Today’s Amphibious Force

- **NEW YORK**
  - SOF Support 2014
  - Libya

- **IWO JIMA**
  - Gulf of Aden
  - Crisis Response 2015

- **KEARSARGE / BOXER**
  - Inherent Resolve
  - Iraq

- **ARLINGTON**
  - PHIBLEX 16, Kuwait

- **ASHLAND**
  - Ssang Yong 16 Korea

- **BONHOMME RICHARD**
  - Valiant Shield 16
  - Philippine Sea

- **Mesa Verde**
  - Hurricane Matthew
  - Haiti 2016

- **SP-MAGTF**
  - Embassy Rein
  - Egypt
Navy and Marine Corps Challenges

- Amphibious Warship Inventory
- COCOM demand signal
- Modernizing aging Amphibious Fleet
- Recapitalizing aging Connectors
- Alternative Platforms relieve some pressure but are limited
- Budget Pressure
### Amphibious Ship Inventory

#### Current Amphibious Inventory

**FDNF Sasebo**
- LHD 6 BONHOMME RICHARD
- LPD 20 GREEN BAY
- LSD 42 GERMANTOWN
- LSD 48 ASHLAND

**San Diego, CA**
- LHA 6 AMERICA
- LHD 2 ESSEX
- LHD 4 BOXER
- LHD 8 MAKIN ISLAND
- LPD 18 NEW ORLEANS
- LPD 22 SAN DIEGO
- LPD 23 ANCHORAGE
- LPD 25 SOMERSET
- LPD 26 MURTHA
- LSD 45 COMSTOCK
- LSD 47 RUSHMORE
- LSD 49 HARBERS FERRY
- LSD 52 PEARL HARBOR

**Norfolk, VA**
- LHD 1 WASP
- LHD 3 KEARSARGE
- LHD 5 BATAAN
- LPD 17 SAN ANTONIO
- LPD 19 MESA VERDE
- LPD 24 ARLINGTON
- LSD 41 WHIDBEEY ISLAND
- LSD 44 GUNSTON HALL
- LSD 46 TORTUGA
- LSD 50 CARTER HALL
- LSD 51 OAK HILL

**Mayport, FL**
- LHD 7 IWO JIMA
- LPD 21 NEW YORK
- LSD 43 FORT MCHENRY

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#### Delivered

**DELIVERY**
- LPD 26 in 2016 (MURTHA)
- LPD 27 in 2017 (PORTLAND)
- LHA 7 in 2018 (TRIPOLI)
- LPD 28 in 2022 (FT L-DALE)

#### Decommissioned

**DECOMMISSIONED**

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#### 38 Ship Requirement; 34 Fiscally Constrained

#### Table:

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<td>33</td>
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* Inventory at end of FY
Recapitalization of the Amphibious Fleet

**Current**
- LHD 1 *WASP* Class
- LPD 17 *SAN ANTONIO* Class
- LSD 41 *WHIDBEY ISLAND* Class
- LSD 49 *HARPERS FERRY* Class

**Recapitalization**
- F-35B Lightning
- MV-22 Osprey
- LHA (R) Flight 1
- LHA 6 *AMERICA* Class

- Capability Driven
- Supports Larger USMC Footprint
- Supports Modern USMC Aviation Platforms
- Improved Command & Control
- Improved Self-Defense
- Increased Survivability
LHA 6 AMERICA Class

LHA 6 recapitalizes the WASP class hull, upgrading to hybrid electric drive and an enhanced aviation capability.

Troops: 1687*
Vehicles: 10,328 ft²*
Cargo: 160,000 ft³*
Aircraft: 30 or 20-23 F-35B*
LCAC: 0 / 2 (8 only)
LCU: 0 / 1 (8 only)

*Quantities shown for 6/7

Delivery
- AMERICA (LHA 6) APR 2014
- TRIPOLI (LHA 7) 2018
- LHA 8 2024
- LHA 9 2029
- LHA 10 2034

Flight 0
LHA 6 & 7: Enhanced Aviation, but no Well Deck

Flight 1
LHA 8: Reincorporates Well Deck (2 LCAC), introduces reduced Island to retain enhanced aviation capability of LHA 6/7
LPD 17 SAN ANTONIO Class

Replaces four ship classes (LPD 4, LSD 36, LKA 113, & LST 1179)

- Greater Mission Capability & enhanced C2
- Improved Quality of Life
- 10 of 12 Ships Delivered
- LPD 26 Delivered 2016
- LPD 27 Delivers 2017
- LPD 28 Delivers 2022

Aviation & Maintenance

Ship Characteristics

<table>
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<tr>
<th>Characteristic</th>
<th>Value</th>
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<td>Displacement</td>
<td>24,900 lt</td>
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<tr>
<td>Draft</td>
<td>23.0 ft</td>
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<tr>
<td>Speed</td>
<td>24 kts</td>
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<tr>
<td>Crew</td>
<td>371 Sailors / 3 Marines</td>
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<tr>
<td>Length</td>
<td>684 ft</td>
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<tr>
<td>Beam</td>
<td>105 ft</td>
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<tr>
<td>Troop Lift</td>
<td>699 Marines (800 Surge)</td>
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<td></td>
<td>*650 LPD-28</td>
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<tr>
<td>Vehicle Space</td>
<td>25,000 Sq Ft</td>
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<td>Cargo Cube</td>
<td>35,000 Sq Ft</td>
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<td>Medical</td>
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Improvements

- LCAC & Vehicle Square
- Command & Control
**LX(R): LPD 17 Derivative**

**LX(R) Program Profile = 11 ships**

- Navy Committed to Delivering On Time
- Capability Development Document complete: JROCM pending from Joint Staff
  - Stable program requirements
- Program Must Be Affordable:
  - Delivers the right capability at the right cost
  - Challenged by Navy top line – LX(R) delivers concurrently with ORP
  - Involved industry from the start to work towards development of affordable design
  - Focused on containing costs for Government Furnished Equipment
- Deliver first LX(R) in FY26; one-for-one replacement of LSD 41/49 as ships reach 40 year service life:
  - Greater capability than LSD 41/49 at right cost
Building the Expeditionary Sea Base

Current

- Transfer of equipment and supplies at sea in non-anchorage depths
- Delivery to shore through restricted access environments
- Selectively off-loadable, tailorable force packages, persistent sustainment

Recapitalization

- ESB will provide a maritime base of operations for MCM and SOF missions
- Will include four core components: 1) aviation, 2) boat/sled ops, 3) berthing/functional spaces, and 4) command and control (C2)
- Dedicated assets to apply across ROMO

Cost Driven Alternatives Complement Amphibious Warship Capacity
Surface Connectors

Current

LCAC (SLEP)

- LCAC 100 replaces legacy LCAC to retain high-speed, over-the-horizon surface assault capability
- 60 ST at 35 Kts in SS 3 [4.1 ft]
- Designed to carry 1 M1A1 Tank
- Increased performance envelope over land & water

LCU-1600

- Original 195 ST; Cargo Capacity Degraded (age)
- Current Capacity 140 ST / 1200 NM at 8 kts
- 1 M1A1 Tank or 400 Pax or 350 Combat Personnel

Recapitalization

LCAC 100
Post Milestone C
IOC FY20

- Increased payload, temperature and sea state parameters (74 ST at 35 Kts in SS 3 [4.1 ft])
- 72 craft procurement ~$ 4.5B through 2027
- First 4 craft in production
- 5 additional craft under contract

LCU-1700
Combined Milestone B/C
IOC FY23

- CDD approved/validated
- 170 ST / 1200 NM at 8 kts
- 2 M1A1 Tanks or 400 Pax or 350 Combat Personnel
- 32 craft procurement beginning 2017

LCU 1700 replaces the LCU-1600; recapitalizes a rugged, persistent, economical, high capacity utility landing craft
Investments in Warfare Modernization

Modernization Drivers

Aviation Integration
- MV-22 Osprey
- F-35B Lightning II
- UAS

Marine Corps Integration
- Joint Light Tactical Vehicle
- M27 IAR
- M-4 Carbine with Advanced Optics
- Return to VBSS Mission
- Disaggregated Operations

Enhanced Threat
- Survivability
- Need for ISRT to be coordinated across C4I/Combat Systems Domains

Assured C2
- Digital interoperability with the Fleet and Marines
- Cyber resiliency

Capabilities

Aviation Integration:
- Over the horizon vertical assault capability
- Day One enhanced range, payload, ISRT and strike capability

HM&E:
- Safely, efficiently and effectively supporting the USMC ship to shore maneuver.

CAPSTONE:
- Survivability in contested littoral environments
- Future C5I Integration

C5I:
- Digital interoperability with the Fleet and Marines
- Cyber resiliency

Targeted Investments

Aviation Integration:
- Cornerstone Mods
- Environmental Effects Mods
- Expansion of TSN to entire flight decks to counter FOD
- Flight Deck Thermal Management system on LSD/LPD

HM&E:
- Enhanced Ballast Control, Crane Control and Slewing Arm Davit
- Troop rifle stowage
- Embarked operational troop space modernization
- Slewing Arm Davit (SLAD)

CAPSTONE:
- SSDS Mk2
- EASR
- ESSM Blk 2
- RAM Blk 2 / SEA RAM

C5I:
- CANES / ADNS III / NMT / CBSP
- HF SAR Phase II
- F-35B C5I Integration
How can YOU (industry) help us?

- Industrial base is part of our team
- Building improved cost efficiency and delivery schedules
- Quality Control
- Coordinated, combined acquisition needed to reduce cost
Questions