

## DELETIONS

Note: Disposal List following

### Submarines

1989 *Olympus* (sold to Canada)  
1991 *Ornyx* (sold), *Odin* (sold), *Onslaught* (sold)

### Frigates

1989 *Leander* (sunk), *Falmouth* (bu), *Euryalus* (sold), *London-derry* (sunk)  
1990 *Plymouth* (museum), *Achilles* (sold to Chile), *Naiad* (sunk)  
1991 *Danae* (sold to Ecuador), *Penelope* (sold to Ecuador), *Arethusa* (sunk)

### MCM Vessels

1989 *Bossington* (bu), *Portisham* (bu), *Maxton* (bu), *Stubbington* (bu)  
1990 *Walkerton* (sold)  
1991 *Gavinton* (sold), *Kirkliston* (sold), *Upton* (sold)

### Fast Attack Craft etc

1991 *Sandpiper* (sold), *Peterel* (sold), *Cormorant* (sold), *Hart* (sold)

### Amphibious Forces

1989 *Sir Lancelot* (sold)

### Survey Ship and Craft

1990 *Fox* (sold)  
1991 *Fawn* (sold), *Yarmouth Navigator* (sold)

### Service Forces

1989 *Pintail* (sold), *Kinloss, Endeavour* (sold), *Datchet, Appleleaf* (to Australia)  
1990 *Dolwen* (sold), *Engadine* (sold)  
1991 *Bembridge* (sold), *Lofoten* (sold), *Stalker Garganey* (sold), *Goldeneye* (sold), *Green Rover* (Indonesia), *AFD 58 and 59* (sold)  
1992 *Throsk* (sold), *Waterside* (sold) (both to Ecuador)

### Tugs

1989 *Typhoon* (sold), *Daisy, Charlotte, Christine, Doris*  
1991 *Dorothy* (sold)

## DISPOSAL LIST

Note: The following ships already deleted from the Navy List are not on the Active or Reserve list and are held pending disposal by sale or scrap in which event they are transferred to Deletions ab

### Submarines

*Dreadnought, Warspite, Conqueror, Churchill, Otus, Ocelot, Otter, Courageous, Osiris, Swiftsure*

### Destroyers

*Kent, Bristol*

### Frigates

*Phoebe, Charybdis, Cleopatra, Ariadne, Minerva, Jupiter, Hermione*

### Minesweepers—Coastal

*Bronington* (Manchester museum), *Hubberston, Brereton, Cuxton, Soberton, Kedleston*

### Target Ships

*Droxford, Eskimo, Woodlark* (all in Pembroke)

### Patrol Vessels

*Attacker, Hunter, Striker, Fencer, Chaser, Endurance, Manly, Mentor, Millbrook*

### Survey Ships

*Echo, Egeria* (both on loan to Marine Society), *Hecate*

### Service Forces

*Mandarin, Kinbrace, Oilfield, Crystal, Torrid, Denmead*

### Support Vessels

*Rame Head* (RM Training Ship), *Challenger, Tidespring*

### Immobile Tenders

*Kent or Bristol* (Portsmouth, Training)  
*Orpheus* (Dolphin, Training)

## PENNANT LIST

Note: Numbers are not displayed on Submarines or some RMAS craft.

### Aircraft Carriers

R 05 *Invincible*  
R 06 *Illustrious*  
R 07 *Ark Royal*

### Destroyers

D 86 *Birmingham*  
D 87 *Newcastle*  
D 88 *Glasgow*  
D 89 *Exeter*  
D 90 *Southampton*  
D 91 *Nottingham*  
D 92 *Liverpool*  
D 95 *Manchester*  
D 96 *Gloucester*  
D 97 *Edinburgh*  
D 98 *York*  
D 108 *Cardiff*

### Frigates

F 40 *Sirius*  
F 52 *Juno* (training)  
F 56 *Argonaut*  
F 57 *Andromeda*  
F 71 *Scylla*  
F 85 *Cumberland*  
F 86 *Campbeltown*  
F 87 *Chatham*  
F 88 *Broadsword*  
F 89 *Battleaxe*  
F 90 *Brilliant*  
F 91 *Brazen*  
F 92 *Boxer*  
F 93 *Beaver*  
F 94 *Brave*  
F 95 *London*  
F 96 *Sheffield*  
F 98 *Coventry*  
F 99 *Cornwall*  
F 169 *Amazon*  
F 171 *Active*  
F 172 *Ambuscade*  
F 173 *Arrow*  
F 174 *Alacrity*  
F 185 *Avenger*  
F 229 *Lancaster*  
F 230 *Norfolk*  
F 231 *Argyll*  
F 233 *Marlborough*  
F 234 *Iron Duke*  
F 235 *Monmouth*  
F 236 *Montrose*  
F 237 *Westminster*  
F 238 *Northumberland*  
F 239 *Richmond*  
F 240 *Somerset*  
F 241 *Grafton*  
F 242 *Sutherland*

### Assault Ships

L 10 *Fearless*  
L 11 *Intrepid*

### Logistic Landing Ships and LCTs

L 105 *Arromanches*  
L 106 *Antwerp*  
L 107 *Andalsnes*  
L 108 *Abbeville*  
L 109 *Akyab*  
L 110 *Aachen*  
L 111 *Arezzo*  
L 112 *Agheila*  
L 113 *Audemere*  
L 3004 *Sir Bedivere*  
L 3005 *Sir Galahad*  
L 3027 *Sir Geraint*  
L 3036 *Sir Percivale*  
L 3505 *Sir Tristram*  
L 4001 *Ardennes*  
L 4003 *Arakan*

### LCMs (RCT)

RPL 05 *Eden*  
RPL 06 *Forth*  
RPL 12 *Medway*

### Minesweepers/Minehunters

M 29 *Brecon*  
M 30 *Ledbury*  
M 31 *Cattistock*  
M 32 *Cottesmore*  
M 33 *Brocklesby*  
M 34 *Middleton*  
M 35 *Dulverton*  
M 36 *Bicester*  
M 37 *Chiddingfold*  
M 38 *Atherstone*  
M 39 *Hurworth*  
M 40 *Berkeley*  
M 41 *Quorn*  
M 101 *Sandown*  
M 102 *Inverness*  
M 103 *Cromer*  
M 104 *Walney*  
M 105 *Bridport*  
M 1114 *Brinton*  
M 1116 *Wilton* (training)  
M 1151 *Iveston*  
M 1154 *Kellington*  
M 1166 *Nurton*  
M 1181 *Sheraton*  
M 2003 *Waveney*  
M 2004 *Carron*

### M 2005

M 2006 *Dovey*  
M 2007 *Helford*  
M 2008 *Humber*  
M 2009 *Blackwater*  
M 2010 *Itchen*  
M 2011 *Helmsdale*  
M 2012 *Orwell*  
M 2013 *Ribble*  
M 2014 *Spey*  
*Arun*

### Light Forces/Patrol Ships

P 239 *Peacock*  
P 240 *Plover*  
P 241 *Starling*  
P 246 *Sentinel*  
P 258 *Leeds Castle*  
P 259 *Redpole*  
P 260 *Kingfisher*  
P 261 *Cygnat*  
P 264 *Archer*  
P 265 *Dumbarton Castle*  
P 270 *Biter*  
P 272 *Smiler*  
P 273 *Pursuer*  
P 277 *Anglesey*  
P 278 *Alderney*  
P 279 *Blazer*  
P 280 *Dasher*  
P 291 *Puncher*  
P 292 *Charger*  
P 293 *Ranger*  
P 294 *Trumpeter*  
P 295 *Jersey*  
P 297 *Guernsey*  
P 298 *Shetland*  
P 299 *Labrador*  
P 300 *Orkney*  
*Lindisfarne*

### Support Ships and Auxiliaries

A 00 *Britannia*  
A 72 *Cameron*  
A 81 *Brambleleaf*  
A 83 *Melton*  
A 84 *Menai*  
A 86 *Gleaner*  
A 87 *Meon*  
A 91 *Milford*  
A 100 *Beddgelert*  
A 103 *Sultan Venturer*  
A 106 *Alsatan*  
A 107 *Messina*  
A 109 *Bayleaf*  
A 110 *Orangeleaf*  
A 111 *Oakleaf*  
A 112 *Felicity*  
A 114 *Magnet*  
A 115 *Lodestone*  
A 122 *Olwen*  
A 123 *Olna*  
A 124 *Olmeda*  
A 126 *Cairn*  
A 127 *Torrent*  
A 129 *Dalmatian*  
A 130 *Roebuck*  
A 132 *Diligence*  
A 133 *Hecla*  
A 135 *Argus*  
A 138 *Herald*  
A 140 *Tornado*  
A 141 *Torch*  
A 142 *Tormentor*  
A 143 *Toreador*  
A 146 *Waterman*  
A 147 *Frances*  
A 148 *Fiona*  
A 149 *Florence*  
A 150 *Genevieve*  
A 152 *Georgina*  
A 153 *Example*  
A 154 *Explorer*  
A 155 *Deerhound*  
A 156 *Daphne*  
A 157 *Loyal Helper*  
A 158 *Supporter*  
A 159 *Loyal Watcher*  
A 160 *Loyal Volunteer*  
A 161 *Loyal Mediator*  
A 162 *Elkhound*  
A 163 *Express*  
A 164 *Goosander*  
A 165 *Pochard*  
A 166 *Kathleen*  
A 167 *Exploit*  
A 168 *Labrador*  
A 170 *Kitty*  
A 172 *Lesley*  
A 174 *Lilah*  
A 175 *Mary*  
A 176 *Polar Circle*  
A 177 *Edith*  
A 178 *Husky*  
A 180 *Mastiff*  
A 181 *Irene*  
A 182 *Saluki*  
A 183 *Isabel*  
A 185 *Salmoor*  
A 186 *Salmaster*  
A 187 *Salmid*  
A 188 *Pointer*  
A 189 *Setter*  
A 190 *Joan*  
A 193 *Joyce*  
A 196 *Gwendoline*  
A 197 *Sealyham*  
A 198 *Helen*  
A 199 *Myrtle*  
A 201 *Spaniel*

Port Ships and Auxiliaries

A 202	Nancy	A 269
205	Norah	A 270
207	Llandoverly	A 271
208	Lamlash	A 272
211	Lechlade	A 273
216	Bee	A 274
220	Loyal Moderator	A 277
221	Forceful	A 285
222	Nimble	A 308
223	Powerful	A 309
224	Adept	A 311
225	Bustler	A 317
226	Capable	A 318
227	Careful	A 319
228	Faithful	A 326
229	Crickit	A 327
230	Cockchafer	A 328
231	Dexterous	A 341
239	Gnat	A 348
250	Sheepdog	A 353
251	Lydford	A 354
253	Ladybird	A 355
254	Meavy	A 361
263	Cicala	A 364
		A 365

Grey Rover	A 366
Blue Rover	A 367
Gold Rover	A 368
Scarab	A 378
Black Rover	A 381
Ettrick	A 382
Elsing	A 383
Auricula	A 385
Ilchester	A 386
Instow	A 387
Ironbridge	A 388
Bulldog	A 389
Ixworth	A 391
Beagle	A 392
Foxhound	A 393
Basset	A 394
Collie	A 402
Corgi	A 480
Fotherby	A 486
Felsted	A 488
Elkstone	A 490
Froxfield	A 502
Epworth	A 1766
Roysterer	A 1767
Whitehead	A 1768
Fulbeck	A 1769

Robust	A 1770
Newton	A 1771
Warden	A 1772
Kinterbury	A 1773
Cricklade	
Arrochar	
Appleby (SCC)	
Fort Grange	
Fort Austin	
Fort Victoria	
Fort George	
Clovelly	
Criccieth	
Glence	
Dunster	
Fintry	
Grasmere	
Resource	
Regent	
Cromarty	
Dornoch	
Rollicker	
Headcorn	
Hever	
Harlech	
Hambledon	

Loyal Grange	
Loyal Proctor	
Holmwood	
Horning	

Auxiliaries

Y 01	Petard
Y 02	Falconet
Y 10	Aberdovey (SCC)
Y 11	Abinger (SCC)
Y 13	Alnmouth (SCC)
Y 17	Waterfall
Y 18	Watershed
Y 19	Waterspout
Y 21	Oilpress
Y 22	Oilstone
Y 23	Oilwell
Y 25	Oilbird
Y 26	Oilman
Y 30	Watercourse
Y 31	Waterfowl
Y 32	Moorhen
Y 33	Moorfowl

SUBMARINES

Strategic Missile Submarines (SSBN)

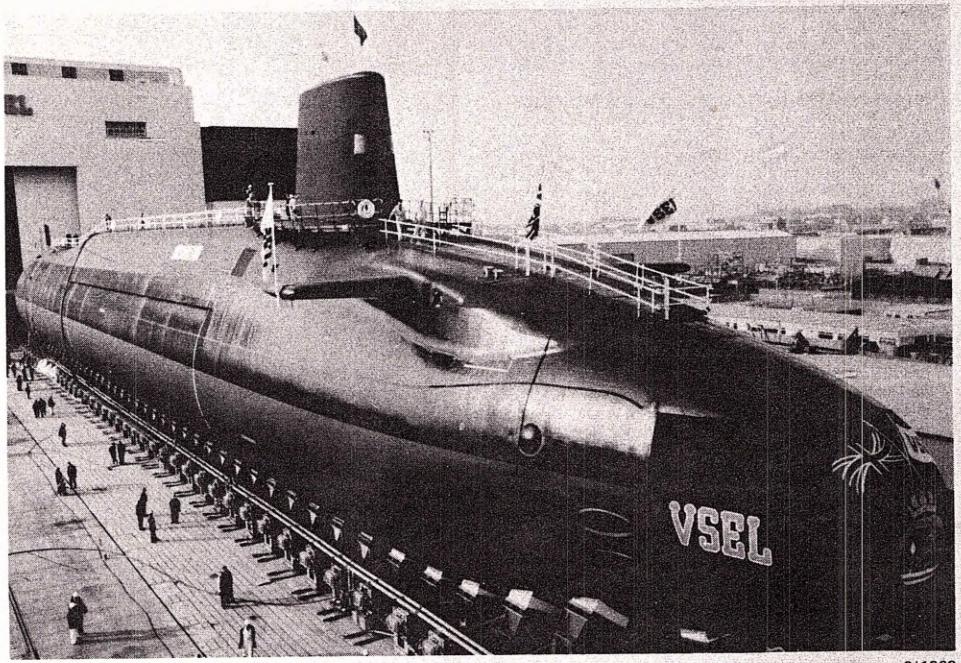
0 + 3 + (1) VANGUARD CLASS (SSBN)

No	Builders	Laid down	Launched	Commissioned
VANGUARD 05	Vickers Shipbuilding and Engineering	3 Sep 1986	4 Mar 1992	1993
TORIOUS 06	Vickers Shipbuilding and Engineering	3 Dec 1987	1992	1994
ILANT 07	Vickers Shipbuilding and Engineering	16 Feb 1991	1994	1995
08	Vickers Shipbuilding and Engineering			

placement, tons: 15 000 dived  
 dimensions, feet (metres): 491.8 x 42 x 39.4  
 149.9 x 12.8 x 12)  
 in machinery: Nuclear; 1 RR PWR 2; 2 turbines; 27 500 hp  
 20.5 MW; 1 shaft; pump jet propulsor; 1 auxiliary retractable  
 propulsion motor; 2 diesel alternators; 2700 hp (2 MW)  
 speed, knots: 25 dived approx  
 complement: 135 (2 crews)

missiles: SLBM: 16 Lockheed Trident 2 (D5) three stage solid  
 fuel rocket, stellar inertial guidance to 12 000 km (6500 nm);  
 thermonuclear warhead of 8 MIRV of 150 kT; csp 90 m. The D5  
 can carry up to 12 MIRV but will be restricted to 7 or 8 (of UK  
 manufacture).  
 torpedoes: 4—21 in (533 mm) tubes. Marconi Spearfish; dual  
 purpose; wire-guided; active/passive homing to 65 km (35 nm)  
 at 60 kts; warhead directed energy. Marconi Tigerfish Mk 24  
 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at  
 15 kts active; 29 km (15.7 nm) at 24 kts passive; warhead  
 134 kg.  
 countermeasures: Decoys: 2 SSDE Mk 10 launchers.  
 M. Rascal UAP 3; passive intercept.  
 combat data systems: Dowty Sema SMCS.  
 fire control: Dowty tactical control system.  
 radars: Navigation: Kelvin Hughes Type 1007; I band.  
 sonars: Marconi/Plessey Type 2054 composite multi-frequency  
 hull-mounted sonar suite plus Marconi/Ferranti Type 2046  
 towed array.

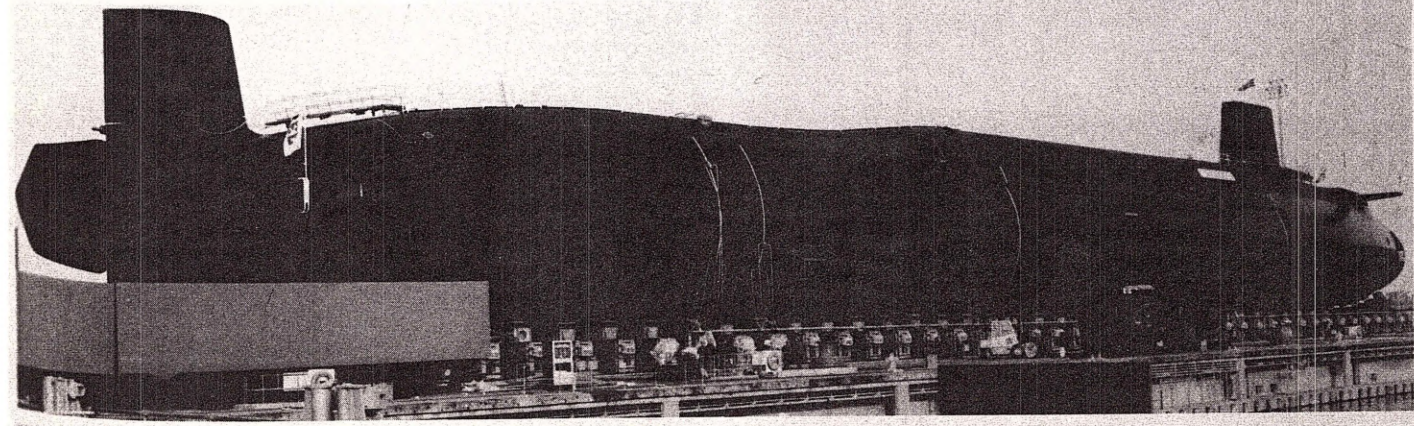
programmes: On 15 July 1980 the government announced its  
 intention to procure from the United States the Trident I weapon  
 system, comprising the C4 ballistic missile and supporting  
 systems for a force of new British missile launching submarines  
 to replace the present Polaris-equipped force in the 1990s. On  
 11 March 1982 it was announced that the government had  
 opted to procure the improved Trident II weapon system, with  
 the D5 missile, to be deployed in a force of four submarines, in  
 the mid-1990s. Vanguard ordered 30 April 1986; Victorious  
 6 October 1987; Vigilant 13 November 1990. The original  
 programme anticipated ordering one per year for the first three  
 years so there has been much stretching out of the building  
 programme. The fourth ship to be ordered in 1992.  
 structure: Refit and recore interval is anticipated at eight to nine  
 years. The outer surface of the submarine is covered with  
 conformal anechoic noise reduction coatings. An optronic mast  
 is a new feature.



VANGUARD 3/1992

Operational: After some early problems there were three  
 successful submerged launched firings of the D5 missile from  
 USS Tennessee in December 1989 and the missile was first  
 deployed operationally in April 1990. Vanguard is planned to  
 start sea trials in late 1992; first operational patrol December  
 1994.  
 Opinion: Because the funding for Trident has come mainly from  
 the naval share of the defence budget, it is having a detrimental

effect on the equipment programmes for the rest of the Fleet.  
 Annual expenditure peaked in 1989-90 and remains at a high  
 level until at least the mid-1990s. The stretching out of the  
 building programme and the extended development programme  
 of the follow-on SSN to the Trafalgar class, means an inevitable  
 increase in estimated costs, although money has been saved on  
 the dollar exchange rate for the missiles.



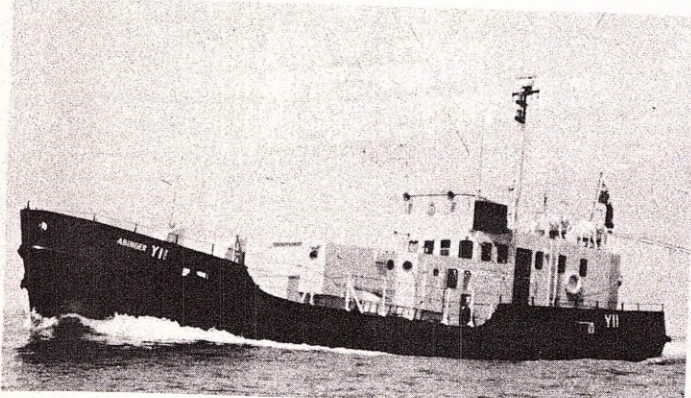
VANGUARD 3/1992

## 6 ABERDOVEY CLASS

APPLEBY A 383 SULTAN VENTURER (ex-Bibury) A 103 ABERDOVEY Y 10  
 ALNMOUTH Y 13 ABINGER Y 11 BEDDGELEERT A 100

Displacement, tons: 117.5 full load  
 Dimensions, feet (metres): 79.8 × 18 × 5.5 (24 × 5.5 × 1.7)  
 Main machinery: 1 Lister-Blackstone ERS 4 MCR diesel; 320 hp (239 kW); 1 shaft  
 Speed, knots: 10.5. Range, miles: 700 at 10 kts  
 Complement: 3

Comment: Commissioned in the mid-1960s as multi-purpose stores carriers (25 tons) or passengers (200). Four of the class have been modified with Sampson posts removed and improved accommodation. These are allocated to Sea Cadet Corps: *Aberdovey* (southern area based at Portsmouth); *Abinger* (eastern area based at Grimsby); *Appleby* (south-west area based at Bristol); *Alnmouth* (north-west area based at Liverpool). *Sultan Venturer* is a tender to *Sultan* at Gosport, and *Beddgelert* to *Caroline* at Belfast.

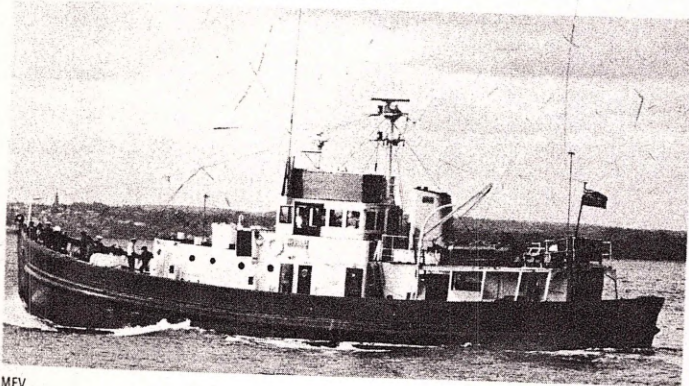


ABINGER

8/1991, Maurice Ball

## 4 SEA CADET CORPS VESSELS

Comment: As well as the Aberdovey class above, there are three MFVs and one ex-IMS used by the SCC: MFV 15 (northern area based at Rosyth); MFV 96 (London); MFV 816 (Gravesend); IMS *Pagham* (Stranraer). All these vessels are in constant use.



MFV

9/1991, Maritime Photographic

OLIVER TWIST URIAH HEEP

Comment: Ex-RCT General Service Launches of 20 tons. Two RNR tenders—*Oliver Twist* (London); *Uriah Heep* (Bristol).

## FLOATING DOCKS

AFD 26

Dimensions, feet (metres): 380 × 92 oa; 50 clear inside width × 19 max draught of ship docked (115.8 × 28; 15.2 × 5.8)

Comment: 2750 ton lift. Built Bombay 1944. At Rosyth since 1984.

AFD 60

Dimensions, feet (metres): 492 × 92 oa; 54 clear × 35 (150 × 28; 16.5 × 10.7)

Comment: 13 500 ton lift. Built Portsmouth DY 1967. At Faslane for nuclear submarines.

## SCOTTISH FISHERY PROTECTION AGENCY

Notes: (1) In addition to the ships listed below *Scotia* is used for research by the Department of Fisheries.  
 (2) Two Cessna Caravan II aircraft with Seaspray 2000 radars ordered in 1991.

SKUA OSPREY

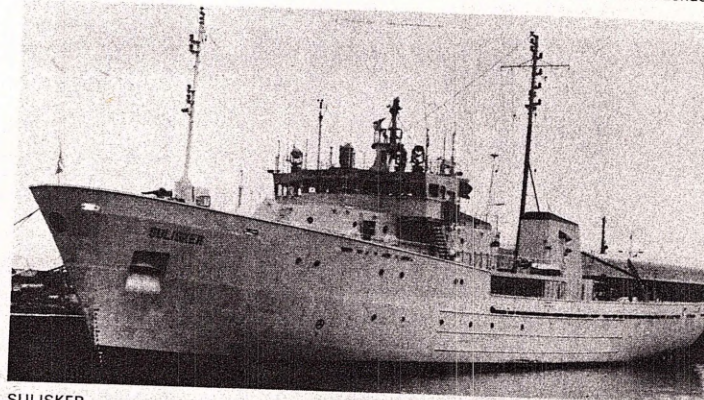
Displacement, tons: 6 full load  
 Dimensions, feet (metres): 38 × 12.1 × 3.9 (11.6 × 3.7 × 1.2)  
 Main machinery: 2 Sabre 212 diesels; 424 hp (316 kW); 2 shafts  
 Speed, knots: 28  
 Complement: 3

Comment: Pacific 38 class built by Osborne Marine in 1987-88. Dimensions given include the inflatable flotation collar.

SULISKER VIGILANT NORNA

Displacement, tons: 1652 full load  
 Dimensions, feet (metres): 233.9 × 38 × 15.7 (71.3 × 11.6 × 4.8)  
 Main machinery: 2 Ruston 12 RKC (6AT 350 in *Norna*) diesels; 6000 hp (4.48 MW) sustained shafts; cp props; bow thruster; 450 hp (336 kW)  
 Speed, knots: 18. Range, miles: 7000 at 14 kts  
 Complement: 26 (7 officers) plus 6 spare bunks

Comment: Built by Appledore Ferguson S B Fitted with 450 bhp bow thruster and helicopter platform. *Sulisker* completed 1981, *Vigilant* completed June 1982. Third ship of this class (although not identical) launched 11 September 1987 by Richards, Lowestoft and completed June 1988. *Corystes* of this class was built for the Ministry of Agriculture and Fisheries in London



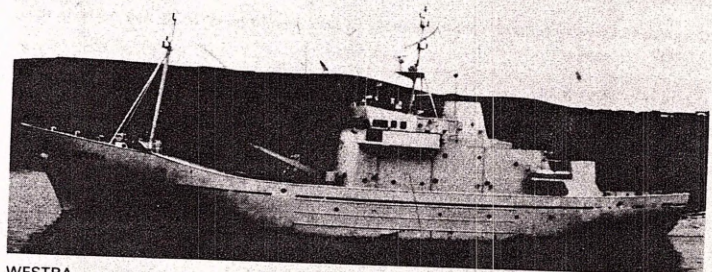
SULISKER

6/1987, A. Denholm

WESTRA

Displacement, tons: 778 light; 1285 full load  
 Measurement, tons: 942 gross  
 Dimensions, feet (metres): 195.3 × 35 × 14.4 (59.6 × 10.7 × 4.4)  
 Main machinery: 2 British Polar SP112VS-F diesels; 4200 hp (3.13 MW); 1 shaft  
 Speed, knots: 15.5  
 Complement: 28

Comment: Built in 1975 by Hall Russell, Aberdeen. Near sister to RN Island class.



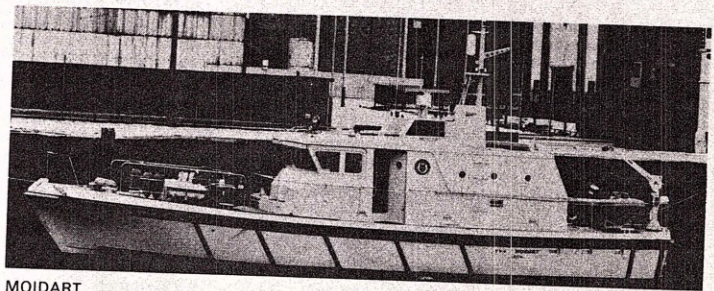
WESTRA

7/1982, van Ginderen Collection

MOIDART MORVEN

Displacement, tons: 44 full load  
 Dimensions, feet (metres): 65 (19.8) long  
 Main machinery: 3 Detroit 8V 92TA diesels; 1050 hp (783 kW) sustained; 3 shafts  
 Speed, knots: 20  
 Complement: 5

Comment: Cheverton patrol craft completed April 1983. GRP hull.



MOIDART

1/1984, A. Denholm

## ROYAL CORPS OF TRANSPORT

4 LCVP 4

8402 8409 8619 8620

Displacement, tons: 9.7 light; 16 full load  
 Dimensions, feet (metres): 43.8 × 10.9 × 2.8 (13.4 × 3.3 × 0.8)  
 Main machinery: 2 Perkins diesels; 440 hp (328 kW); 2 shafts  
 Speed, knots: 14  
 Complement: 3  
 Military lift: 35 troops or 5.5 tons vehicle/stores

Comment: One in Belize, one in Falklands and two in UK.

**DIVING TENDERS**

**CHESTER** A 308  
**JSTOW** A 309  
 RN manned

**IRONBRIDGE\*** A 311  
**IXWORTH\*** A 318

Displacement, tons: 143  
 Dimensions, feet (metres): 80 × 21 × 6.6  
 (24.1 × 6.4 × 2)  
 Main machinery: 2 Gray Marine diesels; 450 hp (336 kW); 2 shafts  
 Speed, knots: 12  
 Complement: 6

Comment: Similar to Clovelly class. Built by Gregson Ltd, Blyth and commissioned in 1974.



JSTOW 8/1989, Wright & Logan

**CLOVELLY CLASS**

**COVELLY** A 389  
**CCIETH** A 391  
**ICKLADE** A 381  
**OMARY** A 488  
**ORNOCH** A 490  
**INSTER** A 393  
**STONE** A 353  
**SING\*** A 277  
**WORTH** A 355  
**FRICK\*** A 274  
**NXS** \*RN

**FELSTED** A 348  
**FINTRY** A 394  
**FOTHERBY** A 341  
**FROXFIELD** A 354  
**FULBECK** A 365  
**GLENCOE\*\*** A 392  
**GRASMERE** A 402  
**HAMBLEDON** A 1769  
**HARLECH** A 1768  
**HEADCORN** A 1766

**HEVER** A 1767  
**HOLMWOOD** A 1772  
**HORNING** A 1773  
**LAMLASH** A 208  
**LECHLADE** A 211  
**LLANDOVERY** A 207  
**LYDFORD** (ex-Loyal Governor, ex-Alert) A 251  
**MEAVY** (ex-Loyal Factor, ex-Vigilant) A 254

Displacement, tons: 143 full load  
 Dimensions, feet (metres): 80 × 21 × 6.6  
 (24.1 × 6.4 × 2)  
 Main machinery: 1 Lister-Blackstone ERS 4 MCR diesel; 320 hp (239 kW); 1 shaft  
 Speed, knots: 10.3. Range, miles: 600 at 10 kts  
 Complement: 4  
 Cargo capacity: 36 tons

Comment: All fleet tenders of an improved Aberdovey class commissioned 1970-74. *Elsing* and *Trick* at Gibraltar (Royal Navy manned), used for patrol duties. Three based at Falmouth operating with Cudrore helicopters (*Clovelly*, *Hever*, *Headcorn*). Can be used for varying tasks—cargo, assenger, training, diving (*Dornoch* and *Fotherby*). *Meavy* in Clyde, *Lydford* at Portland. Listed in alphabetical order.



HAMBLEDON 11/1991, Maritime Photographic

**IANLY CLASS**

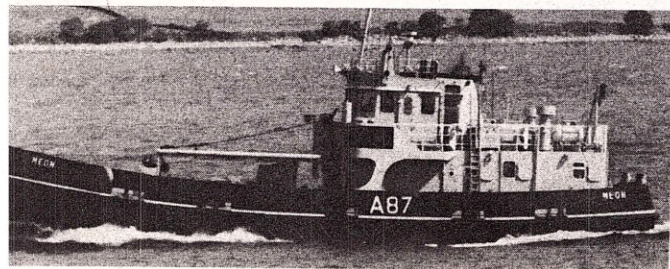
**TON** A 83  
**JAI** A 84

**MEON** A 87  
**MILFORD** A 91

**MESSINA** A 107

Displacement, tons: 143 full load  
 Dimensions, feet (metres): 80 × 21 × 6.6 (24.4 × 6.4 × 2)  
 Main machinery: 1 Lister-Blackstone ESR 4 MCR diesel; 320 hp (239 kW); 1 shaft  
 Speed, knots: 10  
 Complement: 6 (1 officer)

Comment: All built by Richard Dunston, Hesse. Details similar to Clovelly class but with larger work-house. All completed by early 1983. *Messina*, attached to Royal Marines, Poole for navigational training and remainder RMAS. Three of the class used for training at *Raleigh* have been paid off.



MEON 6/1990, van Ginderen Collection

**1 FBM CATAMARAN CLASS**

Displacement, tons: 21 full load  
 Dimensions, feet (metres): 51.8 × 18 × 4.9 (15.8 × 5.5 × 1.5)  
 Main machinery: 2 Mermaid Turbo 4 diesels; 280 hp (209 kW); 2 shafts  
 Speed, knots: 13. Range, miles: 400 at 10 kts  
 Complement: 2

Comment: Built by FBM Marine. Can carry 30 passengers or 2 tons stores. First of a new construction type designed to replace some of the older harbour launches.



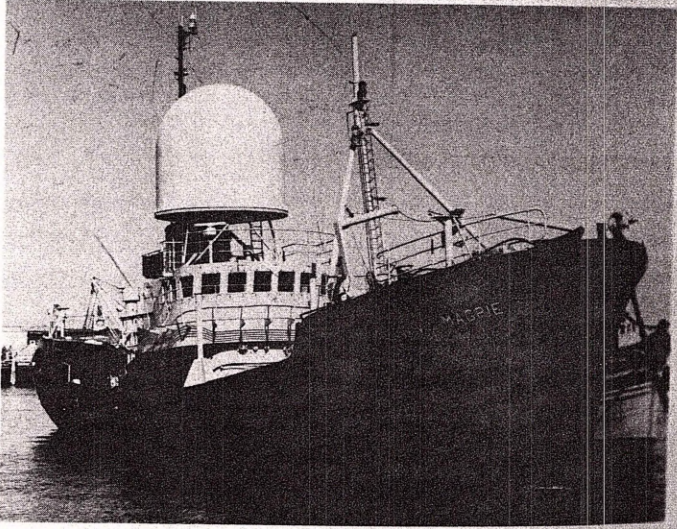
FBM Type 9/1990, Maritime Photographic

**TARGET VESSELS**

**BULLSEYE** (ex-Tokio), **MAGPIE** (ex-Hondo), **TARGE** (ex-Erimo)

Measurement, tons: 273 gross; 91 net  
 Dimensions, feet (metres): 117.8 × 25.3 × 12.1 (35.9 × 7.7 × 3.7)  
 Main machinery: 1 Mirrlees diesel; 700 hp (522 kW); 1 shaft  
 Speed, knots: 12  
 Complement: 2 (on passage only)

Comment: Built by Goole Shipbuilding Co in 1961-62. Side trawlers acquired in June 1982 and January 1984 (*Targe*). These are employed as radio controlled targets at Portland.



MAGPIE 7/1987, Michael D. J. Lennon

**DEGAUSSING VESSELS**

**2 MAGNET CLASS**

**MAGNET** A 114      **LODESTONE** A 115

Displacement, tons: 955 full load  
 Dimensions, feet (metres): 179.7 × 37.4 × 9.8 (54.8 × 11.4 × 3)  
 Main machinery: 2 Mirrlees-Blackstone ESL-6 MCR diesels; 1650 hp (1.23 MW); 2 shafts  
 Speed, knots: 14. Range, miles: 1750 at 12 kts  
 Complement: 15

Comment: The pair replaced the three Ham class, *Magnet* based at Portsmouth (in reserve) and *Lodestone* at Greenock. Built by Cleland S B Co Ltd, Wallsend 1979-80.



MAGNET 7/1990, A. Sheldon Digital

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**0 + 1 SUBMARINE TENDER***Admirant*

**Dimensions, feet (metres):** 101 × 25.6 × 3.6 (30.8 × 7.8 × 1.1)  
**Main machinery:** 2 diesels; 2 waterjets

**Speed, knots:** 23

**Comment:** Twin-hulled support ship ordered in 1991 from FBM Marine, Cowes. To be delivered in November 1992 and probably to be used for personnel and stores transfers in the Firth of Clyde.

**AVIATION SUPPORT CRAFT**

**Note:** On 1 February 1991 vessels of the Royal Air Force Maritime Section were transferred to the RMAS. Operation by James Fisher & Son will continue until the expiration of the current contract. The vessels are based at Plymouth, Invergordon, Holyhead and Great Yarmouth.

**2 SEAL CLASS (LRRSC)**

Name	No.	Builders	Commissioned
SEAL	5000	Brooke Marine, Lowestoft	Aug 1967
SEAGULL	5001	Fairmile Construction, Berwick-on-Tweed	1970

**Displacement, tons:** 159 full load

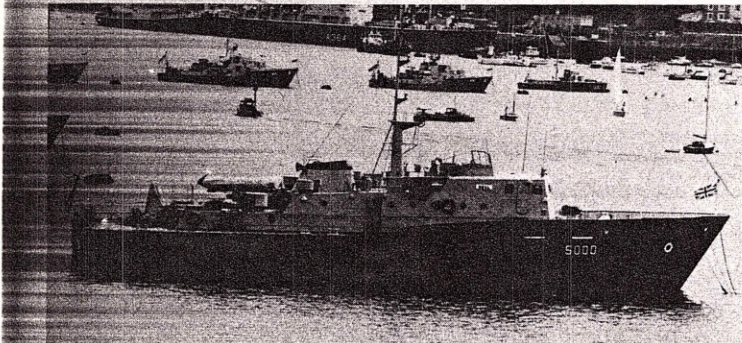
**Dimensions, feet (metres):** 120.3 × 23.5 × 6.5 (36.6 × 7.2 × 2)

**Main machinery:** 2 Paxman 16 CM diesels; 4000 hp (2.98 MW) sustained; 2 shafts

**Speed, knots:** 21

**Complement:** 9

**Comment:** Long range recovery and support craft (LRRSC). All welded steel hull. Aluminium alloy superstructure. Used for weapon recovery, target towing, search and rescue. Both at Invergordon.



SEAL

8/1984, Michael D. J. Lennon

**6 SPITFIRE CLASS (RTTL Mk 3)**

Name	No.	Builders	Commissioned
SPITFIRE	4000	James and Stone, Brightlingsea	1972
HALIFAX	4003	James and Stone, Brightlingsea	1977
HAMPDEN	4004	James and Stone, Brightlingsea	1980
HURRICANE	4005	James and Stone, Brightlingsea	1980
LANCASTER	4006	James and Stone, Brightlingsea	1981
WELLINGTON	4007	James and Stone, Brightlingsea	1981

**Displacement, tons:** 70.2 full load

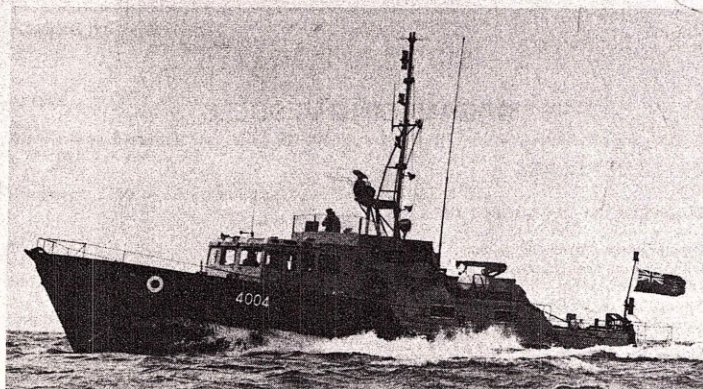
**Dimensions, feet (metres):** 78.7 × 18 × 4.9 (24.1 × 5.5 × 1.5)

**Main machinery:** 2 Paxman 8 CM diesels; 2000 hp (1.49 MW) sustained; 2 shafts

**Speed, knots:** 22

**Complement:** 6

**Comment:** Rescue target towing launches (RTTL). All welded steel hulls; aluminium alloy superstructure. *Spitfire* has twin funnels, remainder none. Invergordon, *Hurricane*; Great Yarmouth, *Hampden*, *Lancaster*, *Wellington*; Plymouth, *Spitfire*, *Halifax*.



HAMPDEN

8/1987, Michael D. J. Lennon

**5 PINNACES 1300 SERIES**

1374, 1387, 1389, 1390, 1392

**Displacement, tons:** 28.3

**Dimensions, feet (metres):** 63 × 15.5 × 5 (19.2 × 4.7 × 1.5)

**Main machinery:** 2 RR C6 diesels; 190 hp (142 kW); 2 shafts

**Speed, knots:** 13

**Complement:** 5



1300 Series

8/1982, Michael D. J. Lennon

**FLEET TENDERS****7 INSECT CLASS**

BEE A 216	CRICKET A 229	SCARAB A 272
CICALA A 263	GNAT A 239	
COCKCHAFFER A 230	LADYBIRD A 253	

**Displacement, tons:** 475 full load

**Dimensions, feet (metres):** 111.8 × 28 × 11 (34.1 × 8.5 × 3.4)

**Main machinery:** 1 Lister-Blackstone ERS 8 MCR diesel; 660 hp (492 kW); 1 shaft

**Speed, knots:** 11.3. **Range, miles:** 3000 at 10 kts

**Complement:** 7

**Comment:** First three built as stores carriers, three as armament carriers and *Scarab* as mooring vessel capable of lifting 10 tons over the bows. All commissioned between 1970 and 1973. *Cricket* acts as a mooring vessel in the Clyde while *Gnat* and *Ladybird* operate as armament carriers with a red funnel band. *Bee* and *Cicala* have an armament capability. Of 200 ton cargo capacity and 2 ton crane.



BEE

9/1990, Maritime Photographic

**8 LOYAL CLASS (RNXS)**

LOYAL HELPER A 157	LOYAL MEDIATOR A 161
SUPPORTER (ex-Loyal Supporter) A 158	LOYAL MODERATOR A 220
LOYAL WATCHER A 159	LOYAL CHANCELLOR A 1770
LOYAL VOLUNTEER A 160	LOYAL PROCTOR A 1771

**Displacement, tons:** 143

**Dimensions, feet (metres):** 80 × 21 × 6.6 (24.1 × 6.4 × 2)

**Main machinery:** 1 Lister-Blackstone ERS 4 MCR diesel; 320 hp (239 kW); 1 shaft

**Speed, knots:** 10.5

**Complement:** 6 (1 officer)

**Comment:** *Loyal Helper* completed 10 February 1978 and last four later in 1978. (See also Coastal Training Craft). Bases: Portsmouth Command: *Loyal Mediator*. Plymouth Command: *Loyal Moderator* (Pembroke Dock), *Loyal Watcher* (Birkenhead), *Loyal Chancellor* (Plymouth). Scotland Command: *Loyal Volunteer*, *Loyal Proctor*, *Supporter* (Belfast), *Loyal Helper* (Rosyth).



KATHLEEN A 166  
KITTY A 170  
LESLEY A 172

LILAH A 174  
MARY A 175  
IRENE A 181

ISABEL A 183  
JOAN A 190  
JOYCE A 193

MYRTLE A 199  
NANCY A 202  
NORAH A 205

Y 02 (ex-Y 497)

Y 01 (ex-michael Murphy V C)  
Y 01 (ex-519)

**Displacement, tons:** 107.5 standard  
**Dimensions, feet (metres):** 57.7 x 18 x 7.9 (17.6 x 5.5 x 2.4)  
**Main machinery:** 1 diesel; 330 hp (264 kW); 1 shaft  
**Speed, knots:** 7.5  
**Complement:** 4

**Comment:** All completed by August 1974 by Dunstons. 'Water-tractors' with small wheelhouse and adjoining funnel. Later vessels have masts stepped abaft wheelhouse. Voith-Schneider vertical axis propellers. Nominal bollard pull, 3 tons. Order for two more in 1990 was cancelled.



KITTY

11/1991, W. Sartori

### 8 FELICITY CLASS

FELICITY A 112  
FRANCES A 147  
FIONA A 148

FLORENCE A 149  
GENEVIEVE A 150  
GEORGINA A 152

GWENDOLINE A 196  
HELEN A 198

**Displacement, tons:** 144 full load  
**Dimensions, feet (metres):** 70 x 21 x 9.8 (21.5 x 6.4 x 3)  
**Main machinery:** 1 Mirreles-Blackstone ESM 8 diesel, 615 hp (459 kW); 1 Voith-Schneider cp prop  
**Speed, knots:** 10  
**Complement:** 4

**Comment:** First five completed 1973. A 112 built by Dunstons and remainder by Hancocks. A 147, 149 and 150 ordered early 1979 from Richard Dunston (Thorne) and completed by end 1980. Nominal bollard pull, 5.7 tons.



HELEN

7/1987, Michael D. J. Lennon

### RANGE SUPPORT VESSELS

WARDEN A 368

**Displacement, tons:** 900 full load  
**Dimensions, feet (metres):** 159.4 x 34.4 x 8.2 (48.6 x 10.5 x 2.5)  
**Main machinery:** 2 Ruston 8 RKCM diesels; 4000 hp (2.98 MW) sustained; 1 shaft  
**Speed, knots:** 15  
**Complement:** 11 (4 officers)  
**Radars:** Navigation: Racal Decca RM 1250; I band.  
**Sonars:** Dowty 2053; high frequency.

**Comment:** Built by Richards, Lowestoft and completed in January 1990. In service at Pembroke Dock.

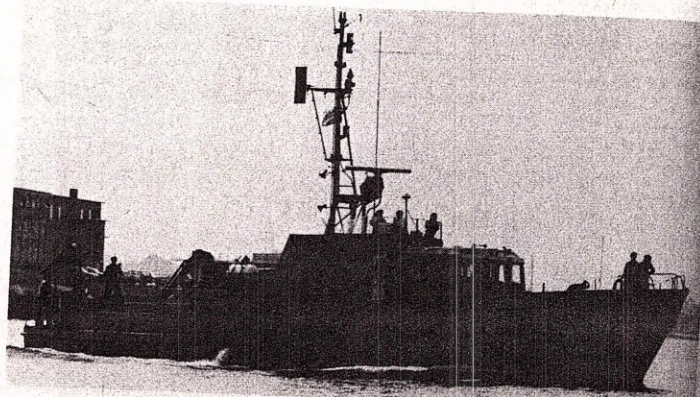


WARDEN

1990, RMAS

**Displacement, tons:** 70 full load  
**Dimensions, feet (metres):** 77.7 x 18 x 4.9 (23.7 x 5.5 x 1.5)  
**Main engines:** 2 Paxman 8 CM diesels; 2000 hp (1.49 MW) sustained; 2 shafts  
**Speed, knots:** 20

**Comment:** Range Safety Craft built by James and Stone, Brightlingsea. Similar design to Spitfi class. Transferred from the RCT on 30 September 1988. Falconet commissioned 1978 serves at the Royal Artillery missile range in the Outer Hebrides; Petard commissioned 1983 serves at Pendri range, South Wales.



PETARD

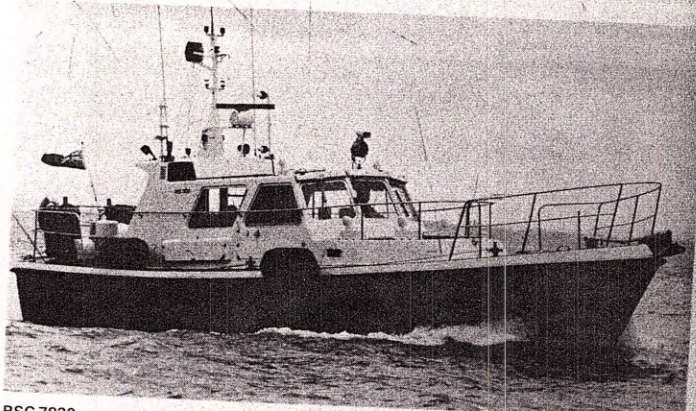
9/1987, Michael D. J. Lennon

RSC 7713 (ex-Samuel Morley V C)  
RSC 7821 (ex-Joseph Hughes G C)  
RSC 8125 (ex-Sir Paul Travers)  
RSC 8126 (ex-Sir Cecil Smith)  
RSC 8124 (ex-Sir John Potter)  
RSC 8487 (ex-Geoffrey Rackman G C)

RSC 8489 (ex-Sir Evan Gibb)  
RSC 7820 (ex-Richard Masters V C)  
RSC 7822 (ex-James Dalton V C)  
RSC 8128 (ex-Sir Reginald Kerr)  
RSC 8129 (ex-Sir Humfrey Gale)  
RSC 8488 (ex-Walter Cleal G C)

**Displacement, tons:** 20.2  
**Dimensions, feet (metres):** 49.2 x 14.9 x 4.3 (15 x 4.6 x 1.3)  
**Main machinery:** 2 RR C8M 410 diesels; 820 hp (612 kW); 2 shafts  
**Speed, knots:** 22. Range, miles: 300 at 20 kts  
**Complement:** 3

**Comment:** Range Safety Craft of the Honours and Sirs classes, built by Fairey Marine, A R P Whitstable and Halmatic. All completed 1982-86. Transferred from the RCT on 30 September 1988. A 13th vessel Sir William Roe is based in Cyprus and has remained with the RCT. Based at Whitehaven, Pembroke Dock, Hebrides, Dover and Portland. Now known only by their pennant numbers.



RSC 7820

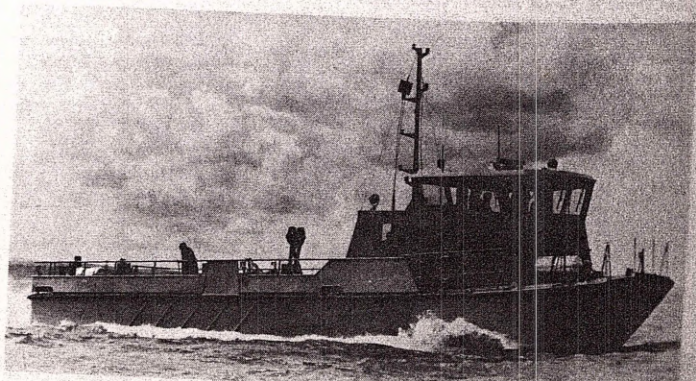
6/1991, Maritime Photographic

### SUBMARINE SUPPORT VESSELS

#### 3 TOWED ARRAY TENDERS

**Dimensions, feet (metres):** 65.9 x 19.7 x 7.9 (20.1 x 6 x 2.4)  
**Main machinery:** 2 Perkins diesels; 400 hp (298 kW); 2 Kort nozzles  
**Speed, knots:** 12  
**Complement:** 8

**Comment:** Used for transporting clip-on towed arrays from submarine bases at Faslane, Portsmouth and Devonport.



TARV

7/1988, W. Sartori

## ARMAMENT STORE CARRIERS (ARRO and ASL)

Name	No	Builders	Commissioned
KINTERBURY	A 378	Appledore Ferguson S.B.	Nov 1980
ARROCHAR (ex-St George)	A 382	Appledore Ferguson S.B.	July 1981

Displacement, tons: 2207 full load  
 Measurement, tons: 1150 dwt  
 Dimensions, feet (metres): 231.2 × 39 × 15 (70.5 × 11.9 × 4.6)  
 Main machinery: 2 Mirlees-Blackstone diesels; 3000 hp (2.24 MW); 1 shaft  
 Speed, knots: 14.5. Range, miles: 4000 at 11 kts  
 Complement: 24 (8 officers)

Comment: Carry armament stores in two holds. Internal arrangements of *Arrochar* differ and she is classified as an Armament Ship Logistic (ASL). Twin cranes in the well-deck. *Arrochar* transferred from the RCT on 7 November 1988. *Arrochar* and *Kinterbury* alternate in reserve at Portsmouth.



ARROCHAR 8/1991, Maritime Photographic

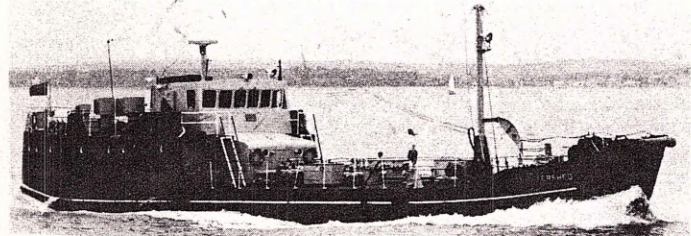
## WATER CARRIERS

### 6 WATER CLASS

Name	No	Builders	Commissioned
WATERFALL	Y 17	Drypool Engineering & Drydock Co, Hull	1967
WATERSHED	Y 18	Drypool Engineering & Drydock Co, Hull	1967
WATERSPOUT	Y 19	Drypool Engineering & Drydock Co, Hull	1967
WATERCOURSE	Y 30	Drypool Engineering & Drydock Co, Hull	1974
WATERFOWL	Y 31	Drypool Engineering & Drydock Co, Hull	1974
WATERMAN	A 146	R Dunston (Hessle) Ltd	1978

Measurement, tons: 285 gross  
 Dimensions, feet (metres): 131.5 × 24.8 × 8 (40.1 × 7.5 × 2.4)  
 Main machinery: 1 Lister-Blackstone ERS 8 MCR diesel; 660 hp (492 kW); 1 shaft  
 Speed, knots: 11  
 Complement: 8

Comment: Y 19 after deckhouse extended forward. A 146 is a modified ship, having a store-carrying capability and, like Y 31 has a deckhouse forward of the bridge. *Waterfall* based in the Clyde and used as a Salvage Training Vessel. One deleted in 1991.



WATERSHED 10/1990, Maritime Photographic

## TUGS

Note: Appearance of RMAS tugs—black hull with white line, buff upperworks, buff funnel with black top. The blue band on the funnel varies between ports.

### 3 OCEAN TUGS

Name	No	Builders	Commissioned
ROYSTERER	A 361	C D Holmes, Beverley, Humberside	26 Apr 1972
ROBUST	A 366	C D Holmes, Beverley, Humberside	6 Apr 1974
ROLLICKER	A 502	C D Holmes, Beverley, Humberside	6 Mar 1973

Displacement, tons: 1630 full load  
 Dimensions, feet (metres): 178 × 40.3 × 21 (54.3 × 12.3 × 6.4)  
 Main machinery: 2 Mirlees KMR 6 diesels; 4500 hp (3.36 MW); 2 shafts; cp props  
 Speed, knots: 15. Range, miles: 12 500 at 12 kts  
 Complement: 28 (salvage party—10 RN officers and ratings)

Comment: Nominal bollard pull, 50 tons. Designed principally for salvage and long-range towage but can be used for general harbour duties, which *Robust* undertakes at Devonport. *Roysterer* based on Clyde, *Rollicker* at Portsmouth.



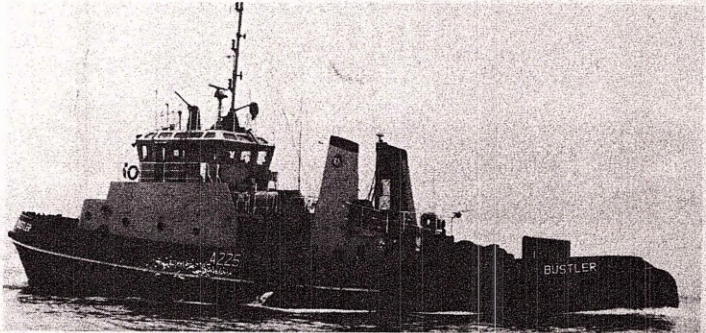
ROBUST 12/1988, W. Sartori

## SADEPT CLASS (1011)

Name	No	Builders	Commissioned
FORCEFUL A 221			
NIMBLE A 222			
POWERFUL A 223			
ADEPT A 224			
BUSTLER A 225			
CAPABLE A 226			
CAREFUL A 227			
FAITHFUL A 228			
DEXTEROUS A 231			

Displacement, tons: 450  
 Dimensions, feet (metres): 127.3 × 30.8 × 11.2 (38.8 × 9.4 × 3.4)  
 Main machinery: 2 Ruston 6 RKM diesels; 3000 hp (2.24 MW) sustained; 2 Voith-Schneider props  
 Speed, knots: 12  
 Complement: 10

Comment: 'Twin unit tractor tugs' (TUTT). First four ordered from Richard Dunston (Hessle) on 22 February 1979 and next five on 8 February 1984. Primarily for harbour work with coastal towing capability. Nominal bollard pull, 27.5 tons. *Adept* accepted 28 October 1980, *Bustler* 15 April 1981, *Capable* 11 September 1981, *Careful* 12 March 1982, *Forceful* 18 March 1985, *Nimble* 25 June 1985, *Powerful* 30 October 1985, *Faithful* 21 December 1985, *Dexterous* 23 April 1986. *Adept* at Portland, *Powerful* and *Bustler* at Portsmouth, *Forceful*, *Faithful* and *Careful* at Plymouth, *Nimble* and *Dexterous* at Rosyth, *Capable* at Gibraltar.



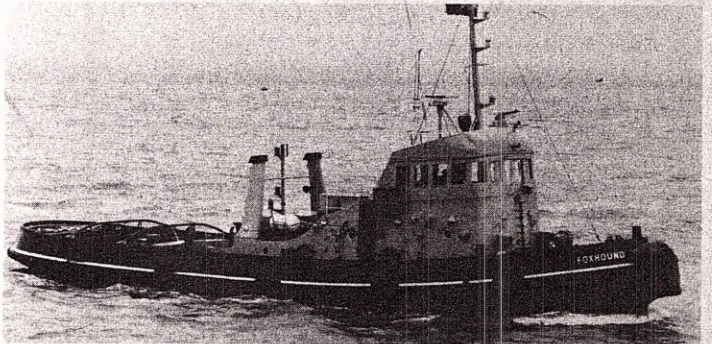
BUSTLER 11/1991, Maritime Photographic

### 18 DOG CLASS (16 TUGS + 2 RANGE TRIALS VESSELS)

Name	No	Builders	Commissioned
ALSATIAN A 106			
CAIRN A 126			
DALMATIAN A 129			
DEERHOUND A 155			
ELKHOUND A 162			
LABRADOR A 168			
HUSKY A 178			
MASTIFF A 180			
SALUKI A 182			
POINTER A 188			
SETTER A 189			
SEALYHAM A 197			
SPANIEL A 201			
SHEEPDOG A 250			
FOXHOUND (ex-Boxer) A 326			
BASSET (ex-Beagle) A 327			
COLLIE A 328			
CORGI A 330			

Displacement, tons: 248 full load  
 Dimensions, feet (metres): 94 × 24.5 × 12 (28.7 × 7.5 × 3.7)  
 Main machinery: 2 Lister-Blackstone ERS 8 MCR diesels; 1320 hp (985 kW); 2 shafts  
 Speed, knots: 10. Range, miles: 2236 at 10 kts  
 Complement: 7

Comment: Harbour berthing tugs. *Sealyham* at Gibraltar. Nominal bollard pull, 17.5 tons. Completed 1962-72. *Cairn* and *Collie* operate at Kyle of Loch Alsh as Range trials vessels and have had towing gear removed. Appearance varies considerably, some with mast, some with curved upper-bridge work, some with flat monkey-island. The class needs replacing as a priority.



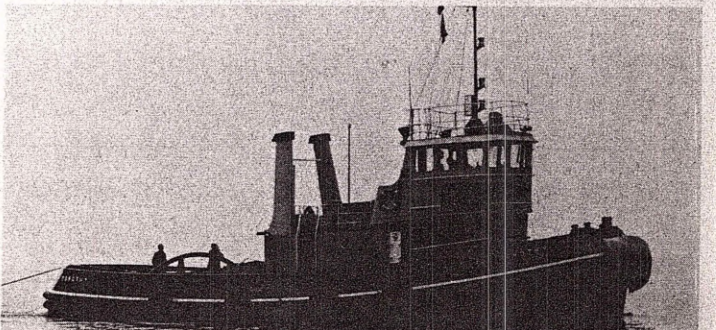
FOXHOUND 6/1991, Maritime Photographic

### 2 MODIFIED GIRL CLASS

DAPHNE A 156	EDITH A 177
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Displacement, tons: 138 standard  
 Dimensions, feet (metres): 61 × 16.4 × 7.2 (18.6 × 5 × 2.2)  
 Main machinery: 1 diesel; 495 hp (396 kW); 1 shaft  
 Speed, knots: 10  
 Complement: 6

Comment: *Edith* at Gibraltar. Both built by Dunstons. Completed 1971-72. Nominal bollard pull, 6.5 tons.



Modified GIRL Class 4/1986, Michael D. J. Lennon

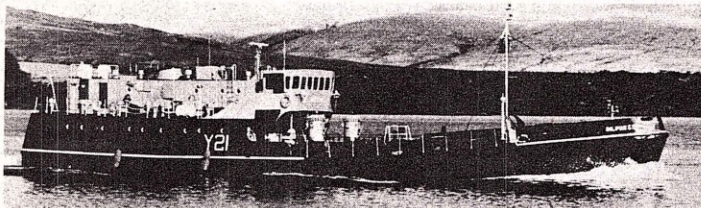
## COASTAL TANKERS

## 5 OILPRESS CLASS

Name	No	Builders	Commissioned
OILPRESS	Y 21	Appledore Ferguson S.B.	1969
OILSTONE	Y 22	Appledore Ferguson S.B.	1969
OILWELL	Y 23	Appledore Ferguson S.B.	1969
OILBIRD	Y 25	Appledore Ferguson S.B.	1969
OILMAN	Y 26	Appledore Ferguson S.B.	1969

**Displacement, tons:** 280 standard; 530 full load  
**Dimensions, feet (metres):** 139.5 × 30 × 8.3 (42.5 × 9 × 2.5)  
**Main machinery:** 1 Lister-Blackstone ES6 diesel; 405 hp (302 kW); 1 shaft  
**Speed, knots:** 9  
**Complement:** 8  
**Cargo capacity:** 250 tons dieso

**Comment:** Ordered on 10 May 1967. One deleted in 1992.



OILPRESS

2/1986, A. Denholm

Name	No	Builders	Commissioned
AURICULA	A 285	Appledore Ferguson S.B.	6 Nov 1980

**Displacement, tons:** 940 light; 1118 full load  
**Dimensions, feet (metres):** 170.5 × 36 × 11.8 (52 × 11 × 3.6)  
**Main machinery:** 2 Mirreles-Blackstone diesels; 1300 hp (970 kW); 2 shafts; bow thruster  
**Speed, knots:** 12  
**Complement:** 32 (7 officers, 10 trials party)

**Comment:** Sonar trials and experimental ship. Based at Portland.



AURICULA

7/1988, W. Sartori

## TRIALS SHIPS

**Notes:** A Shock Trials Vessel, *STV 02*, was completed 14 June 1981 by Scotts, Greenock.

Name	No	Builders	Commissioned
NEWTON	A 367	Scott Lithgow Ltd	17 June 1976

**Displacement, tons:** 3140 light; 4652 full load  
**Dimensions, feet (metres):** 323.5 × 53 × 18.5 (98.6 × 16 × 5.7)  
**Main machinery:** Diesel-electric; 3 Mirreles-Blackstone diesel generators; 4350 hp (3.25 MW); 1 GEC motor; 2040 hp (1.52 MW); Kort nozzle; bow thruster  
**Speed, knots:** 14. **Range, miles:** 5000 at 14 kts  
**Complement:** 64 including 12 scientists

**Comment:** Passive tank stabilisation. Prime duty sonar propagation trials. Can serve as cable-layer with large cable tanks. Special winch system. Low noise level electric propulsion system. Based at Plymouth.



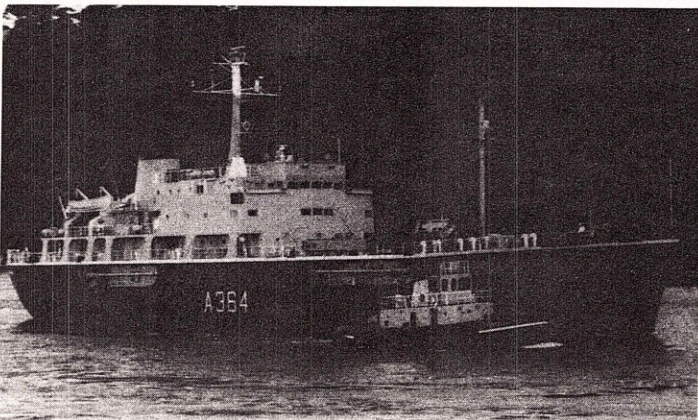
NEWTON

1990, van Ginderen Collection

Name	No	Builders	Commissioned
WHITEHEAD	A 364	Scotts Shipbuilding Co Ltd, Greenock	30 Mar 1971

**Displacement, tons:** 3040 full load  
**Dimensions, feet (metres):** 319 × 48 × 17 (97.3 × 14.6 × 5.2)  
**Main machinery:** 2 Paxman 12 YLCM diesels; 3000 hp (2.24 MW) sustained; 2 shafts  
**Speed, knots:** 15.5. **Range, miles:** 4000 at 12 kts  
**Complement:** 50 plus 15 trials and scientific staff  
**Torpedoes:** 1—21 in (533 mm) bow tube (submerged). 3—324 mm Mk 32 (triple) tube.

**Comment:** Designed to provide mobile preparation, firing and control facilities for weapons and research vehicles. Named after Robert Whitehead, the torpedo development pioneer and engineer. Fitted with equipment for tracking weapons and target and for analysing the results of trials. Based at Plymouth and in reserve awaiting decision on future.



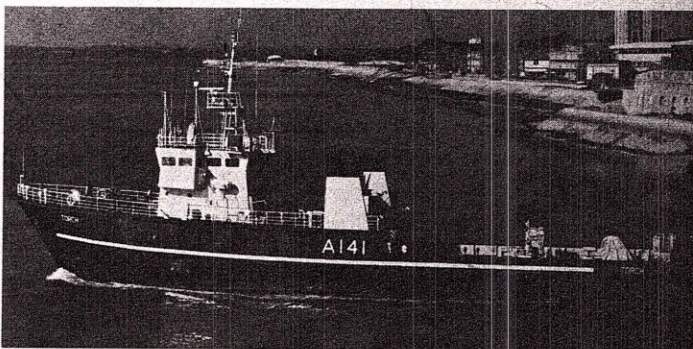
## TORPEDO RECOVERY VESSELS

## 4 TORNADO CLASS

Name	No	Builders	Commissioned
TORNADO A 140			
TORCH A 141			
TORMENTOR A 142			
TOREADOR A 143			

**Displacement, tons:** 698 full load  
**Dimensions, feet (metres):** 154.5 × 31.3 × 11.3 (47.1 × 9.6 × 3.4)  
**Main machinery:** 2 Mirreles-Blackstone ESL8 MCR diesels; 2200 hp (1.64 MW); 2 shafts  
**Speed, knots:** 14. **Range, miles:** 3000 at 14 kts  
**Complement:** 14

**Comment:** Ordered from Hall Russell, Aberdeen on 1 July 1977 and launched in 1979-80. *Torch* based at Portland, *Tormentor* at Plymouth, others in the Clyde.



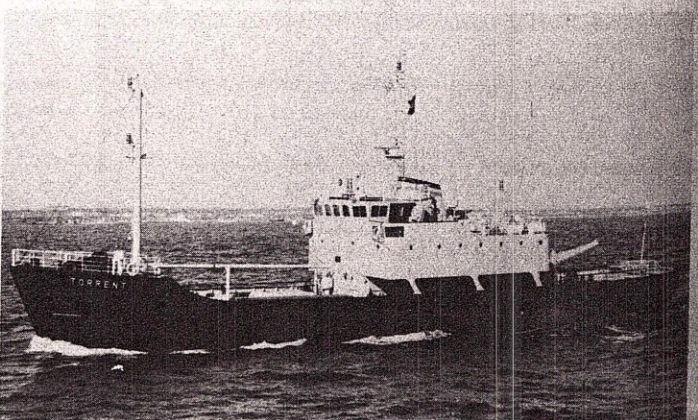
TORCH

8/1991, Wright &amp; Logan

Name	No	Builders	Commissioned
TORRENT	A 127	Cleland S B Co, Wallsend	10 Sep 1971

**Displacement, tons:** 550 gross  
**Dimensions, feet (metres):** 162 × 31 × 11.5 (49.4 × 9.5 × 3.5)  
**Main machinery:** 2 Paxman diesels; 700 hp (522 kW); 2 shafts  
**Speed, knots:** 10  
**Complement:** 18

**Comment:** Has a stern ramp for torpedo recovery—can carry 22 torpedoes in hold and 10 on deck. Based at Kyle of Loch Alsh.





## REPAIR/MAINTENANCE SHIP

### 1 STENA TYPE (FORWARD REPAIR SHIP)

Name  
**DILIGENCE** (ex-Stena Inspector)

No  
A 132

Builders  
Oresundsvarvet AB, Landskrona, Sweden

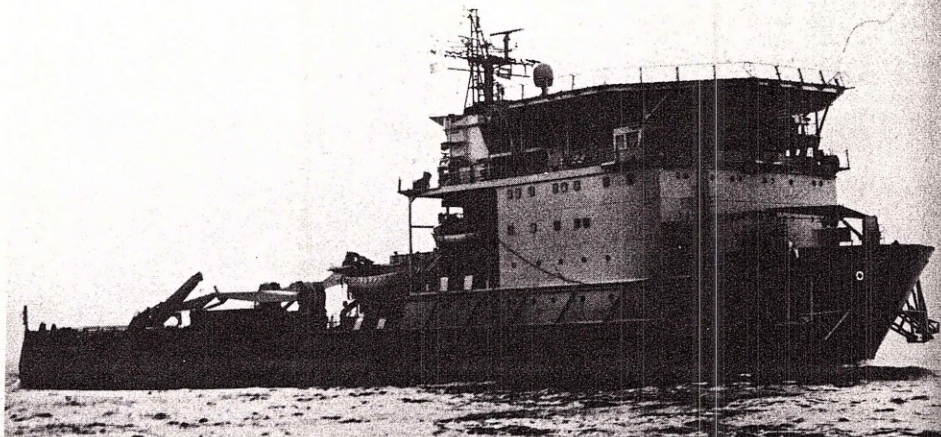
Commissioned  
1981

**Displacement, tons:** 10 765 full load  
**Measurement, tons:** 6550 gross; 4860 dwt  
**Dimensions, feet (metres):** 367.5 × 67.3 × 27.2  
(112 × 20.5 × 8.3)  
**Flight deck, feet (metres):** 83 × 83 (25.4 × 25.4)  
**Main machinery:** Diesel-electric; 5 V16 Nohab-Polar diesel generators; 2650 kW; 4 NEBB motors; 6000 hp(m) (4.41 MW); 1 shaft; KaMeWa cp prop; 2 KaMeWa bow tunnel thrusters; 3000 hp(m) (2.2 MW); 2 azimuth thrusters (aft); 3000 hp(m) (2.2 MW)  
**Speed, knots:** 14. **Range, miles:** 5000 at 12 kts  
**Complement:** 31 RFA plus 90 RN (accommodation for 147 plus 55 temporary)  
**Cargo capacity:** Long-jib crane SWL 5 tons; max lift, 40 tons

**Guns:** 4 Oerlikon 20 mm; 50° elevation; 800 rounds/minute to 2 km; weight of shell 0.24 kg.  
**Countermeasures:** Decoys: 4 Plessey Shield 6-tubed launchers.

**Helicopters:** Facilities for up to Boeing Chinook HC 1 (medium lift) size.

**Programmes:** *Stena Inspector* was designed originally as a Multipurpose Support Vessel for North Sea oil operations, and completed in January 1981. Chartered on 25 May 1982 for use as a fleet repair ship during the Falklands' campaign. Purchased from Stena (UK) Line in October 1983, and converted for use as Forward Repair Ship in the South Atlantic (Falkland Islands). Conversion by Clyde Dock Engineering Ltd, Govan from 12 November 1983 to 29 February 1984; accepted into RFA service on 12 March 1984. Naval Party 2010 embarked.  
**Modernisation:** Following items added during conversion: large workshop for hull and machinery repairs (in well-deck); accommodation for naval Junior Rates (new accommodation block); accommodation for crew of conventional submarine (in place of Saturation Diving System); extensive craneage



DILIGENCE

1/1990, W. Sartori

facilities; overside supply of electrical power, water, fuel, steam, air, to ships alongside; large naval store (in place of cement tanks); armament and magazines; Naval Communications System; decompression chamber.

**Structure:** Four 5 ton anchors for 4-point mooring system. Strengthened for operations in ice (Ice Class 1A). Kongsberg Albatross Positioning System has been retained in full. Uses

bow and stern thrusters and main propeller to maintain a selected position to within a few metres, up to Beaufort Force 9. Controlled by Kongsberg KS 500 computers.

**Operational:** Deployed to the Gulf in August 1987, back on station in the Falkland Islands in 1989 and returned to the Gulf in September 1990.

## AVIATION TRAINING SHIP

Name  
**ARGUS** (ex-Contender Bezant)

No  
A 135

Builders  
CNR Breda, Venice, Italy

Commissioned  
1981

Recommissioned  
1 June 1988

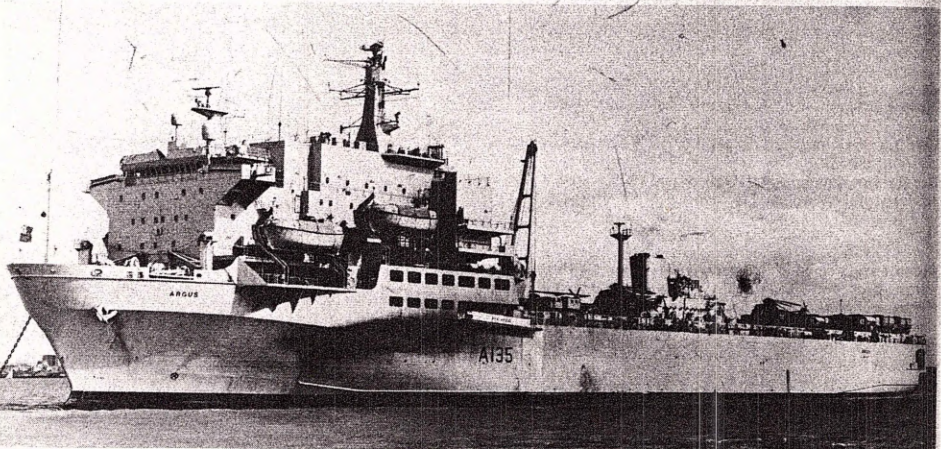
**Displacement, tons:** 18 280 standard; 28 480 full load  
**Measurement, tons:** 10 200 dwt  
**Dimensions, feet (metres):** 574.5 × 99.7 × 27  
(175.1 × 30.4 × 8.2)  
**Main machinery:** 2 Lindholm SEMT-Pielstick 18PC2.5V 400 diesels; 23 400 hp(m) (17.2 MW) sustained; 2 shafts  
**Speed, knots:** 18. **Range, miles:** 20 000 at 19 kts  
**Complement:** 79 RFA plus 39 permanent RN plus 137 RN aircrew  
**Cargo capacity:** 3300 tons dieso; 1100 tons aviation fuel

**Guns:** 4 Oerlikon/DES 30 mm Mk 1.  
**Countermeasures:** Decoys: 2 Sea Gnat Chaff launchers. Graseby Type 182; torpedo decoy.  
**ESM:** THORN EMI Guardian; radar warning.  
**Combat data systems:** Racal CANE DEB-1 data automation. Inmarsat SATCOM communications. Marisat.  
**Radars:** Air search: Type 994 MTI; E/F band.  
Air/surface search: Kelvin Hughes Type 1006; I band.  
Navigation: Racal Decca Type 994; I band.

**Fixed wing aircraft:** Provision to transport 12 British Aerospace Sea Harrier FRS 1.  
**Helicopters:** 6 Westland Sea King HAS 5 or similar.

**Programmes:** Ro-ro container ship whose conversion for her new task was begun by Harland and Wolff in March 1984 and completed on 3 March 1988. Purchase price approx £18 million; conversion approx £45 million which included full contractor responsibility for equipment, trials and setting to work. Relieved *Engadine* in early 1989.

**Structure:** Uses former ro-ro deck as hangar with four sliding WT doors able to operate at a speed of 10 m per minute. Can



ARGUS

4/1991, W. Sartori

replenish other ships underway. One lift port midships, one abaft funnel. Domestic facilities are very limited if she is to be used in the Command support role. Flight deck is 372.4 ft (113.5 m) long and has a 5 ft thick concrete layer on its lower side. First RFA to be fitted with a command system.

**Operational:** Not as heavily armed as *Fort Victoria* but similar 'advantage' is being taken of the cost effectiveness of mixed civilian and naval manning. Deployed to the Gulf in 1990/91 as a Primary Casualty Receiving Ship (PCRS) with the hangar converted into hospital accommodation.

## LOGISTIC LANDING SHIPS (LSLs)

Name  
**SIR GALAHAD**

No  
L 3005

Builders  
Swan Hunter Shipbuilders, Wallsend

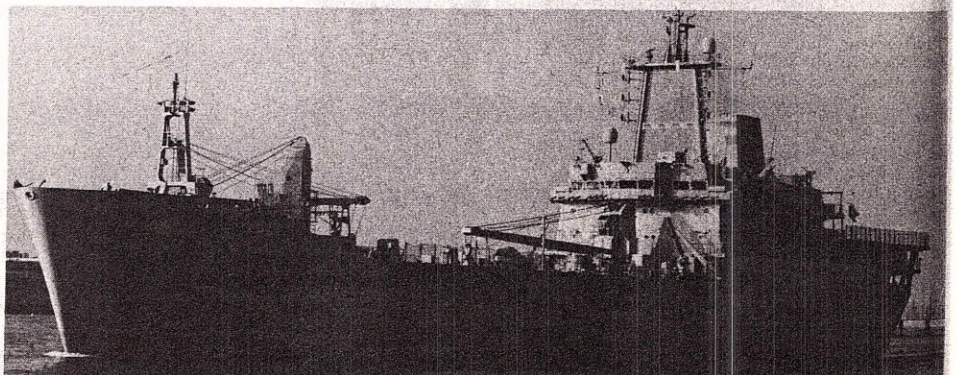
Laid down  
12 May 1985

Launched  
13 Dec 1986

Commissioned  
25 Nov 1987

**Displacement, tons:** 8585 full load  
**Measurement, tons:** 3080 dwt  
**Dimensions, feet (metres):** 461 × 64 × 14.1  
(140.5 × 19.5 × 4.3)  
**Main machinery:** 2 Mirrlees Blackstone diesels; 13 320 hp (9.94 MW); 2 shafts; cp props  
**Speed, knots:** 18. **Range, miles:** 13 000 at 15 kts  
**Complement:** 49 (17 officers)  
**Military lift:** 343 troops (537 hard-living); 18 MBT; 20 mixed vehicles; ammunition, fuel and stores  
**Guns:** 2 Bofors 40 mm. 3 Oerlikon 20 mm GAM-BO3.  
**Countermeasures:** Decoys: 4 Plessey Shield launchers.  
**Combat data systems:** Racal CANE data automation.  
**Radars:** Navigation: Kelvin Hughes Type 1006; I band.  
**Helicopters:** 1 Westland Sea King HC 4.

**Comment:** Ordered on 6 September 1984 as a replacement for *Sir Galahad*, sunk as a war grave after air attack at Bluff Cove, Falkland Islands on 8 June 1982. Has bow and stern ramps with a visor bow gate. One 25 ton crane and three smaller ones. Mexeflote pontoons can be attached on both sides of the hull superstructure.



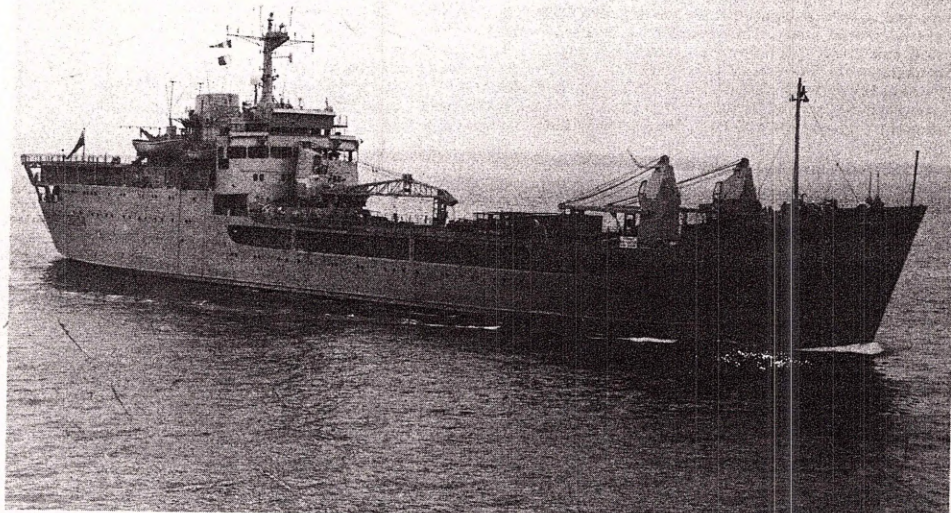
SIR GALAHAD

11/1991, Maritime Photographics

Name	No	Builders	Laid down	Launched	Commissioned
SIR BEDIVERE	L 3004	Hawthorn Leslie, Hebburn-on-Tyne	Oct 1965	20 July 1966	18 May 1967
SIR GERAINT	L 3027	Alex Stephen, Glasgow	June 1965	26 Jan 1967	12 July 1967
SIR PERCIALE	L 3036	Hawthorn Leslie, Hebburn-on-Tyne	Apr 1966	4 Oct 1967	23 Mar 1968
SIR TRISTRAM	L 3505	Hawthorn Leslie, Hebburn-on-Tyne	Feb 1966	12 Dec 1966	14 Sep 1967

Displacement, tons: 3270 light; 5674 full load  
 5800 full load (*Sir Tristram*)  
 Dimensions, feet (metres): 412.1; 441.1 (*Sir Tristram*) × 59.8  
 × 13 (125.6; 134.4 × 18.2 × 4)  
 Main machinery: 2 Mirlees 10-ALSSDM diesels; 9400 hp  
 (7.01 MW); 2 shafts; bow thruster  
 Speed, knots: 17. Range, miles: 8000 at 15 kts  
 Complement: 65 (21 officers); 50 (*Sir Tristram*)  
 Military lift: 340 troops (534 hard lying); 16 MBTs; 34 mixed  
 vehicles; 120 tons POL; 30 tons ammunition; 1—20 ton crane;  
 2—4.5 ton cranes. *Sir Tristram* has increased capacity for 20  
 helicopters (11 tank deck and 9 vehicle deck)  
 Guns: 4 Oerlikon 20 mm.  
 Radars: Navigation: Kelvin Hughes Type 1006; I band.  
 Helicopters: Platforms to operate Gazelle AH 1 or Lynx AH 1/7.

Comment: Fitted for bow and stern loading with drive-through  
 facilities and deck-to-deck ramps. Facilities provided for  
 onboard maintenance of vehicles and for laying out pontoon  
 equipment. Mexeflote self-propelled floating platforms can be  
 strapped one on each side. Carries 850 tons oil fuel. On 8 June  
 1982 *Sir Tristram* was severely damaged off the Falkland Islands.  
 Tyne Shiprepairers were given a contract to repair and modify  
 her. This included lengthening by 29 ft, an enlarged flight deck  
 capable of taking Chinooks and a new bridge. The aluminium  
 superstructure was replaced by steel and the provision of new  
 communications, an EMR, SATCOM, new navigation systems  
 and helicopter control radar greatly increase her effectiveness.  
 Completed 9 October 1985. The first three are to be modernised  
 to the same standard as *Sir Tristram* with SLEPs in the 1990s. All  
 deployed to the Gulf in 1991 with additional 20 mm guns, decoy  
 systems and navigation equipment.



SIR BEDIVERE

8/1991, Wright & Logan

## ROYAL MARITIME AUXILIARY SERVICE

### SALVAGE AND MOORING VESSELS

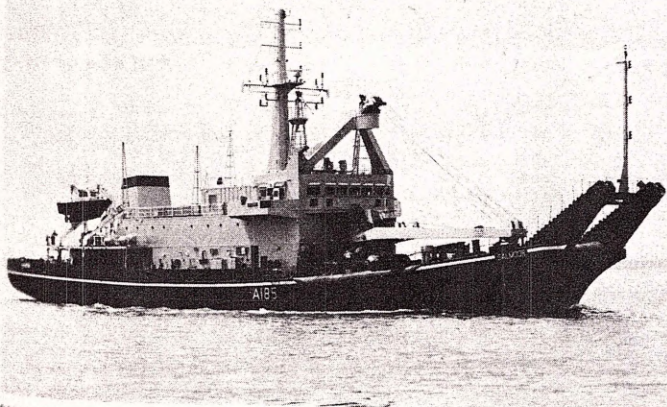
Note: *Scarab* (Insect class tender) with bow sheave acts as mooring vessel at Pembroke Dock. *Cricket* (no bow sheave) acts as mooring vessel in the Clyde.

#### 3 SAL CLASS

Name	No	Builders	Commissioned
SALMOOR	A 185	Hall Russell, Aberdeen	12 Nov 1985
SALMASTER	A 186	Hall Russell, Aberdeen	10 Apr 1986
SALMAID	A 187	Hall Russell, Aberdeen	28 Oct 1986

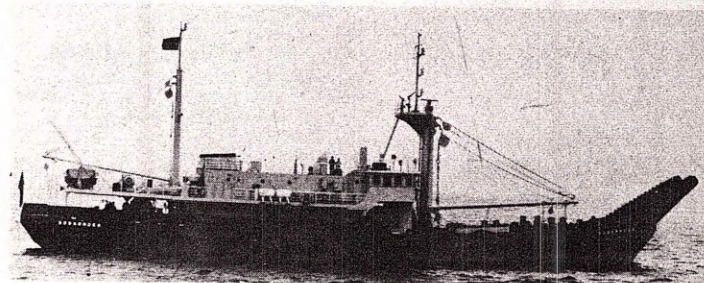
Displacement, tons: 1605 light; 2225 full load  
 Dimensions, feet (metres): 253 × 48.9 × 12.5 (77 × 14.9 × 3.8)  
 Main machinery: 2 Ruston 8-RKCM diesels; 4000 hp (2.98 MW) sustained; 1 shaft  
 Speed, knots: 15  
 Complement: 17 (4 officers) plus 27 spare billets

Comment: Ordered on 23 January 1984. *Salmoor* on Clyde, *Salmaster* at Rosyth, *Salmoid* at  
 Devonport. Lift, 400 tons; 200 tons on horns. Can carry submarines including LR 5.



SALMOOR

6/1991, Maritime Photographic



GOOSANDER

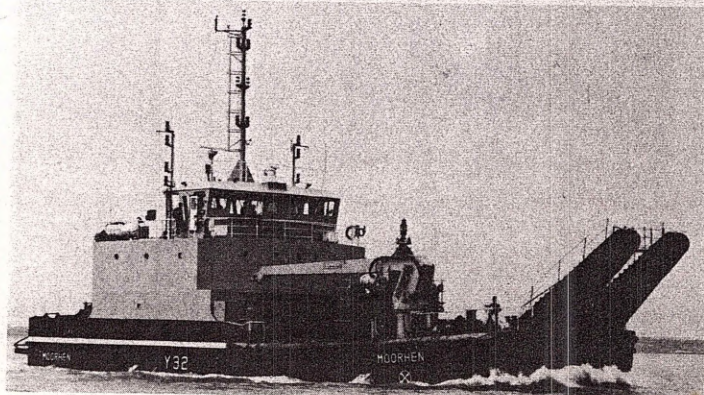
1991, RMAS

#### 3 MOORHEN CLASS

Name	No	Builders	Commissioned
MOORHEN	Y 32	McTay, Bromborough	Apr 1989
MOORFOWL	Y 33	McTay, Bromborough	May 1989
CAMERON	A 72	Dunston, Hessele	Sep 1991

Displacement, tons: 530 full load  
 Dimensions, feet (metres): 106 × 37.7 × 6.6 (32.3 × 11.5 × 2)  
 Main machinery: 2 Cummins KT 19M diesels; 730 hp (545 kW) sustained; 2 Aquamasters  
 Speed, knots: 8  
 Complement: 10 (2 officers)

Comment: Classified as powered mooring lighters. The whole ship can be worked from a 'flying  
 bridge' which is constructed over a through deck. Day mess for five divers. *Moorhen* at Portsmouth,  
*Moorfowl* at Devonport. *Cameron* works for DRA (Maritime) and is modified as a trials support  
 vessel.



MOORHEN

#### 2 WILD DUCK CLASS

Name	No	Builders	Commissioned
GOOSANDER	A 164	Robb Caledon Ltd	10 Sep 1973
POCHARD	A 165	Robb Caledon Ltd	11 Dec 1973

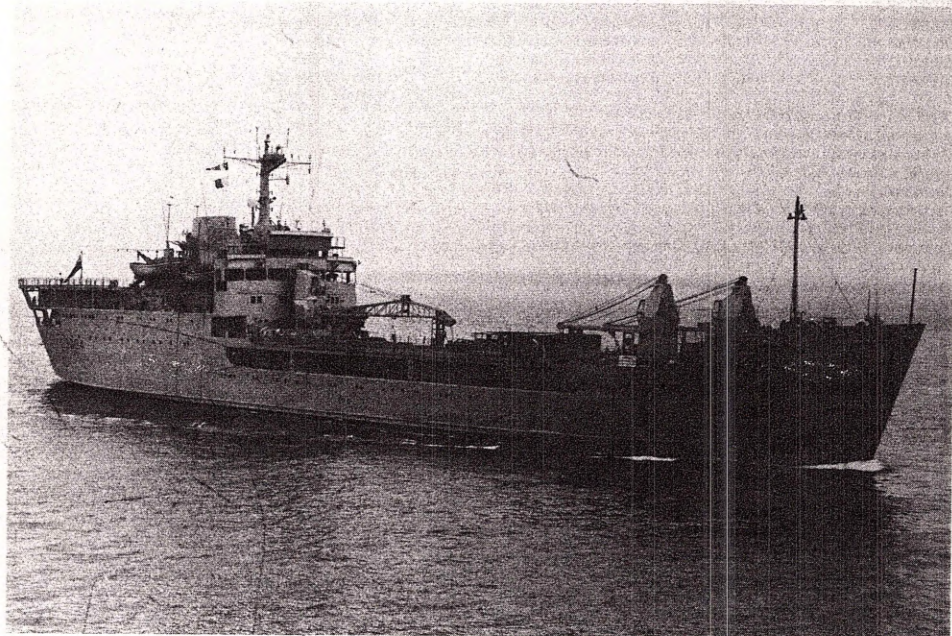
Displacement, tons: 692 light; 1648 full load  
 Dimensions, feet (metres): 197.6 × 40.5 × 13.8 (60.2 × 12.2 × 4.2)  
 Main machinery: 1 Davey Paxman diesel; 750 hp (560 kW); 1 shaft; cp prop  
 Speed, knots: 10. Range, miles: 3000 at 10 kts  
 Complement: 23

Comment: Capable of laying out and servicing the heaviest moorings used by the Fleet and also  
 maintaining booms for harbour defence. Heavy lifting equipment enables a wide range of salvage  
 operations to be performed, especially in harbour clearance work. The special heavy winches have  
 an ability for tidal lifts over the apron of 200 tons. *Goosander* is based on the Clyde; *Pochard* in  
 reserve at Portsmouth.

Name	No	Builders	Laid down	Launched	Commissioned
SIR BEDIVERE	L 3004	Hawthorn Leslie, Hebburn-on-Tyne	Oct 1965	20 July 1966	18 May 1967
SIR GERAINT	L 3027	Alex Stephen, Glasgow	June 1965	26 Jan 1967	12 July 1967
SIR PERCIVALE	L 3036	Hawthorn Leslie, Hebburn-on-Tyne	Apr 1966	4 Oct 1967	23 Mar 1968
SIR TRISTRAM	L 3505	Hawthorn Leslie, Hebburn-on-Tyne	Feb 1966	12 Dec 1966	14 Sep 1967

**Displacement, tons:** 3270 light; 5674 full load  
 5800 full load (*Sir Tristram*)  
**Dimensions, feet (metres):** 412.1; 441.1 (*Sir Tristram*) × 59.8 × 13 (125.6; 134.4 × 18.2 × 4)  
**Main machinery:** 2 Mirlees 10-ALSSDM diesels; 9400 hp (7.01 MW); 2 shafts; bow thruster  
**Speed, knots:** 17. **Range, miles:** 8000 at 15 kts  
**Complement:** 65 (21 officers); 50 (*Sir Tristram*)  
**Military lift:** 340 troops (534 hard lying); 16 MBTs; 34 mixed vehicles; 120 tons POL; 30 tons ammunition; 1—20 ton crane; 2—4.5 ton cranes. *Sir Tristram* has increased capacity for 20 helicopters (11 tank deck and 9 vehicle deck)  
**Guns:** 4 Oerlikon 20 mm.  
**Radars:** Navigation: Kelvin Hughes Type 1006; I band.  
**Helicopters:** Platforms to operate Gazelle AH 1 or Lynx AH 1/7.

**Comment:** Fitted for bow and stern loading with drive-through facilities and deck-to-deck ramps. Facilities provided for onboard maintenance of vehicles and for laying out pontoon equipment. Mexeflote self-propelled floating platforms can be strapped one on each side. Carries 850 tons oil fuel. On 8 June 1982 *Sir Tristram* was severely damaged off the Falkland Islands. Tyne Shiprepairers were given a contract to repair and modify her. This included lengthening by 29 ft, an enlarged flight deck capable of taking Chinooks and a new bridge. The aluminium superstructure was replaced by steel and the provision of new communications, an EMR, SATCOM, new navigation systems and helicopter control radar greatly increase her effectiveness. Completed 9 October 1985. The first three are to be modernised to the same standard as *Sir Tristram* with SLEPs in the 1990s. All deployed to the Gulf in 1991 with additional 20 mm guns, decoy systems and navigation equipment.



SIR BEDIVERE

8/1991, Wright &amp; Logan

## ROYAL MARITIME AUXILIARY SERVICE

### SALVAGE AND MOORING VESSELS

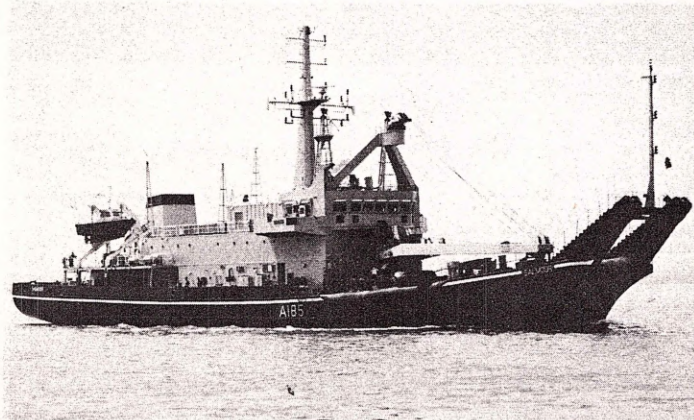
**Note:** *Scarab* (Insect class tender) with bow sheave acts as mooring vessel at Pembroke Dock. *Cricket* (no bow sheave) acts as mooring vessel in the Clyde.

#### 3 SAL CLASS

Name	No	Builders	Commissioned
SALMOOR	A 185	Hall Russell, Aberdeen	12 Nov 1985
SALMASTER	A 186	Hall Russell, Aberdeen	10 Apr 1986
SALMAID	A 187	Hall Russell, Aberdeen	28 Oct 1986

**Displacement, tons:** 1605 light; 2225 full load  
**Dimensions, feet (metres):** 253 × 48.9 × 12.5 (77 × 14.9 × 3.8)  
**Main machinery:** 2 Ruston 8-RKCM diesels; 4000 hp (2.98 MW) sustained; 1 shaft  
**Speed, knots:** 15  
**Complement:** 17 (4 officers) plus 27 spare billets

**Comment:** Ordered on 23 January 1984. *Salmoor* on Clyde, *Salmaster* at Rosyth, *Salmmaid* at Devonport. Lift, 400 tons; 200 tons on horns. Can carry submersibles including LR 5.



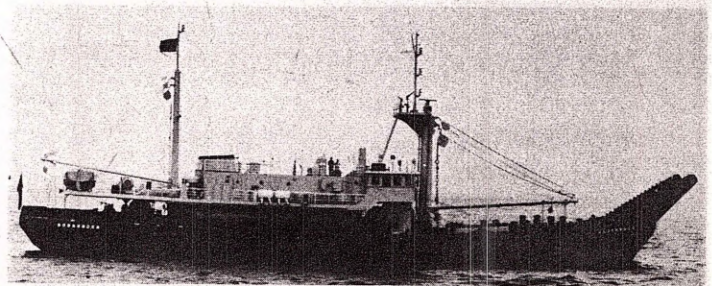
SALMOOR

6/1991, Maritime Photographic

#### 2 WILD DUCK CLASS

Name	No	Builders	Commissioned
GOOSANDER	A 164	Robb Caledon Ltd	10 Sep 1973
POCHARD	A 165	Robb Caledon Ltd	11 Dec 1973

**Displacement, tons:** 692 light; 1648 full load  
**Dimensions, feet (metres):** 197.6 × 40.5 × 13.8 (60.2 × 12.2 × 4.2)  
**Main machinery:** 1 Davey Paxman diesel; 750 hp (560 kW); 1 shaft; cp prop  
**Speed, knots:** 10. **Range, miles:** 3000 at 10 kts  
**Complement:** 23



GOOSANDER

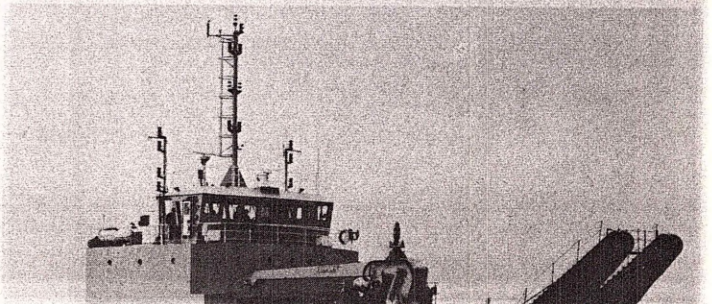
1991, RMAS

#### 3 MOORHEN CLASS

Name	No	Builders	Commissioned
MOORHEN	Y 32	McTay, Bromborough	Apr 1989
MOORFOWL	Y 33	McTay, Bromborough	May 1989
CAMERON	A 72	Dunston, Hessele	Sep 1991

**Displacement, tons:** 530 full load  
**Dimensions, feet (metres):** 106 × 37.7 × 6.6 (32.3 × 11.5 × 2)  
**Main machinery:** 2 Cummins KT 19M diesels; 730 hp (545 kW) sustained; 2 Aquamasters  
**Speed, knots:** 8  
**Complement:** 10 (2 officers)

**Comment:** Classified as powered mooring lighters. The whole ship can be worked from a 'flying bridge' which is constructed over a through deck. Day mess for five divers. *Moorhen* at Portsmouth, *Moorfowl* at Devonport. *Cameron* works for DRA (Maritime) and is modified as a trials support vessel.



**5 TON CLASS (COASTAL MINEHUNTERS)**

Name	No	Builders	Commissioned
BRINTON	M 1114	Cook Welton and Gemmell	4 Mar 1954
IVESTON	M 1151	Philip & Sons Ltd, Dartmouth	29 June 1955
KELLINGTON	M 1154	William Pickersgill & Son	4 Nov 1955
NURTON	M 1166	Harland & Wolff Ltd, Belfast	21 Aug 1957
SHERATON	M 1181	White's Shipyard Ltd, Southampton	24 Aug 1956

**Displacement, tons:** 360 standard; 440 full load  
**Dimensions, feet (metres):** 153 x 28.9 x 8.2 (46.6 x 8.8 x 2.5)  
**Main machinery:** 2 Paxman Deltic 18A-7A diesels; 3000 hp (2.24 MW); 2 shafts  
**Speed, knots:** 15. **Range, miles:** 2500 at 12 kts  
**Complement:** 38 (5 officers)

**Guns:** 1 Bofors 40 mm/60 Mk 3; 80° elevation; 120 rounds/minute to 10 km (5.4 nm) anti-surface; 3 km (1.6 nm) anti-aircraft; weight of shell 0.89 kg.  
 3 FN 7.62 mm MGs.  
 2 Oerlikon 20 mm (on deployment); 50° elevation; 800 rounds/minute to 2 km; weight of shell 0.24 kg.  
**Countermeasures:** Decoys: Plessey Shield 12-tubed Chaff launcher.  
**Radars:** Navigation: Kelvin Hughes Type 1006; 1 band.  
**Sonars:** Plessey Type 193M; hull-mounted; minehunting; 100/300 KHz.

**Programmes:** The survivors of a class of 118 built between 1953 and 1960, largely as a result of lessons from the Korean War. John I Thornycroft & Co Ltd, Southampton was the lead yard.  
**Modernisation:** The majority has been fitted with 'Cascover' nylon in place of copper sheathing. In 1983-84 *Iveston* had an extensive refit to prolong her life, *Nurton* completed a similar refit in 1989.  
**Structure:** These ships have double mahogany hull on aluminium frames and incorporate a considerable amount of non-magnetic material. All have active rudders.  
**Operational:** Allocation: M 1181, 1154, 1114, 1151 to 3rd MCM Squadron. All are used for Fishery Protection except M 1166 which is in Northern Ireland.  
**Sales:** Argentina (six in 1968), Australia (six in 1962), Ghana (one in 1964), India (four in 1956), Ireland (three in 1971), Malaysia (seven in 1960-68), South Africa (ten in 1958-59). Many deleted.

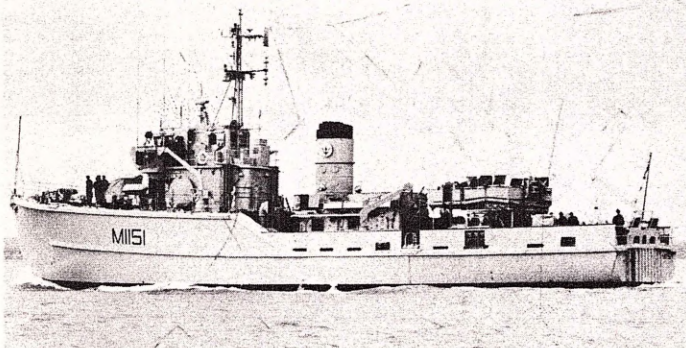
**3 + 2 + (11) SANDOWN CLASS (MINEHUNTERS)**

Name	No	Builders	Launched	Commissioned
SANDOWN	M 101	Vosper Thornycroft, Woolston	16 Apr 1988	9 June 1989
INVERNESS	M 102	Vosper Thornycroft, Woolston	27 Feb 1990	24 Jan 1991
CROMER	M 103	Vosper Thornycroft, Woolston	6 Oct 1990	7 Apr 1992
WALNEY	M 104	Vosper Thornycroft, Woolston	25 Nov 1991	Dec 1992
BRIDPORT	M 105	Vosper Thornycroft, Woolston	July 1992	Sept 1993

**Displacement, tons:** 450 standard; 484 full load  
**Dimensions, feet (metres):** 172.2 x 34.4 x 7.5 (52.5 x 10.5 x 2.3)  
**Main machinery:** 2 Paxman Valenta 6-RP 200E diesels; 1500 hp (1.12 MW) sustained; Voith-Schneider propulsion; 2 shafts; 2 Schottel bow thrusters  
**Speed, knots:** 13 diesels; 6.5 electric drive. **Range, miles:** 3000 at 12 kts  
**Complement:** 34 (7 officers) plus 6 spare berths

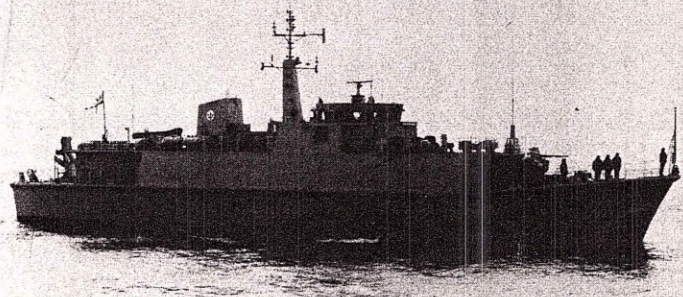
**Guns:** 1 Oerlikon/DES 30 mm/75 DS 30B; 65° elevation; 650 rounds/minute to 10 km (5.4 nm) anti-surface; 3 km (1.6 nm) anti-aircraft; weight of shell 0.36 kg.  
**Countermeasures:** Decoys: 2 Wallop Barricade (to be fitted for deployment).  
**Combat data systems:** Plessey Nautis M action data automation.  
**Radars:** Navigation: Kelvin Hughes Type 1007; 1 band.  
**Sonars:** Marconi/Plessey Type 2093; VDS; VLF-VHF multi-function with five arrays; mine search and classification.

**Programmes:** A class designed for hunting and destroying mines and for operating in deep and exposed waters. Complements the Hunt and River classes. On 9 January 1984 the Vosper Thornycroft design for this class was approved. First one ordered August 1985, laid down 2 February 1987. Four further ships ordered 23 July 1987. A second batch were to have been ordered in 1990 but these were re-allocated to the Saudi Arabian Navy which is now being given precedence over RN orders, which were again deferred in 1991.  
**Structure:** GRP hull. Combines vectored thrust units with bow thrusters and Remote Control Mine Disposal System (RCMDS). The sonar is deployed from a well in the hull.  
**Operational:** ECA mine disposal system, two PAP 104 Mk 5. These craft can carry two mine wire cutters, a charge of 100 kg and a manipulator with TV/projector. Control cables are either 1000 m (high capacity) or 2000 m (low capacity) and the craft can dive to 300 m at 6 kts with an endurance of 5 x 20 minute missions. Racal Hyperfix. Decca Navigation Mk 21. Allocation: 101, 102, 103 to 3rd MCM Squadron.  
**Sales:** Three plus an option of three more to Saudi Arabia.



IVESTON

6/1991, Maritime Photographic



CROMER

11/1991, Maritime Photographic

**AMPHIBIOUS WARFARE FORCES**

**Note:** Further amphibious ships and craft covered in RFA and RCT sections. These include a Helicopter Support Ship, 5 LSLs, 2 LCLs and 9 LCTs.

**0 + (1) HELICOPTER CARRIER (LPH)**

**Displacement, tons:** 17 000 full load<sup>a</sup>  
**Dimensions, feet (metres):** 623.4 x 111.5 x 23 (190 x 34 x 7)  
**Flight deck, feet (metres):** 590 x 111.5 (180 x 34)  
**Main machinery:** 2 diesels; 2 shafts  
**Speed, knots:** 18. **Range, miles:** 20 000 at 18 kts  
**Complement:** 300 plus 170 aircrew plus 480 Marines

**Guns:** Oerlikon/BMARC 30 mm/75 GCM.  
 Oerlikon/BMARC 20 mm GAM.  
**Countermeasures:** ESM/ECM.  
**Radars:** Air/surface search.

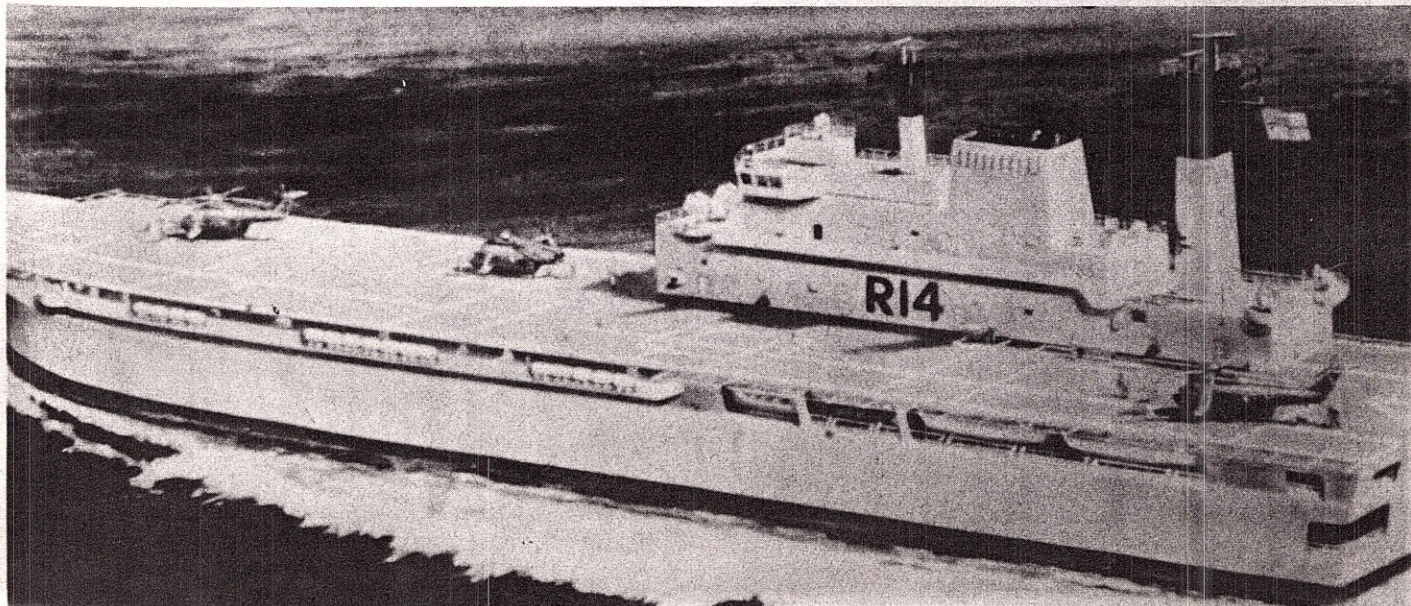
**Helicopters:** 12 Sea King or equivalent.

**Programmes:** In 1987 five joint venture consortia were invited to prepare tenders. Three tenders submitted in July 1989 by Swan Hunter/Ferranti International Signal/CAP, Tyne Shiprepairers/Sea Containers/Racal Marine Systems; and Vickers Shipbuilding and Engineering/Cammell Laird with Three Keys Marine. These tenders were then allowed to lapse and a further invitation for designs was issued in early 1992 with the aim of placing an order for the ship in 1994.

**Structure:** The details listed are illustrative of the sort of size of vessel required either as a new construction or a merchant

conversion. The deck would be strong enough to take Chinook helicopters. Six landing and six parking spots are required for the aircraft. Armament to consist of light guns only.

**Operational:** The LPH is to provide a helicopter lift and assault capability. The prime role of the vessel will be embarking, supporting and operating a squadron of helicopters (currently Westland Sea King HC4) and carrying most of a Royal Marine Commando including vehicles, arms and ammunition. A second of class is preferred to meet the operational requirement but linkage with the new LPDs gives a single unit more credibility than it would have without the LPDs.



Ferranti Flash dipping sonar, sonobuoy acoustic processor AQS-903, Racal Orange Reaper ECM, ECM. Weapons: ASW; 4 Stingray torpedoes or Mk 11 depth bombs. ASV; 4 Sea Skua or replacement, capability for guidance of ship-launched SSM.



MERLIN

1991

Operational speed: Mach 0.85.  
Service ceiling: 60 000 ft (18 290 m).  
Range: 3000 nm (5486 km).

Role/Weapon systems: Maritime strike with in-flight refuelling capability. Being phased out.  
Sensors: Ferranti search/attack radar, ECM. Weapons: ASV; 4 × Sea Eagle or 7.3 tons of bombs, 4 × Martel (S2B/S2D).

Numbers/Type: 26 Hawker Siddeley Nimrod MR 2/2P.  
Operational speed: 500 kts (892 km/h).  
Service ceiling: 42 000 ft (12 800 m).  
Range: 5000 nm (9265 km).

Role/Weapon systems: Primarily ASW but with ASV, OTH and control potential at long range from shore bases; peacetime duties include SAR, EEZ protection, maritime surveillance. Sensors: THORN EMI Searchwater radar, ECM, ESM, cameras, MAD, sonobuoys, AQS-901 processor. Weapons: ASW; 6.1 tons of Mk 44/46 or Stingray torpedoes or depth bombs or mines, provision for B57 or Mk 101 nuclear depth bombs. ASV; 4 × Harpoon missiles. Self-defence: 4 × AIM-9 Sidewinder.

Numbers/Type: 7 Boeing E-3D Sentry AWAC.  
Operational speed: 460 kts (853 km/h).  
Service ceiling: 30 000 ft (9145 m).  
Range: 870 nm (1610 km).

Role/Weapon systems: Air defence early warning aircraft with secondary role to provide coastal AEW for the Fleet; six hours endurance at the range given above. Sensors: Westinghouse APY-2 surveillance radar, Bendix weather radar, Mk XII IFF, Yellow Gate, ESM, ECM. Weapons: Unarmed.

## MINE WARFARE FORCES

### 13 HUNT CLASS (MINESWEEPERS/MINEHUNTERS—COASTAL)

Name	No	Builders	Commissioned
BRECON	M 29	Vosper Thornycroft Ltd	21 Mar 1980
LEDBURY	M 30	Vosper Thornycroft Ltd	11 June 1981
CATTISTOCK	M 31	Vosper Thornycroft Ltd	16 June 1982
COTTESMORE	M 32	Yarrow, Glasgow	24 June 1983
BROCKLESBY	M 33	Vosper Thornycroft Ltd	3 Feb 1983
MIDDLETON	M 34	Yarrow, Glasgow	15 Aug 1984
DULVERTON	M 35	Vosper Thornycroft Ltd	4 Nov 1983
BICESTER	M 36	Vosper Thornycroft Ltd	20 Mar 1986
CHIDDINGFOLD	M 37	Vosper Thornycroft Ltd	10 Aug 1984
ATHERSTONE	M 38	Vosper Thornycroft Ltd	30 Jan 1987
HURWORTH	M 39	Vosper Thornycroft Ltd	2 July 1985
BERKELEY	M 40	Vosper Thornycroft Ltd	14 Jan 1988
QUORN	M 41	Vosper Thornycroft Ltd	21 Apr 1989

Displacement, tons: 615 light, 750 full load  
Dimensions, feet (metres): 187 wl; 197 oal × 32.8 × 9.5 (keel); 11.2 (screws)  
(57; 60 × 10 × 2.9; 3.4)

Main machinery: 2 Ruston-Paxman 9-59K Deltic diesels; 1900 hp (1.42 MW); 1 Deltic Type 9-55B diesel for pulse generator and auxiliary drive; 780 hp (582 kW); 2 shafts; bow thruster  
Speed, knots: 15 diesels; 8 hydraulic drive. Range, miles: 1500 at 12 kts  
Complement: 45 (6 officers)

Guns: 1 Oerlikon/BMARC 30 mm/75 DS 30B; 65° elevation; 650 rounds/minute to 10 km (5.4 nm) anti-surface; 3 km (1.6 nm) anti-aircraft; weight of shell 0.36 kg. Replaced Bofors 40 mm.  
2 Oerlikon/BMARC 20 mm GAM-CO1 (enhancement); 55° elevation; 900 rounds/minute to 2 km.  
2—7.62 mm MGs.

Countermeasures: Decoys: 2 Wallop Barricade (enhancement); 6 sets of triple barrels.  
2 Irvin Replica RF; passive decoys.  
ESM: MEL Matilda E (enhancement); Marconi Mentor A (in some).

Combat data systems: CAAIS DBA 4 action data automation.

Radars: Navigation: Kelvin Hughes Type 1006; I band.

Sonars: Plessey Type 193M or 193M Mod 1; hull-mounted; minehunting; 100/300 kHz.

Mil Cross mine avoidance sonar; hull-mounted; active; high frequency.

Type 2059 addition to track PAP 104/105.

Programmes: A class of MCM Vessels combining both hunting and sweeping capabilities.

Modernisation: Ten PAP 105 were acquired in 1988-89 to replace the 104s. They have a range of 600 m (1968 ft) down to 300 m (984 ft) depth and a speed of 6 kts; weight 700 kg. 30 mm gun has replaced the Bofors 40 mm. Racal Mk 53 navigation system ordered in August 1990 for all ships. Mid-life update being planned.

Structure: Hulls of GRP.

Operational: Two PAP 104/105 remotely controlled submersibles, MS 14 magnetic loop, Sperry MSSA Mk 1 Towed Acoustic Generator and conventional Mk 8 Oropesa sweeps. For operational deployments fitted with enhanced weapons systems. Inmarsat SATCOMs and some have the SCARAB remote control floating mine towing device which helps the safe destruction of moored mines once they have been cut from their moorings. Allocation: 30, 33, 35 and 36 to 4th MCM Squadron. 34, 37, 40, 41 to 1st MCM Squadron. 29, 31, 32, 38, 39 to 2nd MCM Squadron.



HURWORTH

4/1991, W. Sartori

### 12 RIVER CLASS (MINESWEEPERS—COASTAL)

Name	No	Builders	Commissioned
WAVENEY	M 2003	Richards Ltd (L)	12 July 1984
CARRON	M 2004	Richards Ltd (GY)	29 Sep 1984
DOVEY	M 2005	Richards Ltd (GY)	30 Mar 1985
HELFORD	M 2006	Richards Ltd (GY)	May 1985
HUMBER	M 2007	Richards Ltd (L)	7 June 1985
BLACKWATER	M 2008	Richards Ltd (GY)	5 July 1985
ITCHEN	M 2009	Richards Ltd (L)	12 Oct 1985
HELMSDALE	M 2010	Richards Ltd (L)	1 Mar 1986
ORWELL	M 2011	Richards Ltd (GY)	27 Nov 1985
RIBBLE	M 2012	Richards Ltd (L)	19 Feb 1986
SPEY	M 2013	Richards Ltd (L)	4 Apr 1986
ARUN	M 2014	Richards Ltd (L)	29 Aug 1986

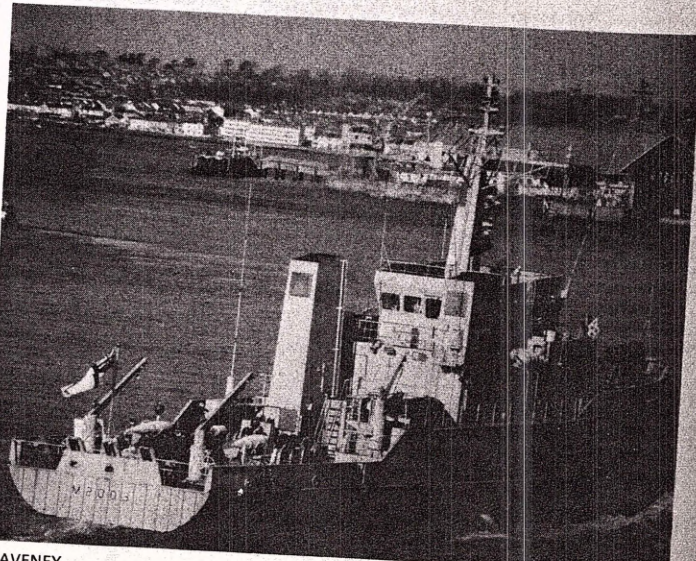
Displacement, tons: 890 full load  
Dimensions, feet (metres): 156 × 34.5 × 9.5 (47.5 × 10.5 × 2.9)  
Main machinery: 2 Ruston 6-RKCM diesels; 3100 hp (2.3 MW) sustained; 2 shafts  
Speed, knots: 14. Range, miles: 4500 at 10 kts  
Complement: 30 (7 officers)

Guns: 1 Bofors 40 mm/60 Mk 3; 80° elevation; 120 rounds/minute to 10 km (5.4 nm) anti-surface; 3 km (1.6 nm) anti-aircraft; weight of shell 0.89 kg.  
Radars: Navigation: Two Racal Decca TM 1226C; I band.

Programmes: First four ordered 23 September 1982. All built at Lowestoft and Great Yarmouth. Three more planned to be built for Fishery Protection Squadron to replace Ton class but the requirement was cancelled in 1990.

Structure: Steel hulled for deep team sweeping. There have been problems with upper-deck corrosion in some ships. 40 mm guns may be replaced by 30 mm.

Operational: BAJ Wire Sweep Mk 9 EDATS fitted. RNR 10th MCM Squadron: Waveney (South Wales); Carron (Severn); Dovey (Clyde); Helford (Ulster); Itchen (Solent); Orwell (Tyne); Humber (Mersey); Spey (Forth); Arun (Sussex); Blackwater (Coastal Division RN); Helmsdale and Ribble in reserve in early 1992. London Division is having to share with other RNR sea training centres.



WAVENEY

5/1991, H. M. Steele

## 1 VALIANT CLASS (SSN)

Name  
VALIANT

No  
S 102

Builders  
Vickers (Shipbuilding) Ltd, Barrow-in-Furness

Laid down  
22 Jan 1962

Launched  
3 Dec 1963

Commissioned  
18 July 1966

Displacement, tons: 4000 light; 4300 standard; 4800 dived  
Dimensions, feet (metres): 285 x 33.2 x 27.5  
(86.9 x 10.1 x 8.4)

Main machinery: Nuclear; 1 RR PWR 1; 2 English Electric turbines; 15 000 hp (11.2 MW); 1 shaft; 2 diesel alternators; 2200 hp (1.64 MW); 1 motor for emergency drive; 1 auxiliary retractable prop  
Speed, knots: 28 dived  
Complement: 116 (13 officers)

Missiles: SSM: McDonnell Douglas UGM-84B Sub-Harpoon; active radar homing to 130 km (70 nm) at 0.9 Mach; warhead 227 kg.

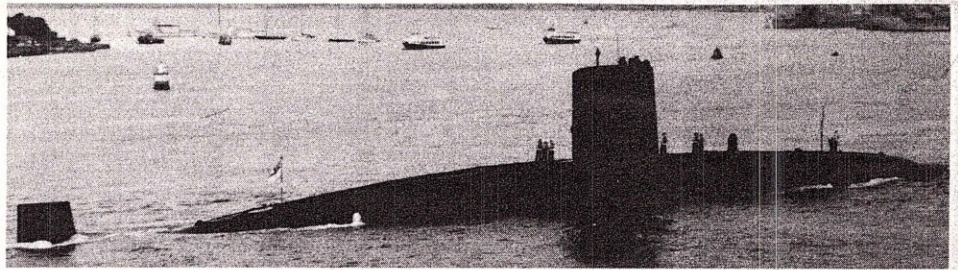
Torpedoes: 6—21 in (533 mm) bow tubes. Marconi Tigerfish Mk 24 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at 35 kts active; 29 km (15.7 nm) at 24 kts passive; warhead 134 kg; 26 reloads. Individual reloading in 15 seconds.

Mines: Can be carried in lieu of torpedoes.

Countermeasures: ESM: Type UAL; radar warning.

Combat data systems: Gresham/Dowty DCB/DCG tactical data handling system.

Radars: Navigation: Kelvin Hughes Type 1006; 1 band.



VALIANT

7/1991, D & B Teague

Sonars: Plessey Type 2020; hull-mounted; active/passive search and attack; low frequency.  
Ferranti Type 2046; towed array; passive search: very low frequency.  
Thomson Sintra Type 2019 PARIS; passive intercept and ranging.

Operational: The first of a class of five and the last to survive the cutbacks in overall SSN numbers. Employed primarily for trials and evaluations possibly until 1994.

## Patrol Submarines (SS)

### 3 + 1 UPHOLDER CLASS (TYPE 2400) (SS)

Name  
UPHOLDER  
UNSEEN  
URSULA  
UNICORN

No  
S 40  
S 41  
S 42  
S 43

Builders  
Vickers Shipbuilding and Engineering Ltd, Barrow-in-Furness  
Cammell Laird, Birkenhead (VSEL)  
Cammell Laird, Birkenhead (VSEL)  
Cammell Laird, Birkenhead (VSEL)

Start date  
Nov 1983  
Jan 1986  
Aug 1987  
Feb 1989

Launched  
2 Dec 1986  
14 Nov 1989  
28 Feb 1991  
16 Apr 1992

Commissioned  
9 June 1990  
7 June 1991  
8 May 1992  
1993

Displacement, tons: 2168 surfaced; 2455 dived  
Dimensions, feet (metres): 230.6 x 25 x 17.7  
(70.3 x 7.6 x 5.5)

Main machinery: Diesel-electric; 2 Paxman Valenta 1600 RPA-200 SZ diesels; 4000 hp (2.98 MW); 2 GEC alternators; 2.8 MW; 1 GEC motor; 5400 hp (4 MW); 1 shaft  
Speed, knots: 12 surfaced; 20 dived; 12 snorting.  
Range, miles: 8000 at 8 kts snorting  
Complement: 47 (7 officers)

Missiles: SSM: McDonnell Douglas UGM-84B Sub-Harpoon; active radar homing to 130 km (70 nm) at 0.9 Mach; warhead 227 kg.

Torpedoes: 6—21 in (533 mm) bow tubes. Marconi Tigerfish Mk 24 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at 35 kts active; 29 km (15.7 nm) at 24 kts passive; warhead 134 kg; 12 reloads. Spearfish in due course. Air turbine pump discharge.

Mines: M Mk 5 carried in lieu of torpedoes.

Countermeasures: Decoys: 2 SSDE launchers.

ESM: Racal Type UAC (being updated to UAP); passive intercept.

Combat data systems: Ferranti-Gresham-Lion DCC tactical data handling system.

Radars: Navigation: Kelvin Hughes Type 1007; 1 band.

Sonars: Thomson Sintra Type 2040; hull-mounted; passive search; medium frequency.

BAe Type 2007; flank array; passive; low frequency.

GEC Avionics Type 2026 or Type 2046; towed array; passive search; very low frequency.

Thomson Sintra Type 2019 PARIS; intercept and passive ranging (to be replaced by Type 2082 in due course).

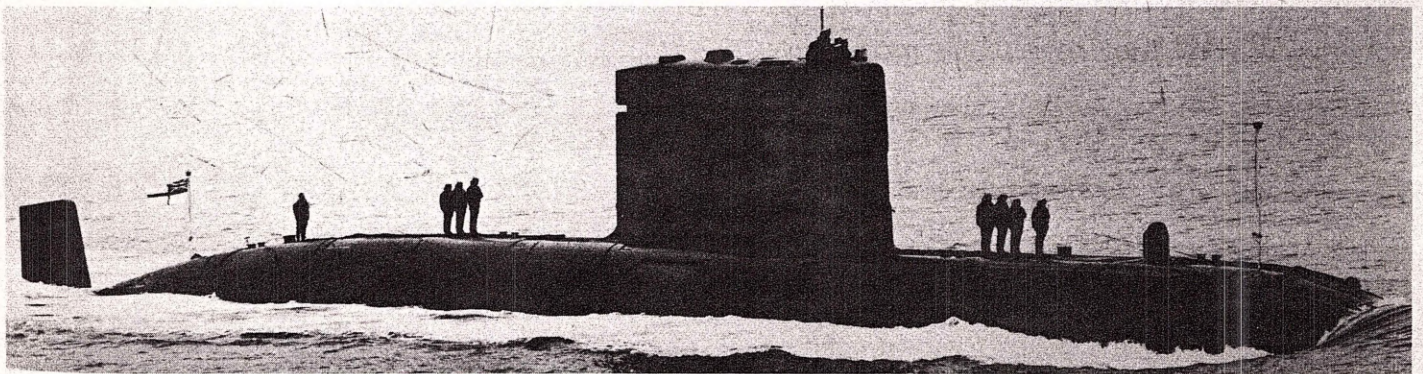
Programmes: The need for the provision of a new class of non-nuclear submarines was acknowledged in the late 1970s and in 1979 the Type 2400 design was first revealed. First boat ordered from Vickers SEL, 2 November 1983. Further three

ordered on 2 January 1986. Plans for four more were dropped in 1990 as part of a cost cutting exercise designed to reduce the diesel submarine strength to four by the mid-1990s. Refit interval is anticipated at seven and a half years.

Modernisation: Sonar suite Type 2076 may be fitted in due course in place of the cancelled Type 2075.

Structure: Single skinned NQ1 high tensile steel hull, tear dropped shape 9:1 ratio, five man lock-out chamber in fin. This is the first time that the Valenta diesel has been fitted in submarines. Fitted with elastomeric acoustic tiles. Diving depth, greater than 200 m (650 ft).

Operational: Endurance, 49 days stores and 90 hours at 3 kts dived. Problems with the torpedo tube discharge system are being rectified; Upholder in 1992, Unseen and Ursula in 1993, Unicorn before commissioning.



UNSEEN

7/1991, W. Sartori

### 3 OBERON CLASS (SS)

Name  
ORACLE  
OPOSSUM  
OPPORTUNE

No  
S 16  
S 19  
S 20

Builders  
Cammell Laird & Co Ltd, Birkenhead  
Cammell Laird & Co Ltd, Birkenhead  
Scotts (Shipbuilding) Co Ltd, Greenock

Laid down  
26 Apr 1960  
21 Dec 1961  
26 Oct 1962

Launched  
26 Sep 1961  
23 May 1963  
14 Feb 1964

Commissioned  
14 Feb 1963  
5 June 1964  
29 Dec 1964

Displacement, tons: 1610 standard; 2030 surfaced; 2410 dived  
Dimensions, feet (metres): 295.2 x 26.5 x 18 (90 x 8.1 x 5.5)  
Main machinery: Diesel-electric; 2 ASR 16 VVS-ASR1 diesels; 3680 hp (2.74 MW); 2 AEI motors; 6000 hp (4.48 MW); 2 shafts  
Speed, knots: 12 surfaced; 17 dived; 10 snorting.  
Range, miles: 9000 at 12 kts surfaced  
Complement: 69 (7 officers)

Torpedoes: 6—21 in (533 mm) bow tubes. Marconi Tigerfish Mk 24 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at 35 kts active; 29 km (15.7 nm) at 24 kts passive; warhead 134 kg; 20 torpedoes. Stern tubes have either been removed or are no longer operational.

Mines: Can be carried in lieu of torpedoes.

Countermeasures: Decoys: 2 SSDE Mk 4.

ESM: MEL Manta UAL; radar warning.

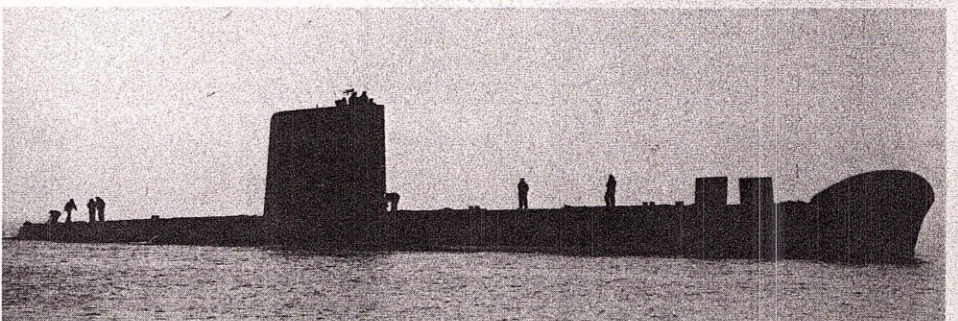
Fire control: Ferranti DCH tactical data handling system. Dual channel fire control.

Radars: Navigation: Kelvin Hughes Type 1006; 1 band.

Sonars: Plessey Type 2051; hull-mounted; passive/active search and attack; medium frequency.

BAC Type 2007; hull-mounted; flank array; passive; long-range; low frequency.

US Type 2024; clip-on towed array.



OPPORTUNE

10/1991, Wright & Logan

Modernisation: The Triton sonar modernisation programme was completed in 1989. Otus (now deleted) did trials to establish the feasibility of fitting Sub-Harpoon but there are no plans to retrofit the class.

Structure: Before and abaft the bridge the superstructure is mainly of glass fibre laminate. Diving depth, 200 m (650 ft).

Operational: All are planned to pay off by 1993 as part of a cost cutting exercise designed to reduce diesel submarine strength to four boats. Orpheus is used as a training hulk in Dolphin.

Sales: A total of 14 of this class were sold abroad, six to Australia, three to Canada, three to Brazil and two to Chile. Olympus to Canada in 1989 as a training hulk.

5 SWIFTSURE CLASS (SSN)

Name	No	Builders	Laid down	Launched	Commissioned
SOVEREIGN	S 108	Vickers (Shipbuilding) Ltd, Barrow-in-Furness	18 Sep 1970	17 Feb 1973	11 July 1974
SUPERB	S 109	Vickers (Shipbuilding) Ltd, Barrow-in-Furness	16 Mar 1972	30 Nov 1974	13 Nov 1976
SCEPTRE	S 104	Vickers (Shipbuilding) Ltd, Barrow-in-Furness	19 Feb 1974	20 Nov 1976	14 Feb 1978
SPARTAN	S 105	Vickers (Shipbuilding) Ltd, Barrow-in-Furness	26 Apr 1976	7 Apr 1978	22 Sep 1979
SPLENDID	S 106	Vickers (Shipbuilding) Ltd, Barrow-in-Furness	23 Nov 1977	5 Oct 1979	21 Mar 1981

**Displacement, tons:** 4000 light; 4400 standard; 4900 dived  
**Dimensions, feet (metres):** 272 x 32.3 x 28  
 (82.9 x 9.8 x 8.5)  
**Main machinery:** Nuclear; 1 RR PWR 1; 2 GEC turbines; 15 000 hp (11.2 MW); 1 shaft; pump jet propulsor; 1 Paxman diesel alternator; 1900 hp (1.42 MW); 1 motor for emergency drive; 1 auxiliary retractable prop  
**Speed, knots:** 30+ dived  
**Complement:** 116 (13 officers)

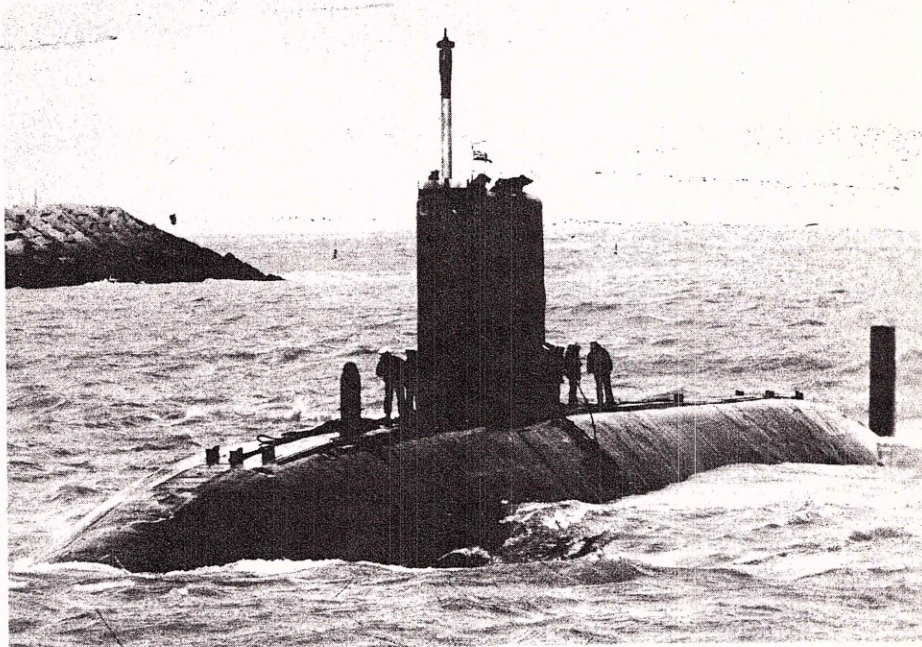
**Missiles:** SSM: McDonnell Douglas UGM-84B Sub-Harpoon; active radar homing to 130 km (70 nm) at 0.9 Mach; warhead 227 kg.  
**Torpedoes:** 5—21 in (533 mm) bow tubes. Marconi Tigerfish Mk 24 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at 35 kts active; 29 km (15.7 nm) at 24 kts passive; warhead 134 kg; 20 reloads. Individual reloading of torpedoes in 15 seconds. To be replaced by Spearfish in mid-1990s.  
**Mines:** Can be carried in lieu of torpedoes.  
**Countermeasures:** Decoys: 2 SSDE Mk 6 launchers.  
**ESM:** Racal UAC (being upgraded to UAP); passive intercept.  
**Combat data systems:** Gresham/Dowty DCB/DCG tactical data handling system. Dowty Sema SMCS after refit.  
**Radars:** Navigation; Kelvin Hughes Type 1006; I band.  
**Sonars:** AUWE Type 2001 or Plessey Type 2020 or Marconi/Plessey Type 2074; hull-mounted; active/passive search and attack; low frequency.  
 BAC Type 2007; hull-mounted; flank array; passive; low frequency.  
 Ferranti Type 2046; towed array; passive search; very low frequency.  
 Thomson Sintra Type 2019 PARIS; passive intercept and ranging (to be replaced by 2082 in due course).

**Programmes:** *Sovereign* ordered 16 May 1969; *Superb*, 20 May 1970; *Sceptre*, 1 Nov 1971; *Spartan*, 7 Feb 1973; *Splendid*, 26 May 1976.

**Modernisation:** *Sceptre* finished refit in 1987, *Spartan* in 1989, and *Splendid* in 1992, each fitted with a PWR 1 Core Z giving a 12 year life cycle although refits/refuel cycles will remain at eight to nine year intervals. Other improvements included acoustic elastomeric tiles, new sonar 2020 processing equipment and improved decoys. Others of the class to follow some with Marconi/Plessey 2074 sonar instead of 2020 to replace Type 2001. Spearfish torpedoes will also be fitted in the mid-1990s.

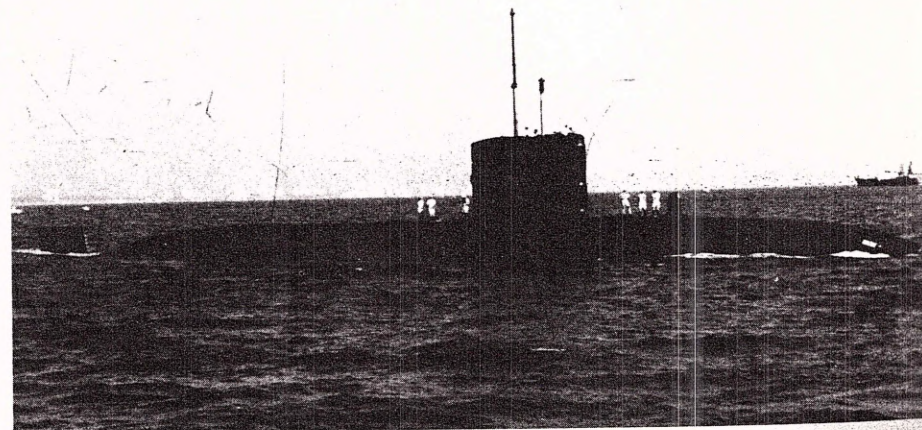
**Structure:** Compared with the Valiant class submarines these are slightly shorter with a fuller form; the fore-planes set further forward, one less torpedo tube and with a deeper diving depth and faster. The pressure hull in the Swiftsure class maintains its diameter for much greater length than previous classes. Control gear by MacTaggart, Scott & Co Ltd for: attack and search periscopes, snort induction and exhaust, radar and ESM masts, ALK buoy. The forward hydroplanes house within the casing.

**Operational:** All either have moved, or will move on completion of refit, to the Third Submarine Squadron. As a result of budget cuts *Swiftsure* paid off in 1992 after less than 20 years' service.



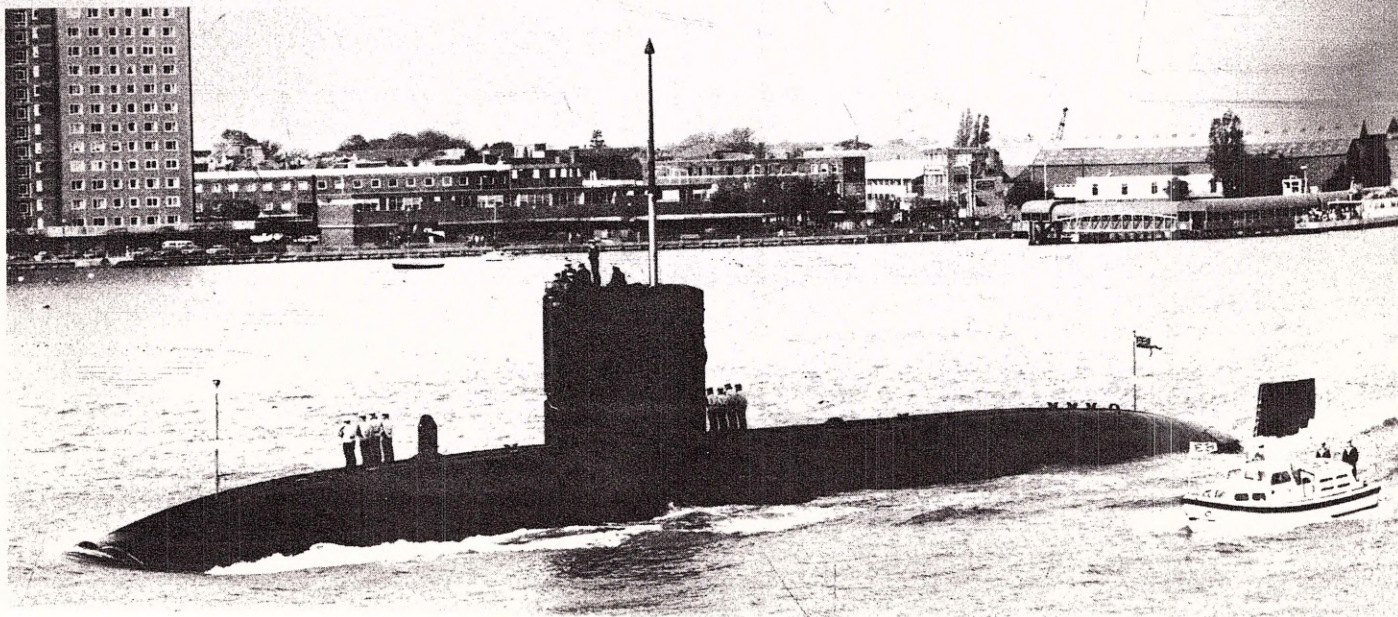
SWIFTSURE

3/1989, van Ginderen Collection



SCEPTRE

4/1988, Giorgio An



## Attack Submarines (SSN)

**Notes:** (1) In early 1987 Vickers SEL was given a contract to carry out design work for the W class (SSN 20) with the aim of ordering the first of the new class in 1990. Four years later in August 1991 Vickers were again invited to tender but this time for a studies contract for a design "based on the development, with minimum change, of the existing Trafalgar class", the last of which was ordered on 3 January 1986. The first of this Batch 2 Trafalgar class is unlikely to be ordered until 1994 with an in-service date of 2001, which means a gap of 10 years between the commissioning of the last of the Trafalgars and the first of its successors.

(2) As pennant numbers are never displayed and rarely used class lists are in order of completion.

### 7 TRAFALGAR CLASS (SSN)

Name	No	Builders	Laid down	Launched	Commissioned
TRAFALGAR	S 107	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1979	1 July 1981	27 May 1983
TURBULENT	S 87	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1980	1 Dec 1982	28 Apr 1984
TIRELESS	S 88	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1981	17 Mar 1984	5 Oct 1985
TORBAY	S 90	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1982	8 Mar 1985	7 Feb 1987
TRENCHANT	S 91	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1984	3 Nov 1986	14 Jan 1989
TALENT	S 92	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1986	15 Apr 1988	12 May 1990
TRIUMPH	S 93	Vickers Shipbuilding & Engineering Ltd, Barrow-in-Furness	1987	16 Feb 1991	12 Oct 1991

**Displacement, tons:** 4700 surfaced; 5208 dived

**Dimensions, feet (metres):** 280.1 × 32.1 × 31.2  
(85.4 × 9.8 × 9.5)

**Main machinery:** Nuclear; 1 RR PWR 1; 2 GEC turbines; 15 000 hp (11.2 MW); 1 shaft; pump jet propulsor; 2 Paxman diesel alternators; 2800 hp (2.09 MW); 1 motor for emergency drive; 1 auxiliary retractable prop

**Speed, knots:** 32 dived

**Complement:** 97 (12 officers)

**Missiles:** SSM: McDonnell Douglas UGM-84B Sub-Harpoon; active radar homing to 130 km (70 nm) at 0.9 Mach; warhead 227 kg.

**Torpedoes:** 5—21 in (533 mm) bow tubes. Marconi Spearfish; wire-guided; active/passive homing to 65 km (35 nm) at 60 kts; warhead directed energy. Marconi Tigerfish Mk 24 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at 35 kts active; 29 km (15.7 nm) at 24 kts passive; warhead 134 kg; 20 reloads.

**Mines:** Can be carried in lieu of torpedoes.

**Countermeasures:** Decoys: 2 SSDE Mk 8 launchers.

**ESM:** Racal UAC/CXA (being upgraded to UAP); passive intercept.

**Combat data systems:** Gresham/Dowty DCB tactical data handling system. Dowty Sema SMCS after refit.

**Fire control:** Dowty tactical control system.

**Radars:** Navigation: Kelvin Hughes Type 1006 or Type 1007; 1 band.

**Sonars:** BAe Type 2007 AC or Marconi 2072; hull-mounted; flank array; passive; low frequency.

Plessey Type 2020 or Marconi/Plessey 2074; hull-mounted; passive/active search and attack; low frequency.

GEC Avionics Type 2026 or Ferranti Type 2046 or Marconi/Plessey 2057; towed array; passive search; very low frequency.

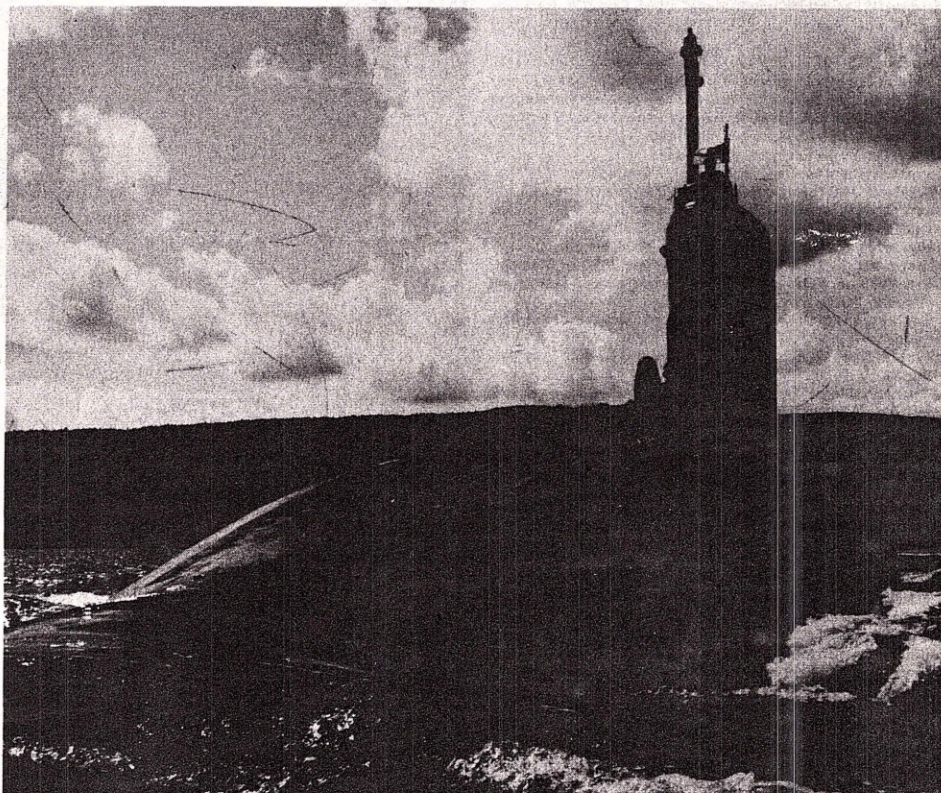
Thomson Sintra Type 2019 PARIS; passive intercept and ranging (to be replaced by 2082 in due course).

**Programmes:** The first of an improved class of Fleet Submarines was ordered in September 1977. *Turbulent* ordered 28 July 1978; *Tireless* 5 July 1979; *Torbay* 26 June 1981; *Trenchant* 22 March 1983; *Talent* 10 September 1984; *Triumph* 3 January 1986.

**Modernisation:** Trials have been done on Sonar Type 2057 which has a reliable wet end for the towed array sonar.

*Turbulent* has a hump on the after casing under which there is a small winch. Type 1006 radar is to be replaced by Type 1007. All to be updated with Type 2076 sonar system and integrated countermeasures. 2076 includes Type 2074 and Type 2046.

**Structure:** Designed to be considerably quieter than previous submarines. The pressure hull and outer surfaces are covered

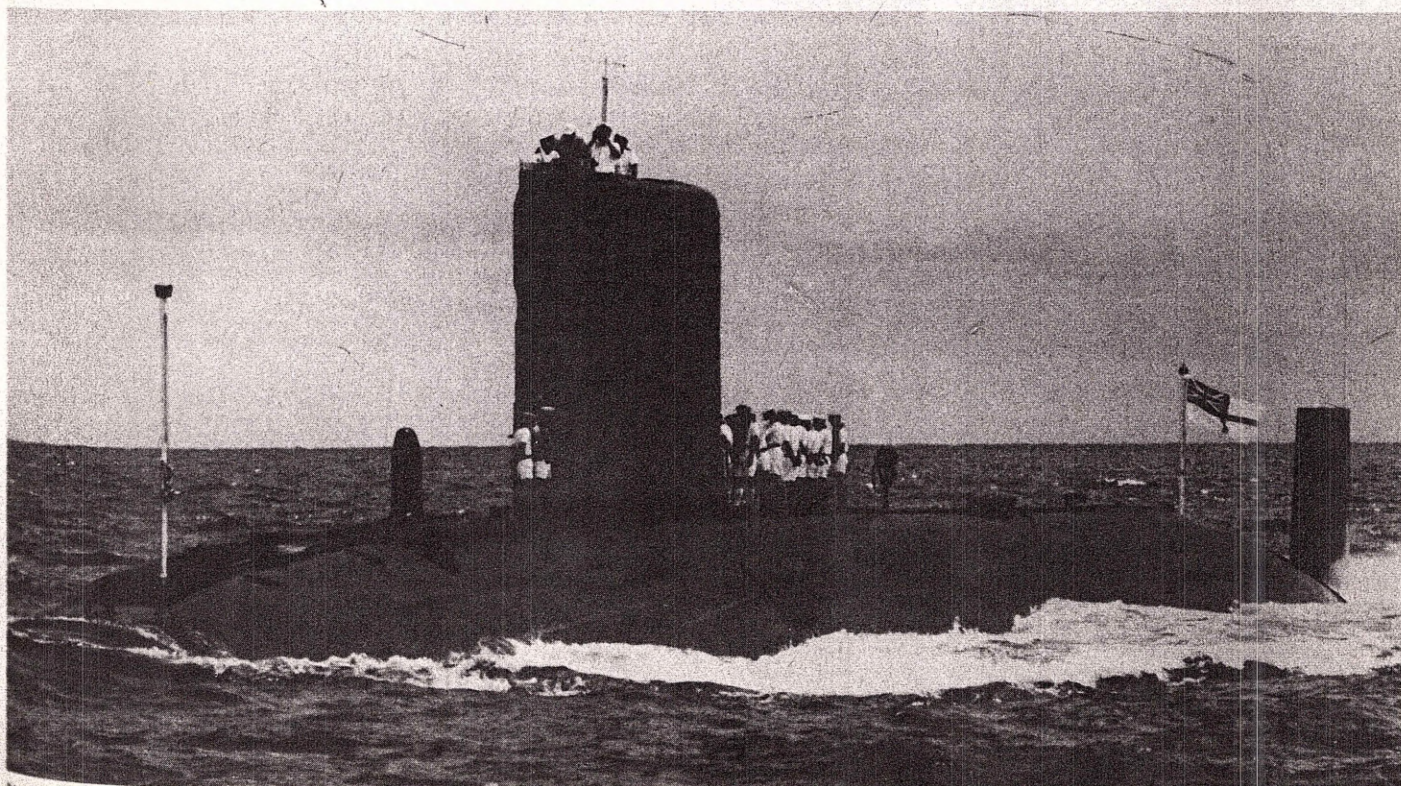


TRAFALGAR Class

1991

with conformal anechoic noise reduction coatings. Other improvements include speed and endurance. Retractable forward hydroplanes and strengthened fins for under ice operations. Diving depth in excess of 300 m (985 ft).

**Operational:** *Trafalgar* is the trials submarine for Spearfish which started full production in 1992. All of the class belong to the Second Submarine Squadron.



TALENT

9/1991. Giorgio Arra



## 4 RESOLUTION CLASS (SSBN)

Name	No	Builders	Laid down	Launched	Commissioned
RESOLUTION	S 22	Vickers (Shipbuilding), Barrow-in-Furness	26 Feb 1964	15 Sep 1966	2 Oct 1967
REPULSE	S 23	Vickers (Shipbuilding), Barrow-in-Furness	12 Mar 1965	4 Nov 1967	28 Sep 1968
RENOWN	S 26	Cammell Laird & Co, Birkenhead	25 June 1964	25 Feb 1967	15 Nov 1968
REVENGE	S 27	Cammell Laird & Co, Birkenhead	19 May 1965	15 Mar 1968	4 Dec 1969

Displacement, tons: 7600 surfaced; 8500 dived  
 Dimensions, feet (metres): 425 x 33 x 30  
 (129.5 x 10.1 x 9.1)

Main machinery: Nuclear; 1 RR PWR 1; 2 English Electric turbines; 15 000 hp (11.2 MW); 1 shaft; 2 diesel alternators; 2200 hp (1.64 MW); 1 motor for emergency drive; 1 auxiliary retractable prop

Speed, knots: 20 surfaced; 25 dived  
 Complement: 143 (13 officers) (2 crews)

Missiles: SLBM: 16 Lockheed Polaris A3 two stage solid fuel rocket; inertial guidance to 4630 km (2500 nm); each missile carries 3 MRV heads each of 200 kT; Chevaline nuclear warheads (fitted in *Renown* 1982, *Resolution* 1984, *Repulse* 1986, *Revenge* 1988); cep 900 m.

Torpedoes: 6—21 in (533 mm) bow tubes. Marconi Tigerfish Mk 24 Mod 2; wire-guided; active/passive homing to 13 km (7 nm) at 35 kts active; 29 km (15.7 nm) at 24 kts passive; warhead 134 kg.

Countermeasures: Decoys: 2 SSDE launchers.

ESM: MEL UA 11/12; passive intercept.

Combat data systems: Gresham/Dowty DCB data handling system.

Fire control: Dowty tactical control system.

Radars: Navigation: Kelvin Hughes Type 1006; I band.

Sonars: Plessey Type 2001; hull-mounted; active/passive; low frequency.

BAe Type 2007; hull-mounted; flank array; passive; long range; low frequency.

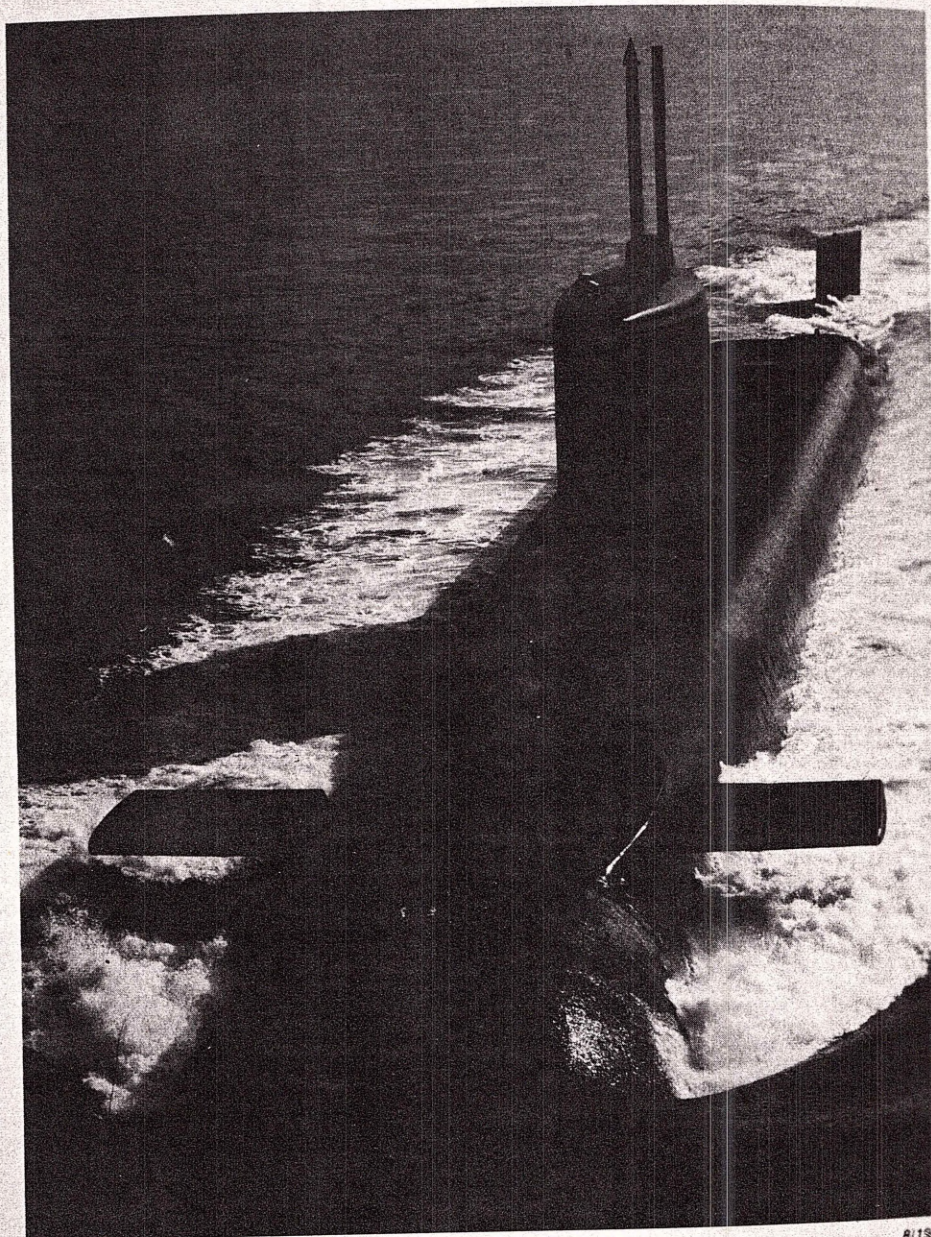
Ferranti Type 2046; towed array; passive search; very low frequency.

Thomson Sintra Type 2019 PARIS (to be replaced by Type 2082); passive intercept and ranging.

Programmes: In February 1963 it was stated that it was intended to order four or five 7000 ton nuclear powered submarines, each to carry 16 Polaris missiles, and it was planned that the first would be on patrol in 1968. Their hulls and machinery would be of British design. As well as building two submarines Vickers (Shipbuilding) would give lead yard service to the builder of the other two. Four Polaris submarines were in fact ordered in May 1963. The plan to build a fifth Polaris submarine was cancelled on 15 February 1965. Britain's first SSBN, *Resolution*, put to sea on 22 June 1967.

Modernisation: The Chevaline warheads were substituted for the original Polaris missile payloads in a rolling programme between 1982 and 1988. The warhead is similar but it is supported by 'a variety of penetration aids' to overcome anti-ballistic missile (ABM) defences.

Operational: Since early 1969 there has been at least one of these submarines at immediate readiness to fire its inter-continental ballistic missiles. Each submarine, which has accommodation for 19 officers and 135 ratings, is manned on a two-crew basis, in order to get maximum operational time at sea. It has been reported that the Polaris stockpile is some 70 missiles with 45-50 warheads. First one of the class to pay off in 1993 then sequentially as the Vanguard class commissions.



RESOLUTION

8/1989

