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**FINAL SHIP OPERATING SCHEDULE FOR 1999**  
**R/V BLUE HERON**

<b>Cruise Dates</b>	<b>Map Index/ Area/ Purpose</b>	<b>P.I. /Institution/ Proposal</b>	<b>Ports</b>	<b>Days/Agency/ Status/Clearance</b>
13 Apr 18 Apr	GL4/ Superior/ Bass Deployment	E. Ralph/ UMN/ Kites-OCE 9712871	Duluth Duluth	6/NSF/F/None
30 Apr 30 Apr	GL4/ Superior/ ADCP	E. Ralph/ UMN/ MRI 9724432	Duluth Duluth	0.5/NSF/F/None
06 May 08 May	GL4/ Superior/ Physical Limn.	E. Ralph/ UMN/ Sea Grant	Duluth Duluth	2.5/NOAA/F/None
09 May 09 May	GL4/ Superior/ Chemical Limn.	J. McManus/UMN/ University	Duluth Duluth	1/State/F/None
10 May 11 May	GL4/ Superior/ Geological Limn.	E. Brown/ UMN/ Kites-OCE 9712871	Duluth Duluth	1.5/NSF/F/None
24 May 30 May	GL4/ Superior/ Physical Limn.	E. Ralph/ UMN/ Kites-OCE 9712871	Duluth Duluth	6.5/NSF/F/None
11 Jun 16 Jun	GL4/ Superior/ ROV- NURP	N. Urban/ MTU/ NAGL-98-03B	Duluth Duluth	6/NOAA/F/None
19 Jun 25 Jun	GL4/ Superior/ Physical Limn.	E. Ralph/ UMN/ Kites-OCE 9712871	Duluth Duluth	6.5/NSF/F/None
26 Jun 26 Jun	GL4/ Superior/ Educational	Munson/ UMN/ University	Duluth Duluth	0.5/State/F/None
28 Jun 02 Jul	GL4/ Superior/ Geological Limn.	E. Brown/ UMN/ Sea Grant	Duluth Duluth	5/NOAA/F/None
15 Jul 15 Jul	GL4/ Superior/ Multibeam	N. Wattus/ UMN/ MRI 9724432	Duluth Houghton	0.5/NSF/F/None

16 Jul	GL4/ Superior/	T. Johnson/ UMN/	Houghton	6/Weinert/F/None
21 Jul	Geological Limn.	Weinert Foundation	Marquette	
22 Jul	GL4/ Superior/	T. Johnson/ UMN/	Marquette	1/State/F/None
22 Jul	Geological Limn.	University	Houghton	
23 Jul	GL4/ Superior/	N. Wattrus/ UMN/	Houghton	1/NSF/F/None
23 Jul	Multibeam	MRI 9724432	Houghton	
24 Jul	GL4/ Superior/	E. Brown/ UMN/	Houghton	4.5/NSF/F/None
28 Jul	Geological Limn	Kites-OCE 9712871	Duluth	
30 Jul	GL4/ Superior/	T. Johnson/ UMN/	Duluth	0.5/UMN/F/None
30 Jul	Educational	University	Duluth	
06 Aug	GL4/ Superior/	N. Urban/ MTU/	Duluth	6/NOAA/F/None
11 Aug	ROV- NURP	NAGL-98-03B	Duluth	
14 Aug	GL4/ Superior/	E. Ralph/ UMN/	Duluth	7/ NSF/F/None
20 Aug	Physical Limn.	Kites-OCE 9712871	Duluth	
29 Aug	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	4/ NOAA/F/None
01 Sep	Geological Limn.	Sea Grant	Duluth	
05 Sep	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	2/NSF/F/None
06 Sep	Multibeam	MRI 9724432	Houghton	
07 Sep	GL4/ Superior/	J. Cartwright/ IC/	Houghton	2/IC/F/None
08 Sep	Geology	Imperial Col. Funds	Duluth	
14 Sep	GL4/ Superior/	E. Ralph/ UMN/	Duluth	0.5/State/F/None
14 Sep	Educational	University	Duluth	
15 Sep	GL4/ Superior/	E. Brown/ UMN/	Duluth	7/ NSF/F/ None
21 Sep	Geological Limn.	Kites-OCE 9712871	Duluth	
23 Sep	GL4/ Superior/	J. McManus/ UMN/	Duluth	4/State/F/None
26 Sep	Chemistry	LCMR	Duluth	
27 Sep	GL4/ Superior/	B. Sterner/ UMN/	Duluth	1/State/F/None
27 Sep	Biology	University	Duluth	
28 Sep	GL4/ Superior/	J. McManus/ UMN/	Duluth	0.5/State/F/None
28 Sep	Educational	University	Duluth	

30 Sep	GL4/ Superior/	T. Johnson/ UMN/	Duluth	0.5/State/F/None
30 Sep	Educational	University	Duluth	
08 Oct	GL4/ Superior/	M. Whiteside/ UMN/	Duluth	1/State/F/None
09 Oct	Educational	University	Duluth	
18 Oct	GL4/ Superior/	E. Ralph/ UMN/	Duluth	3/NSF/F/None
20 Oct	Physical Limn.	Kites-OCE 9712871	Duluth	
23 Oct	GL4/ Superior/	D. Schnurrenberger/	Duluth	.5/State/F/None
23 Oct	Educational	UMN/ University	Duluth	
06 Nov	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	4/NSF/F/None
09 Nov	Geological Limn.	Kites-OCE 9712871	Duluth	
15 Nov	GL4/ Superior/	E. Ralph/ UMN/	Duluth	0.5/NSF/F/None
15 Nov	ADCP	MRI 9724432	Duluth	
03 Dec	GL4/ Superior/	E. Ralph/ UMN/ Sea	Duluth	2/NOAA/F/None
04 Dec	Physical Limn.	Grant	Duluth	
15 Dec	GL4/Superior/	E. Ralph/UMN/ MRI	Duluth	2/NSF &
17 Dec	Physical Limn.	9724432, Kites OCE- 971287, Sea Grant	Duluth	NOAA/F/None

## SUMMARY

Agency	Funded	Proposed	Total
NSF	52		52
NOAA	26		26
State	11		11
OTHER	8		8
<b>Total</b>	<b>97</b>		<b>97</b>