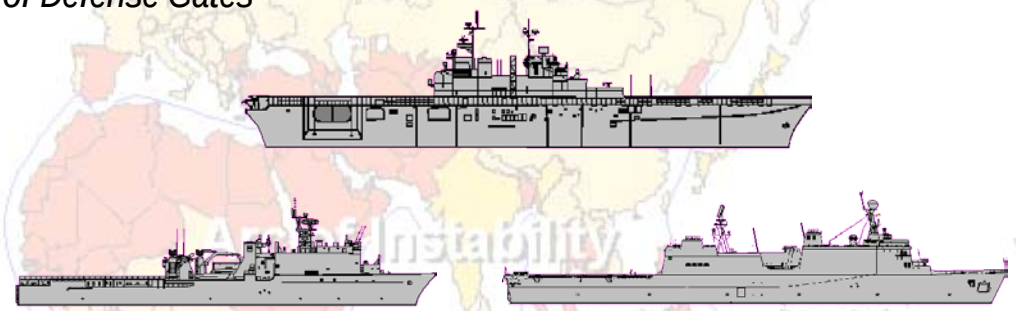
CAPT Ed Barfield, USN
OPNAV N853
Branch Head, Amphibious Warfare

Balanced Capability

"The future will be more complex, where all conflict will range along a broad spectrum of operations and lethality, where even near-peer competitors will use irregular or asymmetric tactics, and non-state actors may have weapons of mass destruction, mines, or sophisticated missiles." - Secretary of Defense Gates



Demand Exceeds Supply

Independent Deployer

Amphibious Readiness Group

Amphibious Task Force

Train/Advise/Assist

Relief Operations

Nation Building

Peace Enforcement

Show of Force

NEO

Act of Terrorism

COIN

Civil War

Limited War

Major Combat

Global War

Irregular Warfare

Frequency

Shaping/ Engagement/ Maritime Security (14-20 days)

Lesser Contingencies (21-28 days)

Major Contingency (40-45 days)

Peacetime and Crisis

Low Intensity Conflict

Mid-Intensity Conflict

High Intensity Conflict

Amphibious Combatant Evolution

ARG - Now

LHD/LHA

LPD 4 → LPD 17

LSD 41/49

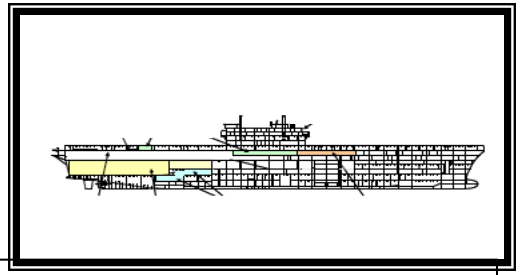
Enable Operational Maneuver From the Sea

Improved:

- **Capacity for Larger / Heavier Aircraft/Vehicles**
- **Self-Defense**
- **Survivability**
- **C4I**
- **Flexibility (Split ARG)**
- **QOL**

Enable Ship-to-Objective Maneuver

ARG - Future



LHD/LHA(R)→LHA(R) Flt 1?

LPD 17

LSD 41/49 → LPD 17 Flt 1?

Amphibious Combatant Recapitalization CBA

- **Capability-Based Assessment (CBA) considering**
  - LSD and LHD recapitalization
  - Projected USMC lift requirements (2020s timeframe)
  - USMC air/ground vehicles are becoming heavier/larger

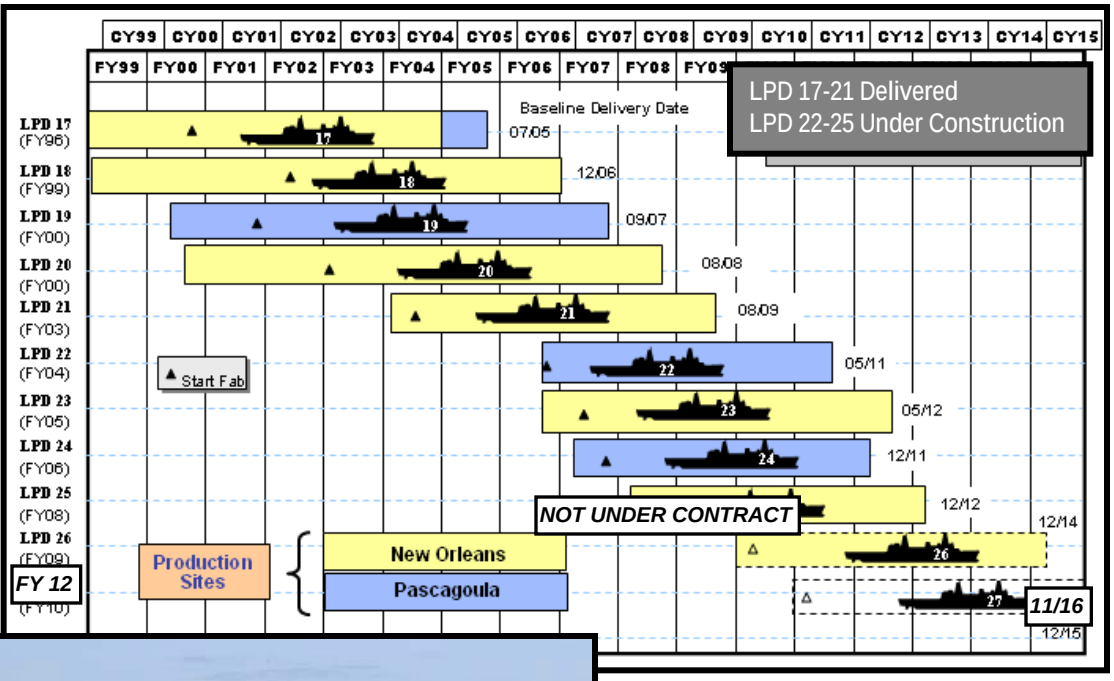
- **CBA studying Replacement options**
  - For LSD Recap
    - LPD 17 design (repeat or modified repeat)
    - New design (small--similar to LSD 41/49 size)
    - New design (large--carry 100% of lift requirement)
  - For LHD Recap
    - LHA(R) Flight 0 (existing LHA 6 design)
    - LHA(R) Flight 1 (with well deck)
    - New design (carry 100% of lift requirement)

- ***CBA will report to the Resource, Requirements Review Board in Jan 2010***
  - *Enable POM12 decision on options (repeat/mod repeat or new design)*

RECAPITALIZING TO PROVIDE MODERN, AFFORDABLE AMPHIB FLEET

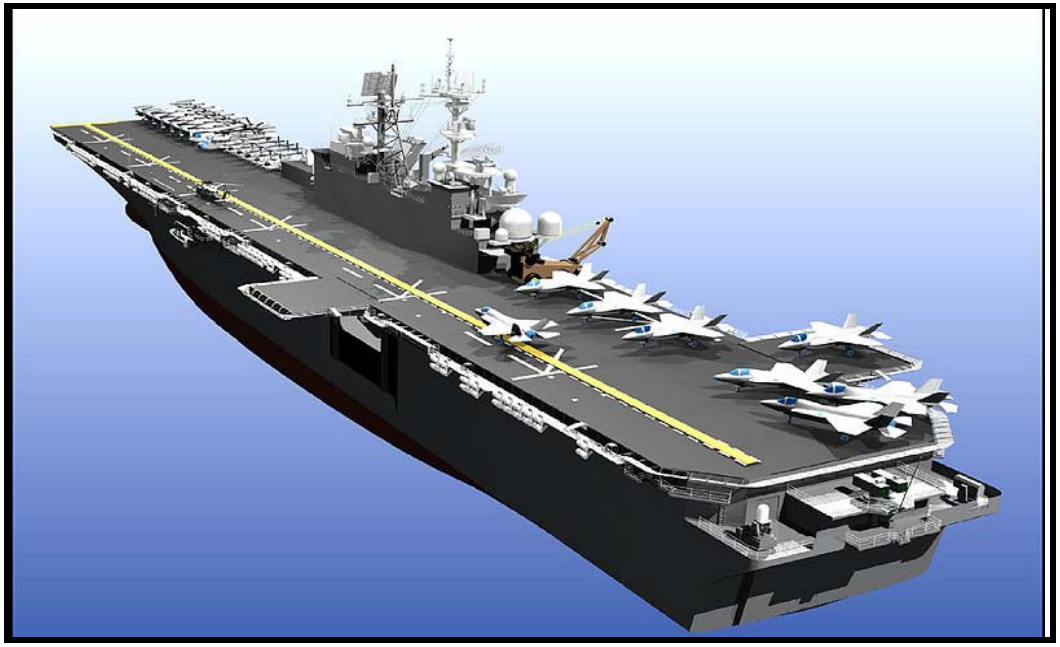
Major Program Update

LPD 17



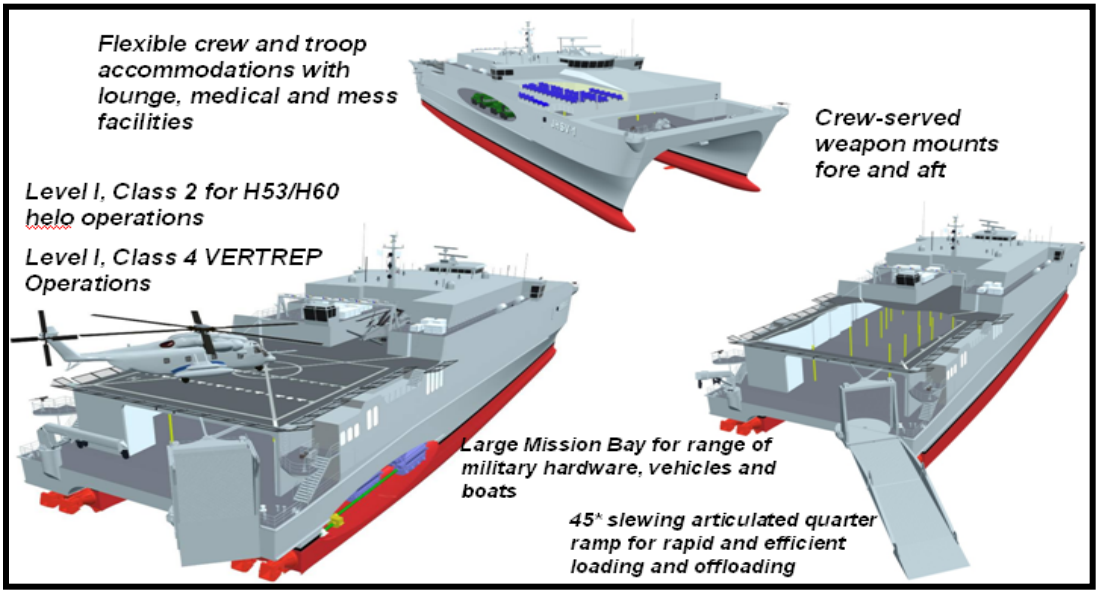
- LPD 17 class are flexible, multi-mission ships
- Functionally replaces LPD 4, LSD 36, LKA 113, and LST 1179 Ship classes
- LPD 17 missions include:
  - Forward Presence,
  - Deterrence,
  - Sea Control,
  - Power Projection,
  - Maritime Security
  - Humanitarian Assistance / Disaster Response

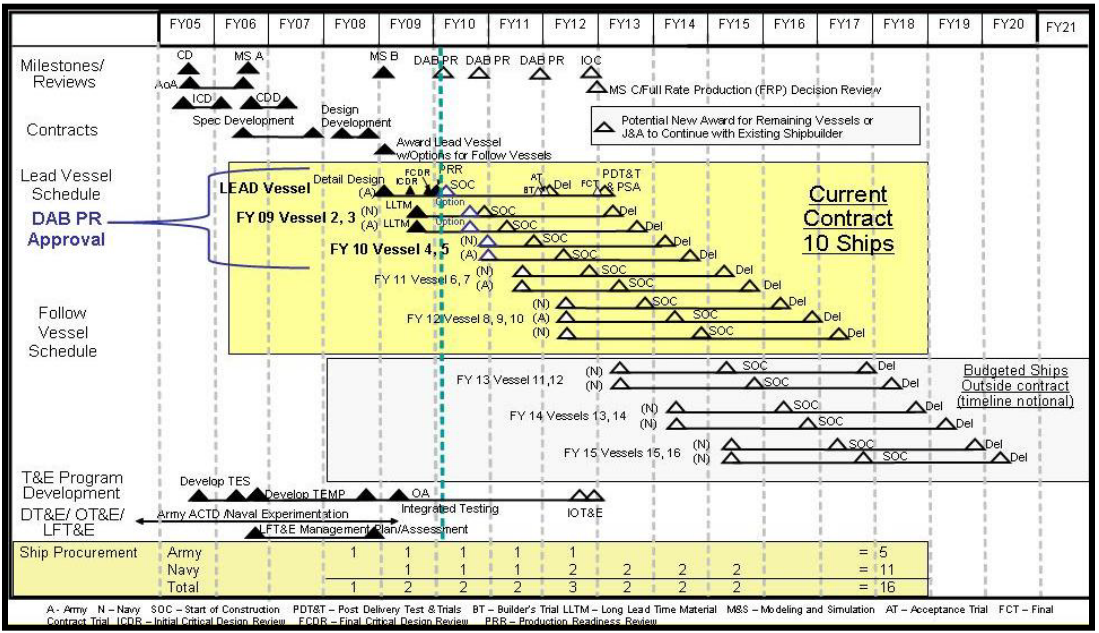
LHA 6



- LHA(6) provides flexible, multi-mission platforms
- LHA(R) is a modified LHD 8 design
- Increased aviation capacity to better accommodate JSF/MV-22
- Provide adequate weight and stability margins for 40 year service life

Joint High Speed Vessels (JSHV)





- Intra – theater lift and littoral maneuver
- Combines speed, range, and payload while providing shallow water/austere port access.
- Bridges the gap between rapid/low volume airlift (C-17/C-130) and slow/high volume sealift (LCU-2000/LSV)

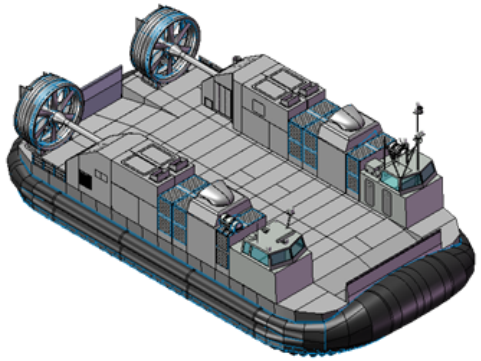
Ship to Shore Connector (SSC)

Mission: Land Surface Assault Elements of USMC from ship to shore

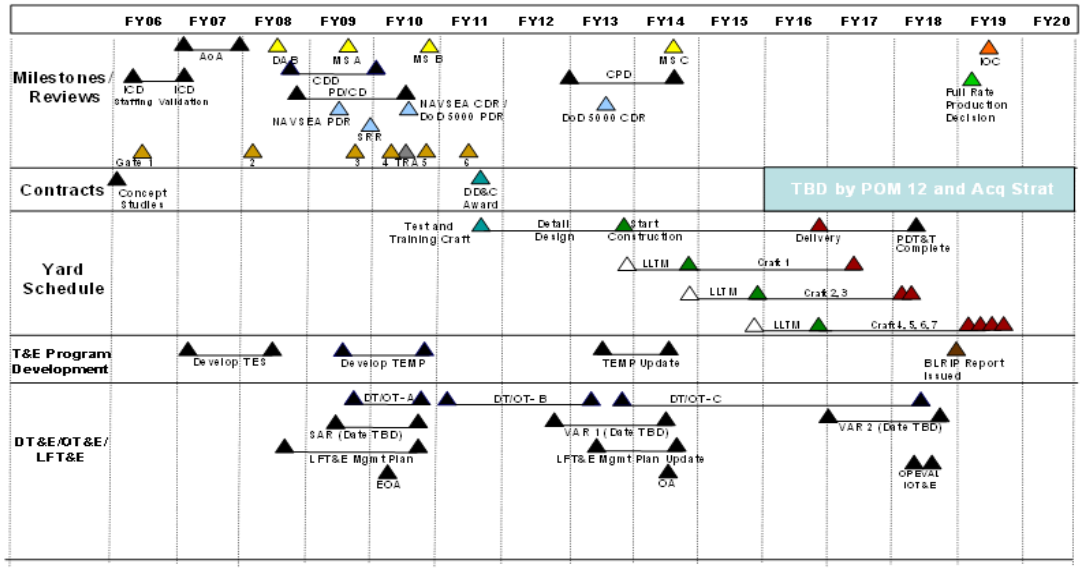
Description: Landing Craft Air Cushion (LCAC) replacement

Platforms: Air Cushion Vehicle; Same footprint as LCAC SLEP

Employment: Ship to shore surface connector in support of STOM and MPF(F)



Notional Schedule



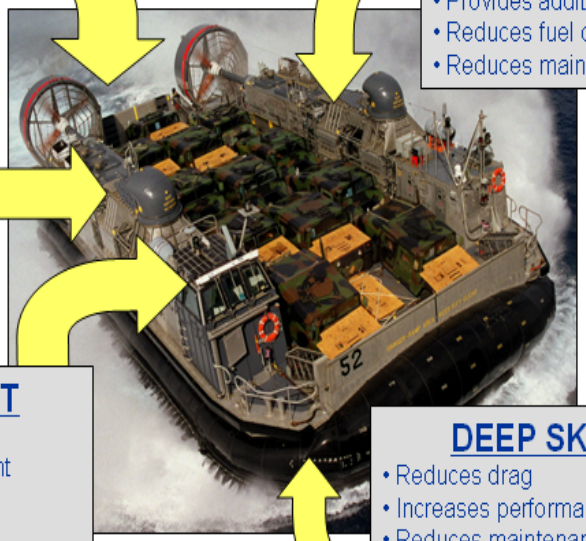
- Mission: conduct ship-to-shore movement in support of surface assault elements of the MAGTF
- LCAC replacement possesses same footprint as LCAC SLEP
- Draft formal requirements (CDD) and Key Performance Parameters in Joint Review

LCAC SLEP

BUOYANCY BOX
- New buoyancy box thru FY03
- Refurbishment of buoyancy box in FY04 and beyond

ENHANCED ENGINES
- Provides additional power
- Reduces fuel consumption
- Reduces maintenance

ROTATING MACHINERY REFURBISHMENT
- Extends useful life of equipment
- Reduces maintenance



C4N REPLACEMENT
- Introduces Open Architecture
- Introduces modern COTS equipment
- Provides precision navigation
- Provides Common Tactical Picture
- Provides Comm Suite interoperability

DEEP SKIRT
- Reduces drag
- Increases performance envelope
- Reduces maintenance
- Increases obstacle clearance

FY04 Recipient of the DoD Value Engineering Award

OCT 09: 24 of 72 SLEPs complete

- Preserves amphibious warfare triad (LCAC / EFV/MV-22)
- Allows execution of Operational Maneuver From The Sea (OMFTS) and Ship to Objective Maneuver (STOM)
- Defers requirement to fund next generation LCAC from FY00 to FY10
- *Challenges*
  - *COTS obsolescence, Technology Insertion*
  - *Growth work increasing due to the degraded condition of the craft entering SLEP availabilities*

LCU R

"No one craft can do it all."	LCAC (SLEP)	SSC	LCU
High Speed (>25 kts)	🟢	🟢	🔴
Beach landings in Assault Echelon	🟢	🟢	🟡
Access to world beaches	🟢	🟢	🟡
Dry-Well Operations	🟢	🟢	🔴
Heavy-Lift	75 ST*	75 ST*	147 ST
Platform for buoyant hose fuel systems	🟡	🟡	🟢
Beach landings in AFOE	🟢	🟢	🟢
Extended (10 day) Ops (SOF/Riverine)	🔴	🔴	🟢
Independent Operations	🔴	🔴	🟢
Afloat Forward Staging Base (small boats)	🔴	🔴	🟢
Peacetime port operations	🔴	🔴	🟢
Passenger (400 per craft) Ferry	🔴	🔴	🟢

** Limited by temp and sea state*

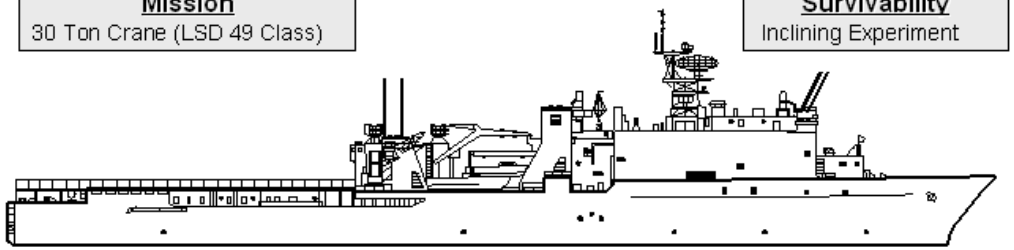
- AMW OAG has ranked this as a top five Fleet need over the last two years
- Current LCU 1600 craft have an average age of 38 years and suffer from obsolescence and increased maintenance costs
- Way Ahead
  - Initial Capability Document is required to proceed through Navy staffing
  - Brief to NCB in NOV 09 for approval to proceed to the CBA and ICD.

LSD MID LIFE

Ensure ships reach expected 40 year service life

Mission
30 Ton Crane (LSD 49 Class)

Survivability
Inclining Experiment

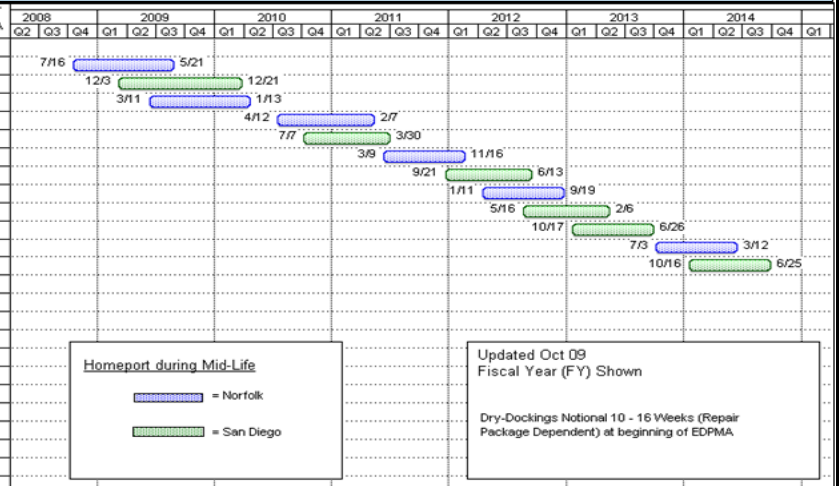


Technology Insertion
Advanced Engineering Control System (AECS)
- LAN
- Machinery Monitoring System (MCS)
- Steering Control System (SCS)
- On Board Trainer (OBT)
- DEXTER
- Electronic Gov Act (Digital Fuel Rack Control)

Hull Mechanical & Electrical
Fuel & Engine Maint Savings Sys (PLMU)
All Electric & Distribution Upgrade
Power Mgmt Platform (PMP)
Additional A/C Plant
CW Distribution Mods
SSDG Lube Oil Polisher
LPAC Replacement (LSD 41 Class)
Canned Lube Oil Pump (CLOP)

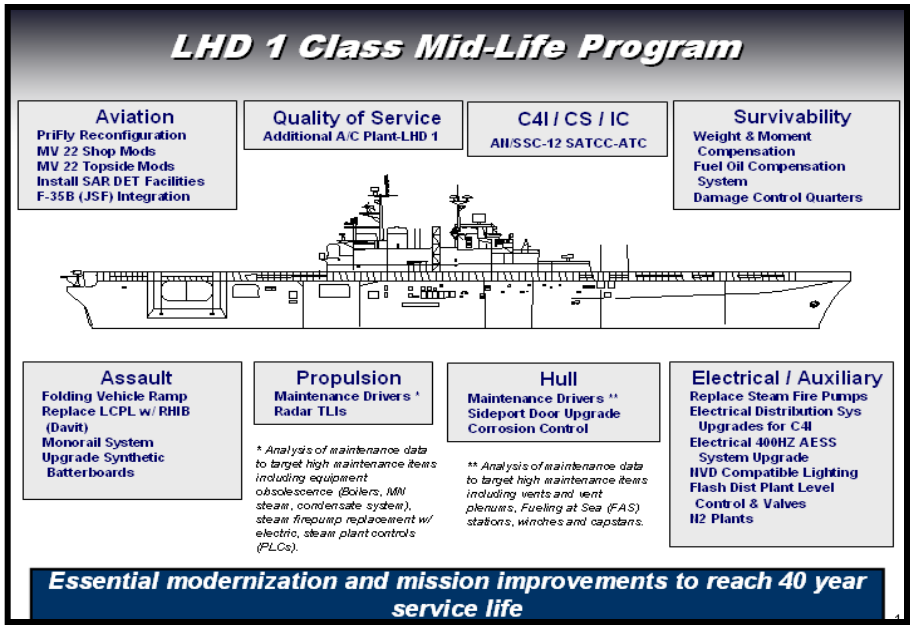
Installs Per FY: 1 - 2 - 2 - 2 - 2 - 2 - 1

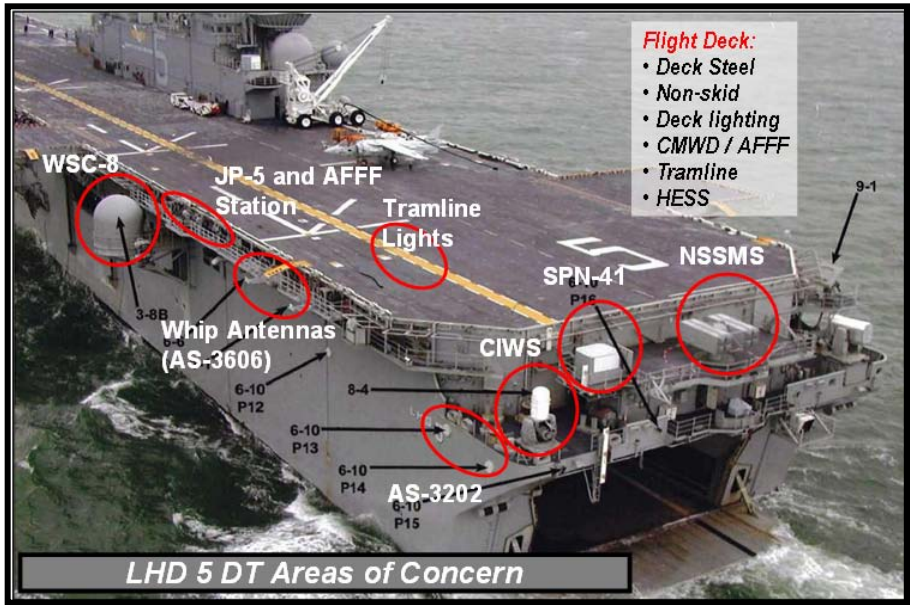
HULL	NAME	HOMEPORT FOR EDPMA
LSD-44	GUNSTON HALL	NORFOLK
LSD-42	GERMANTOWN	SAN DIEGO
LSD-41	WHIDBEY ISLAND	NORFOLK
LSD-43	FORT McHENRY	NORFOLK
LSD-47	RUSHMORE	SAN DIEGO
LSD-48	ASHLAND	NORFOLK
LSD-45	COMSTOCK	SAN DIEGO
LSD-51	OAK HILL	NORFOLK
LSD-49	HARPERS FERRY	SAN DIEGO
LSD-46	TORTUGA	SAN DIEGO
LSD-50	CARTER HALL	NORFOLK
LSD-52	PEARL HARBOR	SAN DIEGO



- Return ships to capable Fleet Asset status; able to meet amphibious mission requirements through 2038
- Objective is to
  - Improve declining material condition and readiness,
  - Replace obsolete equipment and
  - Reduce total ownership costs through technology insertion
- 1 of 12 LSD Mid-Life (GUNSTON HALL (Norfolk) completed May 2009)
- GERMANTOWN (San Diego) completes in DEC 2009 and WHIDBEY ISLAND (Norfolk) completes in Jan 2010

LHD MID LIFE & JSF INTEGRATION





- Essential modernization and mission improvements to reach 40 yr service life
- Nine identified ship changes required for JSF on LHDs funded with fielding plans in place
- Six cornerstone alterations – nine separate SCDs – identified
- Enabler ship alterations
  - MV 22 service and shop mods (hangar and stowage)
  - Fuel Oil Compensation (stability)
- JSF Integration
  - JSF External Environment mitigation pending technical analysis

Maritime Prepositioning Force Future (MPF (F))

Auxiliary Cargo and Ammunition Ship
MPF (F) T-AKE 3

Mobile Landing Platform
MPF (F) MLP 3

General Purpose Amphibious Assault Ship Replacement
MPF (F) LHA(R) 2

Multipurpose Amphibious Assault Ship
MPF (F) LHD 1

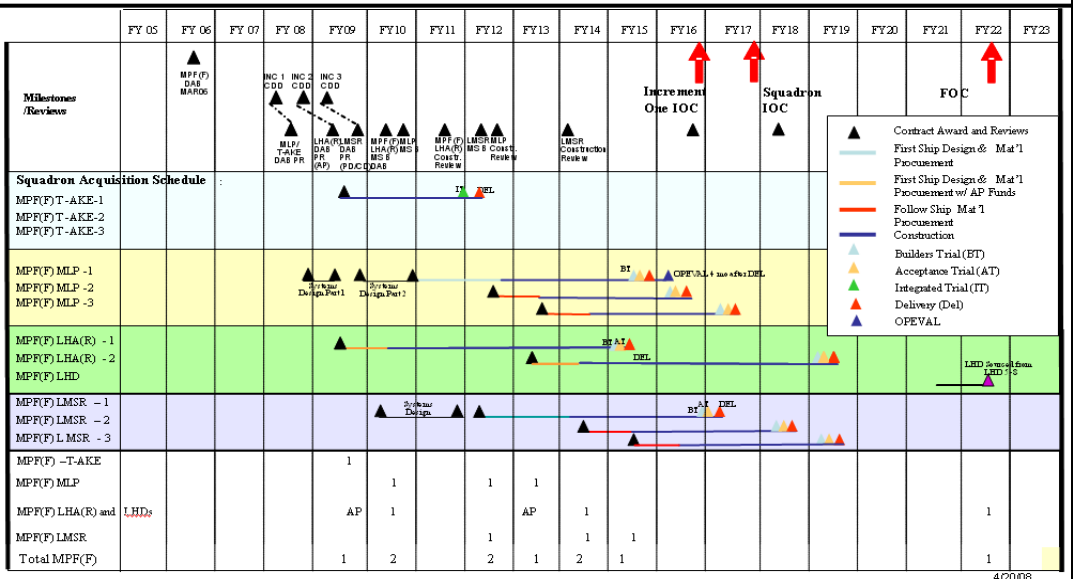
Large Medium Speed Roll-on, Roll-off Ship
MPF (F) LMSR 3

Increment One:
- Surface employment of combat ready forces
- Persistent sustainment from the sea

Increment Two:
- Vertical employment and command and control

Increment Three:
- Prepositioning
- At Sea Arrival & Assembly

Legacy Sealift Ship (Dense Pack)
T-AK 2



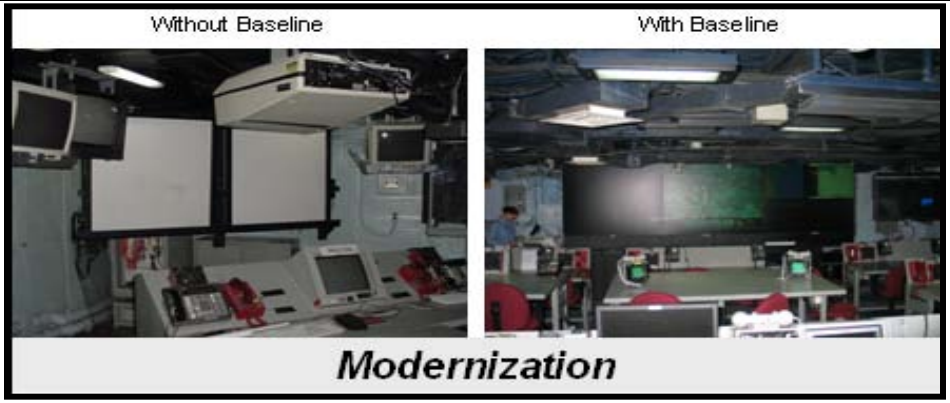
- The MPF(F) Program
  - Consists of a family of ships that significantly enhances the current Maritime Prepositioning Force (MPF) program
  - Key enabler of seabasing, providing "combat ready" forces from over the horizon.
  - 3 Increment Acquisition Strategy
- Program under significant scrutiny in QDR 12

MPF (F) requirements remain valid

CAPT Ed Barfield	Branch Head	703 614 0385
LtCol Mike Chambers	Deputy Branch Head	703 614 0395
CDR Dan Bryan	In-Service Amphib Combatants	703 614 0393
LtCol Steve Ware	MPF Requirments	703 614 2236
Mr. Marty Bodrog	Future Amphib Requirements	703 695 0917
LCDR Greg Baker	Future Amphib Requirements	703 695 0917

Questions?

Naval Amphibious Baseline



- Naval Amphibious Baseline (NAB) is a single SCD developed by the Service HQs, Fleet, USMC Operating Forces, and in conjunction with the SYSCOM
  - Standardizes MEU and PHIBRON command and control spaces across LHD 1 class
  - Removes obsolete equipment
  - Installs modern equipment
  - Considers work flow and human factors engineering
- Significant cost avoidance
- DRAFT NAB Charter prepared for staffing
- N85 and PPO (Operations) are proposed to co – chair NAB Boards for future changes

Amphibious Combatant Fleet Transformation

1990 62 Ships

LHD

LHA

LPH

LPD 4

LSD 36

LSD 41

LST 1179

LKA 113

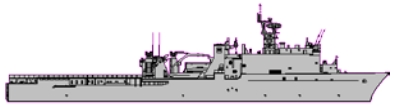
2009 31 Ships

Requirement for 38 ships, risk accepted at fiscally constrained 33 ship force structure

LHA / LHD

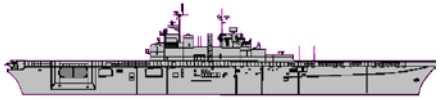
LPD 4

LPD 17



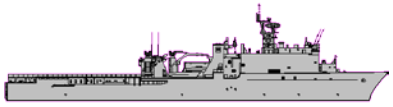
LSD 41 / 49

2021 33 Ships



LHD / LHA 6

LPD 17



LSD 41 / 49

Design Improvements

SMART TECHNOLOGY

- Ship's Wide Area Network
- Engineering Control System
- Integrated Bridge System
- Wireless Communications
- Waste Stream Management
- Fire/Smoke Sensing System
- Integrated Condition Assessment System (ICAS)

PLUS

- Fiber Optic Cable Plant
- Radar Cross Section Reduction
- Integrated Product Data Environment
- Advanced Boat Handling
- Medical Complex
- Mixed Gender design for max flexibility

REDUCED TOC/MAINTENANCE

- Optimized Manning
- Phased Maintenance Concept
- Extended Dry Dock Cycle
- AEMS Mast
- EFV Gun (Mk 46)
- Eliminated internal stowage of MOGAS
- 25% Maintenance Reduction in PM/CM Maintenance Reduction Initiatives
  - High Solids Coatings in tanks and Well Deck Overhead
  - Synthetic Well Deck Planking
  - Corrosion Control Changes
  - Latest WTD Changes
  - Twin Screw Reefer Compressors
  - SCBA vs. OBAs
  - Self Cleaning Lube Oil/Sea Water Strainers

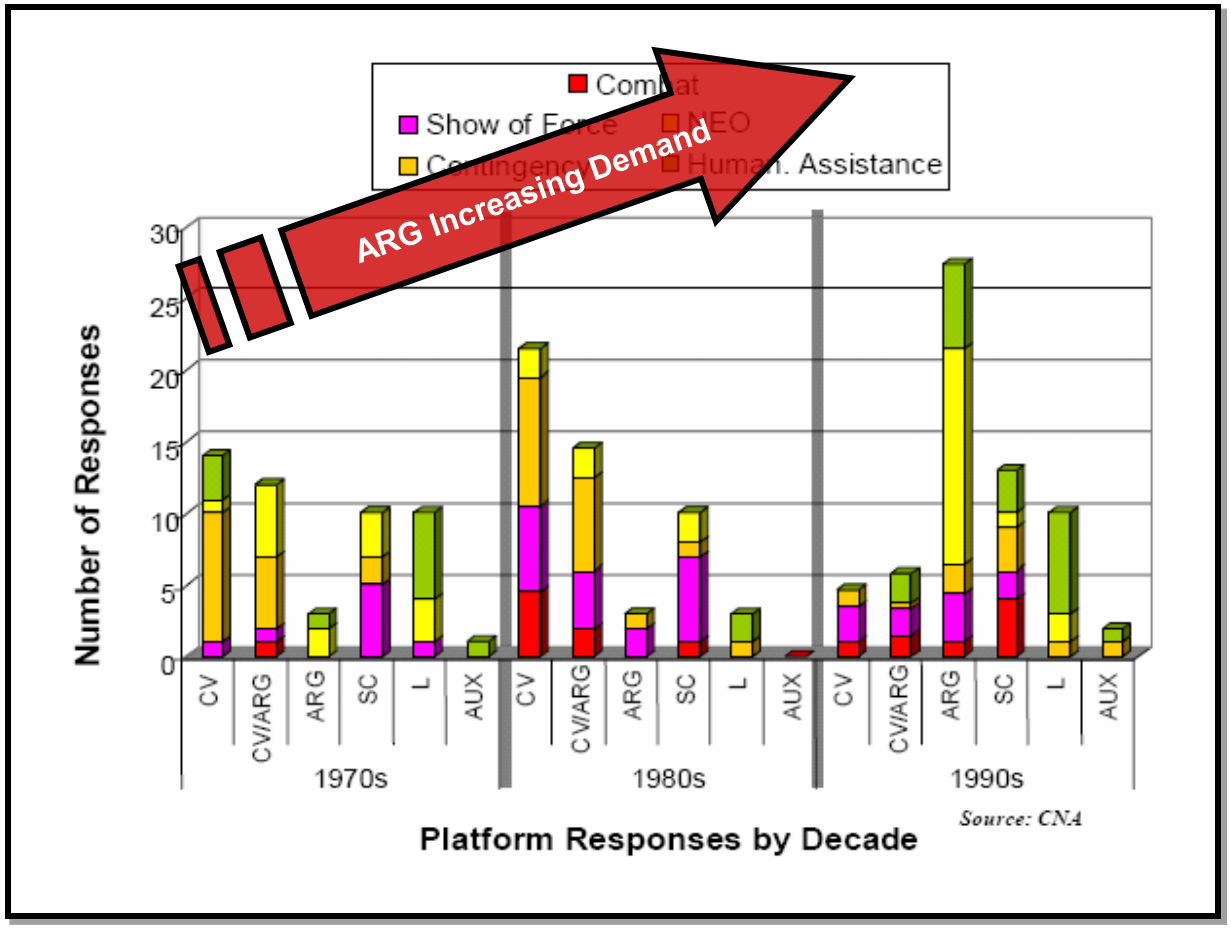
QUALITY OF LIFE

- AC Plant Capacity
- Modular Berthing
- Sit Up Berths
  - Crew and Troop
- Physical Fitness Centers
- Ship-wide Access to SWAN drops
- Training Department
  - 1 Officer, 4 Enlisted
- Training Spaces
  - Electronic Classroom
  - Learning Resource Center (50 Laptops for checkout)
  - Interactive Coursewear
  - Marine Training Spaces

Enhanced Operations - Reduced Workload - Improved QOL

As of November 2009

Demand Signal



30 yrs of responsive and successful employment across the operational spectrum has yielded demand in excess of supply