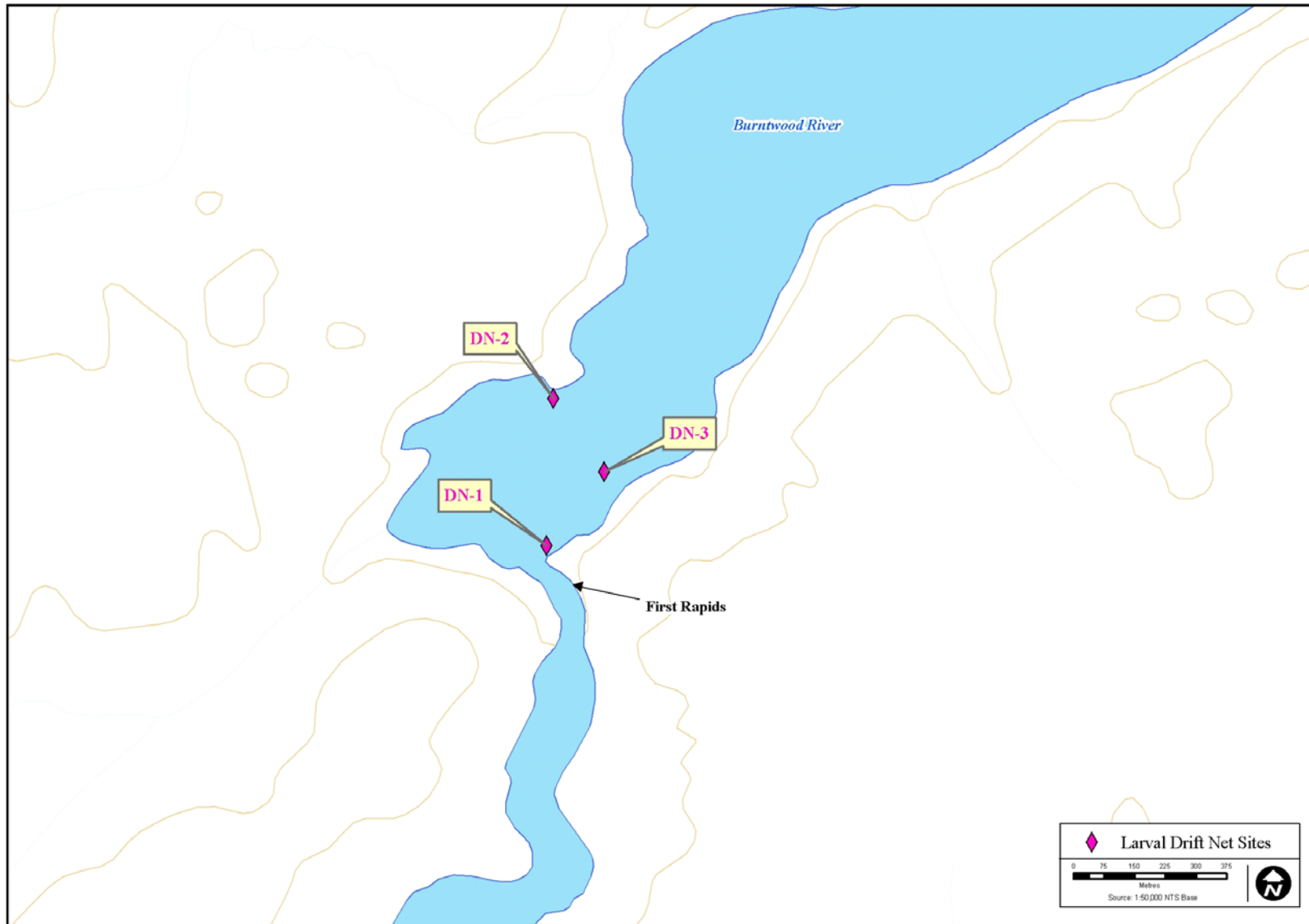


Figure 15. Map of drift net sites sampled in the Burntwood River downstream of First Rapids between 25 June and 18 July, 2002.

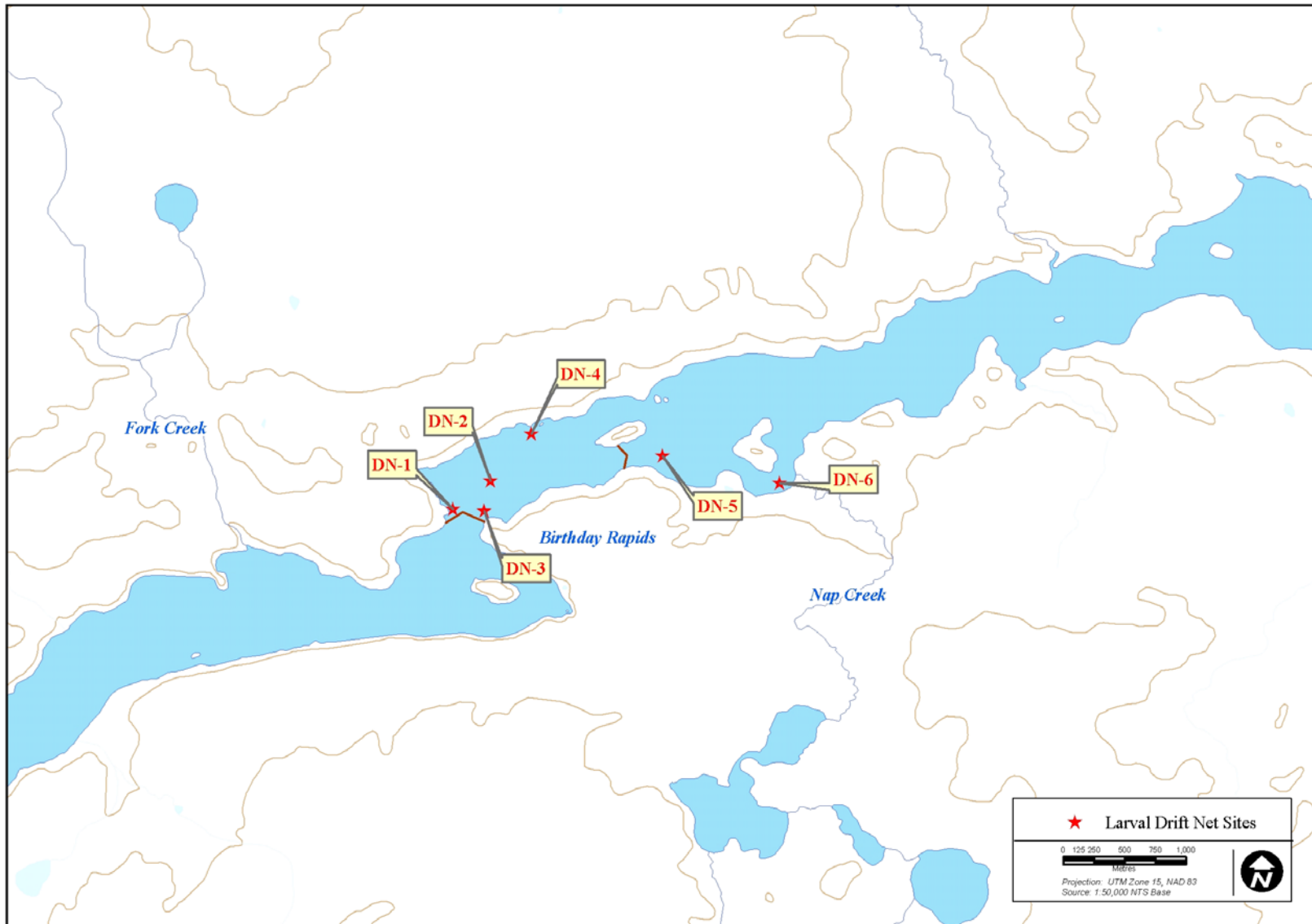


Figure 16. Map of drift net sites sampled in the Nelson River between Birthday and Gull rapids from 26 June to 20 July, 2002.



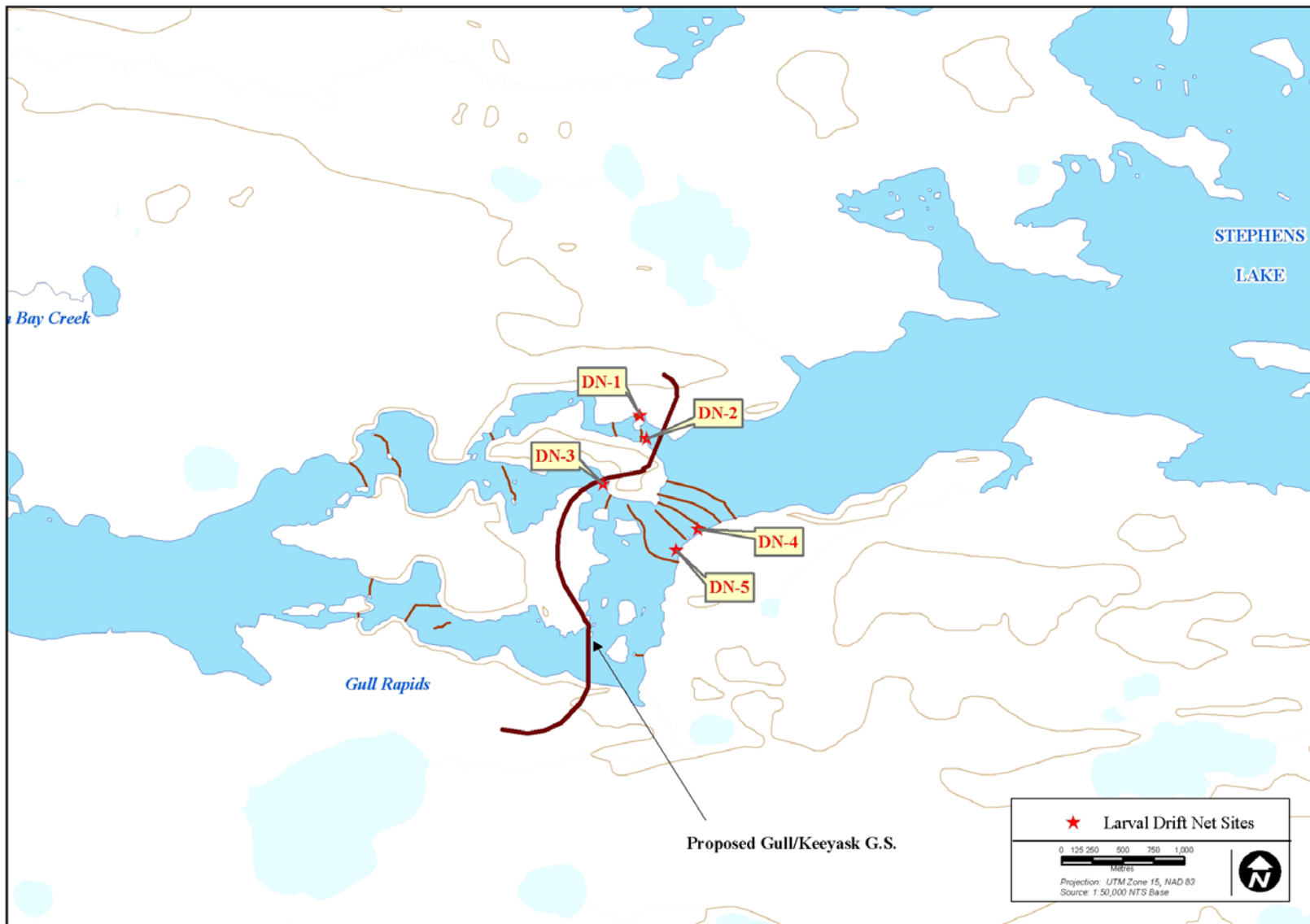


Figure 17. Map of drift net sites sampled in, and at the base of, Gull Rapids between 27 June and 20 July, 2002.

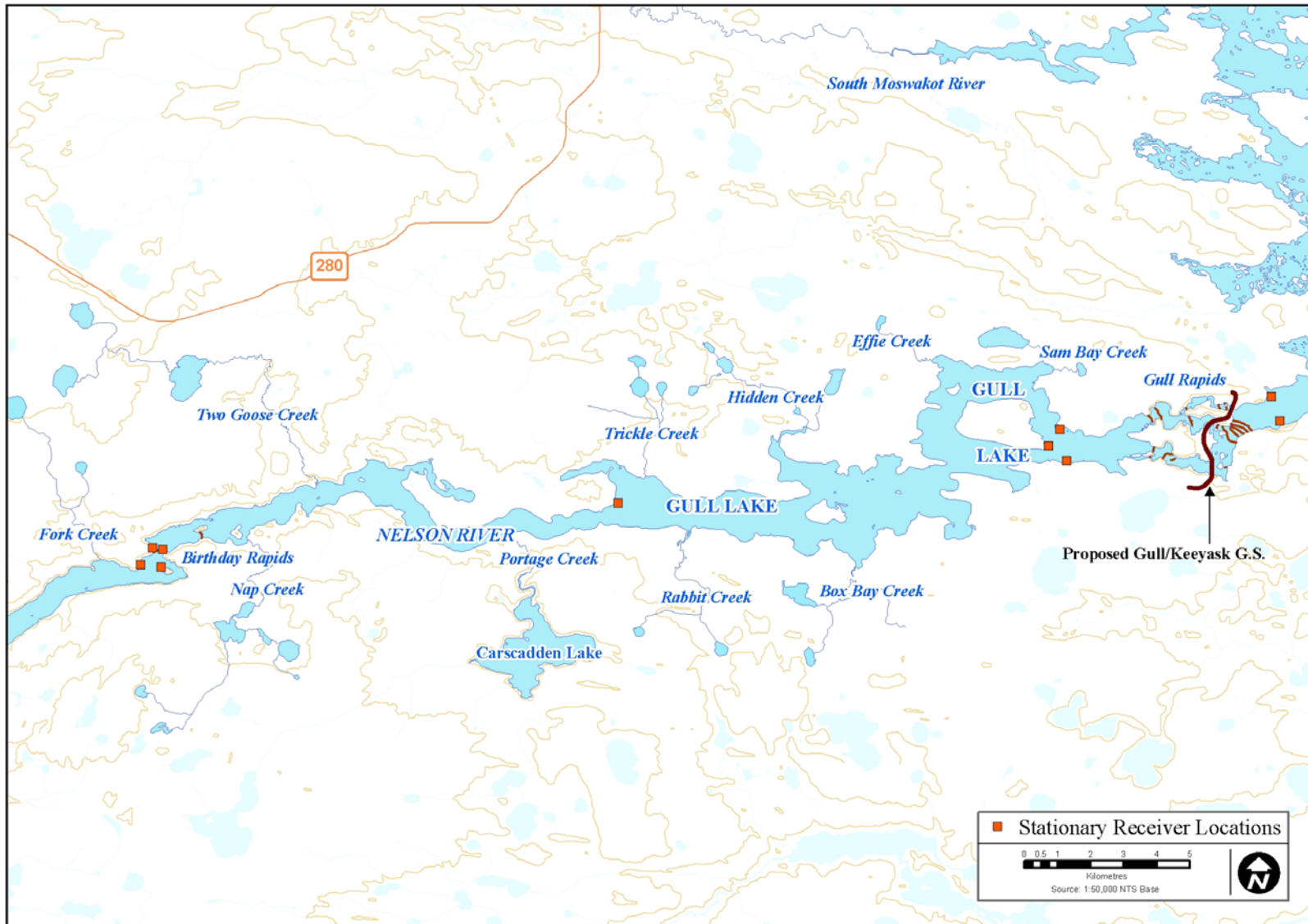


Figure 18. Locations of stationary receivers in the Keeyask Study Area, 2002.

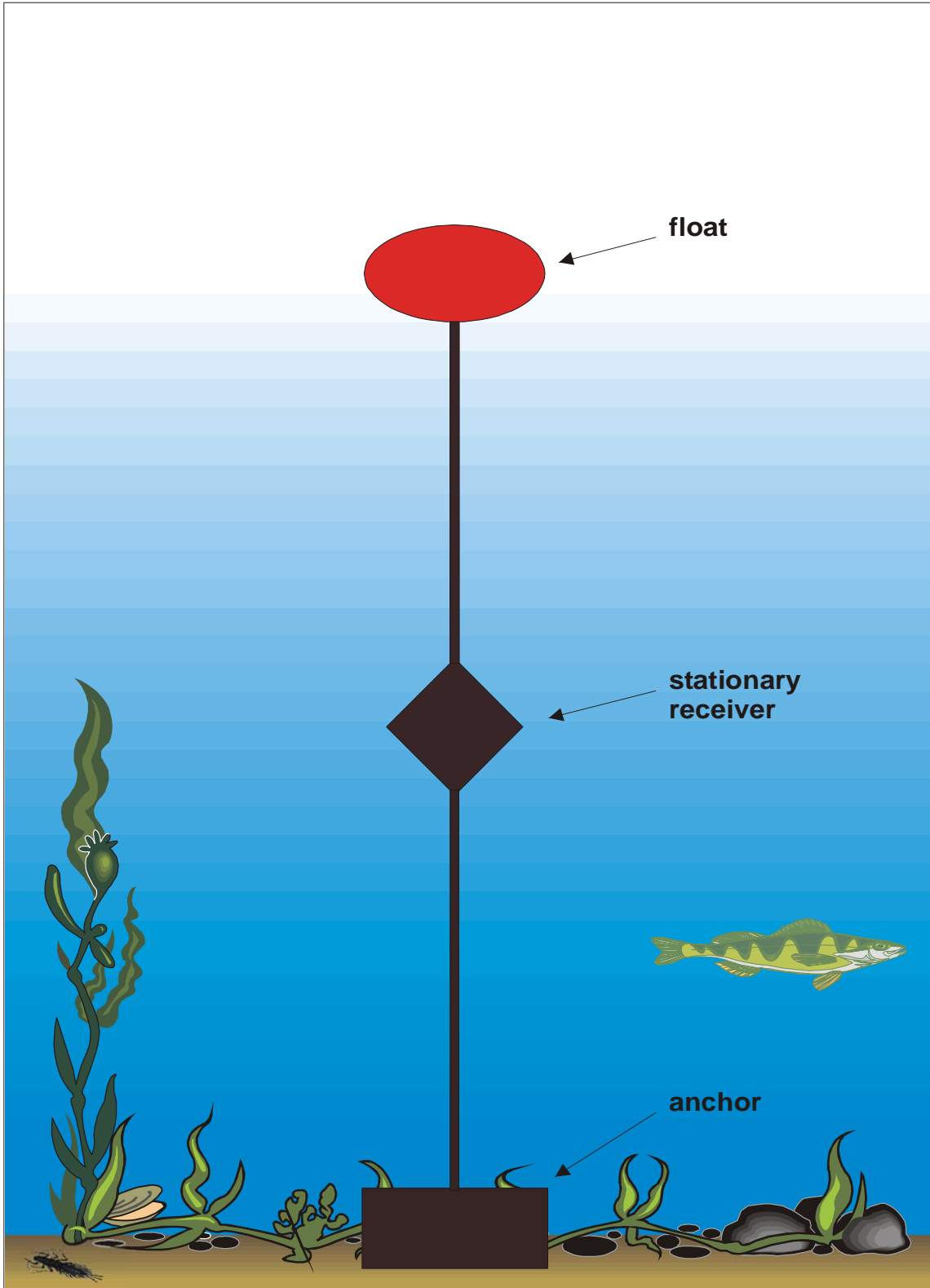


Figure 19. Diagram of a stationary acoustic receiver used during telemetry studies in the Keeyask Study Area, 2002.



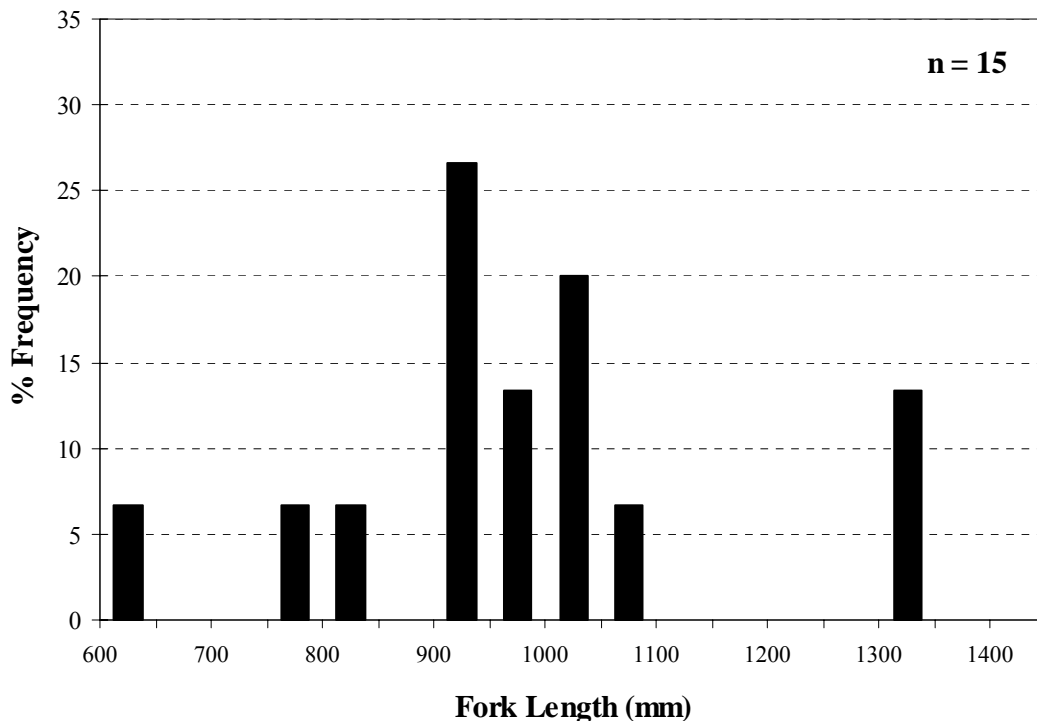


Figure 20. Length-frequency distribution for lake sturgeon captured in the Burntwood River, spring 2002. \*One of the fish captured was not measured for fork length.

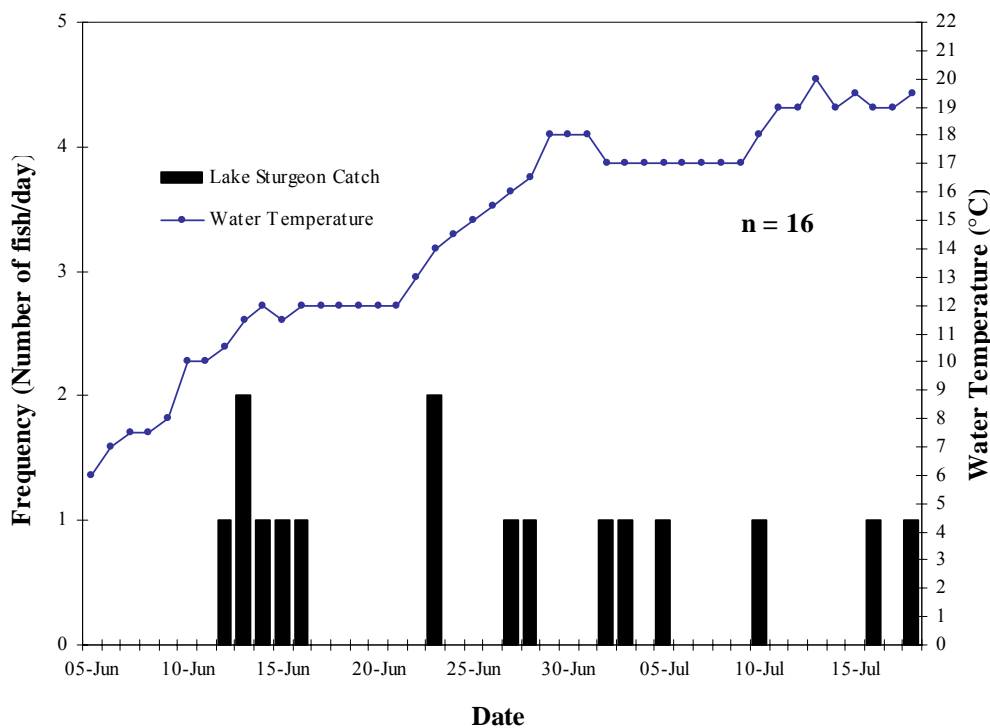


Figure 21. Daily frequency of lake sturgeon captured in the Burntwood River, spring 2002.

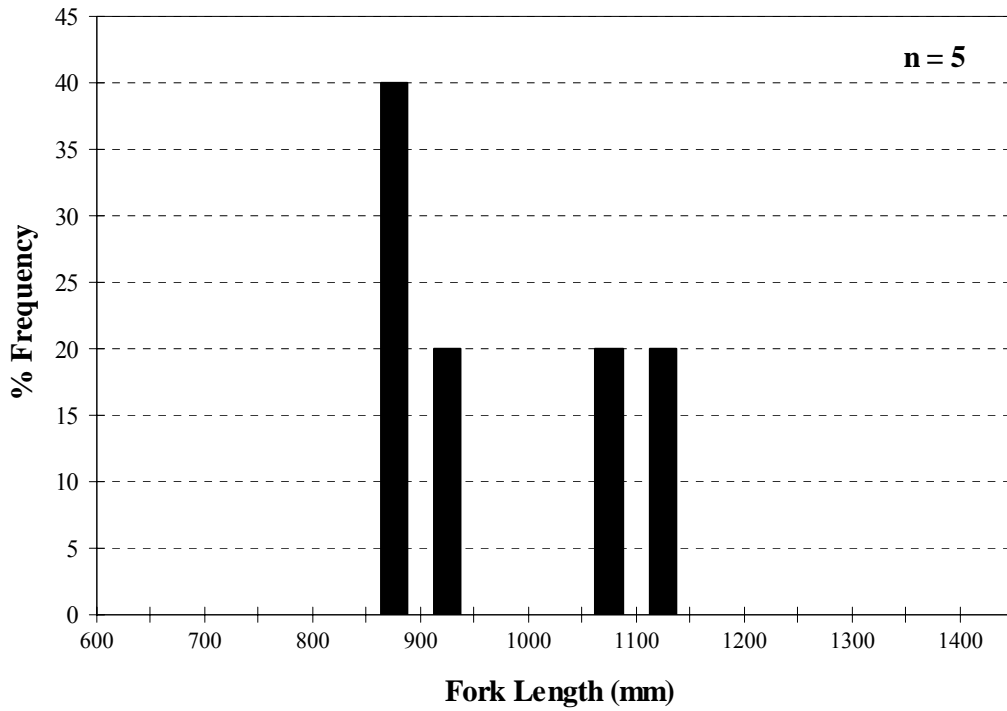


Figure 22. Length-frequency distribution for lake sturgeon captured in the vicinity of the Kelsey GS, spring 2002.

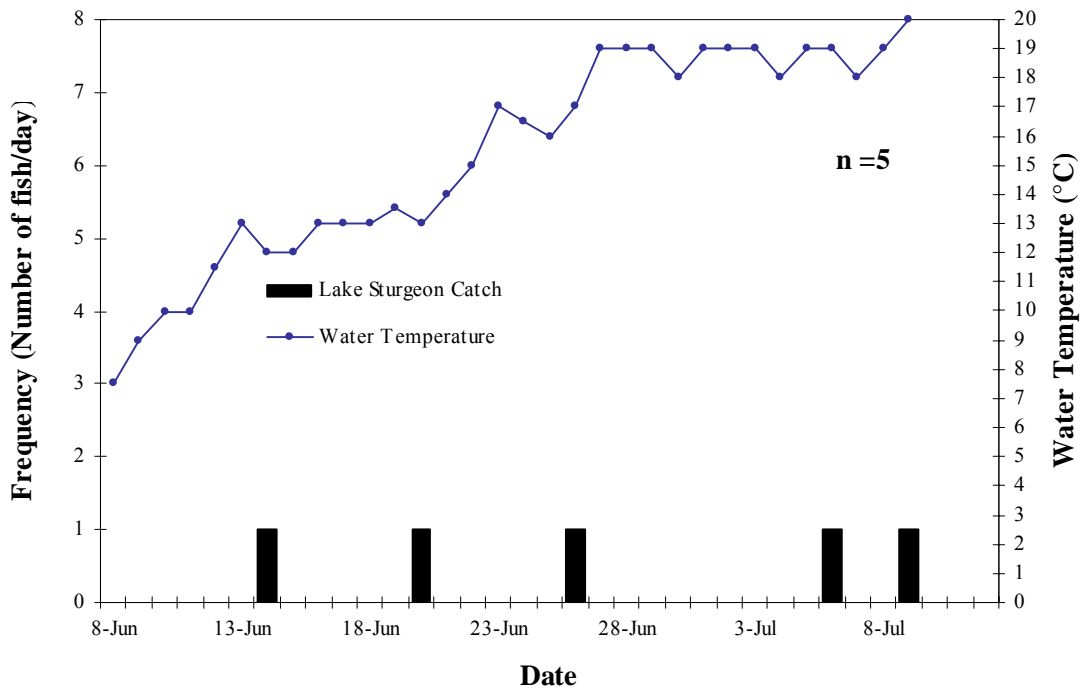


Figure 23. Daily frequency of lake sturgeon captured in the Nelson River downstream of Kelsey GS, spring 2002.

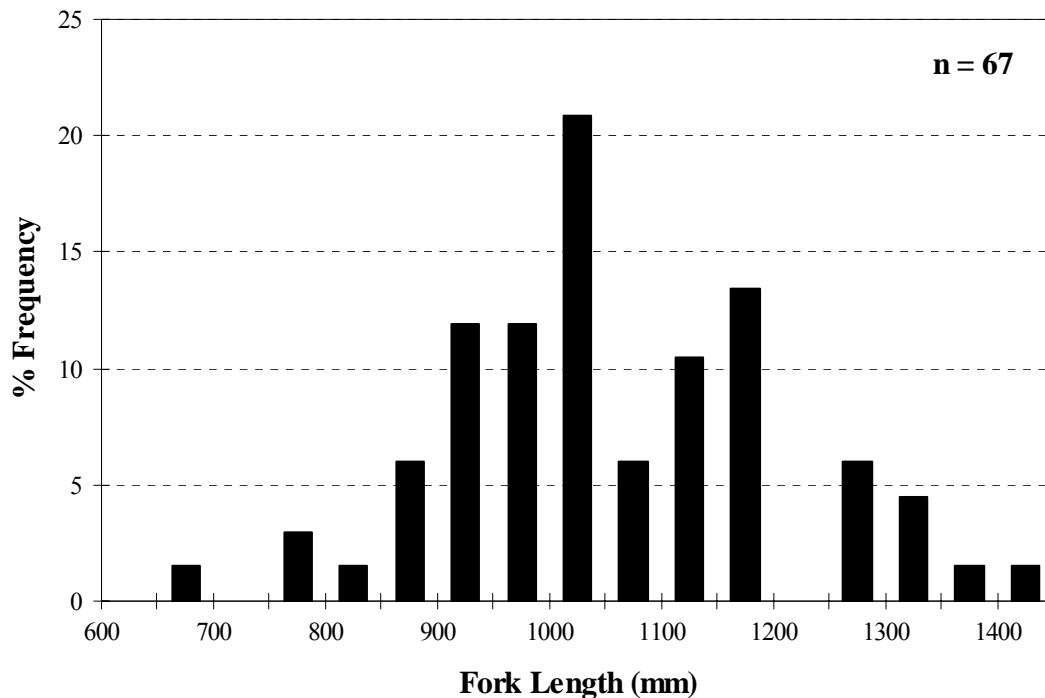


Figure 24. Length-frequency distribution for lake sturgeon captured in the Nelson River between Birthday and Gull rapids, spring 2002.

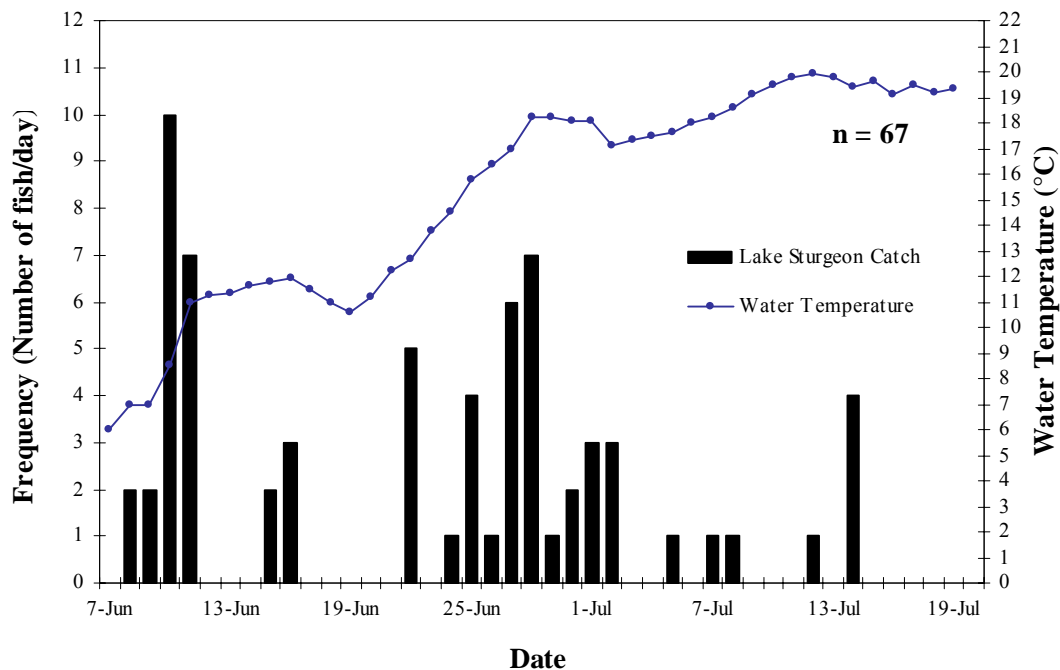


Figure 25. Daily frequency of lake sturgeon captured in the Nelson River between Birthday and Gull rapids, spring 2002. Note: Does not include lake sturgeon that were captured more than once in 2002.



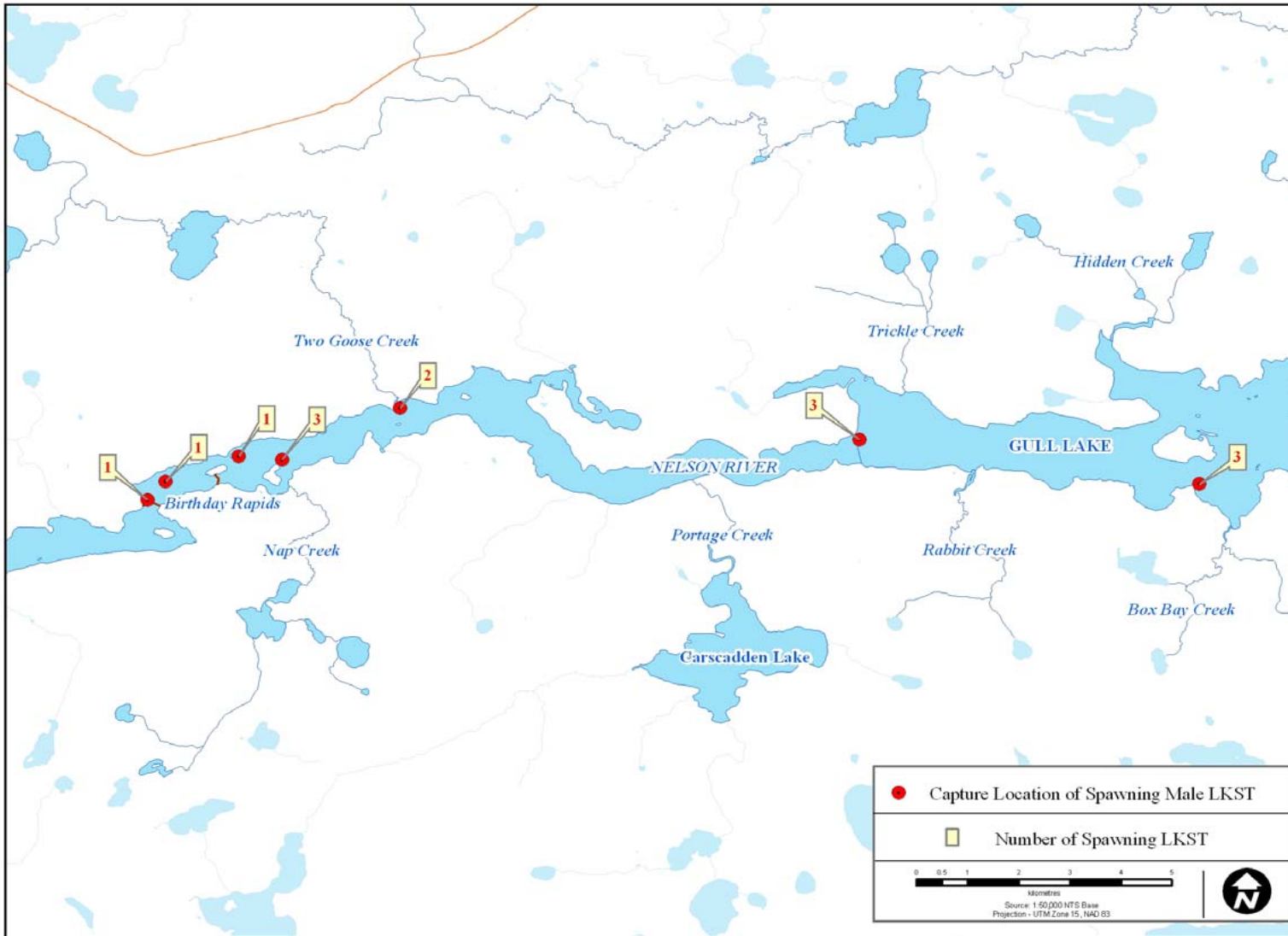


Figure 26. Capture location of spawning (classified as either preparing to spawn, ripe or spent) male lake sturgeon in the Nelson River between Birthday and Gull rapids, 7 June to 15 July, 2002.

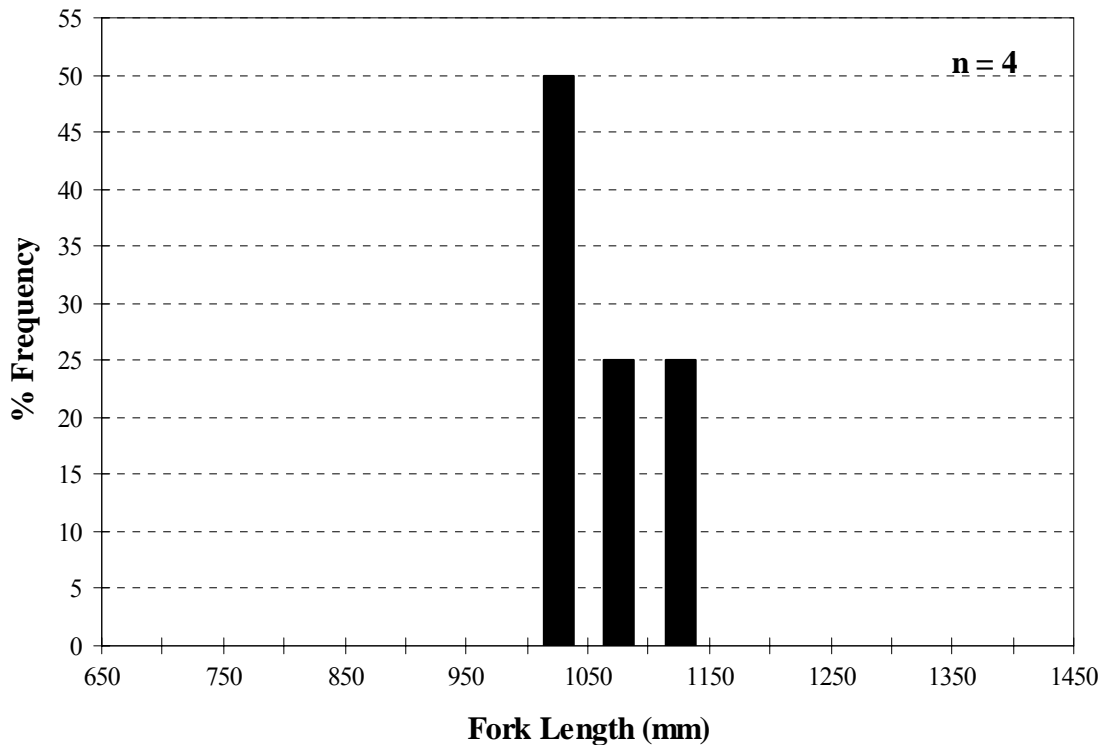


Figure 27. Length-frequency distribution for lake sturgeon captured in Stephens Lake, spring 2002.

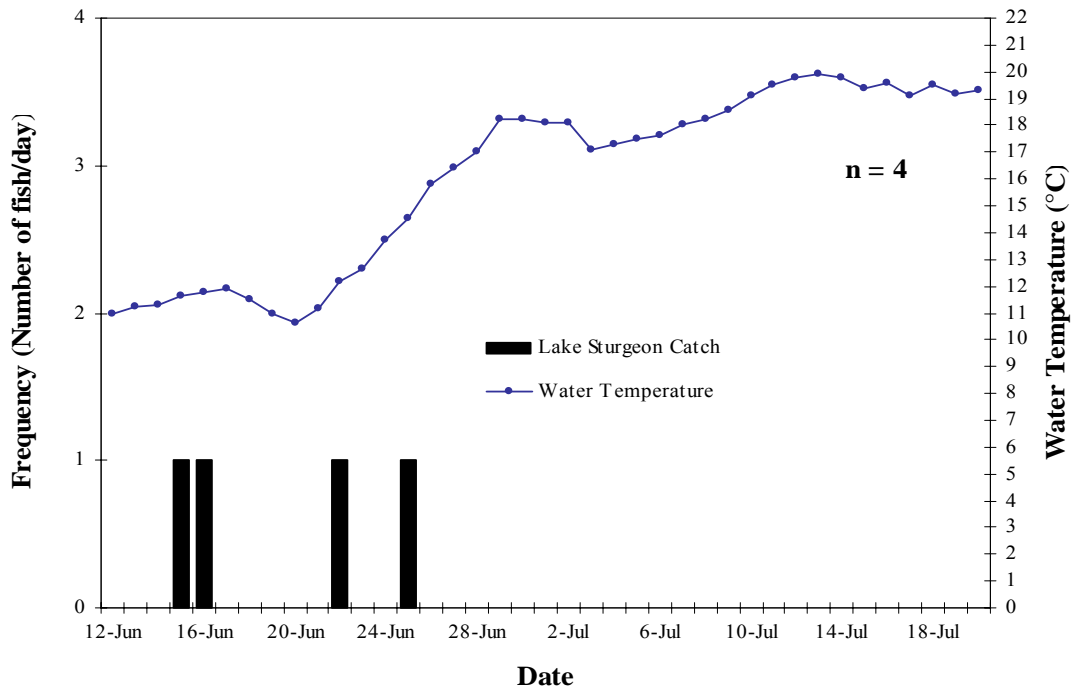


Figure 28. Daily frequency of lake sturgeon captured in Stephens Lake, spring, 2002. \*Fish tagged and recaptured in 2002 were not included.

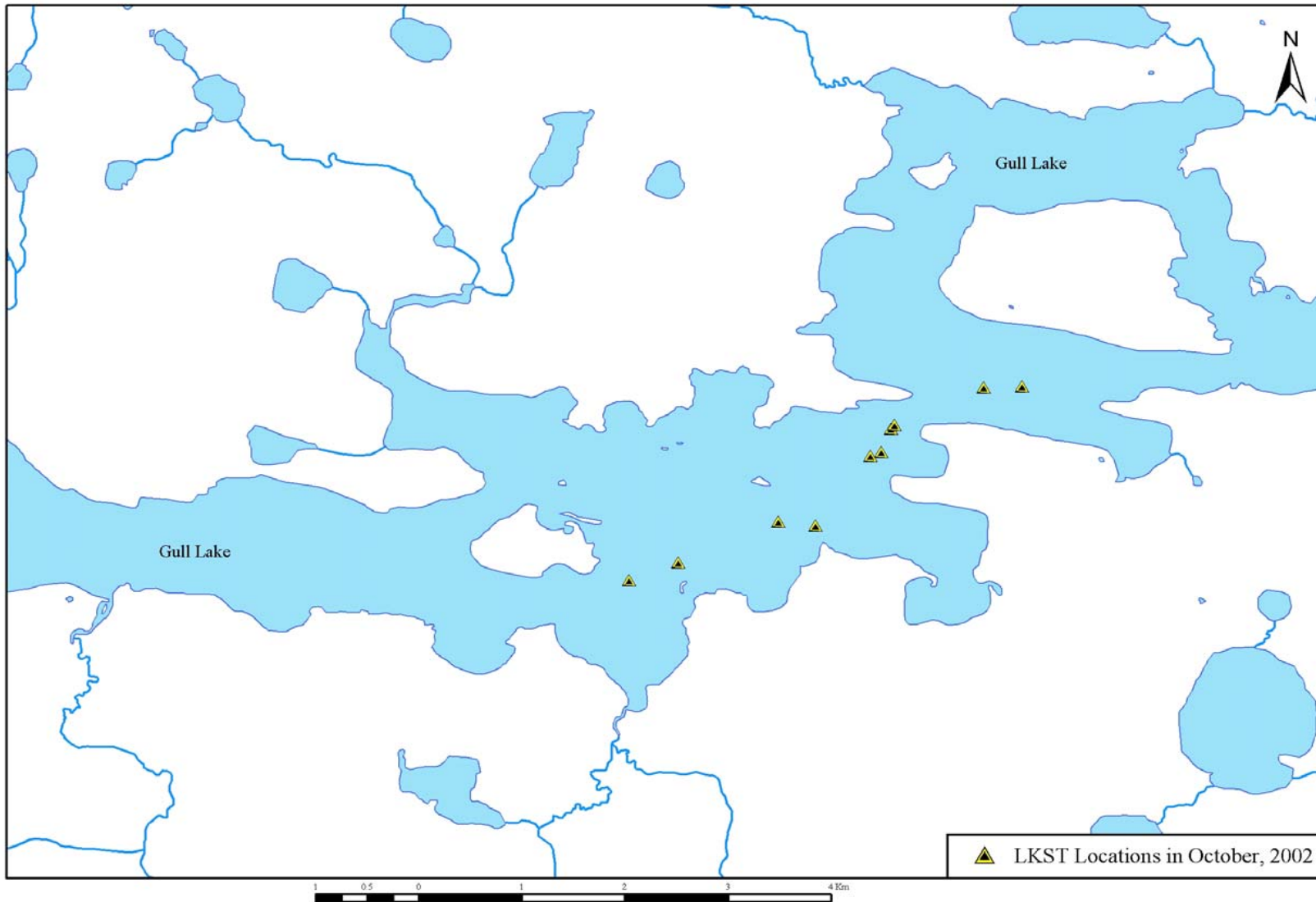


Figure 29. Location of 10 lake sturgeon tagged with acoustic transmitters in October, 2002.



## APPENDIX 1

### BIOLOGICAL AND FLOY-TAG INFORMATION FOR LAKE STURGEON CAPTURED IN THE KEYASK STUDY AREA, 2002

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Table A1-1. Biological and Floy-tag information for lake sturgeon captured in the Burntwood River during lake sturgeon investigations in 2002.

Prefix	Tag Number	Species	Date Captured	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture
NSC	42902	LKST	12-Jun	GN	BWR-A	915	1105	6500	-	-	-
NSC	42918	LKST	13-Jun	GN	BWR-A	912	1100	6250	-	-	-
NSC	42919	LKST	13-Jun	GN	BWR-A	1315	1445	18500	M*	7*	-
NSC	42945	LKST	14-Jun	GN	BWR-B	1310	1425	19500	-	-	-
NSC	46405	LKST	15-Jun	GN	BWR-A	1020	1125	8000	-	-	Y
NSC	43091	LKST	16-Jun	GN	BWR-A	945	1070	7000	-	-	-
NSC	43081	LKST	23-Jun	GN	BWR-A	970	1070	6500	M	7	-
NSC	43079	LKST	23-Jun	GN	BWR-A	1020	1140	9750	M	7	-
NSC	46445	LKST	27-Jun	GN	BWR-A	1034	1116	8000	-	-	Y
NSC	43189	LKST	28-Jun	GN	BWR-A	798	910	4500	-	-	-
NSC	43194	LKST	02-Jul	GN	BWR-A	995	1110	8400	M	9	-
NSC	43195	LKST	03-Jul	GN	BWR-A	845	948	4725	-	-	-
NSC	43403	LKST	05-Jul	GN	BWR-A	-	1255	22000	-	-	-
NSC	43404	LKST	10-Jul	GN	BWR-B	917	1012	6000	-	-	-
NSC	43405	LKST	16-Jul	GN	BWR-B	644	731	2200	-	-	-
NSC	43406	LKST	18-Jul	GN	BWR-A	1087	1215	9800	-	-	-

\* identified as a male sturgeon preparing to spawn on 23 June when it was recaptured.

LKST = lake sturgeon

BWR = Burntwood River (zones A-D)

GN = gill net

M = male; F = female;

See Section 3.3 for maturity codes

Table A1-2. Biological and Floy-tag information for lake sturgeon captured in the Nelson River downstream of the Kelsey (GS) during lake sturgeon investigations in 2002.

Prefix	Tag Number	Species	Date Captured	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture
NSC	42828	LKST	14-Jun	GN	KGS-A	931	-	6250	-	-	-
NSC	49325	LKST	20-Jun	GN	KGS-A	899	985	7500	-	-	-
NSC	49355	LKST	26-Jun	GN	KGS-A	774	872	4300	-	-	-
NSC	49404	LKST	06-Jul	GN	KGS-B	1130	1270	18500	-	-	-
NSC	49421	LKST	09-Jul	GN	KGS-C	1083	1193	10300	-	-	-

LKST = lake sturgeon

GN = gill net

KGS = Kelsey Generating Station (zones A-D)

Table A1-3. Biological and Floy-tag information for lake sturgeon captured in the Nelson River between Birthday and Gull rapids during lake sturgeon investigations in 2002.

Prefix	Tag Number	Species	Date Captured	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture	Study
SLRMB	1022	LKST	09-Jun	GN	GL-A	975	1110	7711	-	-	Y	SPGN
SLRMB	1028	LKST	10-Jun	GN	GL-C	1170	1242	17237	-	-	Y	SPGN
SLRMB	1041	LKST	08-Jun	GN	GL-A	970	1080	7711	-	-	Y	SPGN
-	-	LKST	12-Jul	GN	GL-A	900	970	8392	-	-	Y	IN
SLRMB	1098	LKST	27-Jun	DN	BR-D	1234	1341	14286	M	9	Y	DN
NSC	47060	LKST	02-Jul	GN	GL-C	932	1047	8392	-	-	Y	SPGN
NSC	47108	LKST	08-Jun	GN	GL-A	1145	1280	14629	-	-	Y	SPGN
NSC	47118	LKST	28-Jun	GN	BR-D	1152	1261	11340	-	-	Y	SPGN
NSC	47125	LKST	07-Jul	GN	BR-D	1260	1346	16500	-	-	Y	IN
NSC	47128	LKST	28-Jun	GN	BR-D	1090	1186	11340	-	-	Y	SPGN
NSC	47129	LKST	16-Jun	GN	GL-B	1104	1235	12701	-	-	Y	SPGN
NSC	47148	LKST	02-Jul	GN	GL-B	842	944	-	-	-	Y	SPGN
NSC	47159	LKST	11-Jun	GN	GL-A	995	1087	8392	M	7	Y	SPGN
NSC	47166	LKST	27-Jun	GN	BR-D	1160	1309	11340	-	-	Y	SPGN
NSC	47174	LKST	11-Jun	GN	BR-D	1320	1420	24948	-	-	Y	SPGN
NSC	47178	LKST	22-Jun	GN	GL-C	1082	1225	14515	-	-	Y	SPGN
NSC	47180	LKST	10-Jun	GN	GL-A	1011	1125	8926	-	-	Y	SPGN
NSC	47181	LKST	22-Jun	GN	GL-B	770	885	4536	-	-	Y	SPGN
NSC	48552	LKST	22-Jun	GN	GL-B	1158	1270	13835	M	7	-	SPGN
NSC	48553	LKST	22-Jun	GN	GL-B	970	1072	8165	M	7	-	SPGN
NSC	48554	LKST	22-Jun	GN	GL-B	877	975	6350	-	-	-	SPGN
NSC	48562	LKST	24-Jun	GN	GL-B	1015	1127	13608	-	-	-	SPGN
NSC	48570	LKST	25-Jun	GN	GL-B	680	775	4536	-	-	-	SPGN
NSC	48571	LKST	25-Jun	GN	GL-B	852	952	5443	-	-	-	SPGN



Table A1-3. Continued.

Prefix	Tag Number	Species	Date Captured	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture	Study
NSC	48573	LKST	25-Jun	GN	BR-D	1042	1165	13154	-	-	-	SPGN
NSC	48574	LKST	25-Jun	GN	BR-D	1044	1170	11340	-	-	-	SPGN
NSC	48594	LKST	15-Jun	GN	GL-B	1034	1171	9072	M	7	-	SPGN
NSC	48596	LKST	15-Jun	GN	BR-D	1337	1460	23133	-	-	-	SPGN
NSC	48803	LKST	29-Jun	GN	BR-D	925	1004	8618	M	9	-	SPGN
NSC	48806	LKST	28-Jun	GN	BR-D	1021	1123	8618	-	-	-	SPGN
NSC	48807	LKST	28-Jun	GN	BR-D	1161	1279	11794	M	7	-	SPGN
NSC	48808	LKST	28-Jun	GN	BR-D	1015	1106	8618	-	-	-	SPGN
NSC	48810	LKST	28-Jun	GN	GL-B	785	892	4536	-	-	-	SPGN
NSC	48811	LKST	28-Jun	GN	GL-C	900	1007	6804	-	-	-	SPGN
NSC	48816	LKST	27-Jun	GN	BR-D	895	1000	5443	-	-	-	SPGN
NSC	48817	LKST	27-Jun	GN	BR-D	954	1033	6350	M	9	-	SPGN
NSC	48818	LKST	27-Jun	GN	BR-D	1075	1185	10433	M	9	-	SPGN
NSC	48819	LKST	27-Jun	GN	BR-D	895	998	8618	-	-	-	SPGN
NSC	48820	LKST	27-Jun	GN	BR-D	1195	1310	12701	M	8	-	SPGN
NSC	48833	LKST	26-Jun	GN	BR-D	1003	1149	11794	-	-	-	SPGN
NSC	48866	LKST	30-Jun	GN	BR-D	1140	1258	14515	M	9	-	SPGN
NSC	48875	LKST	30-Jun	GN	BR-D	1005	1125	14062	-	-	-	SPGN
NSC	48876	LKST	01-Jul	GN	GL-B	1140	1248	12020	-	-	-	SPGN
NSC	48877	LKST	01-Jul	GN	GL-B	1136	1269	15649	-	-	-	SPGN
NSC	48878	LKST	01-Jul	GN	BR-D	1047	1159	11567	-	-	-	SPGN
NSC	48881	LKST	02-Jul	GN	BR-D	1254	1378	20412	-	-	-	SPGN
NSC	48884	LKST	05-Jul	GN	BR-D	1415	1543	34020	-	-	-	IN
NSC	48886	LKST	08-Jul	GN	BR-D	995	1087	10206	-	-	-	IN

Table A1-3. Continued.

Prefix	Tag Number	Species	Date Captured	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture	Study
NSC	48894	LKST	14-Jul	GN	GL-C	1018	1190	11113	-	-	-	IN
NSC	48896	LKST	14-Jul	GN	GL-C	1030	1110	10206	-	-	-	IN
NSC	48897	LKST	14-Jul	GN	GL-C	920	990	6895	-	-	-	IN
NSC	48898	LKST	14-Jul	GN	GL-C	1100	1155	12701	-	-	-	IN
NSC	48909	LKST	16-Jun	GN	BR-D	1335	1500	31298	-	-	-	SPGN
NSC	48911	LKST	16-Jun	GN	GL-B	965	1083	9752	-	-	-	SPGN
NSC	48926	LKST	11-Jun	GN	BR-D	1299	1420	21092	M	7	-	SPGN
NSC	48935	LKST	10-Jun	GN	GL-A	1351	1485	27225	-	-	-	SPGN
NSC	48936	LKST	10-Jun	GN	GL-A	1179	1335	17406	-	-	-	SPGN
NSC	48938	LKST	10-Jun	GN	GL-A	1006	1120	8618	-	-	-	SPGN
NSC	48939	LKST	10-Jun	GN	GL-A	1115	1253	13608	-	-	-	SPGN
NSC	48940	LKST	10-Jun	GN	GL-A	1184	1265	14742	M	7	-	SPGN
NSC	48941	LKST	10-Jun	GN	GL-A	1085	1220	11453	M	7	-	SPGN
NSC	48947	LKST	10-Jun	GN	BR-D	1265	1370	19505	-	-	-	SPGN
NSC	48948	LKST	10-Jun	GN	BR-D	930	1055	7258	-	-	-	SPGN
NSC	48950	LKST	09-Jun	GN	GL-C	1034	1122	10660	-	-	-	SPGN
NSC	48976	LKST	11-Jun	GN	BR-D	1152	1265	13154	-	-	-	SPGN
NSC	48978	LKST	11-Jun	GN	BR-D	917	1022	7031	-	-	-	SPGN
NSC	48982	LKST	11-Jun	GN	GL-A	995	1082	8278	-	-	-	SPGN
NSC	48983	LKST	11-Jun	GN	GL-A	946	1054	9072	-	-	-	SPGN

LKST = lake sturgeon

GN = gill net

GL = Gull Lake (zones A-C); BR = Birthday Rapids (zones U and D)

M = male; F = female

See Section 3.3 for maturity codes

SPGN = Spring gillnetting; IN = index gillnetting; DN = drift nets

Table A1-4. Biological and Floy-tag information for lake sturgeon captured in Stephens Lake during lake sturgeon investigations in 2002.

Prefix	Tag Number	Species	Date Tagged	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture
NSC	53159	LKST	22-Jun	GN	STL-A	1001	1100	9500	-	-	-
NSC	53189	LKST	15-Jun	GN	STL-A	1002	-	8050	M	7	-
NSC	53194	LKST	16-Jun	GN	STL-A	1100	1330	15000	-	-	-
NSC	53202	LKST	25-Jun	GN	STL-A	1078	1155	11000	M	7	-

LKST = lake sturgeon

GN = gill net

STL = Stephens Lake (zones A-E)

M = male; F = female

See Section 3.3 for maturity codes

Table A1-5. Biological and Floy-tag information for lake sturgeon captured during other studies conducted in the Keeyask Study Area, 2002.

Prefix	Tag Number	Species	Date Tagged	Gear Type	Tagging Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture
NSC	48397	LKST	11-Sep	GN	GL-B	670	745	-	-	-	-
NSC	48398	LKST	11-Sep	GN	GL-B	791	881	-	-	-	-
-	-	LKST	17-Aug	GN	SPL-A	370	410	-	-	-	-
-	-	LKST	17-Aug	GN	SPL-A	820	890	4000	-	-	-

LKST = lake sturgeon

GN = gill net

GL = Gull Lake (zones A-C); SPL = Split Lake (zones A-F)

Table A1-6. Biological and Floy-tag information for fish captured in gill nets set in Gull Lake between 1 and 10 October, 2002.

Prefix	Tag Number	Species	Date Tagged	Gear Type	Capture Location (Map Area)	Fork Length (mm)	Total Length (mm)	Weight (g)	Sex	Maturity	Recapture
NSC	54179	LKST	04-Oct	GN	GL-B	672	761	2100	-	-	-
NSC	54178	LKST	04-Oct	GN	GL-B	612	712	1900	-	-	-
NSC	54221	LKWH	05-Oct	GN	GL-B	521	-	-	-	-	-
NSC	48181	LKST	10-Oct	GN	GL-B	690	785	2500	-	-	-

LKST = lake sturgeon; LKWH = lake whitefish  
 GN = gill net  
 GL = Gull Lake (zones A-C)

## APPENDIX 2

### WEIGHT-LENGTH REGRESSION ANALYSIS FOR LAKE STURGEON CAPTURED IN THE KEEYASK STUDY AREA

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Table A2-1. Weight-length regression equation, by location, for lake sturgeon captured in the Keeyask Study Area during 2002.

<b>Location</b>	<b>n</b>	<b>Regression Equation</b>	<b>R<sup>2</sup></b>
Burntwood River	15	$y = 26.34x - 17488$	0.92
Kelsey (GS)	5	$y = 33.85x - 23243$	0.77
Nelson River (BR-GR)	67	$y = 38.43x - 28568$	0.82
Stephens Lake	4	$y = 52.28x - 43760$	0.80

BR - GR = Birthday Rapids to Gull Rapids

R square value measures how successful the fit is in explaining the variation in the data (i.e., a value closer to 1.00 indicates a better fit).

**APPENDIX 3**

**SUMMARY OF LAKE STURGEON FLOY-TAG RECAPTURES IN THE  
KEYYASK STUDY AREA**

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Table A3-1. Floy-tag application and recapture information for lake sturgeon recaptured during lake sturgeon investigations, 2002.

Prefix	Tag #	Species	Date Tagged	Tagging Zone (Map Area)	Date Recaptured	Recapture Zone (Map Area)	Distance (km)	Days to recapture
NSC	42919	LKST	13-Jun-02	BWR-A	23-Jun-02	BWR-A	0.5	10
NSC	43081	LKST	23-Jun-02	BWR-A	05-Jul-02	BWR-A	0.5	12
NSC	43194	LKST	02-Jul-02	BWR-A	08-Jul-02	BWR-A	-	6
NSC	43194	LKST	02-Jul-02	BWR-A	15-Jul-02	BWR-A	0.4	13
NSC	46405	LKST	01-Jun-01	BWR-A	15-Jun-02	BWR-A	0.2	379
NSC	46407	LKST	02-Jul-01	BWR-A	04-Jun-02	KGS-A	50.0	337
NSC	46445	LKST	21-Jun-01	BWR-A	27-Jun-02	BWR-A	0.3	371
NSC	46445	LKST	21-Jun-01	BWR-A	17-Jul-02	BWR-B	12.5	391
NSC	47060	LKST	26-May-01	GL-C	02-Jul-02	GL-C	0.1	402
NSC	47108	LKST	04-Jun-01	GL-A	08-Jun-02	BR-D	2.5	369
NSC	47118	LKST	06-Jun-01	BR-D	28-Jun-02	BR-D	2.5	387
NSC	47125	LKST	07-Jun-01	BR-D	07-Jul-02	BR-D	2.5	395
NSC	47128	LKST	07-Jun-01	BR-D	28-Jun-02	BR-D	2.5	386
NSC	47128	LKST	07-Jun-01	BR-D	29-Jun-02	BR-D	2.5	387
NSC	47129	LKST	07-Jun-01	BR-D	16-Jun-02	GL-B	23.0	374
NSC	47148	LKST	19-Jun-01	GL-B	02-Jul-02	GL-B	4.3	378
NSC	47159	LKST	26-Jun-01	GL-C	11-Jun-02	BR-D	10.5	350
NSC	47166	LKST	30-Jun-01	BR-D	27-Jun-02	BR-D	18.5	362
NSC	47174	LKST	04-Jul-01	BR-D	11-Jun-02	BR-D	10.0	342
NSC	47178	LKST	06-Jul-01	GL-C	22-Jun-02	GL-B	6.0	379
NSC	47179	LKST	07-Jul-01	GL-C	14-Aug-02	GL-B	3.0	413
NSC	47180	LKST	07-Jul-01	GL-C	10-Jun-02	BR-D	8.5	338
NSC	47181	LKST	07-Jul-01	GL-C	22-Jun-02	GL-B	1.0	350
NSC	48181	LKST	07-Jul-01	GL-C	10-Oct-02	GL-B	3.0	460
NSC	48574	LKST	25-Jun-02	BR-D	30-Jun-02	BR-D	0.2	5