

## Appendix V

### NSF Fleet Review Information

# ACADEMIC RESEARCH FLEET OPERATIONS AND MANAGEMENT REVIEW

## Terms of Reference

- 1) Review and evaluate the current and projected research vessel fleet required for research sponsored by the National Science Foundation within a national framework that includes research requirements of other federal agencies, state and local governments, and private sources.

This review should be done in the context of environmental and geoscience research, in general, and the specific contributions the Academic Research Fleet provides to the research enterprise as a whole.

### *Specific issues include:*

- Do the capabilities and operating modes of the academic ships meet research requirements?
- Are the number of ships overall, and distribution within size categories, consistent with the level of research support and type of seagoing research projects expected in the future?
- Are specialized capabilities required to meet research priorities adequately included in the overall fleet profile?

# **ACADEMIC RESEARCH FLEET OPERATIONS AND MANAGEMENT REVIEW**

## Terms of Reference

- 2) Review and evaluate overall management structure of the Academic Research Fleet; review and evaluate existing capabilities and services provided by the operating organizations; and review and evaluate possible future changes in academic fleet operations to ensure optimal operations of the academic fleet to support research requirements.

The review context should include consideration of the distributed ownership of the fleet, cost sharing for both capital acquisition and operations and requirements of multiple research sponsors who participate in scientific, operational and financial support.

*Specific issues include:*

- Are organizational arrangements and structures appropriate?
- Can the Academic Research Fleet system be managed in a more cost-effective manner?
- Should elements of the research fleet be recompeted?

# **ACADEMIC RESEARCH FLEET OPERATIONS AND MANAGEMENT REVIEW**

## Terms of Reference

- 3) Provide recommended actions by NSF to improve the organization, management, and cost effective operation of the Academic Research Fleet in support of scientific capabilities required to maintain world leadership in ocean and environmental science research.

The recommendations should be formulated in the context of the results of the review and evaluations of the first two terms of reference. Key elements include providing a perspective on Academic Research Fleet operations within a national context, relevance and quality of scientific, educational, and technical support; and benefits and added value of any recommended actions for peer reviewed competition or recompetition of research fleet components.

# **ACADEMIC RESEARCH FLEET OPERATIONS AND MANAGEMENT REVIEW**

## Action

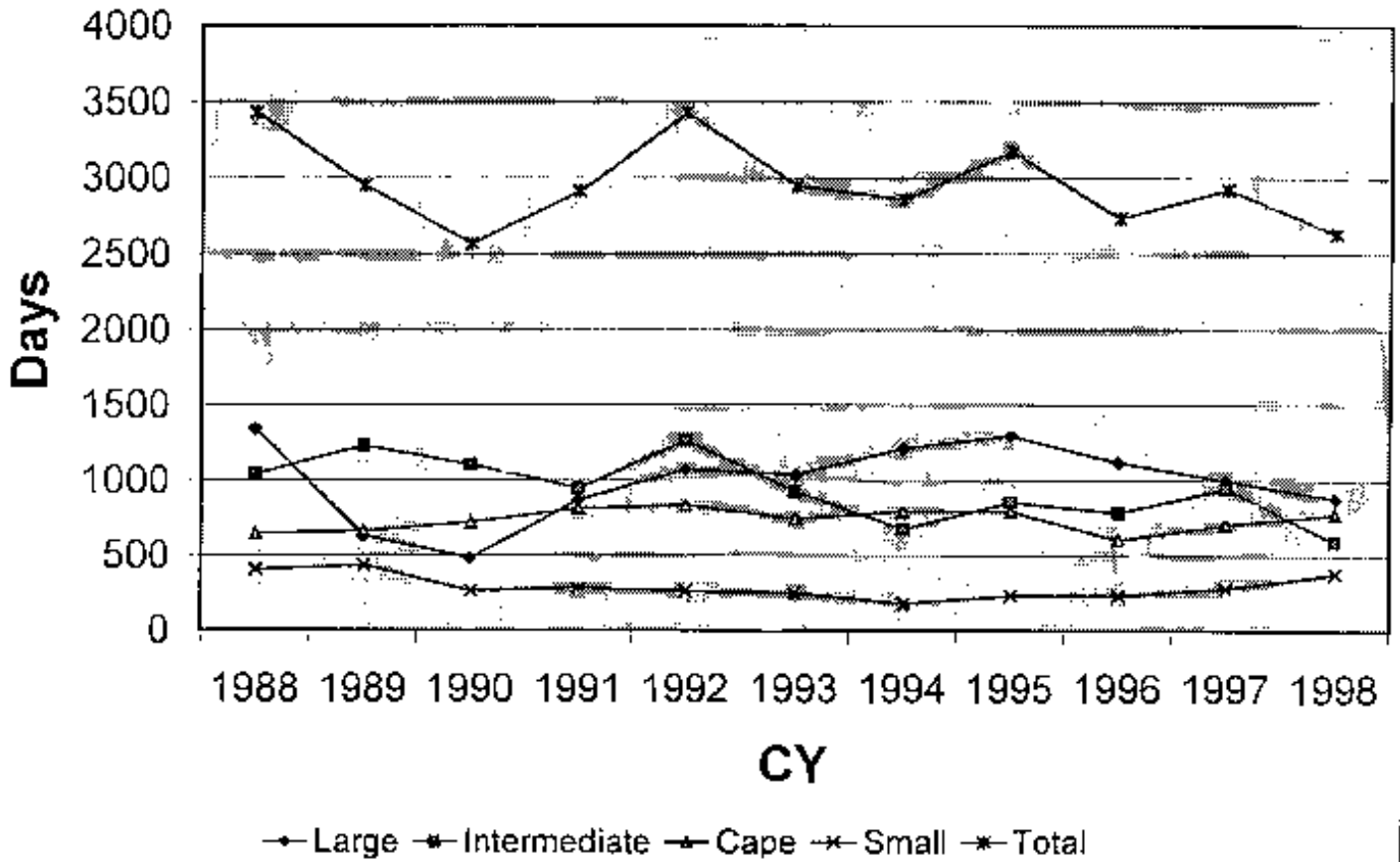
- **Establish Academic Research Fleet Operations Review Panel**
  - **Six to eight members**
  - **Academic, industry, and government representatives**
- **Provide a comprehensive and balanced evaluation of science support services and capabilities, ship operations, and size and organizational structure for the support of the academic research fleet.**
- **Recommend actions by NSF to ensure the most cost-effective means of organizing and managing the research fleet for support of research requirements.**

# **ACADEMIC RESEARCH FLEET OPERATIONS AND MANAGEMENT REVIEW**

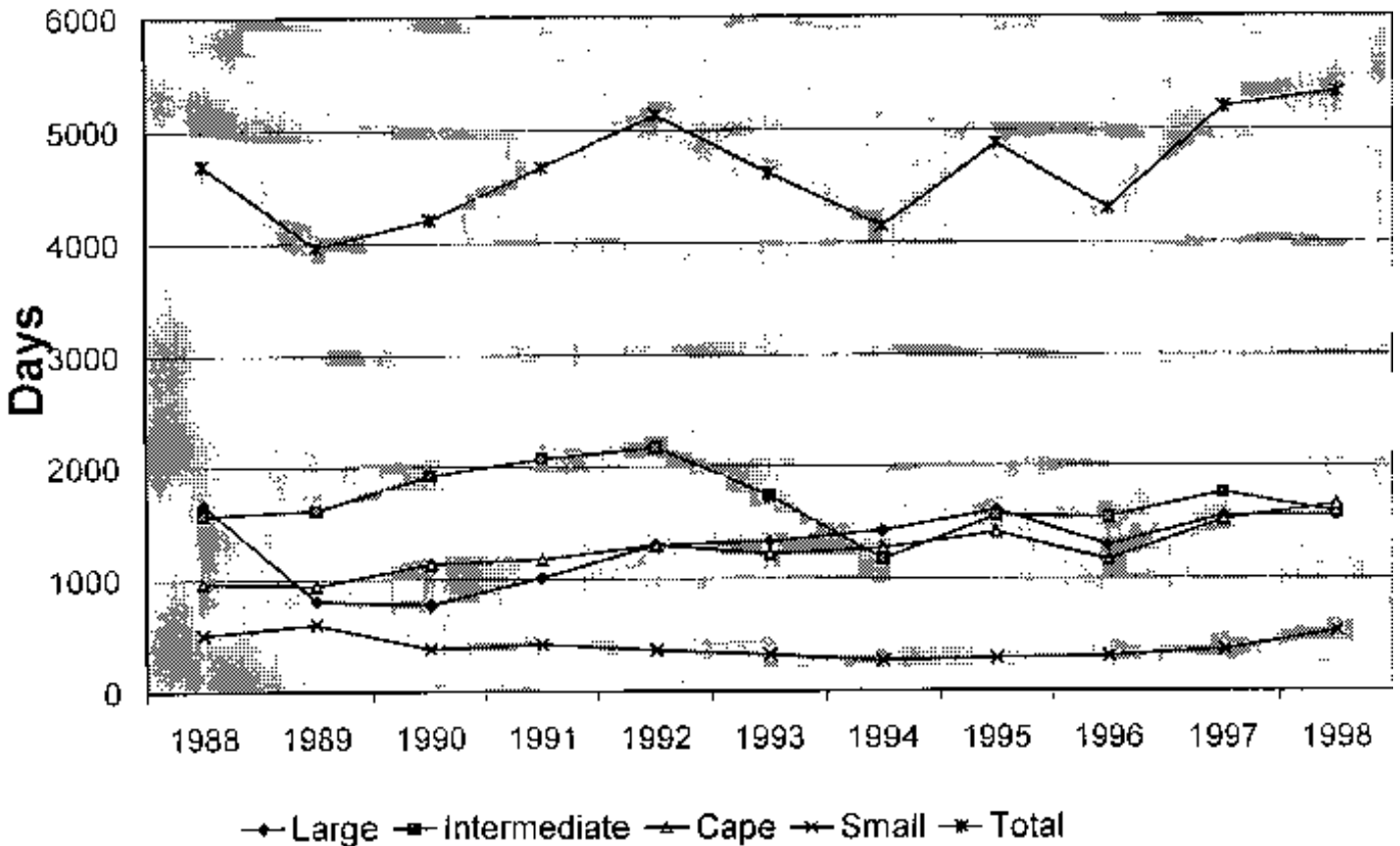
## Context

- National Science Board reviewed request for continuation of Oceanographic Research Vessel and Submersible Operations awards for 5 years in November, 1997.
- Operations awards were approved for a shorter duration -- 2 years, 1998 and 1999.
- NSF staff are to review and report back on the cost-effectiveness of the present and possible alternative methods of managing ship operations
- Review procedures will follow principles outlined in NSB Resolution concerning Competition, Recompensation, and Renewal of NSF Awards for facilities operations (NSB 97-224).

## NSF Days by Class



## Total Ship Days by Class



## NSF Total Days

Shu	Length	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Melville	270	145	148 ml	ml	ml	137	241	302	258	291	200	154
Kinn	279	260 ml	ml	ml		271	167	218	350	207	108	100
Thompson	274				0	231	223	140	215	171	62	131
Revele	274									1	238	122
Atlantic	274										157	202
Loring	239			111	300	190	221	292	180	311	192	76
A.I.	210	254	194	117	247	145	183	253	266	78 w/s		
Conrad	208	278	50 w/s									
Thompson	208	121 w/s										
Washingt	208	268				94 w/s						
Sub Total		1344	629	487	807	1009	1035	1211	1207	1119	597	881
Voters	220			10	86	55	115 w/s					
M.Wave	210	281	285	186	318	223	160	142	171	105	179	111
Johnson	204	12	0	12	12	36	31	50	81	208	179	124
Wozna	185	169	157	100	154	229	135	75	70	103	116	70
Endeavor	184	144	150	134	67	150 ml		127	191	78	177	0
Gynn	182	10	21	118	7	51	22	49	0	0	9	31
Oceanus	177	148	227	36	51	171	57 ml		124	71	156	161
N.Horizon	170	104	67	105	89	130	170	175	193	148	143	60
Iselin	170	104	172	271	228	197	159	4 w/s				
Link	168	7	37	0	34	24	21	51	22	65	40	37
Sub Total		1009	1229	1102	946	1266	934	872	852	781	841	594
P.Sur	135	41	80	70	49	79	53	116	110	46	51	121
Hatteras	130	137	176	146	197	168	168	130	133 w/s		120	111
Helix	133	194	115	100	139	102	139	145	89	27	71	139
Sprou	125	121	83	101	121	60	30	64	78	72	119	65
Henkpen	120	30	101	30	135	125	126	117	167	162	84	105
Wairoa II	115			325	193	215	89	140	151	144	130	134
Sea.Diver	113							8	30	57	6	18
Warfield	108	111	107 w/s									
Pelican	105	9	15	26	0	34	56	29	0	23	54	57
Longhorn	105	0	0	0	15	14	39	39	36	70	4	6
Urraca	90									0	38	15
Sub Total		643	660	719	610	833	742	791	794	604	705	777
Laurenta	80	48	40	25	60	28	55	59	79	46	35	140
BlueFin	72	51	37	51	25	72	53	25	72	94	68	76
Calanus	68	115	94	55	72	85	91	50	22	28	75	90
Barnes	66	60	70	129	139	75	48	45	57	61	101	72
WPI	65	130	180 w/s									
Sub Total		403	438	260	268	260	246	181	230	229	280	379
Total		3429	2957	2487	2909	3428	2947	2906	3173	2733	2524	2530

## Total Days

Ship	Length	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Mazur	270	297	224	171	191	170	306	303	297	287	306	218
Khur	279	303	191	195	191	271	272	253	350	269	244	260
Thompson	274				83	277	282	255	333	240	274	277
Revalle	274									71	298	310
Atlantis	274										155	272
Ewing	238			132	309	229	221	310	310	315	271	215
All	210	343	223	281	292	179	247	306	319	93	195	215
Conrad	218	352	109	195								
Thompson	208	128	195									
Washingt	208	331	260	233	336	100	195					
<b>Sub Total</b>		<b>1664</b>	<b>810</b>	<b>772</b>	<b>1011</b>	<b>1301</b>	<b>1334</b>	<b>1427</b>	<b>1609</b>	<b>1291</b>	<b>1552</b>	<b>1562</b>
Vickers	220			10	86	220	203	195				
M.Wave	210	300	295	283	269	278	249	215	195	144	202	109
Johnson	204	12	0	177	220	214	136	88	271	306	290	281
Wexonia	186	226	218	239	212	270	220	24	145	198	199	226
Endeavor	184	224	259	220	196	201	191	130	228	147	201	158
Gyre	182	193	163	212	220	129	159	148	172	219	154	144
Casarius	177	230	252	157	213	313	189	191	187	168	209	245
N Horizon	170	216	169	233	207	175	239	241	240	174	258	221
Iselin	170	217	222	279	239	206	221	21	195			
Link	168	7	37	107	206	167	122	247	175	186	214	141
<b>Sub Total</b>		<b>1665</b>	<b>1615</b>	<b>1917</b>	<b>2088</b>	<b>2166</b>	<b>1738</b>	<b>1174</b>	<b>1663</b>	<b>1541</b>	<b>1758</b>	<b>1585</b>
P.S.A	135	141	103	177	155	177	174	165	104	118	188	193
Hatteras	130	204	180	180	222	210	194	173	175	160	221	206
Intix	133	198	155	109	110	146	167	163	144	73	118	172
Sprout	120	158	117	135	181	140	146	111	145	155	167	154
Hemlock	120	57	121	64	156	170	157	170	199	185	105	156
Ward II	115			238	204	225	109	144	154	167	153	134
Sea Diver	113							138	180	134	105	133
Walfield	106	112	107	195								
Pelican	105	93	89	121	90	168	224	134	182	201	203	244
Longhorn	105	0	0	111	44	58	53	53	72	130	46	63
Urraca	98										112	147
<b>Sub Total</b>		<b>964</b>	<b>842</b>	<b>1135</b>	<b>1176</b>	<b>1300</b>	<b>1224</b>	<b>1271</b>	<b>1414</b>	<b>1183</b>	<b>1523</b>	<b>1650</b>
Laurentia	80	58	57	53	83	68	62	62	91	72	44	148
BlueFin	72	72	61	71	49	108	96	68	75	96	82	95
Catalus	65	137	180	101	127	110	106	54	48	50	111	167
Barnes	66	80	108	154	157	87	60	72	77	86	126	119
WBI	66	154	211	195								
<b>Sub Total</b>		<b>591</b>	<b>587</b>	<b>379</b>	<b>418</b>	<b>354</b>	<b>324</b>	<b>268</b>	<b>291</b>	<b>304</b>	<b>363</b>	<b>529</b>
<b>Total</b>		<b>4694</b>	<b>3664</b>	<b>4203</b>	<b>4671</b>	<b>5131</b>	<b>4620</b>	<b>4140</b>	<b>4877</b>	<b>4293</b>	<b>5196</b>	<b>5326</b>