



America's Navy

U.S Naval Ships, 1955 - 2020

edited by

*Larry Bond, Chris Carlson,
Peter Grining, & Andy Doty*



June 2021 Printing

America's Navy

The United States Navy and Coast Guard 1955 - Present Day

edited by

Larry Bond, Chris Carlson,
Peter Grining, and Andy Doty

published by

Admiralty Trilogy Group

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Harpoon is a registered Trademark by Larry Bond and Christopher Carlson for their modern tactical naval wargame. The *Admiralty Trilogy* is a registered Trademark by Larry Bond, Christopher Carlson, Edward Kettler, and Michael Harris for their Twentieth-Century tactical naval gaming system.

The designers of *Harpoon* are prepared to answer questions about the game system. They can be reached in care of adtr-group@aol.com. Visit their website at www.admiraltytrilogy.com.

This version of *America's Navy* June 2021 printing contains all changes and corrections through 26 October 2021.

Cover: *Harry S. Truman* Carrier Strike Group participates in a strait exercise in the Atlantic Ocean on April 7, 2019 (US Navy).

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Acknowledgements: Thanks to Jim Baker, Pat Hreachmack, Kevin Martell, Dave Schueler, Steve Thorne, and Jay Wissmann for their careful review.

The 2012 Damage Point Standard: *America's Navy* uses the "2012 Standard" to calculate a ship's damage points. This method, described in the April 2012 issue of the *Naval SITREP* (hence the name) matches historical results more closely than the older "2006 Standard" used in older supplements.

If you are using ship data from more than one *Admiralty Trilogy* publication, make sure that the damage points have all been calculated using the 2012 Standard.

Annex Notes: The information on the platforms, weapons, and sensors in this annex has been standardized so that it is compatible and consistent with all *Admiralty Trilogy* games. Equipment that was used in more than one era will have the same statistics in all games. Information in this Annex is compatible with *Harpoon* 5th edition.

The Annex designations are standardized for all four *Admiralty Trilogy* games: *Dawn of the Battleship*, *Fear God & Dread Nought*, *Command at Sea*, and *Harpoon*. Gaps in the sequence are caused by annexes that are not applicable to that era or product.

If there is information in another *Trilogy* publication that conflicts with the data printed here, use the information in the product with the newest copyright date, since new information and corrections can change statistics. If you have a question about the conflict, or about any other data listed, please contact us.

Except for Annex A, systems are listed in their annexes alphabetically, first by country, then by name. The ships in Annex A are listed in traditional order, with aircraft carriers first, then submarines, followed by major combatants, minor combatants, amphibious ships, mine warfare craft, auxiliaries, then civilian vessels. An alphabetical list of ships by class name is provided, beginning on the next page.

Systems listed in *italics* never entered service. They existed only as hypothetical designs, in prototype or developmental form. Ships with a year in parentheses following their name have been radically altered since they entered service, and were operational in their new configuration in the listed year.

Abbreviations

Annex Y lists all the ship type abbreviations, e.g., "CV" for aircraft carrier.

The abbreviations for the ship weapon arcs are described in section 2.2 of the rules.

Other abbreviations used in this annex are:

ABL	Armored Box Launcher
ACINT	Acoustic Intelligence
ACM	Acoustic Countermeasures
AMDS	Advanced Mine Detection Sonar
ASDS	Advanced Swimmer Delivery System
Blk	Block
BMD	Ballistic Missile Defense
BPDMS	Basic Point Defense Missile System
CEC	Cooperative Engagement Capability
COMINT	Communications Intelligence
ELINT	Electronic Intelligence
ESSM	Evolved Sea Sparrow Missile
FCS	Fire Control System
fl	Full load displacement
FRAM	Fleet Rehabilitation and Modernization
GFCS	Gunfire Control System
LCAC	Landing Craft, Air Cushion
lt, ltshp	Lightship displacement
MCM	Mine Countermeasures
MFCS	Missile Fire Control System
Mk	Mark
MSC	Military Sealift Command
MSTS	Military Sea Transportation Service (later renamed MSC)
NRF	Naval Reserve Force
NTDS	Naval Tactical Data System
NTU	New Threat Upgrade
RAM	Rolling Airframe Missile
RAST	(Helicopter) Recovery Assist, Secure & Transit
SDV	Swimmer Delivery Vehicle
SIGINT	Signals Intelligence
SLBM	Submarine-Launched Ballistic Missile
SLEP	Service Life Extension Program
SOF	Special Operations Forces
std	Standard Displacement
subm	Submerged Displacement
TACTOM	Tactical Tomahawk
TAS	Target Acquisition System
TBM	Tactical Ballistic Missile
TT	Torpedo Tube
VLS	Vertical Launch System
WAA	Wide-Aperture Array

US ELECTRONIC DESIGNATION SYSTEM

All US and some Western electronic systems use a designation system that describes the equipment with a three-letter code. A typical example is the surface ship search radar listed in Annex J, the SPS-10

SPS-10

S: The first letter stands for the platform carrying the equipment:

A: piloted aircraft	P: portable
B: submarine	S: surface ship
C: pilotless carrier	T: ground transportable
F: fixed ground	P: man-portable
G: general ground	U: multi-platform
K: amphibious	V: ground vehicular
M: ground mobile	W: surface ship or sub use

P: The second letter is the general type of equipment

A: invisible light or IR	N: sound in air
C: carrier	P: radar
D: radiac	Q: sonar
G: telegraph or teletype	R: radio
I: interphone, public addr.	S: special or combination
J: electromechanical or inertial wire covered	T: telephone
K: telemetry	V: visual and visible light
L: Countermeasures	W: weapons control
M: meteorological	X: facsimile or TV
	Y: data processing

S: the third letter is the function of the equipment

B: bombing	Q: multipurpose or special purpose
C: communications	R: receiver or passive detector
D: DF or surveillance	S: search
E: ejector	T: transmitter
G: fire control	W: automatic or remote control
H: recording, reproduction	X: IFF or recognition
K: computing	Y: surveillance & control
M: maintenance & test	
N: navigation	

SPS thus means surface ship radar used for search. "**-10**" stands for the tenth surface ship search radar designated under this system (and the office copier is an "FJH!").

Other examples:

BQQ-2 is a submarine sonar with several functions.
SAR-8 is a surface ship IR passive detector.
AWG-9 is an aircraft weapons control system.
SPY-1 is a surface ship radar used for surveillance and control.

Technically, all electronic designations are supposed to start with "AN/," for example, "AN/WLR-1." The letters stand for "Army-Navy," indicating that this is a Joint system.

A "(V)" with a number at the end, like "SLQ-32(V)3" denotes a version of the basic equipment.

Alphabetical Index of Ship Classes

Ability	A-50	Bunker Hill (CMP)	A-24	Drydeck Shelter	A-21
Acme	A-51				
Active (125')	A-62	California	A-22	Empire State	A-65
Admiral W. M. Callaghan	A-67	Campbell (327') (1947)	A-61	Enterprise	A-6
Aggressive	A-51	Cape Banker	A-64	Enterprise (1982)	A-5
Agile	A-51	Cape Carthage	A-64	Essex (CVS)	A-10
Air-Capable Spruance	A-32	Cape Class (95') A-type	A-62	Essex (SCB-27A)	A-10
Albany	A-26	Cape Class (95') B-type	A-62	Essex (SCB-27C)	A-9
Albatross	A-50	Cape Class (95') C-type	A-62	Essex LPH	A-46
Algol	A-67	Cape Commander	A-65	Ethan Allen SSBN	A-11
Allen M. Sumner	A-36	Cape D Class	A-65	Ethan Allen SSN	A-13
Allen M. Sumner FRAM II	A-36	Cape E Class	A-65	Evans	A-39
Altair	A-67	Cape F Class	A-68	Ex-UK Lyness	A-52
America (ii)	A-44	Cape H Class	A-66	Ex-USN Casco (311')	A-61
American Cormorant	A-64	Cape I Class	A-66		
Anchorage	A-47	Cape K Class	A-66	Falcon	A-50
Andromeda	A-55	Cape L Class	A-66	Famous	A-60
Argo class (165')	A-61	Cape M Class	A-68	Flagstaff	A-41
Arleigh Burke	A-29	Cape O Class	A-66	Fleet Snorkel	A-19
Arleigh Burke Flight I, II	A-30	Cape R Class	A-66	Fleet Submarine	A-18
Arleigh Burke Flight IIA	A-29	Cape T Class	A-66	Fletcher (1950s)	A-36
Arleigh Burke Flight IIA Restart	A-29	Cape V Class	A-66	Fletcher (DASH)	A-35
Arleigh Burke Flight III	A-28	Cape W Class	A-67	Fletcher DDE	A-36
Arlington	A-53	Capella	A-67	Fletcher FRAM II	A-34
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Asheville	A-41	Casa Grande (1950s)	A-48	Forrest Sherman	A-35
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Ashtabula	A-57	CCA	A-43	Forrestal	A-7
ATB Galveston	A-65	CCH Mk1	A-43	Freedom	A-39
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Avenger	A-50	Charles F. Adams	A-32		
		Charleston	A-45	Garcia	A-38
Bainbridge	A-23	Charleston	A-55	Gato SS	A-17
Balao APSS	A-20	Cherokee/Navajo class	A-62	Gato APSS	A-20
Balao SSG	A-17	Cimarron (i)	A-57	Gato SSR	A-20
Balao SSR	A-19	Cimarron (ii)	A-56	Gearing (1950s)	A-35
Ballistic Missile Defense Ship	A-24	Claud Jones	A-38	Gearing DDE	A-35
Balsam (180')	A-63	Cleveland (Talos Cmd)	A-27	Gearing FRAM I	A-34
Baltimore	A-27	Cleveland (Talos)	A-28	Gearing FRAM II	A-34
Banner	A-53	Cleveland (Terrier Cmd)	A-28	Gem State	A-67
Barbel	A-17	Cleveland (Terrier)	A-28	General Daniel L. Sultan	A-58
Barnegat	A-60	Comet	A-64	General Frank E. Besson, Jr.	A-68
Barracuda (ex-K class)	A-18	Commencement Bay	A-56	General G.O. Squier	A-58
Barrett	A-58	Constitution	A-39	General John Pope	A-58
Bayfield	A-59	Coontz	A-31	George Washington	A-12
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Belmont	A-53	Coral Sea (1985)	A-9	Glacier	A-63
Bennett	A-64	Cornhusker State	A-67	Glenard P. Lipscomb	A-14
Berthoff	A-60	Cove	A-50	Glover	A-54
Bittern	A-50	Crosley	A-59	Gordon	A-54
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Blue Ridge	A-53	Cyclone	A-40	Growler	A-17
Bluebird	A-50			Guardian	A-60
Bob Hope	A-54	Darter	A-18	Guppy IA	A-19
Bobo	A-64	Dash	A-51	Guppy II	A-19
Bogue	A-56	DCS	A-20	Guppy IIA	A-18
Bolster	A-59	De Soto County	A-48	Guppy III	A-17
Boston	A-26	Dealey	A-39	Gyatt	A-32
Bronstein	A-38	Decatur	A-31		
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Alphabetical Index of Ship Classes (continued)

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Haskell	A-59	Meteor	A-64	Seafox	A-44
Haven	A-54	Midway (1982)	A-9	Seawolf (i)	A-16
Henry J. Kaiser	A-56	Midway (SCB-110)	A-9	Seawolf (ii)	A-13
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Howard O. Lorenzen	A-53	Mitscher	A-32	Shenandoah/Potomac	A-56
Hunley	A-59	Mitscher (1968)	A-31	Shughart	A-54
		Mohegan	A-63	Skate	A-16
Impeccable	A-53	Montford Point	A-49	Skipjack	A-15
Improved Los Angeles	A-13	Mount McKinley	A-42	SL7	A-54
Improved Spruance	A-33	Mount McKinley	A-53	SLNC Goodwill	A-65
Independence	A-40	MSB 5	A-50	SLNC Pax	A-65
Iowa (1950)	A-22	MSL Mk1 - 4	A-50	Spearhead (i)	A-49
Iowa (1967)	A-22	MSV(L)	A-68	Spearhead (ii)	A-48
Iowa (1982)	A-21			Spruance	A-33
Iowa Ballistic Missile		N arwhal	A-14	SSC	A-41
Monitor (Sep 58)	A-21	Nautilus	A-16	SSG Robert T. Kuroda	A-68
Iowa Ballistic Missile		Neosho	A-57	Stalwart	A-53
Monitor II (1956)	A-21	Newport	A-48	Storis (230')	A-62
Iowa Commando/		Nimitz	A-5	Strike Cruiser	A-22
Heavy Assault Ship	A-41	Norfolk	A-33	Sturgeon	A-15
Iowa Guided Missile Battleship	A-21	Northampton	A-28	Suamico	A-57
Island class (110')	A-62	NSW RIB	A-44	Supply	A-57
Iwo Jima	A-46			Suribachi	A-52
		O. H. Perry	A-36	Swift (i)	A-41
James E. Robinson	A-55	Ocean Trader	A-69	Swift (ii)	A-49
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		Osprey	A-49	Tarawa	A-44
K ennebec	A-57	Owasco (255')	A-61	Terrebone Parish	A-48
Kidd	A-31			Theodore Roosevelt	A-4
Kilauea	A-51	P age	A-64	Thomaston	A-47
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Klondike	A-51	Patrol Frigate 4921	A-37	Tolland	A-55
Knox	A-38	Paul Revere	A-59	Triton	A-16
Kocak	A-64	PB MkIII (Sea Spectre)	A-44	Truxtun	A-23
		PBR	A-40	Tucumcari	A-41
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LCAC	A-42	Permit	A-15	Tullibee	A-15
LCM(6)	A-42	Petersburg	A-67		
LCM(8)	A-42	Petrochem Producer	A-65	U nited States	A-9
LCPL	A-42	Point Class (82')	A-62		
LCU-1466	A-43	Potomac	A-65	V ictorious	A-54
LCU-1610	A-43			Virginia (i)	A-22
LCU-1700	A-43	R ainier	A-52	Virginia (ii)	A-12
LCU-2000	A-68	Raleigh	A-46		
LCVP	A-43	Redwing	A-50	W asp	A-45
Leahy	A-26	Reliance (210')	A-61	Watson	A-55
Lewis and Clark	A-55	Rigel	A-52	Wheat	A-63
Long Beach	A-24	Ronald Reagan	A-4	Whidbey Island	A-47
Long Beach (1983)	A-23			Wichita	A-58
Los Angeles	A-14	S acramento	A-58	Wind class	A-63
		Safeguard	A-59	Worcester	A-28
M 80 Stiletto	A-43	Sailfish	A-19	Wrangell	A-52
Maersk Peary	A-65	Saipan	A-10	Wright	A-68
Mark V Pegasus	A-44	Samuel Gompers	A-51		
Mark VI	A-40	San Antonio	A-45	Y ellowstone	A-51
Mars	A-52	SDV MkVII	A-21		
Martin	A-63	SDV MkVIII Mod 0/1	A-20	Z umwalt	A-29

Annex A - Ships

UNITED STATES OF AMERICA

Air groups for each aviation ship, listing the squadrons with the number and type of planes each carrier embarked during its active service, are listed in Annex R.

Gerald R. Ford

Displacement: 101600 fl
Size Class: A/Large
Propulsion: Nuclear
Electrn Cnt: 4th Gen J&D
Signature: Large/Loud
Weapons: 4 EMALS Catapults (2 bow, 2 waist), 3 Elevators, Arresting Gear
 SW/P/PQ&SQ(R)3 Mk15 Phalanx Blk IB (3@9.5A)
 PW/SA(21)2 RIM-116 RAM w/21 msls
 SW/PA(8)2 Mk29 w/8 RIM-162 ESSM Blk I //SPY-3 or SPY-6

Sensors: SPY-3, SPY-4, SPS-73 (Ford).
 SPY-6(V)3 EASR, SPS-73 (JFK and after)
 Link 11, Link 16, USG-2B CEC

Remarks:

Gerald R. Ford (CVN 78), *John F. Kennedy* (CVN 79), *Enterprise* (ii) (CVN 80), *Doris Miller* (CVN 81), CVN 82. Dual flight deck.
 • Jul 18: *Ford* begins post-shakedown availability. First deployment planned for 2023 or 2024.

Damage & Speed Breakdown:

Dam Pts:	0	417	834	1250	1500	1667
Surf Speed:	32	24	16	8	0	Sinks

CVN

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C

D/Intl

D

J

J

L

Ronald Reagan

Displacement: 101400 fl
Size Class: A/Large
Propulsion: Nuclear
Electrn Cnt: 4th Gen J&D
Signature: Large/Loud
Weapons: 4 Catapults (2 bow, 2 waist), 4 Elevators, Arresting Gear
 PA/SW(8)2 Mk29 w/8 RIM-7P//PS/PA/SA Mk95
 PW/SA(21)2 Mk144 w/21 RIM-116 RAM
 PA/SW(R)2 Mk15 Phalanx Blk IB (2@9.5A)

Sensors: SPS-48E, SPS-49A(V)1, SPS-73, SPS-67(V)3, SPQ-9B
 Link 4A, Link 11, Link 16, USG-2A CEC, ARQ-59 Hawklink

Remarks:

Ronald Reagan (CVN-76), *George H.W. Bush* (CVN-77). Dual flight deck. Kevlar armor, CHP armor rating is 2 for Hangar, Engineering, Sensors, CIC, 3 for Bridge. Fitted with Tomahawk planning cell.
 • 2008+: Fitted with 3rd Gen T acoustic countermeasures.
 • Jun 09 - Jan 10: *Bush* fitted with RIM-162 replacing RIM-7P.
 • Jan 12 - Mar 13: *Reagan* fitted with PW/SW/PQ&SA(1)3 Mk38 Mod 2 25mm//4 EO GFC. Probably fitted with RIM-162 ESSM replacing RIM-7P.
 • Feb - Nov 14: *Bush* deployment with prototype torpedo hardkill system with 10 CAT anti-torpedo torpedoes. Probably removed after deployment.
 • Feb 19 - Mid-21: *Bush* refit, details unknown.

Damage & Speed Breakdown:

Dam Pts:	0	416	833	1249	1499	1665
Surf Speed:	32	24	16	8	0	Sinks

CVN

--

D

D/Intl

C

J

L

Theodore Roosevelt

Displacement: 81600 std
Size Class: A/Large
Propulsion: Nuclear

In Class: 5
In Service: 1986
Crew: 6286

CVN

Electrn Cnt: 3rd Gen J&D**Signature:** Large/Loud**Weapons:**

4 Catapults (2 bow, 2 waist), 4 Elevators, Arresting Gear
 PW/PA/PQ&SQ(S(R)4 Mk15 Phalanx Blk I (4@9.5A)
 PA/SW/SA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7M/6 Mk95
Sensors: SPS-48C, SPS-49(V)5, SPS-64, SPS-67(V)2, SPS-73, Mk23 TASJ
 Furuno 900 (use Furuno series)
 Link 4/4A, Link 11

Remarks:

Dual flight deck. Kevlar armor, CHP armor rating is 2 for Hangar, Engineering, Sensors, CIC. *G. Washington* and later have improved topside protection (Add CHP armor rating 3 for Bridge).

Acoustic Cnt: 2nd Gen T**Armor Rating:** 0/5/315**Cbt Sys:** Gen 5 Automatic

--
 C
 D
 J/Japan
 L

Theodore Roosevelt (CVN-71)

- Completed with 2nd Gen J&D, 2nd Gen ES, Mk15 Phalanx Blk 0, AA rating 4@6.3A. Not fitted with acoustic countermeasures.
- 1987: Fitted with 2nd Gen towed acoustic countermeasures.
- 1990: Estimated RIM-7P replaced RIM-7M.
- 14 Oct 96: Collision with USS *Leyte Gulf*, minor damage to stern.
- Nov 95 - Mar 96: PA Phalanx removed, remaining Phalanx upgraded to Blk I some time in this period, AA rating 3@9.5A.
- Jul 97 - Jul 98: Fitted with 3rd Gen J&D, 3rd Gen ES.
- Jan - Jul 00: Fitted with Link 16, ARQ-44 Hawklink.
- Mar - Nov 07: SA Mk29//2 Mk95 and PW Mk15 Phalanx replaced by PW/SA(21)2 Mk144 w/21 RIM-116A. AA rating 2@9.5A.
- Aug 09 - Aug 13: Fitted with Ship Self-Defense System, combat system Gen 6 Automatic, USG-2A CEC data link, ARQ-59 Hawklink replaces ARQ-44. Mk23 TAS replaced by SPQ-9B, RIM-7 in remaining two Mk29 launchers replaced by RIM-162 ESSM, estimated 3rd Gen acoustic countermeasures.
- Mar - Nov 15: Prototype torpedo hardkill system fitted for deployment only with 8 CAT anti-torpedo torpedoes.
- Sep 21 - Dec 22: Refit with updates to self-defense system, Mk38 25mm added, and provision for F-35C

Abraham Lincoln (CVN-72)

- Completed with Sperry Raster vice Furuno 900 (use Furuno series), SPS-72 vice SPS-73.
- 1990: Estimated RIM-7P replaced RIM-7M.
- 5 Jun 95: Collision with USS *Sacramento*, minor damage.
- Nov 95 - Dec 96: SPS-48C replaced by SPS-48E.
- 2000: Fitted with Link 16 data link, ARQ-44 Hawklink.
- Feb - Jul 02: SPS-64 replaced by SPS-73.
- Aug 06 - Jun 07: SA Mk29//2 Mk95 and PW Mk15 Phalanx replaced by PW/SA(21)2 Mk144 w/21 RIM-116A. AA rating 3@9.5A.
- Mar 13 - May 17: Fitted with SSDS, combat system Gen 6 Automatic and USG-2B CEC data link, ARQ-59 Hawklink replaces ARQ-44. RIM-7 in remaining two Mk29 launchers replaced by RIM-162 ESSM. SPQ-9B replaces Mk23 TAS. F-35 capability added.

George Washington (CVN-73)

- Probably completed with Mk29 carrying RIM-7P vice -7M.
- 2000: Fitted with Link 16, ARQ-44 Hawklink data links.
- Jan - Dec 05: SA Mk29//2 Mk95 and PW Mk15 Phalanx replaced by PW/SA(21)2 Mk144 w/21 RIM-116A. PQ&SQ Mk15 Phalanx also removed. AA rating 2@9.5A. Mk23 TAS replaced by SPQ-9B.
- Aug 06 - Aug 07: Fitted with Ship Self-Defense System, combat system Gen 6 Automatic, USG-2B CEC data link, ARQ-59 Hawklink replaces ARQ-44. SPS-48C by SPS-48E, SPS-49(V)5 by SPS-49A(V)1 Phalanx upgraded to Blk 1B, no change to rating.
- 22 May 08: Fire in auxiliary spaces, injured 37 crew, required 3 months' repair.
- 2010: Probably fitted with 3rd Gen acoustic countermeasures.
- Aug 17 - 2022: To be fitted with ESSM, Mk38 25mm, provision for MQ-25A, upgraded combat system, estimated 4th Gen acoustic countermeasures.

America's Navy

John C. Stennis (CVN-74)

- Probably completed with Mk29 carrying RIM-7P vice -7M, SPS-48E vice SPS-48C, Link 16 data link, Tomahawk planning cell.
- 2000: Fitted with ARQ-44 Hawklint.
- Jan - Nov 05: Fitted with Ship Self-Defense System, combat system Gen 6 Automatic. USG-2B CEC data link, ARQ-59 Hawklint replaces ARQ-44. Mk23 TAS replaced by SPQ-9B. SA Mk29 NATO Sea Sparrow//2 Mk95 and PW Mk15 Phalanx replaced by PW/SA(21)2 Mk144 w/21 RIM-116A, AA rating 3@9.5A.
- Sep 07 - Mar 08: RIM-7 in remaining two Mk29 launchers replaced by RIM-162 ESSM.
- Feb - Aug 17: Refit with PQ&SQ Phalanx removed, AA rating 2@9.5A, 3rd Gen acoustic countermeasures probably fitted.
- 2015: Fitted with torpedo hardkill system with PQ&SQ(6)2 CAT anti-torpedo torpedoes.
- May 21 - 25: Refit planned.

Harry S. Truman (CVN-75)

- Completed with SLQ-34(V)4 4th Gen J&D, probably completed with Mk29 carrying RIM-7P vice -7M, SPS-48E vice SPS-48C, SPQ-9B vice Mk23, Link 16 data link, Tomahawk planning cell.
- 2000: Fitted with ARQ-44 Hawklint.
- Aug(?) 08 - Feb 09: SA Mk29 NATO Sea Sparrow//2 Mk95 and PW Mk15 Phalanx replaced by PW/SA(21)2 Mk144 w/21 RIM-116A, estimated 3rd Gen T acoustic countermeasures.
- Mar 11 - Summer 12: Phalanx upgraded to Blk IB. Fitted with USG-2B CEC data link, ARQ-59 Hawklint replaces ARQ-44. SPQ-9B replaces Mk23 TAS. Probably SSDS, combat system Gen 6 Automatic.
- Aug 16 - Jul 17: PQ&SQ Phalanx removed, AA rating 2@9.5A.
- Jul 20 - May 21: Refit, details unknown.

Damage & Speed Breakdown:

Dam Pts:	0	401	803	1204	1445	1605
Surf Speed:	32	24	16	8	0	Sinks

Nimitz

Displacement: 81600 std	In Class: 3	CVN
Size Class: A/Large	In Service: 1975	
Propulsion: Nuclear	Crew: 5698	
Electrn Cnt: 2nd Gen J&D	Acoustic Cnt: 2nd Gen T	
Signature: Large/Loud	Armor Rating: 0/5/315	
Weapons:	Cbt Sys: Gen 4 Semi-Automatic	
4 Catapults (2 bow, 2 waist), 4 Elevators, Arresting Gear	--	
SW/PA/SA(8)3 Mk25 BPDMS w/8 RIM-7H//6 Mk115	D	
Sensors:	ES: 2nd Gen	
SPS-43, SPS-48A, SPS-10F, SPS-59/LN-66	J	
Link 4/4A, Link 11	L	
Remarks:		
Dual flight deck.		

Nimitz (CVN-68)

- Jun 83 - Sep 84: Mk25 BPDMS replaced by PW/PA/SA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7M//6 Mk95 and PW/SS/PQ&SQ(R)3 Mk15 Phalanx Blk 0 (3@6.3A), Kevlar armor, CHP armor rating for Hangar, Engineering, Sensors, CIC is 2. Sensors changed to SPS-64, SPS-67, SPS-48C, SPS-49(V)1, Mk23 TAS, Furuno 900 (use Furuno series).
- Feb 88: SPS-48 updated to SPS-48C.
- Aug 89 - Mar 90: Estimated RIM-7P replaced RIM-7M.
- Dec 93 - Jan 95: Fitted with 3rd Gen J&D, 3rd Gen ES, SPS-48E vice SPS-48C, SPS-49(V)5 vice SPS-49(V)1, Link 16 data link. Estimated Phalanx upgraded to Blk I (3@9.5A). Estimated Tomahawk Planning cell added.
- Jun 96 - Jan 97: Fitted with Advanced Combat System Direction, Gen 5 Automatic. Phalanx AA rating 3@9.5A.
- May 98 - Jun 01: SA Mk29//2 Mk95 and all Phalanx removed, PW/SW(21)2 Mk144 w/21 RIM-116 RAM added.
- 2000: Fitted with ARQ-44 Hawklint.
- Jan - Dec 02: Fitted with Gen 6 Automatic combat system and USG-2A CEC data link, ARQ-59 Hawklint replaces ARQ-44. SPS-73 replaces SPS-64 and SPQ-9B replaces Mk23 TAS.
- 2008 - May 09: RIM-7 replaced by RIM-162 ESSM in remaining 2

- Mk29 launchers, estimated 3rd Gen acoustic countermeasures fitted.
- Nov 10 - Mar 12: PW/PA(R)2 Mk15 Phalanx Blk IB (2@9.5A) added.
- Jan 15 - Oct 16: Refit with P/S(1)2 Mk38 25mm//2 EO GFC and torpedo hardkill system with PQ&SQ(6)1 CAT anti-torpedo torpedoes.

Dwight D Eisenhower (CVN-69)

- Oct 85 - Apr 87: Mk25 BPDMS replaced by PW/PA/SA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7M//6 Mk95 and PW/SS/PQ&SQ(R)3 Mk15 Phalanx Blk 0 (3@6.3A), Kevlar armor, CHP armor rating for Hangar, Engineering, Sensors, CIC is 2. Sensors changed to SPS-64, SPS-67, SPS-48C, SPS-49(V)5, Mk23 TAS, Furuno 900 (use Furuno series).
- 29 Feb 88: Collision with anchored Spanish coal ship, minor damage.
- Oct 88 - Mar 89: Collision damage repaired.
- Oct 90 - Jan 91: RIM-7P probably replaced RIM-7M.
- 1994: Fitted with prototype CEC data link for testing and trials.
- Jul 95 - Jan 97: Fitted with 3rd Gen J&D, 3rd Gen ES, SPS-48E vice SPS-48C, SPS-49(V)5 vice SPS-49(V)2. Phalanx probably upgraded to Blk I (3@9.5A), Tomahawk planning cell added. Advanced Combat Direction System fitted, combat system Gen 6 Automatic.
- 1998: Fitted with PA/SA(3)2 Mk32 324mm TT w/3 Mk46 Mod 7 anti-torpedo torpedoes. Failed operational testing and removed in 2000.
- May 01 - Mar 05: SA Mk29//2 Mk95 and all Phalanx removed, PW/SW(21)2 Mk144 w/21 RIM-116 RAM added. Mk23 TAS replaced by SPQ-9B. Estimated SPS-64 replaced by SPS-73. Combat system Gen 5 Automatic. USG-2A CEC, ARQ-59 Hawklint, Link 16 data links added.
- Sep 10 - Jun 11: RIM-7 replaced by RIM-162 ESSM in remaining 2 Mk29 launchers, estimated 3rd Gen acoustic countermeasures fitted.
- Sep 13 - May 15: SW/PA(R)2 Mk15 Phalanx Blk IB (2@9.5A) added.
- 2016: Fitted with torpedo hardkill system with PQ&SQ(6)2 CAT anti-torpedo torpedoes.

Carl Vinson (CVN-70)

- Completed with PW/S/PA/PQ&SQ(R)4 Mk15 Phalanx Blk 0 (4@6.3A) and PA/SW/SA(8)3 Mk29 Sea Sparrow w/8 RIM-7M//6 Mk95 vice Mk25 BPDMS.
- Aug - Dec 82: Fitted with SPS-49(V)1 vice SPS-43.
- Sep 90 - Apr 93: 3rd Gen J&D, 3rd Gen ES, Link 16 data link added. Radars changed to SPS-64, SPS-67, SPS-48E, SPS-49(V)5, Mk23 TAS, Furuno 900 (Furuno series). Phalanx probably upgraded to Blk I (4@9.5A). Estimated RIM-7P replaced RIM-7M. Kevlar armor, CHP armor rating for Hangar, Engineering, Sensors, CIC is 2.
- Oct 94 - Feb 95: Tomahawk planning cell added.
- 2000: Fitted with ARQ-44 Hawklint.
- Nov 05 - Jul 09: Fitted with Gen 6 Automatic combat system, USG-2B CEC data link. ARQ-59 Hawklint replaces ARQ-44. SA Mk29//2 Mk95 and all Phalanx removed, PW/SW(21)2 Mk144 w/21 RIM-116 RAM added. RIM-7 in remaining two Mk29 launchers replaced with RIM-162 ESSM. Mk23 TAS replaced by SPQ-9B. Estimated SPS-64 replaced by SPS-73, estimated 3rd Gen acoustic countermeasures fitted.
- Jul 12 - Feb 13: Fitted with SS(R)1 Mk15 Phalanx Blk 1 (9.5A)
- Jul 13: SPS-48E upgraded to SPS-48G.
- Aug 15 - Apr 16: Fitted with UAV control station, P/S(1)4 Mk38 Mod 2 25mm//4 EO GFC.

Damage & Speed Breakdown:

Dam Pts:	0	401	803	1204	1445	1605
Surf Speed:	32	24	16	8	0	Sinks

Enterprise (1982)

Displacement: 75700 std	In Class: [1]	CVN
Size Class: A/Large	In Service: 1982 (1961) - 2012	
Propulsion: Nuclear	Crew: 5785	
Electrn Cnt: 2nd Gen J&D	Acoustic Cnt: 2nd Gen T	
Signature: Large/Loud	Armor Rating: 0/5/315	
Weapons:	Cbt Sys: Gen 4 Semi-Automatic	
4 Elevators, 4 Catapults (2 bow, 2 waist), Arresting Gear	--	
PQ/PA/SS(R)3 Mk15 Phalanx Blk 0 (3@6.3A)	C	
PQ/SW(8)2 Mk29 NATO Sea Sparrow w/8 RIM-7M//6 Mk95	D	

Sensors: **ES:** 2nd Gen
SPS-48C, SPS-49(V)1, SPS-65, SPS-59 **J**
Furuno 900 (use Furuno series) **J/Japan**
Link 4/4A, Link 11 **L**

Remarks:
CVN-65. Configuration as of completion of Jan 79 - Feb 82 refit. Dual flight deck. Can launch 10 small/med helos at once. CHP armor rating for Flight deck, Hangar, Engineering, Sensors, CIC is 2.
• Oct 90 - Sep 94: Refitted. Tomahawk planning cell added. Phalanx upgraded to Blk I (3@9.5A). Mk23 TAS added, countermeasures and ES upgraded to 3rd Gen. Probably RIM-7M replaced by RIM-7P. Radar fit changed to SPS-48E, SPS-49A(V)5, SPS-64, SPS-67(V)1, SPS-73, Mk23 TAS.
• 2000: Fitted with ARQ-44 Hawklink.
• Aug 04 - Oct 05: Refitted, PQ Phalanx removed, PA/SS mounts remain, 2@9.5A. PQ/SA(21)2 Mk144 w/21 RIM-116 RAM added, 3rd Gen acoustic countermeasures fitted. Link 16 data link added.
• 2012: Decommed.

Damage & Speed Breakdown:

Dam Pts:	0	382	764	1145	1374	1527
Surf Speed:	33	25	17	8	0	Sinks

Enterprise**CVN**

Displacement: 75700 std
Size Class: A/Large
Propulsion: Nuclear
Electrn Cnt: None
Signature: Large/Loud
Weapons:
4 Elevators, 4 Catapults (2 bow, 2 waist), Arresting Gear --
Sensors: **ES:** 1st Gen **J**

Remarks:
Originally classified as CVAN. Five additional units planned but never built. Dual flight deck. Can launch 10 small/med helos at once. Completed without any armament. Space for PQ/SQ(2)2 Mk10 w/40 Terrier provided, never used. SPS-32/33 prone to frequent breakdown, treat as third world maintenance availability.
• Sep 63 - Feb 64: NTDS, Gen 3 Semi-Automatic combat system, SPS-12 added.
• Oct 64 - Jul 65: Refueled. Link 4/4A and Link 11 data links added.
• Jun - Sep 66: PQ/SQ(8)2 Mk25 BPDMS w/8 RIM-7E//4 Mk115, SPS-58 added.
• 14 Jan 69: Flight deck accident with Zuni rocket caused fires and explosions. 27 killed, 85 injured. Repaired Jan - 1 Mar 69.
• Oct 69 - Jan 71: Refitted, A(8)1 Mk25 BPDMS installed.
• Aug 73 - Jan 74: Fitted with RIM-7H, F-14A, S-3A.
• Apr - Nov 75: Fitted with SLQ-17, estimated 2nd Gen ES and 2nd gen Jammer.
• 1 Jul 76. Reclassified as a CVN.
• Jan 79 - Feb 82: Complex overhaul, revised configuration listed separately.

Damage & Speed Breakdown:

Dam Pts:	0	382	764	1145	1374	1527
Surf Speed:	33	25	17	8	0	Sinks

John F. Kennedy**CV**

Displacement: 64700 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 2nd Gen J&D
Signature: Large/Loud
Weapons:
4 Elevators, 4 Catapults (2 bow, 2 waist), Arresting Gear --
Sensors: **ES:** 2nd Gen **J**

SPS-37A, SPS-43A, SPS-10F
Furuno 900 (use Furuno series) **J/Japan**

Remarks:

CVA-67. Dual flight deck.
• Dec 68 - Feb 69: Fitted with SW/PA/SA(8)3 Mk25 BPDMS//6 Mk115, SPS-58 radar.

• 1970: Fitted with Link 4/4A and Link 11 data links.
• 1 Dec 74: Reclassified as CV, modified to carry ASW aircraft Mar - Nov 74.
• Mar 79 - Jun 80: Refitted, radars changed to SPS-10, SPS-48C, SPS-49(V)1.
• Sep 84 - Sep 85: Mk29 NATO Sea Sparrow fitted vice Mk25 BPDMS, PW/PA/SA(R)3 Mk15 Phalanx Blk 0 (3@6.3A), Mk23 TAS replaced SPS-58. SPS-10 radar replaced by SPS-64, SPS-67. Combat system upgraded to 4th Gen Semi-Automatic.
• Feb-Apr 90: Phalanx upgraded to Blk I (3@9.5A), fitted with 3rd Gen ES, 3rd Gen J&D.
• 17 Feb 93: Returns from deployment. Nuclear weapons removed last USN carrier deployment of nuclear weapons.
• Sep 93 - Sep 95: Refitted - SPS-48 upgraded to SPS-48E.
• 1994 - 00: Designated as a Naval Reserve carrier. Made several deployments.
• 1996: Link 16 data link, Hawklink (ARQ-44) added.
• 2000: Testbed for CEC, USG-1 antenna added, Advanced Combat Direction System, combat system Gen 6 Automatic.
• 13 Feb 06: Arresting gear no longer operational. Embarks helos only until decommed in 2007.

Damage & Speed Breakdown:

Dam Pts:	0	344	688	1031	1238	1375
Surf Speed:	32	24	16	8	0	Sinks

Kitty Hawk**CV**

Displacement: 69500 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Large/Loud
Weapons:
4 Catapults (2 bow, 2 waist), 4 Elevators, Arresting Gear --
PQ/SQ(2)2 Mk10 w/40 Terrier//4 SPG-55 **D**
Sensors: **ES:** 1st Gen
SPS-37A, SPS-39, SPS-10F **J**
SPS-8 (*Kitty H., Constellation*), SPS-30, SPS-43A (*America*) **J**
Furuno 900 (use Furuno series) **J/Japan**
SQS-23 (*America* only) **K**

Remarks:
Dual flight deck. *Kitty Hawk* has Terrier BT, *Constellation* Terrier HT. *America* has SM1MR and NTDS, Gen 3 Semi-Automatic combat System.

Kitty Hawk (CV-63)

• Aug 64 - Apr 65: Fitted with NTDS, Gen 3 Semi-Automatic combat system, Link 4/4A and Link 11 data links.
• 1969: Terrier replaced by SM1ER.
• Jan-Apr 73: Fitted for F-14A, reclassified as CV. Radar fit changed to LN-66, SPS-10F, SPS-37A, SPS-39, SPS-43A.
• Mar 76 - Mar 77: Fitted for S-3A, Mk10/SM1ER//2 SPG-55 replaced by PA/SA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7H//6 Mk95, 2nd Gen ES. Radar fit changed to LN-66, SPS-10F, SPS-30, SPS-43A, SPS-48A, SPS-52, SPS-58.
• 1979 - 80: SPS-43A replaced by SPS-49(V)1.
• Jan 82 - Jan 83: Refit with SW(8)1 Mk29 NATO Sea Sparrow w/8 RIM-7H//2 Mk95, PW/SW/SA(R)3 Mk15 Phalanx Blk 0 (3@6.3A). 2nd Gen J&D, 2nd Gen ES. Radar fit changed to LN-66, SPS-10F, SPS-48C, SPS-49(V)5.
• Nov 87 - Jul 91: SLEP, Radar fit SPS-48E, SPS-49(V)5, SPS-64, SPS-67, Mk23 TAS, 3rd Gen ECM/ES, 2nd Gen T acoustic countermeasures, Gen 4 Semi-Automatic combat system. Can plan Tomahawk strikes on board. Probably fitted with additional PA(R)1 Mk15 Phalanx, all Phalanx upgraded to Blk I (4@9.5A).
• Feb-May 95: SPS-49 upgraded to SPS-49A(V)1.
• Jun-Sep 01: All Mk29 NATO Sea Sparrow and PW/PA Mk15 Phalanx removed. Fitted with PW/SW(21)2 Mk144 w/21 RAM, Link 16 and ARQ-44 Hawklink data links.
• Decommed May 09.

America's Navy

Constellation (CV-64)

- 1965?: Fitted with NTDS, Gen 3 Semi-Automatic combat system, Link 4/4A and Link 11 data links.
- 1969: Terrier replaced by SM1ER.
- 1970-71?: SPS-8B probably replaced by LN-66, SPS-43A radars.
- Feb 75 - Mar 76: Fitted for F-14A and S-3A, reclassified CV.
- 1979 - 80: SPS-49(V)1 fitted vice SPS-43A, PW/PA/SA(R)3 Mk15 Blk 0 Phalanx (3@4.4A) added.
- Jan 83 - Feb 84: Mk10//SPG-55 replaced by SW/PA/SA(8)3 Mk29 Sea Sparrow, PW/SA/S(R)3 Mk15 Phalanx Blk 0 (3@6.3A). Radar fit changed to LN-66, SPS-10F, SPS-48C, SPS-49(V)5. 2nd Gen J&D, 2nd Gen ES.
- Jul 90 - Mar 93: SLEP. Radar fit SPS-48E, SPS-49(V)5, SPS-64, SPS-67, Mk23 TAS, 3rd Gen ECM/ES, 2nd Gen T acoustic countermeasures, Link 16 added. Combat system Gen 4 Semi-Automatic. Can plan Tomahawk strikes on board. Phalanx upgraded to Blk I (3@9.5A).
- 2000: Fitted with ARQ-44 Hawklint
- Decommed Aug 03.

America (CV-66)

- 1969: Terrier replaced by SM1ER.
- 1970: Fitted with Link 4/4A and Link 11 data links.
- Jan - Mar 71: SPS-39 replaced by SPS-52.
- Dec 74 - Sep 75: Fitted for F-14A and S-3A. Estimated SPS-52 replaced SPS-37A and LN-66 added.
- Nov 79 - Sep 80: Refitted. Mk10//SM1ER replaced with SW/PA/SA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7M//6 Mk95, PW/PQ/S(R)3 Mk15 Phalanx Blk 0 (3@6.3A) (first USN ship so fitted), SPS-48A fitted. SQS-23 removed.
- Dec 81 - Apr 82: SPS-48 updated to SPS-48C, SPS-49(V)5 fitted. Estimated 2nd Gen ES, 2nd Gen J.
- Nov 86 - Feb 88: Refit. Probably received Gen 4 Semi-Automatic combat system, 3rd Gen ES, 3rd Gen J, 2nd Gen T ACM. Phalanx AA strength 3@6.3A. Radar fit Mk23 TAS, SPS-48E, SPS-49(V)5, SPS-64, SPS-67.
- 1990: Phalanx upgraded to Blk I (3@9.5A).
- Decommed Aug 96.

Damage & Speed Breakdown:

Dam Pts:	0	361	721	1082	1298	1442
Surf Speed:	33	25	16	8	0	Sinks

Forrestal

Displacement: 68500 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J&D
Signature: Large/Loud
Weapons:

4 Catapults (2 bow, 2 waist), 4 Elevators, Arresting Gear
 PW/SW/PA/SA(1)8 Mk42 5in/54//PS/SS 2 Mk68 (4.7)

Sensors:
 SPS-8A, SPS-10, SPS-12 (*Forrestal, Sara, Ranger*)
 SPS-8B, SPS-10, SPS-37A (*Independence*)
 Furuno 900 (use Furuno series)

Remarks:

Reclassified from CVB (large aircraft carrier) to CVA (attack aircraft carrier) during construction. Dual flight deck. Can launch 10 small/med helos at once. CHP armor rating for Hangar, Engineering, Sensors, CIC is 2.

Forrestal (CVA-59)

- Early 60s: SPS-8 replaced by SPS-30.
- Sep 61 - Jan 62: PW/SW(1)4 Mk42 5 inch guns removed (2.4) because of damage in heavy seas. SPS-12 replaced by SPS-43A.
- Apr 66 - Jan 67: NTDS added, Gen 3 Semi-Automatic combat system, Link 4/4A, Link 11 data links fitted.
- 29 Jul 67: Fire on board. 134 killed, 161 injured. Repaired in Norfolk
- Sep 67 - Apr 68. PA/SA(1)4 Mk42 5 inch guns removed, fitted with SW(8)1 Mk25 BPDMS w/8 RIM-7E//2 Mk115, SPS-58.
- Jun 75: Modified to operate ASW aircraft, reclassified from CVA to

CV, probably fitted with 2nd Gen T acoustic countermeasures.

- Oct 76 - Jun 77: Fitted with SA(8)1 Mk25 BPDMS, SPS-30 replaced by SPS-48C.
- Jan 83 - May 85: SLEP. Radar fit SPS-48C, SPS-49(V)1, SPS-64, SPS-67. ES, ECM, Acoustic countermeasures upgraded to 2nd Gen. Mk25 BPDMS replaced by P/SW(8)2 Mk29 NATO Sea Sparrow w/8 RIM-7H//4 Mk91. Fitted with PW/S/PA(R)3 Mk15 Phalanx Blk 0 (3@6.3A), Kevlar armor, CHP armor rating for Hangar, Engineering, Sensors, CIC is 2.
- 1992: Disarmed and redesignated a training carrier (AVT-16).
- Decommed 1993.

Saratoga (CVA-60)

- Early 60s: PW/SW(1)4 Mk42 5 inch guns removed because of damage in heavy seas (2.4). SPS-8 replaced by SPS-30.
- Jun - Nov 64: NTDS added, Gen 3 Semi-Automatic combat system.
- 1967: Fitted with Link 4/4A and Link 11 data links.
- Jan - Mar 71: Converted to dual attack/ASW carrier with 50 Mk46 torpedoes. 2500 sonobuoys. S-2E and SH-3D carried.
- Jun 72: Modified for ASW aircraft, reclassified from CVA to CV.
- 1974: Fitted with SW(8)2 Mk25 BPDMS//2 Mk115, SPS-58 radar.
- Oct 76 - Jun 77: SPS-30 replaced by SPS-48A.
- Sep 80 - Feb 83: SLEP. Radar fit SPS-48C, SPS-49(V)1, SPS-64, SPS-67. ES, ECM, Acoustic countermeasures upgraded to 2nd Gen. Mk25 BPDMS replaced by P/SW(8)2 Mk29 NATO Sea Sparrow w/8 RIM-7H//4 Mk91. Fitted with PW/S/PA(R)3 Mk15 Phalanx Blk 0 (3@6.3A). Kevlar armor added, CHP armor rating for Hangar, Engineering, Sensors, CIC is 2.
- Decommed 1994.

Ranger (CVA-61)

- Aug 63 - Feb 64: PW/SW(1)4 Mk42 5 inch guns removed because of damage in heavy seas (2.7). SPS-8 replaced by SPS-30.
- Aug 63 - Feb 64: SPS-8 replaced by SPS-43.
- Oct 66 - May 67: NTDS added, Gen 3 Semi-Automatic combat system, with Link 4/4A, Link 11 data links.
- Nov 73: Radars SPS-10, SPS-30, SPS-37A, PA/SA(1)4 Mk42 5in/54//2 PS/SS Mk68 on this date.
- 1974: Remaining Mk42 guns removed, fitted with SW/P&PQ(8)2 Mk25 BPDMS w/8 RIM-7E//2 Mk115
- Jun 75: Modified to operate ASW aircraft, reclassified from CVA to CV, estimate fitted with 2nd Gen acoustic countermeasures.
- Feb 77 - Mar 78: Refit, Mk25 BPDMS replaced by P/SW/SA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7H//6 Mk91, SPS-58 radar added.
- May 84 - Jun 85: Refit. Mk23 TAS, PW/S/PA(R)3 Mk15 Phalanx Blk 0 (3@6.3A) added. Radar fit SPS-48C, SPS-49(V)5, SPS-64, SPS-67(v)1, Mk23 TAS.
- 1990: Phalanx upgraded to Blk I. AA Rating 3@9.5A.
- Decommed 1993.

Independence (CVA-62)

- Early 60s: PW/SW(1)4 Mk42 5 inch guns removed because of damage in heavy seas (2.4). SPS-8B replaced by SPS-30.
- 1973: Remaining Mk42 guns removed, fitted with SW(8)1 Mk25 BPDMS w/8 RIM-7E//2 Mk115. Probably received Gen 4 Semi-Automatic combat system, Link 4/4A, Link 11 data links.
- Feb 73: Modified for ASW aircraft, reclassified from CVA to CV.
- 1977: Mk25 BPDMS replaced by PW/SA(8)2 Mk29 NATO Sea Sparrow w/8 RIM-7H//2 Mk91. SPS-58 added.
- Apr 85 - May 88: SLEP. Received PW/S/SA(R)3 Phalanx Blk 0 (3@6.3A). Mk25 BPDMS replaced with PW/SW/PA(8)3 Mk29 NATO Sea Sparrow w/8 RIM-7M//6 Mk91. Radar fit SPS-48C, SPS-49(V)5, SPS-64, SPS-67. ES, ECM, ACM upgraded to 2nd Gen. Kevlar armor added, CHP armor rating for Hangar, Engineering, Sensors, CIC is 2.
- 1990: Phalanx upgraded to Blk I. AA Rating 3@9.5A.
- Decommed 1998.

Damage & Speed Breakdown:

Dam Pts:	0	357	714	1071	1285	1428
Surf Speed:	33	25	16	8	0	Sinks

CVA**C****J/Japan**

The Essex-class Carriers

The 24 *Essex*-class carriers, commissioned between 1942 and 1946, had already been modified by the mid-1950s, and would be further modified before the last of them were decommissioned in the 1970s.

None were sunk in WW II, but *Franklin* (CV-13) and *Bunker Hill* (CV-17) were both heavily damaged by Kamikazes in 1944 and 1945. Although repaired, neither returned to active service during or after the war.

In October of 1952, the Navy changed their designations from CV to CVA for "Aircraft Carrier, Attack," and most were later redesignated "CVS," as dedicated antisubmarine carriers. Three were designated LPH for "Amphibious Helicopter Carrier." This radically changed the air groups they carried (see Annex R).

Starting in the late 40s, the class began a series of upgrades and refits designed by the Ship Characteristics Board (SCB). These were extensive changes that would allow them to operate jet aircraft. Most of the ships received either SCB-27A or SCB-27C in the early to mid-1950s, followed by SCB-125 shortly after.

SCB-27A was a major reconstruction, strengthening the flight deck and fitting more powerful H8 hydraulic catapults to allow them to operate the larger and heavier jet aircraft. In compensation, their armor belts were removed and blisters added. All four twin 5in/38s on the island were removed and the single 5 inch guns rearranged, as well as many smaller improvements to their aviation equipment. The last *Essex* class built, *Oriskany* (CV-34), was built to SCB-27A standard.

SCB-27C was similar, but used even more powerful C11 steam catapults, as well as the capability to store and handle nuclear weapons. On some ships, the centerline number three elevator was replaced with a starboard deck-edge elevator.

SCB-125 converted the straight deck to a dual angled and straight, and included moving number three centerline elevator to the starboard deck edge on ships where it hadn't already been done, along with other improvements to the aviation facilities.

- **SCB-144** was added to many of the CVS ships in the early 1960s, fitting them with an SQS-23 sonar.

As of 1955, the class of 24 can be divided into several groups:

- *Franklin* and *Bunker Hill*, in reserve and never returned to service.
- **Essex (SCB-27A)**: (9 ships) With the exception of *Lake Champlain* (CVA-34), all were later refitted with dual angled and straight decks. Three ships had already received the conversion by the end of 1955. *Oriskany*, the last of the *Essex* class to be built, was completed in SCB-27A standard.
- **Essex (SCB-27C)**: (6 ships) These all received dual angled and straight decks, three by the end of 1955. Many of these were later also retasked as CVS, and a few as LPH ships.
- **Essex (CVS)**: Six "straight deck" *Essex* class had already been redesignated as CVS by 1955, with a seventh, *Boxer*, following in 1956. These ships never received any of the SCB-series modifications, although *Antietam* (CVS-36) was fitted with an angled deck.

<u>Hull Number</u>	<u>Listed As</u>	<u>Name</u>	<u>In Service</u>	<u>SCB-27A</u>	<u>SCB-27C</u>	<u>SCB-125 /125A</u>	<u>SCB-144</u>	<u>Decomm</u>
CV-13	--	Franklin	Jan 44					Oct 64
CV-17	--	Bunker Hill	May 43					Nov 66
CVS-32	Essex CVS	Leyte	Aug 53					May 59
CVS-36	Essex CVS	Antietam ¹	Aug 53					May 63
CVS-37	Essex CVS	Princeton	Jan 54				FY 62	Jan 70
CVS-40	Essex CVS	Tarawa	Jan 55					May 60
CVS-45	Essex CVS	Valley Forge	Nov 53				FY 64	Jan 70
CVS-47	Essex CVS	Philippine Sea	Nov 55					Dec 58
CVA-21	Essex CVS	Boxer ²	Apr 45				FY 63	Dec 60
CVA-10	Essex SCB-27A	Yorktown	Apr 43	2/51-1/53		7/54-10/55	FY 66	Jun 73
CVA-12	Essex SCB-27A	Hornet	Nov 43	6/51-10/53		8/55-8/56	FY 65	Jun 70
CVA-15	Essex SCB-27A	Randolph	Oct 44	6/51-7/53		3/55-2/56	FY 61	Feb 69
CVA-18	Essex SCB-27A	Wasp	Nov 43	9/48-9/51		7/54-12/55	FY 64	Jul 72
CVA-20	Essex SCB-27A	Bennington	Aug 44	10/50-11/52		7/54-4/55	FY 63	Jan 70
CVA-33	Essex SCB-27A	Kearsarge	Mar 46	1/50-3/52		1/56-1/57	FY 62	Feb 70
CVA-34	Essex SCB-27A	Oriskany ³	Sep 50			9/57-5/59		May 76
CVA-39	Essex SCB-27A	Lake Champlain	Jun 45	8/50-9/52				May 66
CVA-9	Essex SCB-27A	Essex	Dec 42	9/48-2/51		3/55-3/56	FY 62	Jun 69
CVA-11	Essex SCB-27C	Intrepid	Aug 43		9/51-6/54	1/56-5/57		Mar 74
CVA-14	Essex SCB-27C	Ticonderoga	Sep 44		7/51-10/54	12/55-4/57		Sep 73
CVA-16	Essex SCB-27C	Lexington	Mar 43		7/52-9/55	7/52-9/55		Nov 91
CVA-19	Essex SCB-27C	Hancock	Apr 44		7/51-3/54	8/55-11/56		Jan 76
CVA-31	Essex SCB-27C	Bonhomme						
		Richard	Nov 44		7/52-11/55	7/52-11/55		Jul 71
CVA-38	Essex SCB-27C	Shangri-La	Sep 44		7/51-2/55	7/51-2/55		Jul 51

Notes:

1: Antietam converted to dual angled and straight deck Sep - Dec 52

2: Boxer redesignated CVS-21 Feb 56.

3: Oriskany was completed to SCB-27A standard. Her SCB-125A conversion included SCB-27C features as well as the dual angled and straight deck

United States

Displacement: 66434 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Large/Loud
Weapons:
 4 Catapults (2 bow, 2 waist), 4 Elevators, Arresting Gear
 PW/SW/PA/SA(1)8 Mk42 5in/54//4 Mk25 (4.7)
 2F/PW/SW/PA/SA/2A(2)8 Mk33 3in/50//8 Mk25 (3.0)
Sensors:
 SPS-6E, SPS-8, SPS-10

Air Group:

• 12 AJ Savage, 45 F2H Banshee, 24 A3D Skywarrior

Remarks:

Never entered service due to Air Force rivalry with the B-36. Flush, straight deck.

Damage & Speed Breakdown:

Dam Pts:	0	350	700	1049	1259	1399
Surf Speed:	33	25	17	8	0	Sinks

Coral Sea (1985)

Displacement: 48000 lt
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 2nd Gen D
Signature: Large/Loud
Weapons:
 3 Catapults (2 bow, 1 waist), 3 Elevators, Arresting Gear
 PA/S&SQ(R)2 Mk15 Phalanx Blk 0 (6.3A)
Sensors:
 SPS-65, SPS-48C, SPS-49(V)5, SPS-59/LN-66, SPS-67
 Link 4/4A, Link 11

Remarks:

Second unit of *Midway* class. Configuration as of Oct 82 - Feb 85 refit, received F/A-18 capability. Dual flight deck.

• 30 Apr 90: Decommissioned, scrapped 1993.

Damage & Speed Breakdown:

Dam Pts:	0	306	611	917	1100	1222
Surf Speed:	33	25	17	8	0	Sinks

Midway (1982)

Displacement: 47985 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 2nd Gen J&D
Signature: Large/Loud
Weapons:
 2 Bow Catapults, 3 Elevators, Arresting gear
 PA/S&SQ(R)2 Mk15 Phalanx Blk 0 (6.3A)
 SA/P&PQ(8)2 Mk25 BPDMS w/8 RIM-7//3 Mk115
Sensors:
 SPS-59, SPS-67(V)1, SPS-49(V)5, SPS-48C
 Link 4/4A, Link 11

Remarks:

Configuration as of 1982 refit. Dual flight deck.

• Apr 86: Entered yard at Yokosuka to fit blisters, add F/A-18 capability. Radar suite changed to SPS-64, SPS-67(V)1, SPS-49(V)5. Blisters add approx 3000 tons to displacement, reduced speed by 1 knot.

Developed severe roll problems, flight operations suspended in rough seas. Treat as Medium-sized on Safe Sea State table.

• Apr 88: US Navy says overhaul will not correct roll problem.

• 26 Apr 90: Decommissioned.

Damage & Speed Breakdown:

Dam Pts:	0	282	563	845	1013	1126
Dam Pts ('86):	0	293	587	880	1056	1173
Surf Speed:	30	23	15	8	0	Sinks
Surf Spd ('86):	29	22	15	7	0	Sinks

CV**Coral Sea (1960)**

Displacement: 45100 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Large/Loud
Weapons:
 3 Catapults (2 bow, 1 waist), 3 Elevators, Arresting gear
 PW/PA/SA(1)6 Mk39 5in/54//PS/SS 2 Mk12/22 (2.5)
Sensors:
 SPS-12, SPS-8 radars

Remarks:

Third unit of *Midway* class. Configuration as of Apr 57 - Jan 60 SCB-110A reconstruction with dual flight deck.

• 1962: PW/PA/SA(1)3 5 inch guns removed (1.3).

• 1979: C11 catapults replaced with C13.

• 1971: NTDS upgraded, combat system Gen 4 Semi-Automatic.

• 1975: Fitted with Link 4/4A and Link 11 data links.

• 1985: Refitted, listed separately.

Damage & Speed Breakdown:

Dam Pts:	0	270	541	811	973	1081
Surf Speed:	30	23	15	8	0	Sinks

Midway (SCB-110)

Displacement: 44950 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Weapons:
 2 Bow Catapults, 3 Elevators, Arresting gear
 2PW/3SW/2PA/3SA(1)10 Mk39 5in/54
 //2 Mk12/22 (*Midway*), Mk29 (*FDR*) (3.15)
 3PW/1SW/1PA/4SA(2)9 Mk33 3in/50//2 Mk25 (3.75)
Sensors:
 SPS-12, SPS-8

Remarks:

Midway, *Franklin D. Roosevelt*. Third unit *Coral Sea* listed separately. Six units ordered, three canceled. None ready for combat before the end of WW II. Configuration as of SCB-110 reconstruction. Dual flight deck. *Midway* Sep 55 - Sep 57, *FDR* May 54 - Apr 56.

• 1962: Six Mk39 5in/54 removed, leaving PW/SW/PA/SA (1.3). All 3in/50 removed, fitted with 1st Gen J and 1st Gen ES. *Midway* 1962, *FDR* Jun - Nov 63.

• Feb 66 - Jan 70: *Midway* rebuilt SCB-101.66. C11 catapults replaced with C13, flight deck area increased. Mk39 5 inch reduced to SW/PA/SA(1)3 (1.3). Displacement 47985 std, sensors SPS-10, SPS-30, SPS-37A, SPS-37C, Raytheon 1500B, SPS-58. NTDS, Link 4/4A and Link 11 data links added, combat system Gen 3 Semi-Automatic.

• Jul 68 - May 69: *FDR* given limited refit, centerline elevator moved to deck edge.

• Jun 75: Class changed from CVA to CV.

• Late 70s: Last three 5 inch guns removed from *Midway*.

• Mar 77: *FDR* decommed.

• 1980: *Midway* radars changed to SPS-59, SPS-65, SPS-49(V)5, SPS-48C.

• 1982: *Midway* refitted, listed separately.

Damage & Speed Breakdown:

Dam Pts:	0	270	539	809	970	1078
DP (SCB-101)	0	282	563	845	1013	1126
Surf Speed:	30	23	15	8	0	Sinks

Essex (SCB-27C)

Displacement: 33793 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Large/Loud
Weapons:
 2 Bow Catapults, 3 Elevators, Arresting Gear
 PW/SW/PA/SA(1)8 Mk30 5in/38//2 Mk25 (3.4)
 PW/SW/PA/SA(2)12 Mk33 3in/50//2 Mk25 (4.5)

CVA

In Class: 1
In Service: 1960 (1947)
Crew: 4060
Acoustic Cnt: None
Armor Rating: 3/12/240
Cbt Sys: Gen 3 Semi-Automatic

CVB

In Class: 2
In Service: 1956 (1945)
Crew: 4060
Armor Rating: 3/12/240
Cbt Sys: Gen 2 Manual

CVA

In class: 6
In Service: 1955 (1943) - 91
Crew: 3170 + 354
Acoustic Cnt: None
Armor Rating: 3/6/210
Cbt Sys: Gen 2 Manual

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C

C

Sensors:

SPS-6, SPS-8, SPS-10, SPS-37
SQS-23

Remarks:

Intrepid, Ticonderoga, Lexington, Hancock, Bonhomme Richard, Shangri-La.

- 1955-57: All fitted with dual flight deck
- Redesignated CVS: *Intrepid* Mar 62, *Ticonderoga* Oct 69, *Lexington* Oct 62, *Shangri-La* Jun 59.
- Jan 69: *Lexington* designated a training carrier (CVT-9, then AVT-9)
- 1970s: *Intrepid, Bonhomme Richard, Shangri-La* had SPS-37 replaced by SPS-43A.

Damage & Speed Breakdown:

Dam Pts:	0	223	446	669	803	892
Surf Speed:	33	25	17	8	0	Sinks

Essex (SCB-27A)

Displacement: 32652 std

Size Class: A/Large

Propulsion: Steam Turbine

Electrn Cnt: 1st Gen J

Signature: Large/Loud

Weapons:

2 Bow Catapults, 3 Elevators, Arresting Gear
PW/SW/PA/SA(1)8 Mk30 5in/38//2 Mk25 (3.4)
3PW/3SW/4PA/4SA(2)14 Mk33 3in/50//2 Mk25 (5.3)

Sensors: SPS-6, SPS-8, SPS-10, SPS-37

SQS-23

Remarks:

Yorktown, Hornet, Randolph, 58, Bennington, Kearsarge, Oriskany, Lake Champlain. Straight flight deck.

- 1953-59: All except *Lake Champlain* fitted with angled deck (SCB-125/125A).
- All except *Oriskany* redesignated CVS: *Yorktown* Jan 57, *Hornet* Jun 58, *Randolph* Mar 59, *Wasp* Nov 56, *Bennington* Jun 59, *Kearsarge* Oct 58, *Lake Champlain* Aug 57.
- Mar - Aug 61: *Oriskany* fitted with NTDS (Gen 3 Semi-Automatic combat system) and Link 11 data link.
- 1961 - 65: All except *Oriskany* and *Lake Champlain* fitted with SQS-23 (SCB-144).
- 26 Oct 66: Fire on board *Oriskany* killed 44, injured 156, repaired until 1967.
- 1967: *Wasp* fitted with ASWSC&SC (Gen 3 Semi-Automatic combat system).
- 1970: *Wasp* fitted with Link 11 data link.
- 1970s: *Bennington, Hornet, Oriskany* had SPS-37 replaced by SPS-43A.
- Jun 75: *Oriskany* redesignated CV-34.

Damage & Speed Breakdown:

Dam Pts:	0	218	436	653	784	871
Surf Speed:	33	25	17	8	0	Sinks

Essex (CVS)

Displacement: 26688 std

Size Class: A/Large

Propulsion: Steam Turbine

Electrn Cnt: 1st Gen J

Signature: Large/Loud

Weapons:

2 Bow Catapults, 3 Elevators, Arresting Gear
F/A(2)4 Mk32 5in/38, PW/PQ&P (1)4 Mk24 5in/38
//F/A 2 Mk4 (5.6 port, 2.8 starboard)

Sensors: SPS-6, SPS-8, SPS-10, SPS-37

SQS-23

Leyte, Antietam, Princeton, Tarawa, Valley Forge, Philippine Sea, Boxer. Late-build Essex class redesignated as CVS 1953-55. GFCS includes 4 Mk56. Straight flight deck.

- Sep - Dec 52: *Antietam* converted to angled deck.

ES: 1st Gen

J
K

- SCB-144: Fitted with SQS-23 sonar. *Princeton* FY 62, *Valley Forge* FY 64.
- Redesignated LPH: *Boxer* (LPH-4) Jan 59, *Princeton* (LPH-5) May 59, *Valley Forge* (LPH-8) Jul 61.

Damage & Speed Breakdown:

Dam Pts:	0	191	381	572	686	762
Surf Speed:	33	25	17	8	0	Sinks

Medium Carrier

Displacement: 59749 fl

Size Class: A/Large

Propulsion: Steam Turbine

Electrn Cnt: 2nd Gen J&D

Signature: Large/Noisy

Weapons:

2 Catapults (1 bow, 1 waist), 2 Elevators, Arresting Gear
PW/PA/SA(R)3 Mk15 Phalanx Blk 0 (3@6.3A)

Air Group:

24 F/A-18, 10 S-3A, 4 EA-6B, 4 E-2C, 8 SH-3G

Sensors: SPS-48A, SPS-49(V)1, SPS-64

Remarks:

Proposed class of medium carrier for canceled new-generation V/STOL aircraft. Dual flight deck. Cannot use second catapult if landing aircraft in the same turn. Recommended names USS *Gary Hart*, USS *William Proxmire*.

Damage & Speed Breakdown:

Dam Pts:	0	293	585	878	1053	1170
Surf Speed:	28	21	14	7	0	Sinks

Saipan

Displacement: 14500 std

Size Class: B/Medium

Propulsion: Steam turbine

Signature: Med/Noisy

Weapons:

2 Bow Catapults, 2 Elevators, Arresting gear
2PB&SB/2PQ&SQ/S(4)5 Mk1 40mm,
6P/4S(2)10 Mk2 40mm//6 Mk28//? (7.5)
P/S(2)16 Mk20 20mm (2.0L)

Sensors:

SK-2, SP radar (both), SR-2 (SR series) radar (*Wright*)

Remarks:

Saipan, Wright. Independence-class CVLs completed postwar. Straight flight deck.

- By 1950 both removed SK-2, *Wright* receiving SC-2 and SPS-6 and *Saipan* SPS-6.
- Mar 56 - Mar 62: *Wright* Inactive with Pacific Reserve Fleet.
- Oct 56: *Saipan* had 20mm removed, foremost funnel deleted. Radar fit SPS-4, SPS-6B, SPS-8, SR, and HF/DF.
- May 59: *Saipan* reclassified AVT-6.
- Mar 62 - Aug 63: *Wright* converted to command ship, reclassified CC-2. Fitted with PW/SW/PA/SA(2)8 Mk2 40mm/60//? (3.0).
- Mar 63 - Aug 66: *Saipan* converted to communications relay ship, renamed *Arlington* (AGMR-2). 40mm and 20mm replaced by PW/SW(2)2 Mk33 3in/50, AA rating 0.3L.
- Decomm: *Arlington* Jan 70, *Wright* May 70.

Damage & Speed Breakdown:

Dam Pts:	0	127	254	380	456	507
Surf Speed:	32	24	16	8	0	Sinks

Ohio

Displacement: 18750 subm

Size Class: A/Large

Propulsion: Nuclear

Electrn Cnt: None

Signature: Med/EQuiet

Max Depth: Int V

In Class: 18 - 4

In Service: 1981

Crew: 157

Acoustic Cnt: 3rd Gen

Armor Rating: 0

Btry Rtngr: 5 (Emerg.)

CVV

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SSBN

Weapons:

(24)1 Trident C4 or Trident II D5 --

PB&SB(2)2 Mk68 (Quiet launch) 533mm TT

w/12 weapons, est. loadout 9 Mk48 Mod 4, 6 MOSS

2nd Gen mobile decoy. One TT fitted with quiet-launch catapults for MOSS, 3 TT for Mk48 **F****Sensors:**BQQ-6, BQS-13, TB-16, BQS-15 mine detection **K**BPS-15 (726-740) or BPS-16 (741-743), Raytheon Pathfinder **J****Remarks:**

SSBN 726-743. Natural circulation reactor. Endurance 70 days. Type 15 periscope has 2nd Gen ES. SSBN 626 - 739 has CSA Mk 1 with 8 external CM launchers. Broadband sonar jammers, 5 Tactical Turn duration. 740 - 743 has CSA Mk 2 Mod 0 with 14 external CM launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Alert 15 to launch missiles, then 4 ms/minute from periscope depth only in stationary hover.

• 726-733: Trident I with 8 (1981-2000) or 6 (2001 on) warheads (START I). Based in Bangor, WA (Pacific). 726 *Ohio* (Nov 81-02), 727 *Michigan* (Sep 82-03?), 728 *Florida* (Jun 83-03?), 729 *Georgia* (Feb 84-03?), 730 *Henry M. Jackson* (Oct 84), 731 *Alabama* (May 85), 732 *Alaska* (Jan 86), 733 *Nevada* (Aug 86).

• 734-743: Trident II with W88 (734-737) or W76 (738-743) warheads. Based at Kings Bay, GA (Atlantic). 734 *Tennessee* (Dec 88, first patrol Mar 90), 735 *Pennsylvania* (Sep 89), 736 *West Virginia* (Oct 90), 737 *Kentucky* (Jul 91), 738 *Maryland* (Jun 92), 739 *Nebraska* (Jul 93), 740 *Rhode Island* (Jul 94), 741 *Maine* (Aug 95), 742 *Wyoming* (Aug 96), 743 *Louisiana* (Aug 97).

• 1989?-93: Fitted with Gen 5 Automatic combat system with BQQ-5E (passive only) vice BQQ-6, and TB-16D and BQR-15 (SPALT 9080) vice the TB-16.

• Late 90s: Fitted with WLY-1 (4th Gen AIR) and 4th Gen acoustic countermeasures. Updated with CSA Mk2 Mod 4 with 14 external CM launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. TB-23 replaces BQR-15 (SPALT 9080).

• 1997: All fitted with BPS-16 radar by this date.

• 1998: SSBN 732 in service with 16 vice 8 large acoustic decoys.

• 2000-08: Remaining Trident I boats fitted with Trident II - 732 (00-02; first Pacific with Trident II); 733 (03-04); 730 (05-06/07); 731 (07-08)

• 2002-05: 735, 737, 739, 741, 743 move from Atlantic to Pacific.

• 2005-12: Fitted with CCS Mk2 Blk I fire control (Gen 6 Automatic fire control system) with BQQ-10(V)6 (passive only) vice BQQ-5E (passive only), ADCAP torpedo. All deploying units fitted by Oct 2010.

• 2015: To be fitted with Trident D5A (MLU) - 300 planned (10 ship fits)
• Dec 19 - Jan 20: *Tennessee* deploys with one or two SLBM with 5-7 kT W76-2 warheads, remainder carry either 90 kT W76-1 or 455 kT W88.

Damage & Speed Breakdown:

Dam Pts:	0	75	151	226	271	301
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	25	19	12	6	0	Sinks

Lafayette**Displacement:** 8250 subm**Size Class:** B/Medium**Propulsion:** Nuclear**Electrn Cnt:** None**Signature:** Small/Quiet**Max Depth:** Deep I**Weapons:**

(16)1 Polaris A2

PB&SB(2)2 Mk65 533mm TT w/12 weapons, est. loadout

2 Mk37 Mod 0, 8 Mk37 Mod 2, 2 Mk45 ASTOR (1963-76);

12 Mk48 Mod 1 (1976). **F****Sensors:**BQS-4, BQR-7, BQR-2B **K**BPS-11 or BPS-15, Raytheon Pathfinder **J****Remarks:**

Alert 15 to launch missiles, then launch rate 4 SLBM/minute from periscope depth only in stationary hover. SSBN 626 has bow planes for evaluation. Type 15 periscope has 1st Gen ES.

Cbt Sys: Gen 4 Semi-Automatic• *Lafayette* series with Polaris A2. 616 *Lafayette* (63-91), 617*Alexander Hamilton* (63-93), 619 *Andrew Jackson* (63-89), 620*John Adams* (64-88), 622 *James Monroe* (63-90), 623 *Nathan Hale*(63-86), 624 *Woodrow Wilson* (63-93), 625 *Henry Clay* (64-90), 626*Daniel Webster* (64-90) has A3.

• *James Madison* series with Polaris A3. 627 *James Madison* (64-91), 628 *Tecumseh* (64-93), 629 *Daniel Boone* (64-93), 630 *John C*

Calhoun (64-93), 631 *Ulysses S. Grant* (64-92), 632 *Von Steuben*(64-93), 633 *Casimir Pulaski* (64-93), 634 *Stonewall Jackson* (64-94),635 *Sam Rayburn* (64-85), 636 *Nathaniel Greene* (64-86).

• *Benjamin Franklin* series with Polaris A3, Signature Med/Quiet, have additional one Mk37 Mod 2/Mk48 Mod 1. 640 *Benjamin Franklin*

(65-93), 641 *Simon Bolivar* (65-94), 642 *Kamehameha* (65-02),643 *George Bancroft* (66-93), 644 *Lewis and Clarke* (65-91), 645*James K Polk* (66-99), 654 *George C Marshall* (66-92), 655 *Henry**L. Stimson* (66-92), 656 *George Washington Carver* (66-92), 657*Francis Scott Key* (66-93), 658 *Mariano G Vallejo* (66-95), 659 *Will**Rodgers* (67-92)

• Mar 71: First Poseidon C3 patrol by *James Madison*.

• 1969-76: All fitted with Poseidon C3.

• 1974-78: Fitted with BQR-15 towed array and BQR-19.

• 1975: Fitted with CSA Mk 1 with 8 external CM launchers;

Broadband sonar jammers, 5 Tactical Turn duration.

• 1977-82: BQR-2B replaced with BQR-21. 3rd Gen acoustic countermeasures added.

• 1978-83: *Benjamin Franklin* series fitted with Trident C4. First patrol Oct 79 (SSBN 657).

• 1979: Fitted with MOSS 3rd Gen mobile decoy. One torpedo tube is fitted with MOSS quiet launch catapult. 6 MOSS carried vice 3 Mk48 torpedoes.

Damage & Speed Breakdown:

Dam Pts:	0	44	87	131	157	174
Surf Speed:	16	12	8	4	0	Sinks
Subm Speed:	21	16	11	5	0	Sinks

Ethan Allen**Displacement:** 7884 subm**Size Class:** B/Medium**Propulsion:** Nuclear**Electrn Cnt:** None**Signature:** Small/Quiet**Max Depth:** Deep I**Weapons:**

(16)1 Polaris A2

PB/SB(2)2 Mk65 533mm TT w/12 weapons, est. loadout

6 Mk37 Mod 0/1, 6 Mk146 (1961-66); 6 Mk37 Mod 2,

4 Mk16, 2 Mk45 ASTOR (1967-76) **F****Sensors:**BQS-4, BQR-7, BQR-2B **K**BPS-9 **J****Remarks:**

Alert 15 to launch missiles, then launch rate of 1 SLBM/minute from periscope depth only in stationary hover. Type 15 periscope has 1st Gen ES.

• SSBN 608 *Ethan Allen* (61-83), 609 *Sam Houston* (62-91), 610 *Thomas A Edison* (62-92), 611 *James Marshall* (62-91), 618 *Thomas Jefferson* (63-85).

• Patrols include Mediterranean (Apr 63 on), Pacific (Dec 63 on) with Polaris A2 (Jun 62-74), Polaris A3 (Sep 64 on).

• 1967: *Ethan Allen* fitted with Mk45 ASTOR. Others probably fitted around this time.

• 1974: *James Marshall* trials platform for BQR-21.

• 1977-80: BQR-2B replaced with BQR-21 and BQR-15 towed array and BQR-19 added. Mk 48 Mod 1 torpedoes available.

• 1979: Fitted with MOSS. One torpedo tube is fitted with MOSS quiet launch catapult. 6 MOSS carried vice 3 Mk37 torpedoes.

• 1980-81: Lacked room for Poseidon, so redesignated SSN after final SSBN patrols.

SSBN**In Class:** [5]**In Service:** 1961 - 85**Crew:** 110**Acoustic Cnt:** 2nd Gen**Armor Rating:** 0**Btry Rtnng:** 5 (Emerg.)**Cbt Sys:** Gen 2 Manual**SSBN****In Class:** [31]**In Service:** 1963 - 95**Crew:** 147**Acoustic Cnt:** 2nd Gen**Armor Rating:** 0**Btry Rtnng:** 5 (Emerg.)**Cbt Sys:** Gen 2 Manual

• Sep 82 - Sep 85: *Sam Houston* (struck 1991) and *John Marshall* (struck 1992) converted to SSN as troop transports with two external Dry Dock Shelters (DDS), 67 troops - see separate entry. Limited to one DDS until May 88 (not enough DDS).

Damage & Speed Breakdown:

Dam Pts:	0	42	85	127	152	169
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	20	15	10	5	0	Sinks

George Washington

SSBN

Displacement: 6709 subm
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: None
Signature: Small/Noisy
Max Depth: Int III
Weapons:

(16)1 Polaris A1 --
 PB&SB(3)2 Mk59 533mm TT w/12 weapons, est. loadout
 6 Mk37 Mod 0/1, 6 Mk16 (1959-66); 6 Mk37 Mod 2,
 4 Mk16, 2 Mk45 ASTOR (1967-76)

Sensors: ES/AIR: 1st/1st Gen

BQS-4, BQR-2B, BQR-7
 BPS-11

Remarks:

Alert 15 to launch missiles, then launch rate of 1 SLBM/minute from periscope depth only in stationary hover. Never fitted for SUBROC. Type 8 periscope has ST range only radar.
 • SSBN 598 *George Washington* (59-85), 599 *Patrick Henry* (60-84), 600 *Theodore Roosevelt* (61-78), 601 *Robert E. Lee* (60-83), 602 *Abraham Lincoln* (61-78).
 • Nov 60: First patrol - Norwegian Sea & Arctic. Forward deployed from Holy Loch, Scotland.
 • Apr 63: First patrols in Mediterranean Sea.
 • 1966-67: Fitted with Polaris A3.
 • 1977-1980: BQR-2B replaced with BQR-21, BQR-19 and STASS clip-on towed array added. 2nd Gen acoustic countermeasures added. Mk 48 Mod 1 torpedoes available.
 • 1980-81: Remainder of class converted to SSN. Not successful - limited sonar, weapons, slow speed and high noise.

Damage & Speed Breakdown:

Dam Pts:	0	38	76	114	137	152
Surf Speed:	16	12	8	4	0	Sinks
Subm Speed:	22	17	11	6	0	Sinks

Ohio SSGN

SSGN

Displacement: 18750 subm
Size Class: A/Large
Propulsion: Nuclear
Electrn Cnt: None
Signature: Med/EQuiet
Max Depth: Int V
Weapons:

PB&SB(2)2 Mk68 (Quiet launch) 533mm TT w/12 weapons, est. loadout 1 MOSS launcher w/4 MOSS 3rd gen mobile decoy, 11 Mk48 ADCAP. Cannot fire TACTOM from TT
 (22)1 tubes w/see remarks

Sensors: ES/AIR: 4th/4th Gen

BQQ-5E (passive only), BQR-7, TB-16D, TB-23
 BPS-15, Raytheon Pathfinder

Remarks:

SSGN 726 *Ohio*, SSGN 727 *Michigan*, SSGN 728 *Florida*, SSGN 729 *Georgia*. Natural circulation reactor. Fitted with anechoic coating. Fitted with CSA Mk2 Mod 4 with 14 external CM launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Can plan SOF and Tomahawk strikes. Can carry 66 SEALs for long durations plus further 36 SEALs for short durations. Type 15L periscope replaced with AN/BVS-1 non-penetrating periscope with optical, IR (4th Gen), laser rf and ES (3rd Gen), GPS capability.
 • 2 tubes converted to 9-swimmer lockout chambers and docks for ASDS and DDS docks - 6 tubes unusable with ASDS carried or 8

tubes unusable with DDS carried. Further 8 tubes can ship either UUV or SOF equipment (2 weapons, 4 dry, 2 wet) or 7 Tomahawk each. Last 14 tubes can carry 7 Tomahawk each. See below for loadouts - estimate 70% Blk IIIC, 30% Blk IIID.

- Pure strike: 140 Tomahawk.
- SOF (ASDS): 1 ASDS, 98 Tomahawk (one would be this standard).
- SOF (DDS): 2 DDS or 1 DDS and 1 ASDS, 56 Tomahawk (estimate two DDS is standard).
- 2006-08: Returned to service - *Ohio* (2002-Feb 06), *Florida* (Aug 03-Apr 06), *Michigan* (Mar 04-Oct 06), *Georgia* (Mar 05-Sep 07). Have two crews for 70% in-theater presence.
- Sep 07: *Ohio* declared fully operational. Remainder declared operational in late 2007.
- 2011-12: BQQ-5E replaced by BQQ-10(V)6.
- Apr 17 - Aug 19: *Ohio* completes 27-month overhaul.
- Aug 19 - 2020: *Michigan* begins 17-month overhaul.

Damage & Speed Breakdown:

Dam Pts:	0	75	151	226	271	301
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	25	19	12	6	0	Sinks

Halibut

SSGN

Displacement: 4895 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int III
Weapons:

PB&SB(2)2 Mk61 533mm TT w/8 4 Mk37 Mod 0 or
 2 Mk37 Mod 2 and 6 Mk16
 PQ&SQ(1)2 Mk62 533mm TT w/4 4 Mk37 Mod 0/Mod 2
 F(1)5 RGM-6A Regulus I

Sensors: ES/AIR: 1st/1st Gen

BQS-4, BQR-2/2B
 BPS-12

Remarks:

Can carry five RGM-6A Regulus I or two RGM-15A Regulus II. Must surface to fire Regulus, two Tactical Turns to prepare for launch, can provide guidance from periscope depth. Type 8 periscope has ST range only radar.
 • Feb 65-66: Refit - Regulus removed. Fitted with bow thrusters and towed sonar/camera pod for sea bed recon (~6080 m) - real time sonar feed, records cameras images. Reclassified as SSN.
 • 1970: Fitted with external diver decompression chamber to operate saturation divers. Used to tap underwater communications cables. Can anchor above sea bed.
 • 1974: Fitted to bottom.

- 1977-1980: BQR-2B replaced with BQR-21. 2nd Gen acoustic countermeasures added. Mk 48 Mod 1 torpedoes available.

Damage & Speed Breakdown:

Dam Pts:	0	31	62	92	111	123
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	16	12	8	4	0	Sinks

Virginia (ii)

SSN

Displacement: 7800 subm
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: None
Signature: Small/EQuiet
Max Depth: Int V
Weapons:

PB&SB(2)2 533mm (Quiet launch) TT w/26 weapons, est. loadout 14 Mk48, 12 Tomahawk
 PB&SB(12)1 VLS w/12 Tomahawk (Blocks I/II)
 PB&SB(6)2 VPT w/12 Tomahawk total (Blocks III/IV)

Sensors: ES/AIR: 3rd/5th Gen

BQQ-10(V)4, TB-29A, TB-16G, BQG-5A WAA,
 BQS-24 ADMS mine detection
 BPS-16, Raytheon Pathfinder

D, F
 D
 D
 K
 J

America's Navy

Remarks:

Fitted with pump jet propulsor and anechoic coating. Fitted with two AN/BVS-1 non-penetrating periscopes with optical, IR (4th Gen), laser rf and ES (3rd Gen), GPS capability. Blocks I and II have the CSA Mk2 Mod2 with 14 external CM launchers. Blocks III and IV have CSA Mk4 with 16 external launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Blocks III/IV have two multi-purpose Virginia Payload Tubes (VPT) vice individual VLS. Each tube can hold six Tomahawk missiles or a large UUV. Fitted with a 9-man lockout chamber. Can carry 40 SOF troops with no reload torpedoes or 27 SOF with 8 reload torpedoes. Not currently fitted for mines.

• Nov 05: *Virginia* operational mission prior to post-shakedown availability, IOC 2007 (first operational patrol), FOC 2009.

• Block I, SSN 774-777: 774 *Virginia*, 775 *Texas*, 776 *Hawaii*, 777 *North Carolina*.

• Block II, SSN 778-783: 778 *New Hampshire*, 779 *New Mexico*, 780 *Missouri*, 781 *California*, 782 *Mississippi*, 783 *Minnesota*.

• Block III, SSN 784 - 791: 784 *North Dakota*, 785 *John Warner*, 786 *Illinois*, 787 *Washington*, 788 *Colorado*, 789 *Indiana*, 790 *South Dakota*, 791 *Delaware*.

• Block IV, SSN 792-801: 792 *Vermont*, 793 *Oregon*, 794 *Montana*.

• 2014: SSN 776, 782, 784 and 779 fitted for DDS. SSN 778 fitted 2018.

• Block V, SSN 802-811, 10200 subm with (4)1 VPM added, each with 7 Tomahawk. Other VPM options are 3 Conventional Prompt Strike (2028) or 7 torpedoes or 14 MALD or 1 large UUV: 802 *Oklahoma*, 803 *Arizona*, 804 *Barb*, 805 *Tang*, 806 *Wahoo*.

Damage & Speed Breakdown:

DP (Blks I-IV):	0	42	84	126	151	168
DP (Blk V):	0	50	101	151	181	201
Surf Speed:	15	11	8	4	0	Sinks
Sub Spd (I-IV):	34	26	17	9	0	Sinks
Sub Spd (V):	32	24	16	8	0	Sinks

Seawolf (ii)

SSN

Displacement: 9150 subm

In Class: 3

Size Class: B/Medium

In Service: 1997

Propulsion: Nuclear

Crew: 131

Electrn Cnt: None

Acoustic Cnt: 4th Gen

Signature: Small/EQuiet

Armor Rating: 0

Max Depth: Deep I

Btry Rtnng: 5 (Emerg.)

Weapons:

Cbt Sys: Gen 5 Automatic

PB&SB(4)2 Mk60 (Quiet launch) 670mm TT w/50 weapons,

est. loadout 38 Mk48 Mod 6, 12 Tomahawk Blk III

F, D

Sensors:

ES/AIR: 4th/4th Gen

BSY-2, BQG-5, BQS-24, TB-16D, TB-29A towed arrays

K

BPS-16

J

Remarks:

Seawolf, *Connecticut*, *Jimmy Carter*. Fitted with pump jet propulsor and anechoic coating. Fitted with CSA Mk2 Mod0 with 14 external CM launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Type 18 periscope has ES 2nd Gen.

• 1997-00: *Seawolf* not operational due to problems with HP air system, propulsor and sonar. First operational patrol Jun 01 - Tomahawk Blk III fitted mid-deployment.

• 1998-00: *Connecticut* not operational. Brief patrol mid-2001.

• 2004-07: BQS-24 mine detection sonar added.

• Feb 05: *Jimmy Carter* in service. 12140 t subm, crew 151. Can hover and turn in own length using propulsors. Fitted for 50 SOF troops, DDS and ASDS, max subm speed 30 kts.

• 2007: *Seawolf* and *Connecticut* move from Atlantic to Pacific Fleet. Add the following remarks:

• 2010-13: *Seawolf* undergoes overhaul. BQQ-10(V)5 replaces BSY-2. TB-34 and TB-29C added. 5th Gen AIR. BYG-1 6th Gen Automatic combat system also fitted. CSA Mk2 Mod 0 replaced with CSA Mk3 with 16 external launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Type 18 periscope updated with IR (3rd Gen), ES (3rd Gen), and GPS. Type 8 periscope backfitted with IR (3rd Gen).

• 2012-16: *Connecticut* undergoes overhaul. BQQ-10(V)5 replaces BSY-2. TB-34 and TB-29C added. 5th Gen AIR. BYG-1 6th Gen

Automatic combat system also fitted. CSA Mk2 Mod 0 replaced with CSA Mk3 with 16 external launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Type 18 periscope updated with IR (3rd Gen), ES (3rd Gen), and GPS. Type 8 periscope backfitted with IR (3rd Gen).

• 2017: *Jimmy Carter* fitted with Mission Reconfigurable Unmanned Undersea Vehicle (MRUUV).

Damage & Speed Breakdown:

Dam Pts (S, C):	0	47	93	140	167	186
Dam Pts (JC):	0	56	113	169	203	225
Surf Speed:	18	14	9	5	0	Sinks
Sub Sp (S, C):	38	29	19	10	0	Sinks
Sub Sp (JC):	30	23	15	8	0	Sinks

Ethan Allen

SSN

Displacement: 7884 subm

In Class: [2]

Size Class: B/Medium

In Service: 1984 - 92

Propulsion: Nuclear

Crew: 124 +67

Electrn Cnt: None

Acoustic Cnt: 3rd Gen

Signature: Small/Quiet

Armor Rating: 0

Max Depth: Deep I

Btry Rtnng: 5 (Emerg.)

Weapons:

Cbt Sys: Gen 2 Manual

PB/SB(2)2 Mk65 533mm TT w/12 Mk48 Mod 1

F

Sensors:

ES/AIR: 1st/2nd Gen

BQS-4, BQR-7, BQR-15, BQR-19, BQR-21

K

BPS-9

J

Remarks:

Converted SSBNs. Type 15 periscope has an ES sensor (1st Gen).

• Sep 82 - Sep 85: *Sam Houston* and *John Marshall* converted from SSBN to troop transports with two external Dry Dock Shelters (DDS). Some missile tubes removed to make room for berthing, airlocks, stowage. Can carry 67 SEALs.

Damage & Speed Breakdown:

Dam Pts:	0	42	85	127	152	169
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	20	15	10	5	0	Sinks

Improved Los Angeles

SSN

Displacement: see remarks

In Class: 23 - 1

Size Class: B/Medium

In Service: 1988

Propulsion: Nuclear

Crew: 141

Electrn Cnt: None

Acoustic Cnt: 3rd Gen

Signature: Small/VQuiet

Armor Rating: 0

Max Depth: Int V

Btry Rtnng: 5 (Emerg.)

Weapons:

Cbt Sys: Gen 5 Automatic

PB&SB(2)2 Mk67 533mm TT w/26 weapons, est. loadout

12 Mk48 ADCAP, 6 Harpoon, 8 Tomahawk Blk I/II (1988-97)

18 Mk48 ADCAP, 8 Tomahawk Blk III (1997)

F, D

PB&SB(12)1 Mk45 VLS w/12 Tomahawk

D

Sensors:

ES/AIR: 3rd/3rd Gen

BSY-1 (BQQ-5D), BQS-15, TB-16D and TB-23 towed arrays

K

BPS-16, Raytheon Pathfinder

J

Remarks:

Fitted with anechoic coating and CSA Mk2 Mod1 with 14 external CM launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration. Fitted for under-ice operations. SSN 756 and on can carry Mk67 Submarine Launched Mobile Mines (SLMM). Type 18 periscope has 2nd Gen ES.

• SSN 751-770: 7147 t subm.

• *Hartford* SSN 768 was the trials platform for the pump jet propulsor design for SSN 21.

• SSN 771-773: 7177 t subm.

• Oct 90: AN/BSY-1 combat system fully operational on SSN 755. SSN 751, 752, and 754 have reduced capability before this date - treat the combat system as 3rd Gen Semi-Automatic.

• May 95: SSN 758 fitted with Advanced Mine Detection Sonar (AMDS) - HF sonar under-ice, bottom navigation, ASW and MH.

• Late 90s: BSY-1 updated to BQQ-5E standard. Fitted with WLY-1 (4th Gen AIR) and 4th Gen ACM.

• 1999-00: SSN 772, 776 fitted for ASDS - 4 more were planned.

- May 95-2003: *Asheville* SSN 758 was the trials platform for the AMDS HF sonar for mine avoidance, navigation and ASW.
- Sep 02: TACTOM available for VLS only.
- 2001: Fitted with combined COMINT/ELINT/ES mast (BLQ-10)
- 2007-10: Fitted with BQQ-10(V)4 vice BSY-1. TB-29A replaces TB-23. TB-34 replaces TB-16D. BYG-1 6th Gen Automatic combat system replaces BSY-1. Type 18 periscope updated with IR (3rd Gen), ES (3rd Gen), and GPS. Type 8 periscope backfitted with IR (3rd Gen).
- 2008-11: Fitted with keel ice avoidance sonar, provision for new towed arrays.
- 23 May 12: SSN 755 badly damaged during dockyard fire. Struck due to budget cuts.
- Sep 20: SSN 760 operational with Blackwing submarine launched unmanned aerial system (SLUAS). At least five ship sets delivered.

Damage & Speed Breakdown:

DP (7147 t):	0	40	79	119	142	158
DP (7177 t):	0	40	80	119	143	159
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	32	24	16	8	0	Sinks

Los Angeles

Displacement: see remarks
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: None
Signature: Small/VQuiet
Max Depth: Int V
Weapons:
 PB&SB(2)2 Mk67 533mm TT w/26 see remarks
 F&A(12)1 VLS w/12 Tomahawk (SSN-719 - 750)
Sensors:
 BQQ-5A, BQS-15
 BPS-15, Raytheon Pathfinder
Remarks:
 Not fitted for under-ice operations or to carry mines. Type 18 periscope has 2nd Gen ES. Fitted with buoyant cable comms. Weapons loadouts estimated.

- SSN 688 - 699: BQQ-5A, Mk113 Mod 2 FCS (Gen 2 Manual): 22 Mk48 Mod 1, 4 SUBROC (1976-88); 26 Mk48 Mod 1 (1988-mid 90s). Upgraded to CCS Mk1 1984-mid 90s, combat system Gen 4 Semi-Automatic. 6927 t subm.
- SSN 700 - 715: BQQ-5B, Mk117 FCS (Gen 4 Semi-Automatic): 20 Mk48 Mod 3/4, 6 Harpoon IB. SSN-701 and on can launch Tomahawk (TLAM only). Probably all updated to CCS Mk1 by mid 90s. 6977 t subm.
- SSN 716 - 718: BQQ-5C, TB-16A, CCS Mk1 FCS (Gen 4 Semi-Automatic): 12 Mk48 Mod 3/4, 6 Harpoon IB, 8 Tomahawk I/II (1984-96); 18 Mk48 Mod 3/4, 8 Tomahawk I/II (1997 on). Provision for Sea Lance (canceled), Mk67 SLMM, Tomahawk TASM. SSN 719 and on can ship ADCAP when available. 7012 t subm.
- SSN 719-725, 750: BQQ-5C, TB-16, CCS Mk1 FCS (Gen 4 Semi-Automatic), 3rd Gen ES: 12 Mk48 Mod 3/4, 6 Harpoon IB, 8 Tomahawk I/II (1984-96); 18 Mk48 Mod 3/4, 8 Tomahawk I/II (1997). 7102 t subm.
- 1980: Fitted with 3rd Gen ACM.
- Jul 87: SSN 710 fitted with BQG-5D WAA.
- 1989: SSN 691 tasked with secondary trials role from this date. Fitted with ROV hangar in mid 90s.
- 1989-mid 90s: All fitted with BQQ-5D, TB-16D/E, and TB-23. Backfitted with anechoic coating and CSA Mk2 Mod1 with 14 external CM launchers. Broadband sonar jammers and torpedo ACMs, 5 Tactical Turn duration.
- 1991-92: SSN 712 tests BPS-16.
- 1995 - 00: SSN 688, 690, 700, 701, 715 fitted with provisions for Dry Dock Shelter (DDS), can accommodate 20 SEAL vice an estimated 8 Mk48.
- Late 90s: Fitted with BQQ-5E and CCS Mk2 (Gen 5 Automatic combat system), WLY-1 (4th Gen AIR) and 4th Gen ACM.
- 2007-10: In service units fitted with BQQ-10(V)4 vice BQQ-5E. TB-16D/E and TB-23 towed arrays retained. Combat system updated to BYG-1 6th Gen Automatic. Type 18 periscope updated with IR (3rd

SSN

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Gen), ES (3rd Gen), and GPS. Type 8 periscope backfitted with IR (3rd Gen).

- 8 Jan 05: *San Francisco* collided with undersea mountain off Guam, one sailor killed, 98 injured. Repaired Aug 05 - Oct 08.
- 2008-11: Fitted with ice keel avoidance sonar.
- 2016: *San Francisco* decommed, converted to a moored training submarine in San Diego.
- 2019: Only VLS units and SSN 698, 717 remain operational.

Damage & Speed Breakdown:

DP (6927 t):	0	39	78	116	140	155
DP (6977 t):	0	39	78	117	140	156
DP (7012 t):	0	39	78	117	140	156
DP (7102 t):	0	39	79	118	141	157
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	32	24	16	8	0	Sinks

Glenard P. Lipscomb

Displacement: 6480 subm
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: None
Signature: Small/Quiet
Max Depth: Deep I
Weapons:
 PB&SB(2)2 Mk63 533mm TT w/24 weapons, est. loadout
 20 Mk48 Mod 1, 4 SUBROC
Sensors:
 BQQ-5A, TB-16, BQS-14
 BPS-15
Remarks:
 SSN 685. Similar to *Sturgeon* class with experimental turbo-electric drive.

- 1980: Mk48 Mod 4 available.
- 1984-85: Sonar upgraded to BQQ-5B, Gen 4 Semi-Automatic combat system, 3rd Gen ACM. Harpoon IB capability added.
- 11 Jul 90: Struck.

Damage & Speed Breakdown:

Dam Pts:	0	37	74	111	133	148
Surf Speed:	18	14	9	5	0	Sinks
Subm Speed:	23	17	12	6	0	Sinks

Narwhal

Displacement: 5350 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Quiet
Max Depth: Deep I
Weapons:
 PB&SB(2)2 Mk63 533mm TT w/26 weapons, est. loadout
 16 Mk37 Mod 2, 6 Mk16, 4 SUBROC (1960s)
 or 22 Mk48 Mod 1, 4 SUBROC (1970s)
Sensors:
 BQQ-2, STASS, BQS-8
 BPS-14
Remarks:
 SSN-671. Similar to *Sturgeon* class but with prototype natural-circulation reactor. Angled torpedo TT limit max weapon launch speed to 20 kts. Type 15 periscope has 1st Gen ES.

- 1979: Sonar upgraded to BQQ-5A, TB-16A. Fitted with prototype Mk117 fire control (Gen 4 Semi-Automatic). Estimated loadout 23 Mk 48 Mod 3/4 (1977-81), 17 Mk48 Mod 3/4, 6 Harpoon IB (1981-97). SUBROC capability removed.
- 1989-94: Sonar updated to BQQ-5D, TB-16E, TB-23. BPS-15 replaced BPS-14, BQS-14 replaces BQS-8, 3rd Gen ES, 3rd Gen AIR, 3rd Gen ACM. Fitted with Tomahawk, up to 8 missiles carried instead of torpedoes. Estimated loadout is 18 Mk48, 4 Harpoon/ Tomahawk, 4 Tomahawk.
- 16 Jan 99: Deactivated, struck Jul 99.

SSN

In Class: [1]
In Service: 1974 - 90
Crew: 121
Acoustic Cnt: 2nd Gen
Armor Rating: 0
Btry Rtnng: 5 (Emerg.)
Cbt Sys: Gen 3 Semi-Automatic
ES/AIR: 2nd/2nd Gen

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SSN

In Class: [1]
In Service: 1969 - 99
Crew: 120
Acoustic Cnt: 2nd Gen
Armor Rating: 0
Btry Rtnng: 5 (Emerg.)
Cbt Sys: Gen 3 Semi-Automatic
ES/AIR: 2nd/2nd Gen

F, E
K
J

Damage & Speed Breakdown:

Dam Pts:	0	33	65	98	117	130
Surf Speed:	20	15	10	5	0	Sinks
Subm Speed:	25	19	13	6	0	Sinks

Sturgeon**SSN**

Displacement: 4780 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Quiet
Max Depth: Deep I
Weapons: PB&SB(2)2 Mk63 533mm TT w/24 weapons, est. loadout
 11 Mk37 Mod 2, 7 Mk16, 4 SUBROC, 2 Mk45 ASTOR
Sensors: BQQ-2, BQS-8
 BPS-14
Remarks: Improved *Permit* design. Angled torpedo TT limit max weapon launch speed to 20 kts. Many fitted with BQG-2A/2B PUFFS. Type 15 periscope has 1st Gen ES.
 • SSN 637-639, 646-653, 660-670, 672-677: Short Hull with BQQ-2.
 • SSN 678-683: Long Hull with BQQ-2.
 • SSN 684, 686, 687: Long Hull with BQQ-5A.
 • 1970s: SSN 662, 666, 667, 672 fitted with provision for DSRV.
 • 1972: Mk48 Mod 1 available, replaces 1 reload with wire-G spools. Estimated loadout 19 Mk48 Mod 1, 4 SUBROC. STASS sonar tested on Pacific fleet unit. Many later fitted (estimate from 1973).
 • 1977: *Parche* fitted for "special projects," including ability to operate saturation divers and to tap underwater cables. Usually carry only 4 torpedoes in TT with ELINT/cable tapping equipment in torpedo room.
 • 1978: *Richard B. Russel*, *Silversides* fitted with Bustle communications buoy.
 • Early 1980s: Sonar upgraded to BQQ-5B, TB-16A replaces STASS, BQS-14 replaces BQS-8. Mk117 fire control added Gen 4 Semi-Automatic, SUBROC capability removed. Harpoon capability added. Estimated loadout 18 Mk 48 Mod 3/4, 6 Harpoon IB.
 • 1980: *Batfish* first USN sub fitted with anechoic coating for trials.
 • 1982: *Cavalla* fitted with provision for one DDS. Can carry 16 SEALs vice an estimated 6 Mk48. *Archerfish*, *Silversides*, *William H. Bates*, *Tunny*, *L. Mendell Rivers* fitted 1989-92 (SSN 678-680, 682, 686).
 • 1980s: *Richard B. Russel* fitted as special projects boat including ability to tap underwater cables. In Service 1987.
 • 1986: *Richard B. Russel* trials with BQS-24 mine detection sonar.
 • 1990-94: Surviving units had the sonar upgraded to BQQ-5D, without the TB-23. CCS MK1 combat system added, Gen 4 Semi-Automatic combat system.
 • Jan 87 - 91: *Parche* fitted with 100 ft extension for special projects including sonar/ASW trials, displacement 7140 t subm, 158 dp. Crew 166, can recover objects from seabed.
 • 17 Dec 04: *Parche* struck.

ES/AIR: 2nd/2nd Gen
F, E
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Remarks:

Improved *Permit* design. Angled torpedo TT limit max weapon launch speed to 20 kts. Many fitted with BQG-2A/2B PUFFS. Type 15 periscope has 1st Gen ES.
 • SSN 637-639, 646-653, 660-670, 672-677: Short Hull with BQQ-2.
 • SSN 678-683: Long Hull with BQQ-2.
 • SSN 684, 686, 687: Long Hull with BQQ-5A.
 • 1970s: SSN 662, 666, 667, 672 fitted with provision for DSRV.
 • 1972: Mk48 Mod 1 available, replaces 1 reload with wire-G spools. Estimated loadout 19 Mk48 Mod 1, 4 SUBROC. STASS sonar tested on Pacific fleet unit. Many later fitted (estimate from 1973).
 • 1977: *Parche* fitted for "special projects," including ability to operate saturation divers and to tap underwater cables. Usually carry only 4 torpedoes in TT with ELINT/cable tapping equipment in torpedo room.
 • 1978: *Richard B. Russel*, *Silversides* fitted with Bustle communications buoy.
 • Early 1980s: Sonar upgraded to BQQ-5B, TB-16A replaces STASS, BQS-14 replaces BQS-8. Mk117 fire control added Gen 4 Semi-Automatic, SUBROC capability removed. Harpoon capability added. Estimated loadout 18 Mk 48 Mod 3/4, 6 Harpoon IB.
 • 1980: *Batfish* first USN sub fitted with anechoic coating for trials.
 • 1982: *Cavalla* fitted with provision for one DDS. Can carry 16 SEALs vice an estimated 6 Mk48. *Archerfish*, *Silversides*, *William H. Bates*, *Tunny*, *L. Mendell Rivers* fitted 1989-92 (SSN 678-680, 682, 686).
 • 1980s: *Richard B. Russel* fitted as special projects boat including ability to tap underwater cables. In Service 1987.
 • 1986: *Richard B. Russel* trials with BQS-24 mine detection sonar.
 • 1990-94: Surviving units had the sonar upgraded to BQQ-5D, without the TB-23. CCS MK1 combat system added, Gen 4 Semi-Automatic combat system.
 • Jan 87 - 91: *Parche* fitted with 100 ft extension for special projects including sonar/ASW trials, displacement 7140 t subm, 158 dp. Crew 166, can recover objects from seabed.
 • 17 Dec 04: *Parche* struck.

Damage & Speed Breakdown:

Dam Pts:	0	30	61	91	109	121
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	26	20	13	7	0	Sinks

Permit**SSN**

Displacement: 4770 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Quiet
Max Depth: Deep I
Weapons: PB&SB(2)2 Mk63 533mm TT w/23 weapons, est. loadout
 12 Mk37 Mod 1/2, 9 Mk16, 2 Mk45 ASTOR (60s-70s) or
 23 Mk48 Mod 1 (1970s)
Sensors: BQQ-2, STASS, BQS-8
 SS-2
ES/AIR: 1st/2nd Gen
F
K
J

Remarks:

Listed as the *Thresher* class until her loss. Angled torpedo TT limit max weapon launch speed to 20 kts. Type 15 periscope has 1st Gen ES. Periscope not fitted with fairing - max useable speed 6 kts. Not fitted with ELINT due to small sail size.
 • SSN 593 *Thresher* (60-63), 594 *Permit* (62-91), 595 *Plunger* (62-89), 596 *Barb* (63-89), 603 *Pollack* (64-89), 604 *Haddo* (64-90), 605 *Jack* (67-89), 606 *Tinosa* (64-91), 607 *Dace* (64-88), 612 *Guardfish* (66-91), 613 *Flasher* (66-91), 614 *Greenling* (67-93), 615 *Gato* (67-94), 621 *Haddock* (67-92).
 • 10 Apr 63: *Thresher* lost with 129 crew.
 • 605 fitted with contra-rotating propellers, lengthened hull (299 feet), slow speed turbines, displaces 4467 t subm, in an attempt for quieter machinery - not successful.
 • 1964: SUBROC operational on *Permit*, others later fitted. Estimated loadout 10 Mk37, 7 Mk14, 2 Mk45 ASTOR, 4 SUBROC.
 • 1972: BQR-15 tested on Pacific fleet unit. Several later fitted with STASS (estimate 1973 on).
 • 1976: *Permit* tests Harpoon missile.
 • 1978: *Barb* tests Tomahawk missile.
 • 1979-85: Sonar upgraded to BQQ-5B, TB-16A added, BQS-14 replaces BQS-8. Mk117 fire control (4th Gen Semi-Automatic) replaces Mk113. SUBROC capability removed. Harpoon and Tomahawk capability added. Fitted with 3rd Gen ACM. Estimated loadout: 17 Mk48 Mod 3/4 and 6 Harpoon IB.
 • 1980s: SSN 596, 604-606, 612-615 fitted for Tomahawk. Estimated torpedo loadout is 4 Harpoon IB, 11 Mk48, 8 Tomahawk Blk I/II.

Damage & Speed Breakdown:

DP (4310 t):	0	28	57	85	102	113
DP (4770 t):	0	30	61	91	109	121
Surf Speed:	15	11	8	4	0	Sinks
Sb Spd (4310t):	27	20	14	7	0	Sinks
Sb Spd (4770t):	26	20	13	7	0	Sinks

Tullibee**SSN**

Displacement: 2607 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Quiet
Max Depth: Int III
Weapons: PB&SB(2)2 Mk64 533mm TT w/6 Mk37 Mod1/2, 6 Mk16
Sensors: BQQ-1, BQG-1 PUFFS
 BPS-9
ES/AIR: 1st/2nd Gen
F
K
J

Remarks:

First USN submarine with integrated sonar suite and midships angled TT. Special nuclear-electric drive, can go from full ahead to full astern in seconds (use Small/CPD accel/decel times). Never fitted with SUBROC. ASW trials until 1972, then operational with deployments to Atlantic and Mediterranean. Type 8 periscope has ST range only radar.
 • 1969: BQG-4 replaces BQG-1.
 • 1973?: Fitted with STASS towed array.
 • 1977: Probably fitted for Mk48 torpedoes - estimated loadout 11 Mk48 Mod 1. Lose 1 reload space due to wire spools.
 • 1980: Fitted with 3rd Gen ACM.

Damage & Speed Breakdown:

Dam Pts:	0	20	41	61	73	81
Surf Speed:	13	10	7	3	0	Sinks
Subm Speed:	16	12	8	4	0	Sinks

Skipjack**SSN**

Displacement: 3500 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int III
In Class: [6]
In Service: 1959 - 91
Crew: 94
Acoustic Cnt: 2nd Gen
Armor Rating: 0
Btry Rtnng: 5 (Emerg.)

Weapons: PB&SB(3)2 Mk59 533mm TT w/12 Mk37 Mod1/2, 12 Mk16
Sensors: BQR-2B, SQS-4 Mod 1
Remarks: SSN 585 *Skipjack* (59-90), 588 *Scamp* (61-88), 589 *Scorpion* (60-68), 590 *Sculpin* (61-90), 591 *Shark* (61-86), 592 *Snook* (61-86). Original speed was 33 knots with 5-blade propeller. Never fitted with SUBROC. Fitted to guide Regulus msls.
 • 1961: Improved auxiliary machinery and 7-blade propeller, speed reduced to 30 kts, Noisy acoustic signature.
 • 1977: Fitted with STASS towed array, BQR-21 vice BQR-2, BPS-12 vice SS-2A, ES upgraded to 2nd Gen. Mk48 capability added, estimated TT loadout is 23 Mk48 Mod 1. Lose 1 reload space due to wire spools.
 • 1980: Fitted with 3rd Gen ACM.
Damage & Speed Breakdown:

Dam Pts:	0	25	49	74	88	98
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	33	25	17	8	0	Sinks
Sub Spd ('61):	30	22	15	8	0	Sinks

Skate SSN
Displacement: 2860 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int III
Weapons: PB&SB(3)2 Mk56 533mm TT w/18 weapons, est. loadout 8 Mk37 Mod 0, 10 Mk16
Sensors: PQ&SQ(2)1 Mk57 533mm TT w/2 Mk37 Mod 0
ES/AIR: 1st/2nd Gen
Remarks: Double hull. Fitted with BQS-8 MH sonar and to guide Regulus msls.
 • SSN 578 *Skate* (57-86), 579 *Swordfish* (58-89), 583 *Sargo* (58-88), 584 *Seadragon* (59-84).
 • 1965: 'Demoted' to second line status, class largely used for Arctic research.
 • Nov 65 - Aug 67. *Swordfish* fitted as special projects boat with tethered ROV.
 • 1980: Fitted with 3rd Gen ACM.
Damage & Speed Breakdown:

Dam Pts:	0	22	43	65	77	86
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	19	14	10	5	0	Sinks

Seawolf (i) SSN
Displacement: 4287 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Loud
Max Depth: Int III
Weapons: PB/SB(3)2 Mk51 533mm TT w/22 weapons, est. loadout 10 Mk37 Mod 0, 10 Mk16, 2 Mk45 ASTOR
Sensors: BQR-4A, SQS-4 Mod 3
Remarks:
 • Dec 58-Sep 60: Reactor replaced, BQR-2B added.
 • May 65-Aug 67: Fitted to operate saturation divers (185 m+).
 • 1969: Fitted with thrusters - can hover in place.
 • Jan 71 - Jun 73: Converted to 'Special project platform' including ability to tap underwater cables and anchor. Fitted to bottom by 1981.

• 1980: Fitted with 3rd Gen ACM. Mk48 capability added. Estimated loadout is 12 Mk48 Mod 1.
 • 1986: Operates in Libyan waters.
Damage & Speed Breakdown:

Dam Pts:	0	28	56	84	101	112
Surf Speed:	20	15	10	5	0	Sinks
Subm Speed:	20	15	10	5	0	Sinks

Triton SSRN
Displacement: 7773 subm
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: None
Signature: Small/Loud
Max Depth: Int III
Weapons: PB&SB(2)2 Mk60 533mm TT w/10 weapons, est. loadout 4 Mk37 Mod 1 and 6 Mk16
Sensors: PQ&SQ(1)2 Mk60 533mm TT w/4 Mk37 Mod 1
ES/AIR: 1st/1st Gen
Remarks: SPS-26 considered unreliable. Fitted with CIC, can direct fighters. Type 8 periscope has ST range only radar.
 • 1962-64: Converted to SSN. BQS-8 obstacle avoidance sonar added to the sail.
 • 3 May 69: Struck as too expensive to operate.
Damage & Speed Breakdown:

Dam Pts:	0	42	84	125	150	167
Surf Speed:	28	21	14	7	0	Sinks
Subm Speed:	20	15	10	5	0	Sinks

Nautilus SSN
Displacement: 4092 subm
Size Class: C/Small
Propulsion: Nuclear
Electrn Cnt: None
Signature: VSmall/Loud
Max Depth: Int III
Weapons: PB&SB(3)2 Mk50 533mm TT w/26 weapons, est. loadout 22 Mk16 (1950s); 18 Mk16, 8 Mk37 Mod 0 (1960s-70s); 22 Mk48 Mod 1 (1980s)
Sensors: BQR-4A, SQS-4 Mod 4
ES/AIR: 1st/1st Gen
Remarks: Type 8 periscope has ST range only radar.
 • 1958: Fitted with deck mounted UQS-1 for under-ice operations.
 • 1964: BQR-3A sonar added.
Damage & Speed Breakdown:

Dam Pts:	0	27	55	82	98	109
Surf Speed:	22	17	11	6	0	Sinks
Subm Speed:	23	19	13	7	0	Sinks

Grayback SSG
Displacement: 3650 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int III
Weapons: PB&SB(2)2 Mk52 533mm TT w/6 Mk 37 Mod 0, 6 Mk16
Sensors: PQ&SQ(1)2 Mk53 533mm TT w/4 Mk37 Mod 0
ES/AIR: 1st/1st Gen
Remarks: F(1)4 RGM-6A Regulus
 • 1958: Fitted with deck mounted UQS-1 for under-ice operations.
 • 1964: BQR-3A sonar added.
Damage & Speed Breakdown:

Dam Pts:	0	27	55	82	98	109
Surf Speed:	22	17	11	6	0	Sinks
Subm Speed:	23	19	13	7	0	Sinks

Remarks:

Must surface to fire Regulus, can provide guidance from periscope depth. Stern Mk53 TT are swim out only - Quiet launch for Mk37 torpedoes. Type 8 periscope has ST range only radar.

- 1964: Decommissioned when Regulus taken out of service.
- 1967 - 1969: Conversion to LPSS, BQG-4 PUFFS added, room for 85 commandos, Swimmer Delivery Vehicles and small boats in former Regulus hangar.
- 1970-72: Operated off South Vietnam.

Damage & Speed Breakdown:

Dam Pts:	0	25	51	76	91	101
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	14	11	7	4	0	Sinks

Growler**SSG**

Displacement: 3387 subm

In class: [1]

Size Class: C/Small

In Service: 1958 - 64

Propulsion: Diesel-Electric

Crew: 84

Electrn Cnt: None

Acoustic Cnt: 1st Gen

Signature: VSmall/Noisy

Armor Rating: 0

Max Depth: Int III

Btry Rtng: 72 (old)

Weapons:

Cbt Sys: Gen 2 Manual

PB&SB(2)2 Mk54 533mm TT w/6 Mk 37 Mod 0, 6 Mk16

F

PQ&SQ(1)2 Mk55 533mm TT w/4 Mk37 Mod 0

F

(1)4 RGM-6A Regulus I

D

Sensors:

ES/AIR: 1st/1st Gen

BQR-2B, BQS-4

K

SS-2

J

Remarks:

Stern Mk55 TT are swim out only - Quiet launch for Mk37 torpedoes. Type 8 periscope has ST range only radar.

- Decommissioned when Regulus taken out of service. Cost to modify Growler as *Grayback* was prohibitive.

Damage & Speed Breakdown:

Dam Pts:	0	24	48	72	86	96
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	14	11	7	4	0	Sinks

Balao**SSG**

Displacement: 2425 subm

In class: [1]

Size Class: C/Small

In Service: 1955 - 64

Propulsion: Diesel-Electric

Crew: 81

Electrn Cnt: None

Acoustic Cnt: 1st Gen

Signature: VSmall/Noisy

Armor Rating: 0

Max Depth: Int II

Btry Rtng: 72 (old)

Weapons:

Cbt Sys: Gen 2 Manual

PB&SB(3)2 Mk34 533mm TT w/8 Mk37 Mod 0, 8 Mk16

F

A(1)2 RGM-6A Regulus I

D

Sensors:

ES/AIR: 1st/1st Gen

BQS-2, BQR-3

K

SS-2

J

Remarks:

SSG 317 *Barbero*. Max torpedo launch depth for Mk14/16 is Int I. Mk37 can swim out at any operating depth. Must surface to fire Regulus, can provide guidance from periscope depth.

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	20	15	10	5	0	Sinks
Subm Speed:	9	7	5	2	0	Sinks

Gato**SSG**

Displacement: 2425 subm

In class: [1]

Size Class: C/Small

In Service: 1952 - 65

Propulsion: Diesel-Electric

Crew: 85

Electrn Cnt: None

Acoustic Cnt: 1st Gen

Signature: VSmall/Noisy

Armor Rating: 0

Max Depth: Int II

Btry Rtng: 72 (old)

Weapons:

Cbt Sys: Gen 2 Manual

PB&SB(3)2 Mk34 533mm TT w/18 weapons, est. loadout

F

14 Mk16, 2 Mk27 Mod 4

PQ&SQ(2)2 Mk35 533mm TT w/5 Mk27 Mod 4

F

A(1)2 RGM-6A Regulus I

D

Sensors:

ES/AIR: 1st/1st Gen

BQS-2, BQR-3

K

SS-2

J

Remarks:

SSG 282 *Tunny*. Max torpedo launch depth for Mk14/16 is Int I. Mk37 can swim out at any operating depth. Must surface to fire Regulus, can provide guidance from periscope depth.

- 1966: APSS conversion, see separate entry.

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	21	16	11	5	0	Sinks
Subm Speed:	10	8	5	3	0	Sinks

Barbel**SS**

Displacement: 2640 subm

In Class: [3]

Size Class: C/Small

In Service: 1959 - 90

Propulsion: Diesel-Electric

Crew: 85

Electrn Cnt: None

Acoustic Cnt: 2nd Gen

Signature: VSmall/Quiet

Armor Rating: 0

Max Depth: Int III

Btry Rtng: 204 (old)

Weapons:

Cbt Sys: Gen 2 Manual

PB/SB(3)2 Mk58 533mm TT w/22 weapons, est. loadout

F

12 Mk37 Mod 1/2, 10 Mk16

Sensors:

ES/AIR: 1st/2nd Gen

BQS-4, SQS-4 Mod 3, BQR-2B

K

BPS-12

J

Remarks:

Single prop.

Damage & Speed Breakdown:

Dam Pts:	0	20	41	61	73	81
Surf Speed:	14	11	7	4	0	Sinks
Subm Speed:	18	14	9	5	0	Sinks

Guppy III**SS**

Displacement: 2870 subm

In class: [9]

Size Class: C/Small

In Service: 1960 (1945) - 75

Propulsion: Diesel-Electric

Crew: 95

Electrn Cnt: None

Acoustic Cnt: 1st Gen

Signature: VSmall/Noisy

Armor Rating: 0

Max Depth: Int II

Btry Rtng: 72 (old)

Weapons:

Cbt Sys: Gen 2 Manual

PB&SB(3)2 Mk34 533mm TT w/22 weapons, est. loadout

F

12 Mk37 Mod 1/2, 10 Mk16

PQ&SQ(2)2 Mk35 533mm TT w/6 weapons, est. loadout

F

6 Mk37 Mod 0

Sensors:

ES/AIR: 1st/1st Gen

BQR-2B, BQG-4 PUFFS, BQS-4

K

SS-2

J

Remarks:

Includes six *Balao* (SS-343, 344, 346, 351, 416, 425) and three *Tench* (SS-487, 490, 524). Fitted for Mk45 ASTOR torpedoes. Max torpedo launch depth is Int I. Can crash dive. Max snort speed 6 kts. Fitted with a Type 8 periscope with a ST range only radar.

- 21 Nov 1973: SS-344 *Cobbler* (*Canakkale*), SS-346 *Corporal* (*Birinci Inonu*) transferred to Turkey.
- 19 Dec 1973: SS-351 *Greenfish* (*Amazonas*) transferred to Brazil.
- 15 Oct 1973: SS-425 *Trumpetfish* (*Goiás*) transferred to Brazil.
- 29 Oct 1973: SS-487 *Remora* (*Katsonis*) transferred to Greece.
- 18 Aug 1972: SS-490 *Volador* (*Gianfranco Gazzana Priaroggia*), SS-524 *Pickrel* (*Primo Longobardo*) transferred to Italy.

Damage & Speed Breakdown:

Dam Pts:	0	22	43	65	77	86
Surf Speed:	17	13	9	4	0	Sinks
Subm Speed:	16	12	8	4	0	Sinks

Darter

Displacement: 2250 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Quiet
Max Depth: Int III
Weapons:
 PB/SB(3)2 Mk58 533mm TT w/22 Mk16
 PB/SB(2)1 Mk58 533mm TT w/4 Mk27 Mod 4
Sensors:
 BQR-4, BQS-4
 BPS-11
Remarks:

Improved *Tang* class. Used German Type XXI technology. Max snort speed 12 knots.

- Early 60s: Estimated torpedo loadout 16 Mk37 Mod 1/2, 6 Mk16 forward, 4 Mk37 Mod 0/3 aft.
- Mid-70s: 21 Estimated torpedo loadout Mk48 Mod 1 forward, 4 Mk37 Mod 2 aft. Can carry Mk10 or Mk49 (2 per torpedo) or Mk27 mines.
- 1965: Fitted with BQG-4 (PUFFS) sonar and Mk45 ASTOR torpedo.

Damage & Speed Breakdown:

Dam Pts:	0	18	37	55	66	73
Surf Speed:	15	15	8	4	0	Sinks
Subm Speed:	16	12	8	4	0	Sinks

SS

Weapons:

PB&SB(3)2 533mm TT w/8 weapons, estimated loadout
 4 Mk16, 4 Mk27 Mod 4

Sensors:

BQR-2, BQR-4, BQS-3
 SS-2

Remarks:

'K'-class hunter-killer submarine. Originally designated SSK. Maximum torpedo launch depth is Int I.
 • 1959: BQR-4 removed. Used in training role.

Damage & Speed Breakdown:

Dam Pts:	0	12	24	35	42	47
Surf Speed:	13	10	7	3	0	Sinks
Subm Speed:	9	7	5	2	0	Sinks

Cbt Sys: Gen 2 Manual**ES/AIR:** 1st/1st GenF
K
J**Tang**

Displacement: 2260 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int III
Weapons:
 PB&SB(3)2 Mk43 533mm TT w/16 Mk16
 PQ&SQ(1)2 Mk44 533mm TT w/4 Mk16, 4 Mk27 Mod 4
Sensors:
 QHB, JT or BQR-3
 BPS-4
Remarks:

PB&SB(3)2 Mk43 533mm TT w/16 Mk16
 PQ&SQ(1)2 Mk44 533mm TT w/4 Mk16, 4 Mk27 Mod 4

Sensors:
 QHB, JT or BQR-3
 BPS-4
Remarks:

QHB, JT or BQR-3
 BPS-4

Remarks:

Tang, Trigger, Wahoo, Trout, Gudgeon, Harder. First four fitted with unreliable and noisy diesel engines. Max snort speed 11 knots. First US class with hydraulic TT, can fire from any depth. Fitted with a Type 8 periscope with a ST range only radar.

- 1957 - 59: Diesels replaced on first four of class, resolving maintenance and noise issues (stats as above).
- 1960? - 64: Sonars changed to BQR-2B and BQS-4, fitted to fire Mk37 Mod 1/2 torpedoes.
- 1966 - 68: *Wahoo, Gudgeon, Harder* fitted with BQG-4 PUFFS, displacement 2700 t subm, can fire Mk45 ASTOR.
- 1979-82: *Tang, Wahoo* and *Trout* were to have been transferred to Iran - canceled in 1979.

Damage & Speed Breakdown:

DP (2260 t):	0	18	37	55	66	73
DP (2700 t):	0	21	42	62	75	83
Surf Speed:	15	11	8	4	0	Sinks
Subm Speed:	18	14	9	5	0	Sinks

SS

Guppy IIA

Displacement: 2440 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int II
Weapons:
 PB&SB(3)2 Mk34 533mm TT w/22 Mk16
 PQ&SQ(2)2 Mk35 533mm TT w/6 Mk27 Mod 4
Sensors:
 BQR-2, BQS-2, JT or BQR-3
 SS-2
Remarks:

Includes 12 *Balao* (SS 340, 365, 368, 377 382, 385, 391, 394, 396, 402, 410, 415) and four *Tench* (SS 418, 420, 421, 424). Maximum torpedo launch depth is Int I. Can crash dive.

- 30 May 58: *Stickleback* (SS 415) lost in collision, crew rescued.
- late 50s: JT/BQR-3 removed. Later fitted with BQS-4,
- 1964: Some carry Redeye SAM for use on surface - Estimated F&A(1)1 Redeye w/4 missiles.
- 30 Nov 1970: SS-394 *Razorback* (*Murat Reis*) transferred to Turkey.
- 14 Dec 1970: SS-402 *Sea Fox* (*Burak Reis*) transferred to Turkey.
- 1 Jul 1971: SS-396 *Ronquil* (*Isaac Peral*) transferred to Spain.
- 1 Jul 1972: SS-421 *Trutta* (*Cerbe*) transferred to Turkey.
- 26 Jul 1972: SS-365 *Hardhead* (*Papanikolis*) transferred to Greece.
- 1 Aug 1973: SS-340 *Entemedor* (*Preveze*), SS-391 *Pomfret* (*Oruc Reis*), SS-410 *Threadfin* (*Ikinci Inonu*), SS-418 *Thornback* (*Uluc Ali Reis*) transferred to Turkey.
- 26 Jun 1974: SS-368 *Jallao* (*S-35*) transferred to Spain.
- 18 Nov 1974: SS-382 *Picuda* (*Narciso Monturiol*), SS-385 *Bang* (*Cosme Garcia*) transferred to Spain.

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	18	14	9	5	0	Sinks
Subm Speed:	16	12	8	4	0	Sinks

SS

Fleet Submarine

Displacement: 2425 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int II
Weapons:
 PB&SB(3)2 Mk34 533mm TT w/16 Mk14/16
 PQ&SQ(2)2 Mk35 533mm TT w/8 4 Mk14/16, 4 Mk27 Mod4
Sensors:
 BQS-2, BQR-3
 SS-2
Remarks:

PB&SB(3)2 Mk34 533mm TT w/16 Mk14/16
 PQ&SQ(2)2 Mk35 533mm TT w/8 4 Mk14/16, 4 Mk27 Mod4

Sensors:
 BQS-2, BQR-3
 SS-2
Remarks:

BQS-2, BQR-3
 SS-2

Remarks:

Includes nine *Gato*, 18 *Balao*, and eight *Tench*. Cheaper conversions, compared with GUPPY-series with streamlined sail only. Maximum snorkel speed is 7 kts. Max torpedo launch depth is Int I. Can crash dive.

- 5 Mar 1966: SS-336 *Capitaine* (*Alfredo Cappellini*) transferred to Italy.
- 12 Jan 1962: SS-413 *Spot* (*Simpson*) transferred to Chile.
- 23 Jan 1961: SS-414 *Springer* (*Thomson*) transferred to Chile.
- 1 Jun 1964: SS-479 *Diablo* (*Ghazi*) transferred to Pakistan.

SS

Barracuda (ex-K class)

Displacement: 1160 subm
Size Class: D/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int II
Remarks:

In class: [3]
In Service: 1952 - 73
Crew: 37
Acoustic Cnt: 1st Gen
Armor Rating: 0
Btry Rtnng: 70 (old)

SS

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	20	15	10	5	0	Sinks
Subm Speed:	10	8	5	3	0	Sinks

Fleet Snorkel

Displacement: 2425 subm	In class: [18]
Size Class: C/Small	In Service: 1947 - 71
Propulsion: Diesel-Electric	Crew: 85
Electrn Cnt: None	Acoustic Cnt: 1st Gen
Signature: VSmall/Noisy	Armor Rating: 0
Max Depth: Int II	Btry Rtnng: 72 (old)
Weapons:	Cbt Sys: Gen 1 Manual

PB&SB(3)2 Mk34 533mm TT w/16 Mk14/16
PQ&SQ(2)2 Mk35 533mm TT w/4 Mk14/16, 4 Mk27 Mod4

Sensors: ES/AIR: 1st/1st Gen

BQS-2, BQR-3

SS-2

Remarks:

Includes 13 *Balao* (SS-302, 303, 320, 331, 338, 392, 398, 399, 405, 408, 409) and 5 *Tench* (SS-423, 475, 476, 480, 482). Can crash dive. Max snort speed 6 knots. Max torpedo launch depth is Int I.

- 2 Dec 1968: SS-475 *Argonaut* (*Rainbow*) transferred to Canada.

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	20	15	10	5	0	Sinks
Subm Speed:	10	8	5	3	0	Sinks

Guppy IA

Displacement: 2400 subm	In class: [10]
Size Class: C/Small	In Service: 1951 - 74
Propulsion: Diesel-Electric	Crew: 82
Electrn Cnt: None	Acoustic Cnt: 1st Gen
Signature: VSmall/Noisy	Armor Rating: 0
Max Depth: Int II	Btry Rtnng: 72 (old)
Weapons:	Cbt Sys: Gen 2 Manual

PB&SB(3)2 Mk34 533mm TT w/16 Mk14/16
PQ&SQ(2)2 Mk35 533mm TT w/4 Mk14/16, 4 Mk27 Mod4

Sensors: ES/AIR: 1st/1st Gen

BQS-2, BQR-3

SS-2

Remarks:

Includes 9 *Balao* (SS-319, 322, 323, 324, 341, 342, 403, 406, 407) and one *Tench* (SS-417). Maximum snorkel speed is 8 kts. Max torpedo launch depth is Int I. Can crash dive.

- 1 Jul 71: SS-341 *Chivo* (*Santiago Del Estero*) transferred to Argentina.
- 30 Jun 72: SS-323 *Caiman* (*Dumlupinar*) transferred to Turkey.
- 15 Jul 74: SS-406 *Sea Poacher* (*Pabellon de Pica*) transferred to Peru.
- 31 Jul 74: SS-403 *Atule* (*Pacocha*) transferred to Peru.

Damage & Speed Breakdown:

Dam Pts:	0	19	38	57	68	76
Surf Speed:	18	14	9	5	0	Sinks
Subm Speed:	17	13	9	4	0	Sinks

Guppy II

Displacement: 2400 subm	In class: [22]
Size Class: C/Small	In Service: 1947 - 73
Propulsion: Diesel-Electric	Crew: 85
Electrn Cnt: None	Acoustic Cnt: 1st Gen
Signature: VSmall/Noisy	Armor Rating: 0
Max Depth: Int II	Btry Rtnng: 100 (old)
Weapons:	Cbt Sys: Gen 1 Manual

PB&SB(3)2 Mk34 533mm TT w/16 Mk14/16
PQ&SQ(2)2 Mk35 533mm TT w/4 Mk14/16, 4 Mk27 Mod4

Sensors: ES/AIR: 1st/1st Gen

JT, WFA

SS-2

SS

Remarks:

Includes 12 *Balao* (SS-339, 343-347, 349- 352, 416, 425) and 12 *Tench* (SS-426, 478, 483- 487, 490, 522-525). Maximum snorkel speed is 9 kts. Max torpedo launch depth is Int I. SS-484 *Odax*, SS-486 *Pomodon*, modified from Guppy I. Can crash dive.

- 26 Aug 49: *Cochino* (SS-345) lost after battery explosion off Norway, one crewman and six rescuers lost.
- 1954: Sonar fit changed to BQS-2, BQR-3, BQS-3.
- 1959: Mk37 Mod1/2 torpedoes available.
- Modified to Guppy III: SS-351 *Greenfish* 1961, SS-343 *Clamagore*, SS-344 *Cobbler*, SS-346 *Corporal*, SS-425 *Trumpetfish*, SS-487 *Remora*, SS-524 *Pickrel* 1962, SS-490 *Voladore* 1963
- 1964: Some carry Redeye SAM for use on surface, estimated as F&A(1)1 Redeye w/4 missiles.
- 1 Jul 1971: SS-339 *Catfish* (*Santa Fe*) transferred to Argentina.
- 5 Jan 1972: SS-347 *Cubera* (*Tiburón*) transferred to Venezuela.
- 13 May 1972: SS-523 *Grampus* (*Rio Grande do Sul*) to Brazil.
- 8 Jul 1972: SS-484 *Odax* (*Rio de Janeiro*) transferred to Brazil.
- 28 Jul 1972: SS-350 *Dogfish* (*Guanabara*) transferred to Brazil.
- 27 Mar 1973: SS-483 *Sea Leopard* (*Bahia*) transferred to Brazil.
- 12 Apr 1973: SS-478 *Cutlass* (*Hai Shih*) transferred to Taiwan.
- 15 May 1973: SS-525 *Grenadier* (*Picua*) transferred to Venezuela.
- 17 Oct 1973: SS-522 *Amberjack* (*Ceara*) transferred to Brazil.
- 18 Oct 1973: SS-426 *Tusk* (*Hai Pao*) transferred to Taiwan.

Damage & Speed Breakdown:

Dam Pts:	0	19	38	57	68	76
Surf Speed:	18	14	9	5	0	Sinks
Subm Speed:	17	13	9	4	0	Sinks

Sailfish

Displacement: 3168 subm	In class: [2]
Size Class: C/Small	In Service: 1956 - 78
Propulsion: Diesel-Electric	Crew: 95
Electrn Cnt: None	Acoustic Cnt: 1st Gen
Signature: VSmall/Noisy	Armor Rating: 0
Max Depth: Int III	Btry Rtnng: 72 (old)
Weapons:	Cbt Sys: Gen 2 Manual

PB&SB(3)2 Mk49 533mm TT w/10 Mk37 Mod1/2, 8 Mk16

Sensors: ES/AIR: 1st/1st Gen

BQR-2B, BQS-4

BPS-2, BPS-3

Remarks:

Sailfish, *Salmon*. Considered too slow to keep up with surface groups.

- 1960 - 61: Radar picket equipment removed. BQG-4 PUFFS added. Submerged speed increases to 14 kts. Reclassified as SS.
- Jun 64 - Apr 65: *Salmon*; FRAM II conversion.
- Jan 65 - Feb 66: *Sailfish*; FRAM II conversion.

Damage & Speed Breakdown:

Dam Pts:	0	23	46	69	83	92
Surf Speed:	20	15	10	5	0	Sinks
Sub Sp (SSR):	10	8	5	3	0	Sinks
Sub Sp (SS):	14	11	7	4	0	Sinks

Balao

Displacement: 2308 subm	In class: [1]
Size Class: C/Small	In Service: 1949 - 61
Propulsion: Diesel-Electric	Crew: 108
Electrn Cnt: None	Acoustic Cnt: 1st Gen
Signature: VSmall/Noisy	Armor Rating: 0
Max Depth: Int II	Btry Rtnng: 72 (old)
Weapons:	Cbt Sys: Gen 1 Manual

PB&SB(2)2 Mk34 533mm TT w/6 Mk14/16, 2 Mk27 Mod4

Sensors: ES/AIR: 1st/1st Gen

QHB, JT

SV-2, SR-2, BPS-4

Remarks:

Migraine II conversion.

- 11 May 1961: SS-312 *Burrfish* (*Grilse*) transferred to Canada.

SSR

SS

SS

SSR

F

F

K

J

K

J

K

J

K

J

K

J

K

J

K

J

K

J

Damage & Speed Breakdown:

Dam Pts:	0	19	37	56	67	74
Surf Speed:	18	14	9	5	0	Sinks
Subm Speed:	8	6	4	2	0	Sinks

Gato

Displacement: 2308 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int II
Weapons:
 PB&SB(2) Mk34 533mm TT w/12 6 Mk14/16, 2 Mk27 Mod4
Sensors:
 BQS-2, BQR-3
 SS-2, SV-2, BPS-2

SSR

In class: [6]
In Service: 1953 - 60
Crew: 108
Acoustic Cnt: 1st Gen
Armor Rating: 0
Btry Rtnng: 72 (old)
Cbt Sys: Gen 1 Manual
ES/AIR: 1st/1st Gen

F

K

J

Remarks:

Migraine III conversion. Atlantic: *Pompon, Ray, Redfin*, Pacific: *Rasher, Raton, Rock*. Max torpedo launch depth is Int I.

- Late 50s: SV-2 removed. Some fitted with BPS-3.

Damage & Speed Breakdown:

Dam Pts:	0	19	37	56	67	74
Surf Speed:	18	14	9	5	0	Sinks
Subm Speed:	8	6	4	2	0	Sinks

Gato

Displacement: 2425 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int II
Weapons:
 PB&SB(3)2 Mk34 533mm TT w/7 Mk37 Mod1/2, 9 Mk16
 PQ&SQ(2)2 Mk35 533mm TT w/4 Mk37 Mod 1/2, 4 Mk16
Sensors:
 BQS-2, BQR-3
 SS-2

APSS

In class: [1]
In Service: 1966 - 69
Crew: 85
Acoustic Cnt: 1st Gen
Armor Rating: 0
Btry Rtnng: 72 (old)
Cbt Sys: Gen 2 Manual
ES/AIR: 1st/1st Gen

F

F

K

J

Remarks:

SS 282 *Tunny*. Can bottom. Max torpedo launch depth is Int I. Converted from SSG.

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	21	16	11	5	0	Sinks
Subm Speed:	10	8	5	3	0	Sinks

Balao

Displacement: 2415 subm
Size Class: C/Small
Propulsion: Diesel-Electric
Electrn Cnt: None
Signature: VSmall/Noisy
Max Depth: Int II
Weapons:
 PB&SB(3)2 Mk34 533mm TT w/7 Mk37 Mod1/2, 9 Mk16
 PQ&SQ(2)2 Mk35 533mm TT w/4 Mk37 Mod 1/2, 4 Mk16
Sensors:
 BQS-2, BQR-3
 SS-2 or BPS-2

APSS

In class: [2]
In Service: 1959 - 69
Crew: 120 + 160
Acoustic Cnt: 1st Gen
Armor Rating: 0
Btry Rtnng: 72 (old)
Cbt Sys: Gen 2 Manual
ES/AIR: 1st/2nd Gen

F

F

K

J

Remarks:

SS 313 *Perch*, SSG 325 *Sealion*. Can carry 115 troops. Hangar can hold LVT with jeep and 75mm howitzer, plus eight 10 man small boats. HRS helicopter can land on aft deck. Max torpedo launch depth is Int I.

- 1965: *Perch* operates off South Vietnam. Equipped with F/A(1)2 40mm deck guns (0.3L) and M2 .50 cal. (0.1L).

Damage & Speed Breakdown:

Dam Pts:	0	19	39	58	69	77
Surf Speed:	20	15	10	5	0	Sinks
Subm Speed:	8	6	4	2	0	Sinks

DCS

Displacement: 28 subm
Size Class: F/VSmall
Propulsion: Electric
Signature: Stealthy/Quiet
Max Depth: Int I

Sensors:

HF Obstacle Avoidance

Remarks:

Dry Combatant Submarine. Can use diver lockout chamber down to 30 m.

- 3QFY20: Operational from surface craft.

- FY26: Operational from submarines.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	3.9
Surf Speed:	5	4	3	1	0	Sinks
Subm Speed:	5	4	3	1	0	Sinks

SSM

In Class: 0 + 1 + 2
In Service: 2020
Crew: 2 + 8
Armor Rating: 0
Btry Rtnng: 30 (new)

K

SDV Mk11

Displacement: 4.5 subm
Size Class: G/VSmall
Propulsion: Electric
Signature: Stealthy/Quiet
Max Depth: Int I

Remarks:

Shallow Water Combat Submersible (SWCS). Can be launched from Extended length Dry Deck Shelter.

Damage & Speed Breakdown:

Dam Pts:	0	0.3	0.6	0.9	1.0	1.2
Surf Speed:	5	4	3	2	0	Sinks
Subm Speed:	6	5	3	2	0	Sinks

LSDV

In Class: 2 + 5
In Service: 2019
Crew: 2 + 4
Armor Rating: 0
Btry Rtnng: 25 (new)

ASDS

Displacement: 60 subm
Size Class: F/VSmall
Propulsion: Electric
Signature: Stealthy/Quiet
Max Depth: Int I

Sensors:

HF Obstacle Avoidance

Remarks:

Advanced SEAL Delivery System. Fitted with 2 folding masts - comms and periscope. Not fitted with diesel engines, must recharge batteries while on the mother ship or alongside. Can be carried by converted Improved *Los Angeles* or *Virginia* SSN and SSGN or surface ships with well dock. First boat considered too noisy and suffers from low-life batteries

- Apr 05: Remainder of class canceled.

- Nov 08: Suffers damage whilst battery charging and struck.

Damage & Speed Breakdown:

Dam Pts:	0	1.6	3.3	4.9	5.9	6.5
Surf Speed:	6	5	3	2	0	Sinks
Subm Speed:	8	6	4	2	0	Sinks

SS

In Class: [1]
In Service: 2004 - 08
Crew: 2 + 8
Armor Rating: 0
Btry Rtnng: 45 (new)
ES/AIR: None/???

K

SDV MkVIII Mod 0/1

Displacement: 3 subm
Size Class: G/VSmall
Propulsion: Electric
Signature: Stealthy/see remarks
Max Depth: Shallow

Sensors:

HF Obstacle Avoidance

Remarks:

Swimmer Delivery Vehicle. Acoustic signature Noisy/Quiet for Mod 0/ Mod 1. Rated down to 152 m, much deeper than divers in open cockpit can handle. Can plant MkV Limpet mines (100 lb explosives). One SDV can be carried in a drydeck shelter. Range 15 nmi.

- 1996 - 06: Mod 1 Gator upgrade with 2 + 6 crew, battery rating 18 (new), Quiet acoustic signature. Range 36 nm
- 1999: Three transferred to UK.

SSM

In Class: 14 - 4
In Service: 1975 - 22
Crew: 2 + 6
Armor Rating: 0
Btry Rtnng: 9 (new)

K

America's Navy

Damage & Speed Breakdown:

Dam Pts:	0	0.2	0.4	0.7	0.8	0.9
Surf Speed:	6	5	3	2	0	Sinks
S. Spd (Mod 0):	6	5	3	2	0	Sinks
S. Spd (Mod 1):	9	7	5	2	0	Sinks

SDV MkVII

SSM

Displacement: 1.0 subm
Size Class: G/VSmall
Propulsion: Electric
Signature: Stealthy/Noisy
Max Depth: Shallow
Remarks:
 Swimmer Delivery Vehicle. First production USN SDV. Eight hour endurance.
 • Early 80s: Retired.

Damage & Speed Breakdown:

Dam Pts:	0	0.1	0.2	0.3	0.3	0.4
Surf Speed:	4	3	3	1	0	Sinks
Subm Speed:	5	4	3	2	0	Sinks

Drydeck Shelter

DDS

Displacement: 30 subm
Size Class: None
Propulsion: None
Signature: None
Max Depth: Int II
Remarks:
 Hangar for one SDV MkVIII or four CRRC and 20 SEALs plus airlock into submarine. Can launch SDV/CRRC from Shallow Depth (130 feet max) or perform mass lockout of 20 SEAL. Takes 12 hours to fit to submarines equipped to handle DDS and a further 12 hours to test systems. Can be carried by C-5 or C-17 transport aircraft. Originally fitted with SSN 688, 690, 700, 701, 715.
 • 2014: Atlantic and Pacific each has 3 DDS, 2 SSGN and 2 SSN. Always one DDS per SSGN, with remainder on either SSGN or SSN. Atlantic - SSGN 728 and 729, SSN 778 and 784. Pacific - SSGN 726, 727; SSN 776, 782.
 • Sep 18 - Sep 23: Modernized with 1.27 m extension for SDV Mk11.

Iowa Guided Missile Battleship

BBG

Displacement: 44000 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Weapons:
 F(3)2 Mk7 16in/50//2 Mk13
 A(2)2 Mk10 w/80 Terrier//2 SPG-55
 A(1)1 launcher w/8 Regulus II
 P/S(2)10 Mk28 5in/38//4 Mk12 (8.4)
 PW/SW/4P/4S/PA/SA(2)12 Mk33 3in/50 (4.5)
Sensors:
 SPS-6B, SPS-8
Remarks:
 SCB 19. *Kentucky*. Proposal to convert unfinished hull as BBG. Authorized in 1954, canceled later that year. Displacement estimated.
Damage & Speed Breakdown:

Dam Pts:	0	266	532	797	957	1063
Surf Speed:	33	25	16	8	0	Sinks

Iowa Ballistic Missile Monitor (Sep 58)

BBMG

Displacement: 40000 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Weapons:
 F(3)2 Mk7 16in/50//2 Mk13
 P/S(2)2 Mk28 5in/38//1 Mk56 GFCS (1.6)
 A(2)1 Mk12 w/56 Talos//2 SPG-49
 P/S(1)4 Mk12 w/42 Tartar//SPG-51

A(1)1 launcher w/4 Regulus II
 P&S(1)8 Mk16 ASROC launcher w/8 ASROC
 PB/SB(3)2 Mk32 324mm TT w/Mk44
 2 ASW helicopters
Sensors:
 SPS-10, SPS-37, SPS-30, SPS-39
 SQS-26

Remarks:
 Listed configuration is Scheme I. Scheme II would replace both forward 16 inch turrets with F(2)1 Talos launcher//2 SPG-49. Launch tubes for 6 Polaris missiles added early in 1959. Program canceled in 1959. Fitted with NTDS, Flag plot and command spaces for amphibious command staff. Displacement estimated.

Damage & Speed Breakdown:

Dam Pts:	0	250	499	749	898	998
Surf Speed:	33	25	16	8	0	Sinks

Iowa Ballistic Missile Monitor II (1956)

BBMG

Displacement: 40000 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Weapons:
 F/A(2)2 Mk12 Talos w/80 msls//4 SPG-49
 P/S(2)4 Mk11 w/42 Tartar//2 SPG-55
 (12)1 launcher w/12 Jupiter
Sensors:
 SPS-2, SPS-10, SPS-32, SPS-33, SPS-37

Remarks:
 Preliminary design work only. Fitted with three sets of fin stabilizers. Scheme I was fitted with 4 twin Talos launchers and 12 single Tartar launchers (I), but was impractical because of mutual interference from the 28 missile guidance radars. Displacement estimated.

Damage & Speed Breakdown:

Dam Pts:	0	250	499	749	898	998
Surf Speed:	27	20	14	7	0	Sinks

Iowa (1982)

BB

Displacement: 46177 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Electrn Cnt: 3rd Gen J&D
Weapons:
 2F/A(3)3 Mk7 406mm/50//2 Mk13
 P/S(2)6 Mk28 5in/38//4 Mk25 (5.0)
 PW/SW/PA/SW(R)4 Mk15 Phalanx Blk 0 (4@6.3A)
 PS/SS(4)4 Mk141 w/4 Harpoon
 PB&SB(4)8 Mk143 ABL w/4 Tomahawk
Sensors:
 SPS-67(V)1, SPS-49(V)5, SPS-59/LN-66
 Link 11

Remarks:
Iowa, *New Jersey*, *Missouri*, *Wisconsin*. Configuration as of 1981 - 88 modernization. Recommissioned: *IA* Apr 84, *NJ* Dec 82, *MO* May 86, *WI* Oct 88. Typical Tomahawk loadout 16 TASM, 8 TLAM-C, 8 TLAM-N. Aft helo pad with space for three Small helicopters. Aft 406mm turret cannot fire while helicopters are on the pad.
 • *NJ* has SPS-10 vice SPS-67. *WI* has SPS-64 vice LN-66, Phalanx Blk I vice Blk 0, AA rating 4@6.6A.
 • Dec 86: *Iowa* fitted with Pioneer UAV for gunfire spotting, others fitted later.
 • 1988: *WI* fitted with Mk15 Phalanx Blk I (4@9.5A).
 • Apr 89: Gun explosion on *Iowa*, 47 killed. No.2 (forward) turret un-serviceable and never repaired.
 • 1991: *MO* and *WI* fitted with P/S(1)2 Bushmaster Mk88 25mm and Stinger missiles for service in Middle East
 • Decommed: *IA* 1990, *NJ*, *WI* 1991, *MO* 1992.

Damage & Speed Breakdown:

Dam Pts:	0	275	549	824	988	1098
Surf Speed:	33	25	16	8	0	Sinks

Iowa (1967)

Displacement: 46177 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J&D
Signature: Large/Loud
Weapons:
 2F/A(3)3 Mk7 406mm/50//2 Mk13
 2PW/2SW/P/S/2P&PQ/2S&SQ(2)10
 Mk28 5in/38//F/P/S/A 4 Mk25 (8.4)
 Aft Pad (1)4 helo
Sensors:
 SPS-6, SPS-10
Remarks:
 New Jersey. Recommissioned for Vietnam War. Aft 406mm turret cannot fire while helicopters are on the pad.
 • Apr 68: Deployment. One 406mm turret and half of the 5 inch guns not manned. Uses QH-50DM UAV for NGS spotting.
 • Dec 69: Decommed.

Damage & Speed Breakdown:
Dam Pts: 0 275 549 824 988 1098
Surf Speed: 33 25 16 8 0 Sinks

ES: 1st Gen
Cbt Sys: Gen 2 Manual

BB
C
C
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J

Damage & Speed Breakdown:
Dam Pts: 0 275 549 824 988 1098
Surf Speed: 33 25 16 8 0 Sinks

Iowa (1950)

Displacement: 46177 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Weapons:
 2F/A(3)3 Mk7 406mm/50//2 Mk13
 2PW/2SW/P/S/2P&PQ/2S&SQ(2)10
 Mk28 5in/38//F/P/S/A 4 Mk25 (8.4)
 P/S(4)20 Mk2 40mm/60 (5.0L) - IA, MO
 P/S(4)16 Mk2 40mm/60 (4.0L) - WI
 Aft Pad (1)4 HUP-2 Retriever
Sensors:
 SPS-6, SPS-8, SPS-10
Remarks:
 Iowa, New Jersey, Wisconsin. Recommissioned for Korean War: IA Aug 51, NJ Nov 50, WI Mar 51. Aft 406mm turret cannot fire while helicopters are on the pad.
 • 1956: Iowa, New Jersey and Wisconsin fitted to carry 10 Mk23 406mm nuclear shells with nuclear warheads each for B mount only.
 • 1962: Mk23 nuclear shells removed.

Damage & Speed Breakdown:
Dam Pts: 0 275 549 824 988 1098
Surf Speed: 33 25 16 8 0 Sinks

ES: 1st Gen
Cbt Sys: Gen 2 Manual

BB
C
C
C
B
J

Damage & Speed Breakdown:
Dam Pts: 0 275 549 824 988 1098
Surf Speed: 33 25 16 8 0 Sinks

ES: 1st Gen
Cbt Sys: Gen 2 Manual

Strike Cruiser

Displacement: 15000 std
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: 3rd Gen J&D
Signature: Med/Noisy
Weapons:
 F(1)1 Mk71 8in/55//SPG-60
 P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A)
 F/A(2)2 Mk26 w/64 SM2MR Blk II & ASROC//4 SPG-62
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46
 PS/SS(4)4 Mk141 w/4 Harpoon IC
 PB&SB(4)2 Mk143 ABL w/4 Tomahawk
 Aft Pad(1)2 SH-60B LAMPS III
Sensors:
 SPY-1A, SPS-49(V)1, SPQ-9A
 SQS-53B
 Link 11
Remarks:
 Design proposed during the Ford Administration. Eight units planned for construction starting in FY 78. Designed for independent operations, as opposed to fleet air defense. Ballistic protection over vital

CSGN
C
C
D
F
D
D
B

ES: 3rd Gen
Cbt Sys: Gen 4 Semi-Automatic

Damage & Speed Breakdown:
Dam Pts: 0 94 189 283 339 377
Surf Speed: 32 24 16 8 0 Sinks

spaces. CHP armor rating for CIC, Mk26/SM2MR, Mk71 gun, Engineering, Sensors, Mk143 ABL is 2. Mk86 FCS for Mk71 uses SPG-60 against air targets, SPQ-9 vs. surface targets. SPG-60 can direct Mk45 gun or illuminate fifth target for SM2 msls. SPG-60 maximum range band against air targets is Short.

Damage & Speed Breakdown:
Dam Pts: 0 130 260 389 467 519
Surf Speed: 32 24 16 8 0 Sinks

Virginia (i)

Displacement: 10500 ltshp
Size Class: B/Medium
Propulsion: Nuclear
Electrn Cnt: 2nd Gen J&D
Signature: Med/Noisy
Weapons:
 F(2)1 Mk26 w/16 ASROC, 28 SM1MR Blk I &
 A(2)1 Mk26 w/24 SM1MR//2A SPG-51
 F/A(1)2 Mk45 5in/54//A SPG-60 (2.0)
 PS/SS(4)2 Mk141 w/4 Harpoon IC
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 Mod 5
 Aft pad(1)1 SH-2F LAMPS I
 1 Elevator
Sensors:
 SPS-40B, SPS-48A, SPS-55, SPS-59/LN-66, SPQ-9A
 SQS-53A
Remarks:
 Virginia, Texas, Mississippi, Arkansas. Magazines hold 18 Mk46 torpedoes for helo and Mk32 TT. Aluminum superstructure, -15% damage modifier. Forward and aft Mk26 launchers share a total of 2 SPG-51 directors. SPG-60 can direct Mk45 guns or illuminate third target for SM1MR msls. SPG-60 maximum range against air targets is Short. Elevator on fantail leaked into hangar, helicopter rarely embarked.
 • Only Arkansas fitted with Harpoon on commissioning.
 • 1980: Fitted with Link 4A, Link 11 data links.
 • Fitted with Harpoon. Mississippi 1979, Texas by Jan 80, Virginia Dec 80.
 • 1982 - 86: Kevlar armor added, CHP armor rating for Mk26 launcher, Mk45 gun, Sensors is 2.
 • 1984-87: Refitted. P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A) added, PQ&SQ(4)2 Mk143 ABL w/4 Tomahawk (CHP armor rating 2) added in place of helicopter. ECM and ES upgraded to 3rd Gen, Acoustic Counterterm upgraded to 2nd Gen Towed. Virginia 1984-85, Arkansas 1985?-86, Texas 1985-87, Mississippi 1986-87.
 • May 86: Virginia equipped with SM-2MR Blk II.
 • 1990 - 92: Virginia fitted with SPS-48E and SPS-64 replacing LN-66 and SPS-48.
 • Received New Threat Upgrade: SPS-48 upgraded to SPS-48E (except Mississippi), SPS-40 replaced by SPS-49(V)5 (except Virginia), SPS-10 and LN-66 replaced by SPS-64, SM1MR replaced by SM2MR Blk II, ASROC removed from forward magazine, stowage for SM2MR increased to 44. Combat system Gen 5 Human. Mississippi Mar 91 - Aug 92, Texas entered refit 1992 but decommed before completion. Virginia and Arkansas struck instead of being upgraded.
 • 1991: Arkansas fitted with P/S(1)2 Mk38 25mm for Middle East deployment.
 • 1992: Mississippi fitted with SPS-48E vice SPS-48C.
 • 1994. Arkansas fitted with Link 16.
 • Decommed: Texas 1993, Virginia 1994 (fitted w/SPS-40B vice SPS-49 when decommed), Mississippi 1996, Arkansas 1997.

Damage & Speed Breakdown:
Dam Pts: 0 94 189 283 339 377
Surf Speed: 32 24 16 8 0 Sinks

ES: 2nd Gen
Cbt Sys: Gen 4 Semi-Automatic

CGN
J
K

Damage & Speed Breakdown:
Dam Pts: 0 94 189 283 339 377
Surf Speed: 32 24 16 8 0 Sinks

ES: 2nd Gen
Cbt Sys: Gen 4 Semi-Automatic

CGN
J
K

Damage & Speed Breakdown:
Dam Pts: 0 94 189 283 339 377
Surf Speed: 32 24 16 8 0 Sinks

ES: 2nd Gen
Cbt Sys: Gen 4 Semi-Automatic

CGN
J
K

Damage & Speed Breakdown:
Dam Pts: 0 94 189 283 339 377
Surf Speed: 32 24 16 8 0 Sinks

ES: 2nd Gen
Cbt Sys: Gen 4 Semi-Automatic

CGN
J
K

Damage & Speed Breakdown:
Dam Pts: 0 94 189 283 339 377
Surf Speed: 32 24 16 8 0 Sinks

ES: 2nd Gen
Cbt Sys: Gen 4 Semi-Automatic

CGN
J
K

Weapons:

Cbt Sys: Gen 4 Semi-Automatic
 F/A(1)2 Mk45 5in/54//F SPG-60 & SPQ-9A (2.0) **C**
 F/A(1)2 Mk13 Mod 3 w/40 SM1MR Blk VI//4 SPG-51 **D**
 F(8)1 Mk16 w/24 ASROC **E**
 PB/SB(2)2 Mk32 324mm TT w/2 Mk46 **F**

Sensors:

ES: 2nd Gen
 SPS-40B, SPS-48C, SPQ-9A, SPS-10, SPS-59/LN-66 **J**
 SQS-26 **K**
 Link 4A, 11 **L**

Remarks:

California, South Carolina. Helo pad aft. Magazines hold another 8 Mk46 torp (manual reload). Aluminum superstructure, -15% damage modifier. Mk45 gun uses SPQ-9A for surface fire. SPG-60 can either direct Mk45 gun againstmahant air target or illuminate target for SM1/ SM2 msls. SPG-60 maximum range against air targets is Short.
 • Early 80s: Fitted with P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A), PS/ SS(4)2 Mk141 w/4 Harpoon IC, P/S(1)4 M2 .50 cal. (0.1L), estimated 2nd Gen acoustic countermeasures. *South Carolina* Jan 83 - May 84. *California* possibly 1992 - 83.
 • 1986 - 87: Vital spaces fitted with Kevlar armor, CHP armor rating for Mk13, Mk45, CIC, sensors is 2.
 • Fitted with New Threat Upgrade; Cbt System Gen 5 Human, SM1MR replaced by SM2MR Blk II/III. SPS-48C upgraded to SPS-48E, SPS-40 replaced by SPS-49(V)5, SPS-10 replaced by SPS-64 and SPS-67. ES and ECM upgraded to 3rd Gen, ACM to 2nd Gen Towed. Mk16 ASROC launcher removed. *California* Apr 90 - Jan 93, *South Carolina* Mar 91 - Mar 94.
 • 1999: Both units decommed.

Damage & Speed Breakdown:

Dam Pts:	0	89	179	268	321	357
Surf Speed:	32	24	16	8	0	Sinks

Truxtun**Displacement:** 8600 std**Size Class:** B/Medium**Propulsion:** Nuclear**Electrn Cnt:** 1st Gen D**Signature:** Med/Noisy**Weapons:**

F(1)1 Mk42 5in/54//Mk68 (1.2) **C**
 P/S(2)2 Mk33 3in/50//2 Mk34 (0.8) **C**
 A(2)1 Mk10 w/60 weapons//2 SPG-55 **D, E**
 PB/SB(1)2 Mk25 533mm TT w/1 Mk37 torp **F**
 PB/SB(2)2 Mk32 324mm TT w/2 Mk46 torp **F**
 Aft Pad (1)1 DASH **B**

Sensors:

ES: 1st Gen
 SPS-10, SPS-40, SPS-48A **J**
 SQS-26 **K**

Remarks:

Originally classified as DLGN. Mk10 loadout is 40 RIM-2 Terrier BT/ HT and 20 ASROC. Aluminum superstructure, -15% damage modifier.
 • 1969: SM1ER replaced Terrier.
 • Nov 70 - Jan 71: LAMPS I refit, DASH hangar and flight deck enlarged for SH-2F Seasprite. ECM and ES upgraded to 2nd Gen. 533mm TT removed.
 • Feb 74 - Jun 1975: Nuclear refuel. Designation changed to CGN 30 Jun 75.
 • 1977: SM2ER replaced SM1ER. Combat system upgraded to Gen 4 Semi-Automatic, fitted with Link 4/4A, Link 11 data links, Mk42 AA Rating 1.4.
 • 1979-80: Mk33 guns replaced by PB/SQ(4)2 Mk141 w/4 Harpoon. Radar fit changed to SPS-40D, SPS-48C, SPS-59/LN-66.
 • Sep 82 - Jul 84: Refitted, received SM2ER Blk II, SPS-10, LN-66 replaced by SPS-64, SPS-67. ECM upgraded to 3rd Gen, Countermeasures upgraded to 3rd Gen J&D. PW/SW(R)2 Mk15 Phalanx Blk 0 (2@6.3A) added.
 • Oct 89 - Jan 90: Radar fit changed to SPS-48C, SPS-49(V)5, SPS-64, SPS-67. Fitted with 1st Gen acoustic countermeasures.
 • 29 Sep 95: Decommissioned.

DLGN**In Class:** [1]**In Service:** 1967 - 95**Crew:** 534**Acoustic Cnt:** None**Armor Rating:** 0**Cbt Sys:** Gen 3 Semi-Automatic**Damage & Speed Breakdown:**

Dam Pts:	0	76	152	228	274	304
Surf Speed:	30	22	15	8	0	Sinks

Bainbridge**Displacement:** 7600 std**Size Class:** B/Medium**Propulsion:** Nuclear**Electrn Cnt:** 1st Gen J**Signature:** Med/Noisy**Weapons:**

P/S(2)2 Mk33 3in/50//2 Mk34 (0.8) **C**
 F/A(2)2 Mk10 Mod 5 w/40 Terrier BW & BT//4 SPG-55 **D**
 F(8)1 Mk16 w/8 ASROC **E**
 P/S(3)2 Mk32 324mm TT w/3 Mk44 torp **F**

Sensors:

ES: 1st Gen
 SPS-10, SPS-37, SPS-39 **J**
 SPS-59/LN-66 **J**
 SQS-23 **K**

Remarks:

Original designation DLGN. Helo pad aft. No ASROC reloads. Aluminum superstructure, -15% damage modifier.
 • Aug 67 - May 68: Nuclear refuel.
 • 1967: Mk46 torpedoes available.
 • Jun 74 - Sep 76: AAW Modernization, fitted with NTDS, Link 4/4A and 11 data links. Combat system upgraded to Gen 4 Semi-Automatic. SM1ER//SPG-55B replaced with Terrier//SPG-55. 2nd Gen D countermeasures fitted, ES upgraded to 2nd Gen. SQS-23 upgraded to SQQ-23 PAIR. Fitted with SPS-59/LN-66 and SPS-43 radars, equipment to process signals from LAMPS helicopter. No hangar. Mk33 3 inch guns replaced by P/S(1)2 Mk67 20mm (0.2L)
 • 1 Jul 75: Reclassified as CGN.
 • Oct 78 - Jan 79: PB/SQ(4)2 Mk141 w/4 Harpoon added, 20mm removed.
 • Oct 83 - Apr 85: Refitted. Radar fit changed to SPS-67, SPS-48C, SPS-49(V)5. SM2ER vice SM1ER, P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A, P/S(1)4 M2 .50 cal (0.1L) added. Countermeasures and ES upgraded to 3rd Gen (J&D), 2nd Gen acoustic countermeasures added.
 • 1990: Received New Threat Upgrade, combat system Gen 5 Human.
 • 1993?: ASROC launcher removed.
 • 6 Oct 95: Decommissioned.

Damage & Speed Breakdown:

Dam Pts:	0	70	140	210	252	280
Surf Speed:	34	26	17	8	0	Sinks

Long Beach (1983)**Displacement:** 15100 lt**Size Class:** B/Medium**Propulsion:** Nuclear**Electrn Cnt:** 3rd Gen J&D**Signature:** Med/Noisy**Weapons:**

F(2)1 Mk10 w/80 SM2ER &
 F(2)1 Mk10 w/40 SM2ER//F/A 4 SPG-55 **D**
 PS/SS(4)2 Mk141 w/4 Harpoon **D**
 P/S(1)2 Mk30 5in/38//2 Mk35 (1.0) **C**
 A(R)2 Mk15 Phalanx Blk 0 (2@6.3A) **C**
 P&S(8)1 Mk16 w/8 ASROC **E**
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 **F**
 Aft Pad(1)1 **B**

Sensors:

ES: 3rd Gen
 SPS-67(V)1, SPS-48C, SPS-49(V)3, SPS-59/LN-66 **J**
 SQQ-23 PAIR **K**
 Link 4/4A, Link 11 **L**

Remarks:

20 total ASROC carried. Configuration after 1983 midlife conversion. Aluminum superstructure, -15% damage modifier. Armor rating for Bridge/CIC is 2.

CGN**In Class:** [1]**In Service:** 1962 - 95**Crew:** 459**Acoustic Cnt:** 1st Gen T**Armor Rating:** 0**Cbt Sys:** Gen 3 Semi-Automatic**CGN****In Class:** [1]**In Service:** 1983 - 94**Crew:** 1162 + 68**Acoustic Cnt:** 2nd Gen T**Armor Rating:** 0**Cbt Sys:** Gen 4 Semi-Automatic

- 1985: Harpoon launchers moved to superstructure, PQ&SQ(4)2 Mk144 ABL w/4 Tomahawk added.
- 1994: Deactivated. Canceled FY93 upgrade would have added flag facilities (TFCC), New Threat Upgrade (Gen 5 Human combat system), another 2 Tomahawk ABL.

Damage & Speed Breakdown:

Dam Pts:	0	120	240	360	432	480
Surf Speed:	30	22	15	8	0	Sinks

Long Beach**CGN**

Displacement: 14200 std	In Class: [1]
Size Class: B/Medium	In Service: 1961 - 94
Propulsion: Nuclear	Crew: 1020
Electrn Cnt: 1st Gen D	Acoustic Cnt: 1st Gen T
Signature: Med/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 3 Semi-Automatic
F(2)1 Mk10 Mod 2 w/80 Terrier BW & BT &	D
F(2)1 Mk10 Mod 1 w/40 Terrier//F/A 4 SPG-55	D
A(2)1 Mk12 w/52 Talos//2 SPG-49	D
P&S(8)1 Mk16 w/8 ASROC	E
PB/SB(3)2 Mk32 324mm TT w/3 Mk46 torp	F
Aft Pad(1)1	B
Sensors:	ES: 1st Gen
SPS-32, SPS-33, SPS-10	J
SQS-23	K

Remarks:

20 total ASROC carried. Aluminum superstructure, -15% damage modifier.

- 1961: Commissioned, but NTDS, SPS-33, Terrier and Talos not operational until late 1962. Originally Terrier BW and BT, later upgraded to SPG-55A with Terrier HT capability.
- 1962 - 1963: P/S(1)2 Mk30 5in/38//2 Mk56 added (0.8).
- 1965: Fitted with Link 11 data link.
- 1967: Mk46 torp replaced Mk44.
- 1968: SPS-12 radar added because of problems with SPS-32/33.
- 1969: SM1ER replaced Terrier.
- Dec 76: Plan to fit ship with Aegis canceled.
- 1977: Fitted with aft pad.
- 1978: Talos deactivated.
- Jan-Apr 79: Talos removed launcher and director removed, PS/SS(4)2 Mk141 w/4 Harpoon added.
- Oct 80 - Mar 83: Upgraded. See separate entry.

Damage & Speed Breakdown:

Dam Pts:	0	106	213	319	383	425
Surf Speed:	30	22	15	8	0	Sinks

Ballistic Missile Defense Ship**CG?**

Displacement: 19000 std	In Class: --
Size Class: A/Large	In Service: --
Propulsion: Diesel	Crew: 360
Electrn Cnt: 3rd Gen J&D	Acoustic Cnt: 3rd Gen T
Signature: Medium/Quiet	Armor Rating: 0
Weapons:	Cbt Sys: Gen 6 Automatic
F(1)1 Railgun (26.3)	C
F&A(8)32 Mk41/Mk57 VLS w/see remarks	D
PW/SW/A(21)3 Mk49 w/21 RIM-116B RAM Blk IA	D/Intl
A(1)1 Mk110 57mm (0.6)	C
Aft pad, Elevator, 2 MV-22, 4 SH-60	--
Sensors:	ES: 3rd Gen
X band, S band radars (use SPY-3, SPY-4)	J

Remarks:

Proposal by Huntington Ingalls shipyard for Ballistic Missile Defense ship. Based on the *San Antonio* LPD hull. VLS would carry a total of 256 missiles; could carry SM6, SM3, SM2, quad-pack ESSM, Tomahawk. Fitted with Ship Self-Defense System Mk2.

Damage & Speed Breakdown:

Dam Pts:	0	152	304	455	546	607
Surf Speed:	22	17	11	6	0	Sinks

Bunker Hill (CMP)**CG**

Displacement: 8910 std	In Class: 4 + 5 + 2
Size Class: B/Medium	In Service: 2015 (1986)
Propulsion: COGAG/CP	Crew: 309
Electrn Cnt: 4th Gen J&D	Acoustic Cnt: 3rd Gen T
Signature: Med/Quiet	Armor Rating: 0
Weapons:	Cbt Sys: Gen 6 Automatic

F&A(8)16 Mk41 VLS w/128 msls total, est. loadout

80 SM2MR Blk IIIB, 24 ESSM, 10 SM3, 24 Tomahawk, 8 VL ASROC. Can also fire SM6//PW/SW/2A 4 SPG-62

PS/SS(4)2 Mk141 w/4 Harpoon IC

F/A(1)2 Mk45 Mod 4 5in/62//SPY-1 and SPQ-9B (1.6)

P/S(R)2 Mk15 Phalanx 1B (9.5A)

P/S(1)2 Mk38 Bushmaster 25mm

P/S(1)4 M2 .50 cal (0.1L)

PB/SB(3)2 Mk32 324mm TT w/3 Mk46 or Mk54

Aft Pad(1)2 MH-60R Seahawk

Sensors: **ES:** 3rd Gen

SPY-1D, SPS-73, SPS-64, SPQ-9B

SQS-53C, TB-37 MFTA

Link 11, Link 16, USG-2B CEC, ARQ-59 Hawklink

4th Gen FLIR /laser rangefinder (surface fire for Mk45)

Remarks:

Cruiser Modernization Program. Aegis Baseline 9, allows simultaneous engagement of air and ballistic missile targets. Aluminum superstructure, -15% damage modifier. Fitted with RAST helo recovery system. SPY-1 directs Mk45 gun against air targets, SPQ-9B directs gun against surface targets. Magazines hold 36 Mk54 torps for helo and Mk32 TT. CHP armor rating for Sensors, Mk41, Mk45 is 2.

- 2014: *Port Royal*, *Lake Erie*, *Chosin* placed on reduced operating status. Eleven units in total placed in reserve until modernization
- Upgrades: *Chancellorsville* Apr 12 - Mar 13, *Normandy* Apr 13 - Mar 14, *Vicksburg* Jul 16 - Mar 21, *Anzio* Jan 18 - Aug 20, *Cowpens* Mar 16 - Early 21?, *Gettysburg* Jan 19 - early 21, *Hu  City* Oct 19 - ?, *Chosin* Dec 19 - Nov 21, *Cape St. George* Jan 16 - Nov 21.
- 16 Nov 13: *Chancellorsville* struck by BQM-74 target drone during combat system tests, two sailors injured, damage to vital systems. Repaired Jan - Jun 14.

Damage & Speed Breakdown:

Dam Pts:	0	74	148	221	266	295
Surf Speed:	30	22	15	8	0	Sinks

Bunker Hill**CG**

Displacement: 8910 std	In Class: 22
Size Class: B/Medium	In Service: 1986
Propulsion: COGAG/CP	Crew: 387
Electrn Cnt: 3rd Gen J&D	Acoustic Cnt: 2nd Gen T
Signature: Med/Quiet	Armor Rating: 0
Weapons:	Cbt Sys: Gen 6 Automatic

F&A(8)16 Mk41 VLS w/122 msls total, est. loadout

96 SM2MR Blk II, 26 Tomahawk//PW/SW/2A 4 SPG-62

PS/SS(4)2 Mk141 w/4 Harpoon IC

F/A(1)2 Mk45 5in/54//SPY-1 and SPQ-9 (2.0)

P/S(R)2 Mk15 Phalanx Blk 0 (6.3A)

P/S(1)4 M2 .50 cal (0.1L)

PB/SB(3)2 Mk32 324mm TT w/3 Mk46 Mod 5

Aft Pad(1)2 SH-60B LAMPS III

Sensors: **ES:** 3rd Gen

SPY-1A (CG 52-58), SPY-1B (CG 59-73),

SPS-49(V)6, SPS-55, SPS-64, SPQ-9A

SQS-53A (CG 52-55), -53B (CG 56-67), -53C (CG 68-73),

SQR-19(V)1 (CG 54-64, 66-73) or SQR-19(V)3 (CG 65)

Link 4A, 11, ARQ-44 Hawklink

Remarks:

Fitted with RAST. Magazines hold 36 torpedoes for helos and 324mm TT. Initially limited to SPQ-9A directing Mk45 guns against surface targets only. CHP armor rating for Sensors, Mk41, Mk45 is 2. Aluminum superstructure, -15% damage modifier.

- Systems: SM2MR Blk III 1990?; SM2MR Blk IIIB 1999; Nulka hovering decoy (4th Gen J&D) fitted 2000-06; Phalanx Blk I (2@9.5A)

(CG 55 1992 on, remainder in 1990s); SQS-53C vice SQS-53A (1998). CG 65-73 have 4 SLQ-49 stationary distraction decoys.

- 1991: SPY-1 upgraded to direct Mk45 gun against air targets.
- Early 90s: VLS cranes deleted - each Mk41 VLS launcher increases to 64 vice 61 cells - estimated Mk41 loadout 32 Tomahawk, 96 SM2MR). P/S(1)2 Mk38 Bushmaster 25mm guns (local control only) added to units deploying to Middle East.
- Late 90s?: SQR-19 removed, stored ashore. CG 53, 50 in 2001; CG 54 in 2002; CG 66, 69 in 2003.
- 1996-99: Link 16 fitted. CG-54, 55, 71 (1996). CG-57, 60, 67, 68, 69, 72, 73 (1997). CG-59, 62, 66, 70 (1998). CG-52, 53, 56, 61, 63, 64, 65 (1999).
- 1998: CG 70, 73 fitted with SM2 Blk IVA.
- 1999: CG 58, 59, 63 fitted with 4th Gen J&D.
- 1996-2002: USG-2A CEC fitted on CG-71 (1996), CG-69 (1999), CG-66 (2000), CG-59, 65, 68 (2002).
- 2001: CG 70 used for trials with SM2 Blk IVA and SM3 - first generation BMD.
- May 01: CG 72 fitted with Dutch Scout radar vice SPS-64.
- Sep 05-10: Five fitted with first generation Ballistic Missile Defense, estimated 8 SM3 carried vice 8 SM2MR. CG 70 in 2005, CG 73 in late 06; CG 67 in Sep 06; CG 61, CG 72 in 2009 - all with BMD upgrades below.
- 2005-10: Mk38 Bushmaster 25mm fitted with EO(D/N) GFC (no longer local control).
- 2006: Five updated to BMD 3.6 with SM3 Blk IA. Can detect and engage ballistic missile and air targets at the same time.
- 2008: Fitted with Scan Eagle UAV. Carried in torpedo magazine vice an estimated six torpedoes. Launched and recovered from helo pad.
- 2008+: Estimate fitted with 3rd Gen acoustic countermeasures.
- 2009-13: USG-2B CEC fitted on CG-52 (2009), CG-56, 58 (2010), CG-57 (2011), CG-55 (2012), CG-59 (replaces USG-2A), 60 (2013).
- Feb 08-18: Cruiser Modernization Program, 11 ships updated. Listed separately.
- 2012-14: CG 59, 60, 62-66, 71 fitted with SQS-53D, TB-37 MFTA and Mk54 torpedoes.
- 2013: BMD ships fitted for remote targeting from land-based TPY-2 radars (Aegis Ashore).
- Dec 14: First MH-60R deployment on CG 69. All fitted by 2015.
- Mar 16: CG 57 fitted with SPQ-9B replacing SPQ-9A.

Damage & Speed Breakdown:

Dam Pts:	0	74	148	221	266	295
Surf Speed:	30	22	15	8	0	Sinks

Ticonderoga (ii)

Displacement: 7219 lt
Size Class: B/Medium
Propulsion: COGAG/CPP
Electrn Cnt: 3rd Gen J&D
Signature: Med/Quiet
Weapons:

In Class: [5]
In Service: 1983 - 05
Crew: 395
Acoustic Cnt: 2nd Gen T
Armor Rating: 0
Cbt Sys: Gen 5 Automatic

F(2)2 Mk26 Mod 1 w/20 SM2MR & 20 ASROC,
 A(2)2 Mk26 Mod 1 w/44 SM2MR/PW/SW/2A 4 SPG-62
 F/A(1)2 Mk45 5in/54//SPY-1 and SPQ-9 (2.0)
 P/S(R)2 Mk15 Phalanx Blk 0 (6.3A)
 P/S(1)2 Mk38 Bushmaster 25mm
 P/S(1)4 M2 .50 cal (0.1L)
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 Mod 5
 Aft Pad(1)2 SH-60B LAMPS III
 PS/SS(4)2 Mk141 w/4 Harpoon IB

Sensors: ES: 3rd Gen
 SPY-1A, SPS-49(V)6, SPQ-9A, SPS-55, SPS-64
 SQS-53A

Remarks:

Ticonderoga, Yorktown, Vincennes, Valley Forge, Thomas C Gates.
 Fitted with RAST. Magazines hold 36 torpedoes for helos and 324mm TT. CG 47 and CG 48 have SPS-53 vice SPS-64, SM2MR Blk I, SH-2F vice SH-60B and not fitted with RAST. Initially limited to SPQ-9A directing Mk45 guns against surface targets only. CHP armor rating for Sensors, Mk26, Mk45 is 2. Aluminum superstructure, -15% damage modifier.

- Systems: SM2MR Blk I 1983, SM2MR Blk II 1984, Harpoon IC 1985, SM2MR Blk III 1990; Phalanx Blk IA 1992 (2@9.5A); P/S(1)2 Mk38 Bushmaster 25mm in the early 90s.
- 1983: Ships deploying to Med and Persian Gulf typically carry Stinger msls - estimated as P/S(1)2 Stinger.
- 1985: Fitted with Link 4/4A, Link 11, Link 16, and ARQ-44 Hawklink ARQ-44.
- 1991: SPY-1 upgraded to direct Mk45 gun against air targets.
- 1994?: ASROC retired - Forward Mk26 carries 44 SM2MR.
- 1996: Fitted with increased automation (crew of 309). *Yorktown* (1996), *Ticonderoga* (2000).
- 2005: Planned refits canceled - would have received SQS-53D, Gen 6 Automatic combat system.

Damage & Speed Breakdown:

Dam Pts:	0	76	152	228	274	294
Surf Speed:	30	22	15	8	0	Sinks

Belknap

Displacement: 6570 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen D
Signature: Med/Noisy
Weapons:

F(2)1 Mk10 w/60 msls, normal loadout 52 Terrier and 8 ASROC. Can carry up to 20 ASROC and only 40 Terrier//2 SPG-55

A(1)1 Mk42 5in/54//Mk68 (1.2)
 P/S(2)2 Mk33 3in/50//2 Mk5 (0.8)
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44
 Aft Pad(1)3 DASH Drone

Sensors: ES: 1st Gen
 SPS-10, SPS-43, SPS-48A
 SQS-26

Remarks:

- Originally classed as DLGs. Originally fitted with two Mk25 stern tubes for Mk48 torpedoes, but these were never used. Aluminum superstructure, -15% damage modifier. Carries 12 reload torpedoes.
- *Wainwright, Belknap, Josephus Daniels* not fitted with NTDS, combat system Gen 2 Manual. Have SPS-39 vice SPS-48. 1st Gen T acoustic countermeasures not fitted to *Josephus Daniels* or *Sterett*.
- 1960s: Countermeasures upgraded to 2nd Gen ES, 2nd Gen D.
- 1965: Fitted with Link 4A and 11 data link.
- Late 60s: *Belknap, Josephus Daniels*; NTDS added. Combat system Gen 3 Semi-Automatic.
- 1967: Mk46 torp replaced Mk44.
- 1969: SM1ER missile replaced Terrier. *Belknap* fitted with SPS-48A replacing SPS-39.
- 1970s: Fitted with SPS-59/LN-66 radar. Mk25 TT removed.
- 1971-72: LAMPS I refit, DASH hangar and flight deck enlarged for SH-2 Sea Sprite. *Belknap* Dec 71, *Biddle* Apr 72, *Wainwright* Jul 72.
- 1974: *Belknap* fitted with SLQ-17 EW, probably 2nd gen ES, 2nd Gen J&D.
- 1 Jul 75: Reclassified as CGs.
- 22 Nov 75: *Belknap* collides with carrier *John F. Kennedy*, heavily damaged by fire. Rebuilt 1976 - May 80. Combat system Gen 4 Semi-Automatic. SM2 replaced SM1, Mk33 3 inch guns replaced by Mk15 Blk 0 Phalanx (2@6.3A) and PB/SQ(4)2 Mk141 w/4 Harpoon, SQS-26 replaced by SQS-53A, SPS-43 replaced by SPS-49(V)1. Mk42 5in/54 AA strength 1.4. 1st Gen T Mk6 Fanfare torpedo decoy replaced by 2nd Gen SLQ-25 Nixie. Kevlar armor in critical spaces.
- 1976: *Sterett* first of class fitted with PB/SQ(4)2 Mk141 w/4 Harpoon in place of Mk33 3in/50.
- 1977-80: Class fitted with P/S(R)2 Mk15 Phalanx Blk 0 (6.3A), SM2ER replaced SM1ER, probably 2nd Gen acoustic countermeasures.
- Late 70s-early 80s: Fitted with SM1ER vice Terrier, 2nd Gen D, Harpoon, SPS-48C. SPS-43 replaced by SPS-49(V)5 on *Daniels*, *Wainwright*, *Horne*, *Jouett* or SPS-40 on *Biddle*, *Fox*, *Standley*, *Sterett*.
- Early 80s: Fitted with SM2ER, 2nd Gen D and ES replaced by 3rd Gen ES, 3rd Gen J&D.

CG

D
C
C
F
B

J
K

CG

D, E

C

C

C

C

F

B

D

J

K

- New Threat Upgrade for all except *Belknap*, upgrades SPS-48 to SPS-48E. Combat system Gen 5 Human. Mk42 5in/54 AA strength 1.4. *Biddle* Jul 86-Jul 87, *Jouett* 1988?-89, *Horne* Sep 88-89, *Fox* Sep 89-Sep 90, *Wainwright* 1990?-91, *Standley* Jun 90-Aug 91, *Daniels* 1991-92, *Sterett* Jul 91-Aug 92.
- 1986-87: *Belknap* refitted as 6th Fleet flagship. Helicopter hangar replaced by accommodations, pad enlarged for SH-3 (Medium helicopter).
- Decomm: *Wainwright*, *Biddle* 1993; *Josephus Daniels*, *Jouett*, *Horne*, *Sterett*, *William H. Standley*, *Fox* 1994; *Belknap* 1995.

Damage & Speed Breakdown:

Dam Pts:	0	64	127	191	229	254
Surf Speed:	33	25	16	8	0	Sinks

Albany

Displacement: 13700 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Med/Noisy
Weapons:
P/S(1)2 Mk24 5in/38//2 Mk56 (0.8)
F/A(2)2 Mk12 w/52 RIM-8 Talos//4 SPG-49, 4 SPW-2
P/S(2)2 Mk11 w/42 RIM-24 Tartar//4 SPG-51
P&S(8)1 Mk16 w/8 ASROC
PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torpedoes
Sensors: **ES:** 1st Gen
SPS-10, SPS-29, 2 SPS-30, SPS-39
SQS-23

CG

In class: [3]
In Service: 1962 - 80
Crew: 1266
Acoustic Cnt: None
Armor Rating: 16/7
Cbt Sys: Gen 3 Semi-Automatic

C**D****D****E****F****J****K****Remarks:**

- Albany* (Nov 58-Mar 62), *Chicago* (Nov 58 - Feb 64), *Columbus* (Nov 59 - Jan 62), *Baltimore/Oregon City* class heavy cruisers converted to missile cruisers. Talos magazine under armor. Tartar magazine has no armor. No ASROC reloads. Aluminum superstructure, -15% damage modifier. Helo pad aft for small helicopter.
- *Chicago* has NTDS, combat system Gen 4 Semi-Automatic.
 - Feb 67 - Jun 69: *Albany* had SPS-29, SPS-39 replaced by SPS-43A, SPS-48A. Fitted with NTDS, combat system Gen 4 Semi-Automatic.
 - 1970s: *Columbus* has SPS-29 and SPS-39 replaced by SPS-43A.
 - Nov 70: *Albany* ECM upgraded to 1st Gen J&D, fitted with Link 11 data link.
 - Aug 72 - Aug 73: *Chicago* AAW Refit. Fitted with NTDS, Link 11 data link, Combat system Gen 4 Semi-Automatic. Countermeasures upgraded to 1st Gen J&D, SPS-29, SPS-39 replaced by SPS-43A, SPS-52. One SPS-30 removed.
 - Sep 74 - Dec 74: *Albany* converted to flagship. SPS-48A vice SPS-39. One SPS-30 removed. Second SPS-30 removed late 76.
 - 1979: Planned refit included SM1MR replacing Tartar, adding 2 Phalanx and (4)2 Harpoon, canceled for lack of funds.
 - 1980: Talos removed from service.
 - Decomm: *Columbus* Jan 75, *Chicago* Mar 80, *Albany* Aug 80.

Damage & Speed Breakdown:

Dam Pts:	0	104	208	311	374	415
Surf Speed:	32	24	16	8	0	Sinks

Leahy

Displacement: 5670 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen D
Signature: Med/Noisy
Weapons:
F/A(2)2 Mk10 w/est. 36 Terrier HT-3, 4 BT-3A(N)
//2F/2A SPG-55A
P/S(2)2 Mk33 3in/50//2 Mk34 (0.8)
F(8)1 Mk16 w/8 ASROC
PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp
Sensors: **ES:** 1st Gen
SPS-10, SPS-37, SPS-39
SQS-23, except *Yarnell* has SQQ-23 PAIR

CG**D****C****E****F****J****K****Remarks:**

- Originally classed as DLG. Each Mk10 has both Terrier BT and HT. No reloads for ASROC. Aluminum superstructure, -15% damage modifier. VERTREP area aft. Total of 12 torps carried for Mk32 TT, manual reloading.
- *Halsey*, *Reeves*, *Turner*, *Worden* built with only F/A SPG-55.
 - Mar - Jun 65: *Worden* fitted with SPS-48A replacing SPS-39.
 - 1967: Mk46 torp replaced Mk44.
 - Class AAW refit: Fitted with NTDS, Link 4/4A and Link 11 data links, combat system Gen 4 Semi-Automatic. All fitted with four SPG-55B, SPS 37 replaced by SPS-43. SM1ER Blk II/III replaced Terrier, ECM and ES upgraded to 2nd Gen. *Leahy* Feb 67 - Aug 68, *Harry E. Yarnell* Feb 68 - Jun 69, *Gridley* Sep 68 - Jan 70, *Reeves* Apr 69 - Aug 70, *Worden* Nov 69 - Jan 71, *Dale* Nov 70 - Nov 71, *England* Apr 70 - Jun 71, *Richmond K. Turner* May 71 - May 72, *Halsey* Nov 71 - Dec 72.
 - 1 Jul 75: Reclassified as CGs.
 - 1976: *Dale* had SPS-43 replaced by SPS-49(V)1.
 - Jul 79: *Turner* test. fires Harpoon. Estimated fitted Sept 78. *Yarnell* fitted late 70s with Phalanx.
 - 1974+: All except *Yarnell* fitted with 2nd Gen acoustic countermeasure SLQ-25 vice 1st Gen Fanfare.
 - 1980s: Fitted with PB/SQ (4)2 Mk141 w/4 Harpoon in place of Mk33 3 inch guns, P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A), SPS-59/LN-66, P/S(1)4 M2 .50 cal (0.1L) added. *Leahy* Jan-May 81, *Dale* Mar 81 - Feb 82, *Turner* Jan-Dec 82, *Gridley* Oct 82-Oct 83, *Worden* by 1983?, *England* by Jan 83, *Reeves* Harpoon by 1983, *Phalanx* by Feb 84. *Halsey* early 80s. *Gridley* and *Yarnell* also upgraded SQS-23 to SQQ-23 PAIR.
 - 1986-91: Class received New Threat Upgrade and SM2ER Blk II. Combat system Gen 5 Human. 3rd Gen J&D, 3rd Gen ES fitted. SPS-43 replaced by SPS-49(V)5, SPS-39 by SPS-48A, SPS-10 by SPS-67. *Dale* Jan 87-Jun 88, *England* Oct 86-Oct 87, *Gridley* Feb 90-Mar 91, *Halsey* May 89-90?, *Leahy* Jul 87-88, *Reeves* 1988-89?, *Turner* Jun 88-Jul 89, *Worden* 1988-89, *Yarnell* 1987-88.
 - Jan-Apr 93: *Gridley* refit with SM2ER Blk III.
 - Decomm: *Leahy*, *Harry E. Yarnell*, *Worden*, *Reeves* 1993; *Dale*, *Gridley*, *England*, *Halsey* 1994; *Richmond K. Turner* 1995.

Damage & Speed Breakdown:

Dam Pts:	0	58	115	173	207	230
Surf Speed:	33	25	17	8	0	Sinks

Boston

Displacement: 14480 std
Electrn Cnt: 1st Gen J
Propulsion: Steam Turbine
Size Class: B/Medium
Signature: Med/Noisy
Weapons:
F(3)2 Mk16 8in/55//Mk13
F/2P/2S(2)5 Mk38 5in/38//Mk25 (5.0)
P/S(2)6 Mk33 3in/50//6 (*Boston*) or 4 (*Canberra*) Mk56 (2.3)
A(2)2 Mk4 w/72 RIM-2 Terrier BW and BT
//2 Mk25 Mod 7 (*Boston*) or SPG-5 (*Canberra*)
Aft Pad(1)1 HUP-2 Retriever
Sensors: **ES:** 1st Gen
SPS-6, SPS-10, SPS-12, SPS-3 (CXR), SPS-13 (*Canberra*)

CAG

In class: [2]
Acoustic Cnt: None
Crew: 1635
In Service: 1955 (1943) - 70
Armor Rating: 16/7
Cbt Sys: Gen 2 Manual

Remarks:
Boston converted Jan 52 - Nov 55, *Canberra* Jan 52 - Jun 56. Converted *Baltimore* class heavy cruisers. Helo hangar under flight deck. CHP armor rating for Bridge, CIC and Terrier magazines is 4.

- Feb - Jun 63: *Boston* had SPS-3 radar replaced by SPS-30.
- 1966: SPS-6, SPS-12 replaced by SPS-30, SPS-37A.
- 1968: Terrier system removed, used as gun cruisers.

Damage & Speed Breakdown:

Dam Pts:	0	127	254	380	456	507
Surf Speed:	33	25	16	8	0	Sinks

Des Moines

Displacement: 17225 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Large/Noisy
Weapons:

In class: [3 + 1]
In Service: 1948 - 75
Crew: 1860
Acoustic Cnt: None
Armor Rating: 16/7
Cbt Sys: Gen 2 Manual

2F/A(3)3 Mk16 8in/55//2 Mk13
 F/A/2P/2S(2)6 Mk32 5in/38//4 Mk12/22 (6.7)
 2F/4P/4S(2)10 Mk27 3in/50//4 Mk56 (4.5)
 Aft Pad(1)21 HUP-2 Retriever
 2 Aft catapult, 4 Floatplanes (*Des Moines* only)
Sensors: ES: 1st Gen
 SR-3, SG-5

Remarks:

Des Moines, Salem, Newport News. Fourth unit *Dallas* canceled incomplete in 1946, nine other planned units canceled. Hangar under flight deck. Completed with (2)6 20mm, but removed in 1952.

- 1948-49: Catapults and aircraft removed.
- Post-1953: Search radars replaced by SPS-8A, SPS-12; Mk12/22 GFC radars replaced by Mk25.
- 1955: Forward-most 3in/50 removed because of damage in heavy seas, AA rating 8.2.
- 1959: Mk27 3in/50 replaced by Mk33, same performance.
- 1962: *Newport News* rebuilt as flagship. Two midships 3 inch mounts removed, AA rating 3.8.
- 1966: *Newport News* 3 inch fit P/S(2)4, AA rating 1.5.
- 1966: *Des Moines* fitted with 1st Gen D.
- 1 Oct 72: *Newport News* suffered explosion in number two 8 inch gun turret, 19 killed and 10 injured. Turret remained out of action for remainder of her service.
- 1973: *Newport News* 3 inch fit P/S(2)2, AA rating 0.8.
- 1974: *Newport News* all 3in/50 removed.
- Decomed: *Des Moines* 1961, *Salem* 1959 (preserved as a museum), *Newport News* 1975.

Damage & Speed Breakdown:

Dam Pts:	0	157	314	470	564	627
Dam Pts:	0	142	285	427	512	569

Oregon City

Displacement: 14472 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

In Class: [3 + 1 + 6]
In Service: 1946 - 80
Crew: 2039
Armor Rating: 16/7
Cbt Sys: Gen 1 Manual

2F/A(3)3 Mk15 8in/55//2 Mk13
 F/2P/2S/A(2)6 Mk32 5in/38//2 Mk12/22 (5.6)
 F/PW/SW/3P/3S/PA/SA(4)11 Mk2 40mm/60,
 PA/SA(2)2 Mk1 40mm/60 (3.0L)
 PW/SW/PA/SA(1)24 Mk10 20mm (1.5L)
 2 Aft catapults, 2 SC-1 Seahawk
Sensors:
 SK, SC-2, 2 SG

Remarks:

Oregon City, Albany, Rochester. Modified *Baltimore* design. Additional unit *Northampton* completed as a command cruiser, listed separately. Additional six units laid down canceled 1945 and scrapped incomplete.

- *Rochester* had catapult and aircraft removed, converted to operate 4 HO3S-1 helicopters.
- Feb - May 51: *Rochester* overhauled.
- Combat system Gen 2 Manual, all 40mm and 20mm guns replaced with 2F/4P/4S(2)10 Mk27 3in/50//?, AA rating 4.5. *Rochester* May - Sep 53, *Albany* 1955?
- Jun 58: *Albany* converted to guided missile cruiser, listed separately. Planned conversion for *Rochester* canceled.
- Decomed: *Oregon City* 1947, *Rochester* 1961.

Damage & Speed Breakdown:

Dam Pts:	0	127	253	380	455	506
Surf Speed:	33	25	16	8	0	Sinks

CA**Baltimore**

Displacement: 13600 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Med/Noisy
Weapons:

In class: [14]
In Service: 1943 - 71
Crew: 1700
Acoustic Cnt: None
Armor Rating: 16/7
Cbt Sys: Gen 1 Manual

2F/A(3)3 Mk16 8in/55//2 Mk13
 F/2P/2S/A(2)6 Mk38 5in/38//2 Mk12/22 (5.6)
 P/S(4)12 Mk2 40mm/60 (3.0L) (2 cranes)
 P/S(4)11 Mk2 40mm/60, (2)2 Mk1 40mm/60 (3.0L) (1 crane)
Sensors: ES: 1st Gen
 SG, SK

Remarks:

Baltimore, Boston, Canberra, Quincy, Pittsburgh, Saint Paul, Columbus, Helena, Bremerton, Fall River, Macon, Toledo, Los Angeles, Chicago. Configuration as of post-WW II and early 1950s refits.

- Most except *St. Paul, Helena, Toledo* in reserve after WW II, reactivated for Korean war. *Macon* Oct 50, *Los Angeles* Jan 51, *Pittsburgh* Sep 51, *Boston, Bremerton* Nov 51, *Quincy* Jan 52.
- Jan 52: *Boston* and *Canberra* converted to missile cruisers, listed separately.
- 1952-55: 40mm replaced by 2F/4P/4S(2)10 Mk27 or Mk33 3in/50//? (4.5), 20mm removed. Combat system Gen 2 Manual, 5 inch AA rating 6.7.
- 1956-58: Fitted with A(1)1 Regulus w/3 missiles/SPQ-2. Takes six hours to load and prep for launch. *Toledo, Macon, Los Angeles* Mar 56-1958, *Helena* Jul 56.
- Nov 58: *Chicago* converted to missile cruiser, listed separately as part of the *Albany* class.
- Nov 59: *Columbus* converted to missile cruiser, listed separately as part of the *Albany* class.
- Feb - Aug 56: *Saint Paul*; Fwd 5in/38 mount removed for command spaces, AA rating 7.8.
- Late 50s: SG and SK radars replaced by SPS-6 or SPS-12, SPS-8
- 1960: *Helena*; Regulus system removed from all four ships. SPS-43 added on *Helena* 1960, *Los Angeles* 1961.
- Decomed: *Baltimore* 1956, *Quincy* 1954, *Pittsburgh* 1956, *Saint Paul* 1971, *Helena* 1963, *Bremerton* 1960, *Fall River* 1947, *Macon* 1961, *Toledo* 1961, *Los Angeles* 1963.

Damage & Speed Breakdown:

Dam Pts:	0	122	243	365	437	486
Surf Speed:	33	25	16	8	0	Sinks

Cleveland (Talos Cmd)

Displacement: 11280 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Med/Noisy
Weapons:

In class: [2]
In Service: 1960 (1944) - 79
Crew: 1382
Acoustic Cnt: None
Armor Rating: 12/4
Cbt Sys: Gen 2 Manual

F(3)1 Mk16 6in/47//Mk13
 F(2)1 Mk32 5in/38//Mk56 (1.7)
 A(2)1 Mk7 w/46 RIM-8 Talos//2 SPG-49, 2 SPW-2
Sensors: ES: 1st Gen
 SPS-2, SPS-17, SPS-10, SPS-39 (*Little Rock*)
 SPS-8B, SPS-10, SPS-29, SPS-39 (*Oklahoma City*)

Remarks:

- *Little Rock, Oklahoma City.* Fitted as flagship. Aluminum superstructure, -15% damage modifier. Fitted with aft pad for Small helicopter. Terrier magazine CHP armor rating is 3.
- Early 1960s: SQS-23 and DASH facilities added.
- 1963: SPS-8B and SPS-2 replaced by SPS-30.
- Late 60s: SPS-17, SPS-29, SPS-39 replaced by SPS-43A.
- 1975: Redesignated CG.
- Decomed: *Little Rock* Nov 76, *Oklahoma City* Dec 79. *Little Rock* preserved as a museum ship in Buffalo, NY.

Damage & Speed Breakdown:

Dam Pts:	0	91	183	274	329	365
Surf Speed:	32	24	16	8	0	Sinks

CA**CLG**

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Cleveland (Terrier)**CLG**

Displacement: 11280 std **In class:** [1]
Size Class: B/Medium **In Service:** 1960 (1944) - 69
Propulsion: Steam Turbine **Crew:** 1382
Electrn Cnt: 1st Gen J **Acoustic Cnt:** None
Signature: Med/Noisy **Armor Rating:** 12/4
Weapons: **Cbt Sys:** Gen 2 Manual

F(3)2 Mk16 6in/47//Mk13 **C**
 F/P/S(2)3 Mk38 5in/38//Mk25 **(3.4)** **C**
 A(2)1 Mk9 w/120 RIM-2 Terrier//2 SPQ-5 **D**
Sensors: **ES:** 1st Gen
 SPS-8B, SPS-10, SPS-29, SPS-39 **J**

Remarks:

- Topeka* Aluminum superstructure, -15% damage modifier.
 • early 1960s: SQS-23 and DASH facilities added.
 • 1963: SPS-8 replaced by SPS-30.
 • Late 60s: SPS-29 replaced by SPS-43A. Estimated SPS-37 at the same time.
 • Jun 69: Decommed.

Damage & Speed Breakdown:

Dam Pts:	0	91	183	274	329	365
Surf Speed:	32	24	16	8	0	Sinks

Cleveland (Terrier Cmd)**CLG**

Displacement: 11280 std **In class:** [2]
Size Class: B/Medium **In Service:** 1959 (1944) - 74
Propulsion: Steam Turbine **Crew:** 1070
Electrn Cnt: 1st Gen J **Acoustic Cnt:** None
Signature: Med/Noisy **Armor Rating:** 12/4
Weapons: **Cbt Sys:** Gen 2 Manual

F(3)1 Mk16 6in/47//Mk13 **C**
 F(2)1 Mk38 5in/38//Mk25 **(1.7)** **C**
 A(2)1 Mk9 w/120 RIM-2 Terrier//2 SPQ-5 **D**
Sensors: **ES:** 1st Gen
 SPS-8, SPS-10, SPS-29, SPS-39 **J**
 SQS-23 (*Springfield*) **J**

Remarks:

- Providence, Springfield.* Aluminum superstructure, -15% damage modifier.
 • 1960s: *Providence*; SQS-23, DASH facilities added.
 • 1963: SPS-8 replaced by SPS-30.
 • late 60s: SPS-29 replaced by SPS-43A. Estimated SPS-37 at the same time.
 • 1969: Both placed in reserve.
 • Decommed: *Providence* 1973, *Springfield* 1974.

Damage & Speed Breakdown:

Dam Pts:	0	91	183	274	329	365
Surf Speed:	32	24	16	8	0	Sinks

Cleveland (Talos)**CLG**

Displacement: 11820 std **In class:** [1]
Size Class: B/Medium **In Service:** 1958 (1945) - 70
Propulsion: Steam Turbine **Crew:** 1070
Electrn Cnt: 1st Gen J **Acoustic Cnt:** None
Signature: Med/Noisy **Armor Rating:** 12/4
Weapons: **Cbt Sys:** Gen 2 Manual

F(3)1 Mk16 6in/47//Mk13 **C**
 F/P/S(2)3 Mk38 5in/38//Mk25 **(3.4)** **C**
 A(2)1 Mk7 w/46 RIM-8 Talos//2 SPG-49, 2 SPW-2 **D**
Sensors: **ES:** 1st Gen
 SPS-8B, SPS-10, SPS-29, SPS-39 **J**

Remarks:

- Galveston* (CLG-3). Aluminum superstructure, -15% damage modifier.
 • Aug 1961 - Sep 1961: Upgrades to Talos.
 • Jun 62: Refitted, SPS-8B, SPS-39 replaced by SPS-30, SPS-37, SPS-39, 1st Gen towed acoustic countermeasures. Estimated DASH facilities added.
 • Late 60s: SPS-29 replaced by SPS-43A.

Damage & Speed Breakdown:

Dam Pts:	0	91	183	274	329	365
Surf Speed:	32	24	16	8	0	Sinks

Worcester**CL**

Displacement: 14700 std **In class:** [2]
Size Class: B/Medium **In Service:** 1948 - 58
Propulsion: Steam Turbine **Crew:** 1401
Signature: Med/Noisy **Armor Rating:** 12/9
Weapons: **Cbt Sys:** Gen 2 Manual

2F/2P&S/2A(2)6 Mk16DP 6in/47//2 Mk13 **(5.0)** **C**
 F/2PB/2SB/P/S/2PQ/2SQ(2)11 Mk33 3in/50//4 Mk56 **(4.5)** **C**
Sensors: **ES:** 1st Gen
 SPS-6, SPS-8, SPS-10 **J**

Remarks:

- Worcester, Roanoke.* Two additional units *Vallejo, Gary* canceled incomplete 12 Aug 45, six additional planned units canceled.
 • 1958: Both decommed.

Damage & Speed Breakdown:

Dam Pts:	0	128	256	384	461	512
Surf Speed:	32	24	16	8	0	Sinks

Northampton**CLC**

Displacement: 14700 std **In class:** [1]
Size Class: B/Medium **In Service:** 1953 - 70
Propulsion: Steam Turbine **Crew:** 1635
Signature: Med/Noisy **Armor Rating:** 14/6
Electrn Cnt: 1st Gen J **Acoustic Cnt:** None
Weapons: **Cbt Sys:** Gen 2 Manual

F/A(1)4 Mk42 5in/54//Mk67 **(4.7)** **C**
 P/S(2)4 Mk37 3in/70//4 Mk56 **(7.6)** **C**
 Aft Pad (1)2 HUP-2 Retriever **B**
Sensors: **ES:** 1st Gen
 SPS-2, SPS-8, SPS-10, SPS-29D **J**

Remarks:

- Northampton* (CLC-1). Helo hangar under deck. There is a 10% chance each Tactical Turn a 3in/70 is fired of a mount casualty, rendering it nonfunctional.
 • 15 Apr 61: Redesignated to CC-1.
 • 1962: All 3 inch guns removed.
 • 1964: SPS-2 removed.
 • 1968: Three 5 inch mounts removed, leaving only A(1)1 Mk42. AA rating 1.2. Mk67 FC radar, 2 Mk56 removed.

Damage & Speed Breakdown:

Dam Pts:	0	128	256	384	461	512
Surf Speed:	32	24	16	8	0	Sinks

Arleigh Burke Flight III**DDG**

Displacement: 10700 fl **In Class:** 0 + 1 + 12
Size Class: B/Medium **In Service:** 2023
Propulsion: COGAG/CP **Crew:** 278
Electrn Cnt: 4th Gen J&D **Acoustic Cnt:** 4th Gen T
Signature: Small/Quiet **Armor Rating:** 0
Weapons: **Cbt Sys:** Gen 6 Automatic

F&A(8)4 fwd & (8)8 aft Mk41 VLS w/96 msls total,
 typical loadout 38 SM2MR, 6 SM3
 Blk IA/IB, 16 SM6, 32 ESSM, 4 VL ASROC,
 24 Tactical Tomahawk//F/2A 3 SPG-62 **D**

F(1)1 Mk45 Mod 4 5in/62//see remarks **(0.8)** **C**
 P/S(1)2 Mk38 Mod 2 Bushmaster 25mm//2 EO GFC **C**
 PB/SB(3)2 Mk32 324mm TT w/3 Mk54 **F**
 Aft Pad(1)2 MH-60R Seahawk **B**

Sensors: **ES:** 4th Gen
 SPY-6(V)1 AMDR, SPQ-9B,
 BridgeMaster E (Decca 2000 series) **J**
 SQS-53D, TB-37 MFTA, Kingfisher mine detection **K**
 Mk20 Mod 1 EO sensor (4th Gen FLIR, laser rangefinder) **--**
 Link 11, Link 16, USG-2B CEC, ARQ-59 Hawklink **L**

Remarks:

- Jack H. Lucas* 125, *Louis H. Wilson* 126, *Ted Stevens* 128, *Jeremiah Denton* 129, *William Charette* 130, *George M Neal* 131, *Quentin Walsh* 132, *Sam Nunn* 133, *John E. Kilmer* 134, *Thad Cochran* 135, *Richard G. Lugar* 136. 137-138 under contract, 139-144 projected. Simultaneous AAW and BMD (3rd Gen) using SPY-6, capable of remote engagement. Mk45 uses SPY-6 for AA and SPQ-9B/laser rf

K

Aft Pad(1)2 SH-60 Seahawk

Sensors:

ES: 3rd Gen
 SPY-1D, SPS-67(V)3, SPS-64 (DDG 79-86), BridgeMaster E
 (use Nav radar Generic S-band) (DDG 87-112)
 SQS-53C, SQR-19(V)3 towed array
 Link 4/4A, Link 11, Link 16, USG-2A CEC (85-95),
 USG-2B (96-112), Hawklink (ARQ-59)
 3rd Gen FLIR (DDG 82 - 84) or
 4th Gen FLIR/laser rf (DDG 85 - 112), SRS-1 Combat DF

Remarks:

DDG 79-112, DDG 79-84 displ 9238 fl, DDG 85-90 9300 fl, DDG 91-112 9400 lt. Mk45 uses SPY-1 for AA and SPS-67 or EO/laser rangefinder for surface fire. Broad hull, treat as A-sized ship for helicopter launch and recovery, fitted with RAST. CHP armor rating for Sensors, CIC, Mk41, Mk45 is 5. Provision for PB&SB(4)2 Harpoon.
 • DDG 79, 80 have Mk45 5in/54 (1.0). DDG 81-84 has F/A Phalanx, DDG 85-112 have aft Phalanx only. DDG 91-112 have 4th Gen J&D
 • Jul 02: ESSM available on DDG 85-112 as standard, DDG 79-84 fitted 2004-06. 32 ESSM replace 8 SM2MR.
 • 2004: DDG-82 fitted with USG-2A CEC data link.
 • May 04: Tactical Tomahawk available.
 • 2005: DDG- 80, 83, 84 fitted with USG-2B CEC data link.
 • 2006: DDG-79, 81 fitted with USG-2B CEC data link.
 • 2008: Fitted with Scan Eagle UAV. Carried in torpedo magazine vice an estimated six torpedoes. Launched and recovered from helo pad.
 • 2009: DDG-82 USG-2A CEC antenna replaced by USG-2B.
 • 2009-17: Refits with Mk54 torpedoes, MH-60R vice SH-60B, TB-37 MFTA added. SH-60B retired 2015. First DDG-87 Sep 09.
 • Sep 12 - Nov 14: *Donald Cook* (DDG-75) fitted with 4th Gen J&D and six stationary distraction decoys.
 • Nov 13: Six SM6 replace six SM2MR.
 • 2014: DDG-109 fitted with SPQ-9B replacing SPS-67.
 • Jul 15: DDG-96 fitted with 4th Gen ES.
 • 2017-21: Refits with 6 SM6 replacing 6 SM2MR, SPY-1D can detect and engage air and BMD targets at same time (3rd Gen BMD), Phalanx Blk IB, 4th Gen J&D, 4th Gen FLIR/laser rf (can direct Mk45). DDG-80 2017-18, DDG-79 2018-22, DDG 83 2019-20, DDG 84, 85 2019-20, DDG 87 2019-21.
 • Nov 19: DDG-105 fitted with F SEQ-4 ODIN laser dazzler integrated with combat system. DDG-106 and DDG-111 fitted in 2020. Additional five ships planned.
 • Oct 20 - Feb 22: DDG-88 refit possibly includes F HELIOS integrated to combat system. Can be used as laser dazzler or as a 5th generation FLIR with laser rangefinder.
 • 2020s: To be fitted SM6 remote engagement.

Damage & Speed Breakdown:

DP (79-84):	0	84	169	253	303	337
DP (85-90):	0	85	169	254	304	338
DP (91-112):	0	85	171	256	307	341
Surf Speed:	32	24	16	8	0	Sinks

Arleigh Burke Flight I, II

Displacement: see remarks
In Class: 21, 7
Size Class: B/Medium
In Service: 1991, 1996
Propulsion: COGAG/CPP
Crew: 346
Electrn Cnt: 3rd Gen D
Acoustic Cnt: 2nd Gen T
Signature: Small/Quiet
Armor Rating: 0
Weapons:
Cbt Sys: Gen 6 Automatic
 F&A(8)4 fwd & (8)8 aft Mk41 VLS w/90 msls total, typical
 loadout 72 SM2MR, 18 Tomahawk or
 62 SM2MR, 28 Tomahawk or
 34 SM2MR, 56 Tomahawk//F/2A 3 SPG-62
 F(1)1 Mk45 5in/54//SPY-1D (0.9)
 F/A(R)2 Mk15 Phalanx Blk I (2@9.5A)
 PS/SS(4)2 Mk141 w/4 Harpoon IC
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 Mod 5A(S)
Sensors:
ES: 3rd Gen
 SPY-1D, SPS-64, SPS-67(V)3
 SQS-53C, SQR-19(V)3
 Link 4/4A, Link 11, Link 16 (68-78), Hawklink (ARQ-44)
 3rd Gen FLIR

Remarks:

DDG 51-78. DDG 51 displ 6624 lt, DDG 52-71 6731 lt. Helo pad aft with RAST (except DDG-51 is not fitted with RAST). Can refuel and reararm LAMPS helos (9 torpedoes and sonobuoys) but no hangar for maintenance. Broad hull, treat as A-sized ship for helicopter launch and recovery. Mk45 gun uses SPS-67 against surface targets and SPY-1 against air targets. CHP armor rating for Sensors, CIC, Mk41, Mk45 is 5. VLS strikedown crane occupies three Mk41 cells in fore and aft groups. DDG 68-71 fitted with 3rd Gen J&D. Fitted with 4 SLQ-49 floating distraction decoys (retired early 00s). DDG-72-78 fitted with SRS-1 Combat DF, in addition to SLQ-32 3rd Gen ES, see 5.2.9.5.
 • 1990s Refits: Strikedown cranes removed from Mk41 VLS, cells plated over. Fitted with 3rd Gen J&D. Most have SQR-19 removed, stored ashore.
 • 1993: VL ASROC available.
 • 1993: Tomahawk Blk III (planned to retired 2022) and VL ASROC available, 4 VL ASROC replace 4 SM2MR.
 • 1998: DDG-58 and 64 fitted with Link 16.
 • 1999: DDG-54, 55, 56, 57, 59, 60, 61, 62, 63 fitted with Link 16.
 • Sep 99: Eleven of DDG 52-67 fitted with 3rd Gen J&D by this date.
 • 2000: DDG-51, 52, 53, 65, 66 fitted with Link 16.
 • 2000s refits: Fitted with P/S(1)2 Mk38 Bushmaster 25mm and P/S(1)4 M2 .50 cal (0.1L). Fitted with Nulka decoy (4th Gen D). Phalanx Blk IA upgraded to Blk IB (9.5A). Fitted with Tactical Tomahawk and ESSM (6 quad-packs for 24 ESSM vice 6 SM2MR in all load-outs). ARQ-59 Hawklink replaces ARQ-44.
 • 12 Oct 00: *Cole* (DDG 67) bombed by a suicide boat in Aden and heavily damaged, killing 17 crew and injuring 39 more. Repaired and returned to service 19 Apr 02.
 • 2001?: Fitted with P/S(1)1 Mk 38 Bushmaster 25mm.
 • May 04: Tactical Tomahawk available.
 • 2004 - 06: DDG 53, 60, 65, 69, 70 fitted to provide BMD remote targeting, no engagement ability. DDG-54 first BMD patrol off Japan Oct 04.
 • Jul 05: Fitted with Scan Eagle UAV. Carried in torpedo magazine vice an estimated six torpedoes. Launched and recovered from helo pad.
 • 2009-13: DDG 53-56, 58-63, 65, 67-71 fitted for 1st Gen BMD with six SM3 replacing 6 SM2MR.
 • 2008 - 15: DDG 53-56, 58-78 fitted for 2nd gen BMD with 6 SM3 replacing 6 SM2MR.
 • 2010-12: DDG-60, 62, 63 fitted with Mk54 torp, TB-37 MFTA sonar.
 • Dec 13: DDG-61 fitted with six Mk59 floating distraction decoys.
 • 2013-17: USG-2B CEC data link fitted to DDG-51 (2016), 52 (2014), 53 (2013), 57 (2016), 61 (2017), 65 (2014), 69 (2016).
 • 2013-20: DDG 51-53, 56, 57, 60, 61, 63, 65-67, 69, 70 fitted with 6 SM6 replacing 6 SM2MR, 32 ESSM replacing 8 SM2MR, P/S(1)2 Mk38 Mod 2 Bushmaster 25mm//2 EO directors, 4th Gen J&D, DDG 51-53, 56, 57, 61, 65-67, 69-70 also fitted with Mk54 torpedoes and TB-37 sonar.
 • 2016-18: DDG 54, 55, 58, 59 fitted with Mk54 torpedoes, TB-37 sonar.
 • 2016-17: DDG 64, 71, 75, 78 refits with A(11)1 SeaRAM w/11 RAM Blk II replacing A Phalanx, 4th Gen J&D, 4th Gen ES, Mk45 Mod 4 5in/62 replacing 5in/54 and six stationary distraction decoys.
 • 17 Jun 17: *Fitzgerald* (DDG 62), collided with container ship *ACX Crystal* southwest of Yokosuka, Japan. She was severely damaged. Seven were killed, and three injured. Transported to Pascagoula aboard a heavy-lift vessel in late 2017, then repaired until Feb 20; returned to homeport Jun 20.
 • 21 Aug 17: *John McCain* (DDG 56) collided with tanker *Alnic MC* off the coast of Singapore. Ten crew were killed and five injured, and the ship was heavily damaged. The ship was repaired and returned to service in Oct 19.

Damage & Speed Breakdown:

DP (DDG 51):	0	82	163	245	293	326
DP (52-71):	0	83	165	248	297	330
DP (72-78):	0	84	168	252	302	336
Surf Speed:	31	23	16	8	0	Sinks

Kidd

Displacement: 6950 ltshp
Size Class: B/Medium
Propulsion: COGAG/CP
Electrn Cnt: 3rd Gen D
Signature: Med/Quiet
Weapons:

F(2)1 Mk26 Mod 3 w/24 SM1MR &
 A(2)1 Mk26 Mod 4 w/44 see remarks//2 SPG-51
 F/A(1)2 Mk45 5in/54//F SPG-60 (2.0)
 PA/SB&S(R)2 Mk15 Phalanx Blk 0 (6.3A)
 PS/SS(4)2 Mk141 w/4 Harpoon IC
 Aft Pad(1)2 SH-2F LAMPS I
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 Mod 5
Sensors: ES: 3rd Gen
 SPS-55, SPQ-9A, SPS-48C, LN-66
 SQS-53A
 Link 4/4A, 11

Remarks:

Kidd, Callaghan, Scott, Chandler. Iran's gift to the US Navy, also called "The Dead Admiral" or "Ayatollah" class. Aluminum superstructure, -15% damage modifier. After msl magazine has 16 ASROC, 28 SM1MR Blk IV. Mk86 FCS for Mk45 uses SPG-60 against air targets, SPQ-9 vs. surface targets. SPG-60 can direct Mk45 gun or illuminate target for SM1 or SM2 msls out through Short Range band. CHP armor rating for Sensors, Mk26, Mk45 is 2. Carries 18 Mk46 torps for manual reload of TT. Usually carries only 1 SH-2F.
 • 1987: Fitted with Sidekick jammer, countermeasures upgraded to 3rd Gen J&D.
 • Fitted with New Threat Upgrade. Combat system Gen 5 Human. SPS-48 upgraded to SPS-48E, SPS-49(V)5 added, carries SM2MR Blk II vice SM1, SPG-60 moved to A arc. *Scott* 1987? - Mar 88, *Kidd* Aug 88 - Sep 89, *Callaghan* Aug 89 - Jul 90, *Chandler* Aug 89 - Aug 90.
 • 1991: *Kidd* deployed to Persian Gulf, carries 1 SH-2F and 1 'Prime Chance' armed OH-58D.
 • Late 94: ASROC removed by this date. Aft Mk26 loadout changed to 44 SM2MR.
 • If retained in USN service, would have been fitted with 2 SH-60B LAMPS III with RAST vice SH-2F, SQS-53C vice SQS-53A, ARQ-44 Hawklark, possibly SQR-19A towed array sonar.
 • Decommed: *Kidd, Callaghan, Scott* 1998, *Chandler* 1999. All four sold to Taiwan in 2003.

Damage & Speed Breakdown:

Dam Pts:	0	72	143	215	257	286
Surf Speed:	31	23	16	8	0	Sinks

Mitscher (1968)

Displacement: 3642 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:

F/A(1)2 Mk42 5in/54//Mk25 (2.4)
 A(1)1 Mk13 w/40 RIM-24 Tartar//2 SPG-51
 F(8)1 Mk12 w/8 ASROC
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 torp
 Aft Pad(1)1 DASH
Sensors: ES: 1st Gen
 SPS-10, SPS-37, SPS-39
 SQS-23

Remarks:

Mitscher, John S. McCain. Converted from DL to DDG, *Mitscher* Mar 66 - Jun 68, *John S. McCain* Jun 66 - Sep 69. No ASROC reloads. Aluminum superstructure, -15% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	43	86	128	154	171
Surf Speed:	36	27	18	9	0	Sinks

DDG

In Class: [4]
In Service: 1981 - 99
Crew: 340
Acoustic Cnt: 2nd Gen T
Armor Rating: 0
Cbt Sys: Gen 4 Semi-Automatic

Decatur

Displacement: 3060 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:

F(1)1 Mk42 5in/54//SPG-53B (1.2)
 A(1)1 Mk13 w/40 RIM-24 Tartar//SPG-51
 P&S(8)1 Mk12 w/8 ASROC
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44
Sensors: ES: 1st Gen
 SPS-48A, SPS-29, SPS-10
 SQS-23

Remarks:

Decatur 1966, *John Paul Jones, Parsons, Somers* 1967. Converted *Forrest Sherman*-class DDs. Were to have Aft Pad(1)2 DASH, but were built with ASROC. Have 8 ASROC reloads. SPG-53B can direct Mk42 gun or control missile. SPS-40 in *Somers*. Aluminum superstructure, -15% damage modifier.
 • 1967: Mk46 torpedoes replaced Mk44.
 • 1969: Refitted, Tartar replaced with SM1MR.
 • 1973: *Somers* fitted with automatic tracking for SPS-48 (SYS-1), combat system Gen 4 Semi-automatic.
 • 1975: Fitted with Link 14 data link.
 • Decommed: *Parsons, Somers, John Paul Jones* 1982, *Decatur* 1983.

Damage & Speed Breakdown:

Dam Pts:	0	38	77	115	138	153
Surf Speed:	31	23	16	8	0	Sinks

Coontz

Displacement: 4700 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen D
Signature: Small/Noisy
Weapons:

F(1)1 Mk42 5in/54//Mk68 (1.2)
 P/S(2)2 Mk33 3in/50//2 Mk34 (0.8)
 F(8)1 Mk16 w/8 ASROC
 A(2)1 Mk10 w/40 Terrier//2 SPQ-5
 P/S(3)2 Mk32 324mm TT w/3 Mk44
Sensors: ES: 1st Gen
 SPS-10, SPS-37, SPS-39
 SQS-23

Remarks:

Aluminum superstructure, -15% damage modifier. *Farragut, Dewey, Preble* have SPQ-5 w/Terrier BW-1, others have SPG-55A w/Terrier BT-3. *King* and *Mahan* fitted with first NTDS systems, Link 4/4A, Link 11 data links, combat system Gen 4 Semi-Automatic.
 • Dec 65- Jan 66: *Coontz* fitted with aft pad and refueling facilities. *Mahan* fitted by Aug 66.
 • Some fitted with SPS-52 replacing SPS-39. *Coontz* 1966/67, *Dewey* by May 68, *Mahan* 1968.
 • AAW refit. 3 inch guns removed, NTDS, Link 4/4A and Link 11 added to all units, combat system Gen 4 Semi-Automatic. SQS-23 upgraded to SQQ-23 PAIR, SPQ-5 replaced by SPG-55, Terrier replaced by SM1ER. SPS-39 replaced by SPS-48A. Countermeasures upgraded to 2nd Gen D, ES to 2nd Gen. *Farragut* May 68 - May 69, *Luce* Feb 70 - Jul 71, *MacDonough* Apr 73 - Apr 74, *Coontz* Feb 71 - Apr 72, *King* Jul 74 - Mar 77, *Mahan* Aug 73 - Mar 75, *Dahlgren* Feb 72 - Mar 73, *William V. Pratt* Oct 72 - Oct 73, *Dewey* Nov 69 - Apr 71, *Preble* Jan 69 - Jul 70. *Farragut* fitted with 8 ASROC reloads.
 • 1977-83: Fitted with PB&SB/PQ&SQ(4)2 Mk141 w/4 Harpoon, probably 2nd Gen T acoustic countermeasures. *Coontz, Dahlgren, Farragut* 1977-79. *Dewey, King, Luce, Macdonough, Mahan, Pratt, Preble* 1980-1983.
 • 1979: *Mahan* tested SM2ER.
 • Apr 80 - Apr 81: *Mahan* tested New Threat Upgrade, combat system Gen 5 Human. SM2ER Blk II, SPS-48E, SPS-49(V)5.

DDG

In Class: [4]
In Service: 1966 (1955) - 83
Crew: 337
Acoustic Cnt: None
Armor Rating: 0
Cbt Sys: Gen 3 Semi-Automatic

DDG

In Class: [10]
In Service: 1960 - 93
Crew: 360
Acoustic Cnt: 1st Gen T
Armor Rating: 0
Cbt Sys: Gen 3 Semi-Automatic

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- 1985-87: SPS-37 replaced by SPS-49(V)5, SQS-23 replaced by SQQ-23 PAIR, ES and ECM upgraded to 3rd Gen. P/S(1)4 M2 .50 cal (0.1) added.
- 1987: *Farragut* and *Dahlgren* fitted with New Threat Upgrade and SM2ER. Combat system Gen 5 Human.

Damage & Speed Breakdown:

Dam Pts:	0	51	102	152	183	203
Surf Speed:	32	24	16	8	0	Sinks

Charles F. Adams**DDG**

Displacement: 3350 std	In Class: [23]
Size Class: C/Small	In Service: 1960 - 92
Propulsion: Steam Turbine	Crew: 340
Electrn Cnt: 1st Gen D	Acoustic Cnt: None
Signature: Small/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 3 Semi-Automatic
F/A(1)2 Mk42 5in/54//Mk68 (2.4)	C
A(2)1 Mk11 w/40 RIM-24 Tartar//2 SPG-51 (DDG-2 to 14)	D
A(1)1 Mk13 w/40 RIM-24 Tartar//2 SPG-51 (DDG-15 to 24)	D
P&S(8)1 Mk112 w/8 ASROC	E
P/S(3)2 Mk32 324mm TT w/3 Mk44	F

Sensors: ES: 1st Gen

SPS-10, SPS-39A, SPS-37 (DDG 2-4, 8-14),
SPS-29 (DDG 5-7), SPS-40A (DDG 15-24)
SQS-23 bow (DDG-2 to 19) or hull (DDG-20 to 24)

Remarks:

Aluminum superstructure, -15% damage modifier. DDG-20 to DDG-24 have bow-mounted SQS-23 vice hull-mounted. Many later fitted with 4 manual ASROC reloads. *Robison*, *Buchanan*, *Berkeley*, *Semmes*, *Tattnall*, *Goldsborough*, *Waddell* fitted with 1st Gen T Acoustic Countermeasures.

- 1967: Torpedo changed from Mk44 to Mk46.
- 1969: Tartar replaced by SM1MR.
- Apr - Sep 71: *Buchanan* SPS-39 replaced by SPS-48A.
- 1971 - 73: A(4)1 Sea Chaparral w/4 RIM-72A fitted for evaluation. Eight manual reloads. *Lawrence* 1971-72, *Hoel* 1972-73.
- 1972 - 1973: *Towers*, *Robinson*, *Berkeley*, *Cochrane*; Fitted with JPTDS, a compact version of NTDS, Link 11 data link. Combat system Gen 4 Semi-Automatic.
- 1975?: SQS-23 upgraded to SQQ-23 PAIR in four ships, including *John King* Apr 75.
- 1976: Harpoon capability added to Mk11/Mk13 launcher. Mk11 ships carry 4 Harpoon in place of SM1MR, Mk13 ships carry 6 Harpoon in place of SM1MR.
- 1982: Countermeasures upgraded to SRBOC (3rd Gen D).
- 1982 - 87?: SLQ-32(V)2 3rd Gen ES, SPS-40D and SPS-52B replacing SPS-29, -37 and SPS-39A fitted to all.
- 1980s: Three fitted with NTDS, Link 11 data link, Combat system Gen 4 Semi-Automatic. Radar fit changed to SPS-10, SPS-40D, SPS-52C, LN-66. Mk68 replaced with Mk86 GFCS (SPG-60 and SPQ-9A radars). SPG-60 can direct Mk42 gun or additional SM1MR missile. *Tattnall* Aug 81 - Sep 82, *Goldsborough* Nov 83 - Jul 84, *Benjamin Stoddert* Apr 84 - Aug 85.
- Class decommed 1989 - 92.

Damage & Speed Breakdown:

Dam Pts:	0	41	81	122	146	162
Surf Speed:	35	25	18	9	0	Sinks

Gyatt**DDG**

Displacement: 2637 std	In Class: [1]
Size Class: C/Small	In Service: 1955 (1945) - 69
Propulsion: Steam Turbine	Crew: 345
Electrn Cnt: None	Acoustic Cnt: 1st Gen T
Signature: Small/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 2 Manual
F(2)2 Mk38 5in/38//Mk25 (3.4)	C
A/P&S(2)2 Mk33 3in/50//Mk56 (1.5)	C
A(2)1 Mk8 w/12 RIM-2 Terrier//Mk25	D
PB&SB(24)2 Mk10/11 Hedgehog w/6 salvoes	E

Sensors:

ES: 1st Gen

SPS-6, SPS-10
QHB

J
K

Remarks:

Gearing class unit converted to DDG configuration Oct 55 - Dec 56, reclassified as DDG-712. Mk25 GFCS modified for missile guidance. First USN warship fitted with fin stabilizers.

- Jun - Oct 62: Terrier removed, PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp and Aft Pad(1)1 DASH added, reclassified as DD-712.
- 1967: Mk44 torpedoes replaced by Mk46.

Damage & Speed Breakdown:

Dam Pts:	0	41	82	122	147	163
Surf Speed:	34	25	16	8	0	Sinks

Air-Capable Spruance**DDH**

Displacement: 7000 std	In Class: 1
Size Class: B/Medium	In Service: c1982
Propulsion: COGAG/CP	Crew: 370
Electrn Cnt: 3rd Gen J&D	Acoustic Cnt: 2nd Gen T
Signature: Med/Quiet	Armor Rating: 0
Weapons:	Cbt Sys: Gen 4 Semi-Automatic

F/A(1)2 Mk45 5in/54//SPG-60 (2.0)

PB&SB/P&PQ(R)2 Mk15 Phalanx Blk 0 (6.3A)

F(8)1 Mk112 w/24 ASROC

PB/SB(3)2 Mk32 324mm TT w/7 Mk46

PB&SB(4)2 Mk141 w/4 Harpoon

A(8)1 Mk29 NATO Sea Sparrow w/8 RIM-7M//Mk91

Aft Pad(1)4 SH-60B LAMPS III

Sensors: ES: 3rd Gen

SPS-64 or SPS-53 or SPS-59/LN-66

SPS-40D, SPQ-9A, SPS-55, Mk23 TAS

SQS-53B, SQR-19 towed array

Link 11

Remarks:

Design authorized by Congress for FY 78 as DD-997 over Navy objections. Can operate VSTOL aircraft as well as helicopters. Aluminum superstructure, -15% damage modifier. Magazines hold 24 RIM-7M and 18 Mk46 torpedo manual reloads. SPG-60 can either illuminate 2nd target for NATO Sea Sparrow or direct Mk45 5 inch gun. CHP armor rating for Sensors, Mk45 is 2.

- Instead constructed as a standard *Spruance*, USS *Hayler*, DD-977.

Damage & Speed Breakdown:

Dam Pts:	0	66	133	199	239	265
Surf Speed:	32	24	16	8	0	Sinks

Mitscher**DL**

Displacement: 3642 std	In class: [4]
Size Class: C/Small	In Service: 1955 - 69
Propulsion: Steam Turbine	Crew: 440
Electrn Cnt: 1st Gen J	Acoustic Cnt: 1st Gen T
Signature: Small/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 2 Manual

F/A(1)2 Mk42 5in/54//F Mk25 (2.4)

F/A(2)2 Mk33 3in/50//A Mk35 (1.5)

P&PB/S&SB/PA/SA(2)4 Mk10/24 20mm (1.0L)

F(1)1 Mk108 Weapon Alfa w/4 salvoes//SQG-1

PB/SB(2)2 Mk23 533mm TT w/2 Mk35 or Mk37 torp

1 DC Rail w/12 Mk14 DC

Sensors:

ES: 1st Gen

SPS-6, SPS-8A

SPS-10 (*Mitscher*, *John S. McCain*)

SPS-4 (*Willis A. Lee*, *Wilkinson*)

QHB

Remarks:

Mitscher, *John S. McCain*, *Willis A. Lee*, *Wilkinson*. Experimental designs, each fitted with a different propulsion layout. Six torpedo reloads. Aluminum superstructure, -15% damage modifier. Mk35 can direct 5 inch and 3 inch guns against single target.

- Mid-50s: QHB, SQG-1 sonars replaced by SQS-4 (estimated Mod 4).

America's Navy

- 1956: *Willis A. Lee* fitted with EDS combat system, Gen 3 Semi-Automatic.
- 1957-58: Mk33 3in/50s, aft Weapon Alfa, and DC Rail replaced by F/A(2)2 Mk37 3in/70/Mk35 (8.8). There is a 10% chance each Tactical Turn a 3in/70 is fired of a mount casualty, rendering it nonfunctional.
- Early 60s: Class Improvement program replaced boilers on *Mitscher*, *John S. McCain*. Remaining Weapon Alfa removed from *Willis A. Lee*, *Wilkinson*. *Mitscher* had fwd 3in/70 mount removed.
- 1960: Class reboilered, Aft 3 inch gun replaced by PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp, Aft Pad(1)2 DASH. SPS-4 radar replaced by SPS-29. SQS-4 replaced by SQS-23 (*Mitscher*, *John S. McCain*) SQS-26 (*Willis A. Lee*, *Wilkinson*).
- Converted to DDG: *Mitscher* Mar 66 - Jun 68; *John S. McCain* Jun 66 - Sep 69, listed separately.
- 1969: *Willis A. Lee*, *Wilkinson* decommed.

Damage & Speed Breakdown:

Dam Pts:	0	43	86	128	154	171
Surf Speed:	36	27	18	9	0	Sinks

Norfolk

Displacement: 5556 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Med/Quiet
Weapons:
F/A(2)4 Mk33 3in/50/2 Mk56 (1.5)
PA/SA/P/S(2)4 Mk 20/24 20mm/70 (1.0L)
F/A(1)4 Mk108 Weapon Alfa w/5 salvoes//SQG-1
P/S(4)2 Mk24 533mm TT w/4 Mk35 or Mk37 torp
Sensors: ES: 1st Gen
SPS-6
QHB, SQG-1

Remarks:
Designed with larger, slower screws. 22 torpedo reloads. Laid down as ASW cruiser (CLK), redesignated DL during construction.

- 1957-58: Fitted with SPS-26 radar.
- 1959: Mk33 3 inch guns replaced by F/A(2)4 Mk37 3in/70 AA (10.0), 20mm removed. There is a 10% chance each Tactical Turn a 3in/70 is fired of a mount casualty, rendering it nonfunctional. QHB sonar replaced by SQS-4 (estimated Mod 4).
- 1960: A(1)2 Weapon Alfa replaced by A(8)1 Mk6 w/8 ASROC added.
- 1962: SPS-10, SPS-37 radar added, SQS-4 replaced by SQS-26.
- 1960s: Mk24 TT replaced by PB/SB(3)2 Mk32 324mm TT w/3 Mk44. Remaining Weapon Alfa probably removed.
- 1967: Mk46 torpedoes introduced.

Damage & Speed Breakdown:

Dam Pts:	0	67	134	200	240	267
Surf Speed:	34	26	17	9	0	Sinks

Improved Spruance

Displacement: 6156 ltshp
Size Class: B/Medium
Propulsion: COGAG/PPP
Electrn Cnt: 3rd Gen J&D
Signature: Med/Quiet
Weapons:
F/A(1)2 Mk45 5in/54//F SPG-60 & SPQ-9A (2.0)
PW/SW(R)2 Mk15 Phalanx Blk 0 (6.3A)
F&A(8)8 Mk41 VLS w/61 Tomahawk & VL ASROC
A(8)1 Mk29 NATO Sea Sparrow w/8 RIM-7M/Mk91
PB/SB(3)2 Mk32 324mm TT w/3 Mk46
PS/SS(4)2 Mk141 w/4 Harpoon
P/S(1)2 Mk38 Bushmaster 25mm
P/S(1)4 M2 .50 cal (0.1L)
Aft Pad(1)1 SH-60B LAMPS III

Sensors: ES: 3rd Gen
SPS-55, SPS-40D, SPQ-9A, Mk23 TAS, SPS-59/LN-66
SQS-53C, SQR-19(V)1
Link 11

DL

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DD

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Remarks:

- DD 963-973, 975, 977, 980-982, 985, 987-989, 991, 992, 997. Modified with Mk41 VLS. Cannot carry SM2MR. RAST helo recovery system. Aluminum superstructure, -15% damage modifier. Magazines hold 24 RIM-7M and 18 Mk46 torpedo manual reloads. SPG-60 can control either Mk45 5 inch gun or can illuminate second target for NATO Sea Sparrow. Mk45 uses SPG-60 for AA and SPQ-9A for surface fire. CHP armor rating for Sensors, Mk41, Mk45 is 2. Fitted with 4 SLQ-49 floating distraction decoys.
- DD-997 has SPS-49(V)5 vice SPS-40. Mk23 TAS not initially fitted in DD 985, 992. DD 978 has SQS-53C (further five later fitted).
- Normal Mk41 loadout is 57 Tomahawk and 4 VL ASROC, although nominal loadout is 45 Tomahawk and 16 VL ASROC. VLS loading crane occupies three Mk41 cells.
- 1990: DD 963-968, 970, 971, 973, 975, 980-982, 991, 992 fitted with SQR-19(V)3.
- Early 90s: Fitted with P/S(1)4 .50 cal (0.1L).
- 1993: Fitted with RIM-7P vice RIM-7M. Phalanx upgraded to Blk IA (2@9.5A).
- 1993 - 96: Fitted with SSDS Mod 0, Gen 5 Human combat system. Operational 1995.
- Mid-90s: DD-969, 972, 977, 982, 985, 987, 989, 992, 997 refitted: Hangars widened, can carry 2 SH-60. Torpedo magazines also altered to permit storage of Penguin Mk2 msIs for SH-60.
- 1995 -97: DD-972, 973, 977, 982, 987, 988, 992 fitted with A(21)1 Mk49 w/21 RIM-116A RAM.
- 1997: *Radford* fitted with advanced mast structure with reduced RCS for trials. No effect on overall radar signature.
- Late 90s: Fitted with SPS-64 replacing SPS-59/LN-66. DD 972 *John Young* fitted with SPQ-9B replacing SPQ-9A. All except DD 985, 988, 992 fitted with Mk23 TAS.
- Struck: DD-980, 981 2000, DD-966 2001. DD-970 struck in 2001 and used for experimental work.

Damage & Speed Breakdown:

Dam Pts:	0	66	132	198	238	264
Surf Speed:	33	25	16	8	0	Sinks

Spruance

Displacement: 6156 ltshp
Size Class: B/Medium
Propulsion: COGAG/PPP
Electrn Cnt: 1st Gen D
Signature: Med/Quiet
Weapons:
F/A(1)2 Mk45 5in/54//F SPG-60 & SPQ-9A (2.0)
A(8)1 Mk29 NATO Sea Sparrow w/8 RIM-7M/Mk91
F(8)1 Mk16 ASROC w/8 msl
PS/SS(3)2 Mk32 324mm TT w/7 Mk46
Aft Pad(1)2 SH-2F LAMPS

Sensors: ES: 2nd Gen
SPS-53 or SPS-59/LN-66
SPS-40D, SPQ-9A, SPS-55
SQS-53A, SQR-15 (DD 966, 967, 976, 985)
Link 11

Remarks:

- DD 963-992. Aluminum superstructure, -15% damage modifier. Magazines hold 24 RIM-7M and 18 Mk46 torpedo manual reloads and 16 ASROC automatic reloads. Mk45 uses SPG-60 for AA and SPQ-9A for surface fire.
- DD 963-970 have SPS-53, remainder LN-66. DD 976-997 have 3rd Gen ES.
- 1977-79: Fitted with PB&SB(4)2 Mk141 w/4 Harpoon. Fitted on DD 986 - 987 as built.
- 1978 - 80: Fitted with A(8)1 MK29 NATO Sea Sparrow w/8 RIM-7M/Mk91.
- Feb 79 - 1987: Fitted with SLQ-32(V)2 (3rd Gen ES).
- 1982-86: Kevlar armor fitted over critical spaces, CHP armor rating for Sensors, Mk45 is 2. Fitted with PW/SW(R)2 Mk15 Phalanx Blk 0 (6.3A), 2nd Gen D electronic countermeasures.
- 1982 - 84: DD 963, 969, 979 fitted with Mk23 TAS same time as Phalanx refits.

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- Nov 81 - 82: DD 980 fitted with SQR-19(V)1 for trials.
- 1984-86: DD 974, 976, 979, 983, 984, 989, 990 fitted with PB&SB(4)2 Mk143 ABL for Tomahawk missiles. These ships never received the Mk41 VLS upgrade, except for *Deyo*, which had her Mk143 ABL removed during the upgrade, and *Harry W. Hill*, which never received Mk143 or Mk41 launchers.
- 1985: SQS-53A upgraded to SQS-53B (first ship DD-980), SQR-19 added except for DD 969, 972, 976, 982-985, 986, 988-990, SH-60B replaced SH-2F, RAST, ARQ-44 Hawklink fitted. Four ships carried SQR-15 instead of SQR-19.
- May-Jul 86: DD 967 fitted with SH-60B and RAST helicopter recovery system.
- 1987: Fitted with SLQ-32(V)3 (3rd Gen J&D, 3rd Gen ES).
- 1987 - 94: DD 963-973, 975, 977, 980-982, 985, 987-989, 991, 992, 997 fitted with Mk41 VLS replacing Mk16 ASROC launcher, listed separately as Improved *Spruance* class.
- 1990: SPG-60 fitted to direct Mk45 and RIM-7M/P.
- 1992: SQR-15 removed from ships so fitted.
- early 90s: Fitted with P/S(1)4 .50 cal (0.1L). Fitted with SQR-19, except DD 986.
- 1993: Fitted with RIM-7P replacing RIM-7M.
- Mid-90s: DD-976, 983, 990 refitted: Hangars widened, can carry 2 SH-60. Torpedo magazines also altered to permit storage of Penguin Mk2 msls for SH-60.
- By 1995: ASROC removed from unconverted units.
- Late 97: DD-972 fitted with SPQ-9B replacing SPQ-9A.
- Late 90s: Fitted with SPS-64 replacing SPS-53 and SPS-59/LN-66. DD 974, 976, 979, 983 fitted with Mk23 TAS.

Damage & Speed Breakdown:

Dam Pts:	0	66	132	198	238	264
Surf Speed:	33	25	16	8	0	Sinks

Forrest Sherman (ASW Refit)**DD**

Displacement: 2850 std **In Class:** [8]
Size Class: C/Small **In Service:** 1967 (1955) - 88
Propulsion: Steam Turbine **Crew:** 324
Electrn Cnt: 1st Gen J **Acoustic Cnt:** 1st Gen T
Signature: Small/Noisy **Armor Rating:** 0
Weapons: **Cbt Sys:** Gen 3 Semi-Automatic

F/A(1)2 Mk42 5in/54//Mk68 (2.4) **C**
 A(8)1 Mk112 w/8 ASROC **E**
 PB/SB(2)3 Mk32 324mm TT w/2 Mk46 **F**

Sensors: **ES:** 1st Gen
 SPS-37 or SPS-40A, SPS-10 **J**
 SQS-23, SQS-35 IVDS **K**

Remarks:

Barry, Blandy, Davis, Du Pont, Jonas Ingram, Manley, Morton, Richard S. Evans. Ships of *Forrest Sherman* class modernized 1967 - 71. Also called *Barry* subclass. SPS-40 on *Jonas Ingram, Du Pont, Blandy.* Some units had Mk56 aft with Mk68 forward.

- 1974+: Estimate fitted with 2nd Gen acoustic countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	43	86	128	154	171
Surf Speed:	33	25	17	8	0	Sinks

Gearing FRAM II**DDR**

Displacement: 2699 std **In class:** [16]
Size Class: C/Small **In Service:** 1960 - 74
Propulsion: Steam Turbine **Crew:** 345
Electrn Cnt: 1st Gen J **Acoustic Cnt:** 1st Gen T
Signature: Small/Noisy **Armor Rating:** 0
Weapons: **Cbt Sys:** Gen 2 Manual

2F/A(2)3 Mk38 5in/38//Mk25 (5.0) **C**
 PB&SB(24)2 Mk15 Hedgehog w/6 salvoes **E**
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp **F**
Sensors: **ES:** 1st Gen
 SPS-10, SPS-12 or SPS-29 or SPS-40, SPS-8 or SPS 30 **J**
 SQS-23 **K**

Remarks:

- DD 713, 742, 764, 765, 805, 807, 830, 831, 834, 838, 858-861, 874, 877. No torpedo reloads. Aluminum superstructure, -15% damage modifier.
- DD 764, 765, 858-861 have SPS-12, Aft Pad(1)2 DASH.
- DD 805, 807, 830, 877 have SPS-40A, Aft Pad(1)2 DASH.
- DD 713, 831, 834, 838 have SPS-30. DD 742, 874 have SPS-8.
- 1967: Mk46 torpedoes introduced.

Damage & Speed Breakdown:

Dam Pts:	0	35	70	105	126	140
Surf Speed:	34	25	16	8	0	Sinks

Gearing FRAM I**DD**

Displacement: 2699 std **In Class:** [79]
Size Class: C/Small **In Service:** 1960 (1944)-79
Propulsion: Steam Turbine **Crew:** 345
Electrn Cnt: 1st Gen J **Acoustic Cnt:** 1st Gen T
Signature: Small/Noisy **Armor Rating:** 0
Weapons: **Cbt Sys:** Gen 2 Manual

F(2)2 Mk38 5in/38//Mk25 (3.4) (Group A) **C**
 F/A(2)2 Mk38 5in/38//Mk25 (3.4) (Group B) **C**
 P&S(8)1 Mk112 w/8 ASROC **E**
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp **F**
 PB&SB(24)2 Mk10/11 Hedgehog w/6 salvoes (Group A) **E**
 Aft Pad (1)2 QH-50C DASH **B**

Sensors: **ES:** 1st Gen

SPS-10, SPS-29/37 or SPS-40A **J**
 SQS-23 **K**

Remarks:

- Fleet Rehabilitation and Modernization program 1960 to 1965. Aluminum superstructure, -15% damage modifier.
- 8 Group A: DD 786, 790, 826, 841, 844, 845, 868, 890.
- 71 Group B: DD 710, 711, 714-719, 743, 763, 782-785, 787-789, 806, 808, 817-825, 827, 829, 832, 833, 835-837, 839, 840, 842, 843, 846, 847, 849-853, 862-867, 869-873, 875, 876, 878-889. Manual ASROC and torpedo reloads.
- late 50s: DD 817, 835, 888, 889 fitted with EDS combat system, Gen 3 Semi-Automatic.
- 1968: DD 841 fitted with 1st generation jammer. DD 850 fitted 1970.
- May 72: Ten ships fitted with Shrike On Board (SOB) with 4 AGM-45 Shrike mounted on top of ASROC launcher. Cued by ship's ES. Probably removed soon after. Includes DD 782, 783, 845.
- May 72-Oct 73: DD 783, 785, 786, 836, 845, 852, 875, 884, 886 deploy to Vietnam with A(4)1 Sea Chaparral w/4 RIM-72C with 8 manual reloads on DASH pad and 1st Gen D. Some carry Redeye missiles.
- 1967: Mk46 torpedo replaced Mk44.
- 19 Apr 72: *Higbee* bombed by Mig-17 during action off Dong Ha, Vietnam. Aft 5 inch mount destroyed.

Damage & Speed Breakdown:

Dam Pts:	0	35	70	105	126	140
Surf Speed:	34	25	16	8	0	Sinks

Fletcher FRAM II**DD**

Displacement: 2406 std **In class:** [3]
Size Class: C/Small **In Service:** 1960 (1942) - 70
Propulsion: Steam Turbine **Crew:** 345
Electrn Cnt: 1st Gen J **Acoustic Cnt:** 1st Gen T
Signature: Small/Noisy **Armor Rating:** 0
Weapons: **Cbt Sys:** Gen 2 Manual

F/A(1)2 Mk30 5in/38//Mk25 (1.7) **C**
 F(1)1 MK08 Weapon Alfa w/5 salvoes **E**
 PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes **E**
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp **F**
 Aft Pad (1)2 DASH **B**

Sensors: **ES:** 1st Gen

SPS-6, SPS-10 **J**
 SQS-4 Mod 1/2 **K**

Remarks:

- DD 446 *Radford*, 447 *Jenkins*, 449 *Nicholas*. Converted 1960 to 1961. Aluminum superstructure, -15% damage modifier.

- Feb 62: Jenkins fitted with VDS, estimated as SQS-35. Radford fitted Feb 63.
- 1967: Mk46 torpedoes introduced.

Damage & Speed Breakdown:

Dam Pts:	0	33	65	98	117	130
Surf Speed:	35	26	17	9	0	Sinks

Fletcher (DASH)

DD

Displacement: 2406 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:
 2F/A(1)3 Mk30 5in/38//Mk25 (2.5)
 PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp
 Aft Pad (1)2 DASH
Sensors:
 SPS-10, SPS-29D
 SQS-4 Mod 1/2
Remarks:
 USS *Hazelwood* (DD-531). Converted 1960 to 1961 as DASH test ship. Aluminum superstructure, -15% damage modifier.

In class: [1]	
In Service: 1960 (1942) - 65	
Crew: 345	
Acoustic Cnt: 1st Gen T	
Armor Rating: 0	
Cbt Sys: Gen 2 Manual	
ES: 1st Gen	
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Damage & Speed Breakdown:
Dam Pts: 0 33 65 98 117 130
Surf Speed: 35 26 17 9 0 Sinks

Forrest Sherman

DD

Displacement: 2735 lt
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:
 F/2A(1)3 Mk42 5in/54//F Mk68 (3.6)
 F/A(2)2 Mk33 3in/50//A Mk68 (1.5)
 PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes
 2 DC Rail w/6 Mk14 DC
 PB/SB(2)2 Mk25 533mm TT w/2 Mk35 or Mk37 torp (931, 932)
 PB/SB(1)2 Mk12 w/3 Mk32 (933, 936-938, 940-951)
Sensors:
 SPS-6C, SPS-10
 SQS-4
Remarks:
 DD 931-933, 936-938, 940-951. Only first two fitted with 533mm TT, remainder have PB/SB(1)2 Mk12 w/1 Mk32 torpedoes and 4 reload torpedoes. Mk68, Mk56 could control 5 inch or 3 inch guns. DD 945-951 had Mk56 aft with Mk68 forward.

- AAW conversions: *Decatur* Jun 65 - Apr 66, *John Paul Jones* Dec 65 - Sep 67, *Parsons* Jun 65 - Nov 67, *Somers* Mar 66 - Feb 68. Listed separately as *Decatur* class DDG.
- Jul - Sep 66: *Barry* fitted with SQS-23 replacing SQS-4 sonar.
- 1967: Torpedo changed from Mk44 to Mk46.
- 1967-71: *Barry, Davis, Jonas Ingram, Manley, Du Pont, Blandy, Morton, Richard S. Edwards* received ASW Modernization, listed separately.
- 1967-71: Mk33 guns, Hedgehog, DC rails removed, Mk25 TT replaced by PB/SB(3)2 Mk32 324mm TT w/3 Mk46 torp. SPS-6 replaced by SPS-12 (*Mullinix*) or SPS-37 (*Bigelow, Edson*) or SPS-40 (*Forrest Sherman, Turner Joy*). Fitted with SQS-23 replacing SQS-4 sonar.
- 1974-75: *Hull* fitted with F(1)1 Mk71 8in/55 replacing F(1)1 Mk42. Trials 1974-75, deployments 1976-78. Refit 1979-80 with Mk71 replaced by Mk42.
- 1974+: Estimate fitted with 2nd Gen acoustic countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	45	91	136	163	181
Surf Speed:	33	25	17	8	0	Sinks

Gearing (1950s)

DD

Displacement: 2637 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: None
Signature: Small/Noisy
Weapons:
 2F/A(2)3 Mk38 5in/38//Mk25 (4.2)
 P/S/A(2)3 Mk33/3in/50//Mk51 (0.5L)
 Bow(24)2 Mk10/11 Hedgehog w/5 salvoes
 1 Mk14 DC rail w/9 Mk14 DC
 (1)6 Mk6 DC proj w/4 Mk14 DC
Sensors:
 SPS-6, SPS-10
 QGA
Remarks:
 DD 710, 712, 716-719, 743, 763, 782, 783, 785-790, 808, 818-824, 826, 828, 836, 837, 839-841, 843-853, 862, 864-869, 871, 872, 884-887, 890 use stats as above.

- 1945 - 54: 35 units completed as or converted to DDRs, 40mm and 20mm removed, P&S(1)1 Mk34 3in/50, SPS-8 radar added. DDR 711, 713-715, 742, 743, 784, 805-807, 817, 829-835, 838, 842, 863, 870, 873-883, 888, 889.
- Apr 46: DD 848 *Witek* commissioned. Used as test ship. Fitted with pump jet propulsors in 1959. Struck 1968.
- 1949: DD 719, 824 completed with one F Mk38 and all DC projectors removed. Fitted with F(1)1 Mk108 Weapon Alfa, PA/A(2)2 Mk33 3in/50, PS/SS(24) Mk15 Hedgehog, PB/SB(1)4 533mm TT w/1 Mk35 torpedo (6 reloads).
- 1949: 8 additional units (DDE 764, 765, 825, 827, 858-861) completed as DDE, listed separately. DD 818-820, 847, 871 later converted but have P&S(4)1 533mm TT.
- Sep 52: DD 828 *Timmerman* commissioned to test new steam machinery. Struck 1956.
- Oct 55 - Dec 56: DD 712 *Gyatt* converted to DDG, listed separately.
- late 50s: Fitted with SQS-4 replacing QHB. DD 837, 848 have one forward Mk38 5in removed.

Damage & Speed Breakdown:

Dam Pts:	0	41	82	122	147	163
Surf Speed:	32	24	16	8	0	Sinks

Gearing DDE

DDE

Displacement: 2637 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: None
Signature: Small/Noisy
Weapons:
 F/A(2)2 Mk38 5in/38//Mk25 (2.8)
 P/S/A(2)3 Mk33 3in/50//Mk35 (1.3)
 PB&SB(24)1 Mk15 Hedgehog
 P/S(1)4 Mk23 533mm TT w/5 Mk35 or Mk37
 2 Mk14 DC rail w/9 Mk14 DC
 (1)6 Mk6 DC proj w/4 Mk14 DC
Sensors:
 SPS-6, SPS-10
 QHB, QDA
Remarks:
 DDE 764, 765, 825, 827, 858-861. *Gearing* class DDK, then DDE conversion. Mk23 TT carried Mk35 or Mk37 torp, have twenty reloads.

- Early 50s: *Robert A. Owens* (DD 827) received F/A(2)2 Mk37 3in/70 (7.6) vice 5 inch guns. Mk33 3 inch guns removed. Combat system Gen 2 Manual, Mk38 5 inch gun rating 3.4. There is a 10% chance each Tactical Turn a 3in/70 is fired of a mount casualty, rendering it nonfunctional. Mk15 Hedgehog replaced by F/A(1)2 Mk108 Weapon Alfa.
- Fall 56: *Carpenter* (DD 825) refitted as *Robert A. Owens*.
- May - Aug 61: *Carpenter* replaced SQS-23 with SQS-26.
- 1961: 764, 765, 858-861 converted to Gearing FRAM II, listed separately.

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• 1963-65: 825, 827 converted to Gearing FRAM I Group B, listed separately.

Damage & Speed Breakdown:

Dam Pts:	0	41	82	122	147	163
Surf Speed:	34	25	16	8	0	Sinks

Fletcher DDE

Displacement: 2406 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:
 F/A(1)2 Mk30 5in/38//Mk25 (1.4)
 A(2)2 Mk33 3in/50//Mk56 (1.3)
 F(1)1 MK08 Weapon Alfa w/5 salvoes
 PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes
 2 Mk14 DC Rail w/9 Mk14 DC
 PB/SB(2)2 Mk23 533mm TT w/2 Mk35 or Mk37 torp
 P/S(1)2 Mk2 482mm TT w/1 Mk32 torp
Sensors:
 SPS-6, SPS-10
 QHB
Remarks:
 DD-445, 446, 447, 449, 450, 465, 466, 468, 470, 471, 498, 499, 507, 508, 510, 517, 576, 577. May have 1 or 2 Mk14 DC rails.
 • 1960 - 61: FRAM II update for DD 446, 447, 449. Listed separately.

Damage & Speed Breakdown:

Dam Pts:	0	38	77	115	138	153
Surf Speed:	35	26	17	9	0	Sinks

Allen M. Sumner FRAM II

Displacement: 2746 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:
 2F/A(2)3 Mk38 5in/38//Mk25 (5.0)
 PB/SB(3)2 Mk32 TT w/3 Mk43, Mk44, Mk46
 PB/SB(1)2 Mk25 533mm TT w/1 Mk15, Mk35 or Mk37
 PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes
 Aft Pad (1)2 DASH
Sensors:
 SPS-10, SPS-29/37 or SPS-40
 SQS-4
Remarks:
 DD 692-694, 697-699, 703, 704, 709, 723-725, 727-730, 744, 746, 752, 754, 755, 757-761, 770, 776-781. DD-729 not fitted with VDS. Aluminum superstructure, -15% damage modifier.
 • 7 Jan 63: DASH operational on DD 761.
 • 3 Jun 69: DD-754 *Frank E. Evans* sunk in collision with HMAS *Melbourne*, in the South China Sea, 74 aboard *Evans* killed.

Damage & Speed Breakdown:

Dam Pts:	0	36	71	107	128	142
Surf Speed:	33	25	17	8	0	Sinks

Allen M. Sumner

Displacement: 2535 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: None
Signature: Small/Noisy
Weapons:
 2F/A(2)3 Mk38 5in/38//Mk25 (4.2)
 P&S(5)1 Mk14 TT w/5 Mk15 torp
 2 Mk14 DC rail w/9 Mk14 DC
 (1)6 Mk6 DC proj w/4 Mk14 DC
Sensors:
 SG-2, SR, SC-2
 QGA

DDE

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Remarks:

DD 692-694, 696-709, 722-725, 727-732, 734, 744-748, 752-762, 770, 775-781, 857. Carry 66 DC.

- 1960-63: 33 through FRAM II, see separate entry.
- Jan 70: DD 707 *Soley* damaged in grounding. Struck Jul 70.
- 1968-73: Remaining 19 struck. 696, 700-702, 705, 706, 708, 722, 731, 732, 734, 745, 747, 748, 753, 756, 762, 775, 857

Damage & Speed Breakdown:

Dam Pts:	0	40	79	119	142	158
Surf Speed:	36	27	18	9	0	Sinks

Fletcher (1950s)

Displacement: 2406 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: None
Signature: Small/Noisy
Weapons:
 F/A(1)4 Mk30 5in/38//Mk25 (2.8)
 P/S/A(2)3 Mk33 3in/50//Mk35 (1.3)
 P/S(5)1 Mk14 TT w/5 Mk15 torp
 PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes
Sensors:
 SPS-6, SPS-10
 QCJ
Remarks:
 DD 519, 520, 527, 530, 532, 535, 537, 544, 547, 556, 561, 564, 566, 629, 630, 642, 644, 650-652, 655, 659, 666, 669, 670, 674, 677-679, 681, 685, 687, 689, 793-796, 799, 804.
 • Late 60s: Fitted with PB/SB(3)2 Mk32 TT w/3 Mk43 or Mk44 torpedoes. Mk33 removed.

Damage & Speed Breakdown:

Dam Pts:	0	38	77	115	138	153
Surf Speed:	35	26	17	9	0	Sinks

O.H. Perry

Displacement: see remarks
Size Class: C/Small
Propulsion: COGAG/PPP
Electrn Cnt: None
Signature: Small/Quiet
Weapons:
 P&S(1)1 Mk75 76mm/62//Mk92 CAS (3.9)
 F(1)1 Mk13 w/40 see remarks//Mk92 STIR
 PB/SB(3)2 Mk32 324mm TT w/3 Mk46 Mod 5
 Aft Pad(1)2 SH-2F LAMPS I
Sensors:
 SPS-49(V)2, SPS-55, Mk92 CAS
 SQS-56
 Link 14 (Short Hull), Link 11 (Long Hull)
Remarks:
 FFG 7-16, 19-34, 36-43, 45-61. Has 18 Mk46 torpedoes. Mk13 has 36 SM1MR Blk VI, 4 Harpoon IB (estimated Harpoon IC from 1985). Carry one helo as standard. The Mk92 CAS gunfire director can be used as a director for a second SM1 channel, but it will only be able to provide half the number of intercepts as the Mk 92 STIR. If the Mk92 is used to direct a SM1 in the Point Defense Band, the CAS cannot be used to direct the 76mm gun. CHP armor rating for Mk13, 76mm, Engineering, Sensors and CIC is 2. Single prop, double the speed reduction of Engineering critical hits. Aluminum superstructure, -15% damage modifier.

- Systems: Crew of 228 (FFG 19, 1981); A(R)1 Mk15 Phalanx Blk 0 (6.3A) (1981?-88); 3rd Gen D, 3rd Gen ES, backup OP 76mm director (FFG 27, Nov 82); SM1MR Blk VI (1983); Harpoon IC (1985); Mk46 Mod 5A(S) (1990); Mk15 Phalanx Blk I (9.5A) (1990s); SM1MR Blk VIA (1994, not on NRF); Mk46 Mod 5A(SW) (1996); All systems backfitted to earlier units.
- Short hull: FFG 7-16, 19-34 displ 3109 std. Some converted to Long hull - FFG 7 (1990?, not fitted with RAST, retains SH-2F), 8 (1981); 15 (1990?); 28 (182?); 29, 32 (1981-90). Last struck 2003.

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- Long hull: FFG 36-43, 45-61 displ 3470 std, fin stabilizers and provision for LAMPS III, RAST (FFG 50, Dec 84 on; backfitted); Phalanx Blk IB (9.5A) (1999-10); Nulka 4th Gen D (2004-10).
- 1982: FFG 26 fitted as stabilizer trials ship. All Short hull, except FFG 16 and FFG 30, later backfitted.
- 1980s: Short hull fitted with Link 11.
- Feb 85: First LAMPS III deployment (FFG 37) - 1 SH-60B vice SH-2F. Two SH-60B from 1987. ARQ-44 Hawklink fitted.
- 1985: SQR-18 fitted to all.
- Jul 85: FFG 55-61 fitted with SQR-19(V)2 vice SQR-18 as standard. Backfits: FFG 8 (1987); 28, 29, 32, 36, 39 (1988); 12 (1989); 7, 15 (1990); 9, 48-50, 52 (1991); 20, 51 (1992).
- 1985-89: FFG 7, 9-16, 19-23, 25, 27 (all Short hull) passed to Naval Reserve Force (NRF).
- 1990s: Fitted with P/S(1)2 or P/S(1)4 M2 .50 cal mg (0.1L for either fit).
- CORT upgrade - Mk92 CORT radar replaces Mk92 CAS, SPS-49(V)4, Kingfisher mine avoidance sonar. Allows 76mm and SM1MR to engage sea skimming tgts. FFG 61 1989; FFG 47, 48, 50 in 1991; 36, 51 in 1992; 53-55, 57, 58 in 1995?; 52 in Mar 95-Nov 96.
- 1988-92: Fitted with 3rd Gen J&D - FFG 29, 30, 32, 36, 40, 45-59, 61.
- 1991: FFG 22, 47 fitted with P/S(1)2 Mk38 Bushmaster 25mm (local control) and Kingfisher mine avoidance sonar; FFG 37 with MMS (2nd Gen FLIR) and 3 OH-58D (Armed). Bushmaster cross-decked to ships deploying to Middle East.
- Jul 93-94: FFG 40, 43, 46, 47, 50-56, 58, 59 fitted Penguin msls (estimate 4 msls vice torpedoes) for SH-60B.
- 1994: SH-2F retired - NRF carry 1 SH-2G each, remainder of short hull ships have no helo (crew of 214).
- 1990s-99: FFG 9, 31, 32, 36, 38, 42, 43, 47-55, 57-61 fitted with VSmall radar signature.
- 1997: Proposed CANDO refits with Mk92 CAS upgraded to 5th generation, would have allowed firing SM2MR missiles. Planned for FFG 8, 32, 33, 37, 40, 43, 45, 46, 49, 58, but canceled.
- 1997-99: CORT ships fitted with SSDS Mod 0, Gen 5 Human combat system.
- 2001: SH-2G retired - Short hull ships no longer carry helo.
- 2002: CORT ships Phalanx updated to Blk IB (no change to AA strength), remainder 2004 - 10.
- 2003: Fitted with P/S(1)2 Mk38 Mod 2 Bushmaster 25mm//2 EO directors.
- 2004: Mk13 launcher no longer used (remove Standard and Harpoon msls).
- Sep 09: FFG 61 fitted with F(1)1 Mk38 Mod 2 Bushmaster 25mm (stabilized and EO GFC). Later also FFG 48, 50, 51, 55, 59, 60.
- 2011: First deployment with 1 SH-60B and 2 MQ-8B.
- 12 Feb 14: *Taylor* (FFG-50) ran aground while mooring in Samsun, Turkey during operations supporting the 2014 Winter Olympics. Propeller damaged.
- 2017: Last unit decommed.

Damage & Speed Breakdown:

DP (3109 t):	0	39	77	116	139	154
DP (3470 t):	0	42	83	125	149	166
Surf Speed:	29	22	14	7	0	Sinks

Brooke

Displacement: 2640 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J&D
Signature: Small/Noisy
Weapons:

F(1)1 Mk30 5in/38//Mk56 (0.8)
 A(1)1 Mk22 w/16 Tartar//SPG-51
 F(8)1 Mk112 w/8 ASROC
 P/S(3)2 Mk32 324mm TT w/3 Mk44
 Aft Pad(1)2 DASH

Sensors:
 SPS-10, SPS-52, SPS-59/LN-66
 SQS-26

In Class: [6]
In Service: 1966 - 90
Crew: 228
Acoustic Cnt: 1st Gen T
Armor Rating: 0
Cbt Sys: Gen 3 Semi-Automatic

ES: 1st Gen

DEG/FFG

C
D
E
F
B
J
K

Remarks:

Brooke, Ramsey, Schofield, Talbot, Richard L. Page, Julius A. Furer. Originally classified as DEG. Aluminum superstructure, -15% damage modifier. Single prop, double the speed reduction of Engineering critical hits. Fitted with stabilizers. SPS-39 vice -52 on *Brooke, Talbot, Richard L. Page, Furer* have ASROC reload magazine with additional 8 missiles. Originally classified as DEG. Tight turning circle due to large rudder, treat as Size D for Ship Turning Distance.

- 1967: Mk46 torpedoes replace Mk44.
- Sep 67: *Brooke* had SPS-39 replaced by SPS-52.
- 1972 - 75, Fitted for 1 SH-2D LAMPS I. *Schofield* 1972; *Talbot, Furer* 1973; *Brooke, Ramsey, Page* 1975.
- Summer 74: *Talbot* had 5 inch replaced by OTO Melara 76mm/62//STIR (4.5), SQS-56 sonar for trials of *O.H. Perry* weapons systems. Restored to standard configuration after trials.
- 30 Jun 75: Rerated as FFGs.
- 1976-77s: AAW modernization. Tartar replaced by SM1MR. Combat system Gen 4 Semi-Automatic, fitted with Link 14 data link, estimate fitted with 2nd Gen acoustic countermeasures.
- Early 80s: Fitted with 2nd Gen ES, 2nd Gen D countermeasures.
- 1988: *Brooke (Khaibar), Talbot (Hunam), Richard L. Page (Tabuk), Julius A. Furer (Badr)* leased to Pakistan. Returned and scrapped 1993. *Schofield* decommed.
- Jun 00: *Ramsey* expended as a target.

Damage & Speed Breakdown:

Dam Pts:	0	35	69	104	124	138
Surf Speed:	27	20	14	7	0	Sinks

Patrol Frigate 4501

Displacement: 4600 fl
Size Class: C/Small
Propulsion: CODOG
Electrn Cnt: 4th Gen J&D
Signature: Small/Quiet
Weapons:
 F(1)1 Mk110 57mm//SPQ-9B (0.6)
 A(R)1 Mk15 Phalanx Blk IA (9.5A)
 4 x M2 .50 cal. (0.1L)
 2 x M240B 7.62mm (0.1L)
 Aft Pad(1)2 MH-60

Sensors:
 SPS-75
 Link 16, Hawklink (ARQ-59)
 EO sensor

Remarks:

Proposal by Huntington Ingalls shipyard for frigate based on the US Coast Guard National Security Cutter with minimal modifications. Stern ramp for launching/recovering RHIB. Carries Nulka 4th Gen countermeasure.

Damage & Speed Breakdown:

Dam Pts:	0	53	106	159	191	212
Surf Speed:	28	21	14	7	0	Sinks

Patrol Frigate 4921

Displacement: 4600 fl
Size Class: C/Small
Propulsion: CODOG
Electrn Cnt: 4th Gen J&D
Signature: Small/Quiet
Weapons:
 F&A(12)1 Mk56 VLS w/12 ESSM//CEAFAR
 F(1)1 Super Rapid 76mm/62//CEAFAR (5.9)
 A(1)1 SeaRAM w/11 RIM-116A
 PB&SB(4)2 Mk141 w/4 Harpoon IG
 PB(3)1 Mk32 324mm TT w/3 Mk54 torp
 Aft Pad(1)2 MH-60

Sensors:
 CEAFAR active phased array radar
 Hull sonar, towed array
 Link 16, Hawklink (ARQ-59)

ES: 3rd Gen

FF

In Class: --
In Service: --
Crew: 148
Acoustic Cnt: None
Armor Rating: 0
Cbt Sys: Gen 4 Semi-Automatic

D
C
C
C
B
J
L
--

FF

In Class: --
In Service: --
Crew: 140
Acoustic Cnt: None
Armor Rating: 0
Cbt Sys: Gen 4 Semi-Automatic

D
C/Italy
D
D
F
B
J/Aust
K
L

Remarks:

Proposal by Huntington Ingalls shipyard for frigate based on the U.S. Coast Guard National Security Cutter. Carries Nulka 4th Gen counter-measure. CEAFAF radar provides direction for both gun and ESSM.

Damage & Speed Breakdown:

Dam Pts:	0	53	106	159	191	212
Surf Speed:	28	21	14	7	0	Sinks

Knox**Displacement:** 3130 lt**Size Class:** C/Small**Propulsion:** Steam Turbine**Electrn Cnt:** 1st Gen D**Signature:** Small/Quiet**Weapons:**

F(1)1 Mk42 5in/54//Mk68 (1.2)

F(8)1 Mk16 w/8 ASROC

PB/SB(2)2 Mk32 324mm TT w/2 Mk46

Aft Pad (1)1 DASH

Sensors:

SPS-10, SPS-40A, SPS-59/LN-66

SQS-26

Link 14

Remarks:

DE 1052-1097. Originally classified as DE. Aluminum construction, -25% damage modifier. Single prop, double the speed reduction of Engineering critical hits. 18 reloads for Mk32 TT. Eight automatic reloads for ASROC.

- 1970s: DE 1068, 1072, 1074, 1075 had Mk16 modified to fire Standard ARM with two on launcher, two in magazine.
- Early 70s: DE 1061 trials SQR-15. Four fitted included DE 1056 and 1067.

- 1971 - 75: A(8)1 Mk25 BPDMS w/8 RIM-7//Mk115 added to 31 units: DE-1052-1069, 1071-1083.

- 1972 - 75: Fitted with 1 SH-2D LAMPS I replacing DASH. SQS-35 VDS fitted to DE-1052, 1056, 1063-1071, 1073-1076, 1078-1097.

- 1975: DE 1070 fitted with A(8)1 Mk29 w/8 RIM-7 NATO Sea Sparrow//1 Mk95, Mk23 TAS radar, estimate fitted with 2nd Gen acoustic countermeasures.

- 30 Jun 75: Reclassified as FF.

- 1976: FF-1091 fitted to fire Harpoon from 2 cells in ASROC launcher, F(8)1 Mk16 w/6 ASROC, 2 Harpoon. 6 ASROC and 2 Harpoon reloads. Fitted to all in the late 70s.

- 1978: FF 1078 trials SQR-18 sonar.

- 1980s: Fitted with 2nd Gen D countermeasures, 2nd Gen ES, 2nd Gen towed acoustic decoy, Link 14 data link, SPS-67(V)1 replaces LN-66. Mk25 removed from FF 1083, 1091-93, 1096.

- 1981: SQS-35 ships fitted with SQR-18.

- 1983 - 87: FF 1055-1060, 1062-1064, 1066-1070, 1073, 1075-1082, 1084-1090, 1092-1095, 1097 fitted with A(R)1 Mk15 Phalanx Blk 0 (6.3A). Replaces Mk25 and Mk29.

- 1983: Non-VDS ships fitted with SQR-18.

- 1991: SQS-35 de-activated.

- To Naval Reserve Fleet (NRF). FF 1060, 1061, 1072 1982-83. FF 1055, 1058, 1059, 1078, 1079, 1083-1085, 1088-1091, 1095, 1097 1989-91

- 1991 - 94: Class struck.

Damage & Speed Breakdown:

Dam Pts:	0	42	84	126	151	168
Surf Speed:	27	20	14	7	0	Sinks

Garcia**Displacement:** 2620 std**Size Class:** C/Small**Propulsion:** Steam Turbine**Electrn Cnt:** 1st Gen D**Signature:** Small/Noisy**Weapons:**

F/A(1)2 Mk30 5in/38//Mk56 (1.7)

F(8)1 Mk116 w/8 ASROC

P/S(3)2 Mk32 324mm TT w/3 Mk44

In Class: [46]**In Service:** 1969 - 94**Crew:** 224**Acoustic Cnt:** 1st Gen T**Armor Rating:** 0**Cbt Sys:** Gen 3 Semi-Automatic**DE/FF****C****E****F****B****J****K****L**

A(1)2 Mk24/25 533mm TT w/8 Mk37

Aft Pad (1)2 DASH

Sensors:

SPS-10, SPS-40A, SPS-59/LN-66

SQS-26

Remarks:

DE 1040, 1041, 1043, 1047 - 1051. Aluminum superstructure, -15% damage modifier. Single prop, double the speed reduction of Engineering critical hits. Fitted with stabilizers. Tight turning circle due to large rudder, treat as Size class D for Ship Turning Distance.

- 1960s: *Voge, Sample, Koelsch, Albert David, O'Callahan*; Automatic ASROC reload with 8 weapons added.

- 1967: Mk46 torp replaced Mk44.

- 1967 - 68: *Bradley* had aft 5 inch replaced by P&S(8)1Mk25 BPDMS w/8 RIM-7E Sea Sparrow//Mk115 for trials. 5 inch gun restored after trials.

- 1967 - 68: *Voge, Koelsch* had ASWSC&CS, Link 11 data link added. Combat system Gen 4 Semi-Automatic and.

- Late 60s - 70: 533mm TT removed.

- 1972 - 75: *Garcia, Edward McDonnell* fitted with SQR-15.

- DASH hangar enlarged to accept single SH-2F LAMPS I. ECM and ES upgraded to 2nd Gen. Fitted with Link 14 data link. Aft 5 inch arc changed to P&S. *Garcia, Bradley, Brumby, O'Callahan* 1972, *Edward McDonnell, Davidson* 1973, *Voge* 1974.

- 1974?: *Albert David, Sample* fitted with SQR-15 towed array sonar.

- Late 70s: Fitted with 2nd Gen acoustic countermeasures.

- 1988-9: *Garcia (Saif), Brumby (Karbar), Koelsch (Siqqat), O'Callahan (Aslat)* leased to Pakistan, scrapped 1993. *Bradley (Pernambuco), Davidson (Paraiba), Sample (Parana), Albert David (Para)* transferred to Brazil.

- 1993 - 94: *McDonnell* and *Voge* scrapped.

Damage & Speed Breakdown:

Dam Pts:	0	35	69	104	124	138
Surf Speed:	27	20	14	7	0	Sinks

Bronstein**Displacement:** 2360 std**Size Class:** C/Small**Propulsion:** Steam Turbine**Electrn Cnt:** 1st Gen D**Signature:** Small/Noisy**Weapons:**

F(2)1 Mk33 3in/50 & A(1)1 Mk34 3in/50//F Mk56 (0.8)

F(8)1 Mk16 w/8 ASROC

P/S(3)2 Mk32 324mm TT w/3 Mk44

Aft Pad(1)2 DASH

Sensors:

SPS-5, SPS-40A, SPS-59/LN-66

SQS-26

Remarks:

Bronstein, McCloy. Originally classified as DE. Single prop, double the speed reduction of Engineering critical hits. Aluminum superstructure, -15% damage modifier. These ships were small and even more cramped than the *Garcia* class.

- ? : SPS-5 replaced by SPS-10.

- 1967: Mk46 torp replaced Mk44.

- Mid-70s: A(1)1 Mk34 3 inch gun removed, replaced by SQR-15 towed array. AA rating 0.4, probably fitted with 2nd Gen acoustic countermeasures.

- 1993: *Bronstein (Hermenegildo Galena), McCloy (Nicolas Bravo)* transferred to Mexico.

Damage & Speed Breakdown:

Dam Pts:	0	32	64	96	115	128
Surf Speed:	26	20	13	7	0	Sinks

Claud Jones**Displacement:** 1450 std**Size Class:** D/Small**Propulsion:** Diesel**Electrn Cnt:** 1st Gen J**Signature:** Small/Noisy**ES:** 1st Gen**J****K****DE/FF****In Class:** [10]**In Service:** 1964 - 89**Crew:** 266**Acoustic Cnt:** 1st Gen T**Armor Rating:** 0**Cbt Sys:** Gen 3 Semi-Automatic**C****E****F****DE****In class:** [4]**In Service:** 1958 - 74**Crew:** 171**Acoustic Cnt:** 1st Gen T**Armor Rating:** 0

America's Navy

Weapons:	Cbt Sys: Gen 2 Manual	
F/A(2)2 Mk33 3in/50//Mk52 (1.5)		C
PB&SB(24)2 Mk10/11 Hedgehog w/5 salvoes		E
1 Mk14 DC rail w/9 Mk14 DC		E
Sensors:	ES: 1st Gen	
SPS-5, SPS-6		J
SQS-4 Mod 1/2		K
Remarks:		
<i>Claud Jones, John R. Perry, Charles Berry, McMorris.</i> Single prop, double the speed reduction of Engineering critical hits. Aluminum superstructure, -15% damage modifier.		
• 1960s: PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp added.		
• 1961: <i>Charles Berry, McMorris</i> had F(3)1 Mk7 Terne III added. Removed 1964.		
• 1967: Mk46 torpedoes introduced.		
• 1972: <i>Claud Jones</i> ; Mk10/11 Hedgehog removed.		
• Transferred to Indonesia: <i>John R. Perry (Samadikun)</i> 20 Feb 73, <i>Charles Berry (Martadinata)</i> 31 Jan 74, <i>Claud Jones (Mongidisi)</i> , DE-1036 <i>McMorris (Ngurah Rai)</i> 16 Dec 74.		
Damage & Speed Breakdown:		
Dam Pts:	0 23 47 70 84 93	
Surf Speed:	21 16 11 5 0 Sinks	

Evans	DE
Displacement: 1450 std	In class: [8]
Size Class: D/Small	In Service: 1957 - 73
Propulsion: Steam Turbine	Crew: 173
Electrn Cnt: None	Acoustic Cnt: 1st Gen T
Signature: Small/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 2 Manual
F/A(2)2 Mk33 3in/50//Mk52 (1.5)	C
F(1)1 Mk108 Weapon Alfa w/5 salvoes	E
1 Mk14 DC Rail w/9 Mk14 DC	E
Sensors:	ES: 1st Gen
SPS-5, SPS-6	J
SQS-4 Mod 1/2	K
Remarks:	
<i>Evans, Bridget, Bauer, Hooper, John Willis, Van Voorhis, Hartley, Joseph K Taussig.</i> Carry 44 DC total. Tight turning circle due to large twin rudders, treat as Size D for Ship Turning Distance. Single prop, double the speed reduction of Engineering critical hits. Aluminum superstructure, -15% damage modifier.	
• 1959: <i>John Willis</i> fitted with SQS-4 VDS.	
• 1963 - 67: Aft 3 inch gun replaced by PB/SB(3)2 Mk32 ASW TT w/ Mk44 torpedoes, Aft Pad (1)2 DASH, AA rating 0.4. SQS-4 replaced by SQS-23.	
• 1967: <i>Evans, Bridget, Bauer, Hooper</i> ; A(1)1 Mk3 40mm/60 (0.1L) added.	
• 1960s: Mk32 324mm TT w/3 Mk44 torp, SQS-4 Mod 1/2 VDS added.	
• Late 1960s: Mk108 removed, DCs probably removed at the same time.	
• 1967: Mk46 torpedoes introduced.	
• 1970: <i>Van Voorhis</i> fitted with SQR-14 ITASS.	
• 8 Jul 72: <i>Hartley</i> transferred to Columbia as <i>Boyaca</i> .	
Damage & Speed Breakdown:	
Dam Pts:	0 23 47 70 84 93
Surf Speed:	27 20 14 7 0 Sinks

Dealey	DE
Displacement: 1450 std	In class: [13]
Size Class: D/Small	In Service: 1954 - 74
Propulsion: Steam Turbine	Crew: 149
Electrn Cnt: 1st Gen J	Acoustic Cnt: 1st Gen T
Signature: Small/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 2 Manual
F/A(2)2 Mk33 3in/50//2 Mk34 (1.5)	C
F(1)1 Mk108 Weapon Alfa w/5 salvoes	E
1 Mk14 DC Rail w/9 Mk4 DC	E
6 DC Projectors w/4 Mk9 DC	E

Sensors:	ES: None	
SPS-5, SPS-6C		J
SQS-4 Mod 1/2		K
Remarks:		
DE 1006, 1014, 1015, 1021-1030. Aluminum superstructure, -15% damage modifier. Single prop, double the speed reduction of Engineering critical hits. Tight turning circle due to large twin rudders, treat as Size D for Ship Turning Distance. DE 1006 has F(3)2 Mk3 Squid w/8 salvoes vice Mk108 (treat as Double Squid), 8 DC projectors and 80 DC total. Remainder have 44 DC total.		
• 1959: DE 1027 first USN ship fitted with SQS-4 VDS. DE 1006, 1014, 1021 fitted from 1962.		
• 1960s: Fitted with 1st Gen ES.		
• 1963-67: <i>DE 1015, 1022, 1025-1030</i> had aft 3 inch gun replaced by Aft Pad (1)2 DASH, remaining 3 inch AA rating 0.8. SQS-4 replaced by SQS-23.		
• Mid 60s: DE 1006, 1014, 1021 added PB/SB(3)2 Mk32 ASW TT w/3 Mk44 torpedoes.		
• Late 60s: Squid and Mk108 removed from all. Estimated DC removed at same time.		
• 1970: DE 1015, 1021, 1022 fitted with SQR-14 ITASS.		
• 1967: DE 1023, 1024, 1026 fitted with A(1)1 Mk3 40mm/60 (0.1L)		
• 28 Jul 72: DE 1006 transferred to Uruguay as <i>18 de Julio</i> .		
Damage & Speed Breakdown:		
Dam Pts:	0 23 47 70 84 93	
Surf Speed:	27 20 14 7 0 Sinks	

Constitution	Frigate
Displacement: 2200 fl	In class: 1
Size Class: C/Small	In Service: 1798
Propulsion: Sail	Crew: 450
Signature: Small/Quiet	Armor Rating: 0
Weapons:	Cbt Sys: --
P/S(1)10 12 pdr smoothbore	C
P/S(1)28 24 pdr smoothbore	C
Remarks:	
Previous designation IX-21. Wooden construction, -35% damage modifier.	
Damage & Speed Breakdown:	
Dam Pts:	0 21 42 63 76 84
Surf Speed:	Wind Wind Wind Wind 0 Sinks

Freedom	FFL
Displacement: 2840 std	In class: 10 + 6 - 1
Size Class: C/Small	In Service: 2008
Propulsion: CODAG/Water jet	Crew: 75
Electrn Cnt: 3rd Gen D	Acoustic Cnt: None
Signature: Small/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 5 Automatic
F(1)1 Mk110 57mm/70//DORNA EO	C
A(2)1 Mk31 w/21 RIM-116B-1 RAM Blk IA	D
PA/SA(1)2 M2 .50 cal. (0.1L)	C
Aft pad (1)1 MH-60R and 3 MQ-8B Fire Scout UAV	B
Sensors:	ES: 3rd Gen
SPS-75 (<i>Freedom through Billings</i>)	J
SPS-80 (<i>Indianapolis</i> and later)	J
2 BridgeMaster E (use Decca 2000 series)	J/UK
Link 11, Link 16	L
Remarks:	
<i>Freedom, Fort Worth, Milwaukee, Detroit, Little Rock, Sioux City, Wichita, Billings, Indianapolis, St. Louis, Minneapolis-St. Paul, Cooperstown, Marinette, Nantucket, Beloit, Cleveland.</i> Lock-Mart Littoral Combat Ship Flight 0. Monohull. Fitted with dual stabilizers and helo recovery system. Resupply by helicopter only, not fitted to receive cargo by UNREP. Not fitted to perform Helicopter Inflight Refueling (see 4.9). Aluminum superstructure, -15% damage modifier.	
• <i>Indianapolis</i> and later have A(11)1 SeaRAM w/11 RIM-116B-1 RAM Blk IA replacing A(2)1 Mk31 RAM launcher.	
• Based at Mayport. <i>Freedom</i> (ASW), <i>Fort Worth</i> (MCM), <i>Milwaukee</i> used for training and trials. Remainder to be fitted for ASW, MCM or SuW. Of 35 <i>Freedom & Independence</i> - 10 ASW, 15 MCM, 10 SuW.	

- ASW: 3rd Gen Twd acoustic countermeasures, TB-37 sonars. MH-60R with 20 Mk54 torpedoes and 300 sonobuoys. In service 2020. Fort Worth is first of class to be fitted.
- MCM: USV with acoustic/magnetic sweep, mine recon UUV, MH-60S with ALMDS and AMNS. In service 2022.
- SuW: P/S(1)2 Mk46 30mm//2 EO GFC, MH-60R or MH-60S with Hellfire msls. In service 2014. F&A(12)2 VLS w/12 AGM-114L Hellfire added Feb 19 on *Detroit*, possibly also *Milwaukee*.
- 2016: Crew increases to 95.
- 2020: Fitted with PB/SB(4)2 NSM w/4 missiles. *Nantucket* and on will be fitted during construction.
- Jan 21: Deliveries cease due to gearbox issues. *Milwaukee* through *Minneapolis-Saint Paul* limited to 34 knots.
- 29 Sep 21: *Freedom* decommed.
- 31 Mar 22: *Fort Worth*, *Detroit*, *Little Rock* planned to be decommed.
- 2022 on: Two per year fitted with SEWIP, Nulka decoys (4th Gen J&D, ES), Radar director mode added for MK110.

Damage & Speed Breakdown:

Dam Pts:	0	36	73	109	131	145
Surf Speed:	40	30	20	10	0	Sinks

Independence

Displacement: 2176 lt
Size Class: C/Small
Propulsion: CODAG/Water jet
Electrn Cnt: 4th Gen D
Signature: Small/Noisy
Weapons:

F(1)1 Mk110 57mm/70
 A(11)1 SeaRAM w/11 RIM-116B-1 RAM Blk IA
 PB/SB/PA/SA(1)4 M2 .50 cal. (0.1L)
 Aft pad (1)1 MH-60R/S and 3 MQ-8B Fire Scout UAV

Sensors: ES: 3rd Gen

BridgeMaster E (use Decca 2000 series)

SPS-77 (also Mk110 57mm GFC)

Link 11, Link 16

KAX-2 3rd Gen TV/IR & laser rf

Remarks:

Independence, *Coronado*, *Jackson*, *Montgomery*, *Gabrielle Giffords*, *Omaha*, *Manchester*, *Tulsa*, *Charleston*, *Cincinnati*, *Kansas City*, *Oakland*, *Mobile*, *Savannah*, *Canberra*, *Santa Barbara*, *Augusta*, *Kingsville*, *Pierre*. GD/Austal Littoral Combat Ship Flight 0. Trimaran. Carries Nulka 4th Gen decoy. Aluminum construction, -25% damage modifier. Multihull construction, -25% damage modifier. Treat as being fitted with stabilizers. Maneuvers as Size Class B. Mk110 can be directed by SPS-77 or KAX-2. Not fitted to Helicopter Inflight Refueling (see 4.9).

• Aug 16: *Coronado* fitted with PB&SB(2)2 Mk141 w/2 Harpoon IC for trials. Possibly moved to *Montgomery* in 2019.

• Based at San Diego. *Independence* (MCM), *Coronado* (SuW) used for training and trials. Remainder to be fitted for ASW, MCM or SuW (see *Freedom* class).

• 2016: Crew increases to 98.

• Sep 19: *G. Giffords* fitted with PS/SS(4)2 NSM (Naval Strike Missile) and MQ-8C (SuW).

• 29 Jul 21: *Independence* decommed.

• 31 Mar 22: *Coronado* planned to be decommed.

• 2022: Two per year to be fitted with SEWIP, Nulka decoys (4th Gen J&D, ES).

Damage & Speed Breakdown:

Dam Pts:	0	20	39	59	70	78
Surf Speed:	40	30	20	10	0	Sinks

Mark VI

Displacement: 65 fl
Size Class: F/VSmall
Propulsion: Diesel/Waterjet
Signature: VSmall/Noisy
Weapons:

F/A(1)2 Mk38 Bushmaster 25mm

F/A(1)2 M50 GWS .50 cal//EO director (01.L)

FFL

In class: 13 + 5 - 1

In Service: 2010

Crew: 75

Acoustic Cnt: None

Armor Rating: 0

Cbt Sys: Gen 5 Automatic

C

D

C

B

J/UK

J

L

--

PB

In class: 4 + 1 + 11

In Service: 2015

Crew: 10 + 8

Armor Rating: 0

Cbt Sys: Gen 1 Manual

C

C

F/PW/SW/PA/SA/(1)6 M2 .50 cal. or

M134 miniguns or M19 40mm GL (0.2L)

C

Sensors:

Generic x-band nav radar

J

4th Gen FLIR

--

Remarks:

48 planned. Main cabin can carry UUVs, medical facilities, passengers. Primary role as patrol boats, secondary as SEAL team transports. Ballistic protection for bridge, engines and fuel tanks. CHP armor rating for Bridge, Engineering is 2. Aluminum construction, -25% damage modifier.

• 2016: First deployments to Persian Gulf and Guam.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	9.3
Surf Speed:	35	26	18	9	0	Sinks

PBR

Displacement: 8 std

In class: [718]

Size Class: G/VSmall

In Service: 1965 - 2010s

Propulsion: Diesel/water jet

Crew: 4

Signature: Stealthy/Noisy

Armor Rating: 0

Weapons:

Cbt Sys: Gen 1 Manual

F(2)1 M2 .50 cal & A(1)1 M2 .50 cal (0.1L)

C

A(1)1 81mm mortar

--

Sensors:

Generic x-band nav radar

J

Remarks:

GRP construction, special damage modifier -10%.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	3.1
Surf Speed:	25	19	13	6	0	Sinks

Cyclone

Displacement: 286 lt

In Class: 14 - 4

Size Class: E/VSmall

In Service: 1993

Propulsion: Diesel

Crew: 28

Electrn Cnt: 2nd Gen D

Acoustic Cnt: None

Signature: VSmall/Noisy

Armor Rating: 0

Weapons:

Cbt Sys: Gen 2 Manual

F/A(1)2 Mk38 Bushmaster 25mm

C

P/S(1)2 .50 cal (0.1L)

C

F/A(1)2 7.62mm (0.1L)

C

F&A(1)1 Stinger w/6 missiles

D

Sensors:

ES: 1st Gen RWR

2 SPS-72

J

Wesmar MS3850 mine detection

--

Remarks:

PC 1-14. Guns are unstabilized. Fitted with stabilizers. PC 14 is lengthened with stern ramp for deploying small boats (352 lt displacement, size class D/Small). CHP armor rating for Bridge is 2. Aluminum superstructure, special damage modifier of -15%. Forward 25mm removed from many due to sea damage.

• 1995: 3rd Gen ES vice RWR, est. 3rd Gen FLIR (Jun 02 on).

• 1999-00: PC-2, 8, 13 lengthened as PC-14.

• Late 90s: Fitted with Mk96 stabilized mount with EO GFC - A(1+1) Mk96 mount (Mk38 Bushmaster, Mk19 40mm AGL) vice aft 25mm.

• Jun 02: Fitted with (estimated) 3rd Gen FLIR.

• 2004: PC-1 transferred to Philippines.

• 2009: PC-6 fitted with Mk38 Mod 2 Bushmaster 25mm (stabilized, RO GFC) vice Mk96.

• To US Coast Guard with Stinger msls removed: PC-1 (Feb 00-Mar 04); PC-8, 13, 14 (Oct 04); PC-4 (Oct 04-Aug 08); PC-5 (Sep 05 - Aug 08). Returned to USN service in 2011 with Stinger restored.

• May 14 - 2016: Fitted with Mk60 Griffin Missile System. P/S(4)2 Mk208 w/4 BGM-176B Griffin IIB//F SSQ-133 (4th Gen FLIR, laser designator).

• Decommed: PC-8, PC-13, PC-14 Mar 21.

Damage & Speed Breakdown:

Dam Pts:	0	9	17	26	31	34
D Pts (PC-14):	0	10	20	29	35	39
Surf Speed:	35	26	18	9	0	Sunk

America's Navy

Swift (i)

Displacement: 19 std
Size Class: G/VSmall
Propulsion: Diesel
Signature: Stealthy/Noisy
Weapons:

F(2)1 M2 .50 cal (0.1L)
 A(1)1 M2 .50 cal/81mm mortar (0.1L)

Sensors:
 Generic x-band nav radar

Remarks:

Small arms carried vary. Built to civilian standards, special damage modifier -50%.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	3.0
Surf Speed:	28	21	14	7	0	Sinks

Asheville

Displacement: 225 std
Size Class: E/VSmall
Propulsion: CODAG
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk34 3in/50//Mk63 (0.4)
 A(1)1 Mk3 40mm/60 (0.1L)
 P/S(1)2 M2 .50 cal. (0.1L)

Sensors:
 Generic x-band nav radar

Remarks:

PGM 84-90, 92-101. Aluminum construction, -25% damage modifier.

• 1967: Reclassified from motor gunboats (PGM) to as patrol gunboats (PG).

• 1970s: PG 86, 87 have PB&SB(1)2 Mk32 w/1 Tartar TRIP//1 Mk87 (Dutch WM22 radar). PG 98, 100 have PB&SB(1)2 Mk32 w/1Standard ARM. All have 40mm removed, speed reduced to 34 knots and 2 manual reloads carried.

Damage & Speed Breakdown:

Dam Pts:	0	6	12	18	22	24
Surf Speed:	38	29	19	10	0	Sinks
Speed ('70s):	34	24	17	9	0	Sinks

Tucumcari

Displacement: 58 std
Size Class: F/VSmall
Propulsion: CODOG
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk3 40mm/60 (0.1L)
 P/S(2)2 M2 .50 cal. (0.1L)
 A(1)1 81mm mortar

Sensors:
 Generic x-band nav radar

Remarks:

Hydrofoil. Aluminum construction, special damage modifier of -25%.

• 1971: 81mm replaced by A(2)1 Mk67 20mm (0.1L).

• 1972: Ran aground near Puerto Rico during exercise, further damaged during removal, struck 1972.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	11
Surf Speed:	40	30	20	10	0	Sinks

Flagstaff

Displacement: 57 std
Size Class: F/VSmall
Propulsion: CODOG
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk3 40mm/60 (0.1L)
 P/S(2)2 M2 .50 cal (0.1L)

PCF

A(1)1 81mm mortar

Sensors:
 Generic x-band nav radar

Remarks:

Hydrofoil. Aluminum construction, special damage modifier of -25%.

• 1971: 40mm replaced by M-551 Sheridan turret for trials.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	11
Surf Speed:	40	30	20	10	0	Sinks

Pegasus

Displacement: 231 fl
Size Class: E/VSmall
Propulsion: Gas Turbine
Electrn Cnt: 2nd Gen D
Signature: VSmall/Loud
Weapons:

F(1)1 Mk75 76mm/62//Mk92 STIR (3.4)
 PB&SB(4)2 Mk141 w/4 Harpoon

Sensors:
 SPS-63

Remarks:

Pegasus, Hercules, Taurus, Aquila, Aries, Gemini. Hydrofoil. Pegasus has Mk94 (WM-28) vice Mk 92. Max hullborne speed is 12 knots.

Aluminum construction, -25% damage modifier.

• 1985 - 86: Fitted with SPS-64 vice SPS-63.

• 1991: Upgrade with 3rd Gen D, 3rd Gen ES canceled.

Damage & Speed Breakdown:

Dam Pts:	0	6	11	17	20	22
Surf Speed:	40	30	20	10	0	Sinks

Iowa Commando/Heavy Assault Ship

Displacement: 44000 std
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Loud
Weapons:

F(3)2 Mk7 16in/50//2 Mk13
 P/S(2)2 Mk28 5in/38 /1 Mk56 GFCS (1.7)
 32 HUS helicopters (20 in hangar, 12 on flight deck)

F(8)1 ASROC launcher w/8 msls
 Centerline elevator
 14 LCM(6) or 6 LCM(6) and 6 LCM(8)

Sensors:
 SPS-10, SPS-37, SPS-30, SPS-39
 SQS-23

Remarks:

1961 proposal. Flight deck aft, spots for 3 medium-sized helicopters. Flag plot. Carried extra fuel for replenishing amphibious task force. One 16-inch gun converted to fire Mk23 nuclear rounds. Carried 1800 troops. Initially typed as "Commando Ship" but then redesignated "Heavy Assault Ship." Displacement estimated.

Damage & Speed Breakdown:

Dam Pts:	0	266	532	797	957	1063
Surf Speed:	33	25	16	8	0	Sinks

SSC

Displacement: 106 lt
Size Class: E/VSmall
Propulsion: Gas Turbine
Signature: VSmall/VQuiet
Sensors:

BridgeMaster E (use Decca 2000 series)

Remarks:

Ship-to-Shore Connectors. LCUA replacement. Improved LCUA design. 73 planned. Personnel transport module can carry 180 troops or 74 t payload. Hovercraft, -20% damage modifier, amphibious construction, -25% damage modifier, aluminum craft, -25% damage modifier.

PHM

In Class: [6]
In Service: 1977 - 93
Crew: 22

Acoustic Cnt: None
Armor Rating: 0
Cbt Sys: Gen 2 Manual

C

D

J

BBHA?

In Class: 4
In Service: 1964
Crew: 2753
Armor Rtnng: 45/19/195
Cbt Sys: Gen 1 Manual

C

C

B

E

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J

K

LCUA

In Class: 0 + 15 + 59
In Service: 2020
Crew: 4 + 26
Armor Rating: 0

J/UK

PGH

In class: [1]
In Service: 1968
Crew: 13
Armor Rating: 0
Cbt Sys: Gen 1 Manual

C

C

• LCAC 100 will be for test. and training, LCAC 101 the first production unit. Fitted to launch APC from water starting with the 10th unit.

Damage & Speed Breakdown:

Dam Pts:	0	2	3	4	5	6
Spd (Loaded):	35	26	18	9	0	Sinks
Spd (Empty):	50	38	25	13	0	Sinks

LCAC

Displacement: 93 lt
Size Class: E/VSmall
Propulsion: Gas Turbine
Signature: VSmall/VQuiet
Sensors:

CMR-91 (use LN-66)

Remarks:

LCAC 1 - 91. CHP armor rating for Bridge is 2, LCAC 34 and on have Engineering armor 2 also. Design payload 60 tons, overload 75 tons. Hovercraft, -20% damage modifier, amphibious craft, -25% damage modifier.

- 1986: In service. First deployment on LSD 42 Germantown in 1987.
- 1993: 16 minesweeping systems delivered. Can tow mechanical or acoustic/magnetic minesweep or AQS-14 side-scan sonar at 25 knots.
- 1996: Nine personnel transport modules delivered. Can carry 145 troops with stores or 180 troops.
- 2001 - 21: 68 through LCAC MkII SLEP with new engines. Payload 72 t, overload 75 t, Furuno or BridgeMaster E replaces CMR-91 radar. LCAC 91 delivered as MkII.

Damage & Speed Breakdown:

Dam Pts:	0	3	5	8	9	10
Spd (Loaded):	40	30	20	10	0	Sinks
Spd (Empty):	54	41	27	14	0	Sinks

Blue Ridge

Displacement: 16790 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 3rd Gen J&D
Signature: Medium/Noisy
Weapons:

P/S(2)2 Mk33 3in/50//2 Mk56 (0.8)

3 LCP, 2 LCVF

Sensors:

SPS-10, SPS-40C, SPS-64, SPS-48C, SPS-59/LN-66

Remarks:

Blue Ridge, Mount Whitney. Originally designated AGC, redesignated as LCC 1969. Dedicated command ships with extensive communications facilities. Aft pad for Large helos, fitted with stabilizers. Single prop, double the speed reduction of Engineering critical hits. Typically carries one SH-3D helicopter. Does not suffer penalty for amphibious construction.

- 1974: P/S(8)2 Mk25 BPDMS Sea Sparrow w/8 RIM-7E//2 Mk115 added, combat system 3rd Gen Semi-Automatic, probably fitted with 2nd Gen acoustic countermeasures.
- 1978: Mk56 GFCS removed, Mk33 3in/50 are in local control, AA rating 0.5L.
- Early 1980s: Fitted with 3rd Gen ES, 3rd Gen J&D.
- Fitted with F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A), Link 4/4A, Link 11 data links. SPS-10 replaced by SPS-65, estimated SPS-62 added. *Blue Ridge* 1985, *Mount Whitney* 1987.
- 1992: Sea Sparrow and 3 inch gun guns, SPS-62 removed. SPS-64 and 2nd Gen towed countermeasures added.
- Jan - Oct 17: *Mount Whitney* has 10-month HME overhaul in Croatia.
- 2000: Fitted with 4th Gen Semi-Automatic combat system, Link 16 data link. *Blue Ridge* has SPS-48C, SPS-64 removed, fitted with SPS-67. *Mount Whitney* has SPS-40, SPS-48C, SPS-64 removed. Fitted with SPS-67 and SPS-72.
- 2003: Fitted with P/S(1)2 Mk38 Mod 2 Bushmaster 25mm//2 EO directors.
- c2008: Estimate fitted with 3rd Gen acoustic countermeasures.
- Jan - Oct 17: *Mount Whitney* has 10-month HME overhaul in Croatia.

LCUA

In Class: 91 - 17
In Service: 1986
Crew: 5 + 25
Armor Rating: 0

J/Canada

Damage & Speed Breakdown:

Dam Pts:	0	140	280	419	503	559
Surf Speed:	22	17	11	6	0	Sinks

Mount McKinley

Displacement: 7234 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

F(1)1 Mk24 5in/38//Mk52 (0.7)

P/S(2)2 Mk1 40mm/60 & A(4)1 Mk2 40mm/60 (0.8L)

Aft Pad(1)1 HUP-2 Retriever

Sensors:

SPS-8, SPS-10

Remarks:

Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier.

- 1960s: SPS-8 replaced by SPS-30.
- 1 Jan 69: Redesignated LCC.

Damage & Speed Breakdown:

Dam Pts:	0	65	130	194	233	259
Surf Speed:	16	12	8	4	0	Sinks

LCM(8)

Displacement: 62 lt
Size Class: F/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy

Remarks:

Bow ramp. Mk1, Mk3, Mk5 are steel. Mk2 and Mk4 are 52 lt for deck storage, aluminum construction, -25% damage modifier. Amphibious craft, -25% damage modifier.

Steel can carry 150 troops, aluminum 200 troops.

- 2018: Eight with USN (6 MPS, one each coast) and 24 with Army.

Damage & Speed Breakdown:

Mk1, Mk3, Mk5

Dam Pts:	--	--	--	--	--	11
Surf Speed:	9	7	5	2	0	Sinks

Mk2, Mk4

Dam Pts:	--	--	--	--	--	6
Surf Speed:	12	9	6	3	0	Sinks

LCM(6)

Displacement: 27 lt
Size Class: F/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy

Remarks:

Can carry 34 tons of cargo or 80 troops. Amphibious craft, -25% damage modifier. Bow ramp.

- 2000: Retired from amphibious role. Used in support roles only.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	6.2
Surf Speed:	10	8	4	3	0	Sinks

LCPL

Displacement: 9 std
Size Class: G/VSmall
Propulsion: Diesel
Signature: Stealthy/Noisy

Remarks:

Amphibious craft, -25% damage modifier. Can be fitted with F(1)1 M2 .50 cal (0.1L)

- 1956: Fitted with SPN-11 radar for use as boat guides. Later fitted with SPS-59 radar.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	2.8
Surf Speed:	19	14	10	5	0	Sinks

LCC

In class: [5]
In Service: 1943 - 71
Crew: 550
Armor Rating: 0
Cbt Sys: Gen 1 Manual

C

C

B

ES: 1st Gen

J

LCM

In class: 522 - 490
In Service: 1952
Crew: 5
Armor Rating: 0

LCM

In class: 927 - 917
In Service: 1952
Crew: 5 + 80
Armor Rating: 0

LCPL

In class: 345 - 327
In Service: 1953
Crew: 3 + 17
Armor Rating: 0

LCU-1700

Displacement: 274 std
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Sensors:
 Generic x-band nav radar

In class: 0 + 3 + 29
In Service: 2022
Crew: 13
Armor Rating: 0

LCU

Remarks:
 Replacement for LCU-1610. Can carry 154 t cargo or 2 tanks or 350 troops. Bow and stern ramps. Amphibious ship, -25% damage modifier. Displacement estimated.

Damage & Speed Breakdown:

Dam Pts:	0	7	15	22	26	29
Surf Speed:	8	6	4	2	0	Sink

LCU-1610

Displacement: 190 lt
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Sensors:
 SPS-53

In class: 70 - 38
In Service: 1959
Crew: 14 + 300
Armor Rating: 0

LCU

Remarks:
 LCU 1610-1624, 1627-1681. US Army has LCU 1667-1679, remainder USN. Bow and stern ramps for ro-ro operation. Can carry 2 M1 Abrams or ten double-stacked ISO 20-foot containers. Amphibious craft, -25% damage modifier.

• 1980s: LN-66 replaces SPS-55.
 • 2004: Furuno replaces LN-66.

Damage & Speed Breakdown:

Dam Pts:	0	6	12	17	21	23
Surf Speed:	11	8	6	3	0	Sinks

LCU-1466

Displacement: 347 std
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Remarks:
 LCU 1466-1609. Can carry 167 tons or three MBT. Amphibious craft, -25% damage modifier. Bow ramp.

In class: 144 - 112
In Service: 1954
Crew: 6 + 300
Armor Rating: 0

LCU

• 14 transferred. Japan LCU 1602-1607. Taiwan LCU 1594-1601.
 • 2011: 32 remain.

Damage & Speed Breakdown:

Dam Pts:	0	8	16	24	29	32
Surf Speed:	8	6	4	2	0	Sinks

LCVP

Displacement: 13 std
Size Class: G/VSmall
Propulsion: Diesel
Signature: Stealthy/Noisy
Remarks:
 Can carry four tons of cargo or 36 troops. Mk5, Mk7 (285) are GRP construction, -10% damage modifier. Rest are wooden construction, -35% damage modifier. Amphibious craft, -25% damage modifier.

In class: [1552]
In Service: 1956 - 06
Crew: 3 + 36
Armor Rating: 0

LCVP

Damage & Speed Breakdown:

DP (Wood):	--	--	--	--	--	1.9
DP (GRP):	--	--	--	--	--	3.1
Surf Speed:	9	7	5	2	0	Sinks

CCA

Displacement: 12 fl
Size Class: G/VSmall
Propulsion: Diesel
Signature: Stealthy/Noisy
Sensors:
 Generic x-band nav radar
 CCFLIR 3rd Gen FLIR & laser rf

In class: 32
In Service: 2015
Crew: 4 + 12
Armor Rating: 0

LCW**Remarks:**

Combat Craft, Assault. Two can be airdropped from C-17A. Medium range. Reduced signature. GRP construction, -10% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	3.6
Surf Speed:	9	7	5	2	0	Sinks

CCM Mk1

Displacement: 27 fl
Size Class: F/VSmall
Propulsion: Diesel
Signature: Stealthy/Noisy
Weapons:
 F(1)1 RWS .50 cal mg
 A(1)1 .50 cal or 7.62mm mg (0.1L)

In class: 27 + 3
In Service: 2015
Crew: 4 + 18
Armor Rating: 0
Cbt Sys: --

LCW**Sensors:**

Generic x-band nav radar
 CCFLIR 3rd Gen FLIR & laser rf

Remarks:

Combat Craft Medium. Can be transported by C-17A. Reduced signature, ballistic armor. GRP construction, -10% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	6.2
Surf Speed:	52	39	26	13	0	Sinks

CCH Mk1

Displacement: 29.5 lt
Size Class: F/VSmall
Propulsion: Diesel/Waterjet
Signature: Stealthy/Noisy
Sensors:
 Furuno series
 CCFLIR 3rd Gen FLIR & laser rf

In class: 2 + 1
In Service: 2014
Crew: 7 + 13
Armor Rating: 0

LCW**Remarks:**

Combat Craft, Heavy. SEAL Insertion Observation and Neutralization (SEALION). Reduced signature. Radar on retractable mast, VSmall with radar in use. Can be carried by C-17A. Medium range. Aluminum construction, -25% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	6.6
Surf Speed:	9	7	5	2	0	Sinks

M80 Stiletto

Displacement: 60 std
Size Class: F/VSmall
Propulsion: Diesel
Signature: Stealthy/EQuiet
Weapons:
 Scan Eagle UAVs
 11 m rigid hull inflatable boat

In Class: 1
In Service: 2006
Crew: 3 + 12
Armor Rating: 0
Cbt Sys: --

LCW**Sensors:**

Furuno series

J/Japan

Remarks:

Carbon composite construction, -25% damage modifier. Heavily automated, requires a crew of only three. Draft less than 1 meter. Can carry 37 ton payload. Range 500 nmi. Can carry a complement of 12 SEALs. M-shaped hull creates air cushion at high speeds, reducing wave effects and wake. Treat as medium-sized vessel for sea-keeping purposes. Rear ramp for recovering small boats.

• 2008: Narcotics patrol in Caribbean. To trial role in 2011.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	9.8
Surf Speed:	50	38	25	13	0	Sinks

CRRC

Displacement: 0.12 std
Size Class: G/VSmall
Propulsion: Gasoline
Signature: Stealthy/Noisy

In Class: ?
In Service: ?
Crew: 1 + 5
Armor Rating: 0

LCW

Remarks:

Combat Rubber Raiding Craft. Can be carried under or in helicopters, released from submerged submarines and airdropped from aircraft. Can carry 1.3 t cargo or 5 troops or divers. Can land on beaches in sea state 3. Cruise speed 15 knots on outboard.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	0.1
Spd (paddles):	3	2	2	1	0	Sinks
Spd (outbrd.):	32	24	16	8	0	Sinks

NSW RIB

Displacement: 8.2 std
Size Class: G/VSmall
Propulsion: Diesel/Waterjet
Signature: Stealthy/Noisy
Weapons:

F/A 2 weapons stations (See Remarks)

Sensors:

Furuno series

Remarks:

11 meter rigid inflatable boat. Each weapons station can be fitted with either (1)1 M2 .50 cal or (1)1 7.62mm mg. Sustained speed 33 knots. GRP construction, -10% damage modifier. Inflatable sponsons, -30% damage modifier.

- 2000: Cleared to be airdropped.

- To be replaced by CCA.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	1.7
Surf Speed:	32	24	16	8	0	Sinks

Mark V Pegasus

Displacement: 57 fl
Size Class: F/VSmall
Propulsion: Diesel/Waterjet
Signature: Stealthy/Noisy
Weapons:

P/S/PA/SA 4 weapons stations (See Remarks)

F&A(1)1 Stinger w/6 missiles

Sensors:

Furuno series

Remarks:

Reduced radar and IR signatures. Used as SEAL transports in low and medium threat insertions. Can be carried by C-5 Galaxy. Can carry 4 CRRC or 1 Mk8 LSDV or 1 CRRC and Scan Eagle UAV. Each weapons station can be fitted with either (2)1 M2 .50 cal or (1)1 7.62mm mg. Aluminum construction, -25% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	9.5
Surf Speed:	50	38	25	13	0	Sinks

Seafox

Displacement: 10.6 lt
Size Class: G/VSmall
Propulsion: Diesel
Signature: Stealthy/EQuiet
Weapons:

PA/SA(1)2 .50 cal (0.1L)

PW/SW(1)2 7.62mm (0.1L)

Sensors:

LN-66

Remarks:

SWCL (Special Warfare Craft Light). GRP construction, -10% damage modifier. Carries CRRC. Can be carried by C-130 Hercules.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	3.3
Surf Speed:	32	24	16	8	0	Sinks

PB MkIII (Sea Spectre)

Displacement: 28 std
Size Class: F/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

PB&SB(1)1 Mk3 40mm/60 (0.1L)

PW(1)1 Mk16 20mm (0.1L)

PW/PQ&SA(1)2 .50 cal (0.1L)

PA/SB(1)2 Mk19 40mm grenade launcher

81mm mortar

Sensors:

LN-66

Remarks:

SWCM (Special Warfare Craft Medium). Aluminum construction, -25% damage modifier.

- 1981: PB 777 fitted with PB&SB(1)2 Penguin Mk3 missiles. Has PW/SB(1)2 .50 cal mg.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	5.1
Surf Speed:	50	38	25	13	0	Sinks

America (ii)

Displacement: 44854 fl
Size Class: A/Large
Propulsion: CODLOG/CP
Electrn Cnt: 4th Gen J&D
Signature: Large/Noisy
Weapons:

F/A(8)2 Mk29 NATO Sea Sparrow w/8 ESSM//2 Mk57

F/PA(21)2 Mk31 w/21 RIM-116 RAM Blk IA

F/SA(R)2 Mk15 Phalanx Blk IB (2@9.5A)

P/S/A(1)3 Mk38 Mod 2 Bushmaster 25mm//EO GFC

3P/3S/A(2)7 Mk95 Mod 1 .50 cal (0.3L)

2 Elevators

Sensors:

SPS-48E, SPQ-9B, SPS-49A(V)2, 2 SPS-73 (*America, Tripoli*)

SPY-6(V)2 EASR, SPQ-9B, 2 SPS-73 (*Bougainville*)

Link 4/4A (*America* only), Link 11, Link 16, USG-2B CEC

Remarks:

America, Tripoli, Bougainville, fourth unit. Replacement for *Tarawa* class. Based on USS *Makin Island* (LHD-8) design. First two units do not have well deck. Extensive command facilities. Landing spots for ten helicopters. Amphibious ship, -25% damage modifier, aluminum superstructure, -15% damage modifier. Probably fitted with SRS-1 Combat DF.

- *Bougainville* and any later units can carry 2 LCUA in well deck.

Troop berthing reduced to 1462. Reduced air group, SPY-6(V)2 replaces SPS-48 and SPS-49. Redesignated superstructure with Phalanx arcs PW/SA, RAM arcs SW/PA.

- May 15 - Mar 16. *America* refitted. Deck strengthened to accommodate F-35. *Tripoli* completed with F-35 capability.

- Jun 2020: Fourth unit ordered.

Damage & Speed Breakdown:

Dam Pts:	0	145	290	435	522	580
Surf Speed:	23	17	12	6	0	Sinks

Tarawa

Displacement: 33536 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 2nd Gen J&D
Signature: Large/Noisy
Weapons:

PQ/SQ/PA(1)3 Mk45 5in/54//F SPG-60 (2.0)

F/A(8)2 Mk25 BPDMS w/8 RIM-7E//2 Mk115

P/S(1)6 Mk67 20mm (0.5L)

18 CH-46 Sea Knight, 4 CH-53, 4 AH-1S

2 Elevator

1 LCUA or 4 LCU or 7 LCM(8) or 17 LCM(6)

In Class: [36]
In Service: 1981 - ?
Crew: 3 + 12
Armor Rating: 0
Cbt Sys: --

LCW

C

C

C

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J/Canada**LHA**

In Class: 2 + 1 + 1
In Service: 2014
Crew: 1204 + 1871
Acoustic Cnt: 3rd Gen T
Armor Rating: 0
Cbt Sys: Gen 6 Automatic

D

D

C

C

C

--

ES: 3rd Gen

J

J

L

LHA

In Class: [5]
In Service: 1976 - 2015
Crew: 892 + 1903
Acoustic Cnt: 2nd Gen T
Armor Rating: 0
Cbt Sys: Gen 4 Semi-Automatic

C

D

C

B

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A

America's Navy

Sensors:

ES: 1st Gen

SPS-10, SPS-40B, SPS-52B, SPS-53, SPS-59/LN-66, SPQ-9A J
Link 4/4A, 11 L

Remarks:

Tarawa, Saipan, Belleau Wood, Nassau, Peleliu. Can launch 12 CH-46 or 9 CH-53 from flight deck at once. Hangar can hold 28 CH-46 or 19 CH-53 or 25 Sea Harrier. Mk45 guns use SPG-60 for AA fire and SPQ-9A for surface fire. Typically carry 2 LCU and 3 LCM(8) or 17 LCM(6) in well deck plus 40 LVTP on vehicle deck. Amphibious ship, -25% damage modifier.

•1983 - 88 : BPDMS, PA Mk45 5 inch, 20mm removed, F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A) added. 1st Gen ES upgraded to 3rd Gen. ECM upgraded to 3rd Gen J&D, 2nd Gen T acoustic countermeasures added.

• 1992 - 96: Class modernized. Combat system Gen 5 Automated. Mk23 TAS added, SPS-52 replaced by SPS-48E, PW/SA(21)2 Mk49 w/21 RIM-116A RAM added. SPS-10 and LN-66 replaced by SPS-64, SPS-67.

• 1996 - 97: Tarawa refit.

• 1996 - 97: *Peleliu* refit with MV-22B Osprey capability added.

• 1997 - 98: 5 inch guns removed.

• 1998 - 99: SPQ-9 and SPG-60 removed. P/S(1)8 Mk95 Mod 1 .50 cal (0.3L) fitted replacing all 20mm.

• 2002 - 07: Fitted with Link 16. *Tarawa* 2006, *Saipan* 2004, *Nassau* 2002, *Peleliu* (2007).

• Decommed: *Tarawa* 2009, *Saipan* 2007, *Belleau Wood* 2005, *Nassau* 2011, *Peleliu* 2015.

Damage & Speed Breakdown:

Dam Pts:	0	166	333	499	599	665
Surf Speed:	24	18	12	6	0	Sinks

Wasp

Displacement: 34047 std

In Class: 8 - 1

Size Class: A/Large

In Service: 1989

Propulsion: Steam Turbine

Crew: 892 + 1903

Electrn Cnt: 3rd Gen J&D

Acoustic Cnt: 2nd Gen T

Signature: Large/Noisy

Armor Rating: 0

Weapons:

Cbt Sys: Gen 5 Automatic

F/PA(SA(R)3 Mk15 Phalanx Blk 0 (3@6.3A)

F/A(8)2 Mk29 NATO Sea Sparrow w/8 RIM-7M//2 Mk91

P/S(1)8 M2 .50 cal. (0.1L)

2 Elevators

3 LCUA and 4 LCPL or 12 LCM(6) or 6 LCM(8) or 2 LCU

Sensors: ES: 3rd Gen

SPS-49(V)5, SPS-67(V)1, Mk23 TAS, SPS-64

SPS-52C (LHD-1), SPS-48E (LHD-2 and on)

Link 4/4A, Link 11

SRS-1 Combat DF

Remarks:

Wasp, Essex, Kearsarge, Boxer, Bataan, Bonhomme Richard, Iwo Jima, Makin Island. Can launch 9 large helos at once. CHP armor rating for flight deck is 2. Amphibious ship, -25% damage modifier, aluminum superstructure, -15% special damage modifier. In addition to SLQ-32 3rd Gen ES, fitted with SRS-1 Combat DF ES, see 5.2.9.5. • *Makin Island* fitted with CODLOG/CP, radars changed to SPS-48E, SPS-49A(V)1, SPS-73, SPQ-9B, Link 16 and USG-2A CEC data links. Combat system Gen 6 Automatic.

• 1996 - 98: *Wasp* fitted with SPS-48E replacing SPS-52B, Link 16 data links added Combat system Gen 6 Automatic. SA Phalanx removed, F/SA(21)2 Mk49 w/21 RIM-116A RAM added.

• 1998 - 02: SA Phalanx removed, F/SA(21)2 Mk49 w/21 RIM-116A RAM, Gen 6 Automatic combat system added.

• 2003: Fitted with P/S/PQ&SQ(1)3 Mk38 25mm//3 EO GFC.

• 2003: *Iwo Jima* fitted with SPQ-9B.

• mid 2010s: Some fitted with SPS-73 replacing SPS-64, estimated 3rd Gen acoustic countermeasures.

• 2005 - 10: Fitted for MV-22 replacing CH-46.

• 2008: *Iwo Jima* fitted with USG-2A CEC data link.

• 2014: *Wasp* fitted with SPQ-9B.

• 2014 - 18: Fitted for F-35B replacing AV-8B, ESSM. First F-35B deployments - *Essex* Jul 18, *Wasp* Aug 18, *Makin Island* by 2020,

Boxer 2023, *Iwo Jima* 2024, *Bataan* 2025, *Kearsarge* ?

• 12 Jul 20: *Bonhomme Richard*, in refit, heavily damaged by fire following explosion. Struck because of excessive damage.

Damage & Speed Breakdown:

Dam Pts:	0	135	269	404	484	538
Spd:	22	18	11	6	0	Sinks
Spd (LHD-8):	24	18	12	6	0	Sinks

Charleston

See *Charleston* AKA listing.

LKA

Harrisburg

Displacement: 19908 lt

In Class: 0 + 0 + 1

Size Class: A/Large

In Service: 2025

Propulsion: Diesel

Crew: 386 + 613

Electrn Cnt: 4th Gen J&D

Acoustic Cnt: 4th Gen T

Signature: Large/Quiet

Armor Rating: 0

Weapons:

Cbt Sys: Gen 6 Automatic

PW/SA(21)2 Mk31 w/21 RIM-116B RAM Blk IA

F/PA(1)2 Mk46 Mod 1 30mm Bushmaster II

Aft Pad(1)2 MV-22

2 LCUA or 1 LCU or 4 LCM(8)

Link 11, Link 16

Sensors:

ES: 3rd Gen

SPY-6(V)2 EASR, SPQ-9B, SPS-73(?)

Remarks:

Harrisburg, San Antonio Flight II. Replaces *Harper's Ferry* and *Whidbey Island* class LSD. Same hull as *San Antonio* class. Up to eighteen planned. Less extensive radar signature reduction than original *San Antonio* class. Deck space for 2 MV-22 or CH-53E or 4 UH-1Y or AH-1Z. Hangar space for 1 MV-22 or CH-53 or 3 AH-1Z or UH-1Y. Amphibious construction, -25% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	128	255	383	459	510
Surf Speed:	22	17	11	6	0	Sinks

San Antonio

Displacement: 24900 fl

In Class: 11 + 2

Size Class: A/Large

In Service: 2006

Propulsion: Diesel

Crew: 360 + 800

Electrn Cnt: 3rd Gen J&D

Acoustic Cnt: 2nd Gen T

Signature: Medium/Quiet

Armor Rating: 0

Weapons:

Cbt Sys: Gen 6 Automatic

PW/SA(21)2 Mk31 w/21 RIM-116A RAM

F/PA(1)2 Mk46 Mod 1 30mm

Aft Pad(1)2 MV-22

2 LCUA or 4 LCM(8) or 9 LCM(6), or 20 LVT

Sensors:

ES: 3rd Gen

SPQ-9B, SPS-48E, SPS-73, Generic x-band nav radar

Link 11, Link 16

Air Group:

• 2 CH-53 or 4 AH/UH-1 or 4 CH-46 or 2 MV-22

Remarks:

San Antonio, New Orleans, Mesa Verde, Green Bay, New York, San Diego, Anchorage, Arlington, Somerset, John P. Murtha, Portland, Fort Lauderdale, Richard M. McCool, Jr. Deck space for 2 MV-22 or CH-53E or 4 CH-46 or UH-1N or AH-1. Hangar space for 1 MV-22 or CH-53 or 2 CH-46 or 3 AH-1W or UH-1N. Reduced RCS. Replaces *Austin, Anchorage, Charleston, and Newport* classes. Amphibious construction, -25% damage modifier.

• *Richard M. McCool Jr.* has SPY-6(V)2 EASR replacing SPS-48E.

• 2013: Fitted for Scan Eagle UAV, estimated 3rd Gen acoustic countermeasures.

• May 14: RAM Blk II operational on *Arlington*.

• 2016: Last two have several cost-saving measures, but radar signature increased to Large, troop capacity reduced to 650.

• Dec 19: *Portland* fitted with manually aimed F(1)1 SEQ-3 LAWS high energy laser. Can be used as laser dazzler or to destroy VSmall air targets out to 0.9 nmi at NOE and Low altitudes.

LPD

D

C

B

A

L

J

LHD

C

D

C

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A

J

J

L

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LPD

D

C

B

A

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L

Damage & Speed Breakdown:

Dam Pts:	0	122	245	367	440	489
Surf Speed:	22	17	11	6	0	Sinks

Austin**LPD**

Displacement: 11050 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 2nd Gen D
Signature: Med/Noisy
Weapons:
 PW/SW/PA/SA(2)4 Mk33 3in/50//F Mk56 & PA/SA 2 Mk63 (1.5) C
 Aft pad (1)8 UH-34D Choctaw B
 1 Elevator --
 1 LCU, 3 LCM(6) or 9 LCM(6) or 4 LCM(8), or 28 LVTP --
Sensors: ES: 1st Gen
 SPS-10, SPS-40A J
Remarks:
 Up to 8 medium helos can be accommodated for short periods on the flight deck. Hangar can accommodate only one small helicopter. Amphibious ship, -25% damage modifier.
 • *Austin, Ogden, Duluth* have 930 troops, remainder fitted as flagships with 856 troops and flag staff.
 • 1977-78: PW/SA Mk33 removed, AA rating 0.8. ES upgraded to 2nd Gen.
 • 1980: *Coronado* (LPD 11) redesignated as command ship (AGF 11).
 • 1983-84: *Coronado* refit with ES updated to 3rd Gen, Aft Pad(1)1 SH-3D, F/SS(R)2 Mk15 Phalanx Blk 0 (2@4.4A) added.
 • 1984-87: F/SS(R)2 Mk15 Phalanx Blk 0 (2@6.3A) added to Atlantic Fleet units. ECM upgraded to 3rd Gen D. 2nd Gen Towed Acoustic Countermeasure added.
 • Late 80s: Mk56, 2 Mk63 directors removed. Mk33 in local control, AA rating 0.3L.
 • 1987: Planned SLEP canceled.
 • 1990-93: F/SS(R)2 Mk15 Phalanx Blk 0 (2@4.4A) added to Pacific Fleet units. ECM upgraded to 3rd Gen D. 2nd Gen Towed Acoustic Countermeasure added.
 • 1993: Fitted to operate Pioneer UAV. Typically one per fleet carries 5-8 UAV.
 • Early 90s: SPS-10 replaced by SPS-67, P/S(1)2 Mk38 25mm Bushmaster added.
 • 1992-93: Remaining Mk33 removed.
 • 24 Jan 12: *Ponce* (LPD 15) redesignated AFSB-I 15 (Afloat Forward Staging Base, Interim), operated by MSC. Fitted with (1)2 Mk38 Mod 2 25mm, ScanEagle UAV, 2 Kingfish prototype UUV.
 • Aug 14: *Ponce* fitted with F(1)1 SEQ-3 LaWS high energy laser, aimed by Mk15 Phalanx radar, treat as integrated to combat system. Can be used as laser dazzler.
 • 14 Oct 17: *Ponce* decommed.

Damage & Speed Breakdown:

Dam Pts:	0	79	159	238	285	317
Surf Speed:	21	16	11	5	0	Sinks

Raleigh**LPD**

Displacement: 8276 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:
 PW/SW/P/S(2)4 Mk33 3in/50//Mk56 (3.0) C
 Aft pad (1)6 CH-46 Sea Knight B
 1 LCU, 3 LCM (6) or 4 LCM(8) or 20 LVTP --
Sensors: ES: 1st Gen
 SPS-10, SPS-40A, SPS-59/LN-66 J
Remarks:
Raleigh, Vancouver, La Salle. Up to 6 medium helos can be embarked. LCM (6) carried on the boat deck can be replaced by 4 LCPL. Amphibious ship, -25% damage modifier.
 • 1972: *La Salle* became flagship for the Persian Gulf (AGF-3), with crew 842.
 • 1978: PW Mk33, Mk56 removed. AA rating 0.5L.

- 1980 - 82: *La Salle* refitted, P/S(R)2 Mk15 Phalanx replacing P/S Mk33, Aft Pad(1)1 SH-3D
- 1984: F/S(R)2 Mk15 Phalanx Blk 0 added (6.3A). ES upgraded to 2nd Gen. ECM upgraded to 2nd Gen D. *Raleigh* 1984, *Vancouver* late 80s.
- Decommed: *Raleigh* 1991, *Vancouver* 1992. *La Salle* 2005.

Damage & Speed Breakdown:

Dam Pts:	0	71	142	213	256	284
Surf Speed:	21	16	11	5	0	Sinks

Iwo Jima**LPH**

Displacement: 17000 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:
 2F/PA/SA(2)4 Mk33 3in/50//3 Mk34 (3.0) C
 2 Elevators --
Sensors: ES: 1st Gen
 SPS-10, SPS-40A J
Remarks:
Iwo Jima, Okinawa, Guadalcanal, Guam, Tripoli, New Orleans, Inchon. Can launch seven small/medium or 4 large helos at once. Hangar can hold 19 CH-46 or 11 CH-53. Aviation ship, does not suffer amphibious ship modifier. Single prop, double the speed reduction of Engineering critical hits.
 • 1970: Fitted with 1st Gen J countermeasures.
 • F/PA 3 inch guns replaced by F/P&PQ(8)2 Mk25 BPMDS Sea Sparrow w/8 RIM-7//4 Mk115. AA rating 1.5. *Tripoli, Inchon* 1972, *Okinawa, Iwo Jima, New Orleans* 1973, *Guam, Guadalcanal* 1974.
 • Late 70s: Mk34 FC radars removed, AA rating 0.5L.
 • 1980s: Acoustic Countermeasures upgraded to 2nd Gen T, Electronic Countermeasures to 3rd Gen J&D, ES to 3rd Gen. Combat system Gen 3 Semi-Automatic.
 • 1983 - 86: SW/P&PQ(R)2 Mk15 Phalanx Blk 0 (2@6.3A)(*Okinawa* had F Mk25 launcher replaced by Phalanx, has F instead of P&PQ arc). P/S(1)2 Mk38 Bushmaster 25mm added.
 • 1996: *Inchon* reconfigured as a mine countermeasures support ship. All Mk25 BPMDS and Mk33 removed. Operated CH-53E Sea Dragon helicopters, served as tender for *Avenger*- and *Osprey*-class minehunters. Transferred to the Naval Reserve Force.
 • Oct 01: *Inchon* suffered major boiler room fire, one sailor killed, severely damaged, not repaired.
 • Decommed: *Okinawa* 1992, *Iwo Jima* 1993, *Guadalcanal* 1994, *Tripoli* 1995, *New Orleans* 1997, *Guam* 1998, *Inchon* 2002.

Damage & Speed Breakdown:

Dam Pts:	0	141	282	423	508	564
Surf Speed:	23	17	12	6	0	Sinks

Essex LPH**LPH**

Displacement: 30800 std
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Large/Loud
Weapons:
 F/A(2)4 Mk38 5in/38//2 Mk37 (6.7) C
 PW/PA(1)2 Mk30 5in/38//2 Mk56 (0.8) C
 3 Elevators --
Sensors: ES: 1st Gen
 SPS-10, SPS-12, SPS-30 J
Remarks:
Boxer, Princeton, Valley Forge. Essex-class carriers converted to LPH. Configuration as of conversion. Carries 16 CH-37. Aviation ship, does not suffer amphibious damage modifier. Valley Forge has SPS-6C, SPS-8A, SPS-10 radars. Four boilers not used as LPH, with speed reduced to 27 knots.
 • Early 1960s: F/A(2)2 Mk38, AA rating 3.4. Mk30 5 inch guns removed.
 • Decommed: *Boxer* 1969, *Princeton, Valley Forge* 1970.

Damage & Speed Breakdown:

Dam Pts:	0	210	419	629	754	838
Surf Speed:	27	20	14	7	0	Sinks

Casablanca LPH**LPH**

Displacement: 8000 std	In class: [1]
Size Class: B/Medium	In Service: 1956 (1944) - 64
Propulsion: Steam Turbine	Crew: 540 + 1600
Signature: Med/Loud	Armor Rating: 0
Weapons:	Cbt Sys: Gen 2 Manual
PW/SW/P&PQ/SQ(2)4 Mk1 40mm/60 (0.5L)	C
1 Elevator	--
Sensors:	ES: 1st Gen
SPS-10, SPS-12	J
Remarks:	

Thetis Bay. *Casablanca*-class CVE decommed after WW II, recommed 1956 as CVHA (assault helicopter carrier). Configuration as of conversion. Carries 15 CH-37. Can launch/land 5 Medium helicopters at once. Aviation ship, does not suffer amphibious construction modifier.

- 1959: Reclassified as LPH.

Damage & Speed Breakdown:

Dam Pts:	0	85	171	256	307	341
Surf Speed:	19	14	10	5	0	Sinks

Harpers Ferry**LSD**

Displacement: 11894 lt	In Class: 4
Size Class: B/Medium	In Service: 1994
Propulsion: Diesel/CPP	Crew: 412 + 440
Electrn Cnt: 3rd Gen D	Acoustic Cnt: 2nd Gen T
Signature: Med/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 5 Automatic
F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A)	C
P/S(1)2 Mk38 Bushmaster 25mm	C
P/S(1)8 M2 .50 cal (0.1L)	C
2 LCPL, 2 LCUA or 4 LCM(8) or 9 LCM(6) or 1 LCU	--
Sensors:	ES: 3rd Gen
SPS-64, SPS-49(V)5, SPS-67	J
Remarks:	

Harpers Ferry, *Carter Hall*, *Oak Hill*, *Pearl Harbor*. Cargo version of *Whidbey Island* class. Helo pad aft with spots for two large helicopters. Amphibious ship, special damage modifier of -25%.

- 1997-2004. Refitted with Surface Ship Self Defense System (combat system Gen 6 Automatic), 2nd Gen IRST, F/A(21)2 Mk49 w/21 RIM-116 RAM, 3rd Gen J&D. *Harpers Ferry* 1997, *Carter Hill* by 2001, *Oak Hill* by 2004, *Pearl Harbor* completed in this configuration.
- 2008+: Estimate fitted with 3rd Gen acoustic countermeasures.
- Late 2010s: SPS-64 replaced by SPS-73.

Damage & Speed Breakdown:

Dam Pts:	0	91	181	272	326	362
Surf Speed:	22	16	11	6	0	Sinks

Whidbey Island**LSD**

Displacement: 11854 std	In Class: 8
Size Class: B/Medium	In Service: 1985
Propulsion: Diesel/CPP	Crew: 320 + 402
Electrn Cnt: 3rd Gen D	Acoustic Cnt: 2nd Gen T
Signature: Med/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 5 Automatic
P/S(R)2 Mk15 Phalanx Blk 0 (6.3A)	C
P/S(1)2 Mk38 Bushmaster 25mm	C
P/S(1)6 M2 .50 cal. (0.1L)	C
2 LCVP, 4 LCUA or 21 LCM(6) or 10 LCM(8) or 3 LCU or 64 LVTP	--
Sensors:	ES: 3rd Gen
SPS-64, SPS-67(V)1, SPS-49(V)5	J
Remarks:	

Aft pad has spots for two large helos, no hangar. Carry one LCM(6), 2 LCPL MkII, one LCVP on deck. Amphibious ship, -25% damage modifier.

- 1993: *Whidbey Island* trials ship for Surface Ship Self-Defense System with 2nd Gen IRST, 3rd Gen J&D. Combat system Gen 6 Automatic.

- 1999-2002. Seven other units refitted with Surface Ship Self Defense System, 2nd Gen IRST, 3rd Gen J&D. Combat system Gen 6 Automatic. All eight units fitted with F/A(21)2 Mk49 w/21 RIM-116 RAM

- 2008+: Estimate fitted with 3rd Gen acoustic countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	83	166	249	299	332
Surf Speed:	22	16	11	6	0	Sinks

Anchorage**LSD**

Displacement: 8200 ltshp	In Class: [5]
Size Class: B/Medium	In Service: 1969 - 2003
Propulsion: Steam Turbine	Crew: 322 + 366
Electrn Cnt: 1st Gen D	Acoustic Cnt: None
Signature: Med/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 3 Semi-Automatic
PW/SW/P/S(2)4 Mk33 3in/50//2 Mk56 (1.5)	C
P/S(1)6 M2 .50 cal. (0.1L)	C
4 LCVP, 3 LCUA or 3 LCU or 15 LCM(6) or 9 LCM(8) or 50 LVT	--
Sensors:	ES: 1st Gen
SPS-10, SPS-40, SPS-69 (LSD-38 only)	J
SPS-59/LN-66	J
Remarks:	

Anchorage, *Portland*, *Pensacola*, *Mount Vernon*, *Fort Fisher*. Carries 1 LCM(6), 1 LCP, 2 LCPL as deck cargo. Removable helo deck aft, no hangar. Can be fitted with mezzanine deck for 15 LVT with 2 LCUA or 1 LCU 1 or 12 LCM(6) or 6 LCM(8) or 65 LVT total. Typically carry 1 LCM(6) and 3 LCU. *Fort Fisher* has SPS-67 vice SPS-10. Amphibious ship, -25% damage modifier.

- 1977-78: Port Mk33 and Mk56 removed, Portside AA rating 0.5L.
- 1980s: P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A) added. ES and ECM upgraded to 2nd Gen. Combat system Gen 4 Semi-Automatic. Refitted so well deck can carry 3 LCUA as alternative load.
- 1990: Forward 2 Mk33 3 inch guns removed, leaves S(2)1 Mk33 3in/50, AA rating 0.3L.
- 1990s: P/S(1)2 Mk38 Bushmaster 25mm added. 2nd Gen Towed Acoustic Countermeasure added.
- 1993-94: Remaining Mk33 3 inch guns removed.
- 1994: SPS-10 replaced with SPS-67. *Portland* fitted with SPS-73, remainder with SPS-64.
- Decommed: *Fort Fisher* 1998, *Pensacola* 1999 (transferred to Taiwan as *Hsu Hai 2 Jun 00*), *Anchorage*, *Portland*, *Mount Vernon* 2003.

Damage & Speed Breakdown:

Dam Pts:	0	71	141	212	254	282
Surf Speed:	22	16	11	6	0	Sinks

Thomaston**LSD**

Displacement: 6880 lt	In Class: [8]
Size Class: B/Medium	In Service: 1954 - 90
Propulsion: Steam Turbine	Crew: 404 + 340
Signature: Med/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: Gen 2 Manual
PW/2P/P&PQ(2)4 Mk33 3in/50 & SW/2S/S&SQ(2)4 Mk33 3in/50//P/S 2 Mk35 (3.0)	C
4 LCVP, 3 LCU or 9 LCM (8) or 16 LCM(6) or 50 LVT	--
Sensors:	
SPS-10, SPS-6	J
Remarks:	

Helo pad aft for one large helicopter. Well deck aft. Amphibious ship, -25% damage modifier

- 1960s: P/S 2 Mk33 removed, AA rating 2.3.
- 1977: 3 Mk33 and Mk35 radars removed, AA rating 0.5L. LN-66 radar added.
- 1980s: All but *Thomaston* fitted with 2nd Gen D.
- 1980s: *Spiegel Grove*, *Alamo*, *Hermitage* fitted with P/S(R)2 Mk15 Phalanx Blk 0 (2@6.3A).

Damage & Speed Breakdown:

Dam Pts:	0	63	126	188	226	251
Surf Speed:	22	17	11	6	0	Sinks

Casa Grande (1950s)**LSD**

Displacement: 4790 std
Size Class: C/Small
Propulsion: Steam Turbine
Signature: Small/Noisy
Weapons:
 F(1)1 Mk30 5in/38 (0.7)
 PW/SW(4)2 Mk2 40mm/60 & PA/SA(2)2 Mk1 40mm/60 (0.8L)
 PW/SW/PA/SA(1)16 Mk10 20mm (1.0L)
 Aft Pad (1)1 CH-34 Choctaw
 3 LCU or 18 LCM(6)

In Class: [13]
In Service: 1943 - 71
Crew: 265 + 260
Armor Rating: 0
Cbt Sys: Gen 1 Manual

Sensors:

SPS-10

Remarks:

Also *Cabildo* class. Similar to *Ashland* class, but with different propulsion. No hangar. Amphibious ship, -25% damage modifier. Class placed in reserve after WW II. Configuration as of the 1950s, when the class was reactivated for Korean war service.

- c1960: 5 inch gun removed.

Damage & Speed Breakdown:

Dam Pts:	0	46	91	137	164	182
Surf Speed:	15	11	8	4	0	Sinks

Ashland (1950s)**LSD**

Displacement: 4790 std
Size Class: C/Small
Propulsion: Steam Recip
Signature: Small/Noisy
Weapons:
 F(1)1 Mk21 5in/38 (0.7)
 PW/SW(4)2 Mk2 40mm/60 & PA/SA(2)2 Mk1 40mm/60 (0.8L)
 3 LCU or 18 LCM(6)

In Class: [8]
In Service: 1942 - 70
Crew: 265 + 300
Armor Rating: 0
Cbt Sys: Gen 1 Manual

Sensors:

SPS-10

Remarks:

Amphibious ship, -25% damage modifier. Class placed in reserve after WW II. Configuration as of the 1950s, when the class was reactivated for Korean war service. Aft helo pad added.

- 20mm removed postwar.
- c1960: 5 inch guns removed.

Damage & Speed Breakdown:

Dam Pts:	0	46	91	137	164	182
Surf Speed:	15	11	8	4	0	Sinks

Newport**LST**

Displacement: 4975 ltshp
Size Class: B/Medium
Propulsion: Diesel/CPP
Electrn Cnt: 2nd Gen D
Signature: Med/Noisy
Weapons:
 PA/SA(2)2 Mk33 3in/50//2 SPG-50 (0.8)
 3 LCVP, 1 LCPL

In Class: [20]
In Service: 1969 - 2002
Crew: 262 + 430
Acoustic Cnt: None
Armor Rating: 0
Cbt Sys: Gen 3 Semi-Automatic

Sensors:

SPS-10, SPS-59/LN-66

Remarks:

Amphibious ship, -25% damage modifier. Can lay a causeway to land vehicles directly on land. Can beach with 500 t cargo or transport 2000 t. Aft helo pad.

- 1977-78: SPG-50 FC radars removed, AA rating 0.3L.
- Early 80s: All except *Schenectady* fitted with SPS-64 replacing SPS-59/LN-66.
- Late 80s - 94: F(R)1 Mk15 Phalanx Blk 0 (6.3A) added to all except *Barbour County*, *Boulder*, *Frederick*, *Racine*, *Schenectady*.
- 1993: Mk33 3 inch guns removed.

- 2000: USS *La Moure County* ran aground 12 Sep 00 off Chile during exercises, struck from Navy list 17 Nov, sunk as a gunfire target Jul 01.

Damage & Speed Breakdown:

Dam Pts:	0	51	101	152	182	202
Surf Speed:	20	15	10	5	0	Sinks

De Soto County**LST**

Displacement: 3859 lt
Size Class: C//Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:
 PW/SW/A(2)3 Mk33 3in/50 (0.5L)
 2 LCVP

In Class: [7]
In Service: 1957 - 89
Crew: 172 + 634
Armor Rating: 0
Cbt Sys: Gen 2 Manual

Sensors:

SPS-10

Remarks:

Improved habitability. Amphibious ship, -25% damage modifier. Helicopter pad midships. Can carry one LCM(6) as deck cargo, blocking helo pad. Can beach with 500 t cargo or transport 1825 t.

- 1972: *Graham County* reclassified as Patrol Craft Tender (AGP-1176), for *Asheville* gunboats. Deployed to Mediterranean.
- 1972: *De Soto County*, *York County* to Italy as *Grado*, *Carole*.
- 1973: *Grant County* transferred to Brazil as *Duque De Caxais*.
- Decommed: *Suffolk County*, *Wood County*, *Lorain County* 1972.

Damage & Speed Breakdown:

Dam Pts:	0	43	86	128	154	171
Surf Speed:	17	13	9	4	0	Sinks

Terrebone Parish**LST**

Displacement: 2590 lt
Size Class: C/Small
Propulsion: Diesel/CPP
Signature: Small/Noisy
Weapons:
 PW/SW/A(2)3 Mk33 3in/50//2 Mk34 (1.5)
 F/PW/SW/PA/SA(2)5 Mk10 20mm (0.4L)
 3 LCVP, 1 LCPL

In Class: [15]
In Service: 1952 - 73
Crew: 157 + 392
Armor Rating: 0
Cbt Sys: Gen 2 Manual

Sensors:

SPS-10

Remarks:

LST 1156-1170. Midships helicopter pad. Amphibious ship, -25% damage modifier. Can beach with 500 t cargo or transport 1395 t.

- 1950s: 20mm removed.
- 9 Feb 1973: *Washtenaw County* reclassified as Special Minesweeper MMS-2.

Damage & Speed Breakdown:

Dam Pts:	0	33	66	98	118	131
Surf Speed:	15	11	8	4	0	Sinks

Carronade**IFS**

Displacement: 1040 std
Size Class: D/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:
 F(1)1 Mk30 5in/38//Mk52 (0.8)
 F/A(2)2 Mk1 40mm/60 (0.5L)
 F(2)8 5" rockets

In class: [1]
In Service: 1953 - 73
Crew: 139
Armor Rating: 0
Cbt Sys: Gen 2 Manual

Sensors:

SPS-5

Remarks:

Fire support ship. Five-inch rocket magazines have CHP armor rating of 2.

- 1960 - 65: In reserve. Re-commissioned for Vietnam War.
- Jul 70: Decommissioned.

Damage & Speed Breakdown:

Dam Pts:	0	22	44	65	78	87
Surf Speed:	15	11	8	4	0	Sinks

Spearhead (ii)

Displacement: 1515 lt **In Class:** 12 + 2 + 1
Size Class: C/Small **In Service:** 2011
Propulsion: Diesel/Waterjet **Crew:** 41 + 312
Signature: Small/Quiet **Armor Rating:** 0

Sensors:

Generic x-band, s-band nav radars

EPF

Remarks:

Spearhead, Choctaw County, Millinocket, Fall River, Trenton, Brunswick, Carson City, Yuma, City of Bismarck, Burlington, Puerto Rico, Newport, Apalachicola, Cody, Point Loma. Can carry armored company or infantry battalion or 635 t cargo. Australian-designed and -built wave-piercing catamaran. Helo pad for large-sized helicopters. Treat as bring fitted with dual stabilizers. Aluminum construction, -25% damage modifier. Auxiliary, special damage modifier of -25%. Provision for PW/SW/PA/SA(1)4 M2 .50 cal. (0.1L).

• 2015: Cleared to launch LSDV.

• 2020: *Burlington* acts as tender for *Gabrielle Giffords* with onboard maintenance team.

• *Cody* and *Point Loma* have secondary medical role.

Damage & Speed Breakdown:

Dam Pts:	0	15	31	46	55	61
Spd (Loaded):	35	29	19	10	0	Sinks
Spd (Unload.):	43	32	22	11	0	Sinks

J/Intl

Joint Venture

Displacement: 1668 fl **In Class:** [1]
Size Class: D/Small **In Service:** 2001 - 08
Propulsion: Diesel/Waterjet **Crew:** 30
Signature: Small/Quiet **Armor Rating:** 0

Sensors:

Generic x-band nav radar

EPF

Remarks:

Australian-designed and -built wave-piercing catamaran. Ex-*Top Cat*, car/passenger ferry leased Oct 01 for two-year trials on suitability for military missions including logistic support, mine warfare, and special operations. Can carry 600 tons cargo or 400 tons with 570 troops and equipment over short distances (max 24 hours). The vehicle deck can carry light vehicles up to truck size. Helo pad for large-sized helicopters and hydraulic stern ramp added during refit at start of lease period. Also carries extensive communications equipment. Aluminum construction, -25% damage modifier. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	7	14	20	24	27
Spd (Lded):	38	29	19	10	0	Sinks
Spd (Unl.):	50	38	25	13	0	Sinks

J

Spearhead (i)

Displacement: 1875 fl **In Class:** [1]
Size Class: C/Small **In Service:** 2002 - 05
Propulsion: Diesel/Waterjet **Crew:** 22
Signature: Small/Quiet **Armor Rating:** 0

Sensors:

Generic x-band nav radar

EPF

Remarks:

Australian-built wave-piercing catamaran. Incat Evolution 10B. Intended as Theater Support Vessel. Helo pad for large-sized helicopters and hydraulic stern ramp. Aluminum construction, -25% damage modifier. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	7	15	22	26	29
Spd (Lded):	38	29	19	10	0	Sinks
Spd (Unl.):	42	32	21	11	0	Sinks

J

Montford Point

Displacement: 34500 **In class:** 6 + 1
Size Class: A/Large **In Service:** 2013
Propulsion: Diesel-Electric **Crew:** 34 + 250
Signature: Large/Noisy **Armor Rating:** 0

MLP/ESB/ESD

Sensors:

Generic x-band nav radar J
 SPS-77 (*Herschel Williams*) J

Remarks:

Montford Point, John Glenn, Lewis B. Puller, Herschel "Woody" Williams, Miguel Keith, John L. Canley, Robert E. Simanek. Mobile Landing Platform. One for each MPPS squadron. Operated by Military Sealift Command. Based on commercially-designed *Alaska*-class crude oil tanker. Auxiliary, -25% damage modifier. Further two ESB ordered, additional planned for two ESD and six ESB.

• *Montford Point, John Glenn* are Mobile Landing Platform (MLP) for Maritime Prepositioning Force. Serves as a transfer point for cargo by LCUs. Can partially submerge to provide docking for 3 LCUs, side ramp. Can operate safely through sea state 3.

• *Lewis B. Puller, Herschel "Woody" Williams, Miguel Keith, John L. Canley* are Expeditionary Mobile Base (ESB) to support MCM and SOF. C³ facilities and midships pad (2)2 MH-53 or (4)4 MH-60 helicopters or V-22. Can also house small craft for SOF operations. *Puller* replaced USS *Ponce* in Bahrain in 2017. *Williams* planned for Mediterranean.

• Sep 15: MLP renamed Expeditionary Mobile Dock (ESD).

• Aug 17: *Lewis B. Puller* transferred from the MSC to regular Navy as a commissioned warship so it can be armed.

• Mar 18: *Puller* operates with MH-53E.

• Sep 18: *Herschel Williams* to be fitted with SPS-77.

• 2020: Decision made to commission all ESD.

• Mar 20: *Puller* operates with Army AH-64E.

Damage & Speed Breakdown:

Dam Pts:	0	170	339	509	610	678
Surf Speed:	15	11	8	4	0	Sinks

Swift (ii)

Displacement: 1875 fl **In Class:** [1]
Size Class: C/Small **In Service:** 2003 - 13
Propulsion: Diesel/Waterjet **Crew:** 100 + 102
Signature: Small/Quiet **Armor Rating:** 0
Weapons: **Cbt Sys:** --

F(1+1)1 Mk38 Bushmaster 25mm + Mk19 40mm AGL C
 PW/SW/PA/SA(1)4 .50 cal (0.1L) C

Sensors:

2 Kelvin Hughes nav radars (use Generic nav radar) J/Intl
 3rd Gen FLIR --

Remarks:

HSV-X2 (High Speed Vessel). Australian-designed and -built wave-piercing catamaran. Equipped as mine countermeasures flagship - can refuel ships using astern method. Also used as logistics transport with stern ramp for 500 t cargo. Can carry 250 seated passengers or 128 seated and additional 87 berths. Aft Pad for medium helo. Shallow draft, treat as Size Class E on grounding table. 35 knots max loaded speed. Aluminum construction, -25% damage modifier. Warship built to mercantile standards, -15% damage modifier. Multi-hull, -25% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	11	21	32	38	42
Spd (Empty):	42	32	21	11	0	Sinks
Spd (Loaded):	35	26	18	9	0	Sinks

MCS

Osprey

Displacement: 796 lt **In Class:** [12]
Size Class: D/Small **In Service:** 1993 - 07
Propulsion: Diesel **Crew:** 51
Signature: Small/Quiet **Armor Rating:** 0
Weapons: **Cbt Sys:** Gen 2 Manual

PA/SA(1)2 M2 .50 cal. (0.1L)
 SLQ-48 ROV or sweep gear

Sensors:

SPS-64 J
 SQQ-32 MH sonar --

Remarks:

MHC 51-62. Reduced acoustic and magnetic signatures (treat as Size E-G vs influence mines). Shock hardened. Can carry SLQ-48 mine

MHC

C

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J

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disposal vehicle or sweep gear (magnetic sweep). GRP construction, -10% damage modifier.

- 1997?: Fitted with mechanical sweep.

Damage & Speed Breakdown:

Dam Pts:	0	18	36	53	64	71
Surf Speed:	12	9	6	3	0	Sinks

Bittern

Displacement: 300 std
Size Class: E/VSmall
Propulsion: Diesel/CPP
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk3 40mm/60 (0.1L)
 Sweep gear

Sensors:

Generic x-band nav radar
 SQQ-14 MH sonar

Remarks:

MHC 443. *Bittern*. Uses divers to destroy mines. Estimated as fitted with mechanical sweep gear only. Wooden construction, -35% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	6	13	19	23	25
Surf Speed:	14	11	7	4	0	Sinks

Avenger

Displacement: 1447 fl
Size Class: D/Small
Propulsion: Diesel/CPP
Signature: Small/Quiet
Weapons:

PA/SA(1)2 M2 .50 cal (0.1L)
 2 SLQ-48 ROV
 Sweep gear

Sensors:

SPS-55, SPS-66
 SQQ-30 (#1-9) or SQQ-32 (#10-14) minehunting sonar

Remarks:

MCM 1-14. Reduced magnetic and acoustic signatures (treat as Size E-G vs magnetic and acoustic mines only). SLQ-48 can be fitted with either cable cutters (moored mines) or charges (bottom mines) - max depth Int II. Can tow either acoustic/magnetic or mechanical sweep. Two *Avenger* can tow mechanical team sweep down to Deep I. Wooden hull with GRP superstructure, -10% damage modifier.
 • 1989: Fitted with SLQ-37(V)2 acoustic/mechanical sweep also.
 • 1990: MCM 1 *Avenger* fitted with prototype SQQ-32.
 • 2010: MCM 11 *Gladiator* fitted with Mk38 Bushmaster 25mm (local control, no AA).
 • 2012 - 16: Fitted with SQQ-32(V)4. Estimated SPS-73 vice SPS-66 and SLQ-60 Expendable Mine Neutralization System (EMNS) vice SLQ-48.
 • 17 Jan 13: MCM 5 *Guardian* lost after running aground.
 • 2014: MCM 1 *Avenger*, MCM 2 *Defender* decommed.

Damage & Speed Breakdown:

Dam Pts:	0	22	44	66	79	88
Surf Speed:	14	11	7	4	0	Sinks

MSB 5

Displacement: 30 lt
Size Class: F/VSmall
Propulsion: Gas Turbine
Signature: VSmall/Noisy
Weapons:

A(1)1 M2 .50 cal. (0.1L)
 Magnetic sweep

Sensors:

Generic x-band nav radar

MHC

In Class: [1]
In Service: 1957 - 72
Crew: 40
Armor Rating: 0
Cbt Sys: --

C

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J

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MSL Mk1 - 4

Displacement: 10.2 std
Size Class: G/VSmall
Propulsion: Gas Turbine
Signature: VSmall/Noisy
Weapons:

Sweep gear

Sensors:

Generic x-band nav radar

Remarks:

Mk1 *MSL* 1-4. Mk2 *MSL* 5-29. Mk3 *MSL* 30. Mk4 *MSL* 31-65. Can be fitted with acoustic or magnetic or mechanical sweep at P/S depth only. Mk1 and Mk2 are wooden construction, -35% damage modifier. Mk3 and Mk4 are GRP construction, -10% damage modifier.
 • 1967: Two Mk1 and one Mk2 fitted with diesel propulsion as Mk5.

Damage & Speed Breakdown:

DP (Mk1, 2):	--	--	--	--	--	2.6
DP (Mk1, 2):	--	--	--	--	--	3.6
Surf Speed:	10	8	5	3	0	Sinks

MSB

In Class: [56]
In Service: 1946 - 92
Crew: 4
Armor Rating: 0
Cbt Sys: --

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J

Bluebird/Falcon/Redwing/Albatross

MSC

Displacement: 320 lt
Size Class: D/Small
Propulsion: Diesel/CPP
Signature: Small/Noisy
Weapons:

F/A(1)2 Mk24 20mm (0.1L)
 Sweep Gear

Sensors:

SPS-53
 USQ-1 minehunting sonar

Remarks:

Bluebird class MSC 121, 122. *Falcon* class MSC 190-199. *Redwing* class MSC 200-209. *Albatross* class MSC 289, 290. Further 139 *Bluebird* built for export as *Adjutant* class. Wooden construction, -35% damage modifier.
 • 13 transferred to other countries.

Damage & Speed Breakdown:

DDP (B):	0	7	15	22	26	29
DP (F, A):	0	8	16	23	28	31
DP (R):	0	8	17	25	30	33
Spd (B):	14	11	7	5	0	Sinks
Spd (F, R, A):	13	10	7	3	0	Sinks

Cove

Displacement: 197 std
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

A(1)1 M2 .50 cal. (0.1L)
 Sweep Gear

Sensors:

Generic x-band nav radar

Remarks:

Cove, Cape. .50 cal. arc estimated. Can be fitted with Oropesa or magnetic sweep gear. Wooden construction, -35% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	5	10	14	17	19
Surf Speed:	12	9	6	3	0	Sinks

MSI

In class: [2]
In Service: 1958 - 71
Crew: 30
Armor Rating: 0
Cbt Sys: --

C

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J

Ability**Displacement:** 801 std**Size Class:** D/Small**Propulsion:** Diesel**Signature:** Small/Noisy**Weapons:**

F(1)1 Mk3 40mm/60 (0.1L)

Sweep Gear

Sensors:

SPS-53

USQ-1 minehunting sonar

Remarks:*Ability, Alacrity, Assurance.* Wooden construction, -35% damage modifier.• 1973: *Ability* struck.• 1973: *Alacrity, Assurance* converted to surveillance ships with SQR-15 towed array. Struck 1977.**Damage & Speed Breakdown:**

Dam Pts:	0	12	24	36	43	48
Surf Speed:	15	11	8	4	0	Sinks

Agile/Aggressive/Dash/Acme**Displacement:** 716 lt**Size Class:** D/Small**Propulsion:** Diesel**Signature:** Small/Noisy**Weapons:**

F(1)1 Mk3 40mm/60 (0.1L)

Sweep Gear

Sensors:

SPS-53

USQ-1 minehunting sonar

Remarks:*Agile* class MSO 421. *Aggressive* class MSO 422-427, 432-449, 455-474, 488-496. *Dash* MSO 428-431. *Acme* MSO 508-511. Many additional exported. Reduced magnetic signature (treat as Size E-G vs magnetic mines only). Wooden construction, -35% damage modifier.

• 1968-72: MSO 433, 437, 438, 441-443, 445, 446, 448, 449, 456, 488, 490 fitted with SQQ-14 replacing UQS-1 MH sonar. Mk68 20mm replaces 40mm.

• 1970: MSO 490 fitted with Tergiversator replacing sweep gear for exercise. Simulates aircraft carrier and escort acoustic and active sonar signatures. Treat as second generation mobile decoy.

• 1980: MSO 443 fitted with prototype SQQ-30 sonar.

Damage & Speed Breakdown:

Dam Pts:	0	12	24	36	43	48
Surf Speed:	15	11	8	4	0	Sinks

Yellowstone**Displacement:** 13318 lt**Size Class:** B/Medium**Propulsion:** Steam Turbine**Signature:** Med/Noisy**Weapons:**

PW/SW/PA/SA(2)4 Mk33 3in/50//Mk56 (1.5)

Sensors:

SPS-10, SPS-59/LN-66

Remarks:*Yellowstone, Acadia, Cape Cod, Shenandoah.* Aft pad for Large helicopter. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of Engineering critical hits.**Damage & Speed Breakdown:**

Dam Pts:	0	98	195	293	351	390
Surf Speed:	18	14	9	5	0	Sinks

Klondike**Displacement:** 8165 std**Size Class:** B/Medium**Propulsion:** Steam Turbine**In class:** [3]**In Service:** 1958 - 77**Crew:** 82**Armor Rating:** 0**Cbt Sys:** Gen 2 Manual**MSO****C****--****J****K****Signature:** Med/Noisy**Weapons:**

F(1)1 Mk24 5in/38//Mk26 (0.7)

PW/SW/PA/SA(2)4 Mk33 3in/50//Mk35 (1.3)

P/A(2)2 Mk1 40mm/60 (0.3L)

Sensors:

SPS-5

Remarks:*Klondike, Arcadia, Everglades, Frontier.* Arcadia has SPS-12 radar, removed by 1965. Auxiliary, -25% damage modifier. Originally carried 20 20mm, removed postwar. Single prop, double the speed reduction of Engineering critical hits.• Decommed: *Klondike, Everglades* 1970, *Arcadia* 1968, *Frontier* 1968.**Damage & Speed Breakdown:**

Dam Pts:	0	65	130	194	233	259
Surf Speed:	18	14	9	5	0	Sinks

Dixie (1959)**Displacement:** 9450 std**Size Class:** B/Medium**Propulsion:** Steam Turbine**Signature:** Med/Noisy**Weapons:**

PW/SW(1)2 Mk38 5in/38//Mk12/22 (1.7)

P/S(1)4 Mk24 20mm (0.3L)

Aft pad (1)1 DASH

Sensors:

SPS-10

Remarks:*Dixie, Prairie, Piedmont, Sierra, Yosemite.* Dixie commissioned in 1940, all others in 1944. Configuration as of FRAM modernization 1959-63. Helo pad and hangar aft are for servicing and rearming DASH ASW drones. Auxiliary, -25% damage modifier.

• 1974-75: Helicopter deck, hangar and 5 inch guns removed.

• Decommed: *Dixie, Piedmont* 1982, *Prairie, Sierra* 1993, *Yosemite* 1994.**Damage & Speed Breakdown:**

Dam Pts:	0	72	143	215	257	286
Surf Speed:	19	14	10	5	0	Sinks

Samuel Gompers**Displacement:** 13600 fl**Size Class:** B/Medium**Propulsion:** Steam Turbine**Signature:** Med/Noisy**Weapons:**

F(1)1 Mk30 5in/38//Mk25 (0.9)

Sensors:

SPS-10, SPS-64

Remarks:*Samuel Gompers, Puget Sound.* Helo pad aft. Also carries 2 Mk19 40mm grenade launchers. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of each Engineering critical hit.

• 1979: 5 inch gun removed, P/S(1)2 Mk67 20mm added (0.1L).

Damage & Speed Breakdown:

Dam Pts:	0	82	164	245	294	327
Surf Speed:	20	15	10	5	0	Sinks

Kilauea**Displacement:** 9238 lt**Size Class:** B/Medium**Propulsion:** Steam Turbine**Signature:** Med/Noisy**Weapons:**

PW/SW/PA/SA(2)4 Mk33 3in/50//2 Mk35 (1.5)

Aft Pad(1)2 CH-46 Sea Knight

Sensors:

SPS-10, SPS-64

In Class: [4]**In Service:** 1945 - 73**Crew:** 826**AD****Armor Rating:** 0**Cbt Sys:** Gen 1 Manual**C****C****C****J****In Class:** [5]**In Service:** 1940 - 1994**Crew:** 1262**Armor Rating:** 0**Cbt Sys:** Gen 2 Manual**AD****C****C****B****J****AD****In Class:** [2]**In Service:** 1967 - 96**Crew:** 1430**Armor Rating:** 0**Cbt Sys:** Gen 2 Manual**C****J****AE****In Class:** [8]**In Service:** 1968 - 2013**Crew:** 380**Armor Rating:** 0**Cbt Sys:** Gen 2 Manual**C****B****J**

Remarks:

Kilauea, Butte, Santa Barbara, Mount Hood, Flint, Shasta, Mount Baker, Kiska. Four replenishment stations to port, three to starboard. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier. Cargo capacity approximately 6500 tons.

- 1973: One starboard stores station fitted for conversion to fuel UN-REP. Takes 4 hours to modify between roles. Reduced to 5 minutes conversion in 1984.
- 1980: *Kilauea* disarmed, transferred to MSC.
- 1982-83: Mk33 3 inch guns removed.
- 1986-87: Combat system Gen 3 Semi-Automatic, 2nd Gen Decoys and 2nd Gen ES, F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A) added to *Flint, Shasta, Mount Baker, Kiska.*
- 1992 - 93: 2nd Gen Towed Acoustic Countermeasure added.
- Transferred to MSC with Phalanx removed: *Flint* 1995, *Butte, Kiska, Mount Baker* 1996, *Shasta* 1997, *Santa Barbara, Mount Hood* 1998.
- Struck: *Mount Hood* Aug 99, *Butte* 2004, *Santa Barbara* 2005, *Kilauea* 2008, *Mount Baker* 2010, *Shasta, Kiska* 2011, *Flint* 2013.

Damage & Speed Breakdown:

Dam Pts:	0	76	153	229	275	305
Surf Speed:	22	17	11	6	0	Sinks

Suribachi

AE

Displacement: 14000 std
Size Class: B/Medium
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen D
Signature: Med/Noisy
Weapons:
 PW/SW/2A(2)4 Mk33 3in/50//2 SPG-50 (2.3)
 P/S(1)4 M2 .50 cal. (0.1L)
Sensors:
 SPS-6
Remarks:
Suribachi, Mauna Kea, Nitro, Pyro, Haleakala. 7500 cargo in five holds including three for ammunition. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier. 3 holds configured to carry msls.
 • 1960s: Aft Pad added for Small helicopter.
 • 1977-78: SPS-6 replaced by SPS-10. SPG-50 removed, guns to local control only, AA rating 0.8L.
 • 1984: LN-66, 2nd Gen ES, 2nd Gen D added.
 • 1994: SPS-64 added.
 • Decommed: *Haleakala* 1993, *Suribachi, Pyro* 1994, *Mauna Kea, Nitro* 1995.

- 1975: SPS-40 replaced by 2 Raytheon nav radars.
- Late 70s: P/S Mk33 3 inch guns and Mk56 GFCS removed from all but *White Plains*, AA rating 0.3L.
- Early 80s: PW/SW Mk33 3 inch guns removed in all but *White Plains*.
- 1980s: *Sylvania* and *White Plains* (1982-83) have P/S Mk33 removed, 3 inch AA rating 0.5L. Fitted with 2 Mk15 Phalanx Blk 0. *Sylvania* arcs P/S (4.4A), *White Plains* F/A (2@6.3A).
- 1990: 2nd Gen ES, 2nd Gen D fitted.
- 1992-94: Transferred to MSC with Mk33, Phalanx, SPS-40, ES and decoys removed, crew reduced to 153. Remaining units receive 2nd Gen Towed Acoustic Countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	93	186	278	334	371
Surf Speed:	21	16	11	6	0	Sinks

Wrangell

AE

Displacement: 6350 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:
 A(1)1 Mk24 5in/38//Mk26 (0.7)
 PW/SW/PA/SA(2)4 Mk33 3in/50 (1.3)
 P/S(2)2 Mk1 40mm/60 (0.3L)
Sensors:
 SPS-10
Remarks:
 Auxiliary, -25% damage modifier, Fitted with 10 Mk24 20mm, removed after WW II. Single prop, double the speed reduction of Engineering critical hits.
 • 1960s: 5 inch and 40mm guns removed.
 • 1970s: *Firedrake, Mount Katmai, Paricutin*; Aft Pad (1)1 CH-46 Sea Knight replaced PA/SA Mk33 mounts.

- 1961: Fitted with midships helo pad. Moved to aft position in 1963.
- 23 Jun 75: Transferred to MSC. Mk33 removed.

Damage & Speed Breakdown:

Dam Pts:	0	60	119	179	214	238
Surf Speed:	16	12	8	4	0	Sinks

Rainier

AE

Displacement: 6350 lt
Size Class: B/Medium
Propulsion: Diesel
Signature: Med/Noisy
Weapons:
 A(1)1 Mk24 5in/38//Mk26 (0.8)
 PW/SW/PA/SA(1)4 Mk34 3in/50 (0.3L)
Sensors:
 SPS-10
Remarks:
 Unit of *Lassen* class decommed post-WW II, reactivated 1951. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of all Engineering critical hits.

- 1975: SPS-40 replaced by 2 Raytheon nav radars.
- Late 70s: P/S Mk33 3 inch guns and Mk56 GFCS removed from all but *White Plains*, AA rating 0.3L.
- Early 80s: PW/SW Mk33 3 inch guns removed in all but *White Plains*.
- 1980s: *Sylvania* and *White Plains* (1982-83) have P/S Mk33 removed, 3 inch AA rating 0.5L. Fitted with 2 Mk15 Phalanx Blk 0. *Sylvania* arcs P/S (4.4A), *White Plains* F/A (2@6.3A).
- 1990: 2nd Gen ES, 2nd Gen D fitted.
- 1992-94: Transferred to MSC with Mk33, Phalanx, SPS-40, ES and decoys removed, crew reduced to 153. Remaining units receive 2nd Gen Towed Acoustic Countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	60	119	179	214	238
Surf Speed:	15	11	8	4	0	Sinks

Mars

AF/AFS

Displacement: 9400 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:
 PW/SW/P/S(2)4 Mk33 3in/50//Mk56 (1.5)
 Aft Pad(1)2 CH-46 Sea Knight
Sensors:
 SPS-10, SPS-40, SPS-59/LN-66
Remarks:
Mars, Sylvania, Niagara Falls, White Plains, Concord, San Diego, San Jose. Carry 7000 t in five holds; #1 and #5 for spare parts, #3 and #4 for provisions, #2 for aviation spare parts. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier.

- 1975: SPS-40 replaced by 2 Raytheon nav radars.
- Late 70s: P/S Mk33 3 inch guns and Mk56 GFCS removed from all but *White Plains*, AA rating 0.3L.
- Early 80s: PW/SW Mk33 3 inch guns removed in all but *White Plains*.
- 1980s: *Sylvania* and *White Plains* (1982-83) have P/S Mk33 removed, 3 inch AA rating 0.5L. Fitted with 2 Mk15 Phalanx Blk 0. *Sylvania* arcs P/S (4.4A), *White Plains* F/A (2@6.3A).
- 1990: 2nd Gen ES, 2nd Gen D fitted.
- 1992-94: Transferred to MSC with Mk33, Phalanx, SPS-40, ES and decoys removed, crew reduced to 153. Remaining units receive 2nd Gen Towed Acoustic Countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	77	155	232	278	309
Surf Speed:	20	15	10	5	0	Sinks

Rigel

AF

Displacement: 15150 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:
 PW/SW/PA/SA(2)4 Mk33 3in/50//Mk56 (1.5)
Sensors:
 SPS-10
Remarks:
Rigel, Vega. Sensors estimated. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier.

- 1961: Fitted with midships helo pad. Moved to aft position in 1963.
- 23 Jun 75: Transferred to MSC. Mk33 removed.

Damage & Speed Breakdown:

Dam Pts:	0	106	213	319	383	425
Surf Speed:	21	16	11	5	0	Sinks

Ex-UK Lyness

Displacement: 9010 lt
Size Class: B/Medium
Propulsion: Diesel
Signature: Medium/Noisy

Sensors:

2 Generic x-band, s-band nav radars

Remarks:

Sirius, Spica, Saturn. Four cargo holds. Aft pad only. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier.

- Later fitted with twin hangars. Initially UH-46 then MH-60S.
- 2003: *Saturn* and *Spica* have two leased civil SA 330J Puma.

Damage & Speed Breakdown:

Dam Pts:	0	75	150	225	270	300
Surf Speed:	19	14	10	5	0	Sinks

AFS

In Class: [3]
In Service: 1981 (1966) - 09
Crew: 157
Armor Rating: 0

J

Blue Ridge

See LCC listing for Blue Ridge

AGC**Mount McKinley**

See LCC listing for Mount McKinley

AGC**Belmont**

Displacement: 15200
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Medium/Noisy

Weapons:

PW/SW/PA/SA(1)4 M2 .50 cal. (0.1L) (*Liberty*)

Sensors:

2 Nav radars
 ELINT, SIGINT

Remarks:

Belmont (ex-Iran Victory), *Liberty* (ex-Simmons Victory). USN designation AGTR (technical research ship). Victory ships taken over by USN in 1963 for signals intelligence service. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

- 8 Jun 67: Attacked by Israeli forces, 34 killed, 171 wounded. Decommed Jun 68.
- 1970: *Belmont* decommed.

Damage & Speed Breakdown:

Dam Pts:	0	66	131	197	236	262
Surf Speed:	16	12	8	4	0	Sinks

AGI

In Class: [2]
In Service: 1964 (1944)
Crew: 318, 358
Armor Rating: 0
Cbt Sys: --

C

J/Intl

--

Banner

Displacement: 550 ltshp
Size Class: D/Small
Propulsion: Diesel
Signature: Small/Noisy

Weapons:

P/S(1)2 M2 .50 cal. (0.1L)

Sensors:

Generic x-band nav radar
 ELINT, SIGINT

Remarks:

Banner (ex-Captain William M. Galt), *Pueblo*, *Palm Beach* (ex-Colonel Armond Peterson). USN designation AGER (environmental research ship). Single prop, double the speed reduction of Engineering critical hits. US Army *Camano*-class cargo ships taken over by USN in for signals intelligence service. *Banner* 1965, *Pueblo*, *Palm Beach* 1967.

- 23 Jan 68: *Pueblo* attacked and boarded by North Korean forces in international waters. Captured and turned into museum in Pyongyang.
- 1969: *Banner*, *Palm Beach* decommed.

Damage & Speed Breakdown:

Dam Pts:	0	16	31	47	56	62
Surf Speed:	12	9	6	3	0	Sinks

AGI

In Class: 3 - 2
In Service: 1965 (1944) - 69
Crew: 83
Armor Rating: 0
Cbt Sys: --

C

J

--

Howard O. Lorenzen

Displacement: 9543 lt
Size Class: B/Medium
Propulsion: Diesel-Electric
Electrn Cnt: ?
Signature: Medium/Noisy

Sensors:

Cobra King integrated dual-band active phased array radars
 SIGINT, ELINT

Remarks:

Replaces USNS *Observation Island*. Collects data on foreign ballistic missile tests. Mixed civilian and Navy crew, USAF and civilian personnel operate radars and mission equipment. Civilian construction, special damage modifier of -50%. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	52	104	156	187	208
Surf Speed:	20	15	10	5	0	Sinks

T-AGM

In Class: 1
In Service: 2014
Crew: 88 + p
Acoustic Cnt: ?
Armor Rating: 0
ES: 3rd Gen

J

--

Arlington

Displacement: 11373 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Loud

Weapons:

PW/SW/PA/SW(2)4 Mk33 3in/50//4 Mk34 (1.5)
 Midship Pad (1)1 HU-2 Seasprite

Sensors:

SPS-10

Remarks:

Arlington (Ex-Saipan). *Independence*-class light carrier converted to amphibious command ship. Aviation ship, does not suffer auxiliary modifier.

Damage & Speed Breakdown:

Dam Pts:	0	108	216	323	388	431
Surf Speed:	19	14	10	5	0	Sinks

AGMR

In class: [1]
In Service: 1966 - 70
Crew: 746
Armor Rating: 9/5
Cbt Sys: Gen 2 Manual

C

B

J

Impeccable

Displacement: 2809 ltshp
Size Class: C/Small
Propulsion: Diesel-Electric
Signature: Small/Quiet

Sensors:

2 Raytheon nav radars
 UQQ-2 SURTASS or TB-29L towed array

Remarks:

T-AGOS 23. Carries either UQQ-2 or TB-29L, not both at same time. Raw SURTASS data is sent via satellite to land-based processing facility. Max speed with towed array deployed is 10 kts (standard is 3 knots). Fitted with fin stabilizers. Built to commercial standards, -25% damage modifier. SWATH hull, -25% damage modifier.

- 2003: Fitted with twin line TB-29A with no left/right ambiguity and SQQ-2 active sound source.

Damage & Speed Breakdown:

Dam Pts:	0	23	46	69	83	92
Surf Speed:	15	11	8	4	0	Sinks

In Class: 1
In Service: 2001
Crew: 53
Armor Rating: 0

AGOS

J

--

Stalwart

Displacement: 1960 std
Size Class: C/Small
Propulsion: Diesel-Electric
Signature: Small/Quiet

Sensors:

Generic x-band, s-band nav radars
 UQQ-2 SURTASS towed array

Remarks:

T-AGOS 1-18. Ocean surveillance vessel, operated by MSC. Normal patrol speed is 3 knots. SURTASS information is transmitted to shore facility for processing. Built to commercial standards, -25% damage modifier. Standard displacement estimated.

AGOS

In Class: [18]
In Service: 1984 - 2004
Crew: 36
Armor Rating: 0

J

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- 1994: T-AGOS 12 *Bold* fitted with twin line TB-29A with no left/right ambiguity. Four twin-line sets available, cross decked between ships.

Damage & Speed Breakdown:

Dam Pts:	0	25	50	75	90	100
Surf Speed:	11	8	6	3	0	Sinks

Victorious

Displacement: 3100 ltshp
Size Class: C/Small
Propulsion: Diesel-Electric
Signature: Small/Quiet
Sensors:

2 Raytheon nav radars
 UQQ-2 SURTASS

Remarks:

T-AGOS 19-22. SURTASS data is not processed onboard, but sent via satellite to land-based processing facility. Max speed with towed array deployed is 10 kts (standard 3 knots). Fitted with fin stabilizers. Built to commercial standards, -25% damage modifier. SWATH hull, -25% damage modifier.

- 2005-09: Fitted with twin line TB-29A with no left/right ambiguity.
- 2011-12: Fitted with SQQ-2 low-frequency active (LFA).

Damage & Speed Breakdown:

Dam Pts:	0	25	49	74	88	98
Surf Speed:	16	12	8	4	0	Sinks

Glover

Displacement: 2620 std
Size Class: C/Small
Propulsion: Steam Turbine
Electrn Cnt: 1st Gen J
Signature: Small/Noisy
Weapons:

F(1)1 Mk30 5in/38//Mk56 (1.0)
 F(8)1 Mk16 w/8 ASROC
 PB/SB(3)2 Mk32 324mm TT w/3 Mk44
 Aft Pad (1)2 DASH

Sensors:

SPS-10, SPS-40
 SQS-26

Remarks:

Garcia-class frigate commissioned as research vessel for ASW systems. Fitted with fin stabilizers, pump jet propeller. Single prop, double the speed reduction of Engineering critical hits. No ASROC magazine. Aluminum superstructure, -15% damage modifier. Fitted with prototype NTDS.

- 1967: Mk44 torp replaced by Mk46.
- 1968: Fitted with SQS-35 VDS.
- 1975: Operational with the fleet. Redesignated AGFF, then FF in 1979.
- 1988: Refitted, received LFAS (Low Frequency Active Sonar) and RMAS sonars for trials.

Damage & Speed Breakdown:

Dam Pts:	0	35	69	104	124	138
Surf Speed:	27	20	14	7	0	Sinks

Haven

Displacement: 11141 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

Aft Pad(1)1 small helicopter

Sensors:

Generic x-band nav radar

Remarks:

C4-S-B2 class hospital ships. Auxiliary, -25% damage modifier Single prop, double the speed reduction of Engineering critical hits.

- 25 Aug 50: *Benevolence* lost in a collision with freighter off San Francisco.
- 1953: Fitted with helo pad aft.

AGOS

In Class: 4
In Service: 1991
Crew: 34
Armor Rating: 0

J

--

AGDE

In class: [1]
In Service: 1965 - 90
Crew: 309
Acoustic Cnt: 1st Gen
Armor Rating: 0
Cbt Sys: Gen 4 Semi-Automatic

C

E

F

B

J

K

AH

In Class: [6]
In Service: 1944 - 89
Crew: 700 + 800
Armor Rating: 0
Cbt Sys: --

B

J

Damage & Speed Breakdown:

Dam Pts:	0	80	160	239	287	319
Surf Speed:	18	14	9	5	0	Sinks

Bob Hope

Displacement: 34408 ltshp
Size Class: A/Large
Propulsion: Diesel
Signature: Large/Noisy
Sensors:

Generic x-band nav radar

Remarks:

Bob Hope, Fisher, Seay, Mendonca, Pillaau, Brittin, Benevidez. Large Medium-Speed Roll-on Sealift Ships (LMSR). Part of Brigade Afloat Force, carrying US Army heavy equipment for use in Middle and Far East. Operated by civilian contractors. Aft helo pad for large helicopter. Can carry 13260 tons cargo. Can carry 1000 military vehicles on 380,000 sq ft cargo space. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	122	245	367	440	489
Surf Speed:	24	16	12	6	0	Sinks

Shughart

Displacement: 33971 ltshp
Size Class: A/Large
Propulsion: Diesel
Signature: Large/Noisy
Sensors:

Sperry-ARPA nav radar (use generic x-band nav radar)

Remarks:

Shughart, Yano, Soderman (ex-Lica Maersk). Former 3000-TEU container ships. Large Medium-Speed Roll-on Sealift Ships (LMSR). Part of Prepositioning Force, carrying Army heavy equipment. Large helo platform aft of pilothouse. Operated by civilian contractors. Can carry 13260 tons cargo. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

- 2000-1: *Soderman* Converted to Advanced Prepositioning ship, renamed *Gunnery Sergeant Fred W. Stockham*.

Damage & Speed Breakdown:

Dam Pts:	0	121	243	364	437	485
Surf Speed:	24	16	12	6	0	Sinks

Gordon

Displacement: 33163 ltshp
Size Class: A/Large
Propulsion: Diesel
Signature: Large/Noisy
Sensors:

Sperry-ARPA nav radar (use generic x-band nav radar)

Remarks:

Gordon, Gilliland. Former 3000-TEU container ships. Large Medium-Speed Roll-on Sealift Ships (LMSR). Part of Maritime Prepositioning Force, carrying Army heavy equipment. Helo platform forward of pilot-house. Fitted with fin stabilizers. Operated by civilian contractors. Can carry 13260 tons cargo. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	120	239	359	430	478
Surf Speed:	24	16	12	6	0	Sinks

SL7

Displacement: 48525 grt
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy
Sensors:

2 Nav radar

Remarks:

Algol, Bellatrix, Denebola, Pollux, Altair, Regulus, Capella, Antares. Can carry 25000 t cargo. Large midships helo deck. Civilian construc-

AK

J

AK

J

AK

J

AK

J/Intl

tion, -50% damage modifier.

- 1 Oct 08: Transferred to Ready Reserve Fleet.

Damage & Speed Breakdown:

Dam Pts:	0	117	234	351	421	468
Surf Speed:	33	25	17	8	0	Sinks

James E. Robinson

T-AK

Displacement: 15589 fl
In Class: [1]
Size Class: B/Medium
In Service: 1950 (1944) - 76
Propulsion: Steam Turbine
Crew: 99
Signature: Med/Noisy
Armor Rating: 0

Sensors:

Generic x-band nav radar

J

Remarks:

VC2-S-AP2 class Victory ship SS Czechoslovakia Victory, acquired by USN in 1950. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier

- 1976: Transferred to National Defense Reserve Fleet.

Damage & Speed Breakdown:

Dam Pts:	0	60	120	179	215	239
Surf Speed:	15	11	8	4	0	Sinks

Charleston

AKA

Displacement: 13727 lt
In class: [5]
Size Class: B/Medium
In Service: 1968 - 94
Propulsion: Steam Turbine
Crew: 336 + 226
Signature: Med/Noisy
Armor Rating: 0

Weapons:

PA/SA/P/S(2)4 Mk33 3in/50//2 Mk56 (1.5)

C

Aft Pad (1)1 CH-46 Sea Knight

B

4 LCM(8), 5 LCM(6), 2 LCVP or LCPL

--

Sensors:

SPS-10, SPS-59/LN-66

J

Remarks:

Charleston, Durham, Mobile, St. Louis, El Paso. Can carry 5280 t cargo in four holds. Helo pad aft, no hangar. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

- 1 Jan 69: Redesignated LKA.
- 1970s: 1st Gen ES, ECM added.
- 1970s: *El Paso* had 1st Gen ACM added.
- 1977 - 78: One Fwd Mk33, Mk56 GFCS removed. AA rating 0.5L.
- Late 80s: F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A), 2nd Gen ES, 3rd Gen D added.
- Decommed: *Charleston, St. Louis* 1992, *Durham, Mobile, El Paso* 1994.

Damage & Speed Breakdown:

Dam Pts:	0	100	199	299	358	398
Surf Speed:	22	17	11	6	0	Sinks

Tulare

AKA

Displacement: 9050 lt
In class: [1]
Size Class: B/Medium
In Service: 1956 - 86
Propulsion: Steam Turbine
Crew: 393 + 319
Signature: Med/Noisy
Armor Rating: 0

Weapons:

2F/PA/SA/PQ/SQ(2)6 Mk33 3in/50//2 Mk52 (3.0)

C

Aft Pad (1)1 CH-34 Choctaw

B

4 LCM(8), 5 LCM(6), 11 LCVP or LCPL

--

Sensors:

SPS-6, SPS-10

J

Remarks:

C4-S-1A. Auxiliary, -25% damage modifier. Helo pad aft. Carries cargo in five holds. Single prop, double the speed reduction of Engineering critical hits.

- 1 Jan 1969: Re-designated LKA.
- 1977 - 78: Fitted with LN-66 radar.
- 1992: Transferred to NDRF. Struck 2011.

Damage & Speed Breakdown:

Dam Pts:	0	75	151	226	271	301
Surf Speed:	22	17	11	6	0	Sinks

Tolland

AKA

Displacement: 8635 lt
In class: [6]
Size Class: B/Medium
In Service: 1945 - 70
Propulsion: Steam Turbine
Crew: 395 + ?
Signature: Med/Noisy
Armor Rating: 0

Weapons:

2F/P/S(2)4 Mk33 3in/50//2 Mk34 (2.3)

C

Aft Pad (1)1 CH-34 Choctaw

B

8 LCM(6), 14 LCVP

--

Sensors:

SPS-6, SPS-10

J

Remarks:

Rankin, Seminole, Skagit, Union, Vermission, Washburn. Survivors of 32-ship class. Type C2-S-AJ3. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier.

- 1 Jan 1969: Re-designated LKA.
- 1970: All three decommed.

Damage & Speed Breakdown:

Dam Pts:	0	73	146	219	263	292
Surf Speed:	16	12	8	4	0	Sinks

Andromeda

AKA

Displacement: 6556 lt
In class: [30]
Size Class: B/Medium
In Service: 1944 - 73
Propulsion: Steam Turbine
Crew: 368 + 78
Signature: Med/Noisy
Armor Rating: 0

Weapons:

A(1)1 Mk24 5in/38//? (0.9)

C

PW/SW/PA/SA(2)4 Mk33 3in/50//2 Mk34 (1.5)

C

8 LCM(6), 1 LCPL, 13 LCVP

--

Sensors:

SPS-10

J

Remarks:

C2-S-B1 type. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier.

- 1 Jan 1969: Re-designated LKA.

Damage & Speed Breakdown:

Dam Pts:	0	61	122	182	219	243
Surf Speed:	16	12	8	4	0	Sinks

Lewis and Clark

T-AKE

Displacement: 41592 fl
In class: 12 + 2
Size Class: A/Large
In Service: 2006
Propulsion: Diesel-Electric
Crew: 172
Electrn Cnt: 3rd Gen D
Acoustic Cnt: 2nd Gen T
Signature: Large/Noisy
Armor Rating: 0

Weapons:

Aft Pad (1)2 MH-60S

B

Sensors:

BridgeMaster E (use Decca 2000 series)

J/UK

Remarks:

T-AKE 1-14. Single prop, double the speed reduction of Engineering critical hits. Auxiliary, -25% damage modifier. Built to mercantile standards, special damage modifier of -15%.

- 2008+: Estimate fitted with 3rd Gen acoustic countermeasures.

Damage & Speed Breakdown:

Dam Pts:	0	138	276	413	496	551
Surf Speed:	20	15	10	5	0	Sinks

Watson

AKR

Displacement: 36114 std
In Class: 8
Size Class: A/Large
In Service: 1998
Propulsion: Gas Turbine
Crew: 25+300
Signature: Large/Noisy
Armor Rating: 0

Sensors:

Generic x-band nav radar

J

Remarks:

Watson, Sisler, Dahl, Red Cloud, Charlton, Watkins, Pomeroy, Soderman. Large Medium-Speed Roll-on Sealift Ships (LMSR). Part of

Brigade Afloat Force, carrying US Army heavy equipment for use in Middle and Far East. Operated by civilian contractors. Can carry 13260 tons cargo including 58 tanks, 48 tracked vehicles and 900 trucks. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	117	233	350	419	466
Surf Speed:	24	16	12	6	0	Sinks

Commencement Bay

AKV

Displacement: 11373 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Loud
Weapons:
 2 Elevators
Sensors:
 Generic x-band nav radar
Remarks:
 Used as aircraft ferries 1965 to 1970, reclassified to T-AKV. Armament removed before re-activation.

Damage & Speed Breakdown:

Dam Pts:	0	108	216	323	388	431
Surf Speed:	19	14	10	5	0	Sinks

Bogue

T-AKV

Displacement: 9800 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Loud
Weapons:
 2 Elevators
Sensors:
 SPS-10
Remarks:
 Used as aircraft ferries. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.
 • 2 May 64: *Card* sunk at Saigon, raised and repaired.

Damage & Speed Breakdown:

Dam Pts:	0	49	98	146	176	195
Surf Speed:	18	14	9	5	0	Sinks

John Lewis

AO

Displacement: 49850 fl
Size Class: A/Large
Propulsion: Diesel/CPP
Electrn Cnt: None
Signature: Large/Noisy
Weapons:
 P/S(1)2 Mk38 Bushmaster 25mm (est)
Sensors:
 Generic x-band nav radar
Remarks:
John Lewis, Harvey Milk, Earl Warren, Robert F. Kennedy, Lucy Stone, Sojourner Truth. Provision for point defense weapons and torpedo defense system. Fitted with degaussing system. Helo pad aft. Auxiliary, -25% damage modifier. Built to mercantile standards, -15% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	156	311	467	560	622
Surf Speed:	20	15	10	5	0	Sinks

Henry J. Kaiser

AO

Displacement: 9500 lt
Size Class: B/Medium
Propulsion: Diesel/CPP
Signature: Med/Noisy
Sensors:
 2 Raytheon R series
Remarks:
 T-AO 187-190, 193-204. Provision for F/A(R)2 Mk15 Phalanx

(2@4.4A), acoustic countermeasures and 3rd Gen ES. Helo pad aft, no helicopter refueling facilities. Civil construction, -50% damage modifier.

- 1996: *Higgins* to reserve. Sold to Chile in 2009.

Damage & Speed Breakdown:

Dam Pts:	0	52	104	155	186	207
Surf Speed:	20	15	10	5	0	Sinks

Cimarron (ii)

AO

Displacement: 27500 fl
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy
Weapons:
 F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A)
 P/S(1)4 M2 .50 cal. (0.1L)
Sensors:
 SPS-55, LN-66
Remarks:
Cimarron, Monongahela, Merrimack, Willamette, Platte. *Cimarron* and *Monongahela* were not completed with Phalanx. Helo pad aft. Four RAS stations to port, three to starboard. *Willamette* and *Platte* have SPS-10 vice SPS-55. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of Engineering critical hits.
 • 1990 - 92: Jumboized, with increased fuel and ammo capacity. Displacement 36814 fl. *Cimarron* and *Monongahela* received Phalanx armament.
 • 1992-93: 2nd Gen D, 2nd Gen ES added.
 • 1994: SPS-64 replaced LN-66.

Damage & Speed Breakdown:

Dam Pts:	0	131	262	392	471	523
Dam Pts ('92):	0	159	318	476	572	635
Surf Speed:	20	15	10	5	0	Sinks

Shenandoah/Potomac

AO

Displacement: 15739 gwt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:
 Generic x-band nav radar
Remarks:
 Laid down as SS *Shenandoah*, completed with aft section of USNS *Potomac* (T-AO 150). Chartered by MSC in Oct 64. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.
 • 1964 Chartered and operated by MSC.
 • 1976: Purchased by US Navy, renamed USNS *Potomac* (T-AO-181).
 • Mar 85: Transferred to Ready Reserve Fleet as SS *Potomac*.
 • 1985 - 86: Trials ship for Offshore Product Discharge System (OPDS).
 • 1990: Chartered by Navy, transferred to Maritime Prepositioning Force.
 • 2000: Returned to Ready Reserve Force.
 • 2006: Transferred to reserve.

Damage & Speed Breakdown:

Dam Pts:	0	55	111	166	199	221
Surf Speed:	17	13	9	4	0	Sinks

Maumee

AO

Displacement: 7800 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:
 Generic x-band nav radar
Remarks:
Maumee, Potomac, Shoshone, Yukon. Single prop, double the speed reduction of Engineering critical hits. TS-S-12A. Auxiliary, -25% damage modifier.

- 26 Sep 61: *Potomac* destroyed in pierside fire and explosions. Rebuilt, listed separately.
- Mid-80s: Decommed.

Damage & Speed Breakdown:

Dam Pts:	0	69	138	207	248	276
Surf Speed:	18	14	9	5	0	Sinks

Neosho

AO

Displacement: 11600 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

In Class: [6]
In Service: 1954 - 92
Crew: 324
Armor Rating: 0
Cbt Sys: Gen 2 Manual

F/A(1)2 Mk30 5in/38 (1.7)
 PW/SW/P/S/PA/SA(2)6 Mk33 3in/50//6 Mk34 (2.3)

C

C

Sensors:

SPS-10, Raytheon 1650 (Raytheon R series)

J

Remarks:

Neosho, *Mississinewa*, *Hassayampa*, *Kawishiw*, *Truckee*, *Ponchatoula*.
 Hello pad aft except in *Ponchatoula*, *Kawishiw*. Auxiliary, -25% damage modifier

- 1969: 5 inch guns removed.
- ? : 3 inch gun battery reduced to P/S(2)2, AA rating 0.8.
- Mid-70s: Disarmed and transferred to MSC.
- Early 90s: Decommed.

Damage & Speed Breakdown:

Dam Pts:	0	89	178	267	320	356
Surf Speed:	20	15	10	5	0	Sinks

Misplillon

AO

Displacement: 7470 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

In Class: [5]
In Service: 1945 - 91
Crew: 290
Armor Rating: 0
Cbt Sys: Gen 2 Manual

A(1)1 Mk30 5in/38//? (0.8)
 P/S(2)4 Mk1 40mm/60 (0.5L)
 P/S(2)4 Mk24 20mm (0.5L)

C

C

C

Sensors:

Generic x-band nav radar

J

Remarks:

Misplillon, *Navasota*, *Passumpsic*, *Pawcatuck*, *Waccamaw*. Auxiliary,
 -25% damage modifier. Single prop, double the speed reduction of
 Engineering critical hits.

- 1963-64: Class jumboized. Lightship displacement 11000 t. Gun armament PW/SW/PA/SA(1)4 Mk34 3in/50, AA rating 0.8. Vertrep platform added forward.
- 1973-75: Transferred to MSC, disarmed, manning reduced to 110.
- Decommed: *Waccamaw* 1989, *Misplillon* 1990; *Navasota*, *Passumpsic*, *Pawcatuck* 1991.

Damage & Speed Breakdown:

Dam Pts:	0	66	133	199	239	265
Dam Pts ('64):	0	86	172	257	309	343
Surf Speed:	18	14	9	5	0	Sinks

Ashtabula

AO

Displacement: 7470
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

In Class: [17]
In Service: 1943 - 92
Crew: 372
Armor Rating: 0
Cbt Sys: Gen 1 Manual

A(1)1 Mk24 5in/38 (0.6)
 PW/SW/PA/SA(2)4 Mk1 40mm/60 (0.5L)
 PW/SW/PA/SA(1)4 Mk10 20mm (0.3L)

C

C

C

Sensors:

ES: 2nd Gen

Generic x-band nav radar

J

Remarks:

Type T3-S2-A1. Eighteen built, one sunk during WW II. Auxiliary,
 -25% damage modifier. Single prop, double the speed reduction of
 Engineering critical hits.

- Three ships jumboized: Lightship displacement 11000 t. Gun armament PW/SW/PA/SA(1)4 Mk34 3in/50, AA rating 0.8. Vertrep platform added forward. *Ashtabula* 1968, *Caloosahatchee* 1966, *Canisteo* 1967.

- Decommed: One in 1969, three in 1970, one in 1972, six in 1973, one in 1975, two in 1982, one in 1989, one in 1990, one in 1992.

Damage & Speed Breakdown:

Dam Pts:	0	66	133	199	239	265
Dam Pts ('66):	0	86	172	257	309	343
Surf Speed:	18	14	9	4	0	Sinks

Suamico

AO

Displacement: 5730 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:

In class: [25]
In Service: 1942 - 76
Crew: 274
Armor Rating: 0

Generic x-band nav radar

J

Remarks:

T2-SE-A1. Disarmed post-WW II. Operated by MSC as petroleum transports. Auxiliary, -25% damage modifier. Single prop, double the speed reduction Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	56	111	167	200	222
Surf Speed:	16	12	8	6	0	Sinks

Cimarron (i)

AO

Displacement: 7470
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

In Class: [7]
In Service: 1939 - 74
Crew: 304
Armor Rating: 0
Cbt Sys: Gen 1 Manual

F/A(1)2 Mk30 5in/38 & P&S/A(1)2 Mk24 5in/38 (2.8)
 PW/SW/PA/SA (2)4 Mk1 40mm/60 (0.5L)
 PW/SW/PA/SA (1)4 Mk10 20mm (0.3L)

C

C

C

Sensors:

Generic x-band nav radar

J

Remarks:

Cimarron (i), *Platte*, *Sabine*, *Salamonie*, *Kaskaskia*, *Chemung*, *Guadeloupe*. Type T3-S2-A1. Twelve built, four converted to escort carriers in 1942, one other sunk during WW II. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

- Decommed: *Cimarron*, *Salamonie*, *Kaskaskia* 1969, *Platte*, *Sabine*, *Chemung* 1970, *Guadeloupe* 1974.

Damage & Speed Breakdown:

Dam Pts:	0	66	133	199	239	265
Surf Speed:	18	14	9	4	0	Sinks

Kennebec

AO

Displacement: 6013 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

In class: [9]
In Service: 1961 (1942) - 70
Crew: 50
Armor Rating: 0
Cbt Sys: Gen 2 Manual

F/A(2)4 Mk1 40mm/60 (1.0L)

C

Sensors:

Generic x-band nav radar

J

Remarks:

Kennebec, *Merrimack*, *Kankakee*, *Mattaponi*, *Monongahela*, *Tappahanok*, *Neches*, *Enoree*, *Niobrara*. T2 type. Sixteen built, decommed post-WW II, nine reactivated in 1961 with listed armament. Auxiliary, -25% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	57	115	172	206	229
Surf Speed:	16	12	8	6	0	Sinks

Supply

AOE

Displacement: 19700 lt
Size Class: A/Large

In Class: 4 - 2
In Service: 1994

Propulsion: COGAG
Electrn Cnt: 3rd Gen J&D
Signature: Large/Noisy
Weapons:
 F(8)1 Mk29 NATO Sea Sparrow w/8 RIM-7M//2 Mk95
 F/A(R)2 Mk15 Phalanx Blk 0 (2@6.3A)
 P/S(1)4 M2 .50 cal (0.1L)
 PB/SB(1)2 Mk38 Bushmaster 25mm
 Aft Pad(1)3 CH-46 Sea Knight
Sensors:
 SPS-64, SPS-67, Mk23 TAS
Remarks:
 Supply, Rainer, Arctic, Bridge. 11 RAS stations. Five FAS, 6 RAS. Can carry 156000 barrels fuel, 250 tons non-reefer bulk, 400 t reefer cargo, 2450 t dry stores, 1800 t ammo. CBR defenses. Improved Sacramento design. Auxiliary, -25% damage modifier. Treat as a warship for turning and acceleration and deceleration.
 • 2002: MH-60S replaced CH-46.
 • Disarmed, transferred to MSC 2001-2004. Crew reduced to 235. Mk23 TAS removed.
 • To reserve: Rainer 2015, Bridge 2018.

Damage & Speed Breakdown:

Dam Pts:	0	127	253	380	455	506
Surf Speed:	26	20	13	6	0	Sinks

Sacramento**AOE**

Displacement: 18700 ltshp
Size Class: A/Large
Propulsion: Steam Turbine
Electrn Cnt: 2nd Gen J&D
Signature: Large/Loud
Weapons:
 PW/SW/PA/SA(2)4 Mk33 3in/50 //2 Mk56 (1.8)
 Aft Pad(1)2 CH-46 Sea Knight
Sensors:
 SPS-10, SPS-6C (AOE-3, 4), SPS-40A (AOE-1, 2)
Remarks:
 Sacramento, Camden, Seattle, Detroit. Auxiliary, -25% damage modifier. Treat as a warship for turning, acceleration and deceleration.
 • 1976: F(8)1 Mk29 w/8 NATO Sea Sparrow RIM-7H//2 Mk95 replaced PW/SW(2)2 Mk33 3 inch guns. Both Mk56 directors removed. Remaining two guns fire in local control, AA rating 0.3L.
 • 1981: PA/SA(2)2 Mk33 3 inch guns replaced by PA/SA(R)2 Mk15 Phalanx Blk 0, AA rating 2@6.3A.
 • 1985-87: SPS-6 removed from Seattle, Detroit. Mk23 TAS fitted to Seattle. SPS-64 added. RIM-7M replaced RIM-7H. Combat system Gen 5 Automatic.
 • 1988-89: ECM upgraded to 3rd Gen J&D, ES to 3rd Gen, 2nd Gen Towed acoustic countermeasures added.
 • 1999: All have Mk23 TAS added, SPS-40 removed. Disarmed.
 • Decomm: Sacramento 2004, Camden, Seattle, Detroit 2005.

Damage & Speed Breakdown:

Dam Pts:	0	122	245	367	440	489
Surf Speed:	26	20	13	6	0	Sinks

Wichita**AOR**

Displacement: 14054 ltshp
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:
 Aft Pad(1)2 CH-46 Sea Knight
 PW/SW/PA/SA(2)4 Mk33 3in/50//4 Mk56 (1.5)
Sensors:
 SPS-10
Remarks:
 Wichita, Milwaukee, Kansas City, Savannah, Wabash, Kalamazoo, Roanoke. Auxiliary, -25% damage modifier.
 • 1987: Mk33 3 inch guns removed. PW/SW(R)2 Mk15 Phalanx Blk 0 (2@6.3A), A(8)1 Mk29 NATO Sea Sparrow w/8 RIM-7M//2 Mk95 installed on all but Wichita. ES upgraded to 2nd Gen, ECM upgraded

to 2nd Gen J&D. SPS-10 replaced by SPS-64, SPS-67(V)1. Mk23 TAS installed on Wabash, Kalamazoo. Combat system Gen 4 Semi-Automatic.

- 1990: 2nd Gen towed acoustic countermeasures added.
- Decomm: Wichita 1993; Milwaukee, Kansas City, Wabash 1994; Savannah, Roanoke 1995; Kalamazoo 1996.

Damage & Speed Breakdown:

Dam Pts:	0	101	202	303	364	404
Surf Speed:	20	15	10	5	0	Sinks

Barrett**T-AP**

Displacement: 17600 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:
 Generic x-band nav radar
Remarks:
 Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier
 • 1973: Converted to a training ship for State University of New York maritime College, renamed Empire State VI.

Damage & Speed Breakdown:

Dam Pts:	0	72	145	217	260	289
Surf Speed:	19	14	10	5	0	Sinks

General G.O. Squier**T-AP**

Displacement: 10034 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:
 Generic x-band nav radar
Remarks:
 Twenty-five units of class, acquired by MSTS Aug 50. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	50	99	149	178	198
Surf Speed:	17	13	9	4	0	Sinks

General John Pope**T-AP**

Displacement: 11828 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:
 Generic x-band nav radar
Remarks:
 P2-S2-R2. Eleven built, five transferred to US Navy after WW II and another five later transferred to MSTS in 1949. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	55	111	166	199	221
Surf Speed:	20	15	10	5	0	Sinks

General Daniel L. Sultan**T-AP**

Displacement: 9676 std
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Sensors:
 Generic x-band nav radar
Remarks:
 Eight unnamed Army transports decommissioned and taken over by the US Navy and transferred to the MSTS in 1950. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	49	97	146	175	194
Surf Speed:	19	14	10	5	0	Sinks

Paul Revere

Displacement: 10709 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

PA/SA/PQ/SQ(2)4 Mk33 3in/50//4 Mk34 (1.5)

Aft Pad (1)1 CH-46 Sea Knight

6 LCM(6), 5 LCPL, 10 LCVP

Sensors:

SPS-10, SPS-6 (*Paul Revere*)

SPS-10, SPS-40 (*Francis Marion*)

Remarks:

Paul Revere, Francis Marion. Converted from C4-S-1A cargo vessels, Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

• 1 Jan 69: Re-designated LPA.

• 1970s: Two Mk33 and all Mk34 radars removed, remaining two Mk33 fire in local control. AA rating 0.3L.

Damage & Speed Breakdown:

Dam Pts:	0	56	113	169	203	225
Surf Speed:	22	17	11	6	0	Sinks

APA

In class: [2]
In Service: 1958-80
Crew: 539 + 2078
Armor Rating: 0
Cbt Sys: Gen 2 Manual

C

B

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J

J

Weapons:

F(1)1 Mk30 5in/38//Mk52 (0.9)

4 LCVP

Sensors:

SPS-5

Remarks:

About ten remain in service in the mid-1950s. *Rudderow* class DE converted to APD during construction.

• 1 Jan 1969: Designation changed to LPR.

Damage & Speed Breakdown:

Dam Pts:	0	27	55	82	98	109
Surf Speed:	23	17	12	6	0	Sinks

Cbt Sys: Gen 2 Manual

C

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J

Haskell

Displacement: 6750 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

F(4)1 Mk2 40mm/60 &

PW/SW/PA/SA(2)4 Mk1 40mm/60 (1.0L)

2 LCM(6), 12 LCVP, 3 LCPU

Sensors:

Generic x-band nav radar

Remarks:

Victory ship hull. About fifty remained in service in the mid-1950s. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. Originally fitted with F(1)1 Mk30 5in/38, 20mm, removed in the early 1950s.

• 1 Jan 1969: Re-designated LPA.

Damage & Speed Breakdown:

Dam Pts:	0	41	83	124	149	165
Surf Speed:	17	13	9	4	0	Sinks

APA

In class: [177]
In Service: 1944 - 60s
Crew: 536 + 1560
Armor Rating: 0
Cbt Sys: Gen 2 Manual

C

--

J

Safeguard

Displacement: 2725 ltshp

Size Class: C/Small

Propulsion: Diesel

Signature: Small/Noisy

Sensors:

SPS-64, SPS-69

Remarks:

Safeguard, Grasp, Salvor, Grapple. Auxiliary, -25% damage modifier.

• Transferred to MSC 2006 - 07.

Damage & Speed Breakdown:

Dam Pts:	0	34	68	101	122	135
Surf Speed:	14	10	7	4	0	Sinks

In Class: [4]
In Service: 1985 - 07
Crew: 87
Armor Rating: 0
ES: 2nd Gen

ARS

J

Bayfield

Displacement: 8100 lt
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy
Weapons:

A(2)2 Mk1 40mm/60 (0.5L)

Sensors:

Generic x-band nav radar

Remarks:

About six remained in service in the mid-1950s. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits. Originally fitted with F/A(1)2 Mk30 5in/38, 20mm, removed in the early 1950s.

• 1 Jan 1969: Re-designated LPA.

Damage & Speed Breakdown:

Dam Pts:	0	47	94	140	168	187
Surf Speed:	18	14	9	5	0	Sinks

APA

In class: [34]
In Service: 1943 - 69
Crew: 575 + 1226
Armor Rating: 0
Cbt Sys: Gen 2 Manual

C

J

Hunley

Displacement: 19000

Size Class: A/Large

Propulsion: Diesel-Electric

Signature: Large/Noisy

Weapons:

P/S(2)2 Mk33 3in/50//2 Mk34 (0.8)

Sensors:

SPS-10, SPS-59/LN-66

Remarks:

Hunley, Holland. Built to service Polaris missile subs. Helo pad aft.

Auxiliary, -25% damage modifier

• ? : Three inch guns replaced by PW/SW/PA/SA(1)4 Mk67 20mm (0.1L).

• By 1980: disarmed.

Damage & Speed Breakdown:

Dam Pts:	0	114	228	341	410	455
Surf Speed:	18	14	9	5	0	Sinks

In Class: [2]
In Service: 1961 - 94
Crew: 650 + 550
Armor Rating: 0
Cbt Sys: Gen 2 Manual

AS

C

J

Crosley

Displacement: 1450 std
Size Class: D/Small
Propulsion: Steam Turbine
Signature: Small/Noisy

In class: [51]
In Service: 1944 - 70
Crew: 207 + 160
Armor Rating: 0

APD**Fulton**

Displacement: 9734 std
Size Class: B/Medium
Propulsion: Diesel
Signature: Med/Noisy

In Class: [7]
In Service: 1941 - 92
Crew: 1300
Armor Rating: 0

AS

Weapons: F/A(1)4 Mk30 5in/38//Mk25 (3.4) C
PW/SW/PA/SA/A(2)5 40mm/60 (0.8L) C

Sensors: SPS-10, SPS-59/LN-66 (est)

Remarks: *Fulton, Sperry, Bushnell, Howard W. Gilmore, Nereus, Orion, Proteus.*
Built with twenty 20mm, removed postwar. 40mm arcs estimated.
Auxiliary, -25% damage modifier.
• 1959 - 61: Class modernized to support ballistic missile subs.
Displacement 10234 std. Forward 5 inch guns removed, AA rating 1.7.
Bushnell, Nereus only have F(1)1 5in/38, AA rating 0.9. PW/SW/PA/SA(1)4 Mk67 20mm (0.1L) added. Helo pad aft.

Damage & Speed Breakdown:

Dam Pts:	0	73	146	219	263	292
Dam Pts ('60s):	0	75	151	226	271	301
Surf Speed:	15	11	8	4	0	Sinks

Barnegat **APV**
Displacement: 1766 std
Size Class: C/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons: F(4)1 Mk2 40mm/60 & P/S(2)2 Mk1 40mm/60 (0.8L) C
Sensors: SPS-10 J
Remarks: *Duxbury Bay, Greenwich Bay, and Valcour* served as flagships for the Middle East Force/Persian Gulf Command, on a rotating basis from 1949 until 1965. Auxiliary, -25% damage modifier.
• 1962: *Valcour*; SA radar replaced by SPS-12, Mk2 40mm removed.
• Dec 1965 - Jul 1972: *Valcour* redesignated as AGF-1, served as permanent command ship.

Damage & Speed Breakdown:

Dam Pts:	0	23	47	70	84	93
Surf Speed:	18	12	8	4	0	Sinks

Guardian **YAGR**
Displacement: 3600 std
Size Class: C/Small
Propulsion: Steam Turbine
Signature: Small/Noisy
Weapons: PW/SW(2)2 Mk33 3in/50//Mk56 (0.8) C
Sensors: SPS-8, SPS-12, SPS-17A J
Remarks: WW II conversions of Liberty ships to YAGR. Part of the Continental Air Defense. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	25	50	75	90	100
Surf Speed:	11	8	6	3	0	Sinks

US COAST GUARD

Berthoff **WMSL**
Displacement: 4600 fl
Size Class: C/Small
Propulsion: CODOG/CPP
Electrn Cnt: 4th Gen J&D
Signature: Small/Noisy
Weapons: F(1)1 Mk110 57mm//SPQ-9B C
A(R)1 Mk15 Phalanx Blk IA (9.5A) C
PW/SW/PA/SA(1)4 M2 .50 cal. (0.1L) C
P/S(1)2 M240B 7.62mm (0.1L) C
Aft Pad(1)2 MH-65C Dolphin or MH-60T B

In Class: 9 + 2
In Service: 2008
Crew: 113
Acoustic Cnt: None
Armor Rating: 0
Cbt Sys: Gen 5 Automatic

Sensors: SPS-73, SPS-75, SPQ-9B J
SPS-79 (use Generic x-band nav radar) J
Link 11 L
4th Gen FLIR --

Remarks: *Berthoff, Watsche, Stratton, Hamilton, James, Munro, Kimball, Midgett, Stone, Calhoun, Friedman.* National Security Cutter or Legend class. Coast Guard Maritime Security Cutter, Large. Replaces *Hamilton* class. Stern ramp for launching/recovering RHIB. Carries Nulka 4th Gen countermeasure. Fitted with degaussing.
• 2019: Fitted for Scan Eagle UAV. Can carry 1 helicopter and 2 Scan Eagle.

Damage & Speed Breakdown:

Dam Pts:	0	53	106	159	191	212
Surf Speed:	28	21	14	7	0	Sinks

Hamilton (378') **WHEC**
Displacement: 2716 std
Size Class: C/Small
Propulsion: CODOG/CPP
Signature: Small/Noisy
Weapons: F(1)1 Mk30 5in/38//Mk56 (0.8) C
P/S(1)2 Mk10 20mm (0.2L) C
PB/SB(3)2 Mk32 324mm TT w/3 Mk46 torp F
PB&SB(24)2 Mk10 Hedgehog E
Aft Pad (1)1 HH-52
Sensors: 2 SPS-51, SPS-29 ES: 1st Gen J
SQS-36 K
Remarks: Aluminum superstructure, -15% damage modifier.
• Early 70s: Hedgehog removed, SQS-38 replaced SQS-36, PB/SB(1)2 Mk2 81mm mortar, PB/SB/PQ/SQ(1)4 M2 .50 cal. (0.1L) added.
• Oct 85 - Oct 92: FRAM adding 2nd Gen D ECM, A(R)1 Mk15 Phalanx Blk 0 (6.3A), Mk30 5in replaced by F(1)1 Mk75 76mm/62//Mk92 (3.4), Radar fit changed to SPS-40 and two SPS-64. Flight deck upgraded for H-60 Jay Hawk. Five fitted with P/S(4) Mk141 w/4 Harpoon IC, including *Mellon*.
• 1993-94: Harpoon, SQS-38 and 324mm TT removed.
• 1995-96: Fitted with SCCS, Link 11 data link, combat system Gen 4 Semi-Automatic.
• 1997-99: Fitted with SPS-73 replacing two SPS-64.

Damage & Speed Breakdown:

Dam Pts:	0	35	71	106	127	141
Surf Speed:	29	22	15	7	0	Sinks

Famous **WMEC**
Displacement: 1200 lt
Size Class: D/Small
Propulsion: Diesel
Electrn Cnt: 2nd Gen D
Signature: Small/Noisy
Weapons: F(1)1 Mk75 76mm/62//Mk92 (4.0) C
P/S(2)2 Mk95 .50 cal. (0.3L) C
Aft Pad(1)1 JJ-65 Dolphin B
Sensors: 2 SPS-64 ES: 2nd Gen J
Remarks: Fitted with fin stabilizers. Lively in heavy seas, subtract 1 on the Safe Sea State Table when operating helicopters.
• 1997-99: Fitted with SPS-73 replacing both SPS-64.

Damage & Speed Breakdown:

Dam Pts:	0	26	52	78	94	104
Surf Speed:	19	14	10	5	0	Sinks

Heritage

Displacement: 3730 fl
Size Class: C/Small
Propulsion: Diesel/CPP
Electrn Cnt: 4th Gen J&D
Signature: Small/Noisy
Weapons:

F(1)1 Mk 110 57mm/70
 A(1)1 Mk38 Mod 2 25mm/EO GFC
 P/S(1)2 ROSAM .50 cal//2 EO GFC
 PW/SW/P/S(1)4 .50 cal (**0.1L**)
 Aft Pad(1)1 MH-60T, UAV

Sensors:

SPS-77, 2 Generic x-band, s-band nav radars
 4th Gen FLIR

Remarks:

Argus, Chase, Ingham, Rush, Pickering, Icarus, Active, Diligence, Alert, Vigilant, Reliance. Offshore patrol cutter or Medium Maritime Security Cutter (WMSM). Fitted with fin stabilizers. 11 planned, possibly up to 25. Ballistic protection for some spaces, Estimated armor 2 for bridge and 57mm.

Damage & Speed Breakdown:

Dam Pts:	0	46	92	138	166	184
Surf Speed:	22	17	11	6	0	Sinks

Ex-USN Casco (311')

Displacement: 1766 std
Size Class: C/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:

F(1)1 Mk30 5in/38//Mk26 (**0.8**)
 P/S(2)2 Mk1 40mm/60 (**0.3L**)
 PB&SB(24)1 Mk10 Hedgehog w/5 salvoes
 (1)4 Mk6 DC proj w/4 Mk14 DC

Sensors:

SPS-29, SPS-23
 SQS-1

Remarks:

- 1966: Redesignated WHEC.
- Mid 60s: 40mm guns removed, add PB/SB(1)2 Mk2 81mm mortar, PB/SB/PQ/SQ(1)4 M2 .50 cal. (0.1L).
- 1964: Mk6 DC projectors removed, PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp added.
- Early 70s: ASW systems removed.
- Only one left in 1975 as training ship.

Damage & Speed Breakdown:

Dam Pts:	0	31	62	93	112	124
Surf Speed:	19	14	10	5	0	Sinks

Campbell (327') (1947)

Displacement: 2216 std
Size Class: C/Small
Propulsion: Steam Turbine
Signature: Small/Noisy
Weapons:

F(1)1 Mk30 5in/38//Mk26 (**0.8**)
 F(2)1 Mk1 40mm/60 (**0.3L**)
 PB&SB(24)1 Mk10 Hedgehog
 (1)4 Mk6 DC proj w/4 Mk14 DC

Sensors:

SPS-29, SPS-23
 SQS-11

Remarks:

Configuration as of 1947.

- 1966: Redesignated WHEC.
- Mid 60s: 40mm guns removed, add PB/SB(1)2 Mk2 81mm mortar, PB/SB/PQ/SQ(1)4 M2 .50 cal. (0.1L).
- 1964: Mk6 DC proj replaced by PB/SB(3)2 Mk32 324mm TT w/ 3 Mk44 torp.
- Early 70s: ASW systems removed.

WPC

In Class: 0 + 1 + 10
In Service: 2021
Crew: 126
Acoustic Cnt: --
Armor Rating: 0
Cbt Sys: Gen 5 Automatic

C
C
C
C
B
J
--

Damage & Speed Breakdown:

Dam Pts:	0	36	73	109	131	145
Surf Speed:	20	15	10	5	0	Sinks

Owasco (255')

Displacement: 1563 std
Size Class: C/Small
Propulsion: Steam Turbine
Signature: Small/Noisy
Weapons:

F(1)1 Mk30 5in/38//Mk26 (**0.8**)
 F(4)1 Mk2 40mm/60 (**0.5L**)
 PB&SB(24)1 Mk10 Hedgehog
 (1)4 Mk6 DC proj w/4 Mk14 DC

Sensors:

SPS-29, SPS-23
 SQS-1

Remarks:

- Single prop, double the speed reduction of Engineering critical hits.
- 1966: Redesignated WHEC.
- Mid 60s: 40mm guns removed, add PB/SB(1)2 Mk2 81mm mortar, PB/SB/PQ/SQ(1)4 M2 .50 cal. (0.1L).
- 1964: Mk6 DC proj replaced by PB/SB(3)2 Mk32 324mm TT w/3 Mk44 torp.
- Early 70s: ASW systems removed.

Damage & Speed Breakdown:

Dam Pts:	0	29	58	86	104	115
Surf Speed:	18	14	9	5	0	Sinks

Reliance (210')

Displacement: 950 std
Size Class: D/Small
Propulsion: CODAG
Signature: Small/Noisy
Weapons:

F(1)1 Mk22 3in/50 (**0.3L**)
 P/S(1)2 M2 .50 cal (**0.1L**)

Sensors:

SPS-23

Remarks:

- 615-619 are CODAG, the rest. of class is diesel only. Aft pad, no hangar. Aluminum construction, -25% damage modifier.
- 1984 - 98: Modernized with F(1)1 Bushmaster 25mm replacing Mk22, SCCS, Link 11 data link. Combat System Gen 4 Semi-Automatic. Estimated 1 or 2 SPS-64 replaces SPS-23.
- 1997-99: Fitted with SPS-73 replacing two SPS-64.

Damage & Speed Breakdown:

Dam Pts:	0	16	31	47	56	62
Surf Speed:	18	14	9	5	0	Sinks

Argo class (165')

Displacement: 337 std
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk22 3in/50 (**0.3L**)

Sensors:

SPS-23
 QCU

Remarks:

- Designed to combat rumrunners during Prohibition.
- 1966: *Ariadne, Aurora, Triton* redesignated WMEC.

Damage & Speed Breakdown:

Dam Pts:	0	10	21	31	37	41
Surf Speed:	12	9	6	3	0	Sinks

WPG

In Class: 13
In Service: 1945-1974
Crew: 139
Armor Rating: 0
Cbt Sys: Gen 2 Manual

C
C
E
E
J
K

WPC

In Class: 16 - 2
In Service: 1964
Crew: 70
Armor Rating: 0
Cbt Sys: Gen 3 Semi-Automatic

C
C
J

WPC

In Class: [6]
In Service: 1931-1968
Crew: 55
Armor Rating: 0
Cbt Sys: Gen 1 Manual

C
J
K

Active (125')

Displacement: 220 std
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:
 F(1)1 Mk3 40mm/60 (0.1L)

Sensors:

SPS-23

Remarks:

Designed to combat rumrunners during Prohibition.

• 1966 *Agassiz, Alert, Cahoone, Cartigan, Ewing, General Greene, Kimball, Legare, McLane, Morris, Yeaton* redesignated WMEC.

Damage & Speed Breakdown:

Dam Pts:	0	8	16	23	28	31
Surf Speed:	12	9	6	3	0	Sinks

WSC

In Class: [18]
In Service: 1927-1970
Crew: 28
Armor Rating: 0
Cbt Sys: Gen 1 Manual

C

J

- 2015 - 17: Three decommed units purchased by the Sea Shepherd Conservation Society.
- 2016: Two units transferred to the Pakistani Maritime security agency.
- Sep 16: Two units transferred to the Georgian Coast Guard.
- 2017: Two transferred to the Costa Rica Coast Guard.
- Oct 19: Two transferred to the Ukraine Navy.

Damage & Speed Breakdown:

Dam Pts:	0	5	10	14	17	19
Surf Speed:	29	22	15	7	0	Sinks

Cape Class (95') A-type

Displacement: 102 fl
Size Class: F/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

F/A(2)2 Mk16 20mm (0.7L)
 P/S(1)2 M2 .50 cal. (0.1L)
 F(4)2 Mk20 Mousetrap
 1 Mk14 DC rail w/6 Mk14 DC

Sensors:

CR-103

Remarks:

Aluminum superstructure, -15% damage modifier.

- 1964: Named.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	14
Surf Speed:	20	15	10	5	0	Sinks

WPB

In Class: [26]
In Service: 1953 - 90s
Crew: 14
Armor Rating: 0
Cbt Sys: --

C

C

E

E

J

Storis (230')

Displacement: 1715 std
Size Class: C/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:

A(1)1 Mk22 3in/50 (0.1L)
 P/S(1)2 M2 .50 cal. (0.1L)

Sensors:

SPS-23

Remarks:

Light icebreaker hull. Single prop, double the speed reduction of Engineering critical hits.

- ? : SPS-23 replaced by SPS-64, Mk22 3in/50 replaced by Mk38 Bushmaster 25mm.

Damage & Speed Breakdown:

Dam Pts:	0	31	61	92	110	122
Surf Speed:	14	11	7	4	0	Sinks

WAG

In Class: [1]
In Service: 1942 - 2007
Crew: 106
Armor Rating: 0
Cbt Sys: Gen 1 Manual

C

C

J

Cape Class (95') B-type

Displacement: 105 fl
Size Class: F/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk3 40mm/60 (0.1L)
 P/S(1)2 M2 .50 cal. (0.1L)
 F(4)2 Mk20 Mousetrap
 1 Mk14 DC rail w/6 Mk14 DC

Sensors:

CR-103

Remarks:

Aluminum superstructure, -15% damage modifier.

- 1964: Named.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	14
Surf Speed:	20	15	10	5	0	Sinks

WPB

In Class: [26]
In Service: 1953 - 90s
Crew: 14
Armor Rating: 0
Cbt Sys: --

C

C

E

E

J

Cherokee/Navajo class

Displacement: 1731 std
Size Class: C/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:

F(1)1 Mk22 3in/50 (0.1L)
 P/S(1)2 M2 .50 cal. (0.1L)

Sensors:

Generic x-band nav radar

Remarks:

Steel-hulled tugs. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	31	62	92	111	123
Surf Speed:	16	12	8	4	0	Sinks

WMEC

In Class: [6]
In Service: 1940 - 1994?
Crew: 72
Armor Rating: 0
Cbt Sys: Gen 1 Manual

C

C

J

Cape Class (95') C-type

Displacement: 98 fl
Size Class: F/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

F/A(1)2 Mk3 40mm/60 (0.3L)

Sensors:

CR-103

Remarks:

Aluminum superstructure, -15% damage modifier.

- 1964: Named.
- 1987 2 Mk64 grenade launchers.

Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	14
Surf Speed:	20	15	10	5	0	Sinks

WPB

In Class: [26]
In Service: 1953 - 90s
Crew: 14
Armor Rating: 0
Cbt Sys: --

C

J

Island class (110')

Displacement: 168
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Noisy
Weapons:

F(1)1 Mk38 Bushmaster 25mm
 PA/SA(1)2 Mk95 .50 cal. (0.1L)

Sensors:

SPS-73

Remarks:

Replacement for Cape class. Aluminum superstructure, special damage modifier of -15%.

- 2002 - 05: Modified to make room for stern launch ramp and mixed-gender berthing. Program stopped after eight ships because of structural problems. All eight decommed Nov 06.

WPB

In Class: 49 - 12
In Service: 1985
Crew: 16
Armor Rating: 0
Cbt Sys: --

C

C

J

Point Class (82')

Displacement: 69 std
Size Class: F/VSmall
Propulsion: Diesel

In Class: [53]
In Service: 1960 - 2003
Crew: 10

WPB

Signature: VSmall/Noisy
Weapons:
 F(1)1 Mk16 20mm (0.2L)
Sensors:
 CR-103, SPS-53 in 1967
Remarks:
 • Mid-60s: F(2)1 Mk2 Mod 1 81mm mortar/M2 .50 cal (piggyback)
 P/S/PQ/SQ(1)4 M2 .50 cal. (0.1L).
 • Early 70s: F(2)1 Mk2 Mod 1 81mm mortar/M2 .50 cal (piggyback)
 or PB/SB(1)2 M2 .50 cal. (0.1L).
Damage & Speed Breakdown:

Dam Pts:	--	--	--	--	--	14
Surf Speed:	23	17	12	6	0	Sinks

Sentinel Class (154')
Displacement: 353 std
Size Class: D/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:
 F(1)1 Mk38 Mod 2 25mm/EO GFC
 PW/SW/PA/SA(1)4 M2 .50 cal. (0.1L)
Sensors:
 SPS-78
Remarks:
 Fast Response Cutter program, replacement for Island class. Fitted with stabilizers. Stern launching ramp. Endurance 5 days. Up to 58 may be built.
Damage & Speed Breakdown:

Dam Pts:	0	11	22	32	39	43
Surf Speed:	28	21	14	7	0	Sinks

Tanager
Displacement: 890 std
Size Class: D/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:
 F(1)1 Mk26 3in/50 (0.1L)
 PB&SB(24)1 Mk11 Hedgehog
Sensors:
 SPS-23
 SQS-1
Remarks:
 Ex-USN *Auk*-class fleet minesweeper. To Coast Guard as training ship 1964.
Damage & Speed Breakdown:

Dam Pts:	0	20	40	59	71	79
Surf Speed:	16	12	8	4	0	Sinks

Glacier
Displacement: 8449 std
Size Class: B/Medium
Propulsion: Diesel
Signature: Medium/Noisy
Weapons:
 F(2)1 Mk38 5in/38/? (1.7)
 F/P/S(2)3 Mk33 3in/50/? (1.5)
 P/S(2)2 Mk24 20mm (0.3L)
Sensors:
 SPS-6, SPS-10, SPS-46
Remarks:
 Transferred from USN in 1966. Helo pad aft.
 • 1966: 3 inch and 20mm guns removed. Add PB/SB/PQ/SQ(1)4 M2 .50 cal. (0.1L).
Damage & Speed Breakdown:

Dam Pts:	0	89	177	266	319	354
Surf Speed:	18	14	9	5	0	Sinks

Wind class
Displacement: 3500 std
Size Class: C/Small
Propulsion: Diesel- Electric
Signature: Small/Noisy
Weapons:
 PB/SB/PQ/SQ(1)4 M2 .50 cal. (0.1L)
Sensors:
 SPS-6, SPS-10, SPS-53
Remarks:
 Helicopter pad aft.
Damage & Speed Breakdown:

Dam Pts:	0	49	98	147	176	196
Surf Speed:	16	12	8	4	0	Sinks

Balsam (180')
Displacement: 935 std
Size Class: D/Small
Propulsion: Diesel
Signature: Small/Noisy
Weapons:
 A(1)1 Mk22 3in/50 (0.1L)
Sensors:
 SPS-23
Remarks:
 Ships in Vietnam had no Mk22, added 2F/P/S/A(1)5 M2 .50 cal (0.1L).
Damage & Speed Breakdown:

Dam Pts:	0	20	41	61	73	81
Surf Speed:	12	9	6	3	0	Sinks

MARITIME PREPOSITIONING SHIPS

Mohegan
Displacement: 11245 fl
Size Class: B/Medium
Propulsion: ?
Signature: Medium/Noisy
Sensors:
 2 Nav radars
Remarks:
 Chartered. Dry cargo. Civilian construction, -50% damage modifier.
Damage & Speed Breakdown:

Dam Pts:	0	48	96	144	173	192
Surf Speed:	13	10	7	3	0	Sinks

Wheat
Displacement: 57075 grt
Size Class: A/Large
Propulsion: Gas Turbine
Signature: Large/Noisy
Sensors:
 2 Nav radars
Remarks:
LCpl Roy M. Wheat. Chartered. Built in Ukraine. Considered difficult to maintain. Aft helo pad. Civilian construction, -50% damage modifier.
Damage & Speed Breakdown:

Dam Pts:	0	131	262	392	471	523
Surf Speed:	20	15	10	5	0	Sinks

Martin
Displacement: 39441 grt
Size Class: A/Large
Propulsion: Diesel
Signature: Large/Noisy
Sensors:
 Generic x-band nav radar

WAGB

C

J

WLB

C

J

AK

J/Intl

AK

J/Intl

AK

J

Remarks:

1st Lt. Harry L. Martin. Chartered. Carries vehicles and ammunition. Aft helo pad. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	102	204	306	368	408
Surf Speed:	21	16	11	5	0	Sinks

Bobo**AK**

Displacement: 19588 lt **In Class:** 5
Size Class: A/Large **In Service:** 1985
Propulsion: Diesel **Crew:** 37 + 102
Signature: Large/Noisy **Armor Rating:** 0

Sensors:

Generic x-band nav radar

J**Remarks:**

2nd Lt. John P. Bodo, Pfc Dewayne T. Williams, 1st Lt. Baldomero Lopez, 1st Lt. Jack Lummus, Sgt William R. Button. Chartered. Carries vehicles and equipment. Aft helo pad. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	84	168	252	302	336
Surf Speed:	18	14	9	5	0	Sinks

Kocak**AK**

Displacement: 19588 lt **In Class:** 3
Size Class: A/Large **In Service:** 1984
Propulsion: Steam Turbine **Crew:** 118
Signature: Large/Noisy **Armor Rating:** 0

Sensors:

2 Nav radars

J/Intl**Remarks:**

SGT. Matej Kocak, PFC Eugen A. Obregon, MAJ. Stepehn W. Pless. Chartered. Carries vehicles and equipment (each can carry one quarter USMC MEB equipment). Aft helo pad. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	84	168	252	302	336
Surf Speed:	18	14	9	5	0	Sinks

Page**AKR**

Displacement: 57075 grt **In Class:** 2
Size Class: A/Large **In Service:** 2001 (1985)
Propulsion: Diesel **Crew:** 22
Signature: Large/Noisy **Armor Rating:** 0

Sensors:

Generic x-band nav radar

J**Remarks:**

LTC John U. D. Page, SGT Edward A. Carter Jr. Chartered. Carry Army ammunition in 2500 TEU. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	131	261	392	470	522
Surf Speed:	18	14	9	5	0	Sinks

Bennett**AKR**

Displacement: 29223 grt **In Class:** 1
Size Class: A/Large **In Service:** 1998 (1984)
Propulsion: Diesel **Crew:** 24
Signature: Large/Noisy **Armor Rating:** 0

Sensors:

Generic x-band nav radar

J**Remarks:**

Capt. Steven L. Bennett. Chartered. Carry USAF ammunition in 1922 TEU. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	84	167	251	301	334
Surf Speed:	18	14	9	5	0	Sinks

American Cormorant**AK**

Displacement: 10195 gwt **In Class:** 1
Size Class: B/Medium **In Service:** 1975
Propulsion: Diesel **Crew:** ?
Signature: Med/Noisy **Armor Rating:** 0

Sensors:

Generic x-band, s-band nav radars

J**Remarks:**

FO/FO cargo ship. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	41	83	124	149	165
Surf Speed:	16	12	8	4	0	Sinks

Meteor**WAK**

Displacement: 16467 gwt **In Class:** 1
Size Class: B/Medium **In Service:** 1967
Propulsion: Steam Turbine **Crew:** 47
Signature: Med/Noisy **Armor Rating:** 0

Sensors:

Raytheon 1650, Raytheon 1660 (Raytheon R series)

J**Remarks:**

C4-ST-67A class. Civilian construction, -50% damage modifier

Damage & Speed Breakdown:

Dam Pts:	0	57	114	171	205	228
Surf Speed:	20	15	10	5	0	Sinks

Comet**WAK**

Displacement: 13792 gwt **In Class:** 1
Size Class: B/Medium **In Service:** 1958
Propulsion: Steam Turbine **Crew:** 44
Signature: Med/Noisy **Armor Rating:** 0

Sensors:

Raytheon 1650, Raytheon 1660 (Raytheon R series)

J**Remarks:**

C3-ST-14A class. Civilian construction, -50% damage modifier

Damage & Speed Breakdown:

Dam Pts:	0	51	101	152	182	202
Surf Speed:	18	14	9	5	0	Sinks

Cape Banker**WAK**

Displacement: 6400 gwt **In Class:** 5
Size Class: C/Small **In Service:** 196x
Propulsion: Steam Turbine **Crew:** 45
Signature: Small/Noisy **Armor Rating:** 0

Sensors:

2 Nav radar

J/Intl**Remarks:**

C3-S-37d break-bulk cargo ships. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	30	61	91	109	121
Surf Speed:	20	15	10	5	0	Sinks

Cape Carthage**WAK**

Displacement: 6595 gwt **In Class:** 3
Size Class: C/Small **In Service:** 1962
Propulsion: Steam Turbine **Crew:** 40
Signature: Small/Noisy **Armor Rating:** 0

Sensors:

Generic x-band nav radar

J**Remarks:**

C3-S-37c break-bulk cargo ships. Three holds. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	31	62	93	112	124
Surf Speed:	17	13	9	4	0	Sinks

Cape Commander**WAK**

Displacement: 8151 gwt
In Class: 3
Size Class: B/Medium
In Service: 1962
Propulsion: Steam Turbine
Crew: 43
Signature: Med/Noisy
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

C4-S-57a break-bulk cargo ships. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier

Damage & Speed Breakdown:

Dam Pts:	0	36	72	107	129	143
Surf Speed:	22	17	11	6	0	Sinks

Potomac**WAOT**

Displacement: 15739 gwt
In Class: 1
Size Class: B/Medium
In Service: 1964
Propulsion: Steam Turbine
Crew: 30
Signature: Med/Noisy
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

Single prop, double the speed reduction of Engineering critical hits. Carries 200000 barrels of fuel. Part of Afloat Prepositioning Force. Chartered 1964 for the MSC and named *Shenandoah*. Placed in reserve 1978. Trials ship for Offshore Product Discharge System (OPDS) 1985 to 1986. Reactivated for Desert Shield/Desert Storm. Civilian construction, -50% damage modifier

Damage & Speed Breakdown:

Dam Pts:	0	55	111	166	199	221
Surf Speed:	17	13	9	4	0	Sinks

Military Sealift Command Charters**MT Empire State****T-AOT**

Displacement: 49000 grt
In Class: 2
Size Class: A/Large
In Service: 2010 - 15?
Propulsion: Diesel
Crew: 21
Signature: Large/Noisy
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

Empire State, Evergreen State. Ice-strengthened hull. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	118	236	353	424	471
Surf Speed:	14	11	7	4	0	Sinks

MT Maersk Peary**T-AOT 5246**

Displacement: 47876 grt
In Class: 1
Size Class: A/Large
In Service: 2011
Propulsion: Diesel
Crew: 21
Signature: Large/Noisy
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

Tanker chartered by MSC in 2011. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	116	232	348	418	464
Surf Speed:	14	11	7	4	0	Sinks

MT SLNC Pax**T-AOT 5356**

Displacement: 62174 grt
In Class: 1
Size Class: A/Large
In Service: ?
Propulsion: Diesel
Crew: 16
Signature: Large/Noisy
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

Tanker chartered by MSC. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	138	277	415	498	553
Surf Speed:	15	8	8	4	0	Sinks

MT SLNC Goodwill**T-AOT 5419**

Displacement: 62174 grt
In Class: 1
Size Class: A/Large
In Service: 2016 (?)
Propulsion: Diesel
Crew: 22
Signature: Large/Noisy
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

Tanker chartered by MSC in 2016. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	138	277	415	498	553
Surf Speed:	15	8	8	4	0	Sinks

ATB Galveston**/Petrochem Producer****T-AOT 5406**

Displacement: 26884 grt
In Class: 1
Size Class: A/Large
In Service: 2016 (?)
Propulsion: ?
Crew: ?
Signature: A/Large
Armor Rating: 0
Sensors:

Generic x-band nav radar

J**Remarks:**

Tanker chartered by MSC in 2016. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits.

Damage & Speed Breakdown:

Dam Pts:	0	79	158	237	284	316
Surf Speed:	14	11	7	4	0	Sinks

Ready Reserve Force**Cape D Class****Ro-Ro**

Displacement: 13220 ltshp
In Class: 5
Size Class: B/Medium
In Service: 1973
Propulsion: Diesel
Crew: 29
Signature: Med/Noisy
Armor Rating: 0
Sensors:

2 Raytheon radars

J/Intl**Remarks:**

Cape Decision, Cape Diamond, Cape Domingo, Cape Douglas, Cape Ducato. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits. 167,339 ft² cargo capacity, 378 TEU. Fuel consumption 600 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	65	130	194	233	259
Surf Speed:	17	13	9	4	0	Sinks

Cape E Class**Ro-Ro**

Displacement: 12533 ltshp
In Class: 1
Size Class: B/Medium
In Service: 1987 (1972)
Propulsion: Diesel
Crew: 28
Signature: Med/Noisy
Armor Rating: 0
Sensors:

Sensors:

2 Nav radars J/Intl

Remarks:

Cape Edmont. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 161,352 ft² cargo capacity, 446 TEU. Fuel consumption 600 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	65	130	194	233	259
Surf Speed:	17	13	9	4	0	Sinks

Cape H Class**Ro-Ro****Displacement:** 15000 ltshp**In Class:** 3**Size Class:** B/Medium**In Service:** 1986 (1979)**Propulsion:** Diesel**Crew:** 29**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Nav radars J/Intl

Remarks:

Cape Henry, Cape Horn, Cape Hudson. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 214,365 ft² cargo capacity, 446 TEU. Fuel consumption 630 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	70	141	211	253	281
Surf Speed:	18	14	9	5	0	Sinks

Cape I Class**Ro-Ro****Displacement:** 15000 ltshp**In Class:** 4**Size Class:** B/Medium**In Service:** 1976**Propulsion:** Steam Turbine**Crew:** 25**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Raytheon radars J/Intl

Remarks:

Cape Inscription, Cape Intrepid, Cape Isabel, Cape Island. Civilian construction, -50% damage modifier. 149,088 ft² cargo capacity. Fuel consumption 1225 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	70	141	211	253	281
Surf Speed:	23	17	12	6	0	Sinks

Cape K Class**Ro-Ro****Displacement:** 15723 ltshp**In Class:** 2**Size Class:** B/Medium**In Service:** 1979**Propulsion:** Diesel**Crew:** 27**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Nav radars J/Intl

Remarks:

Cape Kennedy, Cape Knox. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 146,895 ft² cargo capacity. Fuel consumption 570 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	73	145	218	261	290
Surf Speed:	17	13	9	4	0	Sinks

Cape L Class**Ro-Ro****Displacement:** 12000 ltshp**In Class:** 2**Size Class:** B/Medium**In Service:** 1987 (1972) - 06**Propulsion:** Diesel**Crew:** 30**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Nav radars J/Intl

Remarks:

Cape Lambert (ex-MV Avon Forest), Cape Lobos (ex-MV Laurentian Forest). Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

- 31 Jul 06: Transferred to reserve.

Damage & Speed Breakdown:

Dam Pts:	0	61	121	182	218	242
Surf Speed:	16	12	8	4	0	Sinks

Cape O Class**Ro-Ro****Displacement:** 13166 ltshp**In Class:** 1**Size Class:** B/Medium**In Service:** 1994 (1981)**Propulsion:** Diesel**Crew:** 33**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Nav radars J/Intl

Remarks:

Cape Orlando. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 118,780 ft² cargo capacity. Fuel consumption 480 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	65	129	194	232	258
Surf Speed:	17	13	9	4	0	Sinks

Cape R Class**Ro-Ro****Displacement:** 12872 ltshp**In Class:** 3**Size Class:** B/Medium**In Service:** 1994 (1977)**Propulsion:** Diesel**Crew:** 36**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Nav radars J/Intl

Remarks:

Cape Race, Cape Ray, Cape Rise. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 176,313 ft² cargo capacity. Fuel consumption 500 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	63	127	190	228	253
Surf Speed:	19	14	10	5	0	Sinks

Cape T Class**Ro-Ro****Displacement:** 9687 ltshp**In Class:** 3**Size Class:** B/Medium**In Service:** 1994 (1977)**Propulsion:** Diesel**Crew:** 36**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Raytheon radars J/Intl

Remarks:

Cape Taylor, Cape Texas, Cape Trinity. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. *Cape Trinity* displacement 12,141 t ltshp. 117,887 ft² cargo capacity (*Texas, Trinity*), 115,619 ft² (*Taylor*). Fuel consumption 401 bbl/day.

Damage & Speed Breakdown:

DPTs (Tx, Ty):	0	53	105	158	189	210
DPTs (Tr):	0	61	122	183	220	244
Surf Speed:	18	14	9	5	0	Sinks

Cape V Class**Ro-Ro****Displacement:** 10581 ltshp**In Class:** 2**Size Class:** B/Medium**In Service:** 1994**Propulsion:** Diesel**Crew:** 27**Signature:** Med/Noisy**Armor Rating:** 0**Sensors:**

2 Nav radars J/Intl

Remarks:

Cape Victory, Cape Vincent. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 131,265 ft² cargo capacity. Fuel consumption 320 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	56	112	167	201	223
Surf Speed:	15	11	8	4	0	Sinks

Altair

Displacement: 28316 ltshp
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy

In Class: 3
In Service: 1984
Crew: 62
Armor Rating: 0

Ro-Ro**Sensors:**

2 Nav radars

J/Intl

Remarks:

Altair (ex-Sea-Land Finance), Antares (ex-Sea-Land Galloway), Pollux (ex-Sea-Land Market). Built 1973, Avondale conversion to Fast Sealift Ship (FSS) 1984. Civilian construction, -50% damage modifier. 199,362 ft² cargo capacity. Fuel consumption 1176 bbl/day for *Altair*, 375 bbls per day for *Antares* and *Pollux*.

Damage & Speed Breakdown:

Dam Pts:	0	108	215	323	387	430
Surf Speed:	30	23	15	8	0	Sinks

Algol

Displacement: 29888 ltshp
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy

In Class: 3
In Service: 1984
Crew: 62
Armor Rating: 0

Ro-Ro**Sensors:**

2 Nav radars

J/Intl

Remarks:

Algol (ex-Sea-Land Exchange), Bellatrix (ex-Sea-Land Trade), Regulus (ex-Sea-Land Commerce). Built 1973, NASSCO conversion to Fast Sealift Ship (FSS) 1984. Civilian construction, -50% damage modifier. 203,000 ft² cargo capacity. Fuel consumption 1176 bbl/day for *Bellatrix*, 535 bbls per day for *Algol* and *Regulus*.

Damage & Speed Breakdown:

Dam Pts:	0	112	223	335	401	446
Surf Speed:	30	23	15	8	0	Sinks

Capella

Displacement: 30971 ltshp
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy

In Class: 2
In Service: 1984
Crew: 47
Armor Rating: 0

Ro-Ro**Sensors:**

2 Nav radars

J/Intl

Remarks:

Capella (ex-Sea-Land McLean), Denebola (ex-Sea-Land Resource). Built 1973, Pennship conversion to Fast Sealift Ship (FSS) 1984. Civilian construction, -50% damage modifier. 206,963 ft² cargo capacity. Fuel consumption 1190 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	114	228	342	410	456
Surf Speed:	30	23	15	8	0	Sinks

Admiral W. M. Callaghan

Displacement: 13161 ltshp
Size Class: B/Medium
Propulsion: Gas Turbine
Signature: Med/Noisy

In Class: 1
In Service: 1967
Crew: 27
Armor Rating: 0

Ro-Ro**Sensors:**

2 Nav radars

J/Intl

Remarks:

MSC charter from 1967, then RRF from 1987. Civilian construction, -50% damage modifier. 141,843 ft² cargo capacity. Fuel consumption 1260 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	65	129	194	232	258
Surf Speed:	22	17	11	6	0	Sinks

Cape W Class

Displacement: 21898 ltshp
Size Class: A/Large
Propulsion: Diesel
Signature: Large/Noisy

In Class: 2
In Service: 1994
Crew: 29
Armor Rating: 0

Ro-Ro**Sensors:**

2 Nav radars

J/Intl

Remarks:

Cape Washington, Cape Wrath. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	91	181	272	326	362
Surf Speed:	15	11	8	4	0	Sinks

Petersburg

Displacement: 14500 ltshp
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy

In Class: 1
In Service: 1963
Crew: 41
Armor Rating: 0

OPDS Tanker**Sensors:**

Generic X-band, S-band nav radars

J/Intl

Remarks:

Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits. Offshore Petroleum Discharge System tanker. 268,071 bbls capacity. Fuel consumption 535 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	69	138	206	248	275
Surf Speed:	15	11	8	4	0	Sinks

Gem State

Displacement: 15325 ltshp
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy

In Class: 3
In Service: 1965
Crew: 38
Armor Rating: 0

ACS**Weapons:**

Forward crane, midships crane, aft crane.

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Sensors:

Generic X-band, S-band nav radars

J/Intl

Remarks:

Gem State, Grand Canyon State, Keystone State. Craneships, T-ACS-1 thru 3. C6-S-MA1qd. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits. 1,015,000 ft³ bale capacity, TEU (ammo/non-ammo) 480/584. Fuel consumption 630 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	71	143	214	257	285
Surf Speed:	18	14	9	5	0	Sinks

Cornhusker State

Displacement: 13170 ltshp
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy

In Class: 3
In Service: 1967
Crew: 59
Armor Rating: 0

ACS**Weapons:**

2 Midships cranes

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Sensors:

2 Nav radars

J/Intl

Remarks:

Cornhusker State, Flickertail State, Gopher State. Craneships, T-ACS-4 thru 6. C5-S-MA73c. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits. 910,080 ft³ bale capacity, 711 non-ammo TEU. Fuel consumption 615 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	65	129	194	232	258
Surf Speed:	18	14	9	5	0	Sinks

Cape F Class

Displacement: 16003 ltshp
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy

Sensors:

2 Nav radars

Remarks:

Cape Farewell, Cape Flattery. C9-S-81d. Civilian construction, -50% damage modifier. Single prop, double the speed reduction of Engineering critical hits. 1.440.000 ft³ bale capacity, barge complement 85, 1465/1600 ammo/non-ammo TEU, 475/520 ammo/non-ammo FEU. Fuel consumption 1065 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	74	147	221	265	294
Surf Speed:	19	14	10	5	0	Sinks

LASH

In Class: 2
In Service: 1986 (1973)
Crew: 37
Armor Rating: 0

J/Intl

Cape M Class

Displacement: 18880 ltshp
Size Class: A/Large
Propulsion: Steam Turbine
Signature: Large/Noisy

Sensors:

2 Nav radars

Remarks:

Cape May, Cape Mohican. C8-S-82a. Single prop, double the speed reduction of Engineering critical hits. Heavy lift barge carrier. Civilian construction, -50% damage modifier. 1,901,359 ft³ bale capacity, barge complement 24. Fuel consumption 1190 bbl/day.

Damage & Speed Breakdown:

Dam Pts:	0	82	164	246	295	328
Surf Speed:	19	14	10	5	0	Sinks

LASH

In Class: 2
In Service: 1986 (1972)
Crew: 34
Armor Rating: 0

J/Intl

Wright

Displacement: 14329 ltshp
Size Class: B/Medium
Propulsion: Steam Turbine
Signature: Med/Noisy

Sensors:

2 Nav radars

Remarks:

Wright, Curtiss. T-AVB-3, 4. Helicopter maintenance support. Helo pads forward and aft. Ro-Ro configuration with Stern ramp. Single prop, double the speed reduction of Engineering critical hits. Civilian construction, -50% damage modifier. 58,305 ft² cargo capacity. Fuel consumption 560 bbl/day.

- Built 1970 as SS *Mormacsun*, a C5-S-78 Ro-Ro design, renamed SS *Young America* (date unknown). Renamed SS *Wright* (T-AVB-3) on 14 May 1986.
- Built 1969 as SS *Great Republic*, renamed USNS *Curtiss* (T-AVB-4) on 14 May 1986.
- 1 Oct 97: Transferred from MSC to RRF.

Damage & Speed Breakdown:

Dam Pts:	0	68	137	205	246	273
Surf Speed:	23	17	12	6	0	Sinks

AVB

In Class: 2
In Service: 1986 (1969)
Crew: 41 + 691
Armor Rating: 0

J/Intl

Sea Hunter

Displacement: 102 std
Size Class: E/VSmall
Propulsion: Diesel
Signature: VSmall/Quiet

Sensors:

Furuno FR-2135S, FR-2115 (use Furuno series)
 Doppler nav radar (use Generic x-band nav radar)

Remarks:

Trimaran hull. The prototype ACTUV currently doesn't have any acoustic sensors, although the Modular Scalable Sonar System (MS3) hull-mounted sonar is expected to be integrated into the prototype sometime in the near future. Additional sensors also under consideration include EO/IR and LIDAR. GRP construction, -10%

Patrol USV

In Class: 1
In Service: 2016
Crew: --
Armor Rating: 0
ES: --

J/Japan
J/Intl

damage modifier. Multihull construction, -25% damage modifier. Endurance 60 to 90 days.

Damage & Speed Breakdown:

Dam Pts:	0	4	7	11	13	12
Surf Speed:	27	20	14	7	0	Sinks

US Army**MSV(L)**

Displacement: 120 lt
Size Class: E/VSmall
Propulsion: Diesel/waterjet
Signature: VSmall/Noisy

Weapons:

PW/SA(1)2 CROWS II .50 cal mg/2 EO GFC

Sensors:

Generic x-band nav radar

Remarks:

"Maneuver Support Vessel (Light)." Replacement for LCM(8). Lead vessel named *SSG Elroy F. Wells*. Can carry 1 tank or 2 APC or 82 t cargo. Bow and stern ramps. Range 360 nmi. Amphibious craft, -25% damage modifier. Aluminum construction, -25% damage modifier. Displacement estimated.

Damage & Speed Breakdown:

Dam Pts:	0	3	6	8	10	11
Spd (Loaded):	21	16	11	5	0	Sinks
Spd (Empty):	30	23	15	8	0	Sinks

LCM

In Class: 0 + 28 + 8
In Service: ?
Crew: 8
Armor Rating: 0
Cbt Sys: --

C

J

LCU-2000

Displacement: 672 lt
Size Class: D/Small
Propulsion: Diesel
Signature: Small/Noisy

Sensors:

2 SPS-64

Remarks:

Bow ramp. Can carry 350 tons cargo or 5 M1 tanks or 24 20-foot ISO containers or 4000 troops. Amphibious craft, -25% damage modifier. Built to commercial standards, -25% damage modifier.

Damage & Speed Breakdown:

Dam Pts:	0	9	18	26	32	35
Surf Speed:	11	8	6	3	0	Sink

LCU

In class: 35
In Service: 1990
Crew: 14
Armor Rating: 0

J

SSG Robert T. Kuroda

Displacement: 2920 std
Size Class: C/Small
Propulsion: Diesel
Signature: Small/Noisy

Sensors:

2 BridgeMaster E (Decca 2000)

Remarks:

SSG Robert T. Kuroda, MG Robert Smalls. Enhanced LSV design with false bow to improve seakeeping. Ro-Ro design, bow and stern ramps. Can carry 2000 tons cargo or 25 M1 tanks or 50 double-stacked 20-foot ISO containers. Amphibious design, -25% damage modifier. Displacement estimated.

Damage & Speed Breakdown:

Dam Pts:	0	33	66	98	118	131
Surf Speed:	12	9	6	3	0	Sinks

LSV

In class: 2
In Service: 2006
Crew: 32
Armor Rating: 0
ES: --

J/UK

General Frank E. Besson, Jr.

Displacement: 1786 std
Size Class: C/Small
Propulsion: Diesel
Signature: Small/Noisy

Sensors:

2 SPS-64

Remarks:

General Frank E. Besson, Jr., CW3 Harold C. Clinger, General Brehon B. Somervell, Lieutenant General William B. Bunker, Major General

LSV

In class: 6
In Service: 1988
Crew: 32
Armor Rating: 0
ES: --

J

Charles P. Gross, SP4 James A. Loux. Ro-Ro design, bow and stern ramps. Can carry 1815 tons cargo or 25 M1 tanks or 48 double-stacked 20-foot ISO containers. Amphibious design, -25% damage modifier.

- 2009: Fitted with 2 BridgeMaster E (Decca 2000) replacing SPS-64.

Damage & Speed Breakdown:

Dam Pts:	0	24	47	71	85	94
Surf Speed:	10	8	5	3	0	Sinks

Special Operations Forces

Ocean Trader

WMSL

Displacement: 20980 grt	In Class: 1
Size Class: B/Medium	In Service: 2017 (2011)
Propulsion: Diesel	Crew: 50 + 360
Electrn Cnt: ?	Acoustic Cnt: ?
Signature: Medium/Noisy	Armor Rating: 0
Weapons:	Cbt Sys: --

4 Combat Craft Assault (CCA) speedboats **A**
 (1)6 Mk95 Mod 1 .50 cal. **(0.1L)** **C**

Sensors:	ES: ?
Generic x-band nav radar	J
FLIR	--

Remarks:

Ex-m/v *Craigside*. Maersk Ro-Ro ship leased to USN in 2014, converted to SOF mother ship ("Maritime Support Vessel"). Can accommodate 200 troops and 160 vessel and mission support personnel, plus small watercraft. Fitted with secure comms and planning areas, berthing, weapons storage and exercise areas. Endurance 45 days. Rear loading ramp for vehicles. Hardened against EMP. Civilian construction, -50% damage modifier. Can operate UAVs. Helo pad aft for one Large or two Medium helicopters, helo pad forward of bridge.

Damage & Speed Breakdown:

Dam Pts:	0	67	134	201	241	268
Surf Speed:	20	15	10	5	0	Sinks

UAVs

Blackwing

Recon UAV

Man Rtnng: 0.0/0.0	Damage Value: 5
Size/Signature: VSmall/VSmall	Bombsight: --
Sensors: 3rd Gen FLIR/EO, Link 16 relay, comms relay	

Throttle Setting/Speed in knots

<u>Altitude</u>	<u>Cruise</u>	<u>Full Mil</u>	<u>Reheat</u>
Low:	50	80	--
Med:	50	80	--

Ceiling: 1000 meters	Engine Type: Electric
Cruise Range: 50 nmi	Int Fuel: --
Remarks:	In Service: ?

Performance estimated. Submarine launched unmanned aerial system (SLUAS). 50 nmi LOS data link. USN to purchase 150. Launched from 3 inch dispenser whilst submerged, SLUAS rises to surface and launches UAV after preset time delay. Sub uses communications mast from periscope depth. At the conclusion of the mission the UAV ditches.

Annex C - Naval Guns

Country	Name Bore/Caliber	Shell Type	Short Range		Med Range		Long Range		Extreme Range		Max Alt	Air Rng (kyd)	AA Rating ¹	Notes
			kyds	B-Pen	kyds	B-Pen	kyds	B/D-Pen	kyds	B/D-Pen				
USA	0.30 cal/7.62mm MGs	Solid	0 - 0.1	1	0.5	0.2 - 0.4	0	0.4	0.5 - 0.6	0/0	0.4	0.7 - 0.7	0/0	0.3
USA	M2 .50 cal	Solid	0 - 0.2	1	0.8	0.3 - 0.5	1	0.7	0.6 - 0.8	1/0	0.6	0.9 - 1	1/0	0.5
USA	Mk95 Mod 1 .50 cal	Solid	0 - 0.2	1	0.8	0.3 - 0.5	1	0.7	0.6 - 0.8	1/0	0.6	0.9 - 1	1/0	0.5
USA	Mk67/Mk68 20mm/80 (Mk16 gun)	AP	0 - 0.3	2	2.2	0.4 - 0.7	1	1.9	0.8 - 1.1	1/0	1.6	1.2 - 1.4	1/1	1.4
		HE	0 - 0.3	0	2.3	0.4 - 0.7	0	2.0	0.8 - 1.1	0/0	1.8	1.2 - 1.4	0/0	1.6
USA	Mk15 Phalanx Blk 0	APDS	--	--	--	--	--	--	--	--	--	--	--	--
USA	Mk15 Phalanx Blk 1A	APDS	--	--	--	--	--	--	--	--	--	--	--	--
USA	Mk15 Phalanx Blk 1B	APDS	0 - 1.2	2	3.0	1.3 - 3	2	2.6	3.1 - 4.8	1/0	2.2	4.9 - 6	1/1	1.9
USA	Mk38	APDS	0 - 0.3	3	3	0.4 - 0.8	3	2	0.9 - 1.3	2/1	2	1.4 - 1.6	2/1	2
	Bushmaster 25mm/87	HE	0 - 0.3	0	3	0.4 - 0.8	0	3	0.9 - 1.3	0/0	2	1.4 - 1.6	0/0	2
		HE	0 - 0.6	0	3	0.7 - 1.5	0	3	1.6 - 2.3	0/0	3	2.4 - 2.9	0/0	2
USA	Mk38 Mod 2	SAP	0 - 0.6	3	3	0.7 - 1.5	2	3	1.6 - 2.3	2/1	2	2.4 - 2.9	2/2	2
	Bushmaster 25mm/87	APDS	0 - 0.6	3	3	0.7 - 1.5	3	3	1.6 - 2.3	2/1	2	2.4 - 2.9	2/2	2
		HE	0 - 1.1	0	4	1.2 - 2.8	0	3	2.9 - 4.4	0/0	3	4.5 - 5.5	0/0	2
USA	Mk46 30mm	HE	0 - 1.1	0	4	1.2 - 2.8	0	3	2.9 - 4.4	0/0	3	4.5 - 5.5	0/0	2
	Bushmaster II	APDS	0 - 1.1	6	4	1.2 - 2.8	5	4	2.9 - 4.4	4/1	3	4.5 - 5.5	3/3	3
USA	Mk1, 2, 3 40mm/60	HE	0 - 0.5	0	4	0.6 - 1.3	0	3	1.4 - 2.0	0/0	3	2.1 - 2.5	0/0	2
USA	Mk110 57mm/70	HE	0 - 3.0	1	18	3.1 - 7.6	1	16	7.7 - 12.1	1/0	14	12.2 - 15.1	1/1	13
		HC	0 - 3.7	1	18	3.8 - 9.3	1	15	9.4 - 14.9	1/0	14	15 - 18.6	1/1	12
USA	Mk3, 5, 6, 8 3in/50	Com	0 - 3.1	3	12	3.2 - 6.2	2	10	6.3 - 8.3	1/1	9	8.4 - 10.4	1/1	8
		AP	0 - 3.1	7	11	3.2 - 6.2	4	8	6.3 - 8.3	3/1	7	8.4 - 10.4	2/2	6
USA	Mk10, 17, 18, 20, 21, 22, 23, 26 3in/50	AP	0 - 4.4	7	11	4.5 - 8.8	4	8	8.9 - 11.7	3/1	7	11.8 - 14.6	2/2	6
		HC	0 - 4.4	1	11	4.5 - 8.8	1	9	8.9 - 11.7	0/0	8	11.8 - 14.6	0/0	7
		Com	0 - 4.4	3	11	4.5 - 8.8	2	9	8.9 - 11.7	1/1	8	11.8 - 14.6	1/1	7
USA	Mk27, 33, 34 3in/50	Com	0 - 4.4	3	9	4.5 - 8.8	2	7	8.9 - 11.7	1/1	7	11.8 - 14.6	1/1	6
		HC	0 - 4.4	1	10	4.5 - 8.8	1	8	8.9 - 11.7	0/0	7	11.8 - 14.6	0/0	6
USA	Mk37 3in/70	HE	0 - 5.9	1	18	6 - 11.7	1	15	11.8 - 15.6	1/0	13	15.7 - 19.5	0/1	12
USA	Mk75 76mm/62	HE	0 - 6.0	1	18	6.1 - 12.1	1	15	12.2 - 16.1	0/0	14	16.2 - 20.1	0/1	12
USA	5in/38 various marks	SpCom	0 - 5.5	7	18	5.6 - 10.9	4	14	11 - 14.6	3/1	12	14.7 - 18.2	2/2	11
		Com	0 - 5.5	5	22	5.6 - 10.9	3	19	11 - 14.6	2/1	17	14.7 - 18.2	2/2	15
		HE	0 - 7.1	2	18	7.2 - 14.3	1	15	14.4 - 19	1/0	14	19.1 - 23.8	1/1	12
USA	Mk39 5in/54	SpCom	0 - 7.8	7	18	7.9 - 15.5	4	14	15.6 - 20.7	3/1	12	20.8 - 25.9	2/2	11
		HC	0 - 7.8	2	22	7.9 - 15.5	1	19	15.6 - 20.7	1/0	17	20.8 - 25.9	1/1	15
USA	Mk41 5in/54	SpCom	0 - 7.8	7	18	7.9 - 15.5	4	14	15.6 - 20.7	3/1	12	20.8 - 25.9	2/2	11
		Com	0 - 7.8	5	18	7.9 - 15.5	3	15	15.6 - 20.7	2/1	13	20.8 - 25.9	2/2	12
		HC	0 - 7.8	2	21	7.9 - 15.5	1	17	15.6 - 20.7	1/0	15	20.8 - 25.9	1/1	14
USA	Mk42 5in/54	HC	0 - 7.8	2	26	7.9 - 15.5	1	22	15.6 - 20.7	1/0	20	20.8 - 25.9	1/1	18
		Com	0 - 7.8	5	18	7.9 - 15.5	3	14	15.6 - 20.7	2/1	13	20.8 - 25.9	2/2	11
		HE	0 - 8.5	2	20	8.6 - 18	1	17	18.1 - 24	1/0	15	24.1 - 30	1/1	13
USA	Mk45 5in/54	HE	0 - 7.6	2	25	7.7 - 15.2	1	21	15.3 - 20.2	1/0	19	20.3 - 25.3	1/1	17
USA	Mk45 Mod 4 5in/62	HE	0 - 7.8	2	24	7.9 - 15.5	1	20	15.6 - 20.7	1/0	18	20.8 - 25.9	1/1	16
USA	Mk10 Mod 4 6in/50	HC	0 - 6.2	2	22	6.3 - 13	1	19	13.1 - 20.8	1/1	17	20.9 - 26	1/1	15
		APC	0 - 6.2	21	20	6.3 - 13	13	16	13.1 - 20.8	9/3	14	20.9 - 26	7/6	12
USA	Mk16 6in/47	APC	0 - 6.2	15	18	6.3 - 13	9	14	13.1 - 20.8	7/2	12	20.9 - 26	5/4	11
		Com	0 - 5.8	6	20	5.9 - 12	3	16	12.1 - 19.2	3/1	14	19.3 - 24	2/2	12
		HC	0 - 5.8	1	24	5.9 - 12	1	20	12.1 - 19.2	1/0	18	19.3 - 24	0/1	16
USA	AGS 155mm/62	HE	0 - 8.5	3	31	8.6 - 22	2	27	22.1 - 38	1/1	24	38.1 - 47.5	1/2	21
														N

Annex C - Naval Guns (continued)

Country	Name Bore/Caliber	Shell Type	Short Range			Med Range			Long Range			Extreme Range			Max Alt	Air Rng (kyd)	AA Rating ¹	Notes
			kyds	B-Pen	Dam	kyds	B-Pen	Dam	kyds	B/D-Pen	Dam	kyds	B/D-Pen	Dam				
USA	Mk6 8in/45	APC	0 - 5	32	21	5.1 - 11.3	22	17	11.4 - 18	15/5	14	18.1 - 22.5	12/9	12				
		CP	0 - 5	10	21	5.1 - 11.3	7	18	11.4 - 18	5/2	16	18.1 - 22.5	3/4	14				
USA	Mk12, 15 8in/55	APC	0 - 6.6	30	24	6.7 - 15	20	19	15.1 - 24	14/5	16	24.1 - 30	11/9	14				
		SpCom	0 - 6.6	13	24	6.7 - 15	9	19	15.1 - 24	6/2	17	24.1 - 30	5/4	15				
		HC	0 - 6.6	3	26	6.7 - 15	2	22	15.1 - 24	1/1	19	24.1 - 30	1/2	17				
USA	Mk9, 10, 11, 13, 14 8in/55	APC	0 - 7	33	23	7.1 - 16	22	18	16.1 - 25.5	15/5	15	25.6 - 31.9	12/10	13				
		SpCom	0 - 7	15	24	7.1 - 16	10	19	16.1 - 25.5	7/2	17	25.6 - 31.9	5/4	15				
		Com	0 - 7	10	23	7.1 - 16	7	18	16.1 - 25.5	5/2	16	25.6 - 31.9	4/4	14				
		HC	0 - 7	3	26	7.1 - 16	2	22	16.1 - 25.5	2/1	19	25.6 - 31.9	1/2	17				
USA	Mk16 8in/55	APC	0 - 6.6	30	28	6.7 - 15	20	22	15.1 - 24	14/5	18	24.1 - 30	11/9	16				
		HC	0 - 6.6	3	30	6.7 - 15	2	25	15.1 - 24	1/1	22	24.1 - 30	1/2	20				
USA	Mk71 8in/55	HC	0 - 7	3	33	7.1 - 16	2	28	16.1 - 25.6	1/1	25	25.7 - 32	1/2	22				
	CLGP	HE	0 - 7.9	3	29	8 - 18	2	25	18.1 - 28.8	2/1	22	28.9 - 36	1/2	19				
USA	Mk7 16in/50	APC	0 - 8.5	75	45	8.6 - 21.2	53	35	21.3 - 33.8	38/13	30	33.9 - 42.3	29/24	26				
		HC	0 - 8.5	8	46	8.6 - 21.2	5	39	21.3 - 33.8	4/3	34	33.9 - 42.3	3/5	30				

Notes and Abbreviations:

- 1) AA Ratings include the ammunition mods and are per barrel. Rotary cannon are counted as single barrels.
A: Autonomous gun systems. Block 0 has ammunition for 5 engagements, Block 1 has ammunition for 7 engagements.
B: Rocket-assisted projectile developed in the 1960s. Did not see widespread use.
S: Seasinker capable, no penalty for engaging VLow air targets
N: No local control option.

Annex D1 - Surface Missiles

Country	Name	Guidance/Gen	Air Range (nm)	ATA Rating	Surf Range (nm)	Damage	Pen (cm)	Envelope/Flight Path	Speed (kts)	Sig-nature	IOC	Remarks
Intl	RIM-116A RAM Blk 0	PRH/TIRH/3	0.3 - 5.0	2.5				VLow - Hi	1320	VSm	1993	Y3@2, E
Intl	RIM-116B RAM Blk 1	PRH&IRH/3	0.3 - 5.0	3.0				VLow - Hi	1320	VSm	2000	Y4@2
Intl	RIM-116B-1 RAM Blk 1A	PRH&IRH/3	0.3 - 5.0	3.0	0.3 - 5.0	19+D6/3	2	VLow - Hi	1320	VSm	2006?	Y4@2
Intl	RIM-116 RAM Blk 2	I/PRH&IRH/3	0.3 - 7.5	3.5	0.3 - 7.5	19+D6/3	2	VLow - Hi	1320	VSm	May 15	Y5@2, F
Norway	NSM	I&Sat/TIRH/4			1.6 - 108	34+D6/2	18	VLow Cr.	627	Sthy	2012	N, W8
USA	AGM-114L-8A Longbow Hellfire	I/TARH/3			0.3 - 4.9	13+D6/3	92	Direct	772	VSm		A
USA	BGM-176C Griffin	I/GL/TIIR & SALH/3			? - 8.1	12+D6/3	4	Direct	450	VSm	2014	G
USA	LRLAP	Sat/3			? - 83	17+D6/3	4	Direct	1623	Sthy?	2016	H
USA	LRASM	Sat/GL/TARH&										
USA	Precision Attack Munition	IRH&PRH/4			? - 200	45+D6	10	Med Cr.	540	Sthy	2020?	
USA	(N-LOS)	I&Sat/M/TsALH&										
USA	RGM-6 Regulus I	TIRH/3			0.3 - 21.6	13+D6/3	9	Low Cr.	292	Sthy	--	
USA	RGM-15A Regulus II	Cmd/M1			1 - 575	50 kT	--	High Cr.	518	Small	1954	
USA	RGM-66D Standard ARM	Inertial/M1			1 - 1200	50 kT	--	High Cr.	2246	Small	--	C
USA	RGM-84A Harpoon	PRH/2			3.5 - 35	33+D6/2	4	Direct	1649	VSm		
USA	RGM/UGM-84C Harpoon IB	I/TARH/2			3 - 65	40+D6/2	9	VLow Cr.	561	VSm	1977 - 85	J
USA	RGM/UGM-84D Harpoon IC	I/TARH/2			3 - 65	40+D6/2	9	VLow Cr.	561	VSm	1982	K
USA	RGM-84F Harpoon ID	I/TARH/3			3 - 75	40+D6/2	9	VLow Cr.	561	VSm	1985	L, W3
USA	RGM-84E Harpoon IE SLAM	I/TARH/3			3 - 130	40+D6/2	9	VLow Cr.	561	Sthy	--	D, M, W3
USA	RGM/UGM-84M Harpoon III	I/Sat/Cmd/3			3 - 60	40+D6/2	9	VLow Cr.	561	VSm	1984	
USA	RGM-84N Harpoon ER	I&Sat/M/TARH/3			3 - 80	40+D6/2	9	VLow Cr.	561	Sthy	2010	P
USA	RGM/UGM-109A	I/M/TARH/4?			? - 167	40+D6/2	9	VLow Cr.	561	VSm	--	
USA	Tomahawk Blk I (TLAM-N)	I&TERCOM/D1			50 - 1350	200 kT	--	VLow Cr.	475	VSm	1987 - 91	
USA	RGM/UGM-109B	I/TARH/2			6 - 250	51+D6	14	VLow Cr.	475	VSm	1983 - 95	W5
USA	BGM-109G Gryphon											
USA	Tomahawk Blk I (GLCM)	I&TERCOM/D1			50 - 1350	0.2-150 kT	--	VLow Cr.	475	VSm	1983 - 91	
USA	RGM/UGM-109C											
USA	Tomahawk Blk IIA (TLAM-C)	I&TERCOM/DSMAC/D2			25 - 675	51+D6	14	VLow Cr.	475	VSm	1986 - 02?	
USA	RGM/UGM-109D											
USA	Tomahawk Blk IIB (TLAM-D)	I&TERCOM/DSMAC/D2			25 - 472	D6+3	11	VLow Cr.	475	VSm	1988 - 02?	Q
USA	RGM/UGM-109C											
USA	Tomahawk Blk IIIA (TLAM-C)	I&Sat/DSMAC II/D2+			25 - 900	45+D6	14	VLow Cr.	475	Sthy	1993	
USA	RGM/UGM-109D											
USA	Tomahawk Blk IIIB (TLAM-D)	I&Sat/DSMAC II/D2+			25 - 700	D6+3	11	VLow Cr.	475	Sthy	1994	Q
USA	RGM/UGM-109E											
USA	Tactical Tomahawk Blk IV	I&Sat/M/DSMAC IA/IT1+			25 - 900	51+D6	14	VLow Cr.	475	Sthy	2004	
USA	RGM/UGM-109E											
USA	Tactical Tomahawk Blk Va (Maritime Strike Tomahawk)											
USA	RIM-2A/B Terrier BW-0/1	I&Sat/M/PRH/4			25 - 900	45+D6	10	VLow Cr.	475	Sthy	2023	G
USA	RIM-2C Terrier BT-3	Beam-Riding/1	3 - 10	0.0		31+D6/2	--	Med - Hi	1033	VSm	1956	R
USA	RIM-2D Terrier BT-3A	Beam-Riding/1	3 - 10	0.0		22+D6/3	--	Low - Hi	1180	VSm	1960	
USA	RIM-2D(N) Terrier BT-3A(N)	Beam-Riding/1	3 - 20	0.5	5 - 15	22+D6/3	4	Low - VHi	1180	VSm	1960s	
USA	RIM-2D(N) Terrier BT-3A(N)	Beam-Riding/1	15 - 20	0.0	5 - 15	1.0 kT	--	Low - VHi	1180	VSm	1962-79	
USA	RIM-2E Terrier HT-3	SARH/2	5 - 20	0.5	5 - 20	22+D6/3	4	Low - VHi	1180	VSm	1960s	

Annex D1 - Surface Missiles (continued)

Country	Name	Guidance/Gen	Air Range (nm)	ATA Rating	Surf Range (nm)	Damage	Pen (cm)	Envelope/ Flight Path	Speed (kts)	Sig- nature	IOC	Remarks
USA	RIM-2F Terrier HTR-3	SARH/2	5 - 40	1.0	5 - 25	22+D6/3	4	Low - VHi	1180	VSm	1964	
USA	RIM-7D Sea Sparrow	SARH/2	0.5 - 6	0.5	0.5 - 6	21+D6/3	3	Low - Hi	860	VSm		
USA	RIM-7E Sea Sparrow	SARH/2	0.5 - 6	1.0	0.5 - 6	21+D6/3	3	Low - Hi	860	VSm	1967	
USA	RIM-7H NATO Sea Sparrow	I/MTSARH/3	0.8 - 12	2.0	0.8 - 10	22+D6/3	3	Low - Hi	1375	VSm	1973	
USA	RIM-7M NATO Sea Sparrow	I/MTSARH/3	0.5 - 12	2.5	0.5 - 10	23+D6/3	3	VLow - Hi	1650	VSm	1982	
USA	RIM-7P NATO Sea Sparrow	SARH/3	0.5 - 14	3.0	0.5 - 14	23+D6/3	3	VLow - Hi	1650	VSm	1990	
USA	RIM-8A Talos	Beam-Riding/TSARH/1	6 - 50	0.0	6 - 25	40+D6/2	9	Low - VHi	1775	VSm	1955	
USA	RIM-8B Talos	Beam-Riding/1	20 - 50	0.0	20 - 40	1 - 5 KT	--	Low - VHi	1775	VSm	1955	
USA	RIM-8C Talos	Beam-Riding/TSARH/1	7 - 100	0.5	7 - 25	42+D6/2	9	Low - VHi	2075	VSm	1960	
USA	RIM-8D Talos	Beam-Riding/1	20 - 100	0.0	20 - 40	1 - 5 KT	--	Low - VHi	2075	VSm	1955	
USA	RIM-8C(CW) Talos	Beam-Riding/TSARH/2	7 - 100	1.0	7 - 25	42+D6/2	9	Low - VHi	2075	VSm	1962	
USA	RIM-8D(CW) Talos	Beam-Riding/2	20 - 100	1.0	20 - 40	1 - 5 KT	--	Low - VHi	2075	VSm	1962	
USA	RIM-8E Unified Talos	Beam-Riding/TSARH/1	7 - 100	1.0	7 - 25	42+D6/2	9	Low - VHi	2075	VSm	1962	S
USA	RIM-8E Unified Talos (nuclear)	Beam-Riding/1	7 - 100	1.0	7 - 25	1 - 5 KT	--	Low - VHi	2075	VSm	1962	S
USA	RIM-8F Talos	Beam-Riding/TSARH/2	7 - 100	1.0	7 - 25	42+D6/2	9	Low - VHi	2075	VSm	1962	
USA	RIM-8G Unified Talos	Beam-Riding/TSARH/2	7 - 100	1.5	7 - 25	42+D6/2	9	Low - VHi	2075	VSm	1965	S
USA	RIM-8G Unified Talos (nuclear)	Beam-Riding/2	7 - 100	1.5	7 - 25	1 - 5 KT	--	Low - VHi	2075	VSm	1965	S
USA	RIM-8J Unified Talos	Beam-Riding/TSARH/2	7 - 100	1.5	7 - 25	42+D6/2	9	Low - VHi	2075	VSm	1965	S
USA	RIM-8J Unified Talos	Beam-Riding/TSARH/2	7 - 100	1.5	7 - 25	1 - 5 KT	--	Low - VHi	2075	VSm	1965	S
USA	RIM-8H Talos ARM	Beam-Riding/TPRH/1	--	--	7 - 25	40+D6/2	11	Direct	2075	VSm	1967	T
USA	RIM-24A Tartar	SARH/2	1.8 - 7.5	0.5	1.8 - 7.5	23+D6/3	4	Low - Hi	1360	VSm	1962	
USA	RIM-24B Tartar IT	SARH/2	1 - 16	0.5	1 - 16	23+D6/3	4	Low - VHi	1450	VSm	1963	
USA	RIM-24C Tartar TRIP	SARH/2	1 - 18	1.0	1 - 18	23+D6/3	4	Low - VHi	1450	VSm	1968	
USA	RIM-50 Typhoon LR	TVM/2	3 - 110	2.5	3 - 25	27+D6/3	5	VLow - VHi	2632	VSm	1970	U
USA	RIM-50 Typhoon LR (nuclear)	TVM/2	3 - 110	2.5	3 - 25	0.9 kt	--	VLow - VHi	2632	VSm	1970	U
USA	RIM-55 Typhoon MR	TVM/2	3 - 40	2.5	3 - 25	27+D6/2	5	VLow - VHi	2632	VSm	1970	U
USA	RIM-55B Typhoon MR	SARH/2	1 - 40	2.5	1 - 25	27+D6/2	5	VLow - VHi	2632	VSm	1970	
USA	RIM-66A SM1MR Blk I/III	SARH/2	1.5 - 17.5	1.5	1.5 - 17.5	22+D6/3	4	Low - VHi	1240	VSm	1967	
USA	RIM-66A SM1MR Blk IV	SARH/2	2 - 17.5	1.5	2 - 17.5	22+D6/3	4	Low - VHi	1240	VSm	1968	
USA	RIM-66B SM1MR Blk V	SARH/2	2 - 25	2.0	1 - 25	25+D6/2	4	Low - VHi	1650	VSm	1978	
USA	RIM-66E SM1MR Blk VI	SARH/3	2 - 25	2.5	2 - 25	25+D6/2	4	PVLow - VHi	1650	VSm	1983	
USA	RIM-66E SM1MR Blk VIa	SARH/3	3.5 - 25	2.5	3.5 - 25	25+D6/2	4	PVLow - VHi	1650	VSm	1983 - 03	
USA	RIM-66E SM1MR Blk VIb	SARH/3	3.5 - 25	2.5	3.5 - 25	25+D6/2	4	VLow - VHi	1650	VSm	1983 - 03	
USA	RIM-67A SM1ER Blk I/III	SARH/2	3.5 - 40	1.5	4.5 - 25	25+D6/2	4	Low - VHi	1650	VSm	1969	
USA	SM1ER Blk IV/V	SARH/2	3.5 - 40	2.0	4.5 - 25	25+D6/2	4	Low - VHi	1650	VSm	1978	
USA	RIM-67B Terrier/SM2ER Blk I	I/MTSARH/2	3.5 - 60	2.0	3 - 25	25+D6/2	4	Low - VHi	1650	VSm	1980 - 95	
USA	RIM-67C Terrier/SM2ER Blk II	I/MTSARH/2	3.5 - 40	2.0	4.5 - 25	25+D6/2	4	PVLow - VHi	1650	VSm	1980 - 95	
USA	RIM-67D Terrier/SM2ER Blk III	I/MTSARH/3	3.5 - 40	2.5	4.5 - 25	25+D6/2	4	VLow - VHi	1650	VSm	1980 - 95	
USA	RIM-66C SM2MR Blk I	I/MTSARH/2	2 - 37.5	2.0	1.5 - 25	25+D6/2	4	Low - VHi	1650	VSm	1980 - 95	
USA	RIM-66G/H/J SM2MR Blk II	I/MTSARH/2	2 - 60	2.5	2 - 25	27+D6/2	4	VLow - VHi	1980	VSm	1984	
USA	RIM-66K SM2MR Blk III	I/MTSARH/3	3 - 90	2.5	3 - 25	27+D6/2	4	VLow - VHi	2006	VSm	1988	
USA	RIM-66L SM2MR Blk IIIA	I/MTSARH/3	3 - 90	3.0	3 - 25	27+D6/2	4	VLow - VHi	2006	VSm	1994	
USA	RIM-66M SM2MR Blk IIIB	I/MTIRH&TSARH/4	3 - 90	3.5	3 - 25	27+D6/2	4	VLow - VHi	2006	VSm	1999?	
USA	RIM-? SM2MR Blk IIIC	I/MTSARH&TARH/5	3 - 90	4.0	3 - 25	27+D6/2	4	VLow - VHi	2006	VSm	dev?	
USA	RIM-72C Sea Chaparral	IRH/2	0.3 - 3.5	1.0				VLow - Med	1434	VSm	1971	
USA	RIM-156A SM2 Aegis Blk IV	I/MTSARH/4	6 - 130	3.5	3 - 25	27+D6/2	4	VLow - VHi	2006	VSm	2003	

Annex D1 - Surface Missiles (continued)

Country	Name	Guidance/Gen	Air Range (nmi)	ATA Rating	Surf Range (nmi)	Damage	Pen (cm)	Envelope/Flight Path	Speed (kts)	Sig-nature	IOC	Remarks
USA	RIM-156B SM2 Aegis ER Blk IVa	I/M/TIRH&TSARH/4	3 - 108	4.0	3 - 25	27+D6/2	4	VLow - VHi	1980	VSm	--	
USA	RIM-161B SM3 Blk IA	I/M/TIIRH/4	270	6.0				RHi only	5830	VSm	2011	B
USA	RIM-161C SM3 Blk IB	I/M/TIIRH/4	432	6.5				RHi only	6805	VSm	2013	B
USA	RIM-161D SM3 Blk II	I/M/TIIRH/4	810	6.5				RHi only	8747	VSm	2012+	B
USA	RIM-161 SM3 Blk IIA	I/M/TIIRH/4	810	7.0				RHi only	8747	VSm	2018	B
USA	RIM-162 ESSM	SARH/3	0.5 - 18	3.5	0.5 - 18	25+D6/2	3	VLow - Med	2250	VSm	2004	X
USA	RIM-162 ESSM Blk I	SARH/3	0.5 - 18	3.5	0.5 - 18	25+D6/2	3	VLow - Med	2250	VSm		X
USA	RIM-162 ESSM Blk II	SARH/TARH/4	0 - 27	4.0	? - 27	25+D6/2	3	VLow - Hi	2250	VSm	2020	X
USA	RIM-174 SM6 ERAM Blk I	I/M/TSARH&TARH/5	6 - 200	4.5	6 - 200	34+D6/2	7	VLow - RHi	2006	VSm	2013	V
USA	RIM-174 SM6 ERAM Blk IA	I&Sat/M/TSARH&TARH/5	6 - 200	5.0	6 - 200	34+D6/2	7	VLow - RHi	2006	VSm		V
USA	Stinger	IRH/2	0.1 - 3	1.0				VLow - Low	1452	VSm	1981	
USA	Stinger-Post/RMP	IRH/3	0.1 - 3	1.5				VLow - Low	1452	VSm	1987	

Remarks Key:

A: High ROF, can engage 12 separate targets per Tactical Turn

B: Exo-atmospheric targets only.

C: Canceled 1958.

D: Canceled 1991.

E: Can only attack missiles with TARH seekers.

F: Can attack missiles with LPI seekers.

G: Can be redirected to different target after launch.

H: For 155mm AGS, canceled because of cost.

J: Terminal popup.

K: No terminal popup.

L: Selectable popup.

M: Reattack capability.

N: Terminal maneuvers.

P: Modified Harpoon IC with VLS capability, data link, Use Link 16 for mid-course guidance. Canceled Apr 09.

Q: Cluster warhead, airburst damage.

R: Subsonic targets only.

S: Warhead can be changed between conventional and nuclear in the magazine.

T: Can swap one of 6 different seeker heads to target various Soviet-built AAA/SAM/Air Search radars in North Vietnam. Can also be beam directed directly to target.

U: 12 targets @ 2 missiles.

V: Can attack both aerodynamic and exo-atmospheric targets.

W#: Number of waypoints the missile may use.

X: "ESSM" stands for "Evolved Sea Sparrow Missile."

Y: Can engage "n" targets per increment with "n" missiles

Annex D2 - Land-Based Surface-to-Air Missiles

<u>Country</u>	<u>Name</u>	<u>Guidance</u> <u>/Gen</u>	<u>ATA</u> <u>Rating</u>	<u>Range</u> <u>(nmi)</u>	<u>Min-Max</u> <u>Altitude</u>	<u>Speed</u> <u>(kts)</u>	<u>IOC</u>	<u>Remarks</u>
USA	Bomarc A	Cmd/TARH/1	0.0	216	Med - VHi	1606	1959	
USA	Bomarc B	Cmd/TARH/2	0.0	383	Med - VHi	1721	1961	W40 10 kT warhead
USA	Chaparral	IRH/2	0.5	0.3 - 3.2	NOE - Med	1434	1969	
USA	Imp. Chaparral	IRH/3	1.0	0.3 - 4.0	NOE - Med	1434	1978	
USA	Imp. Chaparral/RSS	IRH/3	1.5	0.3 - 4.0	NOE - Med	1434	Late 80s	
USA	Hawk	SARH/2	0.5	1.0 - 21.6	NOE - High	1350	1960	
USA	Improved Hawk (IHAWK)	SARH/2	1.0	0.8 - 21.6	NOE - VHi	1550	1971	
USA	IHAWK PIP Phase I	SARH/2	1.5	0.8 - 21.6	NOE - VHi	1550	1979	
USA	IHAWK PIP Phase II	SARH/3	2.0	0.8 - 21.6	NOE - VHi	1550	1983	
USA	IHAWK PIP Phase III	SARH/3	2.5	0.8 - 21.6	NOE - VHi	1550	1989	
USA	IHAWK HMSE/XXI	SARH/3	2.5	0.8 - 24.3	NOE - VHi	1550	1994	
USA	Nike-Ajax	Cmd/1	0.0	5.0 - 25.9	High - VHi	1320	1954	HE or W31 (5 or 10 kT) warhead
USA	Nike-Hercules (MIM-14A)	Cmd/1	0.5	4 - 75.6	Low - RHi	2008	1958	
USA	Impr. Nike-Hercules (MIM-14B)	Cmd/2	1.0	4 - 75.6	Low - RHi	2094	1961	
USA	Impr. Nike-Hercules (MIM-14C)	Cmd/2	1.5	4 - 75.6	Low - RHi	2094	1972	
USA	Patriot (MIM-104A/B)	TVM/3	2.5	1.6 - 37	NOE - VHi	3305	1984	
USA	Patriot PAC-1	TVM/3	2.5	1.6 - 37	NOE - VHi	3305	Jul 88	
USA	Patriot PAC-2 (MIM-104C)	TVM/3	3.0	1.6 - 37	NOE - VHi	3305	Sep 90	
USA	Patriot PAC-2+	TVM/3	3.0	1.6 - 37	NOE - VHi	3305	2007?	
USA	Patriot PAC-3 (MIM-104F)	I/M/TARH/4	3.5	1.6 - 27	NOE - High	3305	Dec 95	1st Gen ATBM only, HOJ mode
USA	Patriot PAC-3 MSE	I/M/TARH/4	4.0	1.6 - 40.5	NOE - High	3305	2015	
USA	Patriot GEM (MIM-104D)	TVM/3	3.0	1.6 - 48.1	NOE - VHi	3305	1996	
USA	Patriot GEM+ (MIM-104E)	TVM/3	3.5	1.6 - 48.1	NOE - VHi	3305	2002	
USA	Redeye	IRH/1	0.0	0.1 - 1.6	NOE - Low	1300	1964	Subsonic targets only
USA	Redeye Blk II, III	IRH/2	0.5	0.1 - 1.6	NOE - Low	1300	1967, 68	Subsonic targets only
USA	SLAMRAAM	I/M/TARH/4	4.0	0.5 - 12	NOE - RHi	2640		Land-based AMRAAM
USA	Stinger	IRH/2	1.0	0.1 - 3.0	NOE - Low	1452	1978	
USA	Stinger-POST/RMP	IRH/3	1.5	0.1 - 3.0	NOE - Low	1452	1987	
USA	Stinger Blk I	IRH/3	2.0	0.1 - 3.0	NOE - Low	1452	1995	
USA	Stinger Blk I+	IRH/3	2.5	0.1 - 3.0	NOE - Low	1452	2019	
USA	THAAD	I/M/TIIRH/4	--	? - 108	? - RHi	5443	2008	1st Gen ATBM only

Annex D2a - Surface-to-Air Missile Batteries

Country	System Name	Missile Name	Acquisition Radars	Guidance Radar	Msls/ Lchr	Lchrs/ Btry	Combat Sys Gen	Tgts@msls /Btry	Setup Time (min)	Reload Time (min)	Remarks
USA	Avenger	Stinger	2 MPQ-64	--	8	8	3	8@1	5	6	
USA	Bomarc		SAGE	--	1	4	2	1@1	--	--	
USA	Chaparral/Impr. Chaparral	AIM-9	MPQ-49 FAAR	--	4	4	--	4@1	2	5	B
USA	HAWK		MPQ-35, MPQ-34, MPQ-37	MPQ-33/39	3	3	2	3@1	40	10	
USA	Improved Hawk (IHAWK)		MPQ-50, MPQ-48, MPQ-51	MPQ-46	3	3	3	1@1	40	10	
USA	IHAWK Phase I		MPQ-50, MPQ-55, MPQ-51	MPQ-47	3	3	3	1@1	40	10	
USA	IHAWK Phase II		MPQ-50, MPQ-55, MPQ-51	MPQ-57	3	6	3	2@1	40	10	
USA	IHAWK Phase III		MPQ-50, MPQ-62	MPQ-61	3	6	4	3@1	40	10	
USA	IHAWK Phase III/HMSE		MPQ-50, MPQ-62	MPQ-61	3	6	4	6@1	15	10	
USA	Nike-Ajax		ACQ/LOPAR	TTR, MTR	1	16	2	1@1	--	--	
USA	Nike-Hercules		ACQ/LOPAR, MPQ-43/44								
USA	Improved Nike-Hercules (1981)		HIPAR, TRR	TTR, MTR	1	6	2	1@1	--	--	
USA			ACQ/LOPAR, MPQ-43/44								
USA	Patriot		HIPAR, TRR	TTR, MTR	1	6	3	1@1	--	--	
USA	Patriot (2003)		MPQ-53	MPQ-53	4	8	4	9@1	45	12	A, C
USA	Redeye		MPQ-65	MPQ-65	4	8	4	9@1	45	12	A, C
USA	Stinger		--	--	1	1	--	1@1	--	3	
USA	SLAMRAAM	AMRAAM	--	--	1	1	--	1@1	--	3	
USA	THAAD		MPQ-64	TPY-2 GBR	5	8	4	8@1	5	30	
USA			TPY-2 GBR		8	6	5				

Remarks Key:

A: 120° arc per launcher. US units in Europe and some export customers ((Japan, Netherlands) have 5 vice 8 launchers per battery.

B: Each launcher has 8 reloads.

C: Patriot batteries went to mixed composition n 2000, with (4)6 PAC-2/GEM launchers and (16)2 PAC-3 launchers per battery.

Annex E - Depth Charges

<u>Country</u>	<u>Name</u>	<u>Weight (Kg)</u>	<u>Class Grouping</u>	<u>Damage Points Major</u>	<u>Damage Points Minor</u>	<u>Max Depth Band</u>	<u>IOC</u>
USA	Mk9	151	IV	11	6	Deep	1944
USA	Mk14	154	IV	11	6	Int II	Late 1945

Annex E3 - ASW Projectors

<u>Country</u>	<u>System Name</u>	<u>Fuzing</u>	<u>Range (kys)</u>	<u>Max Depth Zone</u>	<u>Barrels</u>	<u>No. of Bombs</u>	<u>Hit Chance</u>		<u>Contact Major</u>	<u>Contact Minor</u>	<u>Damage</u>		<u>Attacks per I.Turn</u>	<u>Loading</u>	<u>IOC</u>	<u>Remarks</u>
							<u>Contact Major</u>	<u>Contact Minor</u>			<u>Major</u>	<u>Minor</u>				
Norway	Mk7 Terne III	C & H	0.4 - 0.9	Int II	6 x 200mm	6	0.05	0.11	0.26	0.61	27	10	5	3	Auto	1961
UK	Squid Mk IV (Double)	H	0.3	Int III	6 barrels	6	--	0.26	0.61	--	--	11	6	1	Auto	Late 43
USA	Mk 10 Hedgehog	C	0.3	--	24 rails	24	0.15	--	--	--	17	--	--	1	Manual	Late 43
USA	Mk 11 Hedgehog	C	0.3	--	24 rails	24	0.27	--	--	--	17	--	--	1	Manual	Late 43
USA	Mk 15 Hedgehog	C	0.3	--	24 rails	24	0.28	--	--	--	17	--	--	1/2	Manual	Late 43
USA	Mk 108 Weapon Alfa															
	RUR-4A Mk1	H	0.3 - 0.8	Int III	1 barrel	2	--	0.29	0.43	--	--	13	6	1	Auto	1951
		H	0.3 - 0.8	Int III	1 barrel	3	--	0.34	0.56	--	--	13	6	1	Auto	
		H	0.3 - 0.8	Int III	1 barrel	4	--	0.39	0.69	--	--	13	6	1	Auto	
	RUR-4A Mk2	H	0.2 - 1	Int III	1 barrel											

Remarks Key: A. Requires specialized depth-finding sonar. C. Fixed in train, target must be directly ahead.

Annex E4 - ASW Standoff Weapons

<u>Country</u>	<u>System Name</u>	<u>Range (nmi)</u>	<u>Speed (knots)</u>	<u>Payload</u>	<u>IOC</u>	<u>Remarks</u>
USA	RUR-5A ASROC Mod 3	0.5 - 5.0 1.8 - 5.0	660	Mk44 torpedo W44 5 kT NDB	1961-1994	ROF 2/min.
USA	RUR-5A ASROC Mod 4	0.5 - 5.0 1.8 - 5.0	660	Mk46 torpedo W44 5 kT NDB	1965-1994	ROF 2/min.
USA	RUM-139A Vertical Launch ASROC	2.5 - 12	660	Mk46 Mod 5A torpedo	1993 - 2001	Mk41 & 48 VLS. Inertial guidance. All units updated to RUM-139B 1996 - 2001
USA	RUM-139B Vertical Launch ASROC	2.5 - 12	660	Mk46 Mod 5A(SW) torpedo	1996	Mk41 & 48 VLS. Inertial guidance.
USA	RUM-139C Vertical Launch ASROC	2.5 - 12	660	Mk54 torpedo	2010	Mk41 & 48 VLS. Inertial guidance.
USA	UUM-44A SUBROC	6 - 25	780	W35 130 kT NDB	1963-92	Inertial guidance. Nuke detonates at 300 m depth or sea floor. Also antisurface use.
USA	UUM-125A/B Sea Lance	5 - 60/30	660	W89 200 kT/Mk50 torp	---	Canceled 1990. Inertial guidance.

Annex F - Torpedoes

<u>Country</u>	<u>Name</u>	<u>Guidance</u> <u>/Gen</u>	<u>Range</u> <u>(nmi)</u>	<u>Speed</u> <u>(kts)</u>	<u>Diam</u> <u>(mm)</u>	<u>Warhead</u> <u>Fuzing</u>	<u>Dam</u> <u>vs.ship</u>	<u>Dam</u> <u>vs.sub</u>	<u>Launch</u> <u>Platforms</u>	<u>IOC</u>	<u>Max</u> <u>Depth</u>	<u>Weight</u> <u>kg</u>	<u>Propul-</u> <u>sion</u>	<u>Remarks</u>
USA	Mk14 Mod 0	Gyro/2	2.3 4.5	46 31	533	C	74	--	Sub	1931		1361	Steam	
USA	Mk14 Mod 3	Gyro/2	2.3 4.5	46 31	533	C	92	--	Sub	1943		1388	Steam	
USA	Mk15 Mod 0	Gyro/2	3.0 5.0	45 34	533	C	73	--	Surf	1935		1560	Steam	
			7.5	27										
USA	Mk15 Mod 3	Gyro/2	2.3 4.5	45 34	533	C	99	--	Surf	1943		1742	Steam	
			7.0	27										
USA	Mk16 Mod 0	Gyro/2	3.5	46	533	C	100	--	Sub	1940		1766	Peroxide	
USA	Mk16 Mod 1	Gyro/2	5.5	46	533	C	101	--	Sub	1944		1799	Peroxide	
USA	Mk21 Mod 2	Passive/1	3.0	33.5	572	C	74	--	Air, Msl	1946		966	Electric	A
USA	Mk24 Fido	Passive/1	2.0	12	483	C	--	47	Air	1942	Int I	309	Electric	
USA	Mk27 Mod 0	Passive/1	2.5	12	483	C	47	--	Sub	1944		327	Electric	
USA	Mk27 Mod 4	Passive/1	3.1	15.9	483	C	52	--	Sub	1949	Int I	533	Electric	
USA	Mk28	Passive/1	2.0	19.6	533	C	88	--	Sub	1944		1270	Electric	
USA	Mk32	Active/1	4.8	12	483	C	--	49	Surf, Air	1951	Int I	318	Electric	
USA	Mk34 Mod 1	Passive/1	1.8 6.0	17 11	483	C	--	50	Air	1948	Int I	522	Electric	
USA	Mk35	Act/Pass/1	7.5	27	533	C	66	66	Surf, Sub	1949	Int III	803	Electric	
USA	Mk37 Mod 0/1	Act/Pass/2	4.0 8.5	24 16	482	I	--	76	Sub	1957 /1960	Int III	649	Electric	
USA	Mk37 Mod 2/3	Wire-G/3	4.0	24	482	I	--	76	Sub	1967	Int III	767	Electric	
USA	Mk39	Wire-G/1	3.1	15.9	483	C	52	--	Sub	1956		578	Electric	
USA	Mk41	Act/Pass/1	4.0	25	533	C	--	54	Air	1949	Int III	602	Electric	
USA	Mk43	Active/1	2.1	21	324	C	--	44	Surf, Air	1951	Int III	168	Electric	
USA	Mk44	Active/2	3.0	30	324	C	--	44	Surf, Air, Msl	1958	Int III	193	Electric	
USA	Mk45 ASTOR	Wire-G/2	7.5	40	482	--	W34	W34	Sub	1963		1057	Electric	B
USA	Mk46 Mod 0	Act/Pass/1	6.0	45	324	C	--	47	Surf, Air, Msl	1963	Int V	258	Thermal	
USA	Mk46 Mod 2	Act/Pass/2	6.0	45	324	C	--	52	Surf, Air, Msl	1970	Int V	231	Thermal	
USA	Mk46 Mod 5 (NEARTIP)	Act/Pass/3	6.0	45	324	C	--	52	Surf, Air	1979	Int V	231	Thermal	
USA	Mk46	Act/Pass/3	8.0	30	324	C	--	52	Msl			231	Thermal	C
	Mod 5A(S)		8.0	30	324	C	--	52	Msl					
USA	Mk46	Act/Pass/3	6.0	45	324	C	--	52	Surf, Air,	1996	Deep I	231	Thermal	C
	Mod 5A(SW)		8.0	30					Msl					
USA	Mk48 Mod 1	Wire-G/3	11.2 16.9 17.6	55 40 28	533	I	175	124	Sub	1971	Deep I	1560	Thermal	D

Annex F - Torpedoes (continued)

<u>Country</u>	<u>Name</u>	<u>Guidance</u> <u>/Gen</u>	<u>Range</u> <u>(nmi)</u>	<u>Speed</u> <u>(kts)</u>	<u>Diam</u> <u>(mm)</u>	<u>Warhead</u> <u>Fuzing</u>	<u>Dam</u> <u>vs. ship</u>	<u>Dam</u> <u>vs. sub</u>	<u>Launch</u> <u>Platforms</u>	<u>IOC</u>	<u>Max</u> <u>Depth</u>	<u>Weight</u> <u>kg</u>	<u>Propul-</u> <u>sion</u>	<u>Remarks</u>
USA	Mk48 Mod 3	Dual-Wire/3	11.2 16.9	55 40	533	I	175	124	Sub	1977	Deep I	1560	Thermal	D
USA	Mk48 Mod 4	Dual-Wire/3	17.6 11.2 16.9	28 55 40	533	I	175	124	Sub	1980	Deep III	1560	Thermal	D
USA	Mk48 Mod 5 ADCAP	Dual-Wire/4	17.6 15 22.6	28 65 40	533	I	175	124	Sub	1989	Deep III	1597	Thermal	G
USA	Mk48 Mod 6 ADCAP	Dual-Wire/4	25 15 22.6	28 65 40	533	I	175	124	Sub	1998	Deep III	1597	Thermal	C, H
USA	Mk48 Mod 7 CBASS	Dual-Wire/4	25 15 22.6	28 65 40	533	I	175	124	Sub	2006	Deep III	1597	Thermal	C, H
USA	Mk50 Barracuda	Act/Pass/4	25 15	28 55	324	C	--	52	P-3 only	1991-15	Deep V	363	Thermal	C, E
USA	Mk54	Act/Pass/4	12 16	45 30	324	C	--	52	Surf, Air	2005	Deep I	285/292	Thermal	C, F

Remarks Key:

- A: For Petrel missile
- B: W34 11 kt warhead, command-detonated near target
- C: Shallow-water capable
- D: 40 kt quiet cruise, pump jet propulsor
- E: DE warhead, pump jet propulsor
- F: Weights are for helicopter/fixed wing carriage.
- G: Quiet at 28 kts and 40 kts.
- H: VQuiet at 28 knots, Quiet at 40 knots

Annex G - Mines

Country	Name	Gen	Type	Fuzing	Max Depth (m)	Weight (kg)	Warhead (kg)	Contact/ Full Infil Damage	Influence Damage			Laying Platform	In Service	Remarks
									Severe	Major	Minor			
USA	Mk6	1	Moored	C	915	?	136	62				Surf	1917 - 70	
USA	Mk13 Mods 1 - 5	1	Bottom	M	40	449	290	129	78	39	19	Air		
USA	Mk16 Mod 1	1	Moored	C	915		272	89				Surf	? - 1985	
USA	Mk16 Mod 2	1	Moored	A	915		272	151	91	45	23	Surf	? - 1985	
USA	Mk25 Mod 1/3	1	Bottom	A	40	896	578	220	132	66	33	Air	? - 1996	
	Mod 2	2	Bottom	P	40	896	578	220	132	66	33	Air	? - 1974	
USA	Mk36 Mod 0/1	1	Bottom	M	120	457	289	156	93	47	23	Air	? - 1974	A, B
	Mod 2			A	45	464							? - 1970	B
	Mod 3			M, P	45	490							? - 1974	B
USA	Mk49 Mod 0	1	Bottom	M	60	907	535	185	111	56	28	Sub	1951?	H
	Mod 1	1		A	60	857								
	Mod 2	2		M, P	45	889								
USA	Mk51	1	Bottom	M	91	2182	1485	293	176	88	44	Surf		C
USA	Mk52 Mod 0	2	Bottom	M, A, P	47	560	283	147	88	44	22	Air	1961	
	Mod 1			A	47	543	283	147	88	44	22		1955-61	
	Mod 2			M	183	568	283	147	88	44	22			
	Mod 3			P, M	47	573	283	147	88	44	22			
	Mod 4			P, A	47	521	283	147	88	44	22		? - 1978	
	Mod 5			M, A	47	571	283	147	88	44	22			
	Mod 6			P, A, M	47	546	283	147	88	44	22		? - 2007	
USA	Mk55 Mod 0	2	Bottom	P	47	990	577	211	126	63	32	Air, Surf	1961	
	Mod 1	2		A	47	924	577	211	126	63	32		? - 1961	
	Mod 2	2		M	183	957	577	211	126	63	32			
	Mod 3	2		P, M	47	961	577	211	126	63	32			
	Mod 4	2		P, A	47	961	577	211	126	63	32		? - 1976	
	Mod 5	2		M, A	47	965	577	211	126	63	32			
	Mod 6	2		P, A, M	47	960	577	211	126	63	32			
	Mod 7	3		M	183	1023	577	211	126	63	32			
	Mod 11	3		M or M, S	183	1027	577	211	126	63	32			
	Mod 12	3		M	183	1027	577	211	126	63	32			
	Mod 13	3		P, M	183	1031	577	211	126	63	32			
USA	Mk56		Moored	M	365	1010	159	101	61	30	15	Air	1966 - 2002	
USA	Mk57		Moored	M	365	934	154	99	60	30	15	Surf, Sub	1964	
USA	Mk36 DST Mod 3	2	Bottom	M	92	286	87	79	47	24	12	Air	1967	D, Mk82 bomb
	Mod 4-7			M, S	92									
USA	Mk40 DST Mod 3	2	Bottom	M	92	501	202	120	72	36	18	Air	1968?	D, Mk83 bomb
	Mod 4-7			M, S	92									
USA	Mk41 DST Mod 3		Bottom	M	92	949	429	175	105	52	26	Air		D, Mk84 bomb
	Mod 4-7			M, S	92									
USA	Mk60 CAPTOR		Moored	A	915	907	52					Sub, Air	1979 - 2002	G
USA	Mk62 Mod 1	3	Bottom	M, S	92	227	87	82	49	25	12	Surf, Sub, Air	1980	E, Mk82 bomb
	Mod 2	4		M, S, P									2018?	F
	Mod 2	4		EP, M, S, P										
USA	Mk63 Mod 1	3	Bottom	M, S	92	454	202	126	75	38	19	Surf, Sub, Air		E, Mk83 bomb
	Mod 2	4		M, S, P									2018?	F
	Mod 3	4		EP, M, S, P										

Annex G - Mines (continued)

<u>Country</u>	<u>Name</u>	<u>Gen</u>	<u>Type</u>	<u>Fuzing</u>	<u>Max Depth (m)</u>	<u>Weight (kg)</u>	<u>Warhead (kg)</u>	<u>Full Infl Damage</u>	<u>Influence Damage</u>	<u>Major</u>	<u>Minor</u>	<u>Laying Platform</u>	<u>In Service</u>	<u>Remarks</u>
USA	Mk64 Mod 1	3	Bottom	M, S	92	907	429	183	110	55	27	Surf, Sub, Air	1983	E, Mk84 bomb
	Mod 2	4		M, S, P										
USA	Mk65	3	Bottom	M, S, P	92	1084	513	204	122	61	31	Surf, Sub, Air	1983	E
	Mod 0	3		M, S										
	Mod 1	3		M, S, P										
	Mod 3	4		EP, M, S, P									2003	F
USA	Mk67 Sub-Launched Mobile Mine	3	Bottom	M, P	100	753	226	153	92	46	23	Sub	1987	
USA	CDM	4	Bottom	EP, S, M, P	45+			153	92	36	23	Sub	2020	J

Fuzing Abbreviations:

- C = Contact
- M = Magnetic
- S = Seismic
- A = Acoustic
- P = Pressure
- EP = Electric Potential

Remarks Key:

- A: Improved Mk13 - primary postwar lightweight mine
- B: Torpex fill vice TNT
- C: Harbor defense, detonated on operator command based on mine sensors
- D: Destructor series
- E: Quickstrike series
- F: Capable vs quiet subs, mini-subs, FAC and hovercraft
- G: Deep moored. Mk46 torpedo (mod varies by year), contact damage.
- H: Two can be carried in the space of one torpedo
- J: Planned Clandestine Delivered Mine

Annex J1 - Naval Radars

<u>Country</u>	<u>System</u>	<u>Function</u>	<u>Detection Range</u>					<u>Gen</u>	<u>IOC</u>	<u>Remarks</u>
			<u>Large</u>	<u>Medium</u>	<u>Small</u>	<u>VSmall</u>	<u>Stealthy</u>			
Canada	LN-66/SP	Nav	40	28	16	9	5	3		
Intl	Nav radar (generic)	Nav	36	25	14	8	4	4		
Japan	Furuno series	Nav	48	28	16	9	5	3		
Nethl	Scout	Nav	24	24	18	10	6	5		LPI
UK	Decca 2000 series	Nav	48	32	18	10	6	4		
USA	BPS-2	AS	70	49	35	14	4	2		Periscope radar
USA	BPS-3	HF	53	37	27	11	3	2		Mounted in sail
USA	BPS-4	AS	21	15	11	4	1.3	2	1952	Periscope radar
USA	BPS-5	SS	38	21	12	7	4	3	1953	Periscope radar
USA	BPS-9	SS	38	21	12	7	4	3	1958	Periscope radar
USA	BPS-12/14	SS	38	21	12	7	4	4		Periscope radar
USA	BPS-15/16	SS	35	19	11	6	3.5	4	1991	Periscope radar
USA	CR-103/SPN-11	SS	20	11	6	4	2.0	3		
USA	Mk23 TAS	LAS	90	63	45	18	5	4	1980	
		SS	25	25	25	14	8			
USA	Mk92 CAS	3D	45	45	35	14	4	3	1978	
		SS, GFC	23	23	23	11	6			
USA	Mk92 CORT	3D, LAS	90	69	49	20	6	4		
		SS, GFC	25	23	23	23	11	6		
USA	Generic Nav X-Band	Nav	44	25	14	8	4	3		
USA	Generic Nav S-Band	Nav	63	35	20	11	6	3		
USA	Raytheon Pathfinder	Nav	35	35	19	11	6	3		
USA	Raytheon R series	Nav	47	27	15	9	5	4		
USA	Raytheon FR series	Nav	95	53	30	17	9	4		
USA	SC-1	AS	60	42	30	12	4	2	1942	
		SS	12	12	10	6	3			
USA	SC-2, SC-3, SC-4,	AS	80	56	40	16	5	2	1943	
	SC-5	SS	12	12	10	6	3			
USA	SG, SGa, SG-1, SG-2	SS	22	22	15	9	4.7	1	1942	
USA	SG-5	AS	10	10	7	3	0.8	2	1945	
		SS	30	30	20	11	6			
USA	SK series	AS	115	81	58	23	7	2	1943	
		SS	18	18	16	9	5			
USA	SP	HF	70	56	40	16	5	2	Late 44	
		SS	35	35	25	14	8			
USA	SR series	AS	110	98	70	28	8	2	Mid-44	
USA	SPG-59	3D, FC	222	155	111	44	13	3	--	Typhoon SAM system
		SS	51	28	16	9	5.1			
USA	SPQ-9A	SS, GFC	20	20	15	9	5	3	1970	
		LAS	20	20	20	8	2			
USA	SPQ-9B	SS, GFC	30	30	20	11	6	4	2002	
		LAS	45	45	45	18	5			
USA	SPQ-9B/PDD	SS	30	30	20	11	6.3	5		
USA	SPS-2	HF	300	210	150	60	18	2	1950s	
USA	SPS-3 (CXRX)	HF	20	14	10	4	1.2	2	Late 50s	
USA	SPS-4	SS	25	25	15	9	5	2	1952	
		LAS	36	28	20	8	2			
USA	SPS-5, 5A, 5B	SS	20	20	16	9	5	2	1952	
USA	SPS-5C, 5D	SS	25	25	20	11	6	2		
USA	SPS-6	LAS	100	70	50	20	6	2		
USA	SPS-6A, B, C, D, E	AS	140	98	70	28	8	2	1953	
USA	SPS-8	HF	120	84	60	24	7	2	1955	
USA	SPS-8A/B	HF	152	107	76	30	9	3	1959	
USA	SPS-10, 10B/C/D/F	SS	48	35	20	11	6	2	1953	B
		LAS	48	48	40	28	11	3		
USA	SPS-12	AS	135	133	95	38	11	2	1953	
USA	SPS-13	AS, HF	200	196	140	56	17	3	1959	F
USA	SPS-17	AS	399	279	200	80	24	2	1957	

Annex J1 - Naval Radars (continued)

Country	System	Function	Detection Range					Gen	IOC	Remarks
			Large	Medium	Small	VSmall	Stealthy			
USA	SPS-21, 21A, B, C, D	SS	38	21	12	7	3.8	2	1954	
USA	SPS-23	SS	40	28	16	9	5	2	1953	
USA	SPS-26	3D	130	91	65	26	8	3	1957	
USA	SPS-28, 28A, 28B,	SS	40	35	20	11	6	3	1957	
		LAS	100	99	71	28	8			
USA	SPS-29, 29D	AS	270	270	200	80	24	3	1958	
USA	SPS-30	HF	270	270	239	96	29	3	1962	
USA	SPS-32	AS	400	296	211	85	25	3		
USA	SPS-33	3D	250	192	137	55	17	3		
USA	SPS-35	SS	32	19	11	6	3.5	3	1957	
USA	SPS-36	SS	16	16	13	7	4.1	3	1958	
USA	SPS-37	AS	233	170	122	49	15	3	1960	
USA	SPS-37A	AS	300	272	194	78	23	3		
USA	SPS-39/42	3D	160	123	88	35	11	3	1960	
USA	SPS-40A/B	AS	225	167	119	48	14	3	1961	
USA	SPS-40C/D/E	AS	225	167	119	48	14	4	1971	
USA	SPS-41	SS	32	21	12	7	3.8	3	1959	
USA	SPS-43	AS	300	280	200	80	24	3	1961	
USA	SPS-43A	AS	350	256	183	73	22	3		
USA	SPS-46	SS	32	25	14	8	4.4	3	1961	
USA	SPS-48A/C	3D	235	165	118	47	14	3	1965	
USA	SPS-48E/G	3D	250	220	157	63	19	4/5	1990, 2011	
USA	SPS-49(V)1-2	AS	260	210	150	60	18	4	1976	
USA	SPS-49(V)3-4	AS	260	223	160	64	19	4		
USA	SPS-49(V)5-9	AS	260	237	169	68	20	4	1980s	
USA	SPS-49A(V)1	AS	260	237	169	68	20	5	1996	
USA	SPS-51	SS	35	20	11	6	3.5	3		
USA	SPS-52A/B/C	3D	245	242	173	69	21	3	1963	
USA	SPS-53, SPS-60	SS	32	25	14	8	4	3	1967	
USA	SPS-55	SS	48	44	25	14	8	3	1975	
		LAS	40	40	38	15	5			
USA	SPS-58A/C, SPS-65	LAS	35	35	35	19	6	3	1970	
USA	SPS-59/LN-66	Nav	40	32	18	10	6	3		
USA	SPS-63	SS	40	25	14	8	4	4		
USA	SPS-64	Nav	48	35	20	11	6	3		
USA	SPS-65	LAS	35	35	35	19	6	4	1976	
USA	SPS-66	Nav	35	19	11	6	3	4	1987	
USA	SPS-67 (V)1, (V)2	SS	56	44	25	14	8	4	1982	
		LAS	35	35	28	11	3			
USA	SPS-67 (V)3, (V)5	SS	68	53	30	17	9	4	1991	
		LAS	35	35	32	13	4			
USA	SPS-69/71	Nav	44	25	14	8	4	5	1990	G
USA	SPS-72 (X-band)	Nav	48	32	18	10	6	4	1993	J
USA	SPS-72 (S-band)	Nav	64	44	25	14	8	4	1993	G
USA	SPS-73, SPS-78	Nav	32	21	12	7	3.8	5	1996	H
USA	SPS-75	3D	108	77	55	22	7	6	2008	FRG TRS-3D/16
		SS	36	36	32	18	10			
USA	SPS-77(V)1	3D	97	77	55	22	7	5	2008	Swedish Sea
		SS, GFC	32	32	32	22	11			Giraffe AMB
USA	SPS-80	3D	130	91	65	26	8	6	2019	FRG TRS-4D
		SS, GFC	36	36	36	22	11			
USA	SPY-1A	3D	200	200	158	63	19	4		
		SS	40	40	25	14	8			
USA	SPY-1B/D	3D	250	250	158	63	19	5		
		SS	40	40	25	14	8			
USA	SPY-1F	3D	185	185	147	59	18	5		
		SS	40	40	25	14	8			

Annex J1 - Naval Radars (continued)

<u>Country</u>	<u>System</u>	<u>Function</u>	<u>Detection Range</u>					<u>Gen</u>	<u>IOC</u>	<u>Remarks</u>
			<u>Large</u>	<u>Medium</u>	<u>Small</u>	<u>VSmall</u>	<u>Stealthy</u>			
USA	SPY-3	3D	150	150	119	48	14	6		C
		SS	45	45	30	17	9			
USA	SPY-4	3D	250	250	198	79	24	6		D
USA	SPY-6(V)1 AMDR	3D, FC	508	508	403	161	48	6		K
		SS	45	45	45	27	15			
USA	SPY-6(V)2 EASR	3D, FC	250	250	250	106	32	6		E
		SS	45	45	45	27	15			
USA	SPY-6(V)3 EASR	3D, FC	250	250	250	106	32	6		E
		SS	45	45	45	27	15			
USA	SPY-6(V)4	3D, FC	450	450	357	143	43	6		E
		SS	45	45	45	27	15			
USA	SR-3, SR-6	AS	30	30	21	8	2.5	2	1945	
		SS	20	11	6	4	2			
USA	SS-2	SS	36	21	12	7	4	2		
USA	SV-2	AS	22	15	11	4	1	2		

Remarks Key:

B: Interferes with SPG-51

C: X-Band Multifunction Radar was the multi-role half of the Dual Band Radar suite that was to be used on the *Zumwalt* class destroyers and *Ford* class carriers. It is focused on horizon search and target illumination, though it has taken on additional roles on *Zumwalt* due to the deletion of the SPY-4. Must be set in either 3D or SS mode. Range of other search mode halved.

D: S-Band component of the Dual Band Radar, hemispheric search radar.

E: Enterprise Air Search Radar.

F: HF only out to 140 nmi. Large radar only deployed on USS *Canberra*.

G: ES will classify as a Generic Raytheon.

H: ES will classify as Generic Furuno.

J: ES will classify as Sperry Marine Generic.

K: Air and Missile Defense Radar

Annex J2 - Land Radars

Country	System	Function	Detection Range					Stealthy	Gen	IOC	Remarks
			Large	Medium	Small	VSmall					
USA	LOPAR	AS	86	60	43	17	5	2	1950s		Nike-Ajax, Nike-Hercules acquisition
USA	MPQ-33/39 HPI	MFC	--	--	--	--	--	3	1959-78		HAWK
USA	MPQ-34 CWAR	AS	83	58	41	17	5	3	1959-78		HAWK low altitude search
USA	MPQ-35 PAR	AS	54	38	27	11	3.2	3	1959-78		HAWK medium/high altitude search
USA	MPQ-37 ROR	RO	--	--	--	--	--	3	1959-78		HAWK used to defeat ECM
USA	MPQ-43/44 HIPAR	AS	175	144	103	41	12	2	1950s		MPQ-43 is fixed, MPQ-44 transportable
USA	MPQ-46 HPI	MFC	--	--	--	--	--	4	1971		IHAWK & IHAWK Phase I - double power MPQ-33/39
USA	MPQ-48 CWAR	AS	88	62	44	18	5.3	4	1971		IHAWK Acquisition radar (Low Alt)
USA	MPQ-49 FAAR	AS	11	11	10	4	1	4	1975 - 91		Forward Area Alerting Radar
USA	MPQ-50 PAR	3D	45	45	45	24	7.1	4	1971		IHAWK Acquisition radar (Medium to High Alt)
USA	MPQ-51 ROR	RO	--	--	--	--	--	4	1971		IHAWK Phase II (not used by Phase III)
USA	MPQ-53	3D, MFC	92	92	79	32	9.5	4	1985		Phased array, 90° search sector, 120° track, Added NCTR in 1996
USA	MPQ-55 CWAR	AS	45	45	42	17	5.1	4	1979		IHAWK Phase I/II Acquisition radar (Low altitude)
USA	MPQ-57 HPI	MFC	-	--	--	--	--	4	1983		IHAWK Phase II, adds EO backup
USA	MPQ-61 HPI	MFC	-	--	--	--	--	4	1989		IHAWK Phase III
USA	MPQ-62 CWAR	AS	45	45	42	17	5.1	4	1989		IHAWK Phase III Acquisition radar (Low alt)
USA	MPQ-64 Sentinel	3D	40	40	40	17	5.1	5	1999		IHawk XXI radar
USA	MPQ-64F1 Sentinel	3D	65	65	65	32	10	5	2006		
USA	MPQ-65	3D, MFC	92	92	79	32	9.5	5	2003		Can engage 9 targets, 90° search sector, 120° track, NCTR
USA	TPS-32	3D	300	266	190	76	22.8	3	1962		Helicopter transportable, USMC
USA	TPS-43E	3D	240	240	190	76	22.8	3	1968		
USA	TPS-44	AS	202	163	116	46	13.9	3	Late 60s		
USA	TPS-59	3D	243	222	159	63	19.0	4	1984		USMC
USA	TPS-59 Upgrade	3D	243	243	190	76	22.8	5	1996		Adds TBM capability
USA	TPS-63	AS	160	158	113	45	13.5	5	1978		ECCM upgrade in the 1990s to Gen 5.
USA	TPS-70	3D	240	207	148	59	17.8	5	1991?		
USA	TPS-75	3D	240	240	190	76	22.8	5	1988		
USA	TPS-77 MRR	3D	250	250	193	77	23.1	6	2006		Transportable version of FPS-117
USA	TPS-80 G/ATOR	3D	238	166	119	48	14	6	2018		Phased array
USA	TPY-2	3D, FC	856	599	428	171	51.4	6	2006		THAAD. Covers 120° . Modes for detection, terminal guidance. Can't do them both at once.
USA	Trackstar	AS	32	32	23	9	2.8	3	1980s		Chaparral acquisition radar

Abbreviations:

FPS are fixed radars

MPQ are mobile radars

TPS are transportable radars

Annex K1 - Search Sonars

Country	Name	Type	Base		Freq	Plat-	IOC	Remarks
			Active Range	Passive Range	Band ^a	form		
USA	AMDS	Bow/Sail	1.2	--	HF ^a	Sub	2004	Mine detection/under-ice navigation
USA	BQG-1 PUFFS	Deck	--	1.7	MF	Sub	1960	WFC passive ranging, localization
USA	BQG-2A/2B MicroPUFFS	Flank	--	2.5	MF	Sub	1963	WFC passive ranging, localization
USA	BQG-4 PUFFS	Deck	--	2.5	MF	Sub	1967	WFC passive ranging, localization
USA	BQG-5 WAA/LWAA	Flank	--	5.1	LMF-MF	Sub	1987	WFC passive ranging, localization
USA	BQQ-1	Sphere	4.3	2.6	LMF ^a -MF	Sub	late 50s	Designation changed to BQQ-2
USA	BQQ-2	Conformal Bow	--	2.6	LF-LMF	Sub	1962	Integrated BQR-7 conformal bow array
USA	BQQ-2	Sphere	4.3	2.6	LMF ^a -MF	Sub	1962	Integrated BQS-6/11/12 sphere and BQR-7
USA	BQQ-2	Conformal Bow	--	2.6	LF-LMF	Sub		Integrated BQR-7 conformal bow array
USA	BQQ-5A/B	Sphere	4.3	3.4	LMF ^a -MF	Sub	1975	Replaces BQQ-2
USA	BQQ-5C/D	Conformal Bow	--	2.9	LF-LMF	Sub		Integrated BQR-7 conformal bow array
USA	BQQ-5C/D	Sphere	4.7	3.8	LMF ^a -MF	Sub	1988	Part of BSY-1 system
USA	BQQ-5E	Conformal Bow	--	3.2	LF-LMF	Sub		Integrated BQR-7 conformal bow array
USA	BQQ-5E	Sphere	5.1	4.3	LMF ^a -MF	Sub	1995	Part of BSY-1 system
USA	BQQ-5E	Conformal Bow	--	3.7	LF-LMF	Sub		Integrated BQR-7 conformal bow array
USA	BQQ-6	Sphere	--	3.8	LMF-MF	Sub		Passive BQQ-5 on SSBN 726
USA	BQQ-6	Conformal Bow	--	3.2	LF-LMF	Sub		Integrated BQR-7 conformal bow array
UUSA	BQQ-10(V)4	Sphere	5.5	5.0	LMF ^a -MF	Sub	2007	ARCI ² Phase IV update for BQQ-5E on 688I and Blk I/II Virginia Class SSN
USA	BQQ-10(V)4	Conformal LAB	--	4.0	LF-LMF	Sub	2013	ARCI ² Phase IV update for Blk III/IV Virginia class SSN w/Large Aperture Bow array
USA	BQQ-10(V)5	Sphere	6.0	5.5	LMF ^a -MF	Sub	2007	ARCI ² Phase IV update for BSY-2 on Seawolf class SSN
USA	BQQ-10(V)6	Conformal	--	4.6	LF-LMF	Sub		ARCI ² Phase IV update for Ohio SSBN/SSGN
USA	BQR-2/2B	Bow	--	4.0	LF-LMF	Sub		
USA	BQR-2/2B	Bow	--	1.3	MF	Sub	1962	
USA	BQR-3	Deck	--	0.8	MF	Sub		Improved WWII JT
USA	BQR-4	Bow	--	2.0	LF-LMF	Sub		
USA	BQR-7	Bow	--	2.6	LF	Sub		Conformal array, also part of BQQ-2/5 system
USA	BQR-15	Towed	--	4.0	VLF-LF	Sub	1970?	Short, slow speed towed array
USA	BQR-15 (SPALT 9080)	Towed	--	8.5	VLF-LF	Sub	1986	Long, slow speed towed array
USA	BQR-19	Mast	--	0.3	MF	Sub		For collision avoidance
USA	BQR-21 DIMUS	Bow	--	2.3	LMF-MF	Sub	1974	BQR-2/2B with added DIMUS processor
USA	BQS-2	Bow	1.3	0.5	HF ^a	Sub	1954	
USA	BQS-4	Bow	1.7	--	MF ^a	Sub		
USA	BQS-6	Bow	4.3	2.6	LMF ^a -MF	Sub		Act/pass bow sonar for BQQ-2
USA	BQS-8	Sail	0.6	--	HF ^a	Sub		Mine detection/under-ice navigation
USA	BQS-11/12/13	Bow	4.3	2.6	LMF ^a -MF	Sub		Act/pass bow sonar for BQQ-5
USA	BQS-14	Sail	0.7	--	HF ^a	Sub		Mine detection/under-ice navigation
USA	BQS-15/18	Sail	0.8	--	HF ^a	Sub		Mine detection/under-ice navigation

Annex K1 - Search Sonars (continued)

Country	Name	Type	Base		Gen	Freq Band ^a	Platform	IOC	Remarks
			Active Range	Passive Range					
USA	BQS-20	Sail	0.9	--	4	HF ^a	Sub		Mine detection/under-ice navigation
USA	BQS-24 MIDAS	Sail	1.0	--	5	HF ^a	Sub		Mine detection/under-ice navigation
USA	BSY-2	Bow	5.1	5.1	6	LMF ^a -MF	Sub		Seawolf integrated sonar suite.
	Sphere	Bow	--	4.4		LF			
	Conformal Bow	Bow	--	--	3	HF ^a	Sub		Sonar on SDVs (Swimmer Delivery Vehicles)
USA	HF Obstacle Avoidance	Bow	0.5	--	3	HF ^a	Sub		
USA	JT series	Keel	--	0.7	2	LF-MF			
USA	QCJ	Keel	0.6	--	2	HF ^a	Surf	1938	
USA	QCU	Keel	0.5	--	3	HF ^a	Surf	1944	
USA	QDA	Keel	0.5	--	3	HF ^a	Surf	1944	Depth determining sonar. Replaces GB Type 147
USA	QGA/QGB	Keel	0.8	--	3	HF	Surf	1944	
USA	QHB	Keel	0.9	--	3	HF ^a	Surf	1944	
USA	SQG-1	Keel	1.0	--	3	HF ^a	Surf	1950	Attack sonar
USA	SQQ-23 PAIR	B & K	3.0	1.3	3	MF ^a	Surf		Modified SQQ-23. Has two domes
USA	SQR-14	Towed	--	6.0	4	VLFF-LF	Surf	1968	Long, slow speed towed array
USA	SQR-15	Towed	--	8.5	4	VLFF-LF	Surf	1974	Long, slow speed towed array
USA	SQR-18, -18A	Towed	--	4.3	5	VLFF-LF	Surf	1976	Short, slow speed towed array
USA	SQR-19(V)1	Towed	--	6.8	5	VLFF-LF	Surf	1984	Long, slow speed towed array
USA	SQR-19(V)2, (V)3	Towed	--	7.0	6	VLFF-LF	Surf	1987	Long, high speed towed array
USA	SQS-1	Bow	1.0	--	3	HF ^a	Surf		
USA	SQS-4 Mod 1/2	B or V	1.7	--	3	HF ^a	Surf, Sub	1954	
USA	SQS-4 Mod 3/4	B or V	1.3	--	3	HF ^a	Surf, Sub		
USA	SQS-10/10A	Bow	1.3	--	3	HF ^a	Surf	1951	Modernized QHB
USA	SQS-11/11A	Bow	1.3	--	3	HF ^a	Surf		Modernized QHB
USA	SQS-23	Keel	3.0	0.9	3	HF ^a	Surf		
USA	SQS-26	Bow	3.8	1.7	3	LMF ^a -MF	Surf	1962	CZ, BB capability
USA	SQS-35 IVDS	VDS	2.1	0.4	3	HF ^a	Surf		
USA	SQS-36, -36J	B or V	2.1	0.4	3	HF ^a	Surf, Sub		SQS-35 variant. USCG
USA	SQS-38	Bow	2.1	0.4	4	HF ^a	Surf	1971	SQS-35 variant
USA	SQS-39/40	Bow	2.1	0.4	4	HF ^a	Surf		Numbers relate to different frequencies
USA	SQS-41/42	Bow	1.7	0.4	4	HF ^a	Surf		Numbers relate to different frequencies
USA	SQS-43/44	Bow	2.1	0.4	4	HF ^a	Surf		Numbers relate to different frequencies
USA	SQS-45/46	Bow	1.7	0.4	4	HF ^a	Surf		Numbers relate to different frequencies
USA	SQS-49/50	Bow	2.1	0.4	4	MF ^a	Surf		
USA	SQS-51/52	Bow	1.7	0.4	4	HF ^a	Surf		
USA	SQS-53A	Bow	4.7	2.1	4	LMF ^a -MF	Surf	1972	CZ, BB capability
USA	SQS-53B	Bow	5.1	2.1	4	LMF ^a -MF	Surf		CZ, BB capability
USA	SQS-53C	Bow	5.3	2.3	5	LMF ^a -MF	Surf		CZ, BB capability
USA	SQS-53D	Bow	5.5	2.5	6	LMF ^a -MF	Surf		CZ, BB capability
USA	SQS-56	Keel	3.0	1.3	5	MF ^a	Surf	1977	
USA	SQS-60	Bow	3.5	1.5	7	MF ^a	Surf		Mine and obstacle avoidance
USA	SQS-61	Bow	2.0	1.0	7	HF ^a	Surf		

Annex K1 - Search Sonars (continued)

<u>Country</u>	<u>Name</u>	<u>Type</u>	<u>Base</u>		<u>Freq</u> <u>Band^a</u>	<u>Plat-</u> <u>form</u>	<u>IOC</u>	<u>Remarks</u>
			<u>Active</u> <u>Range</u>	<u>Passive</u> <u>Range</u>				
USA	SQS-62	Towed	8.0	--	7	LMF ^a	Surf	?
USA	STASS	Towed	--	3.5	4	VLF-LF	Sub	1977
USA	TB-16	Towed	--	4.3	5	VLF-LF	Sub	Short, slow speed towed array
USA	TB-16A	Towed	--	4.3	5	VLF-LF	Sub	Short, slow speed towed array
USA	TB-16B	Towed	--	4.3	6	VLF-LF	Sub	Short, high speed towed array
USA	TB-16D	Towed	--	4.8	6	VLF-LF	Sub	Short, high speed array. 45/65 produced.
USA	TB-16E	Towed	--	5.0	6	VLF-LF	Sub	Short, high speed array.
USA	TB-16G	Towed	--	5.2	6	VLF-LF	Sub	Short, high speed array.
USA	TB-23	Towed	--	7.5	6	VLF-LF	Sub	Long, slow speed array. 50 Produced
USA	TB-29/29A	Towed	--	10.0	6	VLF-LF	Sub	Long, high speed array. Ten TB-29 produced, canceled due to cost. TB-29A is COTS ³ -based.
USA	TB-33	Towed	--	10.5	7	VLF-LF	Sub	Long, high speed array. Fiber optic replacement for TB-29A.
USA	TB-34	Towed	--	6.0	7	VLF-LF	Sub	Short, high speed array. Fiber optic replacement for TB-16.
USA	TB-37 MFTA ⁴	Towed	--	8.0	7	VLF-LMF	Surf	Long, high speed towed array

Note:

- a) Active sonars have the frequency they transmit on marked with a superscript "a."
 2) ACRI: Acoustic Rapid COTS³ Insertion
 3) COTS: Commercial Off The Shelf
 4) Multifunction Towed Array

Annex L Tactical Data Links

Russia	System	TDL Type	Surface		Air		Beyond LOS (nmi)		SATCOM	Jamming Resistance		Remarks
			LOS (nmi)		LOS (nmi)		LOS (nmi)					
USA	AN/ART-22 Bellhop	NRT	90		--		--		--	0		Radar relay, carrier CIC evaluates the data
USA	AN/ART-26 Bellhop	NRT	125		--		--		--	0		Radar relay, carrier CIC evaluates the data
USA	AN/ART-28 Bellhop	NRT	150		--		--		--	0		Radar relay, carrier CIC evaluates the data
USA	CEC	RT	25		300		--		--		Remarks	USG-2A/3 clutter rejection is 15, USG-2B is 18.
USA	Hawklink (ARQ-44)	NRT	100		--		--		--	8		Can link with only one ship at a time.
USA	Hawklink (ARQ-59)	RT	100		--		--		--	8		Can link with only one ship at a time.
USA	IFDL	RT	--		25		--		Yes	12		LPI, Not yet Link 16 compatible
USA	Link 4	NRT	--		200		--		--	0		
USA	Link 4A	NRT	--		200		--		--	0		
USA	Link 4C	NRT	--		100		--		--	5		F-14 fighter-to-fighter
USA	Link 11	NRT	25		150		300		--	0		
USA	Link 14	TL	25		--		--		--	0		Receive only. Compatible with Link 11.
USA	Link 16	RT	25		300		Relay		Yes	12		LPI, Compatible with Link 11
USA	MADL	RT	--		25		--		Yes	12		Stealthy ¹ , Compatible with Link 16 and CEC

Types: Time Late (TL), Near Real-Time (NRT), Real-Time (RT)

CEC: Cooperative Engagement Capability

IFDL: Intra-Flight Data Link

LOS: Line-of-sight

LPI: Low probability of intercept

MADL: Multi-function Advanced Data Link

Relay: TDL coverage can be extended by using similarly equipped platforms to relay data to platforms over the horizon.

SATCOM: Satellite communications

Notes: 1) F-35s using directional MADL are stealthy, virtually undetectable. When transmitting on Link 16, use LPI rules for detection.

Annex R - Carrier Air Wing Assignments

This annex is the decades-long work of Andy Doty, a retired US Navy Fire Control Chief. Working from US Navy documents and many other sources, he has collected information on air wing and aircraft detachments aboard US Navy aviation-capable ships from 1955 through to 2020. The information includes dates embarked, unit names, fleet assignments, and where known, aircraft type and number of aircraft in the unit. He also notes if the unit took part in any actions or campaigns, e.g., the Cuban Missile Crisis.

It is intended for scenario designers and players who want to use historical aircraft units and strengths in their scenarios.

This list is not complete. There are gaps in available information, and of course there are always new ships and new deployments to add. If anyone has information they would like to add to this collection, or sees errors, please contact us at adtrgroup@aol.com and we will make sure Chief Doty receives it.

Notation: After the date of the deployment and air group identification (if any), is fleet assignment, followed by squadron designation, and number and type of aircraft assigned. Sometimes, instead of a numbered fleet assignment, there will be a military campaign: CMC (Cuban Missile Crisis), DS (Desert Storm)

CVE-112 Siboney

Feb 55 - Apr 55: 2nd. VS-39; 5 AF-2S/5 AF-2W/3 S2F-1, HS-3; est6 HO4S-3S

CVE-116 Badoeng Strait

Apr 55 - Oct 55: 7th. VS-38; 11 S2F-1, HS-2 Det P; 7 HO4S-3S

CVE-119 Point Cruz

Aug 55 - Feb 56: 7th. VS-25; 12 S2F-1, HS-4; 5 HO4S-3S

CVHA-1 Thetis Bay

Jul 57 - Dec 57: 7th. HMRL-163; 7 HRS-3

May 59: Redesignated LPH

LPH-6 Thetis Bay

Apr 59 - Nov 59: 7th. HMRL-261; 16 HUS-1, HMRL-362; 18 HUS-1

Mar 61 - Aug 61: 7th. HMRL-162; 24 HUS-1

Oct 62 - Dec 62: CMC, HMM-261; 24 UH-34D, HMM-265; 14 UH-34D

CVA-9 Essex

Nov 54 - Jun 55: CVG-2, 7th. VF-24; 14 F9F-6, VF-63; 13 F9F-6, VF-64; 14 F9F-5, VA-65; 5 AD-4/5 AD-4B, VC-3 Det A; 4 F2H-3, VC-11 Det A; 3 AD-4W, VC-35 Det A; 4 AD-5N, VC-61 Det A; 3 F2H-2P, HU-1; est2 HUP-2

Jul 56 - Jan 57: CVG-11, 7th. VF-112; 13 F9F-8, VF-114; 8 F2H-3, VA-113; 13 F9F-8B, VA-115; 14 AD-6, VAW-11 Det C; 2 AD-5W, VAAW-35 Det C; 4 AD-5N, VAH-6 Det C; 2 AJ-2, VFP-61 Det C; 2 F9F-8P, HU-1; est2 HUP-2

Feb 58 - Nov 58: ATG-201, 6th/7th. VF-11; 11 F2H-4, VF-62; 12 FJ-3M, VA-83; 14 A4D-2, VA-105; 14 AD-6, VAW-12 Det 45; 4 AD-5W, VAAW-33 Det 45; 4 AD-5N, VAH-7 Det 45; 5 AJ-2, VFP-62 Det 45; 3 F9F-8P, HU-2 Det 45; 1 HUP-2

May 59 - Jul 59: CVG-10, 2nd. VF-13; 13 F4D-1, VF-62; 14 FJ-3M, VA-106; 12 AD-6, VMA-225; 12 A4D-2, VAW-12 Det 45; 3 AD-5W, VAAW-33 Det 45; est3 AD-5Q, VFP-62 Det 45; est3 F9F-8P, HU-2 Det 45; 2 HUP-2

Aug 59 - Feb 60: CVG-10, 6th. VF-13; 11 F4D-1, VF-62; 12 FJ-3M, VA-106; 12 A4D-2, VA-176; 11 AD-6, VMA-225; 12 A4D-2, VAW-12 Det 45; 3 AD-5Q, VAW-33 Det 45; 2 AD-5Q, VFP-62 Det 45; 3 F9F-8P, HU-2 Det 45; 2 HUP-3

Mar 60: Redesignated CVS

CVS-9 Essex

Jun 60 - Aug 60: CVSG-60. 2nd. VS-34; 3 S2F-1/5 S2F-2S/2 S2F-2, VS-39; 4 S2F-1/5 S2F-2S, HS-9; 13 HSS-1N, VAW-12 Det 45; 4 AD-5W, HU-2; Det 45 1 HUK-1
 Sep 60 - Dec 60: CVSG-60. 2nd/6th/5th. VS-34; 3 S2F-1/5 S2F-2S /2 S2F-2, VS-39; 4 S2F-1/5 S2F-2S, HS-9; 13 HSS-1, VAW-12 Det 45; 4 AD-5W, HU-2; Det 45 1 HUK-1
 Mar 61 - May 61: CVSG-60. 2nd. VS-34; 2 S2F-1/7 S2F-2S, VS-39; 3 S2F-1/7 S2F-2S, HS-9; 15 HSS-1, VA-34; 12 A4D-2, VAW-12 Det 45; 4 AD-5W, HU-2 Det 45; 1 HUP-3
 Oct 61 - Feb 62: CVSG-56. 2nd/6th. VS-24; 2 S2F-1/7 S2F-2S, VS-27; 9 S2F-1/2 S2F-2S, HS-9; 13 HSS-1, VAW-33 Det 45; 4 AD-5W, HU-2 Det 45; 1 HUP-2
 Mar 62 - Sep 62: FRAM II modernization
 Oct 62 - Dec 62: CVSG-60. 2nd. VS-34; 10 S-2D, VS-39; 10 S-2D, HS-9; 12 SH-3A, VAW-12 Det 9; 4 E-1B, HU-2 Det 9; est2 UH-25C
 Jan 63 - Feb 63: CVSG-60. 2nd. VS-34; 10 S-2D, VS-39; 10 S-2D, HS-9; 13 SH-3A, VAW-12 Det 9; 4 E-1B
 May 67 - Sep 67: CVSG-54. 2nd. VS-22; 10 S-2E, VS-32; 10 S-2E, HS-5; 15 SH-3A, VAW-121 Det 9; 4 E-1B
 Feb 68 - Jun 68: CVSG-60. 2nd/6th. VS-34; 9 S-2E, VS-39; 10 S-2E, HS-9; 16 SH-3A, VAW-121 Det 9; 4 E-1B

CVA-10 Yorktown

Jul 54 - Feb 55: CVG-15. 7th. VF-152; 11 F2H-3, VF-153; 16 F9F-6, VF-154; 12 F9F-5, VA-155; 16 AD-6, VC-11 Det D; 3 AD-4W, VC-35 Det D; 4 AD-4N, VC-61 Det D; 3 F9F-6P, HU-1 Det D; est2 HUP-2
 Mar 56 - Sep 56: ATG-4. 7th. VF-23; 9 F2H-3, VF-94; 14 F9F-8B, VF-214; 12 F9F-8B, VA-216; 8 AD-4B/8 AD-4NA, VC-6 Det K; est2 AJ-2, VC-11 Det K; 1 AD-4Q/3 AD-5W, VC-35 Det K; 4 AD-5N, VC-61 Det K; 3 F2H-2P, HU-1; HUP-2
 Mar 57 - Aug 57: CVG-19. 7th. VF-191; 16 FJ-3, VF-193; 8 F2H-3, VA-192; 6 F9F-8/9 F9F-8B, VA-195; 1 AD-4Q/14 AD-6, VAW-11 Det F; 3 AD-5W, VAH-6 Det F; 2 AJ-2, VAAW-35 Det F; 4 AD-5N, VFP-61 Det F; 3 F9F-8P, HU-1 Det F; est2 HUP-2

CVS-10 Yorktown

Nov 58 - May 59: CVS10. 7th. VF-92 Det N; 4 F2H-3, VS-37; 17 S2F-1/3 S2F-2, VAW-11; est3 AD-5W, HS-2; est2 HSS-1
 Jan 60 - Jul 60: CVS-10. 7th. VS-23; 20 S2F-1, HS-4; 13 HSS-1N, VAW-11 Det T; 4 AD-5W
 Jul 61 - Mar 62: CVSG-55. 7th. VS-23; 10 S2F-1, VS-25; 8 S2F-1, HS-4; 15 HSS-1N, VAW-11 Det T; 4 AD-5W
 Oct 62 - Jun 63: CVSG-55. 7th. VS-23; 11 S-2F, VS-25; 11 S-2D, HS-4; 2 SH-34G/16 SH-34J, VAW-11 Det T; 4 EA-1E
 Oct 64 - May 65: CVSG-55. 7th. VS-23; 10 S-2E, VS-25; 10 S-2E, HS-4; 14 SH-3A, VMA-223 Det T; 4 A-4C, VAW-11 Det T; 5 EA-1E, HU-1 Det T; 2 UH-2B
 Jan 66 - Jul 66: CVSG-55. 7th. VS-23; 10 S-2E, VS-25; 11 S-2E, HS-4; 17 SH-3A, VAW-11 Det T; 4 E-1B
 Dec 67 - Jul 68: CVSG-55. 7th. VS-23; 9 S-2E, VS-25; 9 S-2E, HS-4; 17 SH-3D, VAW-11 Det 10; 4 E-1B, HC-7 Det 111; 1 SH-3A
 Sep 69 - Dec 69: CVSG-56. 2nd. VS-24; 10 S-2E, VS-27; 9 S-2E, VSF-1 Det 10; 3 A-4C, HS-3; 12 SH-3D, VAW-121 Det 10; 4 E-1B

CVA-11 Intrepid

May 55 - Nov 55: CVG-4. 6th. VF-22; 8 F2H-2/6 F2H-2B, VF-44; 14 F2H-2, VF-173; 12 FJ-3, VA-45; 14 AD-6, VC-4 Det 33; 3 AD-4W, VC-33 Det 33; 2 AD-4Q/4 AD-5N, VC-62 Det 33; 3 F2H-2P, HU-2 Det 33; 1 HUP-2
 Mar 56 - Sep 56: CVG-8. 6th. VF-61; 14 F9F-8, VF-82; 11 F2H-4, VA-83; est8 F7U-3M, VA-85; 1 AD-4Q/2 AD-5N/12 AD-6, VC-12 Det 33; est3 AD-5W, VC-33 Det 33; 5 AD-5N, VC-62 Det 33; 3 F2H-2P, VAH-5 Det 33; est4 AJ-2, HU-2 Det 33; 1 HUP-2
 Jun 58 - Aug 58: CVG-8. 2nd. VF-41; 14 F3H-2N, VF-81; 10 F9F-8/2 F8F-8B, VA-42; 12 AD-6, VAW-12 Det 33; 4 AD-5W, VAAW-33 Det 33; 3 AD-5N, VFP-62 Det 33; 3 F9F-8P, HU-2 Det 33; 1 HUP-2
 Feb 59 - Aug 59: CVG-6. 6th. VF-33; 12 F11F-1, VF-74; 12 F4D-1, VA-25; 11 AD-6, VA-46; 12 A4D-2, VAW-12 Det 33; 2 AD-5W, VAAW-33 Det 33; est3 AD-5N, VFP-62 Det 33; 3 F9F-8P, HU-2 Det 33; 2 HUP-2
 Aug 60 - Feb 61: CVG-6. 6th. VF-33; 14 F11F-1, VF-74; 13 F4D-1, VA-65; 12 AD-6, VA-66; 11 A4D-2, VAW-12 Det 33; 4 AD-5W, VAW-33 Det 33; 3 AD-5Q, VFP-62 Det 33; 3 F8U-1P, HU-2 Det 33; 2 HUP-3
 Aug 61 - Feb 62: CVG-6. 6th. VF-33; 11 F-8U-1E, 1 F-8A, VF-162; 12 F4D-1, VA-65; 12 AD-6, VA-66; 10 A4D-2, VAW-12 Det 33; 4 WF-2, VAW-33 Det 33; 3 AD-5Q, VFP-62 Det 33; 1 F8U-1P, HU-2 Det 33; 2 HUP-3

CVS-11 Intrepid

Jun 64 - Sep 64: CVSG-56. 6th. VS-24; 10 S-2F, VS-27; 10 S-2E, HS-3; 13 SH-3A, VAW-33 Det 11; 3 EA-1E
 Mar 65 - Nov 65: FRAM II modernization
 Apr 66 - Nov 66: CVW-10. 7th. VA-15; 16 A-4B/1 A-4C, VA-95; 18 A-4B, VA-165; 9 A-1H/2 A-1J, VA-176; 12 A-1H, HC-2 Det 11; 3 UH-2A
 May 67 - Dec 67: CVW-10. 7th. VF-111; est14 F-8C, VSF-3; est17 A-4B, VA-15; 13 A-4C, VA-34; 14 A-4C, VA-145; 5 A-1H/3 A-1J, VA-165; 9 A-1H/3 A-1J, VAW-33 Det 11; EA-1F, VAW-121 Det 11; 3 E-1B, VFP-63 Det 11; 3 RF-8G, HC-2 Det 11; 1 UH-2A/1 UH-2B
 Jun 68 - Feb 69: CVW-10. 7th. VF-111 Det 11; 6 F-8C, VA-36; 16 A-4C, VA-66; 16 A-4C, VA-106; 16 A-4E, VAW-121 Det 11; 2 E-1B, VAQ-33 Det 11; 3 EA-1F, VFP-63 Det 11 3 RF-8G, HC-2 Det 11; 2 UH-2A/1 UH-2B
 Apr 71 - Oct 71: CVSG-56. 2nd/6th. VS-24; 7 S-2E, VS-27; 6 S-2E, VS-31; 7 S-2E, HS-11; 5 SH-3C, VA-45 Det 11; 3 A-4C, VAW-121 Det 11; 3 E-1B
 Jul 72 - Oct 72: CVSG-56. 2nd. VS-24; 7 S-2G, VS-27; 6 S-2G, VS-31; 7 S-2G, HS-5; 8 SH-3D, HS-11; 8 SH-3D, VAW-121 Det 11; 5 E-1B
 Nov 72 - May 73: CVSG-56. 6th. VS-24; 6 S-2G, VS-27; 6 S-2G, VS-31; 8 SH-3D, VA-45 Det 11; 15 A-4E, VAW-121 Det 11; 2 E-1B

CVA-12 Hornet

May 54 - Dec 54: CVG-9. 6th. VF-91; 18 F9F-6, VF-93; 10 F9F-5, VF-94; 11 F9F-5, VA-95; 14 AD-6, VC-3 Det M; 4 F2H-3, VC-11 Det M; 3 AD-4W, VC-35 Det M; 4 AD-4N, VC-61 Det M; 3 F2H-2P, HU-1 Det M; est1 HUP-2
 May 55 - Dec 55: CVG-7. 7th. VF-71; 9 F2H-3, VF-72; 12 F9F-5, VF-73; 12 F9F-6, VA-75; 14 AD-6, VC-6 Det 32; est3 AJ-2, VC-12 Det 32; 3 AD-4N, VC-33 Det 32; 3 AD-5N, VC-62 Det 32; 2 F9F-6P, HU-1; est1 HUP-2
 Jan 57 - Jul 57: CVG-14. 7th. VF-142; 13 FJ-3M, VF-144; 13 F9F-8, VA-145; 1 AD-4Q/14 AD-6, VA-146; 12 F9F-8/1 F9F-8B, VAH-6 Det F; 3 AJ-2, VAAW-35 Det F; 4 AD-5N, VAW-11 Det F; 3 AD-5W, VFP-61 Det F; 3 F9F-8P, HU-1 Det F; est1 HUP-2
 Jan 58 - Jul 58: ATG-4. 7th. VF-94; 12 FJ-3M, VF-152; 9 F2H-3, VA-214; 14 FJ-4B, VA-216; 1 AD-5/14 AD-7, VAH-6 Det K; est3 AJ-2, VAW-11 Det K; est3 AD-5W, VAAW-35 Det K; 2 AD-5N, VFP-61 Det K; est3 F9F-8P, HU-1 Det K; est1 HUP-2

CVS-12 Hornet

Apr 59 - Oct 59: CVS-12. 7th. VS-38; 18 S2F-1/4 S2F-2, HS-8; 15 HSS-1, VAW-11 Det Q; 1 F2H-3/4 F2H-4
 May 60 - Dec 60: CVS-12. 7th. VS-37; 9 S2F-1/13 S2F-2, HS-2; 15 HSS-1, VAW-11 Det N; 4 AD-5W
 Jun 62 - Dec 62: CVSG-57. 7th. VS-35; 10 S-2D, VS-37; 10 S-2D, HS-2; 2 SH-34G/13 SH-3A, VAW-11 Det N; 5 EA-1E
 Oct 63 - Apr 64: CVSG-57. 7th. VS-35; 9 S-2D, VS-37; 10 S-2D, HS-2; 14 SH-3A, VMA-214 Det N; 4 A-4B, VAW-11 Det N; 5 EA-1E, HU-1 Det N; 1 UH-2A
 Jun 64 - Feb 65: FRAM II modernization
 Aug 65 - Mar 66: CVSG-57. 7th. VS-35; 11 S-2D, VS-37; 11 S-2D, HS-2; 16 SH-3A, VAW-11 Det N; 4 E-1B, H&MS-15 Det N; 3 A-4C
 Mar 67 - Oct 67: CVSG-57. 7th. VS-35; 9 S-2E, VS-37; 10 S-2E, HS-2; 20 SH-3A, VAW-11 Det 12; 4 E-1B, H&MS-15 Det N; 4 A-4C
 Sep 68 - May 69: CVSG-57. 7th. VS-35; 10 S-2E, VS-37; 10 S-2E, HS-2; 16 SH-3A, VAW-11 Det 12; 4 E-1B, HC-7 Det 107; 1 UH-2A

CVA-14 Ticonderoga

Nov 55 - Aug 56: CVG-3. 6th. VF-31; 10 F2H-3, VF-32; 14 F9F-8, VA-35; 5 AD-6, VA-66; 10 F7U-3, VAH-9; est3 AJ-1, VC-12 Det-39; 5 AD-5W, VC-33 Det-39; 1 AD-4Q/3 AD-5N, VC-62 Det-39; 3 F2H-2P, HU-2; 1 HUP-2
 Sep 57 - Apr 58: CVG-9. 7th. VF-91; 14 FJ-3, VF-122; 9 F3H-2N, VA-93; 12 AD-6, VAAW-35 Det M; 4 AD-5N, VAW-11 Det M; 3 AD-5W, VFP-61 Det M; 3 F2H-2P, HU-1; est1 HUP-3
 Oct 58 - Feb 59: ATG-1. 7th. VF-52; 12; F2H-3, VF-112; 8 F3H-2M, VA-196; 14 AD-6, VAAW-35 Det H; 2 AD-5N, VAH-2 Det H; 4 A3D-2, VAW-11 Det H; 3 AD-5W, VFP-61 Det H; 3 F9F-8P, HU-1; est1 HUP-2
 Mar 60 - Oct 60: CVG-5. 7th. VF-51; 11 F4D-1, VF-53; 12 F3H-2, VA-52; 10 AD-6, VA-55; 12 A4D-2, VAW-4 Det B; est4 A3D-2, VAW-11 Det B; est3 AD-5W, VCP-63 Det B; est3 F8U-1P, HU-1 Det B; 2 HUP-2
 May 61 - Jan 62: CVG-5. 7th. VF-51; 11 F8U-1, VF-53; 11 F3H-2, VA-52; 10 AD6, VA-55; 11 A4D-2, VAH-4 Det B; 2 A3D-2, VAW-11 Det B; 3 WF-2, VCP-61 Det B; est3 A3D-2P, VCP-63 Det B; est3 F8U-1P, HU-1 Det 1B; 1 HUP-3
 Jan 63 - Jul 63: CVG-5. 7th. VF-51; 11 F-8E, VF-54; 9 F-3B, VA-52; 10 A-1H/2 A-1J, VA-55; 11 A-4C, VA-56; 12 A-4B, VA-146 Det B; 3 A-3B, VFP-63 Det B; 3 RF-8A, VAW-11 Det B; 3 E-1B, HU-1 Det B; est2 UH-2A
 Apr 64 - Dec 64: CVW-5. 7th. VF-51; 11 F-8E, VF-53; 10 F-8E, VA-52; 10 A-1H/2 A-1J, VA-55; 13 A-4E, VA-56; 13 A-4E, VFP-63 Det B; 3 RF-8A, VAW-11 Det B; 3 E-1B, VAH-4 Det B; est3 A-3B, VAH-13 Det B; est3 EA-1F, HU-1 Det B; est2 HU-2A

Sep 65 - May 66: CVW-5. 7th. VF-51; 11 F-8E, VF-53; 12 F-8E, VA-52; 8 A-1H/4 A-1J, VA-56; 15 A-4E, VA-144; 14 A-4C, VAH-4 Det B; 3 A-3B, VAW-11 Det B; 3 E-1B, VFP-63 Det B; 3 RF-8A, HC-1 Det B; est1 UH-2A/est1 UH-2B

Oct 66 - May 67: CVG-19. 7th. VF-191; 9 F-8E, VF-194; 6 F-8E, VA-52; 10 A-1H, VA-192; 14 A-4E, VA-195; 11 A-4C, VAH-4 Det E; 3 A-3B, VAW-11 Det E; 2 E-1B, VFP-63 Det E; 3 RF-8G, HC-1 Det E; 1 UH-2A/2 UH-2B

Dec 67 - Aug 68: CVG-19. 7th. VF-191; 11 F-8E, VF-194; 11 F-8E, VA-23; 14 A-4F, VA-192; 13 A-4F, VA-195; 12 A-4C, VAW-33 Det 14; est2 RF-8G, VAH-4 Det 14; 3 KA-3B, VAW-11 Det 14; 3 E-1B, VFP-63 Det 14; 1 RF-8G, VAQ-33 Det 14; 3 EA-1F, HC-1 Det 14; est1 UH-2A/est1 UH-2B

Feb 69 - Sep 69: CVW-16. 7th. VF-111; 8 F-8H, VF-162; 10 F-8J, VA-25; 7 A-7A, VA-87; 11 A-7B, VA-112; 7 A-4C, VFP-63 Det 14; 2 RF-8G, VAQ-130 Det 14; 3 EKA-3B, VAW-11 Det 14; 3 E-1B, HC-7 Det 110; 6 SH-3A

CVS-14 Ticonderoga

Mar 71 - Jul 71: CVSG-59. 7th/5th. VS-33; 6 S-2E, VS-37; 6 S-2E, VS-38; 6 S-2E, VS-21; 4 S-2E, HS-4; 8 SH-3D, HS-8; 8 SH-3D, VAW-111 Det 4; 4 E-1B

May 72 - Jul 72: CVSG-53. 7th. VS-21; 6 S-2E, VS-29; 6 S-2E, VS-33; 5 S-2E, VS-35; 5 S-2E, VS-38; 4 S-2E, HS-4; 5 SH-3D, HS-8; 5 SH-3D, VAW-111 Det 3; 4 E-1B

CVA-15 Randolph

Nov 54 - Jun 55: ATG-181. 6th. VF-21; 18 F9F-6, VF-34; 13 F2H-2, VF-41; 11 F2H-3, VA-42; 14 AD-6, VC-12 Det 36; 3 AD-4W, VC-33 Det 36; 1 AD-3Q/1 AD-4Q/3 AD-5N, VC-62 Det 36; 3 F2H-2P, HU-2 Det 36; 1 HUP-2

Jul 56 - Feb 57: CVG-4. 6th. VF-62; 2 FJ-37 FJ-3M, VF-102; 11 F2H-4, VA-46; 13 F9F-8, VA-176; 11 AD-6, VAAW-33 Det 36; 4 AD-5N, VAH-11 Det 36; est4 AJ-1, VAW-12 Det 36; 4 AD-5W, VFP-62 Det 36; 3 F9F-8P, HU-2; 1 HUP-2

Jul 58 - Mar 59: CVG-7. 6th. VF-71; 10 F2H-4, VF-84; 11 FJ-3M, VA-75; 14 AD-6, VA-86; est12 A4D-2, VAAW-33 Det 36; 3 AD-5N, VAW-12 Det 36; 4 AD-5W, VFP-62 Det 36; 3 F9F-8P, HU-2; est1 HUP-3

Jun 60 - Feb 61: FRAM II modernization

CVS-15 Randolph

Jun 62 - Aug 62: CVSG-58. 6th. VS-26; 10 S-2D, VS-36; 10 S-2D, HS-7; 15 SH-34J, VAW-12 Det 15; 4 E-1B

Oct 62 - Nov 62: CVSG-58. CMC. VS-26; 10 S-2D, VS-36; 10 S-2D, HS-7; 13 SH-34J, VAW-12 Det 15; 4 E-1B

Jun 65 - Sep 65: CVSG-58. 6th. VS-26; 9 S-2D, VS-36; 9 S-2D, HS-7; 15 SH-3A, VAW-12 Det 15; 4 E-1B

May 66 - Sep 66: CVSG-60. 2nd. VS-34; est10 S-2E, VS-39; est10 S-2E, HS-9; 15 SH-3A, VAW-12 Det 15; 4 E-1B

Sep 67 - Dec 67: CVSG-56. 6th. VS-24; est10 S-2E, VS-27; 10 S-2E, HS-3; 16 SH-3A, VAW-121 Det 15; est4 E-1B

CVA-16 Lexington

May 56 - Dec 56: ATG-1. 7th. VF-52; 8 F2H-3, VF-111; 7 F9F-8/8 F9F-8B, VX-4; 4 F7U-3M, VA-151; 7 F7U-3, VA-196; 16 AD-6; VC-6 Det H; est3 AJ-2, VC-11 Det H; 3 AD-4W, VC-35 Det H; 4 AD-5N, VC-61 Det H; 3 F9F-8P, HU-1 Det H; est1 HUP-3; GMGRU-1 Det H; est2 F9F-6D

Apr 57 - Oct 57: CVG-12. 7th. VF-121; 14 FJ-3M, VF-123; 9 F9F-8, VF-124; 9 F3H-2N, VA-125; est6 AD-6/est8 AD-7, VAAW-35 Det G; 4 AD-5N, VAH-6 Det G; 2 AJ-2, VAW-11 Det G; 3 AD-5W, VFP-61 Det G; 3 F9F-8P, HU-1 Det G; est1 HUP-3, GMGRU-1 Det H; 2 FJ-3D

Jul 58 - Dec 58: CVG-12. 7th. VF-24; est9 F3H-2M, VF-213; 12 F4D-1, VA-212; 11 AJ-4B, VA-215; 1 AD-5/14 AD-6, VAAW-35 Det L; 4 AD-5N, VAW-11 Det L; 3 AD-5W, VFP-61 Det L; est2 F9F-8P, HU-1 Det L; est1 HUP-2

Apr 59 - Dec 59: CVG-21. 7th. VF-211; 12 F11F-1, VF-213; 11 F4D-1, VA-212; 10 FJ-4B, VA-215; 12 AD-6, VA-216; 12 A4D-2, VAAW-35 Det L; est3 AD-5N, VAH-4 Det L; est3 A3D-2, VAW-11 Det LN; 1 AD-5W, VFP-61 Det L; est3 F8U-1P, HU-1 Det L; est1 HUP-2

Oct 60 - Jun 61: CVG-21. 7th. VF-211; 12 F8U-1, VF-213; 12 F3H-2, VA-212; 12 FJ-4B, VA-215; 12 AD-6, VA-216; 12 AJ-4B, VAH-4 Det L; 3 A3D-2, VAW-11 Det L; 3 WF-2, VAW-13 Det L; est3 AD-5Q, VCP-63 Det L; 3 F8U-1P, HU-1 Det L; 2 HUP-3

Nov 61 - May 62: CVG-14. 7th. VF-141; 12 F3H-2, VMF-323; 11 F8U-2, VA-144; 9 FJ-4B, VA-145; 11 AD-6, VA-146; 11 FJ-4B, VAH-4 Det F; 3 A3D-2, VAW-11 Det F; 3 WF-2, VAW-13 Det F; 2 AD-5Q, VFP-63 Det F; 3 F8U-1P, HU-1 Det F; 2 HUP-3

Jan 69: Lexington; Redesignated CVT

CVA-18 Wasp

Sep 54 - Apr 55: ATG-1, 7th. VF-52; 12 F9F-2, VF-111; 20 F9F-6, VF-151; 12 F9F-2, VF-194; 16 AD-6, VC-3 Det H; 4 F2H-3, VC-11 Det H; 3 AD-4W, VC-35 Det H; 4 AD-4N, VC-61 Det H; 3 F2H-2P, HU-1 Det 3; est2 HUP-2
 Apr 56 - Oct 56: CVG-15, 7th. VF-152; 8 F2H-3, VF-153; 2 F9F-8/10 F9F-8B, VA-155; 15 AD-6, VMA-223; 17 F9F-5, VC-11 Det D; 1 AD-4Q/2 AD-5W, VC-35 Det D; 4 AD-5N, VC-61 Det D; 3 F9F-8P, HU-1; est2 HUP-2

CVS-18 Wasp

May 58 - Oct 58: CVS-18, 6th. VS-31; 20 S2F-1/3 S2F-2, HS-11; 14 HSS-1, VAW-12; est4 AD-5W, VFAW-4; est4 AD-5N, HU-2 Det 48; 1 HUP-2
 Jun 61 - Aug 61: CVSG-52, 6th. VS-28; 6 S2F-1/4 S2F-1S, VS-31; 4 S2F-1/6 S2F-2, HS-11; 7 HSS-1/6 HSS-1N, VAW-12 Det 48; 4 AD-5W, HU-2 Det 48; 1 HUP-3
 Feb 62 - Jun 62: CVSG-52, 6th. VS-28; 3 S2F-1/3 S2F-1S/2 S2F-1S1, VS-31; 3 S2F-1/6 S2F-1S1, VS-31; 13 HSS-1N, VA-64 Det 48; 4 AD-4-2, VAW-33 Det 48; 4 AD-5W
 Oct 62 - Nov 62: CVSG-52, CMC. VS-28; 9 S-2E, VS-31; 3 S-2B/7 S-2E, HS-3; 13 SH-3A, VAW-33 Det 18; 3 EA-1E
 Sep 64 - Dec 64: CVSG-52, 6th. VS-28; 10 S-2E, VS-31; 10 S-2E, HS-11; 16 SH-3A, VAW-33 Det 18; 4 EA-1E
 Jan 67 - Mar 67: FRAM II modernization
 Aug 68 - Dec 68: CVSG-52, 2nd/6th. VS-28; 8 S-2E, VS-31; 8 S-2E, VS-24 Det 18; 1 S-2E, HS-11; 16 SH-3A, VAW-121 Det 18; 5 E-1B, VSF-1; est4 A-4C
 Apr 69 - Jul 69: CVSG-54, 2nd/6th. VS-22; 7 S-2E, VS-32; 8 S-2E, HS-5; est6 SH-3D, VAW-121 Det 18; 2 E-1B
 May 70 - Sep 70: CVSG-54, 2nd. VS-22; 7 S-2E, VS-28; 6 S-2E, VS-32; 5 S-2E, HS-5; 7 SH-3D, HS-7; 6 SH-3D, VAW-121 Det 18; 5 E-1B
 Jan 71 - Mar 71: CVSG-54, 2nd/6th. VS-22; 6 S-2E, VS-28; 7 S-2E, VS-32; 6 S-2E, HS-5; 6 SH-3D, HS-7; 4 SH-3D

CVA-19 Hancock

Aug 59 - Jan 60: CVG-15, 7th. VF-151; 11 F2H-2, VF-154; 11 F8U-1E, VA-152; 11 AD-6, VA-153; 12 A4D-2, VA-155; 12 A4D-2, VAH-4 Det D; est4 A3D-2, VCP-61 Det D; est4 F8U-1P, VAW-11 Det D; est3 AD-5N, HU-1 Det D; est1 HUP-3
 Jul 60 - Mar 61: CVG-11, 7th. VF-111; 10 F11F-1, VF-114; 11 F3H-2, VA-112; 12 A4D-2, VA-113; 11 A4D-2, VA-115; 10 AD-7, VAH-4 Det C; est3 A3D, VAW-13 Det C; 3 WF-2
 Feb 62 - Aug 62: CVG-21, 7th. VF-211; 9 F-8A, VA-215; 9 A-1H/3 A-1J, VAH-4 Det L; 2 A-3B, VFP 63 Det L; 2 E-1B, VAW 13 Det L; 2 EA-1F, HU-1 Det L; 2 UH-25C
 Jun 63 - Dec 63: CVG-21, 7th. VF-211; 11 F-8A, VF-213; 10 F-3B, VA-212; 11 A-4B, VA-215; 9 A1-H/3 A1-J, VA-216; 12 A-4C, VAH-4 Det L; 3 A-3B, VFP-63 Det 6; 2 RF-8A, VAW-11 Det 6; 5 E-1B, HU-1 Det L; 2 UH-25B
 Oct 64 - May 65: CVW-21, 7th. VF-214; 11 F-8C, VF-211; 10 F-8E, VA-212; 11 A-4E, VA-215; 9 A-1H/2 A-1J, VA-216; 12 A-4C, VAH-4 Det L; 3 A-3B, VAW-11 Det L; 3 E-1B, VFP-63 Det L; 3 RF-8A, HU-1 Det L; 2 UH-2A, 1 UH-2B
 Nov 65 - Aug 66: CVW-21, 7th. VF-211; 9 F-8E, VF-24; 12 F-8C, VA-212; 13 A-4E, VA-215; 8 A-1H/4 A-1J, VA-216; 13 A-4C, VAW-11 Det L; 3 E-1B, VFP-63 Det L; 2 RF-8A, HC-1 Det L; 2 UH-2A/1 UH-2B
 Jan 67 - Jul 67: CVW-5, 7th. VF-51; 10 F-8E, VF-53; 10 F-8E, VA-93; 13 A-4E, VA-94; 7 A-4C, VA-115; 12 A-1H, VAH-4 Det B; est3 A-3B, VAW-11 Det 31; 2 E-1B, VFP-63 Det B; 3 RF-8G, HC-1 Det B; est1 UH-2A/est1 UH-2B
 Jul 68 - Mar 69: CVW-21, 7th. VF-24; 13 F-8H, VF-211; 10 F-8H, VA-55; 14 A-4F, VA-163; 14 A-4E, VA-164; 14 A-4E, VAW-111 Det 19; 3 E-1B, VFP-63 Det 19; 2 RF-8G, VAW-13 Det 19; 3 EKA-3B, HC-1 Det 19; 4 UH-2C
 Aug 69 - Apr 70: CVW-21, 7th. VF-24; 11 F-8H, VF-211; 10 F-8J, VA-55; 14 A-4F, VA-164; 14 A-4F, VAW-111 Det 19; 3 E-1B, VFP-63 Det 19; 2 RF-8G, HC-1 Det 19; 3 UH-2C
 Oct 70 - Jun 71: CVW-21, 7th. VF-24; 13 F-8J, VF-211; 12 F-8J, VA-55; 12 A-4F, VA-164; 14 A-4F, VAQ-129 Det 62; 3 EKA-3B, VAW-111 Det 19; 3 E-1B, VFP-63 Det 19; 3 RF-8G, HC-1 Det 7; 3 UH-2C
 Jan 72 - Oct 72: CVW-21, 7th. VF-24; 10 F-8J, VF-211; 10 F-8J, VA-55; 10 A-4F, VA-164; 11 A-4F, VFP-63 Det 1; 3 RF-8G, VAQ-135 Det 5; 3 EKA-3B, VAW-111 Det 2; 2 E-1B, HC-1 Det 7; 2 SH-3G
 May 73 - Jan 74: CVW-21, 7th/5th. VF-24; 7 F-8J, VF-211; 10 F-8J, VA-55; 14 A-4F, VA-164; 14 A-4F, VFP-63 Det 1; 2 RF-8G, VAQ-135 Det 5; 3 EKA-3B, VAW-111 Det 2; 3 E-1B, HC-1 Det 3; 3 SH-3G, HC-7 Det 110; 2 HH-3A
 Mar 75 - Oct 75: CVW-21, 7th. VF-24; 10 F-8J, VF-211; 8 F-8J, VA-55; 14 A-4F, VA-164; 14 A-4F, RFAW-110 Det 6; 3 E-1B, VFP-63 Det 1; 2 RF-8G, HC-1 Det 1; 3 SH-3G

CVA-20 Bennington

Oct 55 - Mar 56: ATG-201. 7th. VF-13; 14 F9F-8, VA-36; 14 F9F-5, VA-105; 14 AD-6, VC-4 Det-30; 4 F2H-4, VC-12 Det-30; 1 AD-4Q/3 AD-5W, VC-33 Det-30; 4 AD-5N, VC-62 Det-30; 3 F9F-6P, HU-2 Det-30; est1 HUP-2
 Oct 56 - May 57: ATG-181. 7th. VF-21; est14 FJ-3M, VF-41; est12 F2H-3, VF-174; est14 F9F-8B, VA-42; est14 AD-6, VAAW-33 Det-30; est3 AD-5N, VAH-6 Det-N; 2 AJ-2, VAW-12 Det-30; est4 AD-5W, VFP-62 Det-30; est3 F9F-8P, HU-1; est1 HUP-2
 Aug 58 - Jan 59: ATG-4. 7th. VF-111; 13 FJ-3M, VA-55; 12 FJ-4B, VA-152; 12 F2H-3, VA-216; 13 AD-6, VAAW-35 Det K; 4 AD-5N, VAH-16 Det K; est4 AJ-2, VAW-11 Det K; est3 AD-5W, VFP-61; est3 F9F-8P, HU-1 Det 14; est1 HUP-2

CVS-20 Bennington

Oct 60 - Feb 61: CVSG-59. 7th. VS-33; 2 S2F-1/9 S2F-1S, VS-38; 2 S2F-1/8 S2F-1S, HS-8; 15 HSS-1, VAW-11 Det Q; 4 AD-5W
 Jan 62 - Jul 62: CVSG-59. 7th. VS-33; 11 S2F-1S, VS-38; 9 S2F-1, HS-8; 1 HSS-1/16 HSS-1N, VAW-11 Det Q; 5 AD-5W
 Sep 62 - May 63: FRAM II modernization
 Feb 64 - Aug 64: CVSG-59. 7th. VS-33; 10 S-2E, VS-38; 10 S-2E, HS-8; 14 SH-3A, VAW-11 Det Q; 5 EA-1E, VA-93 Det Q; 4 A-4B, HU-1 Det Q; est1 UH-2A
 Mar 65 - Oct 65: CVSG-59. 7th. VS-33; 10 S-2E, VS-38; 10 S-2E, HS-8; 16 SH-3A, VAW-11 Det Q; 4 E-1B, VA-113 Det Q; 4 A-4B
 Nov 66 - May 67: CVSG-59. 7th. VS-33; 11 S-2E, VS-38; 11 S-2E, HS-8; 22 SH-3A, VAW-11 Det Q; 4 E-1B
 May 68 - Nov 68: CVSG-59. 7th. VS-33; 10 S-2E, VS-38; 9 S-2E, HS-8; 14 SH-3A, VAW-11 Det 20; 4 E-1B

CVA-21 Boxer

Jun 55 - Feb 56: CVG-14. 7th. VF-142; 20 F9F-6, VF-144; 1 F9F-4/17 F9F-5, VA-145; 8 AD-4/8 AD-4B, VC-11 Det F; 3 AD-4N/1 AD-4Q, VC-35 Det F; 3 AD-5N, VC-61 Det F; 3 F9F-5P, HU-1 Det 19; est1 HUP-2
 Nov 55: Redesignated CVS-21

CVS-21 Boxer

Jul 56 - Jan 57: CVS-21. 7th. VS-23; 11 S2F-1/10 S2F-2, HS-4; est14 HSS-1, VAW-11 Det F; est3 AD-5W
 Jan 59: Redesignated LPH-4

LPH-4 Boxer

Jun 61 - Aug 61: DR. HMRL-263; 20 HUS-1/2 HUS-3
 Oct 62 - Dec 62: CMC. HMM-263; 24 UH-34D, VMO-1; 5 O-1C/6 O-1B/8 OH-43D
 Apr 65 - June 65: DR. HMM-264; 20 UH-34D
 Aug 65 - Oct 65: 6th/5th/7th. Transported units for Army
 Apr 66 - Jul 66: 6th/5th/7th. HMM-265; est21 CH-46A

CVA-31 Bonhomme Richard

Aug 56 - Feb 57: CVG-21. 7th. VF-211; 15 FJ-3M, VF-213; 8 F2H-3, VA-212; 8 F7U-3M, VA-215; 18 AD-6, VAAW-35 Det L; 4 AD-5N, VAH-6 Det L; est2 AJ-2, VAW-11 Det L; 3 AD-5W, VFP-61 Det L; 3 F2H-2P, HU-1; est1 HUP-2
 Jul 57 - Dec 57: CVG-21. 7th. VF-141; 11 F4D-1, VF-51; 13 FJ-3, VA-54; 6 AD-6/7 AD-7, VA-56; 12 F9F-8B, VAAW-35 Det B; 4 AD-5N, VAH-2 Det B; est3 A3D-2, VAW-11 Det B; 3 AD-5W, VFP-61 Det B; 3 F9F-8P, HU-1; est1 HUP-2
 Nov 58 - Jun 59: CVG-19. 7th. VF-191; 7 F11F-1, VF-193; 9 F3H-2, VA-192; 12 FJ-4B, VA-195; 11 AD-6/1 AD-7, VAAW-35 Det E; 3 AD-5N, VAH-2 Det E; est3 A3D-2, VAW-11 Det E; est3 AD-5W, VFP-61 Det E; est3 F9F-8P, HU-1; est1 HUP-2
 Nov 59 - May 60: CVG-19. 7th/5th. VF-191; 12 F11F-1, VF-193; 12 F3H-2, VA-192; 12 A4D-2, VA-195; 10 AD-6, VAH-4 Det E; 2 A3D-2, VAW-11 Det E; est3 AD-5W, VCP-63 Det E; est3 F8U-1P, HU-1; est1 HUP-2
 Apr 61 - Dec 61: CVG-19. 7th. VF-191; 8 F8U-1, VF-193; 10 F3H-2, VA-192; 11 A4D-2N, VA-195; 12 AD-6, VAH-4 Det E; est3 A3D-2, VAW-11 Det E; 3 WF-2/2 AD-5Q, VCP-61 Det E; 3 F8U-1P, HU-1; est1 HUP-3
 Jul 62 - Feb 63: CVG-19. 7th. VF-191; 12 F8U-1, VF-193; 9 F3H-2, VA-192; 12 A4D-2N, VA-195; 5 AD-2/2 AD-7, VAH-4 Det E; est3 A3D-2, VAW-11 Det E; est3 WF-2, VFP-63 Det E; 3 F8U-1P, HU-1; est1 HUP-3

Jan 64 - Nov 64: CVW-19, 7th/5th, VF-191; 14 F-8E, VF-194; 11 F-8C, VA-192; 12 A-4C, VA-195; 12 A-4C, VA-196; 3 A-1J/9 A-1H, VAH-4 Det E; 3 A-3B, VAW-11 Det E; 3 E-1B, VFP-63 Det E; est3 RF-8A, HU-1 Det E; est1 UH-2A, VAP-61 Det E; est3 RA-3B, VQ-1 Det E est3 EA-3B

Apr 65 - Jan 66: CVW-19, 7th, VF-191; 11 F-8E, VF-194; 11 F-8E, VA-192; 13 A-4C, VA-195; 13 A-4C, VA-196; 12 A-1H, VAW-11 Det E; 3 E-1B, VAW-13 Det E; est3 EA-1F, VFP-63 Det E; 3 RF-8A, HU-1 Det E; 2 UH-2A/1 UH-2B, VQ-1 Det E; est3 EA-3B

Jan 67 - Aug 67: CVW-21, 7th, VF-24; 13 F-8C, VF-211; 10 F-8E, VA-76; 14 A-4C, VA-212; 14 A-4E, VA-215; 8 A-1H/2 A-1J, VAH-4 Det 31; est3 A-3B, VAW-11 Det L; 3 E-1B, VFP-63 Det L; 3 RF-8G, HC-1 Det L; 2 UH-2B, VAW-13 Det 31; est3 EA-1F

Jan 68 - Oct 68: CVW-5, 7th, VF-51; 13 F-8H, VF-53; 13 F-8E, VA-93; 15 A-4F, VA-94; 16 A-4E, VA-212; 12 A-4F, VAW-111 Det 31; 3 E-1B, VAW-13 Det 31; est3 EKA-3B, VFP-63 Det 31; 4 RF-8G, HC-1 Det 31; 3 UH-2C

Mar 69 - Oct 69: CVW-5, 7th, VF-51; 12 F-8J, VF-53; 12 F-8J, VA-22; 8 A-4F, VA-94; 6 A-4E, VA-144; 8 A-4E, VFP-63 Det 31; 3 RF-8G, VAQ-130 Det 31; est3 EKA-3B, VAW-111 Det 31; est3 E-1B, HC-1 Det 31; 2 UH-2C, HC-7 Det 110; est5 SH-3A

Apr 70 - Nov 70: CVW-5, 7th, VF-51; 7 F-8J, VF-53; 8 F-8J, VA-22; 11 A-4F, VA-94; 12 A-4C, VA-144; 14 A-4F, VFP-63 Det 31; 2 RF-8G, VAQ-130 Det 31; 2 EKA-3B, VAW-111 Det 14; 3 E-1B, HC-1 Det 3; 2 UH-2C

CVA-33 Kearsarge

Oct 54 - May 55: CVG-11, 7th, VF-112; 16 F9F-6, VF-113; 11 F9F-2, VF-114; 10 F9F-5, VA-115; 16 AD-6, VC-3 Det C; 7 F2H-3, VC-11; Det C; 3 AD-4W, VC-35 Det C; 4 AD-5N, VC-61 Det C; 3 F9F-6P, HU-1; est1 HUP-2

Oct 55 - May 56: CVG-5, 7th, VF-54; 18 AD-6, VF-91; 19 F9F-8, VF-141; 10 F2H-3, VC-11; Det B; 1 AD-4Q/3 AD-5W, VC-35 Det B; 4 AD-5N, VC-61 Det B; 2 F2H-2P, HU-1; est1 HUP-2

Aug 57 - Apr 58: ATG-3, 7th, VF-53; 13 FJ-3M, VF-194; 8 F2H-3, VA-26; 12 F9F-8B, VA-96; 8 AD-6/6 AD-7, VAH-6 Det J; 4 AJ-2, VAAW-35 Det J; 4 AD-5N, VAW-11 Det J; 3 AD-5W, VFP-61 Det J; 3 F9F-8P, HU-1; est1 HUP-2

CVS-33 Kearsarge

Sep 59 - Mar 60: CVSG-53, 7th, VS-21; 2 S2F-1/14 S2F-1S/3 S2F-2, HS-6; 12 HSS-1/3 HSS-1N, VAW-13 Det A; 3 AD-5W

Mar 61 - Nov 61: CVSG-53, 7th, VS-21; 4 S2F-1/7 S2F-1S, VS-29; 3 S2F-1/8 S2F-1S, HS-6; 10 HSS-1/6 HSS-1N, VAW-11 Det R; 6 AD-5W

Apr 63 - Dec 63: CVSG-53, 7th, VS-21; 1 S-2B/9 S-2F VS-29; 1 S-2A/2 S-2B/8 S-2F, HS-6; 13 SH-3A, VA-22 Det R; 4 A-4B, VAW-11 Det R; 2 EA-1E

Jun 64 - Dec 64: CVSG-53, 7th, VS-21; 10 S-2F, VS-29; 10 S-2F, HS-6; 14 SH-3A, VAW-11 Det R; 5 EA-1A, VA-153 Det R; 4 A-4B

Jun 66 - Dec 66: CVSG-53, 7th, VS-21; 10 S-2E, VS-29; 10 S-2E, HS-6; 14 SH-3A, VAW-11 Det R; 4 E-1B

Aug 67 - Apr 68: CVSG-53, 7th, VS-21; 9 S-2E, VS-29; 10 S-2E, HS-6; 15 SH-3A, VAW-11 Det 33; 4 E-1B

Mar 69 - Sep 69: CVSG-53, 7th, VS-21; 6 S-2E, VS-29; 6 S-2E, HS-6; 14 SH-3A, VAW-11 Det 33; 4 E-1B, HC-7 Det 110; 5 SH-3A

CVA-34 Oriskany

Mar 55 - Sep 55: CVG-19, 7th, VF-191; 22 F9F-6, VF-192; 16 F9F-5, VF-193; 9 F2H-3, VA-195; 15 AD-6, VC-11 Det E; 3 AD-4W, VC-35 Det E; 3 AD-5N, VC-61 Det E; 3 F2H-2P, HU-1; est1 HUP-2

Feb 56 - Aug 56: CVG-9, 7th, VF-93; 1 F9F-8/22 F9F-8B, VF-194; 8 F2H-3, VA-95; 15 AD-6, VC-11 Det M; 1 AD-4Q/3 AD-5W, VC-35 Det M; 4 AD-5N, VC-6; est3 AJ-2, VC-61 Det M; 3 F9F-6P, HU-1; est1 HUP-2

May 60 - Dec 60: CVG-14, 7th, VF-141; 12 F3H-2, VF-142; 12 F8U-2, VA-144; 12 FJ-4B, VA-145; 10 AD-6, VA-146; 11 FJ-4B, VCP-63 Det F; est3 F8U-1P, VAH-4 Det F; est3 A3D-2, HU-1 Det F; 2 HUP-2

Jun 62 - Dec 62: CVG-16, 7th, VF-161; 8 F3H-2M, VMF-232; 13 F8U-1E, VA-163; 12 A4D-2, VA-164; 12 A4D-2, VA-165; 11 AD-6, VAH-4 Det G; 3 A3D-2, VFP-63 Det G; 2 F8U-1P, VAW-11 Det G; 3 WF-2, HU-1 Det G; est2 HUP-3

Aug 63 - Mar 64: CVW-16, 7th, VF-161; 11 F-3B, VF-162; 11 F-8A, VA-163; 12 A-4B, VA-164; 12 A-4B, VA-165; 9 A-1H/3 A-1J, VAH-4 Det G; 2 A-3B, VFP-63 Det G; 3 RF-8A, VAW-11 Det G; 3 E-1B, HU-1 Det G; 2 UH-2A, VQ-1 Det G; est3 EA-3B

Apr 65 - Dec 65: CVW-16, 7th, VF-162; 11 F-8E, VMF(AW)-212; 12 F-8E, VA-152; 2 A-1J/9 A-1H, VA-163; 13 A-4E, VA-164; 13 A-4E, VAW-11 Det G; 3 E-1B, VFP-63 Det G; 3 RF-8A, VMJ-1 Det G; est3 EF-10B, VQ-1 Det G; est3 EA-3B, VAW-13 Det G; est3 EA-1F, HC-1 Det G; 2 UH-2A, 1 UH-2B

May 66 - Nov 66: CVW-16, 7th, VF-111; 11 F-8E, VF-162; 4 F-8E, VA-152; 12 A-1H, VA-163; 10 A-4E, VA-164; 12 A-4E, VAH-4 Det G; 3 A-3B, VAW-11 Det G; est3 E-1B, HC-1 Det G; 1 UH-2A, 2 UH-2B, VFP-63 Det G; est3 RF-8G, VAP-61 Det G; est3 RA-3B

Jun 67 - Jan 68: CVW-16, 7th, VF-111; 13 F-8C, VF-162; 9 F-8E, VA-152; 9 A-1H/3 A-1J, VA-163; 10 A-4E, VA-164; 11 A-4E, VFP-63 Det G; 3 RF-8G, VAH-4 Det G; 2 KA-3B, VAW-11 Det 34; 3 E-1B, VAW-13 Det G; est3 EA-1F, VAP-61 Det G; est3 RA-3B, HC-1 Det 34; 1 UH-2A/2 UH-2B

Apr 69 - Nov 69: CVW-19, 7th. VF-191; 9 F-8J, VF-194; 7 F-8J, VA-23; 14 A-4F, VA-192; 11 A-4F, VA-195; 12 A-4E, VAW-111 Det 34; 3 E-1B, VFP-63 Det 34; 3 RF-8G, VAQ-130 Det 34; est3 EKA-3B, HC-1 Det 34; 3 UH-2C
 May 70 - Dec 70: CVW-19, 7th. VF-191; 11 F-8J, VF-194; 12 F-8J, VA-153; 15 A-7A, VA-155; 12 A-7B, VAQ-130 Det 34; 2 EKA-3B, VAW-111 Det 34; 3 E-1B, VFP-63 Det 34; 4 RF-8G, HC-1 Det 6; 3 UH-2C
 May 71 - Dec 71: CVW-19, 7th. VF-191; 10 F-8J, VF-194; 10 F-8J, VA-153; 12 A-7A, VA-155; 12 A-7B, VA-215; 10 A-7B, VAQ-130 Det 3; 2 EKA-3B, VFP-63 Det 34; 3 RF-8G, VAW-111 Det 2; 3 E-1B, HC-1 Det 5; 2 UH-2C, HC-7 Det 110; 2 HH-3A
 Jun 72 - Mar 73: CVW-19, 7th. VF-191; 11 F-8J, VF-194; 11 F-8J, VA-153; 12 A-7A, VA-155; 8 A-7B, VA-215; 13 A-7B, VAW-111 Det 6; 3 E-1B, VAQ-130 Det 3; 3 EKA-3B, VFP-63 Det 4; 4 RF-8G, HC-1 Det 5; 3 SH-3G
 Oct 73 - Jun 74: CVW-19, 7th/5th. VF-191; 9 F-8J, VF-194; 10 F-8J, VA-153; 11 A-7B, VA-215; 11 A-7B, VFP-63 Det 4; 2 RF-8G, VAW-111 Det 6; 2 E-1B, VAQ-130 Det 3; 3 EKA-3B, HC-1 Det 1; 3 SH-3G
 Sep 75 - Mar 76: CVW-19, 7th. VF-191; 10 F-8J, VF-194; est7 F-8J, VA-153; 9 A-7B, VA-155; 11 A-7B, RVAW-110 Det 4; est3 E-1B, VFP-163; Det 4; 2 RF-8G, HC-6; 6 SH-3A

CVS-37 Princeton

Nov 54 - May 55: CVS-37, 7th. VS-23; 16 S2F-1, VS-37; 8 AF-2S/8 AF-2W, HS-4 Det N; est10 HO4S-3S, VC-3 Det N; 3 F4U-5N, VC-11 Det N; est3 AD-5W
 Jan 56 - Aug 56: CVS-37, 7th. VS-20; 12 S2F-1/4 S2F-2, VS-21; 12 S2F-1/4 S2F-2, HS-2 Det N; est10 HO4S-3S, VC-11 Det N; est3 AD-5W
 Jul 57 - Feb 58: CVS-37, 7th. VS-38; 18 S2F-1/4 S2F-2, HS-8; 14 HSS-1, VAW-11 Det Q; est3 AD-5W
 Jun 58 - Dec 58: CVS-37, 7th. VS-23; 17 S2F-1/5 S2F-2, HS-4; 13 HSS-1, VAW-11 Det T; est3 AD-5W

LPH-5 Princeton

Feb 60 - Jul 60: 7th. HMRL-362; 19 UH-34D
 Sep 61 - Jun 62: 7th. HMM-261; 23 HUS-1, HMM-362; 24 HUS-1
 Feb 63 - Oct 63: 7th. HMM-163; 20 UH-34D
 Sep 64 - May 65: 7th. HMM-162; 32 UH-34D
 Feb 66 - Sep 66: 7th. HMM-364; 19 UH-34D
 Jan 67 - Jun 67: 7th. HMM-164; 21 CH-46A
 May 68 - Dec 68: 7th. HMM-362; 24 UH-34D

CVA-38 Shangri La

Jan 56 - Jun 56: ATG-3, 7th. VF-53; 16 F9F-8, VF-92; 8 AD-4B/7 AD-4NA, VF-122; 14 F9F-8, VC-3 Det J; 4 F2H-3, VC-6 Det J; est3 AJ-2, VC-11 Det J; 1 AD-4Q/3 AD-5W, VC-35 Det J; 4 AD-5N, VC-61 Det J; 3 F2H-2P, HU-1; est1 HUP-2
 Nov 56 - May 57: CVG-2, 7th. VF-24; 13 FJ-3M, VF-64; 8 F2H-3, VA-63; 1 F9F-8/9 F9F-8B, VA-65; 1 AD-4Q/10 AD-6, VAAW-35 Det A; 4 AD-5N, VAW-11 Det A; 3 AD-5W, VX-4 Det A; 3 F7U-3M, VFP-61; Det A; 3 F9F-8P, HU-1; est1 HUP-2
 Mar 58 - Nov 58: CVG-11, 7th. VF-114; 9 F3H-2N, VA-113; 12 A4D-1, VA-115; 15 AD-6, VA-156; 10 F11F-1, VAAW-35 Det C; 4 AD-5N, VAH-4 Det C; 4 A3D-2, VAW-11 Det C; est3 AD-5W, VFP-61 Det C; est3 F9F-8P, HU-1; est1 HUP-2
 Mar 59 - Oct 59: CVG-11, 7th. VF-111; 13 F11F-1, VF-114; 14 F3H-2N, VA-113; 12 A4D-2, VA-115; 11 AD-7, VAAW-35 Det C; 4 AD-5N, VAH-4 Det C; 4 A3D-2, VAW-11 Det C; est3 AD-5W, VFP-61 Det C; est3 F8U-1P, HU-1; est1 HUP-2
 May 60 - Jul 60: CVG-11, 2nd. VF-13; 12 F4D-1, VF-62; 14 F8U-1, VA-12; 14 A4D-2, VA-106; 10 A4D-2, VA-176; 11 AD-6, VAW-12 Det 44; est3 AD-5W, VAW-33 Det 44; est3 AD-5Q, VFP-62 Det 44; 2 F8U-1P, HU-2; est1 HUP-3
 Feb 61 - May 61: CVG-10, 6th. VF-13; 13 F4D-1, VF-62; 15 F8U-1, VMA-225; 12 A4D-2N, VA-46; 12 A4D-2N, VA-106; 11 A4D-2, VA-176; 12 AD-6, VAW-12 Det 44; 4 AD-5W, VAW-33 Det 44; 4 AD-5Q, VFP-62 Det 44; 2 F8U-1P, HU-2 Det 44; 2 HUP-3,
 Feb 62 - Aug 62: CVG-10, 6th. VF-13; 9 F4D-1, VMF-251; 12 F8U-1E, VA-176; 11 AD-6, VA-46; 11 A4D-2N, VA-106; 12 A4D-2, VFP-62 Det 44; 2 F8U-1P, VAW-12 Det 44/38; est3 E-1B, VAW-33 Det 44/38; est1, HU-2 2 HUP-3
 Oct 63 - May 64: CVW-10, 6th. VF-13; 12 F-3B, VF-62; 12 F-8E, VA-46; 12 A-4C, VA-106; 12 A-4C, VA-176; 12 A-1H, VAW-12 Det 38; est3 E-1B, VAW-33 Det 38; est3 EA-1F, VFP-62 Det 38; 3 RF-8A, HU-2 Det 38; est1UH-2A
 Feb 65 - Sep 65: CVW-10, 6th. VF-13; 10 F-8E, VF-62; 10 F-8E, VA-46; 13 A-4C, VA-106; 14 A-4C, VA-176; 12 A-1H, VAH-1; est3 A-3D, VAW-12 Det 38; est3 E-1B, VAW-33 Det 38; est 3 EA-1F, VFP 62 Det 38; 3 RF-8A, HU-2 Det 38; 3 UH-2A

Sep 66 - May 67: CVW-8. 6th. VF-13; 9 F-8D, VF-62; 6 F-8D, VSF-1; est4 A-4B, VA-81; 11 A-4C, VA-83; 12 A-4C, VAW-12 Det 38; est3 E-1B, VFP-62 Det 38; 3 RF-8A, HC-2 Det 38; 2 UH-2A/1 UH-2B
 Nov 67 - Aug 68: CVW-8. 6th. VF-13; 10 F-8C, VF-62; 12 F-8C, VA-81; 4 A-4C, VA-83; 9 A-4C/1 A-4E, VA-95; 8 A-4B, VAW-121 Det 38; est3 E-1B, VFP-62 Det 38; 3 RF-8G, HC-2 Det 38; 3 UH-2A

Jan 69 - Jul 69: CVW-8. 6th. VF-13; 10 F-8, VF-62; 9 F-8, VA-12; 12 A-4C, VA-72; 14 A-4B, VAW-121 Det 38; 3 E-1B, VFP-63 Det 38; est3 RF-8G, HC-2 Det 38; 2 UH-2A/1 UH-2B
 Mar 70 - Dec 70: CVW-8. VF-111; 9 F-8H, VF-162; 6 F-8H, VA-12; 10 A-4C, VA-152; 10 A-4C, VAH-10 Det 38; 2 KA-3D, VFP-63 Det 38; 3 RF-8G, VAW-121 Det 38; 2 E-1B, HC-2 Det 38; 3 UH-2C

CVA-39 Lake Champlain

Sep 54 - Apr 55: CVG-8. 6th. VF-61; 16 F9F-6, VF-82; 3 F2H-B/6 F2H-2N, VF-84; 17 F9F-5, VA-85; 16 AD-6, VC-4 Det 34; 3 F2H-4, VC-5; est3 AJ-1, VC-8 Det 34; est3 AJ-1, VC-12; 3 AD-4W, VC-33 Det 34; 1 AD-3Q/1AD-4NL/3 AD-4N/1 AD-4Q, VC-62 Det 34; 3 F2H-2P, HU-2 Det 34; est1 HUP-2
 Sep 55 - Mar 56: CVG-6. 6th. VF-33; 14 FJ-3, VF-74; 1 F9F-6/16 F9F-8, VMA-324; 5 AD-4/11 AD-4B, VA-25; 12 AD-6, VAH-7 Det 34; 2 AJ-2, VC-4 Det 34; 4 F2H-4, VC-12; 3 AD-5W, VC-33 Det 34; 4 AD-5N/1 AJ-2/2 AD-3Q, VC-62 Det 34; 3 F2H-2P, HU-2 Det 34; est1 HUP-2
 Jan 57 - Jul 57: ATG-82. 6th. VF-81; 3 F9F-8/10 F9F-8B, VMFAW-533; est10 F2H-4, VA-16; est11 AD-6, VAAW-33 Det 34; 3 AD-5N, VAH-7 Det 34; 4 AJ-2, VAW-12 Det 34; 3 AD-5W, VFP-62 Det 34; 3 F9F-8P, HU-2 Det 34; 1 HUP-2

CVS-39 Lake Champlain

Jun 59 - Sep 59: CVS-39. 6th. VS-30; 16; S2F-1/2 S2F-2, HS-1; est8 HSS-1, VAW-12; 4 AD-5W, HU-2; 1 HUK-1
 Jun 60 - Aug 60: CVSG-54. 2nd. VS-22; 4 S2F-1/4 S2F-1S/2 S2F-2, VS-32; 3 S2F-1/6 S2F-1S, HS-5; 5 HSS-1/8 HSS-1N, VAW-12 Det 34; 1 AD-5W
 Jun 61 - Aug 61: CVSG-54. 2nd. VS-22; 5 S2F-1/5 S2F-1S, VS-32; 3 S2F-1/8 S2F-1S, HS-5; 16 HSS-1N, VAW-12 Det 34; 4 AD-5W, HU-2 Det 34; 1 HUP-2
 Oct 62 - Nov 62: CVSG-54. CMC. VS-22; 1 S2F-1S/10 S2F-2, VS-32; 3 S2F-1S/7 S2F-2, HS-5; 17 HSS-1N, VAW-33 Det 39; 5 AD-5W
 Sep 63 - Nov 63: CVSG-52. 2nd. VS-28; 10 S-2E, VS-31; 10 S-2E, HU-11; 14 SH-3A, VAW-33 Det 39; 4 EA-1E
 Oct 64 - Nov 64: CVSG-54. 6th. VS-22; 10 S-2F, VS-32; 11 S-2F, HS-5; 14 SH-3A, VAW-33 Det 39; 2 EA-1E

CVS-40 Tarawa

Aug 57 - Oct 57: CVS-40. 2nd. VS-32; 16 S2F-1/4 S2F-2, HS-1; 14 HSS-1, VFAW-4 Det 38; 4 AD-5, HU-2 Det 38; 1 HUP-2
 Jul 58 - Oct 58: CVS-40. 2nd. VS-32; est16 S2F-1/est4 S2F-2, HS-5; 11 HSS-1, VAW-12; est4 AD-5W, VFAW-4; est4 AD-5N
 Mar 59 - May 59: CVS-40. 2nd. VS-27; est15 S2F-1/est4 SF2-2, HS-3; est14 HSS-1, VAW-12; est4 AD-5W
 Aug 59 - Oct 59: CVS-40. 2nd. VS-39; 19 S2F-1/3 S2F-2, HS-9; 14 HSS-1, VAW-12; est4 AD-5W

CVA-41 Midway

Dec 54 - Jul 55: CVG-1. 6th. VF-12; 17 F2H-2, VF-101; 6 F2H-2/6 F2H-2B, VF-174; 25 F9F-6, VA-15; 17 AD-6, VC-4 Det 35; 4 F2H-4, VC-12 Det 35; 3 AD-4W, VC-33 Det 35; 4 AD-5N, VC-62 Det 35; 2 F2H-2P, HU-2; est2 HUP-2
 Aug 58 - Mar 59: CVG-2. 7th. VF-64; 7 F3H-2, VF-211; 10 F8U-1, VA-63; 12 FJ-4B, VA-65; 1 AD-5/10 AD-6, VAH-2; 7 A3D-2, VAH-8; 7 A3D-2, VAAW-35; 3 AD-5N, VAW-11; 2 AD-5W, VFP-61 Det A; 3 F8U-1P, HU-1; est2 HUP-2
 Aug 59 - Mar 60: CVG-2. 7th. VF-21; 12 F-3B, VF-24; 11 F-8A, VA-22; 11 AF-1E, VA-23; 10 AF-1E, VA-25; 12 A-1J, VAH-8; 9 A-3B, VAW-11 Det A; est3 AD-5W, VCP-63 Det A; est3 F-8AP
 Feb 61 - Sep 61: CVG-2. 7th. VF-24; 13 F-8C, VF-21; 11 F-3B, VA-23; 11 A-4B, VA-22; 12 A-4B, VA-25; 12 A-1J, VAH-8; 9 A-3B, VCP-63 Det A; 3 F-8AP, VAW-11 Det A; 3 E-1B
 Apr 62 - Oct 62: CVG-2. 7th. VF-21; 12 F-3B, VF-24; 13 F-8C, VMA-211; 24 A-4B, VA-22; 12 A-4C, VA-23; 12 A-4B, VA-25; 8 A-1H/4 A-1J, VAH-8; 8 A-3B, VAW-13 Det A; est3 EA-1F, VFP-63 Det A; 3 F-8AP, VAW-11 Det A; 4 E-1B, HU-1 Det A; est2 UH-25C

Nov 63 - May 64: CVW-2. 7th. VF-21; 11 F-4B, VF-24; 12 F-8C, VA-22; 10 A-4C, VA-23; 12 A-4E, VA-25; 8 A-1H/4 A-1J, VAH-8; 8 A-3B, VAW-11 Det A; 4 E-1B, VFP-63 Det A; 2 RF-8A, HU-1 Det 1A; 1 UH-2A
 Mar 65 - Nov 65: CVW-2. 7th. VF-21; 12 F-4B, VF-111; 10 F-8D, VA-22; 13 A-4C, VA-23; 10 A-4E, VA-25; 10 A-1H/1 A-1J, VAH-8; 8 A-3B, VAW-11 Det A; 4 E-1B, VAW-13 Det A; est3 EA-1F, VAP-61 Det A; est3 RA-3B, VFP-63 Det A; 2 RF-8A, HU-1 Det A; 3 UH-2A, VQ-1 Det A; est3 EA-3B
 Apr 71 - Nov 71: CVW-5. 7th. VF-151; 11 F-4B, VF-161; 9 F-4B, VA-56; 8 A-7B, VA-93; 10 A-7B, VA-115; 10 A-6A/4 KA-6D, VAQ-130 Det 2; 4 EKA-3B, VFP-63 Det 3; 3 RF-8G, VAW-115; 2 E-2B, HC-1 Det 8; 3 SH-3G, HC-7 Det 110; 2 HH-3A

Apr 72 - Mar 73: CVW-5, 7th. VF-151; 8 F-4B, VF-161; 11 F-4N, VA-56; 11 A-7B, VA-93; 12 A-7B, VA-115; 9 A-6A/5 KA-6D, VAQ-130 Det 2; 2 EKA-3B, VFP-63 Det 3; 2 RF-8G, VAW-115; 3 E-2B, HC-1 Det 2; 4 SH-3G, HC-7 Det 110; 4 HH-3A

Sep 73 - Oct 73: CVW-5, 7th. VF-151; 13 F-4N, VF-161; 13 F-4N, VA-56; 13 A-7A, VA-93; 13 A-7A, VA-115; 10 A-6A/4 KA-6D, VFP-63 Det 3; 3 RF-8G, VAW-115; 4 E-2B, HC-1 Det 2; 5 SH-3G, VMCJ-1 Det 101; 5 EA-6A

Jan 74 - Mar 74: CVW-5, 7th. VF-151; 11 F-4N, VF-161; 11 F-4N, VA-56; 12 A-7A, VA-93; 11 A-7A, VA-115; 7 A-6A/3 KA-6D, VAW-115; 4 E-2B, VFP-63 Det 3; 2 RF-8G, HC-1 Det 2; 5 SH-3G, VMCJ-1 Det 101; est3 EA-6A/est3 RF-4B, VQ-1 Det 2; est3 EA-3B

Oct 74 - Dec 74: CVW-5, 7th. VF-151; 8 F-4N, VF-161; 8 F-4N, VA-56; 13 A-7A, VA-93; 12 A-7A, VA-115; 8 A-6A/3 A-6B/4 KA-6D, VAW-115; 4 E-2B, HC-1 Det 2; 6 SH-3G, VMCJ-1 Det 101; est3 EA-6A/est3 RF-4B, VQ-1 Det 2; est3 EA-3B

Jan 75 - Feb 75: CVW-5, 7th. VF-151; 9 F-4N, VF-161; 12 F-4N, VA-56; 12 A-7A, VA-93; 13 A-7A, VA-115; 7 A-6A/2 A-6B/4 KA-6D, VAW-115; 4 E-2B, HC-1 Det 2; 4 SH-3G, VMFP-3 Det 2; est3 RF-4B, VMAQ-2 Det 2; est3 EA-6B, VMCJ-1 Det 101; 3 EA-6A/3 RF-4B

Mar 75 - May 75: CVW-5, 7th. VF-151; 9 F-4N, VF-161; 12 F-4N, VA-56; 12 A-7A, VA-93; 13 A-7A, VA-115; 7 A-6A/2 A-6B/4 KA-6D, VAW-115; 4 E-2B, HC-1 Det 2; 4 SH-3G, VMFP-3 Det 2; est3 RF-4B, VMAQ-2 Det 2; est3 EA-6B, VMCJ-1 Det 101; 3 EA-6A/3 RF-4B

Mar 76 - May 76: CVW-5, 7th. VF-151; 11 F-4N, VF-161; 11 F-4N, VA-56; 10 A-7A, VA-93; 12 A-7A, VA-115; 6 A-6A/3 A-6B/4 KA-6D, VAW-115; 3 E-2B, VMFP-3 Det 2; est4 RF-4B, VMAQ-2 Det 2; est4 EA-6B, HC-1 Det 2; 4 SH-3G

Dec 78 - Jun 79: CVW-5, 7th. VF-151; F-4N, VF-161; F-4N, VA-56; A-7E, VA-93; A-7E, VA-115; A-6E/KA-6D, VAW-115; E-2B, VMFP-3 Det 2; RF-4B, VMAQ-2 Det 2; EA-6B, HC-1 Det 2, SH-3G

Sep 79 - Feb 80: CVW-5, 7th/5th. VF-151; F-4J, VF-161; F-4J, VA-56; A-7A, VA-93; A-7A, VA-115; A-6E/KA-6D, VAW-115; E-2B, VMFP-3 Det 2; RF-4B, VMAQ-2 Det 2; EA-6B, HC-1 Det 2; SH-3G

Jan 84 - May 84: CVW-5, 7th/5th. VF-151; F-4S, VF-161; F-4S, VA-56; A-7A, VA-93; A-7A, VA-115; A-6E/KA-6D, VAW-115; E-2B, VMFP-3 Det 2; RF-4B, VAQ-136 Det 2; EA-6B, HC-1 Det 2; SH-3G

May 85 - Oct 85: CVW-5, 7th/5th. VF-151; F-4S, VF-161; F-4S, VA-56; A-7A, VA-93; A-7A, VA-115; A-6E/KA-6D, VAW-115; E-2B, VAQ-136 Det 2; EA-6B, HS-12; SH-3H

Apr 87 - Jul 87: CVW-5, 7th. VFA-151; F/A-18A, VFA-192; F/A-18A, VFA-195; F/Q-18A, VA-115; A-6E, VAQ-136; EA-6B, VAW-115; E-2B, HS-12; SH-3H

Oct 87 - Apr 88: CVW-5, 7th. VFA-151; F/A-18A, VFA-192; F/A-18A, VFA-195; F/Q-18A, VA-115; A-6E, VA-185; A-6E, VAQ-136; EA-6B, VAW-115; E-2B, HS-12; SH-3H

Aug 89 - Dec 89: CVW-5, 7th/5th. VFA-151; F/A-18A, VFA-192; F/A-18A, VFA-195; F/Q-18A, VA-115; A-6E, VA-185; A-6E, VAQ-136; EA-6B, VAW-115; E-2B, HS-12; SH-3H

Oct 90 - Apr 91: CVW-5, DS. VFA-151; F/A-18A, VFA-192; F/A-18A, VFA-195; F/A-18A, VA-185; A-6E/KA-6D, VA-115; A-6E/KA-6D, VAW-115; E-2C, VAQ-136; EA-6B, HS-12; SH-3H, VRC-50 Det 2; US-3A/C-2A

Apr 92: Decommissioned

CVA-42 Franklin D. Roosevelt

Jul 57 - Apr 58: CVG-17 6th. VF-74; 12 F4D-1, VF-171; 12 F2H-3/1 F2H-3M, VF-173; 12 FJ-3M, VA-172; 10 F2H-2/1 F2H-2B, VA-175; 15 AD-6, VAW-12; est3 AD-5W, VAW-3; 8 A3D-1, VAAW-33; est3 AD-5N, VFP-62 Det 37; 3 F2H-2P, HU-2 Det 37; 1 HUP-2

Feb 59 - Sep 59: CVG-1, 6th. VF-14; 16 F3H-2, VMFAW-114; 12 F4D-1, VA-15; 12 AD-6, VA-172; 12 A4D-2, VAAW-33; est3 AD-5N, VAH-11; est4 A3D-3, VAAW-33; est3 AD-5N, VFP-62 Det 37; 2 F8U-1P, HU-2; est1 HUP-2

Jan 60 - Aug 60: CVG-1, 6th. VF-11; 12 F-8A, VF-14; 12 F-3B, VA-15; 12 A-1H, VA-46; 12 A-4B, VA-172; 12 A-4B, VAH-11; 7 A-3B, VFP-62 Det 37; 1 RF-8A

Feb 61 - Aug 61: CVG-1, 6th. VF-11; 13 F-8A, VF-14; 12 F-3B, VA-12; est12 A-4B, VA-15; 12 A-1H, VA-172; 12 A-4B, VAH-11; 9 A-3B, VAW-12 Det 37; 3 E-1B, VFP-62 Det 37; 2 RF-8A

Sep 62 - Apr 63: CVG-1, 6th. VF-11; 10 F-8E, VF-14; 10 F-3B, VA-12; 12 A-4C, VAH-11; 12 A-1H, VA-172; 12 A-4C, VAH-11; 6 A-3B, VFP-62 Det 42; 3 RF-8A, VAW-12 Det 42; 3 E-1B, HU-2 Det 42; est2 UH-2A

Apr 64 - Dec 64: CVW-1, 6th. VF-11; 11 F-8E, VF-14; 12 F-4B, VA-12; 12 A-4C, VAH-11; 12 A-4C, VAH-11; 6 A-3B, VFP-62 Det 42; 3 RF-8A, VAW-12 Det 42; 3 E-1B, HU-2 Det 42; 3 UH-2A

Jun 65 - Dec 65: CVW-1, 6th. VF-11; 11 F-4B, VF-14; 9 F-4B, VA-12; 15 A-4E, VA-172; 16 A-4C, VAH-10; 6 A-3B, VAW-12 Det 42; 3 E-1B, VQ-2; est3 EA-3B, VFP-62 Det 42; 3 RF-8G, HC-2 Det 42; 2 UH-2A/1 UH-1B

Jun 66 - Feb 67: CVW-1, 2nd/5th/7th. VF-14; 11 F-4B, VF-32; 9 F-4B, VA-12; 12 A-4E, VA-72; est12 A-4E, VA-172; 12 A-4C, VAH-10; 4 A-3B, VAW-12 Det 42; 3 E-1B, VFP-62 Det 42; 4 RF-8G, HC-2 Det 42; 2 UH-2A/1 UH-2B, VQ-1 Det 42; est3 EA-3B, VAW-13 Det 42; est3 EA-1F

Aug 67 - May 68: CVW-1, 6th. VF-14; 12 F-4B, VF-32; 10 F-4B, VA-12; 14 A-4C, VA-72; 13 A-4C, VAH-10 Det 42; 2 KA-3B, VAW-121 Det 42; E-1B, VQ-2; est3 EA-3B, VFP-62 Det 42; 3 RF-8G, HC-2 Det 42; 3 UH-2A

Jan 70 - Jul 70: CVW-6. 6th. VF-41; 8 F-4J, VF-84; 8 F-4J, VA-15; 11 A-7B, VA-176; 9 A-6A, VA-215; 9 A-7B, VAW-121 Det 42; 2 E-1B, HC-2 Det 42; 1 UH-2A, 2 UH-2B, VFP-63 Det 42; 2 RF-8G, VAQ-130 Det 42; 2 EKA-3B

Jan 71 - Jul 71: CVW-6. 6th. VF-41; 11 F-4J, VF-84; 11 F-4J, VA-15; 12 A-7B, VAW-121 Det 42; 2 E-1B, HC-2 Det 42; 3 HH-2D, VFP-63 Det 42; 2 RF-8G, VAQ-135 Det 1; 3 EKA-3B

Feb 72 - Dec 72: CVW-6. 6th. VF-41; 11 F-4J, VF-84; 12 F-4J, VA-15; 12 A-7B, VA-176; 6 A-6/2 A-6C/2 KA-6D, VAW-121 Det 42; 3 E-1B, HC-2 Det 42; 3 SH-3G, VFP-63 Det 42; est3 RF-8G

Sep 73 - Mar 74: CVW-6. 6th. VF-14; 12 F-4B, VF-32; 12 F-4B, VA-15; 11 A-7B, VA-87; 12 A-7B, VA-176; 6 A-6A/3 A-6B/4 KA-6D, HC 2 Det 42; 3 SH-3G

Jan 75 - Jul 75: CVW-6. 6th. VF-41; 11 F-4N, VF-84; 10 F-4N, VA-87; 12 A-7B, VA-176; 4 A-6C/2 KA-6D, VAW-121 Det 42; 3 E-1B, HC-2 Det 42; 4 SH-3G

Sep 76 - Apr 77: CVW-19. 6th. VF-51; 10 F-4N, VF-111 est11 F-4N, VA-153; est10 A-7B, VA-155; est11 A-7B, VA-215; est10 A-7B, VMA-231; AV-8A, RVAW-110; est3 E-1B, HC-1 Det ?; est3 SH-3G

Oct 77: Decommissioned

CVA-43 Coral Sea

Apr 55 - Sep 55: CVG-17. 6th. VF-171; 12 F2H-3, VF-172; 12 F2H-2, VMF-122; 20 FJ-2, VA-175; 14 AD-6, VC-12 Det 31; 3 AD-5W, VC-33 Det 31; 4 AD-5N/2 AD-5Q, VC-62 Det 31; 3 F2H-2P, VC-8 Det 31; est4 AJ-2, HU-2 Det 31; 1 HUP-2

Aug 56 - Feb 57: CVG-10. 6th. VF-11; 9 F2H-4, VF-103; 12 F9F-8B, VA-104; 11 AD-6, VA-106; 12 F9F-8B, VFP-62 est3 F2H-2P, VAAW-33; 1 AD-5N, VAW-12; 3 AD-5W, HU-2; 2 HUP-2

Sep 60 - May 61: CVG-15. 7th. VF-151; 12 F-3B, VF-154; 12 F-8B, VMA-121; 18 A-4B, VMA-334; est12 A4D, VA-152; 12 A-1H, VA-153; 12 A-4B, VA-155; 12 A-4B, VAH-2; 10 A-3B, VAW-13 Det D; 3 E-1B, VCP-61 Det D; est3 F-8AP, HU-1 Det D; est3 UH-25B

Dec 61 - Jul 62: CVG-15. 7th. VF-151; 13 F-3B, VF-154; 14 F-8D, VA-152; 11 A-1H, VA-153; 10 A-4C, VA-155; 12 A-4B, VAH-2; 9 A3D, VAW-11 Det D; 4 E-1B, VAW-13 Det C; 2 EA-1F, VFP-63 Det A; 3 F-8AP, HU-1 Det D; est3 UH-25B

Mar 63 - Nov 63: CVG-15. 7th. VF-151; 12 F-3B, VF-154; 13 F-8D, VA-152; 9 A-1H/3 A-1J, VA-153; 10 A-4C, VA-155; 11 A-4B, VAH-2; 9 A-3B, VFP-63 Det D; 3 RF-8A, VAW-11 Det D; 4 E-1B, HU-1 Det D; 2 UH-25B

Dec 64 - Nov 65: CVW-15. 7th. VF-151; 12 F-4B, VF-154; 12 F-8D, VA-153; 14 A-4C, VA-155; 13 A-4E, VA-165; 10 A-1H/2 A-1J, VFP-63 Det D; 3 RF-8A, VAW-11 Det D; 4 E-1B, VAH-2; 8 A-3B, HC-1 Det D; 2 UH-2A, VAP-61 Det D; est3 RA-3B, VQ-1 Det D; est3 EA-3B, VAW-13 Det D; est3 EA-1F, VMCAJ-1 Det D; est3 RF-8A

Jul 66 - Feb 67: CVW-2. 7th. VF-21; 10 F-4B, VF-154; 9 F-4B, VA-22; 10 A-4C, VA-23; 12 A-4E, VA-25; 12 A-1H, VAW-11 Det A; 4 E-2A, VAH-4 Det A; 4 A-3B, VFP-63 Det A; 3 RF-8G, HC-1 Det A; 1 UH-2A/2 UH-2B, VQ-1 Det A; est3 EA-3B, VAP-61 Det A; est3 RA-3B

Jul 67 - Apr 68: CVW-15. 7th. VF-151; 9 F-4B, VF-161; 10 F-4B, VA-25; 7 A-1H/5 A-1J, VA-153; 11 A-4E, VA-155; 12 A-4E, VAH-2 Det 43; est3 KA-3B, VAW-116; 4 E-2A, VFP-63 Det 43; 3 RF-8G, HC-1 Det 43; 3 UH-2A, VAW-13 Det 43; est3 EA-1F, VAP-61 Det 43; est3 RA-3B

Sep 68 - Apr 69: CVW-15. 7th. VF-151; 13 F-4B, VF-161; 13 F-4B, VA-25; 12 A-7B, VA-52; 9 A-6A, VA-153; 14 A-4F, VA-216; 15 A-4C, VAH-2 Det 43; 1 KA-3B, VAW-10 Det 43; est3 KA-3B, VAW-116; 4 E-2A, VAW-13 Det 43; est3 EKA-3B, VFP-63 Det 43; 4 RF-8G, VAQ-13 Det 43 est3; 2 EKA-3B, HC-1 Det 43; est3 UH-2C

Sep 69 - Jul 70: CVW-15. 7th. VF-151; 10 F-4B, VF-161; 12 F-4B, VA-82; 11 A-7A, VA-86; 10 A-7A, VA-35; 9 A-6A, VAW-116; 3 E-2A, VAQ-135; 1 KA-3B/2 EKA-3B, VFP-63 Det 43; 2 RF-8G, HC-1 Det 9; 2 UH-2C

Nov 71 - Jul 72: CVW-15. 7th. VF-51; 8 F-4B, VF-111; 10 F-4B, VA-22; 12 A-7E, VA-94; 12 A-7E, VMA(AW)-224; 9 A-6A/3 KA-6D, VFP-63 Det 5; 3 RF-8G, VAW-111 Det 4; 2 E-1B, VAQ-135 Det 3; 3 EKA-3B, HC-1 Det 6; 3 SH-3G, HC-7 Det 110; 3 HH-3A

Mar 73 - Nov 73: CVW-15. 7th. VF-51; 1 F-4B, VF-111; 6 F-4B, VA-22; 11 A-7E, VA-94; 12 A-7E, VA-95; 5 A-6A/3 A-6B/5 KA-6D, VAQ-135 Det 3; 3 EKA-3B, VAW-111 Det 4; 3 E-1B, VFP-63 Det 5; est3 RF-8G, HC-1 Det 6; 4 SH-3G, HC-7 Det 110; est3 HH-3A

Dec 74 - Jul 75: CVW-15. 7th. VF-51; 11 F-4N, VF-111; 4 F-4N, VA-22; 10 A-7E, VA-94; 3 A-7E, VA-95; 3 A-6A/2 KA-6D, VFP-63 Det 5; est3 RF-8G, RVAW-110 Det 3; est3 E-1B, HC-1 Det 2; est3 SH-3G

Feb 77 - Oct 77: CVW-15. 7th. VF-191; F-4J, VF-194; F-4J, VA-22; A-7E, VA-94; A-7E, VA-95; VFP-62; RF-8G, VMAQ-2; EA-6B, VQ-1; EA-3B, A-6E, VAW-114; E-2B, HC-1; SH-3G

Nov 79 - Jun 80: CVW-14. 7th/5th. VMFA-323; F-4N, VMFA-531; F-4N, VA-196; A-6E, VA-27; A-7E, VA-97; A-7E, VAW-113; E-2B, VFP-63; RF-8G, HC-1; SH-3G

Aug 81 - Mar 82: CVW-14. 7th/5th. VF-21; F-4N, VF-154; F-4N, VA-27; A-7E, VA-97; A-7E, VA-196; A-6E, VAW-113; E-2B, VFP-63; RF-8G, HC-1; SH-3G

Mar 83 - Sep 83: CVW-14. World. VF-21; F-4N, VF-154; F-4N, VA-27; A-7E, VA-97; A-7E, VA-196; A-6E, VAW-113; E-2B, HS-12; SH-3H

Oct 85 - May 86: CVW-13. 6th. VFA-131; F/A-18A, VFA-132; F/A-18A, VMFA-314; F/A-18A, VMFA-323; F/A-18A, VA-55; A-6E, VAQ-135; EA-6B, VAW-127; E-2C, VQ-2; EA-3B, HS-17; SH-3H

Sep 87 - Mar 88: CVW-13. 6th. VFA-131; F/A-18A, VFA-136; F/A-18A, VFA-137; F/A-18A, VA-55; A-6E, VA-65; A-6E, VAQ-133; EA-6B, VAW-127; E-2C, HS-17; SH-3H
May 89 - Sep 89: CVW-13. 6th. VFA-132; F/A-18A, VFA-137; F/A-18A, VMFA-451; F/A-18A, VA-55; A-6E, VA-65; A-6E, VAQ-133; EA-6B, VAW-127; E-2C, HS-17; SH-3H
Apr 90: Decommissioned

CVS-45 Valley Forge

Jun 60 - Aug 60: CVSG-5. 2nd/7th. VS-24; 3 S2F-1/6 S2F-2, VS-27; 3 S2F-1/7 S2F-2, HS-3; 14 HSS-1, VAW-12 Det 52; 4 AD-5W, HU-2 Det 52; 1 HUK-1
(This is her only "cruise" from 1955 on. All others are in and out of port for a month or less)

LPH-8 Valley Forge

Oct 61 - Dec 61: DR. HMRL-263; 20 HUS-1/2 HUS-3
Apr 62 - Dec 62: 7th. HMM-162; 25 UH-34D
Mar 64 - Nov 64: 7th. HMM-361; 24 UH-34D
Aug 65 - Apr 66: 7th. HMM-362; 19 UH-34C
Sep 66 - Dec 66: 7th
Nov 67 - Aug 68: 7th. HMM-165; 19 CH-46A
Jan 69 - Sep 69: 7th

CV-47 Philippine Sea

Apr 55 - Nov 55: ATG-2. 7th. VF-123; 17 F9F-2, VF-143; 17 F9F-6, VA-55; 12 AD-6, VC-11 Det 1; 3 AD-4W, VC-35 Det 1; 4 AD-5N, VC-61 Det 1; 3 F9F-5P, HU-1 Det 16; est1 HUP-2

CVS-47 Philippine Sea

Jan 57 - Aug 57: CVS-47. 7th. VS-37; 13 S2F-1/8 S2F-2, HS-2; 15 HSS-1, VAW-11; est3 AD-5W
Jan 58 - Jul 58: CVS-47. 7th. VS-21; 15 S2F-1/8 S2F-2, HS-6; 16 HSS-1, VAW-11; est3 AD-5W

CVA-59 Forrestal

Oct 55: Commissioned

Jan 56 - Mar 56: ATG-181. 2nd. VF-21; 14 FJ-3, VF-41; 10 F2H-3, VA-42; 1 AD-5/14 AD-6, VA-86; 13 F7U-3M, VAH-7 Det 42; 5 AJ-2, VC-12 Det 42; 3 AD-5W, VC-33 Det 42; 4 AD-5N, HU-2 Det 42, est1 HUP-2
Jan 57 - Jul 57: CVG-1. 6th. VF-14; est11 F3H-2N, VF-84; est13 FJ-3M, VA-15; est12 AD-6, VA-76; 11 F9F-8B, VAAW-33 Det 42; 4 AD-5N, VAH-1 Det 42; est4 A3D-1, VAW-12 Det 42; 4 AD-5W, VFP-62 Det 42; 2 F2H-2P, HU-2 Det 42; 1 HUP-2
Aug 57 - Nov 57: CVG-1. 2nd. VF-14; 12 F3H-2N, VF-84; 14 FJ-3M, VA-15; 13 AD-6, VA-76; est2 F9F-8/est 10 F9F-8B, VAAW-33 Det 42; 5 AD-5N, VAH-1 Det 42; est4 A3D-1, VAW-12; 5 AD-5W, VFP-62 Det 42; est2 F2H-2P, HU-2 Det 42; 2 HUP-2
Sep 58 - Mar 59: CVG-10. 6th. VF-102; est15 F4D-1, VF-103; est14 F8U-1, VA-12; 16 A4D-2, VAAW-33; 3 AD-5N, VAH-5; 12 A3D-2, VAW-12 Det 42; 3 AD-5W, VFP-62 Det 42; 3 F8U-1P, HU-2 Det 42; est2 HUP-2
Jul 59 - Nov 59: CVG-8. 2nd. VF-102; 6 F4D-1, VF-103; 4 F8U-1, VA-81; 12 A4D-2, VA-83; 12 A4D-2, VA-85; 12 AD-6, VAH-5; 10 A3D-2, VAW-12 Det 42; 1 AD-5W, VAW-33 Det 42; 3 AD-5Q, VFP-62 Det 42; 3 F8U-1P, HU-2 Det 42; est2 HUP-2
Jan 60 - Aug 60: CVG-8. 6th. VF-102; 14 F4D-1, VF-103; 15 F8U-2, VA-81; 12 A4D-2, VA-83; 12 A4D-2, VA-85; 12 AD-6, VAH-5; 10 A3D-2, VAW-12 Det 42; 4 AD-5W, VAW-33 Det 42; 3 AD-5Q, VFP-62 Det 42; 3 F8U-1P, HU-2 Det 42; 2 HUP-2
Feb 61 - Aug 61: CVG-8. 6th. VF-102; 12 F4D-1, VF-103; 12 F8U-2, VA-81; 12 A4D-2, VA-83; 12 A4D-2N, VA-85; 10 AD-6, VAH-5; 11 A3D-2, VFP-62 Det 42; 3 F8U-1P, VAW-12 Det 42; 5 WF-2, VAW-33 Det 42; 3 AD-5Q, HU-2 Det 42; 2 HUP-3
Aug 62 - Mar 63: CVW-8. 6th. VF-74; 14 F-4B, VF-103; 12 F-8C, VA-81; 12 A-4B, VA-83; 12 A-4C, VA-85; 11 A-1H, VAH-5; 13 A-3B, VFP-62 Det 59; 3 F-8AP
VAW-12 Det 59; 4 E-1B
Jul 64 - Mar 65: CVW-8. 6th. VF-74; 11 F-4B, VF-103; F-8C, VMA-331; est13 A-4E, VA-81; 12 A-4E, VA-83; 13 A-4E, VA-85; 9 A-6A, VAH-6; est6 RA-5C, VAW-12 Det 59; 4 E-1B, VAW-33 Det 59; 3 EA-1F, HU-2 Det 59; 3 UH-2A, VFP-62 Det 59; 3 RF-8A
Aug 65 - Apr 66: CVW-8. 6th. VF-74; 10 F-4B, VMF(AW)-451; 10 F-8D, VA-65; 8 A-6A, VA-81; 13 A-4E, VA-83; 13 A-4C, VA-112; 14 A-4C, RVAH-11; 6 A-3B, VAW-12 Det 59; 4

E-1B, VQ-2; est2 EA-3B, VFP-62 Det 59; 3 RF-8A
 Jun 67 - Sep 67: CVW-17 7th. VF-11; 10 F-4B, VF-74; 8 F-4B, VA-46; 14 A-4E, VA-65; 9 A-6A, VA-106; 10 A-4E, RVAH-11; 4 RA-5C, VAW-123; 4 E-2A, VAH-10 Det 59; 3 KA-3B, HC-2 Det 59; 3 UH-2A, VAP-61 Det 59; est2 RA-3B
 Jul 68 - Apr 69: CVW-17 6th. VF-11; 12 F-4B, VF-74; 8 F-4B, VA-15; 13 A-4C, VA-34; 12 A-4C, VA-152; est14 A-4B, RVAH-12; 4 RA-5C, VAH-10 Det 59; 3 A-3B VAW-123; 4 E-2, HC-2 Det 59; 1 UH-2A, 2 UH-2B
 Dec 69 - Jul 70: CVW-17 6th. VF-11; 6 F-4B, VF-74; 10 F-4B, VA-36; 13 A-4C, VA-66; 10 A-4C, RVAH-13; 4 RA-5C, HS-11; 7 SH-3D, VAW-126; 2 E-2A
 Jan 71 - Jul 71: CVW-17 6th. VF-11; 11 F-4B, VF-74; 11 F-4B, VA-81; 11 A-7E, VA-83; 10 A-7E, VA-85; 9 A-6A/4 KA-6D, RVAH-7; 2 RA-5C, HS-3; 6 SH-3D VAW-126; 2 E-2B, VMCJ 2 Det A; 3 EA-6B
 Sep 72 - Jul 73: CVW-17 6th. VF-11; 12 F-4J, VA-81; 12 A-7E, VA-83; 12 A-7E, VA-85; 8 A-6E/4 KA-6D, RVAH-7; est2 RA-5C, HS-3; 7 SH-3D, VAW-126; 4 E-2B, VAQ-135; est2 EA-6/est2 EA-6A, VMCJ-2; est4 RF-4B
 Mar 74 - Sep 74: CVW-17 6th. VF-11; 12 F-4J, VF-74; 11 F-4J, VA-81; 9 A-7E, VA-83; 9 A-7E, VA-85; 9 A-6E/3 KA-6D, RVAH-6; 2 RA-5C, HS-3; 8 SH-3D VAW-126; 4 E-2
 Mar 75 - Sep 75: CVW-17 6th. VF-11; 11 F-4J, VF-74; 12 F-4J, VA-81; 12 A-7E, VA-83; 12 A-7E, VA-85; 8 A-6E/4 KA-6D, RVAH-7; 3 RA-5C, HS-3; 8 SH-3D
 Jun 75: Reclassified CV
 Apr 78 - Oct 78: CVW-17 6th. VF-11; F-4J, VF-74; F-4J, VA-81; A-7E, VA-83; A-7E, VA-85; A-6E, VAQ-130; EA-6B, VAW-116; E-2B, VQ-2; EA-3B, VS-30; S-3A, HS-2; SH-3D
 Nov 79 - May 80: CVW-17 6th. VF-11; F-4J, VF-74; F-4J, VA-81; A-7E, VA-83; A-7E, VA-85; A-6E, VAQ-133; EA-6B, VAW-125; E-2C, VQ-2; EA-3B, VS-30; S-3A, HS-3; SH-3D
 Mar 81 - Sep 81: CVW-17 6th/2nd. VF-74; F-4J, VMFA-115; F-4J, VA-81; A-7E, VA-83; A-7E, VA-85; A-6E, VAQ-130; EA-6B, VAW-125; E-2C, VQ-2; EA-3B, VS-30; S-3A, HS-3; SH-3H
 Jun 82 - Nov 82: CVW-17 6th/2nd. VF-74; F-4S, VF-103; F-4S, VA-81; A-7E, VA-83; A-7E, VA-85; A-6E, VAQ-130; EA-6B, VAW-125; E-2C, VQ-2; EA-3B, VS-30; S-3A, HS-3; SH-3H
 Jan 83 - May 85: SLEP
 Jun 86 - Nov 86: CVW-6. 6th. VF-11; F-14A, VA-37; A-7E, VA-105; A-7E, VA-176; A-6E, VAQ-132; EA-6B, VAW-122; E-2C, VQ-2; EA-3B, VS-28; S-3A, HS-15; SH-3H
 Apr 88 - Oct 88: CVW-6. 2nd/6th/5th. VF-11; F-14A, VF-31; F-14A, VA-37; A-7E, VA-105; A-7E, VA-176; A-6E, VAQ-132; EA-6B, VAW-122; E-2C, VS-28; S-3A, HS-15; SH-3H
 Nov 89 - Apr 90: CVW-6. 6th. VF-11; F-14A, VF-31; F-14A, VA-37; A-7E, VA-105; A-7E, VA-176; A-6E, VAQ-142; EA-6B, VAW-122; E-2C, VS-28; S-3A, HS-15; SH-3H
 May 91 - Dec 91: CVW-6. 6th. VF-11; F-14A, VF-31; F-14A, VFA-132; F-14A, VFA-18A, VFA-137; F-14A, VA-176; A-6E/KA-6D, VAW-122; E-2C, VAQ-133; EA-6B, VS-28; S-3B, HS-15; SH-3H
 Feb 92: Reclassified CVT
 Sep 93: Decommissioned
 CVA-60 Saratoga
 Apr 56: Commissioned
 Aug 59 - Feb 60: CVG-3. 6th. VF-31; 14 F-3B, VF-32; 14 F-8B, VA-34; 12 A-4B, VA-35; 12 A-1H, VA-36; 13 A-4B, VAH-9; 10 A-3B, VAW-12 Det 43; 3 EA-1E, VAW-33 Det 43; 3 EA-1F, VFP-62 Det 43; 3 F-8AP, HU-2 Det 43; 1 UH-25B
 Aug 60 - Feb 61: CVG-3. 6th/2nd. VF-31; 13 F-3B, VF-32; 10 F-8B, VA-34; 12 A-4B, VA-35; 12 A-1H, VA-36; 12 A-4B, VAH-9; 12 A-3B, VAW-12 Det 43; 5 E-1B, VAW-33 Det 43; est4 EA-1F, VFP-62 Det 43; 3F-8AP
 Nov 61 - May 62: CVG-3. 6th. VF-31; 12 F-3B, VF-32; 13 F-8D, VA-34; 11 A-4B, VA-35; 12 A-1H, VA-36; 12 A-4C, VAH-9; 12 A-3B, VFP-62 Det 43; 3 F-8AP, VAW-12 Det 43; 4 E-1B, HU-2 Det 43; 2 UH-25C
 Mar 63 - Oct 63: CVG-3. 6th. VF-31; 14 F-3B, VF-32; 14 F-8D, VA-34; 12 A-4C, VA-35; 11 A-1H, VA-36; 12 A-4C, VAH-9; 12 A-3B, VFP-62 Det 60; 3 RF-8A, VAW-12 Det 60; 4 E-1B, VQ-2; EA-3B, HU-2 Det 60; 2 UH-25B
 Nov 64 - Jul 65: CVW-3. 6th. VF-31; 11 F-4B, VF-32; 12 F-8D, VA-34; 14 A-4C, VA-35; 12 A-1H, VA-36; 14 A-4C, RVAH-9; 6 RA-5C, VAW-12 Det 60; 4 E-1B, HU-2 Det 60; 3 UH-2A
 Mar 66 - Oct 66: CVW-3. 6th. VF-31; 10 F-4B, VF-103; 11 F-4B, VA-34; 13 A-4C, VA-46; 14 A-4C, VA-106; 12 A-4C, RVAH-12; 4 RA-5C, VAW-12 Det 60; 1 E-1B, HC 2 Det 60; 3 UH-2B, VQ-2; EA-3A
 May 67 - Dec 67: CVW-3. 6th. VF-31; 11 F-4B, VF-103; 12 F-4B, VA-44; A-4C, VA-176; 18 A-1H, VA-216; 20 A-4B, RVAH-9; 5 RA-5C, VAW-121 Det 60; 4 E-1B, HC-2 Det 60; 3 UH-2A

Jul 69 - Jan 70: CVW-3. 6th. VF-31; 9 F-4J, VF-103; 8 F-4J, VF-33; F-4, VA-46; 12 A-7B, VA-113; 11 A-7B, VA-75; 9 A-6A, RVAH-?; RA-5C, VAW-?; est4 E-2
 Jun 70 - Nov 70: CVW-3. 6th. VF-31; 10 F-4J, VA-37; 12 A-7A, VA-75; 5 A-6A, 2 A-6B, VA-105; A-7A, HC-2 Det 60; 3 HH-2D
 Jun 71 - Oct 71: CVW-3. 2nd/6th. VF-31; 10 F-4J, VF-103; 10 F-4J, VA-37; 10 A-7A, VA-75; 7 A-6A, 1 A-6B/4 KA-6D, VA-105; 10 A-7A, VAW-123; 4 E-2B, VMCJ-2 Det A60; 4 EA-6A, VS-28; 10 S-2E, HS-7; 8 SH-3D
 Mar 72 - Feb 73: CVW-3. 2nd/5th/7th. VF-31; 11 F-4J, VF-103; 10 F-4J, VA-37; 9 A-7A, VA-75; 8 A-6A, 2 A-6B, 4 KA-6D, VA-105; 8 A-7A, RVAH-1; 3 RA-5C, HS-7; 5 SH-3D, VAW-123; 4 E-2B, VMCJ-2 Det ?; EA-6A, HC-7 Det ?; est3 HH-3A
 Sep 74 - Mar 75: CVW-3. 6th. VF-31; 8 F-4J, VF-103; 6 F-4J, VA-37; 13 A-7E, VA-75; 8 A-6E, 4 KA-6D, VA-105; 11 A-7E, RVAH-2 Det ?; 2 RA-5C
 Jun 75: Reclassified CV
 Jan 76 - Jul 76: CVW-3. 6th. VF-31; F-4J, VF-103; F-4J, VA-37; A-7E, VA-75; A-6E, VA-105; A-7E, VAQ-131; EA-6B, VAW-123; E-2C, VFP-63 Det 3; RF-8G, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Jul 77 - Dec 77: CVW-3. 6th. VF-31; F-4J, VF-103; F-4J, VA-37; A-7E, VA-75; A-6E, VA-105; A-7E, VAQ-138; EA-6B, VAW-123; E-2C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Oct 78 - Apr 79: CVW-3. 6th. VF-31; F-4J, VF-103; F-4J, VA-37; A-7E, VA-75; A-6E, VA-105; A-7E, VAQ-136; EA-6B, VAW-123; E-2C, RVAH-12; RA-5C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Mar 80 - Aug 80: CVW-3. 6th. VF-31; F-4J, VF-103; F-4J, VA-37; A-7E, VA-75; A-6E, VA-105; A-7E, VAW-123; E-2C, RVAH-12; RA-5C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Oct 80 - Feb 83: SLEP
 Apr 84 - Oct 84: CVW-17. 6th. VF-74; F-14A, VF-103; F-14A, VA-81; A-7E, VA-83; A-7E, VMAAW-533; A-6E, VAW-125; E-2C, VMAQ-2; EA-6B, VQ-2; EA-3B, VS-30; S-3A, HS-3; SH-3H
 Aug 85 - Apr 86: CVW-17. 6th/5th. VF-74; F-14A, VF-103; F-14A, VA-81; A-7E, VA-83; A-7E, VA-85; A-6E, VAW-125; E-2C, VAQ-137; EA-6B, VQ-2; EA-3B, VS-30; S-3A, HS-3; SH-3H
 Jun 87 - Nov 87: CVW-17. 6th. VF-74; F-14A, VF-103; F-14A, VA-81; A-7E, VA-83; A-7E, VA-85; A-6E, VAW-125; E-2C, VAQ-137; EA-6B, VQ-2; EA-3B, VS-30; S-3A, HS-3; SH-3H
 Aug 90 - Mar 91: CVW-17. DS. VF-74; F-14A+, VF-103; F-14A+, VFA-81; F/A-18C, VA-35; A-6E/KA-6D, VAW-125; E-2C, VAQ-132; EA-6B, HS-3; SH-3H, VS-30; S-3B
 May 92 - Nov 92: CVW-17. 6th. VF-74; F-14B, VFA-81; F/A-18C, VFA-83; F/A-18C, VA-35; A-6E/KA-6D, VAW-125; E-2C, VAQ-132; EA-6B, HS-9; SH-3H, VS-30; S-3B
 Jan 94 - Jun 94: CVW-17. 6th. VF-74; F-14B, VF-103; F-14B, VFA-81; F/A-18C, VFA-83; F/A-18C, VA-35; A-6E/KA-6D, VAW-125; E-2C, VAQ-132; EA-6B, HS-15; SH-3H, VS-30; S-3B
 Aug 94: Decommissioned

 CVA-61 Ranger
 Aug 57: Commissioned
 Jan 59 - Jul 59: CVG-14. 7th. VF-141; F4D-1, VF-142; F8U-1, VA-116; FJ-4B, VA-145; AD-6, VA-146; FJ-4B, VAAW-35; AD-5N, VAH-6; A3D-2, VAW-11; AD-5W, VFP-61; F8U-1P
 Feb 60 - Aug 60: CVG-9. 7th. VF-91; 13 F-8C, VF-92; 10 F-3B, VA-93; 11 A-4B, VA-94; 12 A-4B, VA-95; 12 A-1J, VAH-6; 10 A-3B, VAW-13 Det M; 2 EA-1F/3 EA-1E
 Aug 61 - Mar 62: CVG-9. 7th. VF-91; 12 F-8C, VF-92; 13 F-3B, VA-93; 11 A-4C, VA-94; 12 A-4C, VA-95; 12 A-1J, VAH-6; 12 A-3B, VAW-11 Det M; 5 E-1B, VAW-13 Det M; 2 EA-1F, VFP-63 Det M; 3 F-8AP, HU-1 Det 1M; 2 UH-25C
 Nov 62 - Jun 63: CVG-9. 7th. VF-91; 13 F-8C, VF-92; F3H, VF-96; 14 F-4B, VA-93; 13 A-4C, VA-94; 12 A-4C, VA-95; 5 A-1J/6 A-1J, VAH-6; 8 A-3B, VAW-11 Det M; 4 E-1B, VAW-13; EA-1F, VFP-63 Det M; 3 RF-8A
 Aug 64 - May 65: CVW-9. 7th. VF-92; 12 F-4B, VF-96; 11 F-4B, VA-93; 12 A-4C, VA-94; 12 A-4C, VA-95; 1 A-1J/11 A-1H, RVAH-5; RA-5C, VAH-2 Det M; A-3B, VAW-11 Det M; 4 E-1B, VFP-63 Det M; 3 RF-8A, HU-1 Det M; 2 UH-2A, VAP-61 Det ?; RA-3B, VQ-1 Det ?; EA-3B
 Dec 65 - Aug /66: CVW-14. 7th. VF-142; 13 F-4B, VF-143; 11 F-4B, VA-145; 5 A-1H, 4 A-1J, VA-146; 6 A-4C, VA-55; 8 A-4E, RVAH-9; RA-5C, VAH-2 Det F; 3 A-3B, VAW-11 Det F; 4 E-2A, HC-1 Det F; UH-2A, VQ-1 Det ?; EA-3B, VAP-61 Det ?; RA-3B
 Nov 67 - May 68: CVW-2. 7th. VF-21; 12 F-4B, VF-154; 13 F-4B, VA-22; 13 A-4C, VA-147; 14 A-7A, VA-165; 12 A-6A, RVAH-6; RA-5C, VAW-115; E-2A, VAH-4 Det 61; 2 KA-3B, HC-1 Det 61; UH-2A/UH-2C, VAW-13 Det 61; 1 KA-3B/3 EKA-3B, VAP-61 Det 61; RA-3B
 Oct 68 - May 69: CVW-2. 7th. VF-21; F-4J, VF-154; F-4J, VA-165; A-6A, VA-147; A-7A, VA-155; 14 A-4F, VAW-115; E-2A, RVAH-9; RA-5C, VAH-10 Det 61; KA-3B, VAQ-130 Det 61; EKA-3B, HC-1 Det 61; UH-2C, HS-2; SH-3A, HC-7 Det 110; SH-3A

Oct 69 - Jun 70; CVW-2. 7th. VF-21; 11 F-4J, VF-154; 10 F-4J, VA-56; 11 A-7B, VA-93; 12 A-7B, VA-196; 13 A-6A, RVAH-5; RA-5C, VAQ-134; EKA-3B/KA-3B, VAW-115; 4 E-2A, HC-1 Det 8; SH-3A, VC-3 Det ?; 147SK Fire drones

Oct 70 - Jun 71; CVW-2. 7th. VF-21; 10 F-4J, VF-154; 11 F-4J, VA-25; 9 A-7E, VA-56; 10 A-7B, VA-93; 7 A-7B, VA-113; 8 A-7E, VA-145; 5 A-6A/6 A-6C, RVAH-1; RA-5C, VAQ-134; 1 KA-3B/3 EKA-3B, VAW-115; 2 E-2B, HC-1 Det 1; SH-3G, HC-7 Det 110; 4 SH-3A

Nov 72 - Jun 73; CVW-2. 7th. VF-21; 13 F-4J, VF-154; 12 F-4J, VA-25; 12 A-7E, VA-113; 11 A-7E, VA-145; 7 A-6A/2 A-6B/6 KA-6D, RVAH-5; RA-5C, VAW-111 Det 1; 2 E-1B, VAQ-130 Det 4; EKA-3B, HC-1 Det 4; 4 SH-3G, HC-7 Det 110; HH-3A, VQ-1 Det ?; EA-3B

May 74 - Oct 74; CVW-2. 7th. VF-21; 12 F-4J, VF-154; F-4J, VA-25; 10 A-7E, VA-113; 11 A-7E, VA-145; 9 A-6A/5 KA-6D, RVAH-13; RA-5C, VAW-112; 4 E-2B, HC-1 Det 4; SH-3G, VQ-1 Det 61; EA-3B

Jun 75: Reclassified CV

Jan 76 - Sep 76; CVW-2. 7th/5th. VF-21; F-4J, VF-154; F-4J, VA-25; A-7E, VA-113; A-7E, VA-145; A-6A/KA-6D, VAQ-135; EA-6B, RVAH-5; RA-5C, VAW-112; E-2B, HS-4; SH-3D, VQ-1; EA-3B

Feb 79 - Sep 79; CVW-2. 7th. VF-21; F-4J, VF-154; F-4J, VA-113; A-7E, VA-145; A-6E/KA-6D, VA-25; A-7E, VAQ-137; EA-6B, VAW-117; E-2B, VQ-1; EA-3B, VS-29; S-3A, HS-4; SH-3D

Sep 80 - May 81; CVW-2. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-25; A-7E, VA-113; A-7E, VA-145; A-6E/KA-6D, VAQ-137; EA-6B, VAW-117; E-2C, VQ-1; EA-3B, VS-37; S-3A, HS-2; SH-3H

Apr 82 - Oct 82; CVW-2. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-25; A-7E, VA-113; A-7E, VA-145; A-6E/KA-6D, VAQ-137; EA-6B, VAW-116; E-2C, VQ-1; EA-3B, VS-21; S-3A, HS-2; SH-3H

Jul 83 - Feb 84; CVW-9. 7th/5th. VF-24; F-14A, VF-21; F-14A, VA-192; A-7E, VA-195; A-7E, VA-165; A-6E/KA-6D, VAQ-138; EA-6B, VAW-112; E-2C, VQ-1; EA-3B, VS-33; S-3A, HS-8; SH-3H

Jul 87 - Dec 87; CVW-2. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-145; A-6E, VMAAW-121; A-6E/KA-6D, VAQ-131; EA-6B, VAW-116; E-2C, VQ-1; EA-3B, VS-38; S-3A, HS-14; SH-3H

Feb 89 - Aug 89; CVW-2. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-145; A-6E, VMAAW-121; A-6E/KA-6D, VAQ-131; EA-6B, VAW-116; E-2C, VS-38; S-3A, HS-14; SH-3H

Dec 90 - Jun 91; CVW-2. DS. VF-1; F-14A, VF-2; F-14A, VA-155; A-6E, VA-145; A-6E/KA-6D, VAW-116; E-2C, VAQ-131; EA-6B, HS-14; SH-3H, VS-38; S-3A, VRC-30 Det ?; C-2A

Aug 92 - Jan 93; CVW-2. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-155; A-6E, VA-145; A-6E/KA-6D, VAW-116; E-2C, VAQ-131; EA-6B, HS-14; SH-3H, VS-38; S-3A, VRC-30 Det ?; C-2A

Jul 93: Decommissioned

CVA-62 Independence

Jan 59: Commissioned

Aug 60 - Mar 61; CVG-7. 6th. VF-41; 14 F3H2, VF-84; 13 F-8C, VA-72; 12 A-4B, VA-75; 12 A-1H, VA-86; 12 A-4B, VAH-1; 14 A3D, VFP-62 Det 41; 3 F-8AP, VMA(AW)-224; A-4B

Aug 61 - Dec 61; CVG-7. 6th. VF-41; 12 F-3B, VMF-115; 18 F-6A, VF-84; 12 F-8C, VA-72; 12 A-4C, VA-75; 12 A-1H, VA-86; 9 A-4C, VAH-1; A-3B, VAW-33 Det 41; 3 EA-1F, VAW-12 Det 41; 4 E-1B, VFP-62 Det 41; 1 F-8AP

Apr 62 - Aug 62; CVG-7. 6th. VF-84; 12 F-8C, VA-72; 12 A-4C, VA-75; 11 A-1H, VA-86; 11 A-4B, VAH-1; 12 A-3B, VMF(AW)-115; 15 F-6A, VFP-62 Det 41; 3 F-8AP, VAW-12 Det 41; 4 E-1B, VAW-33 Det 41; 3 EA-1F

Oct 62 - Nov 62; CVG-7. CMC. VF-41; F-4B, VF-84; 11 F-8C, VA-72; A-4C, VA-75; 11 A-1H, VA-86; A-4C, VAH-1; A-5A, VFP-62 Det 62; RF-8A

VAW-12; E-1B, VAW-33 Det 41; EA-1E, HU-2 Det ?; UH-2A

Aug 63 - Mar 64; CVW-7. 6th. VF-41; 12 F-4B, VF-84; 13 F-8C, VMA-324; 11 A-4B, VA-72; 12 A-4C, VA-86; 12 A-4C, VAH-1; 12 A-5A, VFP-62 Det 62; 2 RF-8A, VAW-12 Det 62; 4 E-1B, VAW-33 Det 41; EA-1F, HU-2 Det 62; 3 UH-2A

Sep 64 - Nov 64; CVW-7. 2nd/6th. VA-72; A-4E, VFP-62 Det 62; 2 RF-8A, VAW-33 Det 62; 1 EA-1F

May 65 - Dec 65; CVW-7. 7th. VF-41; 12 F-4B, VF-84; 12 F-4B, VA-72; 14 A-4E, VA-75; 12 A-6A, VA-86; 14 A-4E, RVAH-1; 6 RA-5C, VAH-4; A-3B, VAW-12 Det 62; 4 E-1B, HU-2 Det 62; 3 UH-2A, VAW-13 Det; EA-1F, VQ-1 Det ?; EA-3B, VAP-61 Det ?; RA-3B

Jun 66 - Feb 67; CVW-7. 6th. VF-41; 10 F-4B, VF-84; 9 F-4B, VMA-324; 14 A-4, VA-72; A-4E, VA-75; 8 A-6A, VA-86; 14 A-4E, RVAH-1; RA-5C, VAW-12 Det 62; 4 E-1B, HC-2 Det 62; 1 UH-2A, VAW-33 Det 62; VQ-2; EA-3B, VFP-62 Det ?; RF-8A

Apr 68 - Jan 69; CVW-7. 6th. VF-41; 12 F-4J, VF-84; F-4B, VSF-1; 14 A-4C, VA-46; VA-64; 14 A-4C, VA-76; 14 A-4C, VAH-10 Det 62; 3 KA-3B, RVAH-7; 5 RA-5C, HC-2 Det 62; 1 UH-2A/2 UH-2B, VAQ-33; TA-4F

Jun 70 - Jan 71; CVW-7. 6th. VF-33; 12 F-4J, VF-102; 11 F-4J, VMA-311; ? A-4E, VA-65; 11 A-6A, RVAH-11; 4 RA-5C, VAW-122; 3 E-2A, VAH-10 Det 62; ? KA-3B, HS-2; 8 SH-3A.

Sep 71 - Mar 72; CVW-7. 2nd/6th. VF-33; 9 F-4J, VF-102; 10 F-4J, VA-65; 6 A-6A/3 KA-6D, VA-66; 8 A-7E, VA-12; 9 A-7E, RVAH-12; 2 RA-5C, VAW-122; 3 E-2B, HS-6; 8 SH-3A

Jun 73 - Jan 74; CVW-7. 6th. VF-33; 11 F-4J, VF-102; 12 F-4J, VA-12; 11 A-7E, VA-66; 12 A-7E, RVAH-14; 3 RA-5C, HS-5; 8 SH-3H, VAW-124; 4 E-2, VS-28; 10? S-2E

Jul 74 - Jan 75; CVW-7. 6th. VF-33; 10 F-4J, VF-102; 10 F-4J, VA-12; 9 A-7E, VA-66; 9 A-6E/4 KA-6D, VA-66; 11 A-7E, RVAH-9; RA-5C, VAQ-132; EA-6B, VQ-2; EA-3B, VAW-122; 4 E-2B, VS-31; S-2G, HS-5; 8 SH-3D

Jun 75: Reclassified CV

Oct 75 - Apr 76; CVW-7. 2nd/6th. VF-33; F-4J, VF-102; F-4J, VA-12; A-7E, VA-65; A-6E/KA-6D, VA-66; A-7E, RVAH-13; RA-5C, VAQ-132; EA-6B, VQ-2; EA-3B, VAW-117; E-2B, HS-5; SH-3D

Mar 77 - Oct 77; CVW-7. 6th. VF-33; F-4J, VF-102; F-4J, VA-12; A-7E, VA-65; A-6E/KA-6D, VA-66; A-7E, RVAH-12; RA-5C, VAQ-136; EA-6B, VQ-2; EA-3B, VAW-117; E-2B, VS-31; S-3A, HS-5; SH-3D

Jun 79 - Dec 79; CVW-6. 6th. VF-33; F-4J, VF-102; F-4J, VA-15; A-7E, VA-176; A-6E/KA-6D, VA-87; A-7E, VAQ-130; EA-6B, VQ-2; EA-3B, VAW-122; E-2C, VQ-2; EA-3B, VS-28; S-3A, HS-15; SH-3H

Nov 80 - Jun 81; CVW-6. 6th/5th. VF-33; F-4J, VF-102; F-4J, VA-15; A-7E, VA-176; A-6E/KA-6D, VA-87; A-7E, VAQ-131; EA-6B, VQ-2; EA-3B, VAW-122; E-2C, VQ-2; EA-3B, VFP-63; RF-8G, VS-28; S-3A, HS-15; SH-3H

Nov 82 - Dec 82; CVW-6. 6th. VF-14; F-14A, VF-32; F-14A, VA-15; A-7E, VA-176; A-6E/KA-6D, VA-87; A-7E, VAQ-131; EA-6B, VQ-2; EA-3B, VAW-122; E-2C, VQ-2; EA-3B, VS-28; S-3A, HS-15; SH-3H

Oct 83 - Apr 84; CVW-6. 2nd/6th. VF-14; F-14A, VF-32; F-14A, VA-15; A-7E, VA-176; A-6E/KA-6D, VA-87; A-7E, VAQ-131; EA-6B, VQ-2; EA-3B, VAW-122; E-2C, VQ-2; EA-3B, VS-28; S-3A, HS-15; SH-3H

Oct 84 - Feb 85; CVW-6. 6th/5th. VF-14; F-14A, VF-32; F-14A, VA-15; A-7E, VA-176; A-6E/KA-6D, VA-87; A-7E, VAQ-131; EA-6B, VQ-2; EA-3B, VAW-122; E-2C, VQ-2; EA-3B, VS-28; S-3A, HS-15; SH-3H

Apr 85 - Jun 88: SLEP

Jun 90 - Dec 90; CVW-14. 7th/5th. VF-21; F-14A, VF-154; F-14A, VFA-25; F/A-18C, VFA-113; F/A-18C, VA-196; A-6E/KA-6D, VAQ-139; EA-6B, VAW-113; E-2C, VS-37; S-3A, HS-8; SH-3H

Aug 91 - Sep 91; CVW-5. 7th. VF-154; F-14A, VF-21; F-14A, VFA-192; F/A-18C, VFA-195 F/A-18C, VA-115; A-6E/KA-6D, VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-12; SH-3H, VRC-30 Det ?; US-3A/C-2A

Apr 92 - Oct 92; CVW-5. 7th/5th. VF-154; F-14A, VF-21; F-14A, VFA-192; F/A-18C, VFA-195 F/A-18C, VA-115; A-6E/KA-6D, VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-12; SH-3H

Nov 93 - Mar 94; CVW-5. 7th/5th. VF-154; F-14A, VF-21; F-14A, VFA-192; F/A-18C, VFA-195 F/A-18C, VA-115; A-6E/KA-6D, VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-12; SH-3H, VRC-30 Det ?; C-2A

Aug 95 - Nov 95; CVW-5. 7th/5th. VF-154; F-14A, VF-21; F-14A, VFA-192; F/A-18C, VFA-195 F/A-18C, VA-115; A-6E/KA-6D, VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-14; SH-3H, VQ-5 Det A; ES-3A, VRC-30 Det 5; C-2A

Feb 97 - Jun 97; CVW-5. 6th/5th. VF-154; F-14A, VFA-27; F/A-18C, VFA-192; F/A-18C, VFA-195 F/A-18C, VAW-115; E-2C, VAQ-136; EA-6B, VQ-5 Det 5; ES-3A, VS-21; S-3B, HS-14; SH-3H, VRC-30 Det 5; C-2A

Jan 98 - Jun 98; CVW-5. 5th. VF-154; F-14A, VFA-27; F/A-18C, VFA-192; F/A-18C, VAW-115; E-2C, VAQ-136; EA-6B, VQ-5 Det 5; ES-3A, VS-21; S-3B, HS-14; SH-3H, VRC-30 Det 5; C-2A

Sep 98: Decommissioned

CVA-63 Kitty Hawk
 Apr 61: Commissioned
 Nov 61 - Jan 61: CVG-11. 2nd/3rd. VF-142; 11 F-8A, VA-113; 13 A-4C, VA-115; 11 A-1H, VAH-13; 12 A-3B, VFP-63 Det C; 2 F-8AP, HU-1 Det C; 2 UH-25C
 Sep 62 - Feb 63: CVG-11. 7th. VF-111; 14 F-8D, VF-114; 12 F-4B, VA-112; 13 A-4C, VA-113; 13 A-4C, VA-115; 11 A-1H, VAH-13; A-3, VAW-11 Det C; 3 E-1B, VFP-63 Det C; 3 RF-8A
 Oct 63 - Jul 64: CVG-11. 7th. VF-114; 12 F-4B, VF-111; 13 F-8D, VA-112; 12 A-4C, VA-113; 12 A-4C, VA-115; 12 A-1H, VAH-13; 12 A-3B, VFP-63 Det C; 3 RF-8A, VAW-11 Det C; 4 E-1B, HU-1 Det C; 2 UH-2A, VQ-1 Det C; EA-3B, VAP-61 Det C; RA-3B
 Oct 65 - Jul 66: CVG-11. 7th. VF-213; 2 F-4B, 7 F-4G, VA-85; 8 A-6A, VA-113; 13 A-4C, VA-115; 7 A-1H/5 A-1J, RVAH-13; RA-5C, VAH-4 Det C; 1 A-3B, VAW-11 Det C; 4 E-2A, HC-1 Det C; 2 UH-2A/1 UH-2B, VAP-61 Det C; RA-3B, VQ-1 Det C; EA-3B
 Sep 66 - Jun 67: CVG-11. CVW-11. 7th. VF-213; 13 F-4B, VF-114; F-4B, VA-85; 2 A-6A, VA-112; 15 A-4C, VA-144; 13 A-4C, RVAH-13; RA-5C, VAH-4 Det C; 3 KA-3B, VAW-11 Det C; 4 E-2A, HC-1 Det C; UH-2A/ UH-2B, VQ-1 Det C; EA-3B, VAP-61 Det C; RA-3B
 Nov 67 - Jun /68: CVW-11. 7th. VF-114; 12 F-4B, VF-213; 13 F-4B, VA-75; 11 A-6A/3 A-6B, VA-112; 12 A-4C, VA-144; 12 A-4E, RVAH-11; RA-5C, VAH-4 Det 63; 5 KA-3B, VAW-13 Det 63; 1 KA-3B, 5 EKA-3B, VAW-114; 3 E-2A, HC-1 Det 63; 3 UH-2C, Dec /68 - Sep 69: CVW-11. 7th. VF-114; 11 F-4B, VF-213; 11 F-4B, VA-37; 14 A-7A, VA-65; 11 A-6A/2 A-6B, VA-105; 11 A-7A, RVAH-11; 5 RA-5C, VAQ-131; 2 KA-3B, 3 EKA-3B, VAW-114; 3 E-2A, HC-1 Det 63; UH-2C, HC-7 Det 110; SH-3A
 Nov 70 - Jul 71: CVW-11. 7th. VF-114; F-4J, VF-213; 11 F-4J, VA-192; 9 A-7E, VA-195; 11 A-7E, VA-52; 7 A-6A/1 A-6B, RVAH-6; 2 RA-5C, VAQ-133; 2 EKA-3B, 1 KA-3B, VAW-114; 3 E-2B, HC-1 Det 2; 3 UH-2C, HC-7 Det 110; SH-3A
 Feb 72 - Nov 72: CVW-11. 7th. VF-114; 11 F-4J, VF-213; 12 F-4J, VA-52; 8 A-6A, 3 A-6B/2 KA-6D, VA-192; 11 A-7E, VA-195; 13 A-7E, RVAH-7; 4 RA-5C, VAW-114; 3 E-2B, VQ-135 Det 1; 3 EKA-3B, HC-1 Det 1; 3 SH-3G, HC-7 Det 7; HH-3A
 Nov 73 - Jul 74: CVW-11. 7th/5th. VF-114; 10 F-4J, VF-213; 10 F-4J, VA-192; 13 A-7E, VA-195; 11 A-7E, VA-52; 10 A-6A/3 KA-6D, VAQ-136; 4 EA-6B, RVAH-7; 2 RA-5C, VAW-114; 4 E-2B, VS-37; 8 S-2G, VS-38; 7 S-2G, HS-4; 10 SH-3D, VQ-1 Det 63; EA-3B
 May 75 - Dec 75: CVW-11. 7th. VF-213; 7 F-4J, VF-114; 5 F-4J, VA-52; 10 A-6E/3 KA-6D, VA-192; 10 A-7E, VA-195; 12 A-7E, HS-8; 8 SH-3D, VS-37; 9 S-2G, VS-38; 9 S-2G, VAQ-136; 4 EA-6B, VAW-114; 4 E-2B, RVAH-6; RA-5C, VQ-1; EA-3
 Jun 75: Reclassified CV
 Oct 77 - May 79: CVW-11. 7th. VF-114; F-14A, VF-213; F-14A, VA-52; A-6E/KA-6D, VA-192; A-7E, VA-195; A-7E, RVAH-7; RA-5C, VAQ-131; EA-6B, VAW-122; E-2C, VQ-1; EA-3B, VS-33; S-3A, HS-8; SH-3D
 May 79 - Feb 80: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VA-52; A-6E/KA-6D, VA-22; A-7E, VA-94; A-7E, VAQ-135; EA-6B, VAW-114; E-2C, VFP-62; RF-8G, VQ-1; EA-3B, VS-21; S-3A, HS-8; SH-3H
 Apr 81 - Nov 81: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VA-52; A-6E/KA-6D, VA-22; A-7E, VA-94; A-7E, VAQ-135; EA-6B, VAW-114; E-2C, VFP-63; RF-8G, VQ-1; EA-3B, VS-29; S-3A, HS-4; SH-3H
 Jan 84 - Aug 84: CVW-2. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-145; A-6E/KA-6D, VA-146; A-7E, VA-147; A-7E, VAQ-130; EA-6B, VAW-116; E-2C, VQ-1; EA-3B, VS-38; S-3A, HS-2; SH-3H
 Jul 85 - Dec 85: CVW-9. 7th/5th. VF-24; F-14A, VF-211; F-14A, VA-165; A-6E/KA-6D, VA-146; A-7E, VA-147; A-7E, VAQ-130; EA-6B, VAW-112; E-2C, VQ-1; EA-3B, VS-33; S-3A, HS-2; SH-3H
 Jan 87 - Jun 87: CVW-9. World. VF-24; F-14A, VF-211; F-14A, VA-165; A-6E/KA-6D, VA-146; A-7E, VA-147; A-7E, VAQ-130; EA-6B, VAW-112; E-2C, VQ-1; EA-3B, VS-33; S-3A, HS-2; SH-3H
 Nov 87 - Apr 91: SLEP
 Oct 91 - Dec 91: CVW-15. 2nd/7th. VF-51; F-14A, VF-111; F-14A, VFA-87; F/A-18A, VFA-27; F/A-18A, VA-52; A-6E/KA-6D, VAW-114; E-2C+, VAQ-134; EA-6B, VS-37; S-3A, HS-4; SH-60F/HH-60H, VRC-30 Det ?; C-2A
 Nov 92 May 93: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VFA-97; F/A-18A, VFA-27; F/A-18A, VA-52; A-6E/KA-6D, VAW-114; E-2C, VAQ-134; EA-6B, VS-37; S-3A, HS-4; SH-60F/HH-60H, VRC-30 Det ?; C-2A
 Jun 94 - Dec 94: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VFA-97; F/A-18A, VFA-27; F/A-18A, VA-52; A-6E/KA-6D, VAW-114; E-2C, VAQ-134; EA-6B, VS-37; S-3A, HS-4; SH-60F/HH-60H, VRC-30 Det C; C-2A
 Apr 96 - Oct 96: CVW-11. 7th. VF-213; F-14A, VFA-22; F/A-18C, VFA-94; F/A-18C, VFA-97; F/A-18C, VAW-117; E-2C, VAQ-135; EA-6B, VQ-5 Det B; ES-3A, VS-29; S-3B, HS-6; SH-60F/HH-60H, VRC-30 Det 2; C-2A

Oct 96 - Apr 97: CVW-5. 7th/5th. VF-213; F-14A, VFA-22; F/A-18C(N), VFA-94; F/A-18C(N), VFA-97; F/A-18A, VAW-117; E-2C, VAQ-135; EA-6B, VQ-5 Det B; ES-3A, VS-29; S-3B, HS-6; SH-60F/HH-60H, VRC-30 Det 2; C-2A

Mar 99 - Aug 99: CVW-5. 7th/5th. VF-154; F-14A, VFA-27; F/A-18C(N), VFA-192; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-14; SH-60F/HH-60H, VRC-30 Det 5; C-2A

Apr 00 - Jun 00: CVW-5. 7th/5th. VF-154; F-14A, VFA-27; F/A-18C(N), VFA-192; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-14; SH-60F/HH-60H, VRC-30 Det 5; C-2A

Sep 00 - Nov 00: CVW-5. 7th/5th. VF-154; F-14A, VFA-27; F/A-18C(N), VFA-192; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-14; SH-60F/HH-60H, VRC-30 Det 5; C-2A

Mar 01 - Jun 01: CVW-5. 7th. VF-154; F-14A, VFA-27; F/A-18C(N), VFA-192; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-14; SH-60F/HH-60H, VRC-30 Det 5; C-2A

Oct 01 - Dec 01: CVW-5. 7th/5th. VFA-27; F/A-18C(N), VFA-192; F/A-18C(N), VFA-195; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, VS-21; S-3B, HS-14; SH-60F/HH-60H, VRC-40 Det 5; C-2A

Jan 03 - May 03: CVW-5. 7th/5th. VF-154; F-14A, VFA-27; F/A-18C(N), VFA-192; F/A-18C(N), VFA-195; F/A-18C(N), VAW-115; E-2C, VAQ-135; EA-6B, VS-21; S-3B, HS-14; SH-60F/HH-60H, VRC-40 Det 5; C-2A. (My last deployment)

May 05 - Aug 05: CVW-5. 7th. VFA-27; F/A-18E, VFA-102; F/A-18F, VFA-192; F/A-18C(N), VFA-195; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, HS-14; SH-60F/HH-60H, HSL-51 Det 3; SH-60B, VRC-40 Det 5; C-2A

May 09: Decommissioned

CVA-64 Constellation

Oct 61: Commissioned

Jul 62 - Sep 62: CVG-5. 2nd/7th. VF-51; 12 F-8D, VA-55; 12 A-4C, VA-56; 12 A-4C, VA-113; 12 A-4C, VAH-10 Det B; 4 A-3B, VFP-63 Det B; 2 F-8AP,

Feb 63 - Sep 63: CVW-14. 7th. VF-141; 13 F-4B, VF-143; 13 F-4B, VA-144; 12 A-4C, VA-145; 8 A-1H/3 A-1J, VA-146; 12 A-4C, VAH-10; 12 A-3B, VFP-63 Det F; 1 RF-8A, VAW-11 Det F; 4 E-1B, HU-1 Det F; 1 UH-25B, 1 CH-19

May 64 - Feb 65: CVW-14. 7th. VF-142; 12 F-4B, VF-143; 12 F-4B, VA-144; 13 A-4C, VA-145; 3 A-1J/8 A-1H, VA-146; 12 A-4C, VAH-10; 12 A-3B, VAW-11 Det F; 4 E-1B, VFP-63 Det F; 3 RF-8A, HU-1 Det F; 2 UH-2A, VAP-61 Det ?; RA-3B, VQ-1; EA-3B, VF-51; F-8E, VMCAJ-1 Det; RF-8A

May 66 - Dec 66: CVW-15. 7th. VF-151; 11 F-4B, VF-161; 10 F-4B, VA-65; 9 A-6A, VA-153; 15 A-4C, VA-155; 13 A-4E, RVAH-6; RA-5C, VAH-8; 4 A-3B, VAW-11 Det D; E-2A, HC-1 Det D; 2 UH-2A/1 UH-2B, VQ-1 Det ?; EA-3B, VAP-61 Det ?; RA-3B, VAW-13 Det ?; EA-1F, HS-6 Det ?; SH-3A

Apr 67 - Dec 67: CVW-14. 7th. VF-142; 11 F-4B, VF-143; 11 F-4B, VA-55; A-4C, VA-65; A-6A, VA-146; 13 A-4C, VA-196; 9 A-6A, RVAH-12; 5 RA-5C, VAH-8; KA-3B, VAW-113; 4 E-2A, HC-1 Det 64; UH-2A/ UH-2B, VAP-61 Det ?; RA-3B, VQ-1 Det ?; EA-3B, VAQ-13 Det ?; EA-1F

May 68 - Jan 69: CVW-14. 7th. VF-142; 11 F-4B, VF-143; 10 F-4B, VA-27; 13 A-7A, VA-97; 12 A-7A, VA-196; 8 A-6A/3 A-6B, RVAH-5; RA-5C, VAH-2 Det 64; 2 KA-3B, VAH-10 Det 64; KA-3B, VAW-13 Det 64; EKA-3B, VAW-113; 4 E-2A, HC-1 Det 64; 3 UH-2C

Aug 69 - May 70: CVW-14. 7th. VF-142; 13 F-4J, VF-143; 12 F-4J, VA-27; 15 A-7A, VA-85; 12 A-6A, 2 A-6B, VA-97; 13 A-7A, RVAH-7; 5 RA-5C, VAW-113; 4 E-2A, VAQ-133; 3 EKA-3B/2 KA-3B, HC-1 Det 5; 2 SH-3A, HC-7 Det 110; 4 SH-3A

Oct 71 - Jun 72: CVW-9. 7th. VF-92; 10 F-4J, VF-96; 12 F-4J, VA-146; 11 A-7E, VA-147; 11 A-7E, VA-165; 10 A-6A, 3 KA-6D, RVAH-11; 5 RA-5C, VAQ-130 Det 1; 3 EKA-3B, HC-1 Det 3; 3 SH-3G, VAW-116; 4 E-2B

Jan 73 - Oct 73: CVW-9. 7th. VF-92; 9 F-4J, VF-96; 9 F-4J, VA-146; 12 A-7E, VA-147; 11 A-7E, VA-165; 9 A-6A/6 KA-6D, HS-6 Det 1; 4 SH-3G, VAQ-134; 4 EA-6B VAW-116; 4 E-2B, RVAH-12; 4 RA-5C, VQ-1 Det ?; EA-3B, HC-3 Det 105; 2 CH-46D

Jun 74 - Dec 74: CVW-9. 7th/5th. VF-92; 11 F-4J, VF-96; 9 F-4J, VA-146; 10 A-7E, VA-147; 10 A-7E, VA-165; 8 A-6A/5 KA-6D, RVAH-5; 3 RA-5C, VAW-112; 3 E-2B, VAQ-131; 4 EA-6B, HS-6; 8 SH-3A, VQ-1 Det 64; EA-3B

Jun 75: Reclassified CV

Apr 77 - Nov 77: CVW-9. 7th. VF-24; F-14A, VF-211; F-14A, VA-146; A-7E, VA-147; A-7E, VA-165; A-6E/KA-6D, VAW-126; E-2B, VAQ-132; EA-6B, VFP-63; RF-8G, VQ-1; EA-3B, VS-21; S-3A, HS-6; SH-3A

Sep 78 - May 79: CVW-9. 7th/5th. VF-24; F-14A, VF-211; F-14A, VA-146; A-7E, VA-147; A-7E, VA-165; A-6E/KA-6D, VAW-126; E-2B, VAQ-132; EA-6B, VFP-63; RF-8G, VQ-1; EA-3B, VS-37; S-3A, HS-6; SH-3A

Feb 80 - Oct 80: CVW-9. 7th/5th. VF-24; F-14A, VF-211; F-14A, VA-146; A-7E, VA-147; A-7E, VA-165; A-6E/KA-6D, VAW-116; E-2B, VAQ-?; EA-6B, VFP-63; RF-8G, VQ-1; EA-3B, VS-38; S-3A, HS-6; SH-3H

Oct 81 - May 82: CVW-9. 7th/5th. VF-24; F-14A, VF-211; F-14A, VA-146; A-7E, VA-147; A-7E, VA-165; A-6E/KA-6D, VAQ-134; EA-6B, VAW-112; E-2B, VQ-1; EA-3B, VS-38; S-3A, HS-8; SH-3H

Feb 85 - Aug 85; CVW-14. 7th/5th. VF-21; F-14A, VF-154; F-14A, VFA-25; F/A-18A, VA-113; F/A-18A, VA-196; A-6E/KA-6D, VAQ-196; EA-6B, VAW-113; E-2B, VQ-1; EA-3B, VS-37; S-3A, HS-8; SH-3H. Philip 1985

Apr 87 - Oct 87; CVW-14. 7th/5th. VF-21; F-14A, VF-154; F-14A, VFA-25; F/A-18A, VA-113; F/A-18A, VA-196; A-6E/KA-6D, VAQ-139; EA-6B, VAW-113; E-2C, VQ-1; EA-3B, VS-37; S-3A, HS-8; SH-3H

Dec 88 - Jun 89; CVW-14. 7th/5th. VF-21; F-14A, VF-154; F-14A, VFA-25; F/A-18A, VA-113; F/A-18A, VA-196; A-6E/KA-6D, VAQ-139; EA-6B, VAW-113; E-2C, VS-37; S-3A, HS-8; SH-3H

Jul 90 - Mar 93; SLEP

Nov 94 - May 95; CVW-2. 7th/5th. VF-2; F-14D, VFA-137; F/A-18C(N), VFA-151; F/A-18C(N), VMFA-323; F/A-18C(N), VAW-116; E-2C, VAQ-131; EA-6B, VQ-5 Det ?; ES-3A, VS-38; S-3B, HS-2; SH-60F/HH-60H

Apr 97 - Oct 97; CVW-2. 7th/5th. VF-2; F-14D, VFA-137; F/A-18C(N), VFA-151; F/A-18C(N), VMFA-323; F/A-18C(N), VAW-116; E-2C, VAQ-131; EA-6B, VQ-5 Det C; ES-3A, VS-38; S-3B, HS-2; SH-60F/HH-60H, VRC-30 Det 3; C-2A

Jun 99 - Dec 99; CVW-2. 7th. VF-2; F-14D, VFA-137; F/A-18C(N), VFA-151; F/A-18C(N), VMFA-323; F/A-18C(N), VAW-116; E-2C, VAQ-131; EA-6B, VS-38; S-3B, HS-2; SH-60F/HH-60H, VRC-30 Det 3; C-2A

Mar 01 - Sep 01; CVW-2. 7th/5th. VF-2; F-14D, VFA-137; F/A-18C(N), VFA-151; F/A-18C(N), VMFA-323; F/A-18C(N), VAW-116; E-2C, VAQ-131; EA-6B, VS-38; S-3B, HS-2; SH-60F/HH-60H, HSL-47 Det 4; SH-60B, VRC-30 Det 2; C-2A

Nov 02 - Jun 03; CVW-2. 7th/5th. VF-2; F-14D, VFA-137; F/A-18C(N), VFA-151; F/A-18C(N), VMFA-323; F/A-18C(N), VAW-116; E-2C, VAQ-131; EA-6B, VS-38; S-3B, HS-2; SH-60F/HH-60H, HSL-47 Det 4; SH-60B, VRC-40 Det 2; C-2A

Aug 03: Decommissioned

CVAN-65 Enterprise

Nov 61: Commissioned

Aug 62 - Oct 62; CVG-6; 6th. VF-33; 12 F-8E, VF-102; 10 F-4B, VA-65; 13 A-1H, VA-66; 11 A-4C, VA-76; 12 A-4C, VFP-62 Det 65; 3 F-8AP, VAW-12 Det 65; 4 E-1B

Oct 62 - Dec 62; CVG-6; CMC. VF-33; 12 F-8E, VF-102; 15 F-4B, VA-64; 12 A-4C, VA-66; 12 A-1H, VA-66; 12 A-4C, VA-76; 12 A-4C, VFP-62 Det 59; 3 RF-8A, VAW-12 Det 65; 6 E-1B, HU-2 Det 65; 2 UH-25B

Feb 63 - Sep 63; CVG-6; 6th. VF-33; 13 F-8E, VF-102; 13 F-4B, VA-64; 12 A-4C, VA-65; 12 A-1H, VA-66; 12 A-4C, VAH-7; 10 A-5A, VAW-33 Det 65; 3 EA-1F, HU-2 Det 65; 2 UH-2B, VAW-12 Det 65; 4 E-1B, VFP-62 Det 65; 3 RF-8A

Feb 64 - Oct 64; CVW-6; 6th. VF-33; 14 F-8E, VF-102; 12 F-4B, VA-65; 12 A-1H, VA-64; 12 A-4C, VA-66; 12 A-4C, VAH-7; 10 A-5A, VFP-62 Det 65; 3 RA-8A, VAW-12 Det 65; 4 E-1B, VAW-33 Det 65; 3 EA-1F, HU-2 Det 65; 4 UH-2A

Nov 64 - Jul 65: Refueled

Oct 65 - Jun 66; CVW-9. 2nd/5th/7th. VF-92; 10 F-4B, VF-96; F-4B, VA-36; 12 A-4C, VA-76; 13 A-4C, VA-93; A-4C

VA-94; 14 A-4C, RVAH-7; 6 RA-5C, VAH-4 Det M; 3 A-3B, VAW-11 Det M; E-1B, HC-1 Det M; UH-2A, VQ-1 Det ?; EA-3B, VAP-61 Det ?; RA-3B

Nov 66 - Jul 67; CVW-9. 7th. VF-92; 12 F-4B, VF-96; 9 F-4B, VA-35; 9 A-6A, VA-56; 13 A-4C, VA-113; 14 A-4C, RVAH-7; 3 RA-5C, VAH-2 Det M; 5 A-3B, VAQ-11 Det M; 4 E-2A, VAP-61 Det ?; RA-3B, HC-1 Det M; 1 UH-2A/2 UH-2B, VQ-1 Det ?; EA-3B

Jan 68 - Jul 68; CVW-9. 7th. VF-92; 13 F-4B, VF-96; 13 F-4B, VA-35; 11 A-6A/3 A-6B, VA-56; 13 A-4E, VA-113; 12 A-4F, RVAH-1; 6 RA-5C, VAH-2 Det 65; 2 KA-3B, VAW-13 Det 65; 1 EKA-3B, VAW-112; 3 E-2A, HC-1 Det 65; 4 UH-2C, HC-7 Det 11; SH-3A

Jan 69 - Jul 69; CVW-9. 7th. VF-92; 11 F-4J, VF-96; 11 F-4J, VA-145; 8 A-6A, VA-146; 13 A-7B, VA-215; 11 A-7B, VAQ-132; 2 EKA-3B/2 KA-3B, VAW-112; 4 E-2A, RVAH-6; RA-5C, HC-1 Det 65; 2 UH-2C

Aug 69 - Jan 71: Refueled

Jun 71 - Feb 72; CVW-14. 7th/5th. VF-143 P; 10 F-4J, VF-142; 6 F-4J, VA-97; 6 A-7E, VA-27; 9 A-7E, VA-196; 9 A-6A, 2 A-6B/2 KA-6D, RVAH-5; RA-5C

VAW-113; E-2B, VAQ-130 Det 4; 2 EKA-3B, HC-1 Det 4; 3 SH-3G

Sep 72 - Jun 73; CVW-14. 7th. VF-143; 12 F-4J, VF-142; 10 F-4J, VA-97; 11 A-7E, VA-97; 11 A-7E, VA-196; 5 A-6E/4 KA-6D, VAW-113; 4 E-2B, VAQ-131; 4 EA-6B, RVAH-13; RA-5C, HS-2 Det 1; SH-3G

Sep 74 - May 75; CVW-14. 7th/5th. VF-1; 9 F-14A, VF-2; 10 F-14A, VF-2; 10 F-14A, VA-27; 7 A-7E, VA-97; 6 A-7E, VA-196; 1 A-6A/1 KA-6D, VAQ-137; EA-6B, HS-2; 1 SH-3D

VAW-113; 1 E-2B, RVAH-12; RA-5C, VQ-1 Det 65; EA-3B

Jun 75: Reclassified CVN

Jul 76 - Mar 77; CVW-14. 7th/5th. VF-1; F-14A, VF-2; F-14A, VA-27; A-7E, VA-97; A-7E, VA-196; A-6E/KA-6D, VAQ-134; EA-6B, VAW-113; E-2B, VQ-1; EA-3B, RVAH-1; RA-5C, VS-29; S-3A, HS-2; SH-3D, HC-3; UH-46D

Apr 78 - Oct 78: CVW-14, 7th/5th. VF-1; F-14A, VA-27; A-7E, VA-97; A-7E, VA-196; A-6E/KA-6D, VAQ-134; EA-6B, VAW-113; E-2B, VQ-1; EA-3B, RVAH-1; RA-5C, VS-38; S-3A, HS-2; SH-3D
 Sep 82 - Apr 83: CVW-11, 7th. VF-114; F-14A, VA-22; A-7E, VA-94; A-7E, VA-95; A-6E/KA-6D, VAQ-133; EA-6B, VAW-117; E-2C, VQ-1; EA-3B, VS-37; S-3A, HS-6; SH-3H
 May 84 - Dec 84: CVW-11, 7th/5th. VF-114; F-14A, VA-22; A-7E, VA-94; A-7E, VA-95; A-6E/KA-6D, VAQ-133; EA-6B, VAW-117; E-2C, VQ-1; EA-3B, VS-21; S-3A, HS-6; SH-3H
 Jan 86 - Aug 86: CVW-11, World. VF-114; F-14A, VA-22; A-7E, VA-94; A-7E, VA-95; A-6E/KA-6D, VAQ-133; EA-6B, VAW-117; E-2C, VQ-1; EA-3B, VS-21; S-3A, HS-6; SH-3H
 Jan 88 - Jul 88: CVW-11, 7th/5th. VF-114; F-14A, VA-22; A-7E, VA-94; A-7E, VA-95; A-6E/KA-6D, VAQ-135; EA-6B, VAW-117; E-2C, VS-21; S-3A, HS-6; SH-3H
 Sep 89 - Mar 90: CVW-11, World. VF-114; F-14A, VA-22; A-7E, VA-94; A-7E, VA-95; A-6E/KA-6D, VAQ-135; EA-6B, VAW-117; E-2C, VS-21; S-3A, HS-6; SH-3H
 Oct 90 - Sep 94: Refueled
 Jun 96 - Dec 96: CVW-17, 6th/5th. VF-103; F-14B, VFA-81; F/A-18C, VA-75; A-6E/KA-6D, VAW-125; E-2C, VAQ-132; EA-6B, VQ-6 Det C; ES-3A, VS-30; S-3B, HS-15; SH-60F/HH-60H, VRC-40 Det 2; C-2A
 Nov 98 - May 99: CVW-3, 6th/5th. VF-32; F-14B, VFA-37; F/A-18C(N), VMFA-312; F/A-18C(N), VAW-126; E-2C, VAQ-130; EA-6B, VS-22; S-3B, HS-7; SH-60F/HH-60H, VQ-6 Det A; ES-3A, VRC-40 Det 4; C-2A
 Apr 01 - Nov 01: CVW-8, 6th/5th. VF-14; F-14B, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VAW-124; E-2C, VAQ-141; EA-6B, VS-24; S-3B, HS-3; SH-60F/HH-60H, VRC-40 Det 5; C-2A
 Oct 03 - Feb 04: CVW-1, 5th. VF-211; F-14A, VFA-82; F/A-18C(N), VFA-86; F/A-18C, VMFA-312; F/A-18A+, VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-60F/HH-60H, VRC-40 Det 2; C-2A
 May 06 - Nov 06: CVW-1, 6th/5th/7th. VFA-86; F/A-18C(N), VFA-136; F/A-18C, VFA-211; F/A-18F, VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-60F/HH-60H, VRC-40 Det 2; C-2A
 Jul 07 - Dec 07: CVW-1, 6th/5th. VFA-86; F/A-18C(N), VFA-136; F/A-18C, VFA-211; F/A-18F, VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, HS-11; SH-60F/HH-60H, VRC-40 Det 4; C-2A
 Apr 08 - Apr 10: Refit
 Jan 11 - Jul 11: CVW-1, 6th/5th. VFA-11; F/A-18F, VFA-136; F/A-18E, VFA-211; F/A-18F, VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, HS-11; SH-60F/HH-60H, VRC-40 Det 2; C-2A
 Mar 12 - Nov 12: CVW-1, 6th/5th. VFA-11; F/A-18F, VFA-136; F/A-18E, VFA-211; F/A-18F, VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, HS-11; SH-60F/HH-60H, VRC-40 Det 1; C-2A
 Dec 12: Decommissioned

CVA-66 America
 Jan 65: Commissioned
 Nov 1965 - Jul 66: CVW-6, 6th. VF-33; 11 F-4B, VF-102; 10 F-4B, VA-64; A-4C, VA-66; 16 A-4C, RVAH-5; 5 RA-5C, VAW-12 Det 66; 4 E-1B, VAW-33 Det 66; 4 EA-1F
 Jan 1967 - Sep 67: CVW-6, 6th. VF-33; 11 F-4B, VF-102; 8 F-4B, VA-36; 14 A-4C, VA-64; 14 A-4C, VA-66; 15 A-4C, RVAH-5; 6 RA-5C, VAW-12; 4 E-1B, VAW-33; 3 EA-1F
 Jan 67 - Sep 67: CVW-6, 6th. VF-33; 11 F-4B, VF-102; 8 F-4B, VA-36; 14 A-4C, VA-64; 14 A-4C, VA-66; 15 A-4C, RVAH-5; 6 RA-5C, VAW-12 Det 66; 4 E-1B, VAW-33 Det 66; 3 EA-1F
 Apr 68 - Dec 68: CVW-6, 7th. VF-33; 12 F-4J, VF-102; 12 F-4J, VA-82; 12 A-7A, VA-86; 11 A-7A, VA-85; 11 A-6A, VAW-122; 4 E-2A, RVAH-13; RA-5C, VAH-10 Det 66; KA-3B, VAW-13 Det 66; EKA-3B, HC-2 Det 66; 2 UH-2A, 1 UH-2B
 Apr 70 - Dec 70: CVW-9, World. VF-92; 9 F-4J, VF-96; 10 F-4J, VA-146; 12 A-7E, VA-147; 14 A-7E, VA-165; 4 A-6A/1 A-6B/8 A-6C, RVAH-12; 5 RA-5C, VAW-124; 4 E-2A, VAQ-132; 3 EKA-3B/2 KA-3B, HC-2; 3 UH-2C
 Jul 71 - Dec 71: CVW-8, 6th. VF-101 Det 66; 7 F-4J, VMFA 333; 10 F-4J, VA-35; 6 A-6A/2 A-6B/4 A-6C/3 KA-6D, VA-82; 11 A-7E, VA-86; 11 A-7E, RVAH 13; 4 RA-5Cs, VAH-124; 4 E-2B, HC-2 Det 66; 3 HH-2D
 Jun 72 - Mar 73: CVW-8, 7th. VF-74; F-4J, VA-35; 6 A-6A, 3 A-6C/5 KA-6D, VA-82; 12 A-7C, VA-86; 12 A-7C, RVAH-6; 3 RA-5C, VAW-124; 4 E-2B, VMFA-333; 12 F-4J, VAQ-132; 4 EA-6B, HC-2 Det 66; 3 SH-3G, HC-7 Det 110; HH-3A
 Jan 74 - Aug 74: CVW-8, 6th. VF-142; 12 F-4J, VF-143; 12 F-4J, VA-85; 11 A-6E/4 KA-6D, VA-86; 12 A-7C, VA-35; 11 A-6E/4 KA-6D, RVAH 1; 3 RA-5C, HC 2 Det 66; 3 SH-3G, VAQ 133; 4 EA-6B

Jun 75: Reclassified CV
 Apr 76 - Oct 76: CVW-6. 6th. VF-142; F-14A, VF-143; F-14A, VA-15; A-7E, VA-87; A-7E, VA-176; A-6E/KA-6D, VAQ-137; EA-6B, VAW-124; E-2B, VFP-63; RF-8G, VS-28; S-3A, HS-15; SH-3D
 Sep 77 - Apr 78: CVW-6. 6th. VF-142; F-14A, VF-143; F-14A, VA-15; A-7E, VA-87; A-7E, VA-176; A-6E/KA-6D, VAQ-137; EA-6B, VAW-124; E-2B, VFP-63; RF-8G, VS-28; S-3A, HS-15; SH-3D
 Mar 79 - Sep 79: CVW-11. 6th. VF-114; F-14A, VF-213; F-14A, VA-95; A-6E/KA-6D, VA-192; A-7E, VA-195; A-7E, VAQ-131; EA-6B, VAW-124; E-2B, VFP-63; RF-8G, VQ-2; EA-3B, VS-33; S-3A, HS-12; SH-3H
 Apr 81 - Nov 81: CVW-11. 6th/5th. VF-114; F-14A, VF-213; F-14A, VA-95; A-6E/KA-6D, VA-192; A-7E, VA-195; A-7E, VAQ-133; EA-6B, VAW-123; E-2C, VQ-2; EA-3B, VS-33; S-3A, HS-12; SH-3H
 Dec 82 - Jun 83: CVW-1. 6th/5th. VF-33; F-14A, VF-102; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VA-72; A-7E, VAQ-136; EA-6B, VAW-123; E-2C, VQ-2; EA-3B, VS-32; S-3A, HS-11; SH-3H
 Apr 84 - Nov 84: CVW-1. 6th/5th. VF-33; F-14A, VF-102; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VA-72; A-7E, VAQ-135; EA-6B, VAW-123; E-2C, VQ-2; EA-3B, VS-32; S-3A, HS-11; SH-3H
 Aug 85 - Oct 85: CVW-1. 2nd. VF-33; F-14A, VF-102; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VA-72; A-7E, VAQ-135; EA-6B, VAW-123; E-2C, VQ-2; EA-3B, VS-32; S-3A, HS-11; SH-3H
 Mar 86 - Sep 86: CVW-1. 6th. VF-33; F-14A, VF-102; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VA-72; A-7E, VMAQ-2; EA-6B, VAW-123; E-2C, VQ-2; EA-3B, VS-32; S-3A, HS-11; SH-3H
 May 89 - Nov 89: CVW-1. 6th/5th. VF-33; F-14A, VF-102; F-14A, VFA-82; F/A-18C, VFA-86; F/A-18C, VA-85; A-6E/KA-6D, VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-3H
 Dec 90 - Apr 91: CVW-1. DS. VF-102; F-14A, VF-33; F-14A, VFA-82; F/A-18C, VFA-86; F/A-18C, VA-85; A-6E/KA-6D, VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-3H
 Aug 91 - Oct 91: CVW-1. 2nd. VF-102; F-14A, VF-33; F-14A, VFA-82; F/A-18C, VFA-86; F/A-18C, VA-85; A-6E/KA-6D, VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-3H
 Dec 91 - Jun 92: CVW-1. 2nd/6th/5th. VF-102; F-14A, VF-33; F-14A, VFA-82; F/A-18C, VFA-86; F/A-18C, VA-85; A-6E/KA-6D, VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-3H
 Aug 93 - Feb 94: CVW-1. 6th. VF-102; F-14A, VFA-82; F/A-18C, VFA-86; F/A-18C, VA-85; A-6E/KA-6D, VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-3H, HMM-162 Det A; CH-46E, VRC-40 Det 3; C-2A
 Aug 94 - Feb 95: CVW-1. 6th. VF-102; F-14A, VFA-82; F/A-18C, VFA-86; F/A-18C, VMFA-251; F/A-18C, VAW-123; E-2C, VMAQ-3; EA-6B, VS-32; S-3B, HS-11; SH-3H, VQ-6 Det A; ES-3A, VRC-40 Det 4; C-2A
 Aug 95 - Feb 96: CVW-1. 6th/5th. VF-102; F-14B, VFA-82; F/A-18C, VFA-86; F/A-18C, VMFA-251; F/A-18C, VAW-123; E-2C, VMAQ-3; EA-6B, VQ-6 Det A; ES-3A, VS-32; S-3B, HS-11; SH-3H, VRC-40 Det 4; C-2A
 Aug 96: Decommissioned

 CVA-67 John F. Kennedy
 Sep 68: Commissioned
 Apr 69 - Dec 69: CVW-1. 6th. VF-14; 9 F-8H, VF-32; 10 F-4B, VA-81; 12 A-4C, VA-83; 14 A-4C, VA-95; 12 A-4C, RVAH 14; 5 RA-5C, VAQ-33 Det 67; 3 EA-1F, VAW-121 Det 67; 3 E-1B
 Sep 70 - Mar 71: CVW-1. 2nd/6th. VF-32; 10 F-4B, VA-34; 5 A-6A/2 A-6B, VA-46; 10 A-7B, RVAH-14; 3 RA-5C, HC-2 Det 67; 3 HH-2D
 Dec 71 - Oct 72: CVW-1. 2nd/6th. VF-14; 8 F-4J, VF-32; 11 F-4B, VA-34; 5 A-6A/3 A-6B/3 A-6C/2 KA-6D, VA-46; 9 A-7B, VA-72; 12 A-7B, RVAH-14; 3 RA-5C, VAW-125 Det 67; 2 E-2B
 Apr 73 - Dec 73: CVW-1. 6th. VF-14; 12 F-4B, VF-32; 12 F-4B, VA-34; 5 A-6A/3 A-6B/3 A-6C/4 KA-6D, VA-46; 12 A-7B, VA-72; 12 A-7B, RVAH-11; 2 RA-5C, VAW-125 Det 67; 4 E-2B, HC-2 Det 67; 4 SH-3G
 Jun 75 - Jan 76: CVW-1. 6th. VF-14; 10 F-14A, VF-32; 12 F-14A, VA-34; 3 A-6B/5 A-6E/3 KA-6D, VA-46; 12 A-7B, VA-72; 9 A-7B
 Jun 75: Reclassified CV
 Jan 77 - Aug 77: CVW-1. 6th. VF-14; F-14A, VF-32; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7B, VA-72; A-7B, VAQ-133; EA-6B, VAW-125; E-2C, VQ-2; EA-3B, VFP-63; RF-8G, VS-32; S-3A, HS-11; SH-3D
 Jun 78 - Feb 79: CVW-1. 6th. VF-14; F-14A, VF-32; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VA-72; A-7E, VAQ-133; EA-6B, VAW-125; E-2C, VQ-2; EA-3B, VFP-63; RF-8G,

VS-32; S-3A, HS-11; SH-3D
 Aug 80 - Mar 81: CVW-1. 6th/5th. VF-14; F-14A, VF-32; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VA-72; A-7E, VAQ-138; EA-6B, VAW-126; E-2C, VQ-2; EA-3B, VS-32; S-3A, HS-11; SH-3D
 Jan 81 - Jul 82: CVW-3. 6th/5th. VF-11; F-14A, VF-31; F-14A, VA-75; A-6E/KA-6D, VA-37; A-7E, VA-75; A-7E, VAQ-138; EA-6B, VAW-126; E-2C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Sep 83 - May 84: CVW-3. 2nd/6th. VF-11; F-14A, VF-31; F-14A, VA-75; A-6E/KA-6D, VA-85; A-6E/KA-6D, VAQ-137; EA-6B, VAW-126; E-2C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Aug 86 - Mar 87: CVW-3. 6th. VF-14; F-14A, VF-32; F-14A, VA-66; A-7E, VA-75; A-6E/KA-6D, VMAAW-533; A-6E, VAQ-140; EA-6B, VAW-126; E-2C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Aug 88 - Feb 89: CVW-3. 6th. VF-14; F-14A, VF-32; F-14A, VMAAW-533; A-6E, VAQ-130; EA-6B, VAW-126; E-2C, VQ-2; EA-3B, VS-22; S-3A, HS-7; SH-3H
 Aug 90 - Mar 91: CVW-3. DS. VF-14; F-14A, VF-32; F-14A, VA-46; A-7E, VA-72; A-7E, VA-75; A-6E/KA-6D, VAW-126; E-2C, VAQ-130; EA-6B, HS-7; SH-3H, VS-22; S-3B
 Oct 92 - Apr 93: CVW-3. 6th. VF-14; F-14A, VF-32; F-14A, VFA-37; F/A-18C(N), VFA-105; F/A-18C(N), VA-75; A-6E/KA-6D, VAW-126; E-2C, VAQ-130; EA-6B, HS-7; SH-3H, VS-22; S-3B, VRC-30 Det 1; C-2A
 Apr 97 - Oct 97: CVW-1. 6th/5th. VF-14; F-14A, VF-41; F-14A, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VAW-124; E-2C, VAQ-141; EA-6B, VQ-6 Det 4; ES-3A, VS-24; S-3B, HS-3; SH-60F/HH-60H, VRC-40 Det 4; C-2A
 Sep 99 - Mar 00: CVW-1. 6th/5th. VF-102; F-14B, VFA-82; F/A-18C(N), VFA-86; F/A-18C, VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-60F/HH-60H, VRC-40 Det 2; C-2A
 Feb 02 - Aug 02: CVW-7. 6th/5th. VF-11; F-14B, VF-144; F-14B, VFA-131; F/A-18C(N), VFA-136; F/A-18C(N), VAW-121; E-2C, VAQ-140; EA-6B, VS-31; S-3B, HS-5; SH-60F/HH-60H, VRC-40 Det 3; C-2A
 Jun 04 - Dec 04: CVW-17. 6th/5th. VF-103; F-14B, VFA-34; F/A-18C(N), VFA-81; F/A-18C, VFA-83; F/A-18C(N), VAW-125; E-2C, VAQ-132; EA-6B, VS-30; S-3B, HS-15; SH-60F/HH-60H, VRC-40 Det 4; C-2A
 Mar 07: Decommissioned

CVAN-68 Nimitz
 May 75: Commissioned
 Jun 75: Reclassified CVN
 Jun 75 - Sep 75: CVW-8. 2nd. VF-31; F-4J, VMFA-333; F-4J, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, RVAH-9; RA-5C, VAW-116; E-2B, VAQ-130; EA-6B, HS-15; SH-3D, VRC-40 Det ?; C-1A
 Jul 76 - Feb 77: CVW-8. 6th. VF-74; F-4J, VMFA-333; F-4J, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, RVAH-9; RA-5C, VAW-116; E-2B, VAQ-130; EA-6B, HC-2; SH-3G, VQ-2; EA-3B
 Dec 77 - Jul 78: CVW-8. 6th/2nd. VF-41; F-14A, VF-84; F-14A, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, RVAH-6; RA-5C, VAW-112; E-2B, VAQ-135; EA-6B, VQ-2; EA-3B, VS-24; S-3A, HS-9; SH-3H
 Sep 79 - May 80: CVW-8. 2nd/6th/5th. VF-41; F-14A, VF-84; F-14A, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, VAW-112; E-2B, VAQ-134; EA-6B, VQ-2; EA-3B, VFP-63; RF-8G, VS-24; S-3A, HS-9; SH-3H, HC-16; HH-46A
 Aug 81 - Feb 82: CVW-8. 6th. VF-41; F-14A, VF-84; F-14A, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, VAW-124; E-2C, VMAQ-2; EA-6B, VQ-2; EA-3B, VS-24; S-3A, HS-9; SH-3H
 Nov 82 - May 83: CVW-8. 6th/2nd. VF-41; F-14A, VF-84; F-14A, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, VAW-124; E-2C, VAQ-135; EA-6B, VQ-2; EA-3B, VS-24; S-3A, HS-9; SH-3H
 Mar 85 - Oct 85: CVW-8. 6th/2nd. VF-41; F-14A, VF-84; F-14A, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, VAW-124; E-2C, VAQ-138; EA-6B, VQ-2; EA-3B, VS-24; S-3A, HS-9; SH-3H
 Dec 86 - Jul 87: CVW-8. 6th/2nd/7th. VF-41; F-14A, VF-84; F-14A, VA-35; A-6E/KA-6D, VA-82; A-7E, VA-86; A-7E, VAW-124; E-2C, VAQ-138; EA-6B, VQ-2; EA-3B, VS-24; S-3A, HS-9; SH-3H
 Sep 88 - Mar 89: CVW-9. 7th/5th. VF-24; F-14A, VF-211; F-14A, VA-146; A-7E, VA-147; A-7E, VA-165; A-6E/KA-6D, VAW-112; E-2C, VAQ-138; EA-6B, VS-33; S-3A, HS-2; SH-3H
 Feb 91 - Aug 91: CVW-9. DS. VF-211; F-14B, VF-24; F-14B, VFA-146; F/A-18C(N), VFA-147; F/A-18C(N), VA-165; A-6E/KA-6D, VAW-112; E-2C+, VAQ-138; EA-6B, VS-33; S-3A, HS-2; SH-3H

Feb 93 - Jul 93: CVW-9. 5th. VF-24; F-14A, VF-211; F-14A, VFA-146; F/A-18C(N), VFA-147; F/A-18C(N), VA-165; A-6E/KA-6D, VAW-112; E-2C, VAQ-138; EA-6B, VS-33; S-3B, HS-2; SH-60F/HH-60H

Nov 95 - May 96: CVW-9. 7th/5th. VF-24; F-14A, VF-211; F-14A, VFA-146; F/A-18C(N), VFA-147; F/A-18C(N), VA-165; A-6E/KA-6D, VAW-112; E-2C, VAQ-138; EA-6B, VQ-5 Det C; ES-3A, VS-33; S-3B, HS-8; SH-60F/HH-60H, VRC-30 Det 4; C-2A

Sep 97 - Mar 98: CVW-9. 7th/5th. VF-211; F-14A, VFA-146; F/A-18F, VFA-147; F/A-18C(N), VMFA-314; F/A-18C, VAW-112; E-2C, VAQ-138; EA-6B, VQ-5 Det D; ES-3A, VS-33; S-3B, HS-8; SH-60F/HH-60H, VRC-30 Det 4; C-2A

May 98 - Jun 01: Refueled

Mar 03 - Nov 03: CVW-11. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-94; F/A-18C(N), VFA-97; F/A-18A, VAW-117; E-2C-2000, VAQ-135; EA-6B, VS-29; S-3B, HS-6; SH-60F/HH-60H, VRC-40 Det 3; C-2A

May 05 - Nov 05: CVW-11. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-94; F/A-18C(N), VMFA-232; F/A-18C(N), VAW-117; E-2C, VAQ-135; EA-6B, HS-6; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Apr 07 - Sep 07: CVW-? CVW-11. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-81; F/A-18C, VMFA-232; F/A-18A+, VAW-117; E-2C-2000, VAQ-135; EA-6B, HS-6; SH-60F/HH-60H, VRC-30 Det 3; C-2A

Jan 08 - Jun 08: CVW-? CVW-11. 7th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-81; F/A-18C, VMFA-232; F/A-18A+, VAW-117; E-2C-2000, VAQ-135; EA-6B, HS-6; SH-60F/HH-60H, VRC-30 Det 3; C-2A

Jul 09 - Mar 10: CVW-? CVW-11. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-86; F/A-18C(N), VFA-97; F/A-18C(N), VAW-117; E-2C-2000, VAQ-135; EA-6B, HS-6; SH-60F/HH-60H, VRC-30 Det 3; C-2A

Mar 13 - Dec 13: CVW-? CVW-11. 7th/5th/6th. VFA-154; F/A-18F, VFA-146; F/A-18C, VFA-147; F/A-18E, VMFA-323; F/A-18C(N), VAW-117; E-2C-2000, VAQ-142; EA-6B, HSM-75; MH-60R, HSC-6; MH-60S, VRC-30 Det 3, C-2A

Jan 15 - Oct 16: Refit

Jun 17 - Dec 17: CVW-? CVW-11. 7th/5th. VFA-154; F/A-18F, VFA-146; F/A-18E, VFA-147; F/A-18C, VMFA-323; F/A-18C(N), VAW-121; E-2D, VAQ-142; HSM-75; HSC-8; VRC-30 Det 3, C-2A

Mar 18 - May 19: Refit

Jun 20 - Feb 21: CVW-17. 7th/5th. VMFA-323; F/A-18C(N), VFA-137; F/A-18E, VFA-22; F/A-18F, VFA-94; F/A-18F, VAW-116; E-2C-2000, VAQ-139; EA-18G, HSM-73; MH-60R, HSC-6; MH-60R, VRC-30 Det 1; C-2A. Last planned USMC F/A-18C carrier deployment.

CVN-69 Dwight D. Eisenhower

Oct 77: Commissioned

Jan 79 - Jul 79: CVW-7. 6th. VF-142; F-14A, VF-143; F-14A, VA-12; A-7E, VA-65; A-6E/KA-6D, VA-66; A-7E, VAW-121; E-2C, VAQ-138; EA-6B, VQ-2; ES-3A, VS-31 S-3A, HS-5; SH-3H, HC-16; UH-46A

Jan 82 - Jul 82: CVW-7. 6th. VF-142; F-14A, VF-143; F-14A, VA-12; A-7E, VA-65; A-6E/KA-6D, VA-66; A-7E, VAW-121; E-2C, VAQ-132; EA-6B, VQ-2; ES-3A, VS-31 S-3A, HS-5; SH-3H

Apr 83 - Nov 83: CVW-7. 6th. VF-142; F-14A, VF-143; F-14A, VA-12; A-7E, VA-65; A-6E/KA-6D, VA-66; A-7E, VAW-121; E-2C, VAQ-132; EA-6B, VQ-2; ES-3A, VS-31 S-3A, HS-5; SH-3H

Oct 84 - May 85: CVW-7. 6th. VF-142; F-14A, VF-143; F-14A, VA-12; A-7E, VA-65; A-6E/KA-6D, VA-66; A-7E, VAW-121; E-2C, VAQ-132; EA-6B, VQ-2; ES-3A, VS-31 S-3A, HS-5; SH-3H

Feb 88 - Aug 88: CVW-7. 6th. VF-142; F-14A, VF-143; F-14A, VA-34; A-6E/KA-6D, VA-46; A-7E, VAW-121; E-2C, VAQ-140; EA-6B, VS-31 S-3A, HS-5; SH-3D

Mar 90 - Sep 90: CVW-7. 6th/5th. VF-142; F-14A+, VF-143; F-14A+, VA-34; A-6E/KA-6D, VFA-131; F/A-18A, VFA-136; F/A-18A, VAW-121; E-2C, VAQ-140; EA-6B, VS-31 S-3A, HS-5; SH-3D

Sep 91 - Apr 92: CVW-7. DS. VF-143; F-14B, VF-142; F-14B, VFA-131; F/A-18C(N), VFA-136; F/A-18C(N), VA-34; A-6E/KA-6D, VAW-121; E-2C, VAQ-140; EA-6B, VS-31; S-3B, HS-5; SH-3H

Oct 94 - Apr 95: CVW-3. 6th. VF-32; F-14A, VFA-37; F/A-18C(N), VFA-105; F/A-18C(N), VA-75; A-6E/KA-6D, VAW-126; E-2C, VAQ-130; EA-6B, VS-22; S-3B, HS-7; SH-3H, VQ-6 Det C; ES-3A

Jun 98 - Dec 98: CVW-17. 6th/5th. VF-103; F-14B, VFA-34; F/A-18C(N), VFA-81; F/A-18C(N), VFA-83; F/A-18C(N), VAW-125; E-2C, VAQ-132; EA-6B, BQ-6 Det D; ES-3A, VS-30; S-3B, HS-15; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Feb 00 - Aug 00: CVW-7. 6th/5th. VF-11; F-14B, VF-143; F/A-18C(N), VFA-136; F/A-18C(N), VAW-121; E-2C, VAQ-140; EA-6B, VS-31; S-3B, HS-5; SH-60F/HH-60H, VRC-30 Det 3; C-2A

May 01 - Mar 05: Refueled

Oct 06 - May 07: CVW-7. 6th/5th. VFA-83; F/A-18C(N), VFA-103; F/A-18F, VFA-131; F/A-18C(N), VFA-143; F/A-18E, VAW-125; E-2C-2000, VAQ-140; EA-6B, HS-5; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Feb 09 - Jul 09: CVW-7. 6th/5th. VFA-83; F/A-18C(N), VFA-103; F/A-18F, VFA-131; F/A-18C(N), VFA-143; F/A-18E, VAW-125; E-2C, VAQ-140; EA-6B, HS-5; SH-60F/HH-60H, VRC-40 Det 2; C-2A.

Jan 10 - Jul 10: CVW-7. 6th/5th. VFA-83; F/A-18C(N), VFA-103; F/A-18F, VFA-131; F/A-18C(N), VFA-143; F/A-18E, VAW-121; E-2C-2000, VAQ-140; EA-6B, HS-5; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Jun 12 - Dec 12: CVW-7. 6th/5th. VFA-83; F/A-18C(N), VFA-103; F/A-18F, VFA-131; F/A-18C(N), VFA-143; F/A-18E, VAW-121; E-2C, VAQ-140; EA-6B, HS-5; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Feb 13 - Jul 13: CVW-7. 6th/5th. VFA-83; F/A-18C(N), VFA-103; F/A-18F, VFA-131; F/A-18C(N), VFA-143; F/A-18E, VAW-121; E-2C, VAQ-140; EA-6B, HS-5; SH-60F/HH-60H, VRC-40 Det 2; C-2A.

Sep 13 - Aug 15: Refit

Jun 16 - Dec 16: CVW-3. 6th/5th. VFA-32; F/A-18F, VFA-83; F/A-18E, VFA-105; F/A-18C(N), VAW-123; E-2C, VAQ-130; EA-18G, HSM-74; MH-60R, HSC-7; MH-60S, VRC-40 Det 2; C-2A

Aug 17 - Mar 19: Refit

Jan - Aug 20: CVW-3. 6th/5th. VFA-32; F/A-18F, VFA-83; F/A-18E, VFA-105; F/A-18C(N), VAW-123; E-2C-2000, VAQ-130; EA-18G, HSM-74; MH-60R, HSC-7; MH-60S, VRC-40 Det 2; C-2A

Feb - Jul 21: CVW-3. 6th/5th. VFA-32; F/A-18F, VFA-83; F/A-18E, VFA-105; F/A-18C(N), VAW-123; E-2C-2000, VAQ-130; EA-18G, HSM-74; MH-60R, HSC-7; MH-60S, VRC-40 Det 2; C-2A

CVN-70 Carl Vinson

Mar 82: Commissioned

Mar 83 - Oct 83: CVW-15. World. VF-51; F-14A, VF-111; F-14A, VA-37; A-7E, VA-52; A-6E/KA-6D, VA-105; A-7E, VAW-114; E-2C, VAQ-134; EA-6B, VS-29 S-3A, HS-4; SH-3H

Oct 84 - May 85: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VA-27; A-7E, VA-52; A-6E/KA-6D, VA-97; A-7E, VAW-114; E-2C, VQ-1; EA-3B, VS-29 S-3A, HS-4; SH-3H

Aug 86 - Feb 87: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VA-27; A-7E, VA-52; A-6E/KA-6D, VA-97; A-7E, VAW-114; E-2C, VAQ-134; EA-6B, VQ-1; EA-3B, VS-29 S-3A, HS-4; SH-3H. (My first deployment, FF-1041 Bradley)

Jun 88 - Dec 88: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VA-27; A-7E, VA-52; A-6E/KA-6D, VA-97; A-7E, VAW-114; E-2C, VAQ-134; EA-6B, VS-29 S-3A, HS-4; SH-3H

Feb 90 - Jul 90: CVW-15. 7th/5th. VF-51; F-14A, VF-111; F-14A, VA-27; A-7E, VA-52; A-6E/KA-6D, VA-97; A-7E, VAW-114; E-2C, VAQ-134; EA-6B, VS-29 S-3A, HS-4; SH-3H

Sep 90 - Apr 93: Overhaul

Feb 94 - Aug 94: CVW-14. 7th/5th. VF-11; F-14D, VF-31; F-14D, VFA-25; F/A-18C(N), VFA-113; F/A-18C(N), VAW-113; E-2C, VAQ-139; EA-6B, VQ-5 Det D; ES-3A, VS-35 S-3B, HS-4; SH-60F/HH-60H

May 96 - Nov 96: CVW-14. 7th/5th. VF-11; F-14D, VF-31; F-14D, VFA-25; F/A-18C(N), VFA-113; F/A-18C(N), VAW-113; E-2C, VAQ-139; EA-6B, VQ-5 Det D; ES-3A, VS-35 S-3B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A

Nov 98 - May 99: CVW-11. 7th. VF-213; F-14D, VFA-22; F/A-18C(N), VFA-94; F/A-18C(N), VFA-97; F/A-18A, VAW-117; E-2C, VAQ-135; EA-6B, VS-29; S-3B, HS-6; SH-60F/HH-60H, VRC-30 Det 2; C-2A

Jul 01 - Jan 02: CVW-11. 7th/5th. VF-213; F-14D, VFA-22; F/A-18C(N), VFA-94; F/A-18C(N), VFA-97; F/A-18A, VAW-117; E-2C, VAQ-135; EA-6B, VS-29; S-3B, HS-6; SH-60F/HH-60H, VRC-30 Det 3; C-2A

Feb 03 - Sep 03: CVW-9. 7th. VFA-22; F/A-18C(N), VFA-146; F/A-18C, VFA-147; F/A-18C, VMFA-314; F/A-18C, VAW-112; E-2C, VAQ-138; EA-6B, VS-33; S-3B, HS-8; SH-60F/HH-60H, VRC-30 Det 4; C-2A

Feb 05 - Jul 05: CVW-9. 7th/5th/2nd. VFA-146; F/A-18C, VFA-146; F/A-18C, VFA-147; F/A-18C(N), VFA-154; F/A-18F, VMFA-323; F/A-18C(N), VAW-112; E-2C, VAQ-138; EA-6B, VS-33; S-3B, HS-8; SH-60F/HH-60H, VRC-30 Det 4; C-2A

Nov 05 - Jul 09: Refueled

Nov 10 - Jun 11: CVW-17. 7th/5th. VFA-22; F/A-18F, VFA-25; F/A-18C(N), VFA-81; F/A-18E, VFA-113; F/A-18C(N), VAW-125; E-2C-2000, VAQ-134; EA-6B, HS-15; SH-60F/HH-60H, VRC-40 Det 3; C-2A.

Nov 11 - May 12: CVW-17. 7th/5th. VFA-22; F/A-18F, VFA-25; F/A-18C(N), VFA-81; F/A-18E, VFA-113; F/A-18C(N), VAW-125; E-2C, VAQ-134; EA-6B, HS-15; SH-60F/HH-60H, VRC-40 Det 5; C-2A

Aug 14 - Jun 15: CVW-17. 7th/5th. VFA-22; F/A-18F, VFA-81; F/A-18E, VFA-94; F/A-18C(N), VFA-113; F/A-18C(N), VAW-116; E-2C-2000, VAQ-139; EA-18G, HSC-15; MH-60S, HSM-73; MH-60R, VRC-30 Det 1; C-2A

Jan 17 - Jun 17: CVW-2. 7th. VFA-2; F/A-18F, VFA-34; F/A-18C(N), VFA-137; F/A-18E, VFA-192; F/A-18E, VAW-113; E-2C-2000, VAQ-136; EA-18G, HSC-4; MH-60S, HSM-78; MH-60R, VRC-30 Det 2; C-2A

Jan 18 - Apr 18: CVW-2. 7th. VFA-2; F/A-18F, VFA-34; F/A-18C(N), VFA-137; F/A-18E, VFA-192; F/A-18E, VAW-113; E-2C-2000, VAQ-136; EA-18G, HSC-4; MH-60S, HSM-78; MH-60R, VRC-30 Det 2; C-2A

Feb 19 - Sep 20: Refit.

Aug 21: CVW-2. 7th/5th? VFA-2; 14 F/A-18F, VFA-113; 10 F/A-18E, VFA-147; 10 F-35C, VFA-192; 10 F/A-18E, VAW-113; E-2D, VAQ-136; EA-18G, HSC-4; MH-60S, HSM-78; MH-60R, VRM-30 Det ?; 3 CMV-22B

CVN-71 Theodore Roosevelt

Oct 86: Commissioned

Dec 88 - Jun 89: CVW-8. 6th. VF-41; F-14A, VF-84; F-14A, VFA-15; F/A-18A, VFA-87; F/A-18A, VA-35; A-6E/KA-6D, VA-36; A-6E/KA-6D, VAW-124; E-2C, VAQ-141; EA-6B, VS-24; S-3A, HS-9; SH-3H

Dec 90 - Jun 91: CVW-8. DS. VF-41; F-14A, VF-84; F-14A, VFA-15; F/A-18A, VFA-87; F/A-18A, VA-65; A-6E, VA-36; A-6E, VAW-124; E-2C, VAQ-141; EA-6B, VS-24; S-3B, HS-9; SH-3H, VRC-40 Det ?; C-2A

Mar 93 - Sep 93: CVW-8. 6th. VF-84; F-14A, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VMFA-312; F/A-18C(N), VAW-124 E-2C, VAQ-141; EA-6B, VAQ-209 Det ?; EA-6B, SH-60F/HH-60H, HMH-362; CH-53D/UH-1N, VRC-40 Det 2; C-2A

Mar 95 - Sep 95: CVW-8. 6th/5th. VF-41; F-14A, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VAW-124 E-2C, VAQ-141; EA-6B, VAQ-209 Det ?; EA-6B, VQ-6 Det D; ES-3A, VS-24; S-3B, HS-3; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Nov 96 - May 97: CVW-3. 6th/5th. VF-32; F-14A, VFA-37; F/A-18C(N), VFA-105; F/A-18C(N), VMFA-312; F/A-18C(N), VAW-126 E-2C, VAQ-130; EA-6B, VQ-6 Det D; ES-3A, VS-22; S-3B, HS-7; SH-60F/HH-60H, VRC-40 Det 3; C-2A

Mar 99 - Sep 99: CVW-8. 6th/5th. VF-41; F-14D, VF-14; F-14D, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VAW-124; E-2C, VAQ-141; EA-6B, VS-24; S-3B, HS-3; SH-60F/HH-60H, VRC-40 Det 1; C-2A

Sep 01 - Mar 02: CVW-1. 5th. VF-102; F-14D, VFA-82; F/A-18C(N), VFA-86; F/A-18C, VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, VS-32; S-3B, HS-11; SH-60F/HH-60H, VRC-40 Det 2; C-2A

Feb 03 - May 03: CVW-8. 6th. VF-213; F-14D, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VFA-201; F/A-18A+, VAW-124; E-2C, VAQ-141; EA-6B, VS-24; S-3B, HS-3; SH-60F/HH-60H, VRC-40 Det 5; C-2A

Sep 05 - Mar 06: CVW-8. 6th/5th. VF-31; F-14D, VF-213; F-14D, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VAW-124; E-2C, VAQ-141; EA-6B, VS-24; S-3B, HS-3; SH-60F/HH-60H, VRC-40 Det 1; C-2A

Sep 08 - Apr 09: CVW-8. 2nd/5th. VFA-15 F/A-18C(N), VFA-31; F/A-18E, VFA-87 F/A-18C(N), VFA-213; F/A-18F, VAW-124; E-2C, VAQ-141; EA-6B, HS-3; SH-60F/HH-60H, VRC-40 Det 1; C-2A

Aug 09 - Aug 13: Refueled

Mar 15 - Nov 15: CVW-11. 5th/6th/7th. VFA-11; F/A-18F, VFA-136; F/A-18E, VFA-211; F/A-18F, VMFA-251; F/A-18C(N), VAW-125; E-2D, VAQ-137; EA-18G, HS-11; SH-60F/HH-60H, VRC-30 Det 1; C-2A

Oct 17 - May 18: CVW-17. 7th/5th. VFA-22; F/A-18F, VFA-94; F/A-18E, VFA-113; F/A-18E, VMFA-312; F/A-18C(N), VAW-116; E-2C-2000, VAQ-139; EA-18G, HSM-73; MH-60R, HSC-6; MH-60S, VRC-30 Det 1; C-2A

Jan - Jul 20: CVW-11. 7th. VFA-31; F/A-18E, VFA-87; F/A-18E, VFA-146; F/A-18E, VFA-154; F/A-18F, VAW-115; E-2C-2000, VAQ-142; EA-18G, HSM-75; MH-60R, HSC-8; MH-60S, VRC-30 Det 3; C-2A

Dec 20 - May 21: CVW-11. 7th. VFA-31; F/A-18E, VFA-87; F/A-18E, VFA-146; F/A-18E, VFA-154; F/A-18F, VAW-115; E-2C-2000, VAQ-142; EA-18G, HSM-75; MH-60R, HSC-8; MH-60S, VRC-30 Det 3; C-2A

CVN-72 Abraham Lincoln

Nov 89: Commissioned
 May 91 - Nov 91: CVW-9. 7th/5th. VF-114; F-14A, VF-213; F-14A, VFA-22; F/A-18C(N), VFA-94; F/A-18C(N), VA-95; A-6E/KA-6D, VAW-117; E-2C+, VAQ-135; EA-6B, VS-29; S-3A, HS-6; SH-60F/HH-60H
 Jun 93 - Dec 93: CVW-11. 7th/5th. VF-213; F-14A, VFA-22; F/A-18C(N), VFA-94; F/A-18C(N), VMFA-314; F/A-18A, VA-95; A-6E/KA-6D, VAW-117; E-2C, VAQ-135; EA-6B, VS-29; S-3B, HS-6; SH-60F/HH-60H
 Apr 95 - Oct 95: CVW-11. 7th/5th. VF-213; F-14A, VFA-22; F/A-18C(N), VFA-94; F/A-18C(N), VA-95; A-6E/KA-6D, VAW-117; E-2C, VAQ-135; EA-6B, VQ-5 Det B; ES-3A, VS-29; S-3B, HS-6; SH-60F/HH-60H, VRC-30 Det 3; C-2A
 Jun 98 - Dec 98: CVW-14. 7th/5th. VF-31; F-14D, VFA-25; F/A-18C(N), VFA-113; F/A-18E, VAW-113; E-2C, VAQ-139; EA-6B, VQ-5 Det B; ES-3A, VS-35; S-3B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 Aug 00 - Feb 01: CVW-14. 7th/5th. VF-31; F-14D, VFA-25; F/A-18C(N), VFA-113; F/A-18C(N), VFA-115; F/A-18E, VAW-113; E-2C, VAQ-139; EA-6B, VS-35; S-3B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 Jul 02 - May 03: CVW-14. 7th/5th. VF-31; F-14D, VFA-25; F/A-18C(N), VFA-113; F/A-18E, VAW-113; E-2C, VAQ-139; EA-6B, VS-25; S-3B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 Oct 04 - Mar 05: CVW-2. 7th. VFA-2; F/A-18F, VFA-82; F/A-18C(N), VFA-137; F/A-18E, VFA-151; F/A-18C(N), VAW-116; E-2C, VAQ-131; EA-6B, HSL-47; SH-60B, HS-2; SH-60F/HH-60H, VRC-30 Det 4; C-2A
 Feb 06 - Aug 06: CVW-2. 7th. VFA-2; F/A-18F, VFA-34; F/A-18C(N), VFA-137; F/A-18E, VFA-151; F/A-18C(N), VAW-116; E-2C-2000, VAQ-131; EA-6B, HSL-47; HS-2; SH-60F/HH-60H, VRC-30 Det 2; C-2A
 Mar 08 - Oct 08: CVW-2. 7th. VFA-2; F/A-18F, VFA-34; F/A-18C(N), VFA-137; F/A-18E, VFA-151; F/A-18C(N), VAW-116; E-2C-2000, VAQ-131; EA-6B, HSL-47; HS-2; SH-60F/HH-60H, VRC-30 Det 2; C-2A
 Sep 10 - Mar 11: CVW-2. 7th. VFA-2; F/A-18F, VFA-34; F/A-18C(N), VFA-137; F/A-18E, VFA-151; F/A-18C(N), VAW-116; E-2C-2000, VAQ-131; EA-6B, HSL-47; HSM-77; MH-60R, HSC-12; MH-60S, VRC-30 Det 2; C-2A
 Dec 11 - Aug 12: CVW-2. 7th. VFA-2; F/A-18F, VFA-34; F/A-18C(N), VFA-137; F/A-18E, VFA-151; F/A-18C(N), VAW-116; E-2C-2000, VAQ-131; EA-6B, HSM-77; MH-60R, HSC-12; MH-60S, VRC-30 Det 2; C-2A
 Mar 13 - May 17: Refueled
 Apr 19 - Jan 20: CVW-7. 6th/5th. VFA-25; F/A-18E, VFA-86; F/A-18E, VFA-103; F/A-18F, VFA-143; F/A-18E, VAW-121; E-2D, VAQ-140; EA-18G, HSM-79; MH-60R, HSC-5; MH-60S, VRC-40 Det 3; C-2A
 Aug 20 - Apr 21: Refit.

CVN-73 George Washington

Jul 92: Commissioned
 May 94 - Nov 94: CVW-7. 6th. VF-142; F-14B, VF-143; F-14B, VFA-131; F/A-18C(N), VFA-136; F/A-18C(N), VA-34; A-6E/KA-6D, VAW-121; E-2C, VAQ-140; EA-6B, VQ-6 Det B; ES-3A, VS-31; S-3B, HS-5; SH-60F/HH-60H
 Jan 96 - Jul 96: CVW-7. 6th/5th. VF-143; F-14B, VFA-131; F/A-18C(N), VFA-136; F/A-18C(N), VA-34; A-6E/KA-6D, VAW-121; E-2C, VAQ-140; EA-6B, VQ-6 Det B; ES-3A, VS-31; S-3B, HS-5; SH-60F/HH-60H, VRC-40 Det 1; C-2A
 Oct 97 - Apr 98: CVW-1. 6th/5th. VF-102; F-14B, VFA-82; F/A-18C(N), VFA-86; F/A-18C(N), VMFA-251; F/A-18C(N), VAW-123; E-2C, VAQ-137; EA-6B, VQ-6 Det B; ES-3A, VS-32; S-3B, HS-11; SH-60F/HH-60H, VRC-40 Det 1; C-2A
 Jun 00 - Dec 00: CVW-17. 6th/5th. VF-103; F-14B, VFA-34; F/A-18C(N), VFA-81; F/A-18C, VFA-83; F/A-18C, VAW-125; E-2C, VAQ-132; EA-6B, VS-30; S-3B, HS-15; SH-60F/HH-60H, VRC-40 Det 4; C-2A
 Jun 02 - Dec 02: CVW-17. 6th/5th. VF-103; F-14B, VFA-34; F/A-18C(N), VFA-81; F/A-18C, VFA-83; F/A-18C(N), VAW-125; E-2C, VAQ-132; EA-6B, VS-30; S-3B, HS-15; SH-60F/HH-60H, VRC-40 Det 4; C-2A
 Jan 04 - Jul 04: CVW-7. 6th/5th. VF-11; F-14B, VF-143; F-14B, VFA-131; F/A-18C(N), VFA-136 F/A-18C(N), VAW-121; E-2C, VAQ-140; EA-6B, VS-31; S-3B, HS-5; SH-60F/HH-60H, VRC-30 Det 3; C-2A
 Oct - Sep 08, May - Jun 09, Jun 09 - Sep 09, Oct - Nov 09: CVW-5. 7th. VFA-27; F/A-18E, VFA-102; F/A-18F, VFA-192; F/A-18C(N), VFA-195; F/A-18C(N), VAW-115; E-2C, VAQ-136; EA-6B, HSL-51; HS-14; SH-60F/HH-60H, VRC-30 Det 5; C-2A
 May - Nov 10: CVW-5. 7th. VFA-27; 14 F/A-18E, VFA-102; 13 F/A-18F, VFA-102; 11 F/A-18E, VFA-195; 11 F/A-18C(N), VAW-115; 5 E-2C-2000, VAQ-136; 5 EA-6B, HS-14; 9 SH-60F, 3 HH-60H, VRC-30 Det 5; 2 C-2A

Nov - Dec 10: CVW-5. 7th. VFA-27; 14 F/A-18E, VFA-102; 13 F/A-18F, VFA-115; 11 F/A-18E, VFA-195; 11 F/A-18C(N), VAW-115; 5 E-2C-2000, VAQ-136; 5 EA-6B, HS-14; 9 SH-60F, 3 HH-60H, VRC-30 Det 5; 2 C-2A

Jun - Aug 11, Sep - Nov 11: CVW-5. 7th. VFA-27; 14 F/A-18E, VFA-102; 14 F/A-18F, VFA-115; 11 F/A-18E, VFA-195; 11 F/A-18E, VAW-115; 4 E-2C-2000, VAQ-136; 5 EA-6B, HS-14; 9 SH-60F, 3 HH-60H, VRC-30 Det 5; 2 C-2A

May - Jul 12, Aug - Nov 12: CVW-5. 7th. VFA-27; 14 F/A-18E, VFA-102; 13 F/A-18F, VFA-115; 11 F/A-18E, VAW-115; 4 E-2C-2000, VAQ-136; 6 EA-18G, HS-14; 9 SH-60F, 3 HH-60H, VRC-30 Det 5; 2 C-2A

Jun - Aug 13, Sep - Dec 13, May - Aug 14, Sep - Nov 14, May 14 - Aug 15: CVW-5. 7th. VFA-27; 14 F/A-18E, VFA-102; 13 F/A-18F, VFA-115; 11 F/A-18E, VFA-195; 11 F/A-18E, VAW-115; 4 E-2C-2000, VAQ-141; 6 EA-18G, HSM-77; 8 MH-60R, HSC-12; 10 MH-60S, VRC-30 Det 5; 2 C-2A

Aug 17 - Aug 21?: Refit.

CVN-74 John C. Stennis
Dec 95: Commissioned

Feb 98 - Aug 98: CVW-7. 6th/5th/7th. VF-11; 12 F-14B, VF-143; 12 F-14B, VFA-131; 12 F/A-18C(N), VFA-136; 12 F/A-18C(N), VAW-121; 4 E-2C, VAQ-140; 4 EA-6B, VQ-6 Det C; 2 ES-3A, VS-31; 8 S-3B, HS-5; 5/3 SH-60F/HH-60H, VRC-40 Det 2; 2 C-2A

Jan 00 - Jul 00: CVW-9. 5th. VF-211; 12 F-14A, VFA-146; 12 F/A-18C, VFA-147; 12 F/A-18C, VMFA-314; 12 F/A-18C, VAW-112; 4 E-2C, VAQ-138; 4 EA-6B, VS-33; 8 S-3B, HS-8; 4/4 SH-60F/HH-60H, VRC-30 Det 4; 2 C-2A

Nov 01 - May 02: CVW-9. 5th. VF-211; F-14A, VFA-146; F/A-18C, VFA-147; F/A-18C, VMFA-314; F/A-18C, VAW-112; 4 E-2C, VAQ-138; 4 EA-6B, VS-33; 8 S-3B, HS-8; 4/4 SH-60F/HH-60H, VRC-30 Det 4; 2 C-2A

May 04 - Nov 04: CVW-14. 7th. VF-31; F-14D, VFA-25; F/A-18C(N), VFA-113; F/A-18C(N), VFA-115; F/A-18E, VAW-115; E-2C, VAQ-139; EA-6B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A

Jan 07 - Aug 07: CVW-9. 7th/5th. VFA-146; F/A-18C, VFA-147; F/A-18C(N), VFA-154; F/A-18F, VMFA-323; F/A-18C(N), VAW-112; E-2C, VAQ-138; EA-6B, VS-31; S-3B, HS-8; SH-60F/HH-60H, VRC-30 Det 4; C-2A

Jan 09 - Jul 09: CVW-9. 7th. VFA-146; F/A-18C, VFA-147; F/A-18E, VFA-154; F/A-18F, VMFA-323; F/A-18C(N), VAW-112; E-2C-2000, VAQ-138; EA-6B, HSM-71; MH-60R, HSC-8; MH-60S, VRC-30 Det 4, C-2A

Jul 11 - Mar 12: CVW-9. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-97; F/A-18C(N), VFA-192; F/A-18C(N), VAW-112; E-2C-2000, VAQ-138; EA-18G, HSM-71 MH-60R; HSC-8 MH-60S; VRC-30 Det 4; C-2A

Aug 12 - May 13: CVW-9. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-97; F/A-18C(N), VFA-192; F/A-18C(N), VAW-112; E-2C-2000, VAQ-133; EA-6B, HSM-71; MH-60R, HSC-8; MH-60S, VRC-30 Det 4; C-2A

Jan 16 - Aug 16: CVW-9. 7th/5th. VFA-14; F/A-18E, VFA-41; F/A-18F, VFA-97; F/A-18E, VAW-151; F/A-18E, VAW-112; E-2C-2000, VAQ-133; EA-18G, HSM-71; MH-60R, HSC-14; MH-60S, VRC-30 Det 4; C-2A

Oct 18 - May 19: CVW-9. 7th/5th. VFA-14; 12 F/A-18E, VFA-41; 12 F/A-18F, VFA-97; 10 F/A-18E, VFA-151; 10 F/A-18E, VAW-117; 4 E-2C-2000, VAQ-133; 5 EA-18G, HSM-71; 11 MH-60R, HSC-14; 8 MH-60S, VRC-30 Det 4; 2 C-2A

CVN-75 Harry S. Truman
Jul 98: Commissioned

Nov 00 - May 01: CVW-3. 6th/5th. VF-32; 11 F-14B, VFA-37; 12 F/A-18C(N), VFA-105; 12 F/A-18C(N), VMFA-312; 12 F/A-18C(N), VAW-126; 4 E-2C, VAQ-130; 4 EA-6B, VS-22; 8 S-3B, HS-7; SH-60F/HH-60H, VRC-40 Det 1; 2 C-2A

Dec 02 - May 03: CVW-3. 6th/5th. VF-32; F-14B, VFA-37; F/A-18C(N), VFA-105; F/A-18C(N), VMFA-115; F/A-18A+, VAW-126; 4 E-2C, VAQ-130; 4 EA-6B, VS-22; 8 S-3B, HS-7; SH-60F/HH-60H, VRC-40 Det 1; 2 C-2A

Oct 04 - Apr 05: CVW-3. 6th/5th. VF-32; 10 F-14B, VFA-37; 12 F/A-18C(N), VFA-105; 12 F/A-18C(N), VMFA-115; 12 F/A-18A+, VAW-126; 4 E-2C, VAQ-130; 5 EA-6B, VS-22; 8 S-3B, HS-7; 4/3 SH-60F/HH-60H, VRC-40 Det 1; 2 C-2A

Nov 07 - Jun 08: CVW-3. 6th/5th. VFA-11; F/A-18F, VFA-32; F/A-18F, VFA-37; F/A-18C(N), VFA-105; F/A-18E, VAW-126; E-2C-2000, VAQ-130; EA-6B, HS-7; SH-60F/HH-60H, VRC-40 Det 5; C-2A

May 10 - Dec 10: CVW-3. 6th/5th. VFA-32; 12 F/A-18F, VFA-37; 10 F/A-18C(N), VFA-105; 12 F/A-18E, VMFA-312; 11 F/A-18C(N), VAW-126; 4 E-2C-2000, VAQ-130; 4 EA-6B, HS-7; 4 SH-60F, 3 HH-60H, VRC-40 Det 4; 2 C-2A

Jul 13 - Apr 14: CVW-3. 6th/5th. VFA-32; 12 F/A-18F, VFA-37; 10 F/A-18C(N), VFA-105; 12 F/A-18E, VMFA-312; 10 F/A-18C(N), VAW-126; 4 E-2C, VAQ-130; 5 EA-6B, HSC-7; 8 MH-60S, HSM-74; 9 MH-60R, VRC-40 Det 4; 2 C-2A

Nov 15 - Jul 16: CVW-7 6th/5th. VFA-25; F/A-18E, VFA-83; F/A-18C(N), VFA-103; F/A-18F, VFA-143; F/A-18E, VAW-117; E-2C-2000, VAQ-140; EA-18G, HSC-5; MH-60S, HSM-72; MH-60R, VRC-30 Det 3, C-2A
 Apr 18 - Jul 18: CVW-7 6th. VFA-11; F/A-18F, VFA-81; F/A-18E, VFA-136; F/A-18E, VFA-211; F/A-18F, VAW-126; E-2D, VAQ-137; EA-18G, HSC-11; MH-60S, HSM-72; MH-60R, VRC-40 Det 1; C-2A
 Aug 18 - Dec 18: CVW-7 2nd/6th. VFA-11; F/A-18F, VFA-81; F/A-18E, VFA-136; F/A-18E, VFA-211; F/A-18F, VAW-126; E-2D, VAQ-137; EA-18G, HSC-11; MH-60S, HSM-72; MH-60R, VRC-40 Det 1, C-2A
 Nov 19 - Jun 20: CVW-1 5th/6th. VFA-11; F/A-18F, VFA-81; F/A-18E, VFA-136; F/A-18E, VFA-211; F/A-18F, VAW-126; E-2D, VAQ-137; EA-18G, HSC-11; MH-60S, HSM-72; MH-60R, VRC-40 Det 1, C-2A
 Jul 20 - May 21: Refit.

CVN-76 Ronald Reagan

Jul 03: Commissioned

Jan 06 - Jul 06: CVW-14. 7th/5th. VFA-22; F/A-18E, VFA-25; F/A-18C(N), VFA-113; F/A-18E, VAW-113; E-2C-2000, VAQ-139; EA-6B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 Jan 07 - Apr 07: CVW-14. 7th. VFA-22; F/A-18E, VFA-25; F/A-18C(N), VFA-113; F/A-18E, VAW-113; E-2C-2000, VAQ-139; EA-6B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 May 08 - Nov 08: CVW-14. 7th/5th. VFA-22; F/A-18F, VFA-25; F/A-18C(N), VFA-113; F/A-18E, VAW-113; E-2C-2000, VAQ-139; EA-6B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 May 09 - Oct 09: CVW-14. 7th/5th. VFA-22; F/A-18F, VFA-25; F/A-18C(N), VFA-113; F/A-18E, VAW-113; E-2C-2000, VAQ-139; EA-6B, HS-4; SH-60F/HH-60H, VRC-30 Det 1; C-2A
 Feb 11 - Sep 11: CVW-14. 7th/5th. VFA-146; 15 F/A-18C, VFA-147; 13 F/A-18E, VFA-154; 12 F/A-18F, VMFA-323; 11 F/A-18C(N), VAW-113; 4 E-2C-2000, VAQ-139; 4 EA-6B, HS-4; 5 SH-60F, 3 HH-60H, VRC-30 Det 1; 2 C-2A
 Oct 15 - Dec 15: CVW-5. 7th. VFA-27; 13 F/A-18E, VFA-102; 13 F/A-18F, VFA-115; 11 F/A-18E, VAW-115; 4 E-2C-2000, VAQ-141; 6 EA-18G, HSC-2
 HSC-12; 10 MH-60S, HSM-77; 8 MH-60R, VRC-30 Det 5; 2 C-2A
 May 17 - Aug 17: CVW-5. 7th. VFA-27; 13 F/A-18E, VFA-102; 13 F/A-18F, VFA-115; 11 F/A-18E, VAW-125; 4 E-2C-2000, VAQ-141; 6 EA-18G, HSC-2; 10 MH-60S, HSM-77; 8 MH-60R, VRC-30 Det 5; 3 C-2A
 Sep - Dec 17, May - Jul 18, Aug - Dec 18, May - Aug 19, Sep - Nov 19, May - Nov 20, May 21 on: CVW-5. 7th. VFA-27; F/A-18E, VFA-102; F/A-18F, VFA-115; F/A-18E, VFA-195; F/A-18E, VAW-125; E-2D, VAQ-141; EA-18G, HSC-2; MH-60S, HSM-77; MH-60R, VRC-30 Det 5; C-2A

CVN-77 George H. W. Bush

Jan 09: Commissioned

May 11 - Dec 11: CVW-8. 2nd/6th/5th. VFA-31; F/A-18E, VFA-213; F/A-18F, VFA-15; F/A-18C(N), VFA-87; F/A-18A+, VAW-124; E-2C, VAQ-141; EA-18G, HSM-70; MH-60R, HSC-9; MH-60S, VRC-40 Det 1; C-2A
 Feb 14 - Nov 14: CVW-8. 2nd/6th/5th. VFA-31; F/A-18E, VFA-213; F/A-18F, VFA-15; F/A-18C(N), VFA-87; F/A-18C(N), VAW-124; E-2C, VAQ-134; EA-18G, HSM-70; MH-60E, HSC-9; MH-60S, VRC-40 Det 2; C-2A
 Jan 17 - Aug 17: CVW-8. 6th/5th. VFA-31; F/A-18E, VFA-213; F/A-18F, VFA-37; F/A-18C(N), VFA-87; F/A-18E, VAW-124; E-2C, VAQ-131; EA-18G, HSM-70; MH-60R, HSC-9; MH-60S, VRC-40 Det 1, C-2A
 Feb 19: Enters refit

LPH-2 Iwo Jima

Apr 62 - Aug 62: 7th
 Aug 63 - Apr 64: 7th
 Apr 65 - Nov 65: 7th. HMM-163; UH-34D
 Jul 66 - Apr 67: 7th
 Oct 67 - Jun 68: 7th. HMM-361; UH-34D
 Jan 68 - May 68: 7th. HMM-363; UH-34D
 Jun 69 - Jun 69: 7th. HMM-265; CH-46
 Feb 73 - Feb 73: 7th. HMM-164; CH-53, CH-46, UH-1

LPH-3 Okinawa	
Oct 62 - Dec 62: CMC. HMM-264; 24 UH-34D	
Mar 67- Dec 67: 7th. HMM-163; UH-34D	
Jun 68 - Aug 68: 7th. HMM-362; UH-34D	
Oct 68 - Oct 68: 7th. HMM-363; UH-34D	
Oct 68 - Mar 69: 7th. HMM-362; UH-34D	
Mar 72 - Jun 72: 7th. HMM-164; CH-46, CH-53, UH-1E	
LPH-7 Guadalcanal	
Feb 64 - May 64: 2nd	
Aug 67 - Dec 67: 2nd	
LPH-9 Guam	
Nov 65 - Mar 66: 2nd	
Nov 66 - Apr 67: 2nd	
LPH-10 Tripoli	
May 67 - Dec 67: 7th. HMM-265; CH-46, HMM-262; CH-46	
Jul 68 - Dec 68: 7th. HMM-265; CH-46	
Dec 68 - Jun 69: 7th. HMM-164; CH-46	
1971: Tripoli; HMM-165; 6 CH-53D/12 CH-36D/4 UH-1E. Indo-Pak	
Apr 72 - Jun 72: 7th. HMM-165; CH-46, CH-53, UH-1E	
LPH-11 New Orleans	
LPH-12 Inchon	
LHA-1 Tarawa	
Mar 79 - Sep 79: 7th. HMM-262; 4 CH-53D/8 CH-46F/1 UH-1N, HMH-463; HMA-169; VMA-231	
LHA-2 Saipan	
Jul 1979: Nicaragua	
LHA-3 Belleau Wood	
LHA-4 Nassau	
LHA-5 Peleliu	
Oct 1979: Nassau; Cuba (not fully qualified)	
LHA-6 America	
• Typical: 12 MV-22B, 10 F-35B, 4 CH-53E/K, 4 AH-1Z, 4 UH-1Y, 4 MH-60S	
• As CVL: 20 F-35B, 4 MH-60S	
LHA-7 Tripoli	
LHA-8 Bougainville	

LHD-1 Wasp

Jun 91 - Dec 91: 6th/5th. HMM-162; VMM-233
Jan 93 - Sep 93: 6th/5th. HMM-263
Aug 95 - Feb 96: 6th. HMM-264; VMA-231
Feb 98 - Jul 98: 6th. HMM-264; HML/A-267; VMA-231
Feb 00 - Aug 00: 6th. HMM-263; HML/A-269; VMA-542
Feb 02 - Aug 02: 6th/5th. HMM-261; HML/A-167; VMA-542
Feb 04 - Sep 04: 6th/5th. HMM-266; VMA-542; HC-8
Jun 16 - Dec 16: 6th/5th. VMM-264; HML/A-467; VMA-542; HSC-22
Aug 18 - Oct 18: 7th. VMM-262; VMFA-121; HSC-25
Jan 19 - Apr 19: 7th. VMM-262; VMM-268; VMFA-121; HSC-25
May 19 - Aug 19: 7th. VMM-265; VMFA-121; HSC-25

LHD-2 Essex

Oct 94 - Apr 95: 7th/5th. HMM-161
Oct 96 - Apr 97: 7th/5th. HMM-166
Jun 98 - Dec 98: 7th/5th. HMM-163
Feb 03 - May 03: 7th. HMM-262
Aug 03 - Nov 03: 7th. HMM-262
Mar 04 - Jun 04: 7th. HMM-265
Aug 04 - Apr 05: 7th/5th. HMM-262; HMM-265; HM-15; HSC-25
Jan 06 - Jun 06: 7th. HMM-262
Jan 07 - Apr 06: 7th. HMM-265; VMA-214
Jan 08 - Jun 08: 7th. HMM-265; VMA-513; HSC-25
Sep 08 - Dec 08: 7th. HMM-262; HMM-265; VMA-233
Jan 09 - May 09: 7th. HMM-262; VMA-211
Jun 09 - Aug 09: 7th. HMM-262; VMA-211
Jan 10 - Mar 10: 7th. HMM-265; VMA-311; HSC-25
Sep 10 - Dec 10: 7th. HMM-262; VMA-542
Jan 11 - Apr 11: 7th. HMM-262; VMA-211; VMA-542; HSC-25
Sep 11 - Dec 11: 7th. HMM-265; VMA-214; HSC-25
Feb 12 - Apr 12: 7th. HMM-265; VMA-311; HSC-25
May 15 - Dec 15: 7th/5th. VMM-161; VMA-311; HSC-21
Jul 18 - Mar 19: 7th/5th. VMM-166; HML/A-469; VMFA-211; HSC-21

LHD-3 Kearsarge

Mar 95 - Sep 95: 6th/5th. HMM-263; HML/A-464; VMA-231
Mar 95 - Sep 95: 2nd/6th. HMM-261; HML/A-167; VMA-233
Apr 99 - Oct 99: 6th. HMM-365; HML/A-269; VMA-231
Apr 01 - Oct 01: 6th. HMM-266; HML/A-167
Jan 03 - Jul 03: 6th/5th. HMM-162; HMM-365; HML/A-269; VMA-233; VMA-542; HC-8
Jun 04 - Aug 04: 6th/5th. HMM-263; HC-8
Mar 05 - Sep 05: 6th/5th. HMM-162; HML/A-464; HML/A-269; VMA-231; HC-28
Jul 07 - Feb 08: 6th/5th. HMM-261; HML/A-269; VMA-223; HSC-22
Aug 10 - May 11: 6th/5th. VMM-266; VMA-542; HSC-22
Mar 13 - Nov 13: 6th/5th. VMM-266; VMA-231; HSC-28
Oct 15 - May 16: 6th/5th. VMM-162; VMA-233; HSC-28

Dec 18 - Jul 19: 6th/5th. VMM-264; VMA-231; HSC-26	
LHD-4 Boxer	
Mar 97 - Sep 97: 7th/5th. HMM-161; HMH-361; HML/A-267; VMA-513	
Dec 98 - Jun 99: 7th/5th. HMM-364; HMH-361; HML/A-267; VMA-214; HC-11	
Mar 01 - Sep 01: 7th/5th. HMM-268; HMH-361; HML/A-267	
Jan 03 - Jul 03: 7th/5th. HMM-165; HMM-268; HMH-465; HML/A-169; HML/A-267; VMA-211; VMA-311	
Jan 04 - Apr 04: 7th/5th. HMH-466; HC-11	
Apr 05 - Sep 06: 7th. HSC-25	
Sep 06 - May 07: 7th/5th. HMM-165; HMH-465; HML/A-267; VMA-311	
Jan 09 - Aug 09: 7th/5th. HMM-163; HMH-466; HML/A-267; VMA-214; HSC-21	
Feb 11 - Sep 11: 7th/5th. HMM-163; VMA-211; HSC-23	
Aug 13 - Apr 14: 7th/5th. VMM-166; VMA-214; HSC-21	
Feb 16 - Sep 16: 7th/5th. VMM-166; HMH-465; VMA-214; HSC-23	
LHD-5 Bataan	
Sep 99 - Mar 00: 6th. HMH-261; HMH-461; HML/A-167; VMA-233	
Sep 01 - Apr 02: 6th/5th. HMM-365; HMH-464; HML/A-269; VMA-233; HC-6	
Jan 03 - Jun 03: 6th/5th. HMM-162; HMM-365; HMH-464; HML/A-269; VMA-233; VMA-542	
Jan 04 - Mar 04: 6th/5th. HMM-162; HML/A-167; VMA-542; HC-6	
Jan 07 - Jul 07: 6th/5th. HMM-264	
May 09 - Dec 09: 6th/5th. VMM-263; HSC-22	
Mar 11 - Feb 12: 6th/5th. VMM-263; HMH-366; HML/A-167; VMA-231; HSC-28	
Feb 14 - Oct 14: 6th/5th. VMM-263; VMA-223; HSC-22	
Mar 17 - Sep 17: 6th/5th. VMM-365; HMH-461; VMA-223; HSC-26	
LHD-6 Bonhomme Richard	
Jan 00 - Jul 00: 7th/5th. HMM-166	
Dec 01 - Jun 02: 7th/5th. HMM-165	
Jan 03 - Jul 03: 7th/5th. HMM-165; HMM-268; HMH-465; HMLA-169; HMLA-267; VMA-311; VMA-211	
Dec 04 - Jun 05: 7th/5th. HMM-165	
Apr 07 - Nov 07: 7th/5th. HMM-163; HMH-466; HML/A-267; VMA-513; HSC-23	
Sep 09 - Apr 10: 7th/5th. HMM-166	
Aug 12 - Dec 12: 7th. HMM-262; VMA-542; HSC-25	
Jan 13 - Mar 13: 7th. HMM-262; VMA-513; HSC-25	
Jun 13 - Sep 13: 7th. HMM-265; HMH-722; HML/A-369; VMA-513; HSC-25	
Feb 14 - May 14: 7th. VMM-265; HMH-722; HML/A-469; VMA-223; HSC-25	
Jan 15 - Apr 15: 7th. VMM-262; VMA-231; HSC-25	
Jun 15 - Sep 15: 7th. VMM-265; VMA-311; HSC-25	
Jan 16 - Mar 16: 7th. VMM-265; VMA-214; HSC-25	
Aug 16 - Nov 16: 7th. VMM-262; VMA-542; HSC-25	
Feb 17 - Apr 17: 7th. VMM-262; VMA-311; HSC-25	
Jun 17 - Sep 17: 7th. VMM-265; VMA-311; HSC-25	
Jan 18 - Apr 18: 7th. VMM-262; HMH-466, HML/A-369; HSC-22	

LHD-7 Iwo Jima
Mar 03 - Oct 03: 6th/5th. HMM-264
Jun 06 - Dec 06: 6th/5th. HMM-365
Aug 08 - Mar 09: 6th/5th. HMM-264; HSC-26
Jul 10 - Nov 10: 2nd. HMM-774
Mar 12 - Dec 12: 6th/5th. VMM-261; VMA-542; HSC-22
Dec 14 - Jul 15: 6th/5th. VMM-365; VMA-231; HSC-28
Feb 18 - Aug 18: 6th/5th. VMM-162; VMA-542; HSC-28

LHD-8 Makin Island
Oct 09: Commissioned
Nov 11 - Jun 12: 7th/5th. HMM-268; AV-8B, HMH-461; HMLA-367; AH-1Z, VMA-214; HSC-23
Jul 14 - Feb 15: 7th/5th. VMM-163; MV-22B, VMA-211; HSC-23
Oct 16 - May 17: 7th/5th. VMM-163; MV-22B, HMLA-369; VMA-311; HSC-21.

Annex W Environment

The weather, lighting conditions, and sonar conditions may be specified by a scenario, agreed on by both players, or randomly generated. The parts of a complete environment description are: The time of day, sea state, wind direction, clouds, visibility, and sonar conditions.

Time of Day

Time is recorded using the 24-hour military clock: midnight is 0000 or 2400 hours; noon is 1200 hours; 7:30 PM is 1930 hours. Noon is 1200 hours. 1959 hours (7:59 PM) is followed by 2000 hours.

Generate a random time of day by using D6 rolls. First roll for the quarter of the day, rerolling a 5 or 6. Then roll again, adding that number to the value for the quarter in parentheses. This is the hour of the day in military time.

RANDOM TIME GENERATION

Die Roll	Quarter
1	First (0)
2	Second (6)
3	Third (12)
4	Fourth (18)
5	Reroll
6	Reroll

Sea State & Wind Speed

Sea State is a standard method of describing wave height. The table below provides a method for determining wave height. Sea state can affect gunnery, flight operations, or other naval evolutions.

RANDOM SEA STATE & WIND

D100 Roll	Height of Seas (ft)	Wind (kts)	Beaufort Scale	Sea State	Description
01-05	Dead Calm	0	0 & 1	0	Glassy
06-10	0	5	2	1	Rippled
11-20	2	10	3	2	Wavelets
21-40	4	15	4	3	Slight
41-60	6	20	5	4	Moderate
61-85	9.5	25	6	5	Rough
86-90	13.5	30	7	6	Very Rough
91-92	18	40	8	6	Very Rough
93-94	23	45	9	6	Very Rough
95-96	29	50	10	7	High Seas
97-98	37	60	11	8	Very High Seas
99-00	45	65+	12	9	Phenomenal

Wind Direction

Wind direction is given as a number in degrees ranging from 000 to 359, usually stated in relation to true north. This is the direction the wind is blowing from. A wind from 000°T means that the wind is blowing directly north to south.

Generate the wind randomly by rolling D6 and subtracting one. Multiply the remainder times sixty, then add D6 times ten to this result. For example, if the two D6 rolls are 3, then 5, the direction is $((3-1)*60)+(5*10) = 120+50 = 170^{\circ}\text{T}$.

Cloud Generation

- 1) Roll D6 for the number of cloud layers. If the scenario starts after 1200 and before 2400, add one to the die roll.

1-2	No Clouds
3-5	One Layer
6	Two Layers

- 2) Roll for the altitude band of each layer

1	Low	(0-2000 m)	Starts at 1000 m alt
2-4	Medium	(2001-7500)	Starts at (D6+1)*1000 m
5-6	High	(7501-13500)	Starts at (D6+6)*1000 m

3) Roll for the thickness of each layer, then for the coverage of the layer

		Scattered	Intermittent	Broken	Overcast
1-3	1,000 meters	1-4	5-7	8-9	0
4	2,000 meters	1-3	4-6	7-8	9-0
5	4,000 meters	1	2-3	4-7	8-0
6	10,000 meters - -	1-4	6-0		

If the thickness exceeds the thickness of the altitude band, it joins the next altitude band.

Scattered clouds block 25% of the visual LOS, Intermittent block 50%, Broken block 75%, and Overcast completely block line of sight.

Visibility

This describes the distance at which objects can be seen. With 100% visibility, objects can be seen at maximum possible distance, but haze, smoke, fog, or precipitation can reduce the value. Roll randomly on the following table to find out the visibility.

RANDOM VISIBILITY TABLE

<i>Die Roll</i> <i>D100</i>	<i>%</i> <i>Visibility</i>	<i>Clear</i> <i>Day</i>	<i>Clear</i> <i>Night</i>	<i>Day</i> <i>Precip</i>	<i>Night</i> <i>Precip</i>
01-02	100	Unlimited			
03-05	90	Unlimited			
06-10	80	V Clear			
11-20	70	V Clear			
21-35	60	Clear			
36-50	50	Clear	Full Moon		
51-65	40	Clear	Gibbous		
66-80	30	Lt Haze	Quarter	Misty	
81-90	20	Hazy	Crescent	Light	
91-95	10	Lt Fog	New Moon	Interm	Misty
96-98	5	Thick Fog	Lt Fog	Heavy	Light
99-00	2	Dense Fog	Thick Fog		Interm-Hvy

Sonar Conditions

Sonar detection ranges are affected by the water's temperature, precipitation, and other factors. The listed range may be either decreased or increased. Randomly determine the sonar range multiplier by rolling 7+D6 and multiplying it times 10%. This yields a factor between 80% and 130%. This applies equally to all sonars used by both sides in a game, since the water conditions affect both sides.

Annex Y - List of Ship Classifications

- G Suffix to a ship class indicating and area defense SAM of at least 10 nmi range (e.g. DDG, SSG, CG)
- N Suffix to a ship class designation indicating nuclear propulsion (e.g. SSN, CGN)

Combatants

Aviation Ships

- CV multi-purpose aircraft carrier
- CVA attack aircraft carrier
- CVH helicopter carrier
- CVL Light aircraft carrier
- CVN multi-purpose aircraft carrier (nuclear)
- CVS ASW aircraft carrier

Surface Combatants

- BB battleship
- BC battle cruiser
- BCGN guided missile battle cruiser (nuclear)
- CA heavy cruiser (gun)
- CG guided missile cruiser
- CGH guided missile helicopter carrier
- CGN guided missile cruiser (nuclear)
- DD destroyer
- DDG guided missile destroyer
- FF frigate
- FFG guided missile frigate
- FFL corvette (light frigate)

Submarines

- SS submarine
- SSA auxiliary submarine
- SSB ballistic missile submarine
- SSBN ballistic missile submarine (nuclear)
- SSC coastal submarine
- SSG guided missile submarine
- SSGN guided missile submarine (nuclear)
- SSM minisubmarine
- SSN submarine (nuclear)
- SSP submarine (air-Independent propulsion)

Patrol Combatants

- PG patrol gunboat
- PHM guided missile patrol combatant (hydrofoil)

Amphibious Warfare Type Ships

- LCC amphibious command ship
- LHA amphibious assault ship (general purpose)
- LHD amphibious assault ship (multi-purpose)
- LKA amphibious cargo ship
- LPA amphibious transport
- LPD amphibious transport dock
- LPH amphibious assault ship (helicopter)
- LSD dock landing ship

- LSL Landing ship, logistic
- LST tank landing ship

Combat Logistics Ships

- AE ammunition ship
- AEFS fleet replenishment ship
- AF store ship
- AFS combat store ship
- AO oiler
- AOF(L) large fleet tanker
- AOF(S) small fleet tanker
- AOE fast combat support ship
- AOR replenishment oiler
- AOS Support tanker

Mine Warfare Ships

- MCS mine countermeasures support ship
- MHC mine hunter, coastal
- MHS mine hunting ship
- MM Minelayer
- MSB minesweeping boat
- MSD minesweeping drone
- MSF fleet minesweeper
- MSI inshore minesweeper
- MSS specialized minesweeper

Patrol Craft

- ATC mini-armored troop carrier
- PB patrol boat
- PC coastal patrol craft
- PBR river patrol craft
- PCF patrol craft (fast patrol combatant)
- PG river monitor
- PS large patrol ship
- PT torpedo boat
- PTG guided missile patrol craft

Amphibious Warfare Ships and Craft

- LCUA landing craft, air cushion
- LCFS fire support landing craft
- LCM medium landing craft
- LCP personnel landing craft
- LCU utility landing craft
- LCVP vehicle/personnel landing craft
- LKA amphibious cargo ship
- LPA amphibious transport
- LPD dock landing ship
- LSDV swimmer delivery vehicle
- LSM medium landing ship
- LSSC light SEAL support craft
- LST tank landing ship
- LWT amphibious warping tug
- MSSC medium SEAL support craft
- SLWT side loading warping tug
- SWCL special warfare craft, light

Annex Y - List of Ship Classifications

SWCM special warfare craft, medium

HSS Helicopter support ship

Auxiliaries

Mobile Logistics Ships

AD destroyer tender
 AE ammunition ship
 AF stores ship
 AR repair ship
 AO oiler
 AOR replenishment oiler
 AW water tanker

Support Type Ships

ACS auxiliary crane ship
 AEM missile tender
 AFT transport stores ship
 AG miscellaneous auxiliary
 AGB icebreaker
 AGE experimental auxiliary
 AG/FF frigate/FAC support ship
 AGDS deep submergence support ship
 AGF miscellaneous command ship
 AGP patrol craft tender
 AGM missile range instrumentation ship
 AGOR oceanographic research ship
 AGOS ocean surveillance ship
 AGS surveying ship
 AGSS auxiliary research submarine
 AH hospital ship
 AK cargo ship
 AKR vehicle cargo ship
 AOG gasoline tanker
 AOT transport oiler
 AP transport
 APA Amphibious transport
 AR repair ship
 ARR nuclear propulsion repair ship
 ARC cable repairing ship
 ARL repair ship, small
 ARS salvage ship
 AS submarine tender
 ASR submarine rescue ship
 ATA ocean tug
 ATF fleet ocean tug
 ATS salvage and rescue ship
 AVB aviation logistic support ship
 AVM guided missile ship

 AVT auxiliary aircraft landing training ship

Support Craft/Service Craft

Tugs (self-propelled)

YTB large harbor tug
 YTL small harbor tug
 YTM medium harbor tug

Tankers (self-propelled)

YO fuel oil barge
 YOG gasoline barge
 YW water barge

Lighters and Barges (self-propelled)

YF covered lighter
 YFU harbor utility cart

(non-self-propelled)

YC open car lighter
 YCF car float
 YCV aircraft transportation lighter
 YFN covered lighter
 YFNB large covered lighter
 YFNX lighter (special-purpose)
 YFRN refrigerated covered lighter
 YFRT range tender
 YGN garbage lighter
 YON gasoline barge
 YOS oil storage barge
 YSR sludge removal barge
 YWN water barge

Other Craft (self-propelled)

DSRV deep submergence rescue vehicle
 DSV deep submergence vehicle
 NR submersible research vehicle (nuclear propelled)
 YAG miscellaneous auxiliary service craft
 YFB ferry boat or launch
 YTT torpedo trials craft
 YM dredge
 YP patrol craft, training

Unclassified Miscellaneous

IX unclassified miscellaneous unit

Annex Z - Conversion Factors & Scales

One Tactical Turn equals 3 minutes.

One Intermediate Turn equals 30 minutes, or 10 tactical turns.

Speed in knots/120 = nautical miles covered in one Incremental Move Phase.

Speed in knots/20 = nautical miles covered in one Tactical turn.

Speed in knots/2 = nautical miles covered in one Intermediate turn.

A ship's damage points are based on its standard displacement (submerged displacement for subs).

Sometimes a ship's displacement is not provided as a standard displacement.

Multiply GRT by 75%, to approximate standard displacement.

Multiply full load (fl) displacements by .85 to approximate standard displacement.

Multiply lightship (ltsph) displacements by 1.13 to approximate standard displacement.

$DP = 0.177 \times (\text{Displ})^{0.80}$ (2006 Standard)

$DP = .85 \times (\text{Displ})^{0.667}$ (2012 Standard)

Merchant/civilian ships (minimal DC fittings, large cargo holds, no transverse bulkheads): -50%

Merchants converted to warships (involving reconstruction): -35%

Warships built to mercantile standards (implying less watertight compartmentalization and lower shock criteria):

laid down before 1990: -25%

laid down 1990 and after: -15%

Materials other than steel used in a large part of the ship's construction:

Titanium: +15%

GRP: -10%

Aluminum superstructure: -15%

Aluminum hull & superstructure: -25%

Wood: -25%

Submarines (less reserve buoyancy): -50%

Hovercraft/SES: -30%

Multihull (catamaran, trimaran, SWATH) -25%

Supertankers: -75%

National modifier: -10%

Fleet Auxiliary or Amphibious ship or Minelayer (cargo holds): -25%

Laid down before 1925: -15%

Special damage modifiers listed in the remarks have already been factored into the damage point value.

The damage point/speed levels are computed at 25, 50, 75, 90, and 100 percent of total damage.

Trilogy Ship Size classes:

Size Class	Signature	Displacement
A	Large	18001+
B	Medium	5501 - 18000
C	Small	1501 - 5500
D	Small	351 - 1500
E	VSmall	101 - 350
F	VSmall	21 - 100
G	Stealthy	<= 20

Damage points from above water weapon impacts:

Blast energy = $0.6 \times W \times TE \times 4132$

Fragment Energy = $(1/2 \times \text{Fragment mass} \times \text{Composite velocity}^2)/1000$

Fragment mass = $m \times p$

where m is case weight (warhead weight - explosive filler weight)

where p is 90% for AP warheads, 70% for SAP warheads, 50% for HE warheads

Composite velocity = $2500 \times (1/(m/W + 0.5))$

Residual Mass Energy = $(1/2 \times .33 \times \text{Weapon weight} \times \text{impact velocity}^2)/1000$

Bombs, Shells = $0.5 \times (\text{Blast Energy} + \text{Fragment Energy})^{1/3}$

Missiles = $0.5 \times (\text{Blast Energy} + \text{Fragment Energy} + \text{Residual Mass Energy})^{1/3}$

Damage points from underwater weapon impacts:

Depth Charges and Influence Mines

$$\text{Severe} = .6 \times (W \times TE)^{1/2}$$

$$\text{Major} = .3 \times (W \times TE)^{1/2}$$

$$\text{Minor} = .15 \times (W \times TE)^{1/2}$$

$$\text{Contact Damage} = 12.1 \times (W \times TE)^{1/3}$$

$$\text{Influence Damage} = 7.6 \times (W \times TE)^{1/2}$$

W = warhead explosive filler weight in kilograms

TE = TNT equivalence factor

- Lightweight Torpedoes (e.g., UK Stingray) with directed-energy (shaped charge) warheads should use the equation for influence damage

Harpoon V AA Strengths are based on:

Gun AA Strength * number of barrels * number of mounts * Fire Control modifier * Ammunition modifier

The **Gun AA Strength** is found in Annex CThe **number of barrels** is per mount. Rotaries are entered as single barrelsThe **number of mounts** is not based on the total number on the ship, but on the number that can bear to either side.

Examples:

P/S(1)2 = 1, since a single mount fires to either side.

2F/P/S(1)4 = 3, since three can fire to either side.

F/A(1)2 = 2

These examples assume a single radar directing mounts. If the F/A(1)2 mounts had two radars, then the ship can engage two targets, and the number of mounts would be 1, and each would fire at half the total value. In the Annex A listing, the strength would be listed as "(2@nn.n)", since the player can take two shots.

General Rule: If the AA guns have overlapping arcs, then divide the guns between the available radars and use that for the number mounts. List the AA strength in Annex A as "(number of radars@mounts assigned to each radar)"

The **fire control** modifier is based on the combat system/gunnery standard:

<u>Combat System</u>	<u>Gun Std</u>	<u>FC Modifier*</u>
Gen 1 Manual	GS IV	1.50
Gen 2 Manual	GS V	1.75
Gen 3 Semi-Automatic	GS V	1.75
Gen 4 Semi-Automatic	GS VI	2.0
Gen 5 Automatic	GS VI	2.0
Gen 6 Automatic	GS VI	2.0
Local control (no radar)		0.5

The **ammunition modifier** allows for several different types:

Standard impact- or time-fuzed AA shells	1.0
Proximity-fuzed shells	2.0
Armor-Piercing Discarding Sabot	1.5
Guided shells	3.0
AHEAD or 3P ammunition	4.0

Autonomous mounts have an "A" suffix.

Mounts without a radar director have an "L" suffix, as well as the 0.5 modifier.

Armor Equivalents:

Here is a list of armor equivalents for other building materials in terms of Class B armor. In other words, the number presented is the amount of the material in centimeters that is required to equal one centimeter of Class B deck armor.

Material Thickness in cms	
Reinforced Concrete (3,000 psi)	18
Reinforced Concrete (5,000 psi)	15
Stone/Brick Masonry	20
Wood	45
Sand	70
Bare Soil	120
Soil with plants	80

You can combine different types of materials (sand on top of concrete for example) by adding up the equivalent armor ratings and multiplying by 0.85.

Example: Hardened bunker: 3 ft Reinforced concrete (5000 psi), with 5 ft of sand on top.

Reinforced concrete thickness = $(3 \times 12 \times 2.54) = 91.4$ cm

Reinforced concrete armor rating = $91.4/15 = 6.1$

Sand thickness = $(5 \times 12 \times 2.54) = 152.4$ cm

Sand armor rating = $152.4/70 = 2.2$

Bunker Armor Rating = $(6.1 + 2.2) \times 0.85 = 7.1$ or 7. If the combination results in an armor thickness less than the largest component (concrete in this example) than simply use that components armor rating as the structures armor rating. The other material is not thick enough to provide any additional protection.

Aircraft Damage Values:

$(\text{Empty Weight in kg}^{1/3}) \times (\text{Engine Factor}^{1/2}) \times \text{Construction Factor} \times \text{Armor Factor}$

Engine factor: The number of separate engines is multiplied by 1.0, podded engines are multiplied by 0.75, tandem engines are treated as a single engine.

Construction Factor

Wood and Fabric: 0.5

Mixed metal, wood, fabric construction: 0.65

Monocoque construction, no self-sealing tanks: 0.8

Helicopters: 0.8

Monocoque construction, with self-sealing tanks: 1.0

Armor Factor:

1.0: normal construction

1.1: Armored against 7.62mm fire

1.2: Armored against 12.7mm fire

Bibliography

- Alden, John D., *The Fleet Submarine in the U.S. Navy*, Naval Institute Press, 1979
- Breemer, Jan, *U.S. Naval Developments*, Nautical & Aviation Press, 1983
- Friedman, Norman
- Naval Radar, Naval Institute Press, 1981
 - U.S. Aircraft Carriers, *An Illustrated Design History*, Naval Institute Press, 1983
 - U.S. Battleships, *An Illustrated Design History*, Naval Institute Press, 1985
 - U.S. Cruisers, *An Illustrated Design History*, Naval Institute Press, 1989
 - U.S. Destroyers, *An Illustrated Design History*, Naval Institute Press, 1982
 - U.S. Destroyers, *An Illustrated Design History*, Revised Edition, Naval Institute Press, 2004
 - U.S. Submarines Since 1945, Naval Institute Press, 1994
 - U.S. Submarines Since 1945, Revised Edition, Naval Institute Press, 2018
 - U.S. Naval Weapons, Conway Maritime Press, 1983
 - World Naval Weapons Systems 5th edition, Naval Institute Press, 2006
- Faltum, Andrew, *The Essex Aircraft Carriers*, Nautical & Aviation Publishing Company, 1996
- Gardiner, Robert, ed. *Conway's All the Worlds Fighting Ships 1947-1995*, Conway Maritime Press, 1995
- Gibson, James N. *Nuclear Weapons of the United States*, Schiffer Military History, 1996
- Hanson, Chuck. *U.S. Nuclear Weapons, the Secret History*. Orion Books, 1988
- Kuzin, V.P. & Nikolskym V.I, *The Soviet navy 1945-1991*, Historical Naval Society, 1996
- Moore, Kenneth J. & Polmar, Norman, *Cold War Submarines*, Brassey's Inc, 2004
- Morison, Samuel L. and Rowe, John S., *Warships of the US Navy*, Jane's Publishing Company Limited. 1983
- Norris, Robert S. & Polmar, Norman, *The U.S. Nuclear Arsenal – A History of Weapons and Delivery Systems since 1945*, Naval Institute Press, 2009
- Polmar, Norman, *Chronology of the Cold War at Sea*, Naval Institute Press, 1998
- Polmar, Norman & Whitman, Edward, *Hunter and Killers Volume 2: Anti-Submarine Warfare from 1943*, Naval Institute Press, 2016
- Raven, Alan, *Essex-Class Carriers*, Naval Institute Press, 1988
- Refuto, George J., *Evolution of the US Sea-Based Nuclear Missile Deterrent: Warfighting Capabilities*, Xlibris Corporation, 2011
- Scarpaci, Wayne, *US Battleship Conversion Projects, 1942 - 1965*, Art by Wayne, 2013
- Spinardi, Graham, *From Polaris to Trident: the Development of US Fleet Ballistic Missile Technology*, Cambridge University Press. 1994
- Stille, Mark, *US Navy Cold War Guided Missile Cruisers*, Osprey Publishing, 2020
- Terzibaschitsch, Stefan,
- Aircraft Carriers of the US Navy. Mayflower Books Inc, 1980
 - Escort Carriers and Aviation Support Ships of the US Navy. The Rutledge Press, 1981

Book Series

- Combat Fleets of the World, A.D. Baker III, ed
- Jane's Fighting Ships, John W.R. Taylor, ed
- Ships and Aircraft of the US Fleet, various editors, Naval Institute Press
- World Naval Weapons Systems, by Norman Friedman
- Warship, Naval Institute Press
- Warships in Profile, Profile Publications
- Warships in Action series, Squadron/Signal Publications
- Warship On Deck series, Squadron/Signal Publications
- Weyer's Taschenbuch der Kriegsflotten (Weyer's Warships of the World), Werner Globke, ed
- World Naval Review. Seaforth Publishing

Periodicals

- Jane's Defence Weekly magazine
- US Naval Institute Proceedings

Websites

- Navypedia: navypedia.org
- Navsource Naval History: www.navsource.org -
- Navweaps: www.navweaps.com
- Unofficial US Navy Site – <https://www.navysite.de>
- USN Institute News - news.usni.org
- Wikipedia: en.wikipedia.org

Bibliography (continued)

For Annex R

Grossnick, Roy A. Dictionary of American Naval Aircraft Squadrons, Volume 1, The History of VA, VAH, VAK, VAL, VAP and VFA Squadrons, Naval Historical Center, 1995

www.history.navy.mil/content/dam/nhhc/research/publications/1910/Part5.pdf Allowances and Locations of Navy Aircraft, 1990-1988

www.history.navy.mil/research/histories/naval-aviation-history/allowances-andlocation/allowances-and-location-of-navy-aircraft--1980-1988.html

1991 - 2005 Deployments

www.history.navy.mil/research/histories/naval-aviation-history/carrier-air-wing-deployments.html

www.history.navy.mil/content/dam/nhhc/research/histories/naval-aviation/carrier-air-wingdeployments

1996 - 2005 Deployments

Unpublished database by Mike Weeks. A copy was obtained from Mr. Hill Goodspeed of the National Naval Aviation Museum in Pensacola Florida

Martin, Patrick. Hook Code, United States Navy and Marine Corps Aviation Tail Code Markings 1963-1994

US Government Publications

OPNAV NOTICE 03110. Allowances and Location of Navy Aircraft, Department of the Navy Office of the Chief of Naval Operations, various dates from 1959 to 1975