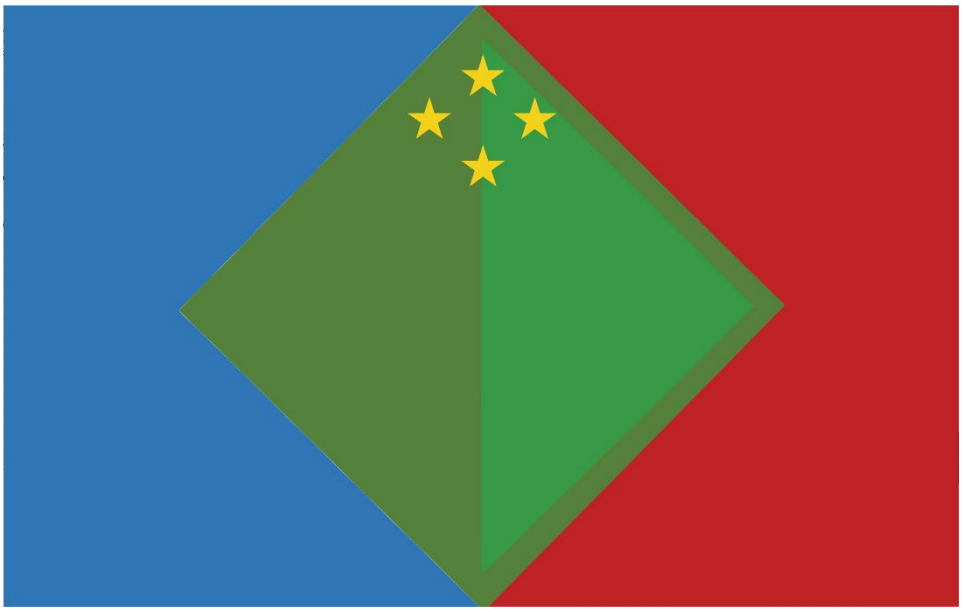


OLVANAN MARITIME WARFARE

Doctrine, strategy, and tactics of the Olvanan People's Navy

Part 2: Maritime tactics

Table of Contents

List of Acronyms

AAR	Air-to-Air Refuelling	**MPA**	Maritime Patrol Aircraft
AAW	Anti-Air Warfare	**OCA**	Offensive Counter-Air
AD	Air Defence	**OCP**	Olvanan Communist Party
AEW	Airborne Early Warning	**OMM**	Olvanan Maritime Militia
AGI	Auxiliary, General Intelligence	**OPA**	Olvanan People's Army
AOA	Amphibious Objective Area	**OPAF**	Olvanan People's Air Force
ASBM	Anti-Ship Ballistic Missile	**OPMC**	Olvanan People's Marine Corps
ASCM	Anti-Ship Cruise Missile	**OPN**	Olvanan People's Navy
ASuW	Anti-Surface Warfare	**OSHC**	Olvanan Strategic High Command
ASW	Anti-Submarine Warfare	**OTH**	Over-the-Horizon
CBG	Carrier Battle Group	**PRO**	People's Republic of Olvana
COLREG	International Regulations for Preventing Collisions at Sea	**SAG**	Surface Action Group
COMINT	Communications Intelligence	**SAM**	Surface-to-Air Missile
DCA	Defensive Counter-Air	**SCS**	South China Sea
EO	Electro-optical	**SIGINT**	Signals Intelligence
IR	Infra-red	**SURTASS**	Surveillance Towed Array Sensor System
LCAC	Landing Craft, Air Cushion	**TEL**	Transporter Erector Launcher
LOAC	Law of Armed Conflict	**TOT**	Time on Target
MEZ	Missile Engagement Zone	**UAV**	Unmanned Aerial Vehicle

1. Preface

1.1. Background

This document refers to the fictitious nation of Olvana, part of the Decisive Action Training Environment – Indo-Pacific (DATE-IP). DATE-IP is the common training adversary used across the Australian Defence Force and by the armies of the United States, United Kingdom, Canada, and New Zealand.

Part 1 contains a country study overview of Olvana. Further information on Olvana and DATE-IP can be found at https://date.army.gov.au/

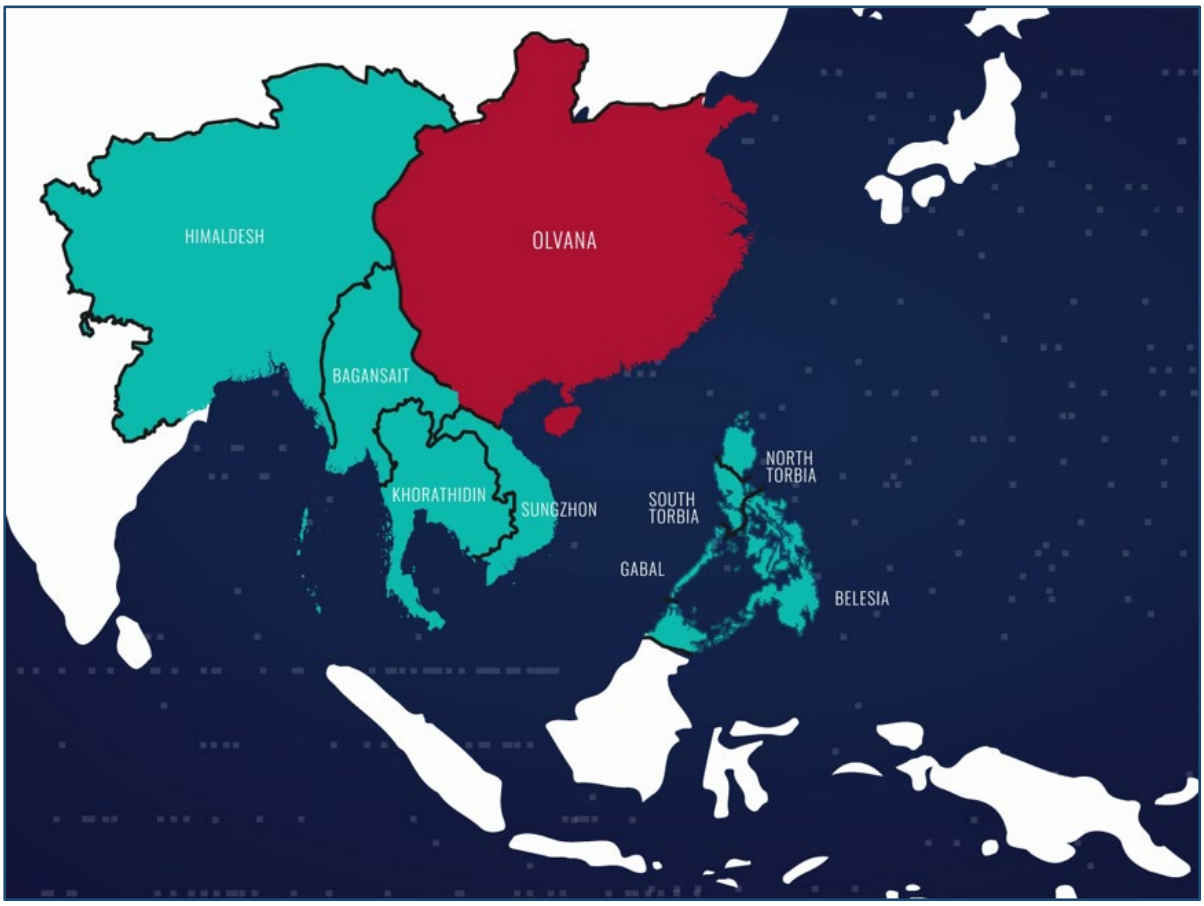


Figure 1 – DATE Indo-Pacific

1.2. Scope

The purpose of this document is to describe Olvana's doctrine for conducting maritime warfare and its underlying influences. Part 1 of this document explores the strategic context and doctrine, which shape the thinking of Olvana's military leaders. Part 2 provides an insight into Olvanan tactics and platforms for a range of specific missions.

Research for this document has been conducted exclusively using open source intelligence sources and publicly available information relating to naval doctrine, strategy and tactics. The classification of this document is Official, in accordance with the Defence Security Principles Framework.

2. Above water warfare

2.1. Initial cueing

Initial cueing of potential adversary air and surface assets is via satellite and over-the-horizon (OTH) long-range radar. Doctrinally, this should occur while the adversary assets are in the Distant Seas. Olvanan response assets will be re-directed for any adversary that has the potential to enter the Near Seas prior to either:

- the next satellite pass, or
- the time on task of the fastest available Olvanan strike platform.

Initial response assets can include:

- Unmanned aerial vehicles (UAV),
- Maritime patrol aircraft (MPA),
- Airborne early warning and control (AEW&C) aircraft,
- Strike aircraft,
- Surface combatants, or
- Any combination of the above.

The relevant on-task unit will be responsible for tracking the target until it is no longer in a position to enter the Near Seas within the reaction time, or tracking duties are handed over to another unit. It can be assumed that Olvana has persistent or nearly persistent satellite coverage across the Near and Distant Seas.

2.2. Above water capabilities

Indications and warnings for air and surface threats are provided by Olvana's AEW&C platforms:

- Shaanxi KJ-500
- Xi'an KJ-600 (carrier-launched)
- Shaanxi KJ-2000

KJ-500

AEW&C aircraft

RANGE		SPEED
5700km		550kph
LENGTH	SPAN	SERVICE CEILING
36	40	10,500m
RADAR		ENGINE
Fixed dorsal AESA		4x turboprop
ODIN Link		
https://odin.tradoc.army.mil/WEG/Asset/KJ-500_Chinese_Airborne_Early_Warning_and_Control_Aircraft		

KJ-600
Sea Plate

AEW&C aircraft (CATOBAR)

RANGE		SPEED
1200km		693kph
LENGTH	SPAN	SERVICE CEILING
18.4	25	15,000m
RADAR		ENGINE
Fixed dorsal AESA		2x turboprop
ODIN Link		
https://odin.tradoc.army.mil/WEG/Asset/KJ-600_(Sea_Plate)_Chinese_Airborne_Early_Warning_and_Control_(AEW&C)_Aircraft		

KJ-2000
Mainring

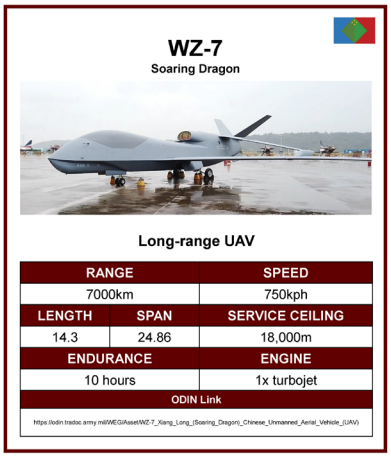
AEW&C aircraft

RANGE		SPEED
5000km		900kph
LENGTH	SPAN	SERVICE CEILING
46.6	50.5	10,200m
RADAR		ENGINE
Type 88 AESA		4x turbofan
ODIN Link		
https://odin.tradoc.army.mil/WEG/Asset/KJ-2000_(Mainring)_Chinese_Airborne_Early_Warning_and_Control_Aircraft		

These platforms also provide C2 for fighter and ASuW strike aircraft, such as the Shenyang J-31 and Sukhoi Su-35.

2.3. ASuW tactics overview

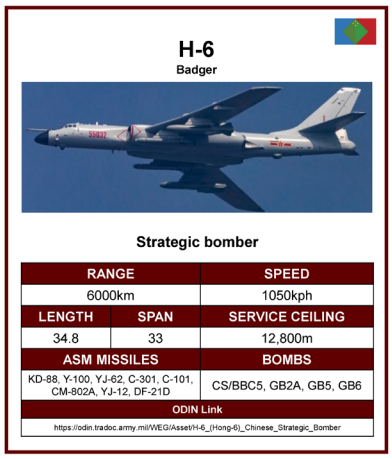
On receipt of an ASuW indication or warning at the periphery of the Distant Seas, the preferred asset for tracking is the WZ-7 Soaring Dragon UAV. Satellite surveillance is high-latency and susceptible to disruption from weather and other atmospheric disturbances. The WZ-7 has sufficient operational endurance to provide persistent presence deep into the Distant Seas.



If within range, a surface asset will be vectored to intercept within the mid to close areas of the Distant Seas and provide an overt and persistent shadow. OPN surface combatants are persistently deployed to enable pre-positioning within close range of chokepoints in the First Island Chain, to ensure that all adversary assets can be escorted immediately upon entry into the Near Seas.

Foreign task groups and other highly capable adversary assets will receive a higher response level. ASuW submarines patrol the Near and Distant Seas in designated patrol boxes that are engineered to maximise the area covered. The Great Underwater Wall (GUW) provides indications and warning (I&W) directly to OPN submarines in the case of task group or other significant incursions.

The Shaanxi KQ-200 MPA is pre-positioned at forward air bases to ensure rapid response times. Although primarily an ASW asset, KQ-200s are also utilised in the inner Distant Seas and approaches to the Near Seas to provide tracking and targeting data in support of ASuW surface combatants.



Numerous land-based fast air strike platforms operate best with targeting provided real time from an I&W platform. However, limited endurance mostly limits these platforms to the Near Seas, where doctrine necessitates kinetic engagement options. Strike capability in the Distant Seas is limited to carrier-based fast air platforms embarked on the OPN's aircraft carriers.

The Xi'an H-6 Badger strategic bomber provides a greater level of persistence than fast air and possess capable networked targeting abilities along with strike abilities. Like MPAs, strategic bombers are forward-deployed to island and reef airfields in the Near Seas, as a 'pouncer' unit. The H-6s most commonly operate in the Near Seas and inner Distant Seas.

2.4. Emerging ASuW capabilities

A long-standing technological goal for Olvana has been to reduce the latency of satellite information such that satellite detections can be utilised for providing targeting fidelity information to ASuW surface combatants, aircraft, and submarines.

This remains a work in progress, however the latency has reduced to a level that now allows smart weapons to be cued onto targets with sufficient fidelity to allow them to locate their targets with an acceptable probability of kill (P_k) and engagement of friendly or non-combatant ships.

The process for satellite-based targeting follows the following steps:

- Satellite detects a target and tracks it
- Submarines are vectored into an optimum location in their patrol boxes and provided with a time to regain communications
- At the predetermined time, submarines and surface combatants are provided the targeting solution and salvo sizes and other engagement particulars
- The group of missiles are vectored into a swarm with a smart weapon leading the swarm (sometimes a number of minutes ahead, especially where targeting solution is less accurate).
- The satellite can provide mid-course updated targeting information to the swarm or lead weapon
- The lead smart weapon utilises LiDAR imaging to confirm the target along with other guidance methods in concert
- The smart weapon(s) provide terminal targeting solution via line of sight short-range communications.
- The swarm missiles engage the target simultaneously utilising their own terminal guidance methods (usually a mixture of radar, IR/EO, and anti-radiation)
- Where the smart weapon is ahead it provides terminal guidance to the satellite and/or the swarm (dependent on range)
- The lead smart weapon is expected to be destroyed prior to impact whilst the swarm overwhelms the target.

2.5. Employment of the surface combatant – air defence, ASuW, and land strike

OPN surface combatants (SC) are highly flexible multi-role vessels capable of the full spectrum of Operations from warfighting to search and rescue. OPN doctrine for surface combatants focusses on the warfighting end of the spectrum leaving the corvettes and Coast Guard to deal with the peacetime mission sets where possible.

The OPN sees the SC as a mobile weapon- and sensor-carrying platform that predominately outsources detection, tracking, and targeting to satellite and other non-organic capabilities available within the broader Olvanan military.

The superior range of Olvanan maritime strike guided missiles further bolsters this tactic.

2.5.1. ASuW sensors

Airborne surface surveillance is provided by a mix of platforms operating from the Olvanan mainland and reef and island airfields:

- KQ-200 MPA – ASuW I&W, targeting also available. ASW I&W plus weapon delivery (light weight torpedo and depth charges)
- WZ-7 Soaring Dragon – long-range UAV for ASuW I&W and targeting. WZ-7 can also provide persistent tracking for surface targets once detected.

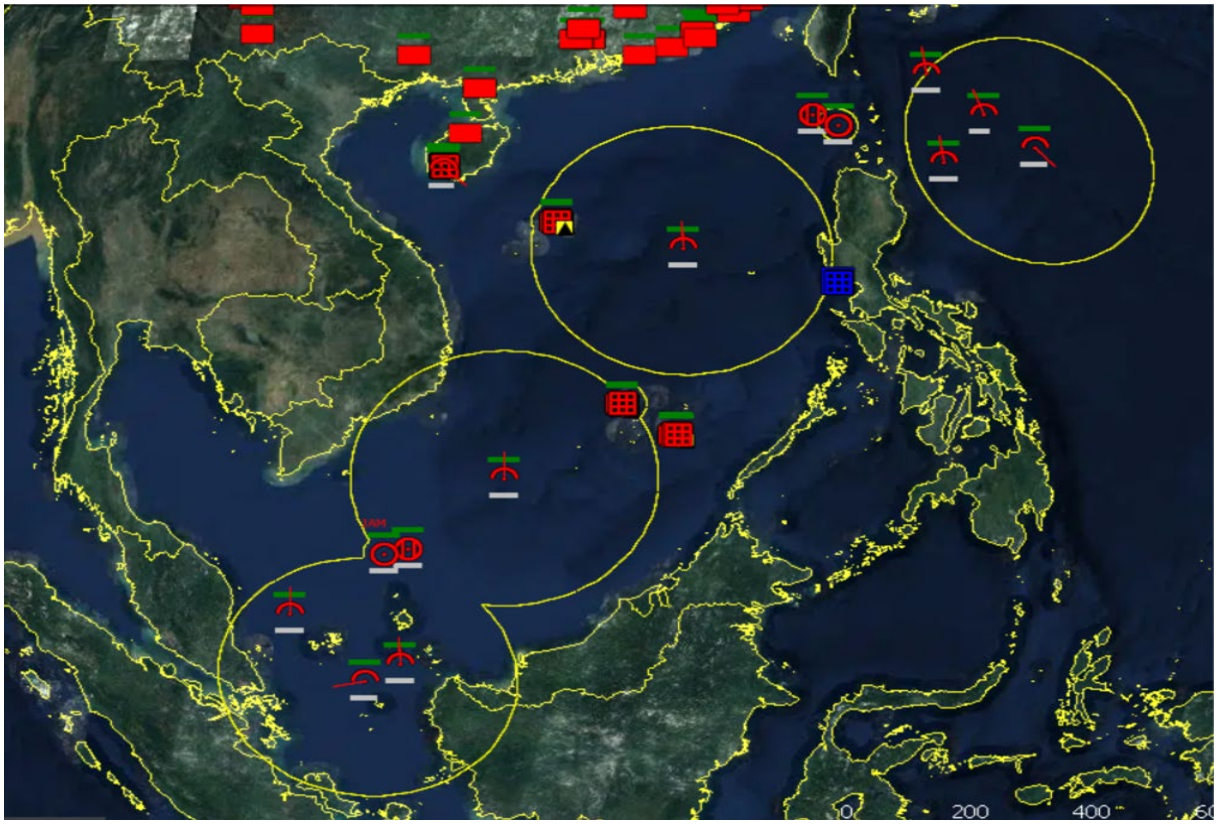


Figure 2 – Reef-based and mainland-launched airborne surveillance platforms

Both platforms have the ability to conduct active and passive surveillance. However, the altitudes required and the range of sensors allow them to operate with relative impunity at range, so overt patrol is usual for KQ-200. Both of these platforms are vulnerable to OCA patrols from US carrier-based fast air, but can operate safely within range of OPAF reef-based SAMs or with fast air escort from:

- J-20 Mighty Dragon air superiority fighter – land- or reef-based, relatively short time on task unless air-to-air refuelling is available. The J-20 can provide fighter escort in order to counter US carrier-based OCA strikes on the surveillance aircraft.

2.5.2. Land-based ASuW weapons

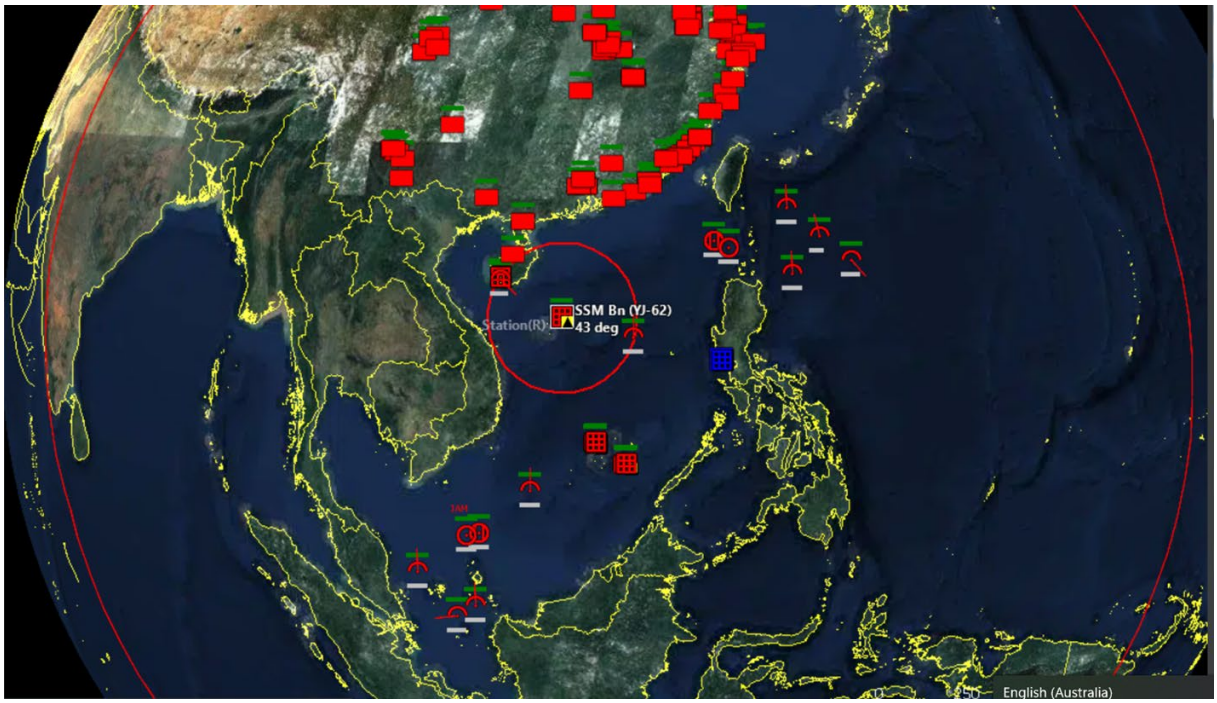


Figure 3 – Comparative ranges of reef-based YJ-62 and DF-26 intermediate-range ASBM

2.5.3. Surface weapons (including sea-based)

Olvana's reef bases have numerous transporter erector launcher (TEL) systems providing both ASuW and air defence (AD) missile capability. The figure below shows reef-based YJ-62 and YJ-100 (CJ-10A Mod ASCM) on the Type 055 *Renhai*-class cruiser. Note the YJ-12 ASCM is also employed from the reefs with a maximum range of 215 nautical miles.

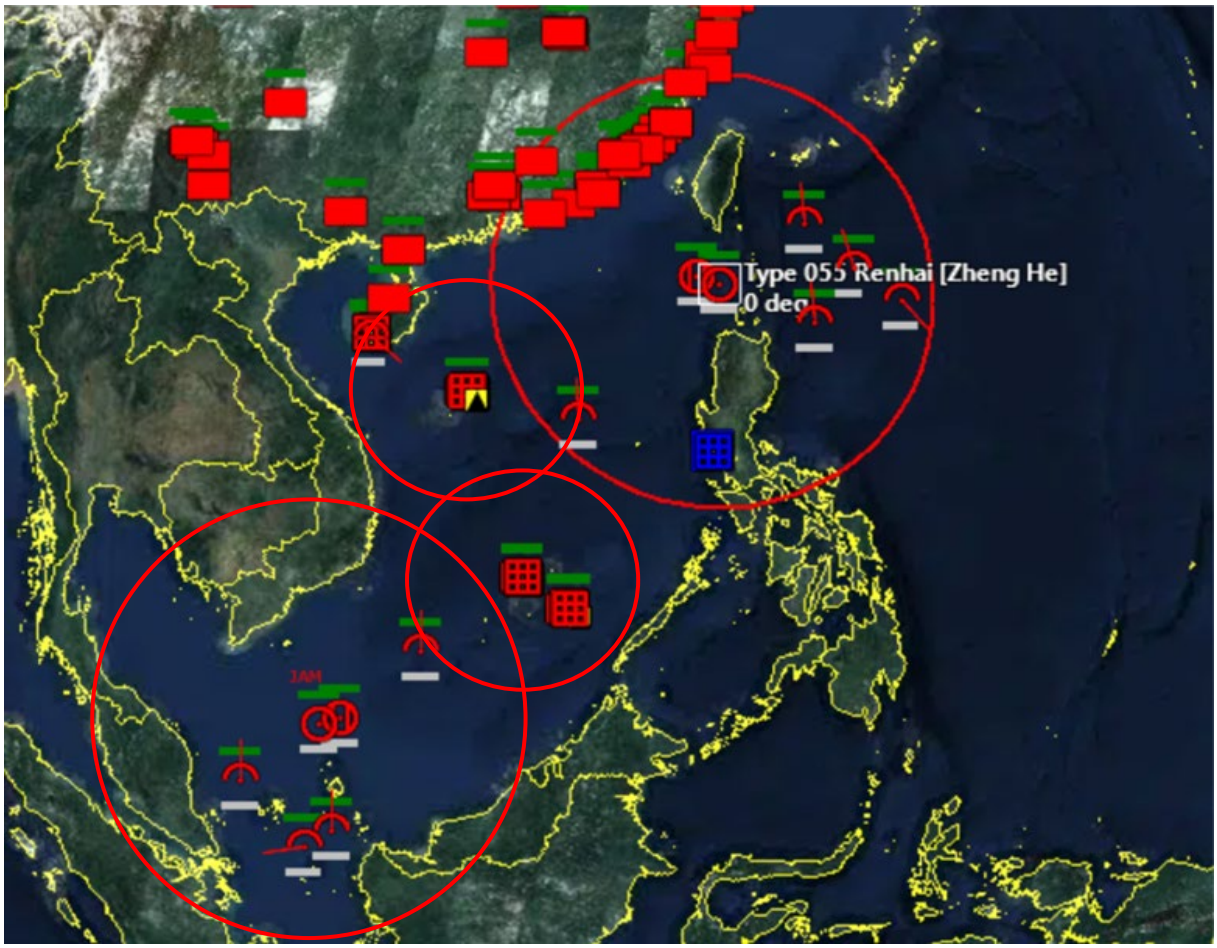


Figure 4 – Comparative ranges of reef-based YJ-62 and *Renhai*-launched YJ-100

2.5.4. Air-launched ASuW weapons

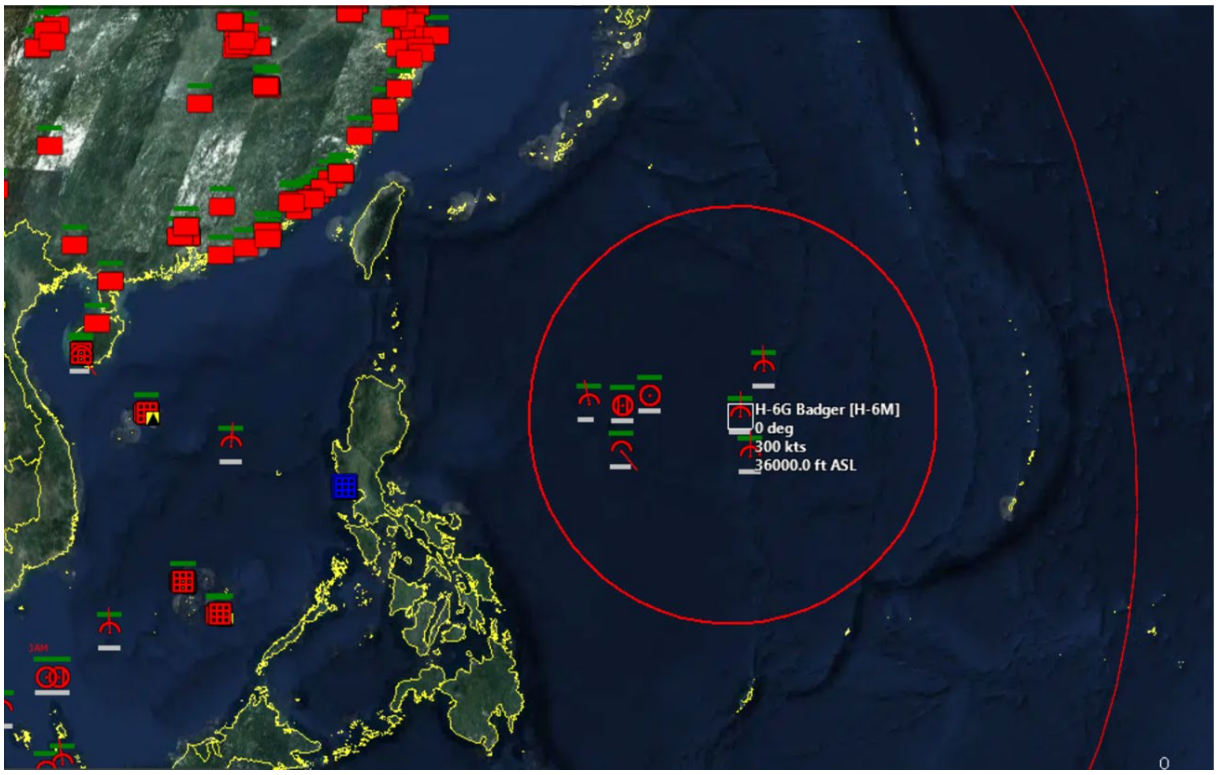


Figure 5 – H-6 Badger carrying YJ-100, 4h loiter.
Forward-deployed CBG and land-based DF-26 range ring also visible

2.5.5. Submarine-launched ASuW weapons

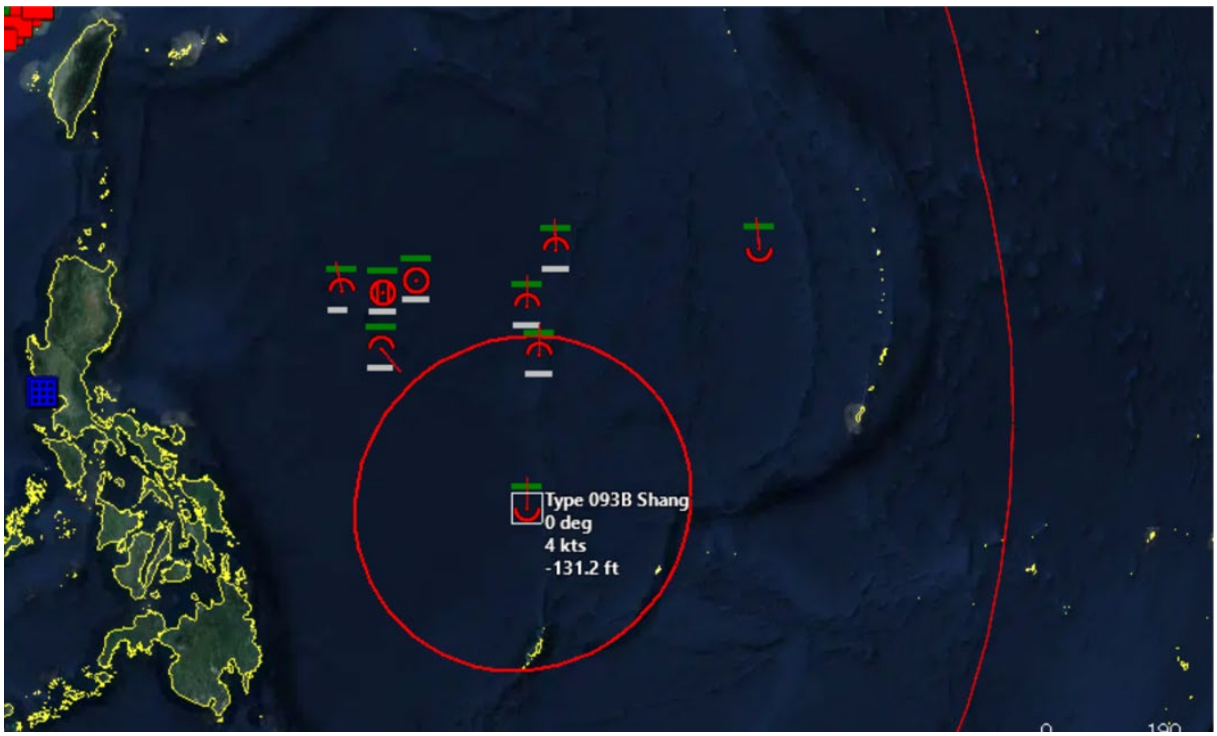


Figure 6 – Two *Shang*-class SSGNs carrying YJ-18 290nm.
Forward-deployed CBG and land-based DF-26 range ring also visible.

2.6. Asymmetric ASuW capabilities

2.6.1. UAV swarm

From palm-sized microdrones to more capable UAVs the size of a dinner plate, Olvana's swarm drone provide a formidable threat. Although these platforms carry only a small explosive charge, they can be used to target vulnerable external sensor and communications equipment on adversary surface combatants. This can provide a scalable effect, ranging from a minor degradation in capability up to a full mission kill.

The short-range nature of these UAVs require them to be deployed in littoral areas, chokepoints or ahead of the predicted track of a target vessel. Although currently deployed from airborne platforms, an alternative implementation would leverage the Olvanan Maritime Marine (OMM) vessels to deploy a swarm in a covert manner. This could include the use of derelict vessels or floating debris that conceals the swarm until it is remotely activated.

The swarm can be activated by a radio signal from a surface or airborne asset (or land-based if tethered close to shore). Alternatively, activation is possible via passive electronic support (ES). The desired radar signature is detected from a passive target vessel and the swarm is released on the relevant bearing.

The UAVs then rely on their own passive guidance and depending on size this can be optical, IR or the target radar or communications signal itself.

2.6.2. Olvanan Maritime Militia (OMM)

The Olvanan Maritime Militia is a paramilitary force of fishing vessels tasked with providing I&W and conducting surveillance and harassment activities. C2 arrangements are murky, however it is believe that the OCP has ultimate authority over these fleets. OMM mission sets and activities are most suited to the early shaping phases of operations. The OMM does not fit within OPN force structures and there is minimal direct communication between the OMM and other Olvanan military units. This allows the OCP to maintain plausible deniability for the actions of the OMM in diplomatic circles.

The OMM will seek to confuse and embarrass adversary naval units, often deliberately creating close-quarters situations in order to create ambiguities under the International Regulations for Preventing Collisions at Sea (COLREG). Militia vessels have been known to use VHF communications to distract and confuse, while manoeuvring in an erratic and dangerous manner. These vessels will often manoeuvre whilst streaming equipment from their stern and cross the wakes of vessels close to their sterns in an attempt to snag, damage, or part the cables of towed bodies. At times collisions with foreign warships have occurred, and invariably the OCP has distanced itself from any wrongdoing on the part of the OMM.

This weaponisation of the COLREGs to confuse, embarrass and drive adversary warships away from claimed and sensitive areas has been observed on multiple occasions, being employed against various nationalities operating in the area. Of late, the forcing of close quarters situations through deliberate manoeuvring at high speeds in close proximity ahead of a vessel continuing on their navigation track, has caused multiple collision near-misses and diplomatic incidents. These instances of such actions have been well documented and reported on by government and media sources.

2.6.3. Hospital ships and spy ships

***Anwei* AH (920)**

Hospital ship

Crew		Aircraft	
200 crew, 600 medical staff		1x Z-8JH	
LOA	BEAM	ENGINES	TONNAGE
170	25	Twin-diesel	14000
MEDICAL CAPABILITY			
300 beds, 20 ICU beds, 8 operating theatres			
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_920_Class_(Daishan_Dao_Class)_Chinese_Hospital_Ship			

The *Anwei*-class hospital ship notionally provides medical care facility to Olvanan operations, but is suspected to carry significant amounts of SIGINT and COMINT capabilities along with complementary intelligence gathering surveillance equipment and personnel. Its communications suite is significant and more akin in scale to the USS *Blue Ridge*-class C2 platform than a hospital ship. The vessel is often deployed amongst a fanfare of propaganda and deploys to areas and situations that are inconvenient to Olvana's competitors and adversaries.

Its formal designation as a hospital ship creates additional challenges for adversary military planners, as such a vessel retains significant protections under the law of armed combat (LOAC), despite its military and intelligence capabilities.

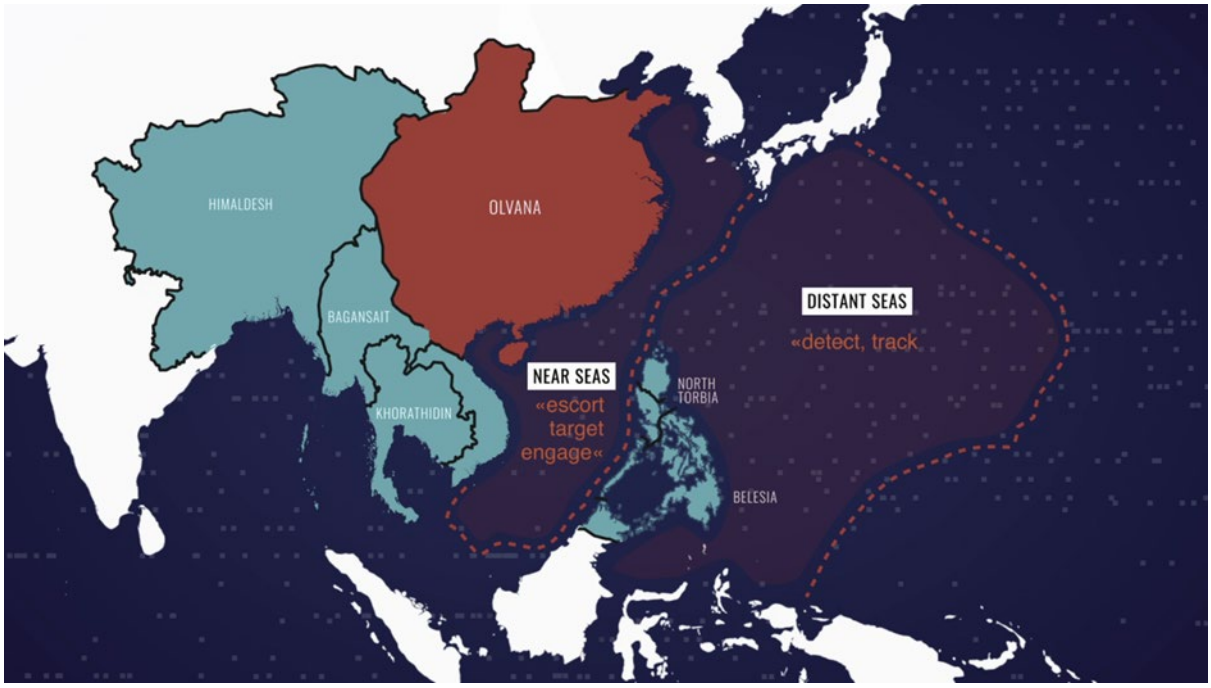
The *Dongdiao*-class spy ship or electronic surveillance ship and its derivative Type 815G are the newest Olvanan electronic surveillance ships in service with the OPN. After entering service in the latter half of 1999, the ship went through major upgrade several years later, with parabolic antennas replaced by three large radomes. In addition to collecting electronic intelligence, this class is also tasked to perform ballistic missile tracking. There is a hangar for a helicopter.

***Dongdiao* AGI (815)**

Auxiliary, general intelligence

RANGE		SPEED	
5000nm		20kt	
LOA	BEAM	DRAUGHT	TONNAGE
130	16.4	6.5	6000
SENSORS		ENGINE	CREW
Various		2x diesel	250
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_815_Class_(Dongdiao_Class)_Chinese_Intelligence-Collection_and_Missile-Range_Instrumentation_Ship			

2.7. Airborne ASuW capabilities



2.7.1. Reef-based ISR and strike assets

The reclaimed reefs built in the South China Sea are home to significant air search radar and long-range SAM installations. Forward basing of long-range MPA and strike aircraft such as the H-6 Badger and KQ-200 is supported by air-to-air refuelling (AAR) aircraft such as the IL-78 Midas. KJ-2000 Mainring provides a persistent and robust AEW&C capability. These assets can deploy across all of the Near Seas, and the western regions of the Distant Seas.

2.7.2. Air sensors

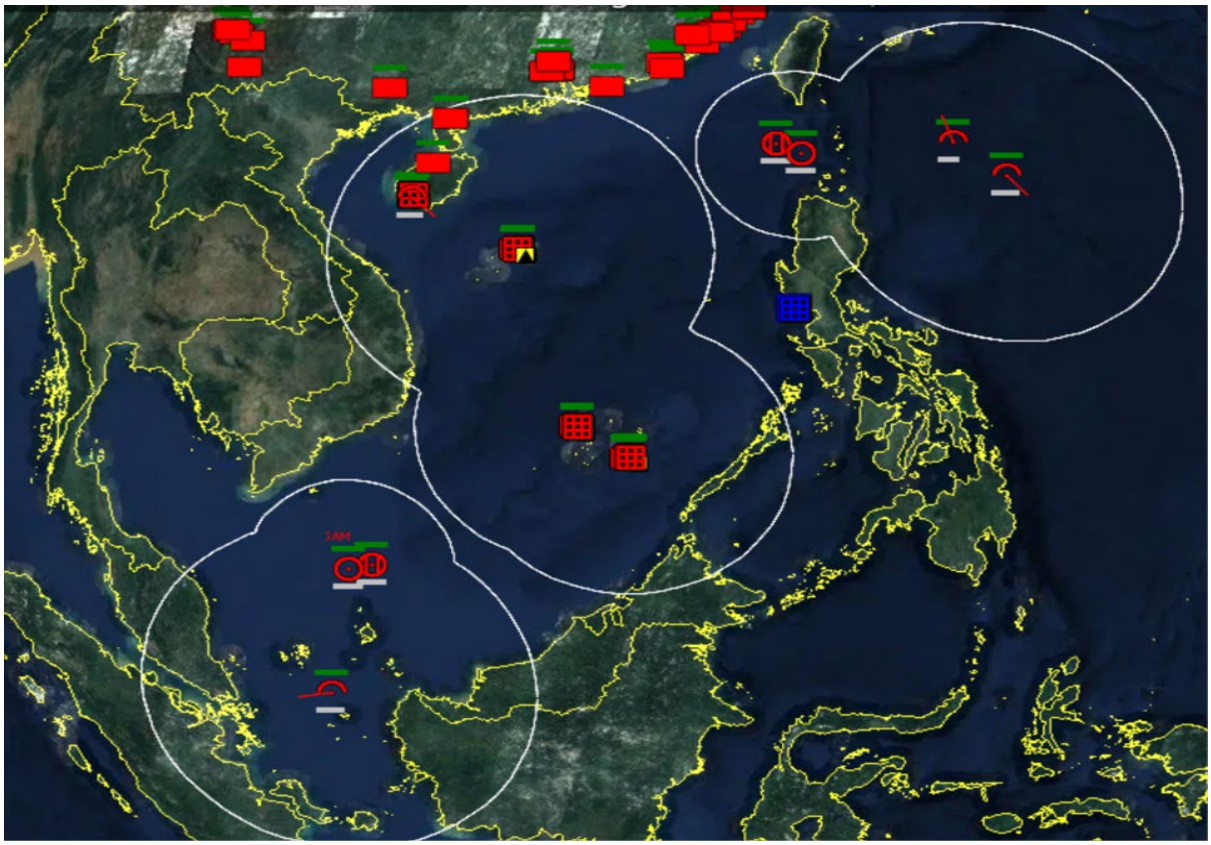


Figure 7 – Air sensors installed on Woody Island NW, Subi Reef Middle and Mischief Reef SE.

In the above image, the approaches to the Near Seas are covered by the two carrier battle groups (CBG). KJ-600 and 500 aircraft provide AEW outside the missile engagement zone (MEZ) of the *Renhai*-class cruiser attached to the CBG. KJ-2000 can also deploy to these areas, either from mainland Olvana or from the forward operating airfields on the three reefs.

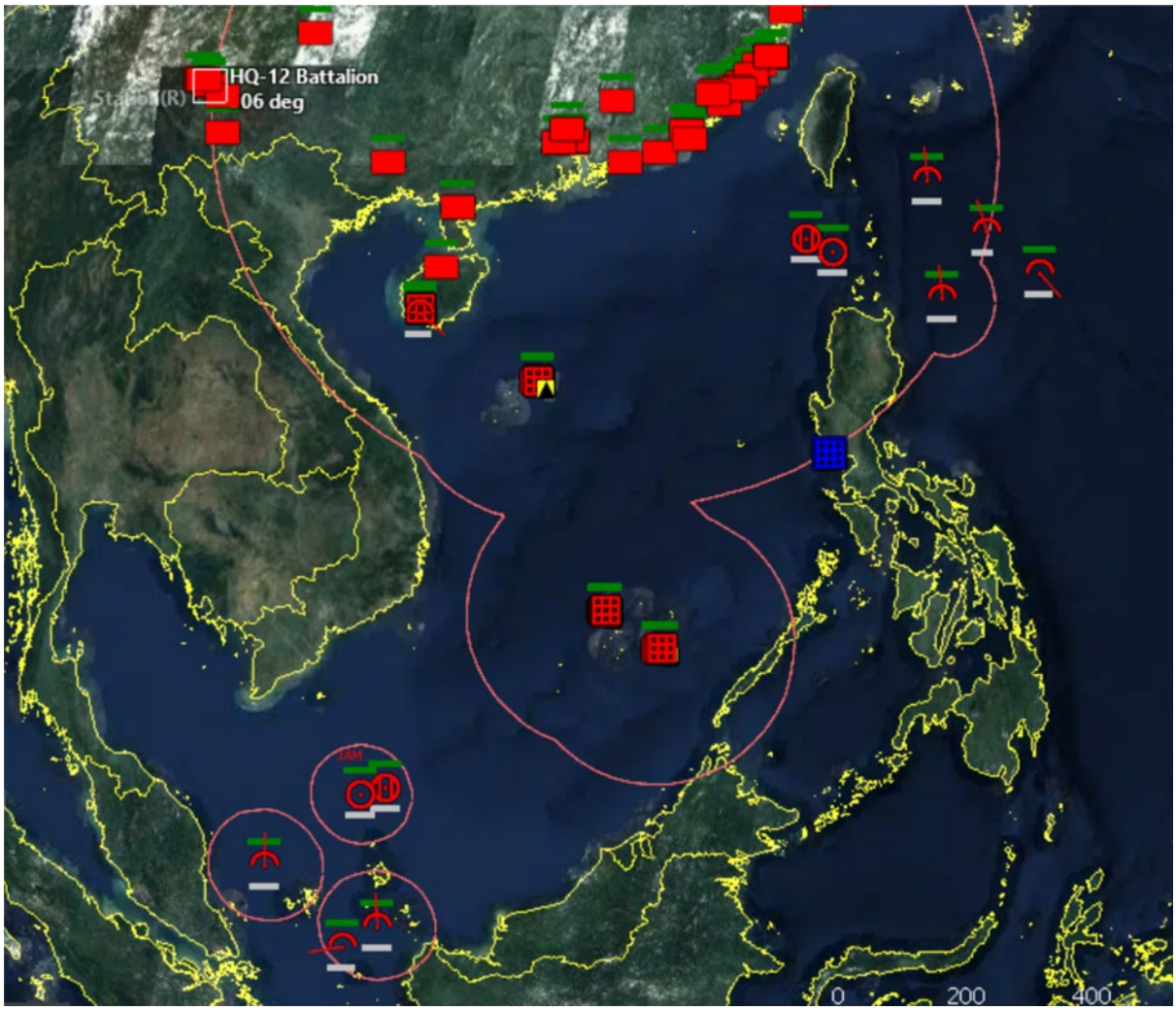
Defensive and offensive counter-air (DCA/OCA) is provided via carrier-based fast air assets beyond the MEZ. Mobile strategic air defence sensors are provided by the *Yuan-Wang*-class missile range instrumentation ship, capable of tracking satellites and ballistic missiles.

***Yuan Wang* AGM (718)**

Missile range instrumentation ship

RANGE		SPEED	
18000nm		20kt	
LOA	BEAM	DRAUGHT	TONNAGE
180	22.2	8	17000
SENSORS		AIRCRAFT	
Various		1x Z-8C capable	
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_815_Class_(Dongdiao_Class)_Chinese_Intelligence-Collection_and_Missile-Range_Instrumentation_Ship			

2.7.3. Air defence weapons



The reef based SAM systems are a layered combination of S-400 Grizzly (SA-21 a/b) up to 215nm, HQ-9 80nm and HQ-12 30nm.

The *Renhai*-class cruiser utilises a combination of HHQ-9 for area air defence and HHQ-10 for point defence.

Carrier-based fast air commonly utilise combinations of PL-15 (94nm), PL-12 (50nm) and PL-10 (11nm) air-to-air missiles for OCA and DCA.

3. Anti-submarine warfare (ASW)

The sub-surface detection and tracking problem is significantly more challenging. Olvanan military research facilities are believe to be working on low earth orbit wide-area sub-surface surveillance technologies but these are not yet deployed or proven.

The achievement of detecting all sub-surface adversary assets entering the Distant Seas cannot be assured and, as such, a probabilistic approach is used. The most dangerous adversary COA is considered to be the incursion of an SSBN into the Near Seas without being detected. Thus, Olvana's ASW mission sets are designed around increasing the detection probability of any subsurface incursion through a system of layered defence. The priority of this tasking is evidenced by the significant expenditure on platforms, research, and training in ASW.

3.1. ASW platforms and capabilities

3.1.1. Acoustic detection arrays

Olvana operates two distinct seabed sensor arrays for detecting submarines and other underwater objects. The first is located on the approaches to the Near Seas and is a set of discrete sonar arrays laid in chokepoints, on the boundaries of the First Island Chain, and in the approaches to the southern extremity of the South China Sea. The second array is an extensive, linked detection array known as the Great Underwater Wall (GUW). The GUW is the largest passive acoustic detection array in the world, extending from an area close to Japan to the Celebes Sea, via the approaches to Guam. The GUW follows seabed ridges, mounts and more shallow areas to provide a continuous line of sensor nodes.

Each sensor is a node in the wider network of the array. Stealthy communications buoys can be raised briefly to the surface to send flash reports via Satellite Communications to OPN HQ providing detection and simple pertinent acoustic signature information. The position of the node on the wall provides location. The capability has been proven at depths of up to 2000 metres, with buoyant tethers allowing the sensor ball to float at the optimum depth. In areas of known poor detection ranges, the node spacing is reduced and SURTASS vessels more often deploy to these areas.

Olvanan SSNs loitering in patrol boxes overlapping the GUW are able to receive short range cueing directly from any node, via low bandwidth basic alerts. The SSN can use this to re-position towards the node which reported the detection via a high speed transit to shadow surface or sub-surface contacts of interest.

3.1.2. Surveillance towed-array sonar system (SURTASS) Ships

The Type-927 *Dongjian*-class acoustic surveillance ship is equipped with a highly capable SURTASS array for acoustic detection. These ships are stationed within the limits of the GUW, but patrol in the deep water reaches of the Distant Seas. Working in conjunction with gliders and unmanned systems, the SURTASS ships will attempt to classify and locate underwater contacts, passing data back to the TASW HQ for analysis prior to promulgation to surface combatants.

It is believed that the SURTASS platforms operate in well-defined patrol boxes and are not cued onto potential sub-surface contacts by GUW or glider detections.

***Dongjian* AGOS (927)**

Auxiliary, general oceanographic surveillance

RANGE		AIRCRAFT	
INA		1x helo	
LOA	BEAM	DRAUGHT	TONNAGE
90	30	INA	5000
SENSORS			
Surveillance towed array sensor system (SURTASS)			
ODIN Link			

3.1.3. Unmanned underwater vehicles (UUVs) and gliders

The *Haiyi* ('Sea Wing') ASW Surveillance UUV glider features a torpedo-shaped main body constructed from aluminum alloy or carbon fiber composite material and features a pair of swept wings. Gliders move through the water without traditional propulsion, instead relying on shifting internal ballast, along with articulated wings to provide lift, moving up and down through the depths like a porpoise. This highly efficient form of propulsion enables the gliders to deploy for months on end without refuelling.

***Dajiang* AS (925)**

Auxiliary, submarine tender

RANGE		SPEED	
INA		20kt	
LOA	BEAM	CREW	TONNAGE
156	20.6	308	10087
Equipment		Aircraft	
Diving bell, 56T folding crane		2x Z8-C	
Deep submergence rescue vehicles			
1x LR7 or 2x Type 7103 DSRV			
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Dajiang-Class_(Type_925)_Chinese_Submarine_Support_Ship			

The OPN deploys gliders in large numbers on the extremities of the Distant Seas, forming a barrier between the GUW and the SURTASS patrol boxes. They are deployed and maintained by Type 925 *Dajiang*-class submarine tenders.

Deployed as passive autonomous surveillance platforms, long-range UUVs can provide cueing, but do not provide credible ability to continuously track detected sub-surface or surface contacts. With sufficient warning and if within intercept range they can be vectored into an area and conduct opportunistic attacks, however the OPN blue-on-blue problem cannot be underestimated. The frequency of communications between TASW HQ and the UUVs is not regular and reliable enough to make vectoring onto a threat reliable. These UUVs operate in similar areas to the gliders but cannot operate collaboratively with them. They are also laid and maintained by submarine tenders.

The Haishen 6000 and HSU 001 UUVs can be utilised in a 'self-destruct mode' whereby the vessel detonates a payload in close proximity to a surface ship or submarine. These UUVs are used as I&W platforms, predominantly in the Distant Seas, but could be redeployed to the Near Seas as expendable strike platforms in extremis. As with all of the OPN's ASW detection platforms, all data are fed directly into TASW HQ, not directly to surface combatants.

3.1.4. ASW submarines

ASW submarines are cued onto sub-surface detections in order to track adversary submarines in the Distant Seas. These are usually *Shang*-class SSGNs, while conventionally powered boats are predominantly employed within the Near Seas for escort and strike missions.

3.1.5. ASW maritime patrol aircraft

Whilst the MPA conduct regular patrols in the inner parts of the South China Sea, they are most effective when cued onto potential sub-surface contacts. The primary sensor employed is the single-use sonobuoys, and certain variants are armed with lightweight anti-submarine torpedos.

3.1.6. ASW surface combatants

The Olvanan surface combatants utilised for ASW are equipped with a towed array sonar system and an ASW helicopter. The Type 054A *Jiangkai II*-class frigate is the workhorse of the Olvanan fleet, and is the most capable ASW surface combatant.

The ASW *Jiangkai II* embarks a Z-9C ASW helicopter, equipped with dipping sonar and lightweight torpedos.

***Jiangkai II* FFH (054A)**

Frigate, guided missile

RANGE		SPEED	
8000nm		27 kts	
LOA	BEAM	DRAUGHT	TONNAGE
134	16	5.0	4000
64-cell VLS		ASCM	
HHQ-16, CY-5		2x 4-cell YJ-83	
Radar		Aircraft	
382 'Top Plate'		2x Z-9 or KA-28	
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_054A_Class_(Jiangkai_II_Class)			

Z-9C

Multi-role helicopter

RANGE		SPEED
1000km		305kph
LENGTH	ROTOR	ENDURANCE
12.1	13.7	5hrs
SENSORS		WEAPONS
HS-12 dipping sonar, FLIR		LWT torpedos, 23mm gun
ODIN Link		
https://odin.tradoc.army.mil/WEG/Asset/Z-9_Harbin_(WZ-9)_Chinese_Medium_Multi-Role_Helicopter		

***Shang* SSGN (093)**

Attack submarine, nuclear powered

RANGE		SPEED	
Unlimited		30 kts	
LOA	BEAM	PROP	TONNAGE
107	11.0	7-blade	6096
Torpedos		Sonar	
Yu-3, Yu-4, Yu-6, Yu-8		H/SQ2-262, H/SQG-207	
Radar		Mines	
Type 356		36x various	
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_093_Class_(Shang_Class)_Nuclear-Powered_Attack_Submarine			

3.2. ASW layered defence

Within the Distant Seas, Olvana's strategy is primarily to deter, delay, and deny effective use of adversary submarines. The secondary objective is to maximise the probability that these submarines will be detected and tracked prior to entry into the Near Seas.

The layered nature of the Olvanan ASW strategy is designed to achieve these two aims. It is organised into three layers:

1. Outer layer – Detect
2. Middle layer – Track
3. Inner layer – Engage

Sub-surface surveillance indications and warnings (I&W) are provided via the active and passive detection assets detailed below. These assets work together in a layered defence from the Great Underwater Wall (GUW) along the Second Island Chain, through the Distant Seas, to the First Island Chain where surface combatants and maritime patrol aircraft (MPA) are stationed.

3.2.1. Outer layer – Detect

The outer layer has three sub components comprising (from farthest out):

- The Great Underwater Wall (GUW) fixed passive sonar array;
- Large UUVs and gliders deployed recovered and supported by tenders, and
- Surveillance Towed Array Sensor System (SURTASS) Vessels.

These components are designed to provide early I&W for adversary submarines entering or operating within the outermost areas of the Distant Seas. The GUW has a relatively short latency but its probability of acquisition of a quiet submarine is not high.

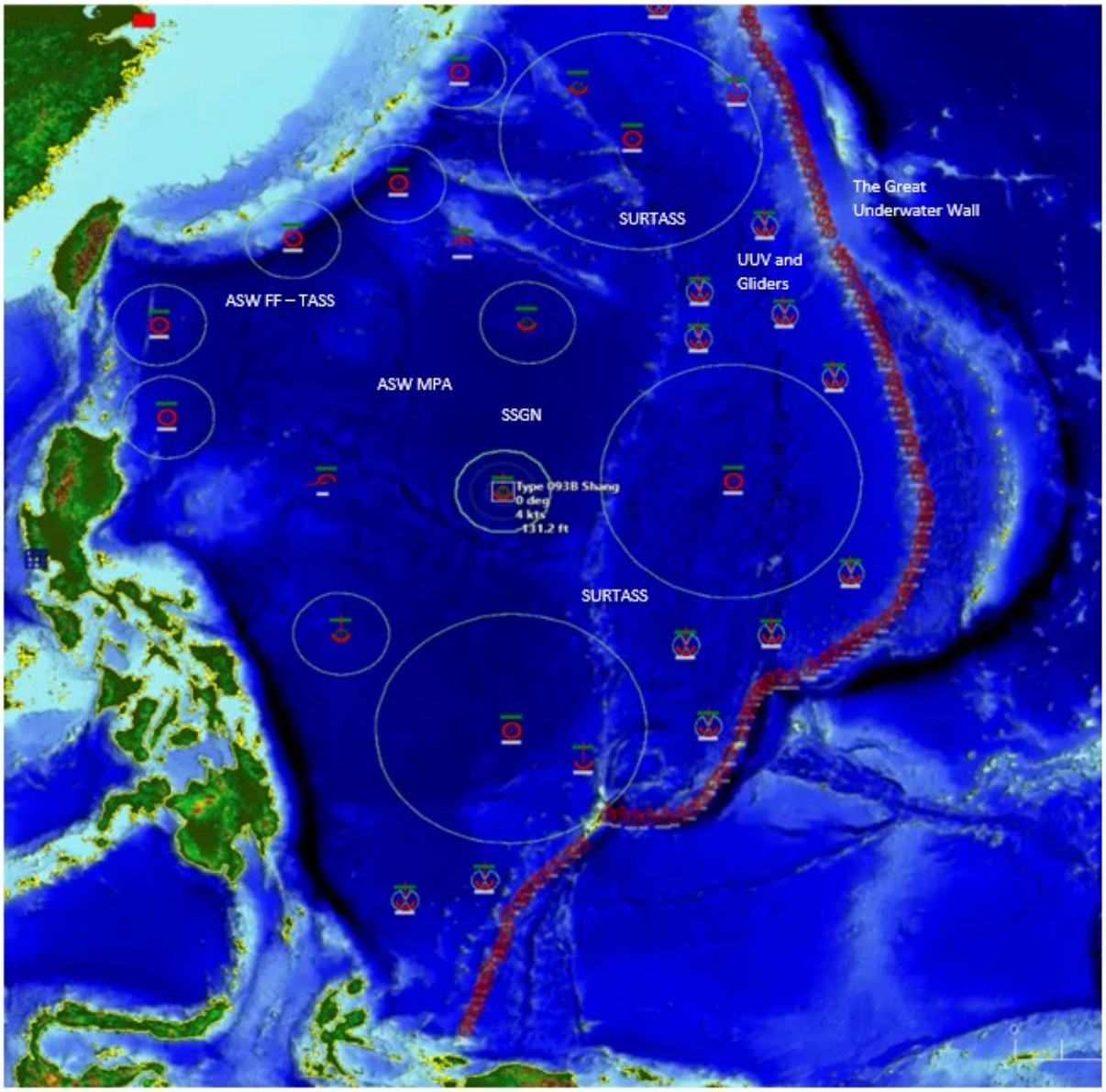
The UUVs and gliders immediately report all contacts on detection. This provides short latency reporting, but regularly generates spurious detections, degrading the systems' effectiveness. Their spacing and movement is irregular, however they are hard to detect so are intended to also deter an adversary from fast transit through the Distant Seas.

SURTASS vessels are effective but limited in number and are highly dependent on water column conditions. There are generally three *Dongjian*-class ships on station in the Distant Seas.

All systems in the outer layer are believed to report autonomously into Theatre ASW HQ, where the feeds are collated, sanitised, and cross-referenced to generate a more reliable intelligence picture for distribution. This process increases the latency of reporting, which results in stale or inaccurate reports, particularly for fast-moving assets.

3.2.2. Middle layer – Track

The middle layer is designed to maximise the probability of gaining tracking on detections from the Outer Layer or organic detections.



The figure above depicts the various layers inside the Great Underwater Wall (GUW). UUV and gliders roam the furthest reaches, just inside the GUW. To the west of this this, a minimum of three SURTASS vessels sweep in patrol boxes. Submarines capable of ASW can also be tasked inside of this layer, repositioning based on their daily communications check based on cueing from the outer layers. ASW MPA patrol in the approaches to the first island chain in the first third of the Distant Seas.

3.2.3. Inner layer – Engage

The inner layer of defence is westward of the First Island Chain, within the Near Seas. This layer comprises MPA such as the Y-8 ASW variant, armed with lightweight torpedos and other ASW weapons, as well as *Jiangkai II*-class FFH optimised for subsurface warfare.

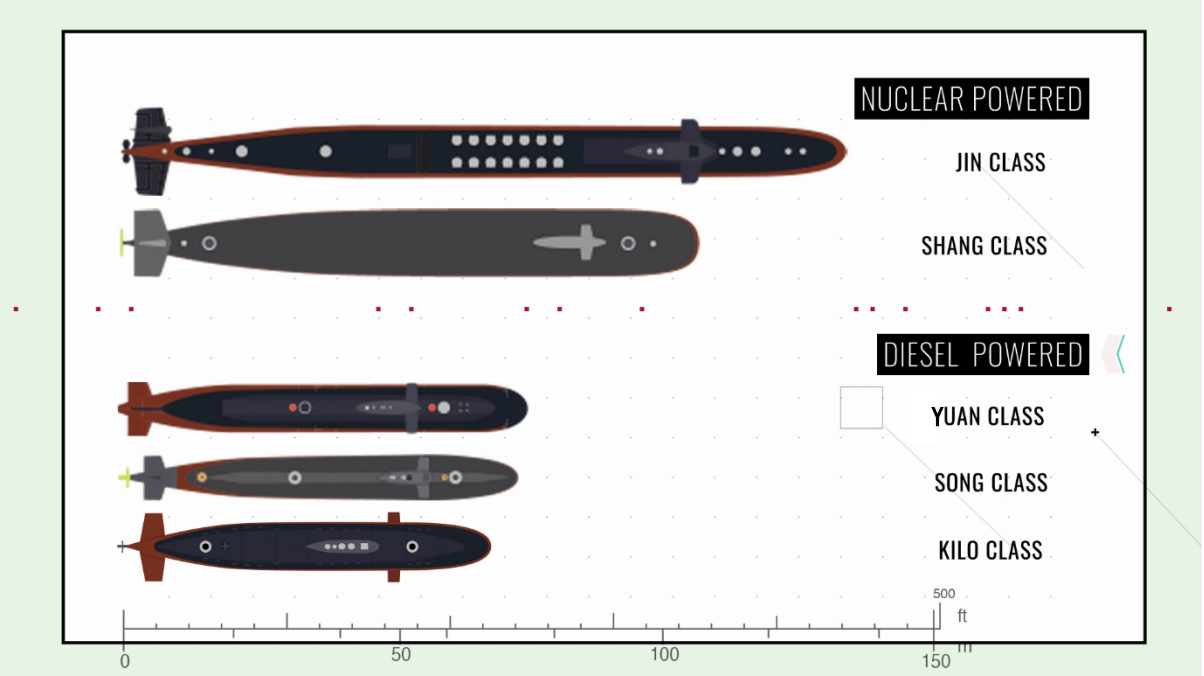
4. Submarine Operations

Submarines play a number of roles in the Olvanan People's Navy OPN submarine mission sets can include mining operations, special forces insertion and extraction, and ISR but the main mission sets are

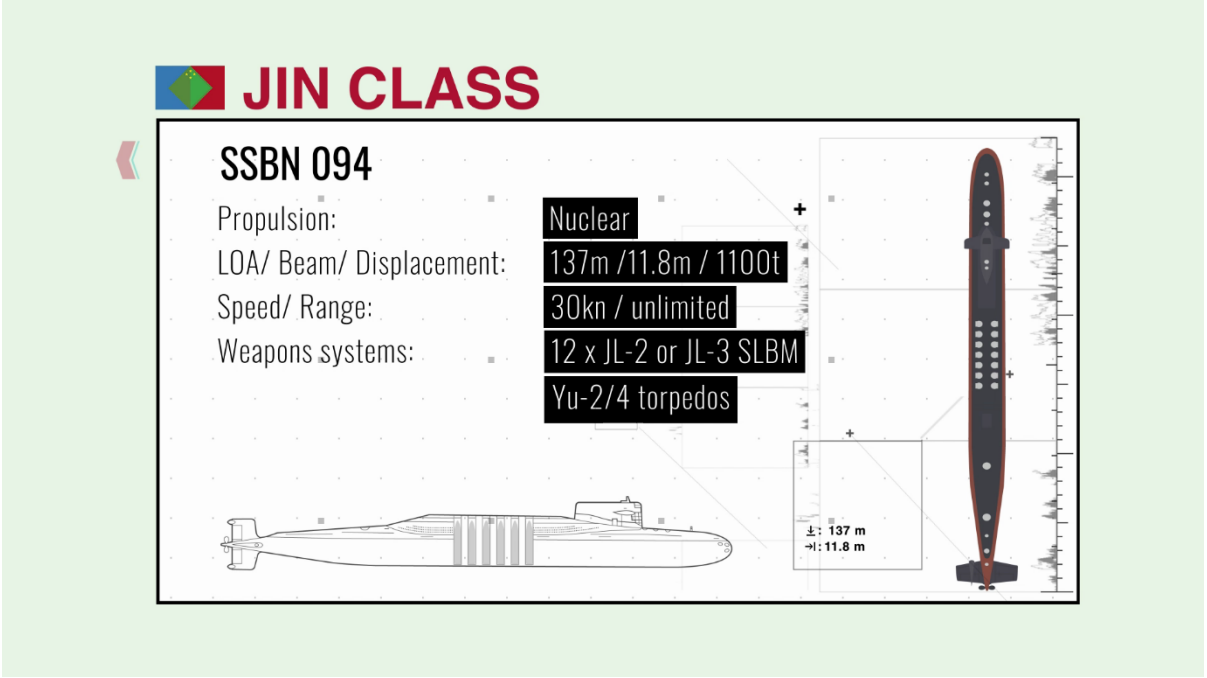
- Nuclear deterrence and long-range land strike
- Contribution to A2/AD operations
- Support to surface task groups (CBG and ATG)

4.1. Platforms

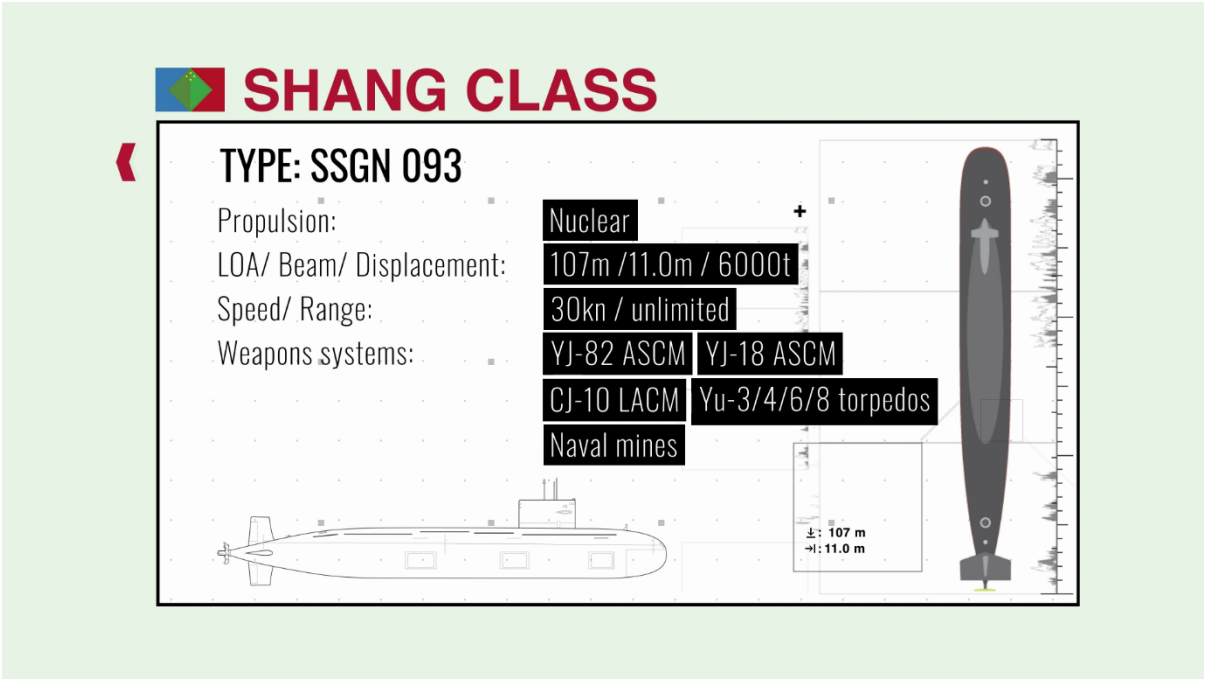
The Olvanan Navy operates five classes of submarine, each of which has a specific role and purpose.



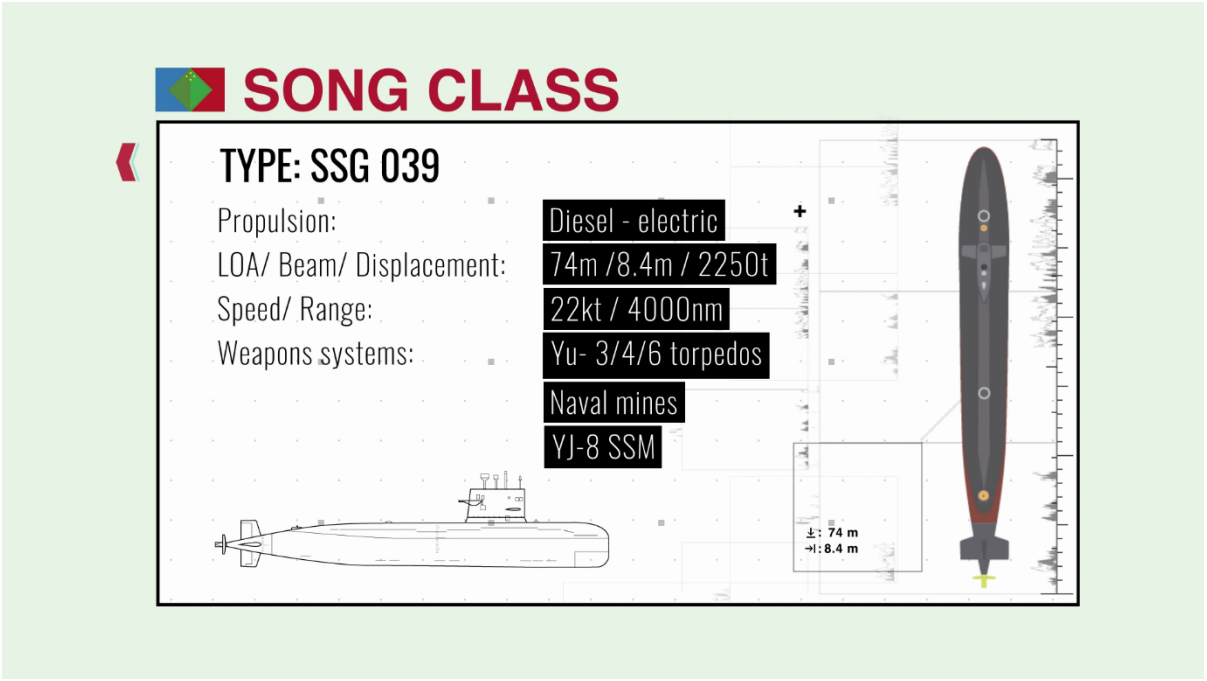
Jin-class ballistic missile submarine is Olvana's nuclear deterrent and flagship submarine



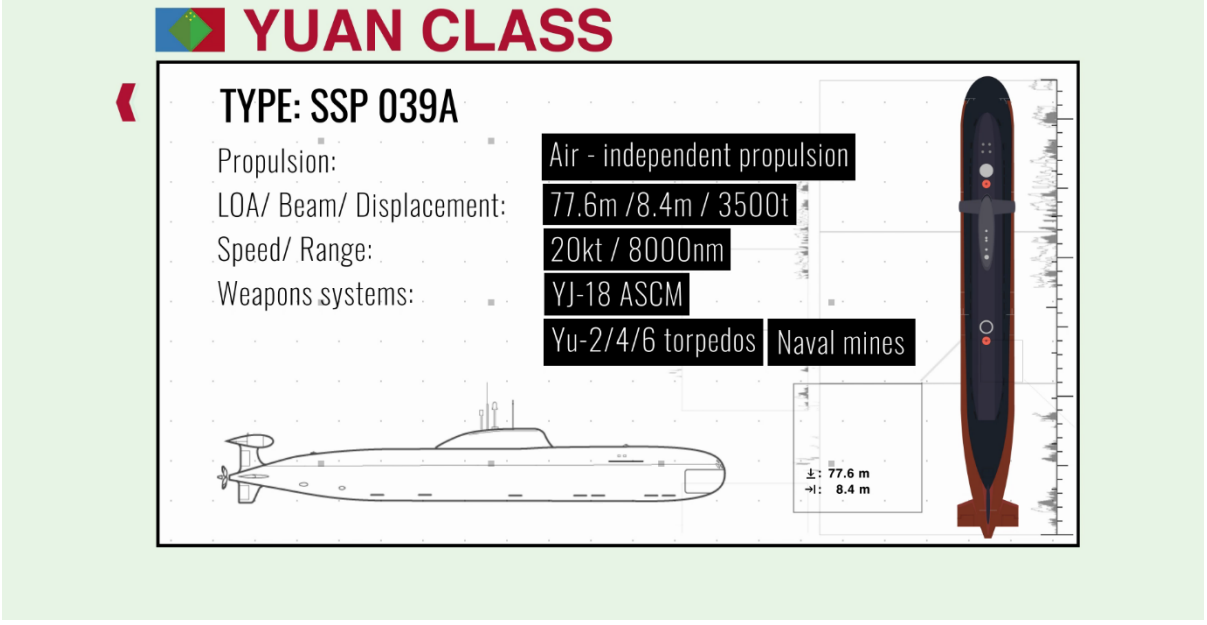
Shang-class nuclear-powered attack submarine combines high speed, underwater endurance and a land and maritime strike capability.



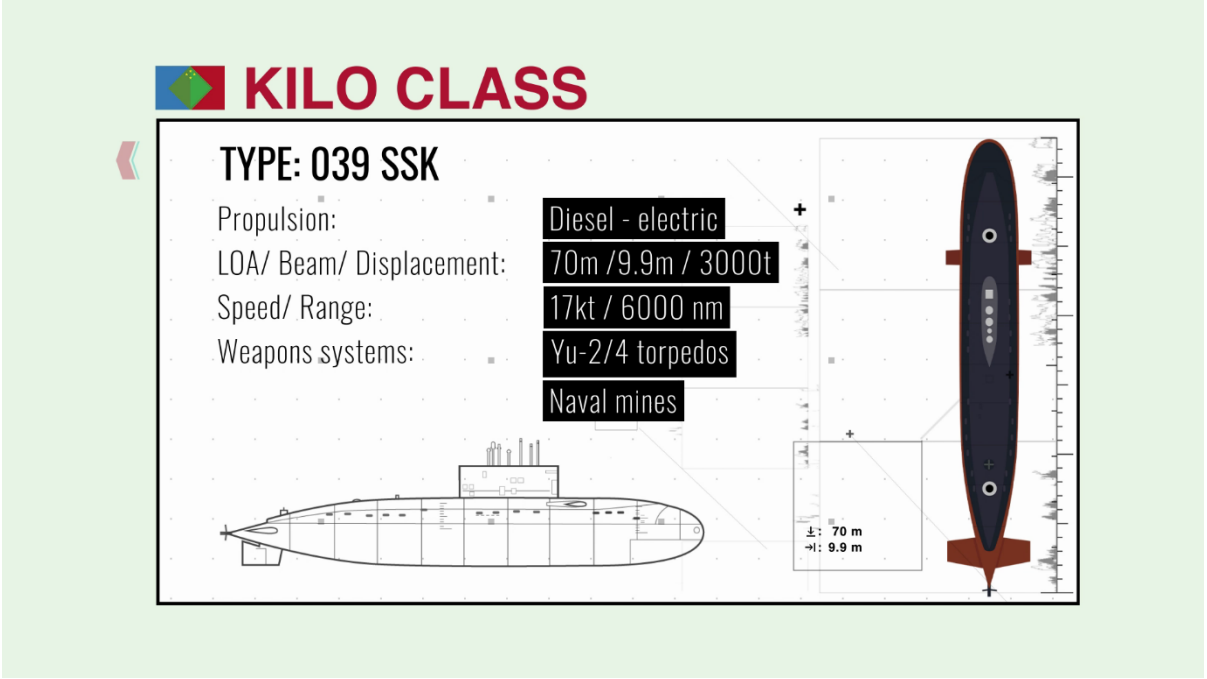
Song-class of diesel-electric attack submarines are perfect for defending chokepoints, laying mines, and patrolling in shallow littoral waters.



Yuan-class is a slightly-larger variant of the *Song*, with air independent propulsion for increased underwater endurance, enabling it to operate in open ocean as well as the littorals.

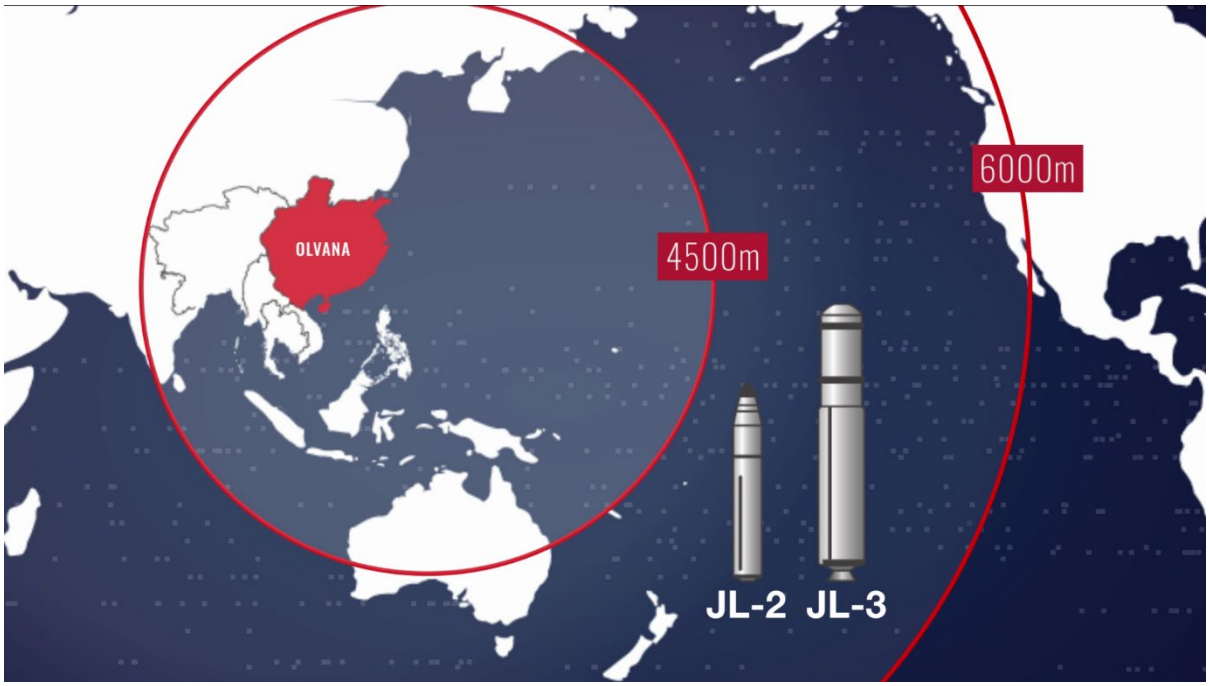


Kilo-class is a diesel-electric attack submarine, primarily for intelligence, surveillance and reconnaissance tasks.



4.2. Nuclear deterrence and long-range strike

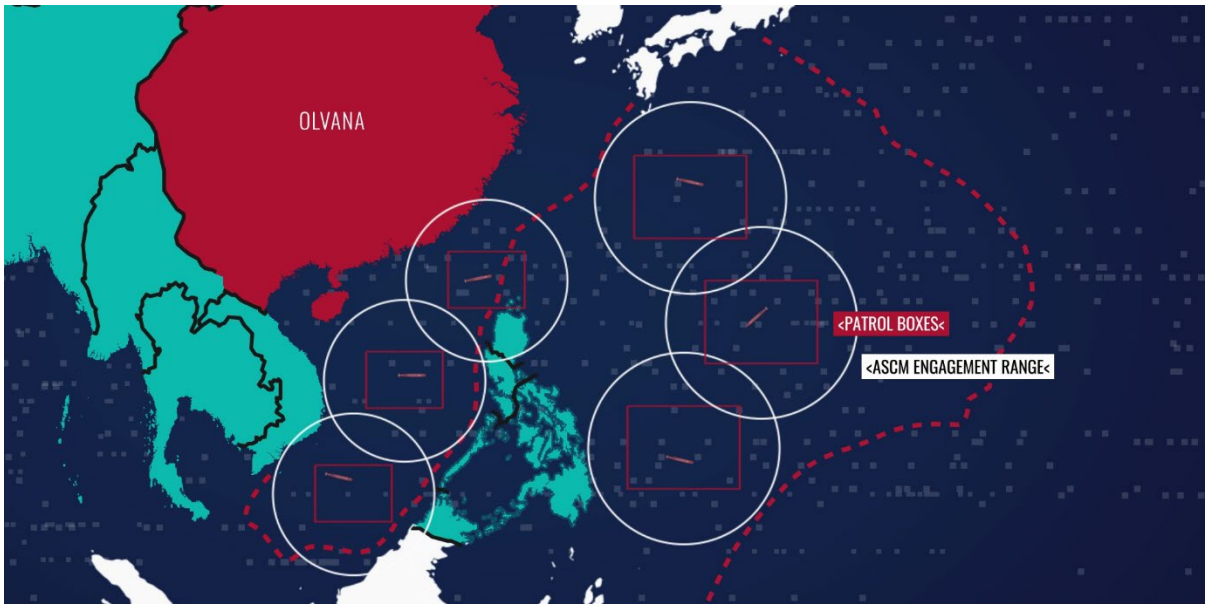
Olvana's strategic nuclear deterrence program is conducted by its six *Jin*-class SSBNs. At any time, two SSBNs are deployed to undisclosed locations, one in the Near Seas and one in the Distant Seas. These vessels operate independently in large patrol boxes, with no need for sustainment from surface submarine tenders. Each submarine can carry up to 12 ballistic missiles, providing a formidable nuclear capability. The JL-2 ballistic missile is capable of striking targets at up to 4500 miles while the newer JL-3 missile has a reported range of up to 6000 miles, capable of reaching the western seaboard of the United States.



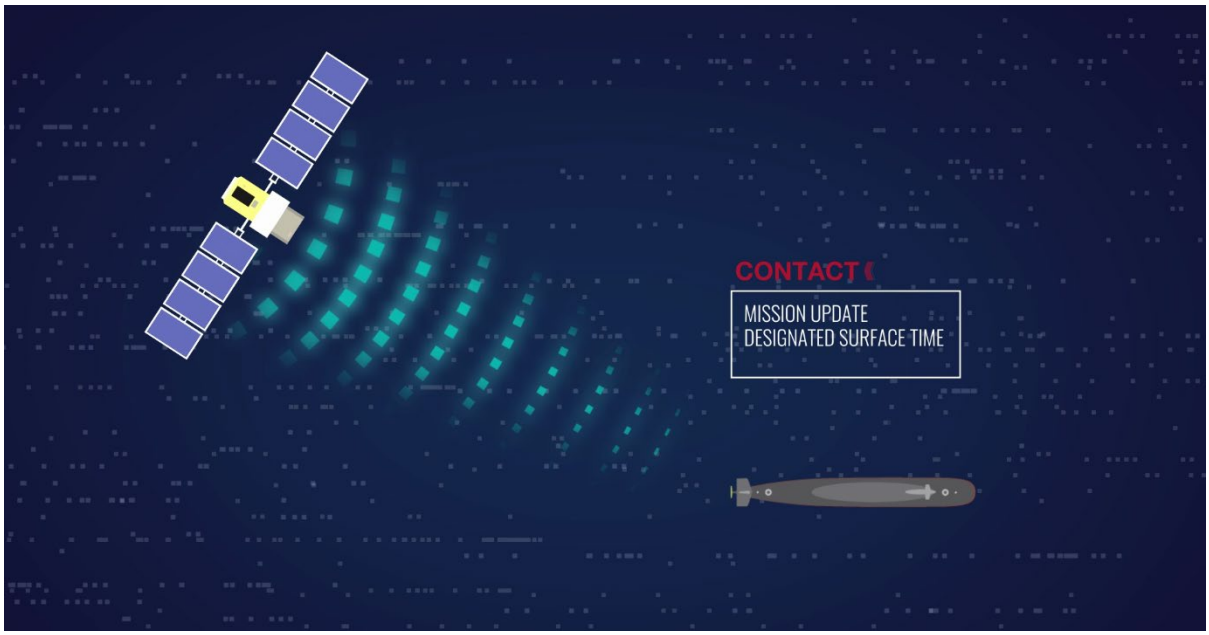
4.3. Submarine A2/AD

Olvana's maritime A2/AD strategy relies heavily on the employment of Shang-class submarines in the Near and Distant Seas.

The primary line of defence comes from a rotating deployment of six Shang class submarines: three in the Near Seas and three in the Distant Seas. Each boat operates within a defined patrol box, to ensure deconfliction between the vessels. These patrol boxes have been carefully positioned relative to natural chokepoint in the island chain, and designed to maximise the range and coverage of submarine-launched anti-ship cruise missiles.



Each Shang-class submarine is expected to surface every 24 hrs to communicate with command via satellite link. However, as they are nuclear powered they are able to remain submerged indefinitely in the event of an engagement or should an operational need arise. Once it surfaces, the boat will be provided with a mission update and a designated time to surface again. Surfacing times vary in order to retain tactical deception.



If a target exists, the satellite can pass targeting information directly to the submarine without the need for an aircraft or surface vessel to relay it. The submarine is able to immediately launch an ASCM strike, or dive and redeploy to engage the target at a later time or from a more tactical position.

Coordinated strikes with air- and submarine-launched anti-ship missiles are possible utilising this method but the OPN and OPAF struggle to deliver ASuW strikes from aircraft in the furthest reaches of the Distant Seas without a carrier present to provide air superiority.

The advent of the short latency satellite targeting has pushed the OPN to move away from torpedo attacks. However, if the missile-based strategy has failed and enemy units are operating within Olvana's backyard, submarines will need to remain submerged for long periods to avoid detection.

Submarine commanders are capable of independent tasking, but in the absence of regular communications they will only be able to strike at targets of opportunity within their patrol boxes. Co-ordinated strike is not possible in this context.

In the event of an overwhelming invasion force, the patrol box construct is abandoned and Olvana will put to sea as many submarines as are available, including Shang, Song, and Kilo class boats. In this contingency the risks of interaction between friendly units is much higher, but that is a tactical decision made necessary by immediate threat.

Any targets identified may be engaged, in order to prevent lodgement of a CBG or ATG within Olvana's territory. Olvanan submarines may execute torpedo strikes on targets of opportunity, but this is not the preferred strategy.

4.4. Support to task group

The Shang-class submarine is regularly employed as part of a carrier battle group or amphibious task group. In this role, the SSGN provides a point defence function; protection of the carrier from ASW threats. The boat patrols between 50 and 100 miles ahead of the surface group, providing early detection of any threats.

The nuclear-powered boat's ability to maintain high speed and remain underwater for weeks at a time makes it ideal for this role. The Shang class is capable of torpedo and guided missile strikes. The submarine remains within the air defence screen provided by the surface units, acting as a last line of defence against subsurface attacks. If it is not able to safely engage, Shang can reposition to provide targeting information to the surface combatants.

Further information on the SSGN role in carrier battle group operations can be found in Chapter 8.

4.5. Conventionally-powered submarines

Olvana's fleet of diesel electric submarines are smaller and quieter than the nuclear powered boats. Conventionally powered submarines are not force assigned to task groups, as they are unable to keep up with the fast-moving surface ships However, they can be employed for specific tasks in support of a larger mission, such as chokepoint transit or AOA lodgement. Their small size and silent operation mode enables them to operate in the shallow littoral waters of the first island chain, with very low chance of detection.

When submerged, the *Song* and *Kilo* class submarines can only use battery power. However, once the battery is depleted, the submarine must surface to periscope depth in order to run its diesel generator and charge the battery. The *Yuan*-class's air independent propulsion technology allows it to remain submerged for up to two weeks without surfacing. This allows the SSP to operate in a dual role, small enough to work the littorals but large enough to deploy into the distant seas as required.

5. Carrier battle group operations

Olvana's aircraft carrier operations are well planned and thought through. Limited mission sets are currently available and the carrier is primarily employed in an A2/AD role in line with the overall OPN strategy. Carriers are not utilised currently in a force projection or offensive role, however, their ability to strike at particular island targets is able to provide a deterrent effect. For this reason, the OPN eschews the US nomenclature of 'carrier strike group', instead preferring 'carrier battle group' (CBG).

Carrier battle group operations are conducted over five phases:

1. Work up
2. Prepare and surveil
3. Transit
4. Operate in theatre

5.1. CBG Platforms

5.1.1. Sector screen

A standard CBG will comprise the following platforms arranged in a sector screen as follows;

1x *Kuznetsov* Aircraft Carrier (CV)

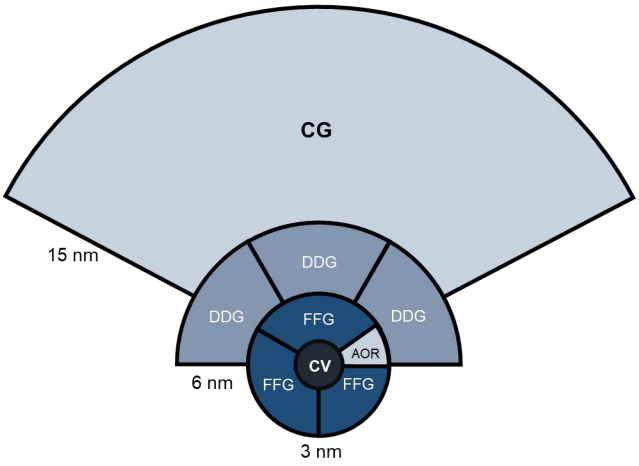
1x *Fuyu* Fast Combat Support Ship (AOR)
Part of FFG sector screen

1x *Renhai* Cruiser (CG)
Air defence, 6 to 15 nm upthreat

3x *Luyang III* Destroyer (DDG)
180° AAW sector screen, 3 to 6 nm from CV

3x *Jiangkai II* Frigate (FFG)
360° ASW sector screen, 1 to 3 nm from CV

1x *Shang* Attack Submarine (SSN)
Wide area patrol, 50 to 100 nm ahead of CBG



5.1.2. Air wing

Capable of deploying up to 85 aircraft, the Type 003 will be one of the most powerful aircraft carriers in the world, behind only of the U.S. Navy's *Nimitz* and *Ford*-class carriers. The probable composition of its embarked wing will be:

- J-15 Flying Shark
    - The J-15 is the main defensive and offensive component of the CNS *Liaoning* and CNS *Shandong*, and will probably also be on the Type 003, most likely in a modernized version.

- J-15 Flying Shark Upgrade
    - A new, more advanced variant of the Flying Shark would integrate next-generation technologies comparable to those of the J-11B and J-16. These would include new and more powerful domestic engines with vectored thrust; new 5th generation electronic warfare and avionics systems; possible use of artificial intelligence; a powerful active electronically scanning AESA radar; the latest range of smart weaponry, such as the PL-15 missile for long-range air-to-air combat; extensive use of composite materials in the fuselage and RAM coatings to reduce its radar signature, etc.
    - This new version could remain single-seat, or a two-seat version could be developed, similar to the Air Force J-16 (OPAF), which already incorporates several of the technological elements mentioned above.
- J-35, the J-35 will be the discrete companion to the future iteration of the J-15, and they will work as a team, much as the US Navy's F/A-18 E/F Super Hornet and F-35C Lightning II do.

5.1.3. Supporting elements

Aircraft:

- Y-8 MPA (ASW variant) on-task in week prior to transit
- Wing Loong / WZ-7 (or similar) LR UAV, enough for constant presence during key phases
- Z-9 ASW helicopter (organic to CBG platforms)
- KJ-2000 Mainring

Other supporting assets:

- *Shang*-class SSGN
- Special forces embedded ashore in local areas
- Satellite feeds
- HUMINT from land forces
- SURTASS vessels
- Hydrographic survey aircraft or ships Aircraft

5.2. Phase 1 – Work up

5.2.1. Initial platform workup

Basic Independent local training operations with organic air ops. Carrier exercises own control of own aircraft, usually near home port.

5.2.2. Integrated air ops, land based fast air and organic

Control of own and land based aircraft. Integration of AEW and C2 aircraft such as Mainring. Training strike (land based) and defensive counter air (organic) and escort of strike aircraft. This is usually conducted in a low threat with minimal adversary fast air to counter.

5.2.3. Independent air ops, high end warfighting

Contested OCA / DCA mission sets with own AEW and C2. Organic air are trained to prevent adversary strike aircraft and their escorts from reaching the near seas land targets such as reefs. This is conducted often in the far reaches of the near seas and the perceived threat vectors from South Torbia or Guam.

5.2.4. Task group integration

Once the independent air ops is successful the task group will be formed and surface combatant escorts will be worked up. A zone Air Defence method is utilised with DCA 100-200nm out from the carrier and the CG and DDGs covering inside around 75nm.

5.3. Phase 2 – Prepare and surveil

As with all Olvanan missions, the preparatory phase of any CBG operations begins well before the tactical action is planned. Foreign investment in ports, harbours, and other maritime infrastructure provides an opportunity for oceanographic surveillance vessels to conduct high quality hydrographic surveys of key channels. These surveys go far beyond the level required for economic investment, with a focus on acoustic and thermal conditions.

It is assessed that Olvana has achieved a high level of preparation for all key chokepoints and crucial maritime areas in its Near Seas, and is increasingly carrying out such surveys in the Distant Seas.

5.4. Phase 3 – Transit

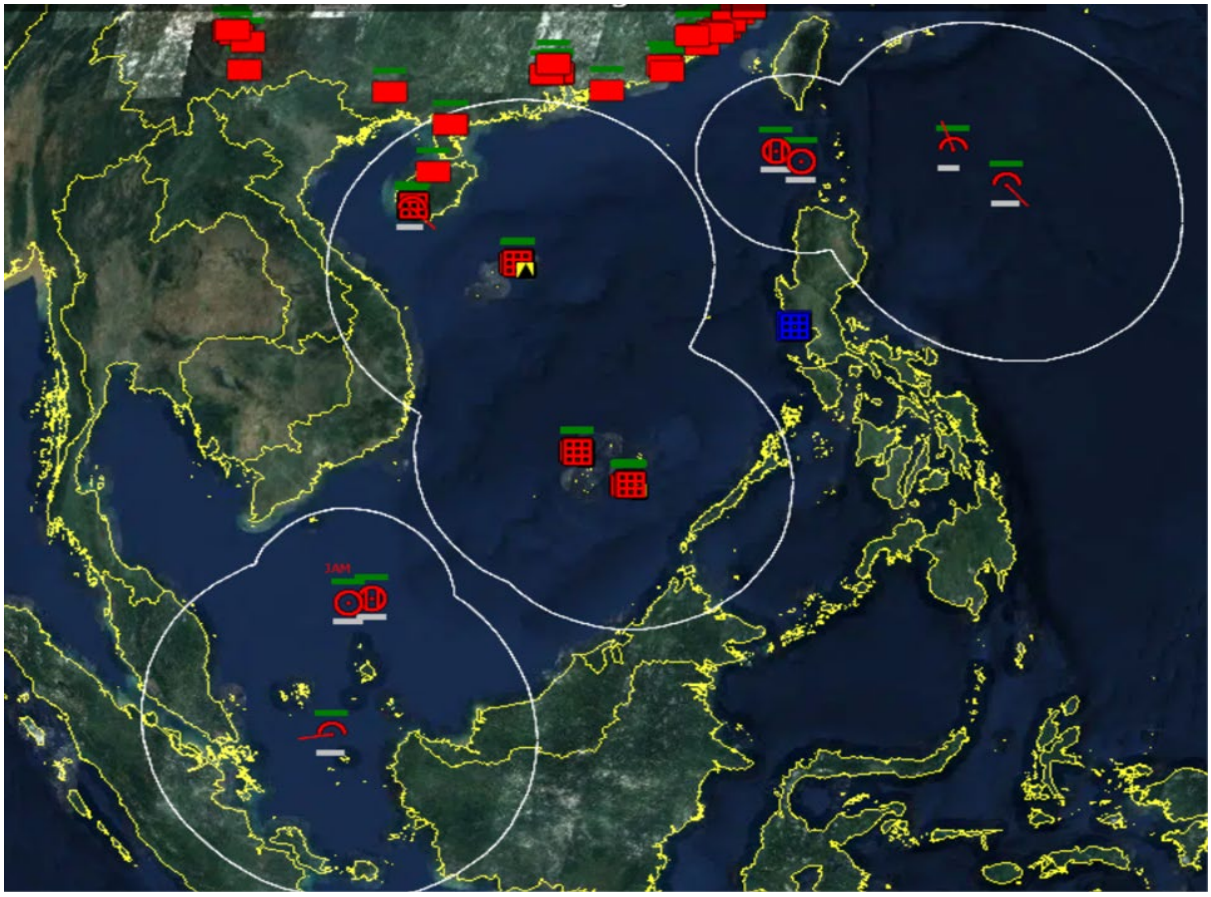
When passage planning, multiple distinct route options should be identified and both surveilled to an equal level. This provides options should one be found to be unsuitable, and creates a tactical dilemma for the enemy seeking to predict the movements of the CBG.

The surveillance phase takes place across all theatre domains. Satellites provide ongoing imagery of the area, while maritime patrol aircraft search for subsurface threats. On the ground, intelligence operatives apparently working on maritime infrastructure projects provide information on the human terrain, while special force soldiers infiltrate any potential weapon sites.

Where possible, chokepoints should be avoided as these present significant risk to the CBG. Should a chokepoint transit be necessary, the process will follow the steps outlined in section 8 of this document.

5.5. Phase 4 – Operate in theatre

The CBG is used to push the adversary further away from the Near Seas by extending the threat to aircraft further than can be achieved from the reef and mainland areas alone.The figure below shows the air sensors installed on the three artificial reefs (Woody Island NW, Subi Reef Middle and Mischief Reef SE).



The approaches to the Near Seas are covered here by the two CBGs. The KJ-600 and KJ-500 provide airborne early warning (AEW) outside the missile engagement zone (MEZ) of the *Renhai* CG that provides area air defence from its position in the sector screen. The KJ-2000 can also deploy to these areas from mainland Olvana or from the forward operating airfields on the three reefs.

Defensive and offensive counter air (DCA/OCA) is provided via carrier-based fast air assets outside the MEZ of the CG.

- The reef based SAM systems are a layered combination of S-400 Grizzly (SA-21 a/b) up to 215nm, HQ-9 (80nm) and HQ-12 (30nm).
- The *Renhai*-class CG utilises a combination of HHQ-9 and HHQ-10[1] for point defence.
- Carrier based fast air commonly utilise combinations of PL-15 (94nm), PL-12 (50nm) and PL-10 (11nm) for OCA and DCA.

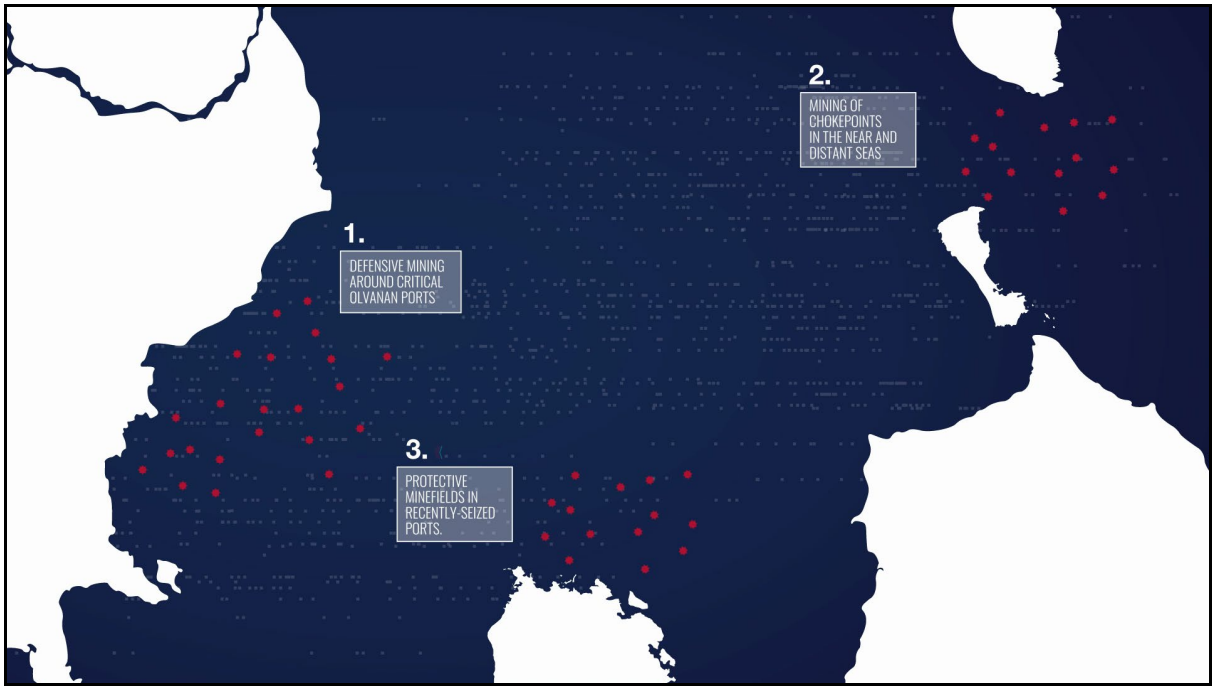
[1] Note that the additional 'H' in HHQ-9 and HHQ-10 denotes the shipborne variant of the missile.

6. Mine Warfare Operations

6.1. Overview

Mine warfare is a critical enabler of Olvana's maritime anti-access/area denial (A2/AD) strategy. This is a key pillar of Olvana's 'win without fighting' principle, providing a persistent A2/AD function without active intervention. A2/AD is a core function of this doctrine and Olvana utilises sea mining as an asymmetric enabler to achieve its strategic aims.

The goal of mine warfare is to achieve sea denial for adversary ships and submarines, while permitting free movement for Olvana's platforms.



Olvanan doctrine uses mine warfare in three key areas

1. Defensive mining around critical Olvanan ports
2. Mining of chokepoints in the near and distant seas.
3. Protective minefields in recently-seized ports.

While Olvana is capable of laying offensive minefields, this does not presently align to its doctrine.

6.2. Mine types and MW platforms

Olvana is assessed to have a stockpile of 80,000-100,000 mines of various types, enough to achieve its strategic goals. A summary of the primary mine types is provided in the table below:

MODEL	TDD	TYPE/MISSION	LAYING PLATFORM	CASE DEPTH METRES	WARHEAD KG
C-1 500 C-1 1000	Acoustic, magnetic	Bottom ASW, ASUW	Surface ships, aircraft, submarines	6–30	300/700
EM-52	Acoustic, magnetic, pressure	Rocket-propelled straight-rising ASW, ASUW	Surface ships	200	140
EM-56	Acoustic, magnetic, pressure	Mobile [13 km] ASUW	Submarines	45	380
M-3	Contact	Moored ASUW	Surface ships, submarines	12–430	[large]
M-4	Acoustic	Moored ASW, ASUW	Surface ships, submarines	200	600
PMK-2	Acoustic [passive/ active]	Rocket-propelled encapsulated torpedo ASW	Aircraft, surface ships, submarines	400 [anchor depth > 1,000]	110

NAVAL WAR COLLEGE REVIEW, VOL. 65 [2012], NO. 2, ART. 5

Olvana's flagship mine warfare platform is the Type 082 II *Wozang*-class mine countermeasure vessel. This vessel is capable of a wide range of mine clearance activities, as well as mine laying. Olvana also utilises airborne platforms, maritime militia fleet, and even scientific research vessels to covertly lay mines.

Wozang MSC (082II)

Minesweeper, coastal

RANGE		SPEED	
500nm		15kt	
LOA	BEAM	DRAUGHT	TONNAGE
55	9.3	2.6	575
SWEEPING GEAR		MINES	
Type 317, Type 318, Type 319		Up to 6 of various types	
ODIN Link			

Y-8FQ

Maritime patrol aircraft

RANGE		SPEED
5615km		660kph
LENGTH	SPAN	SERVICE CEILING
34	38	10,400m
SENSORS		ENGINE
Chin radome, MAD, sonobuoys		4x turboprop
ODIN Link		

KQ-200

Maritime patrol aircraft

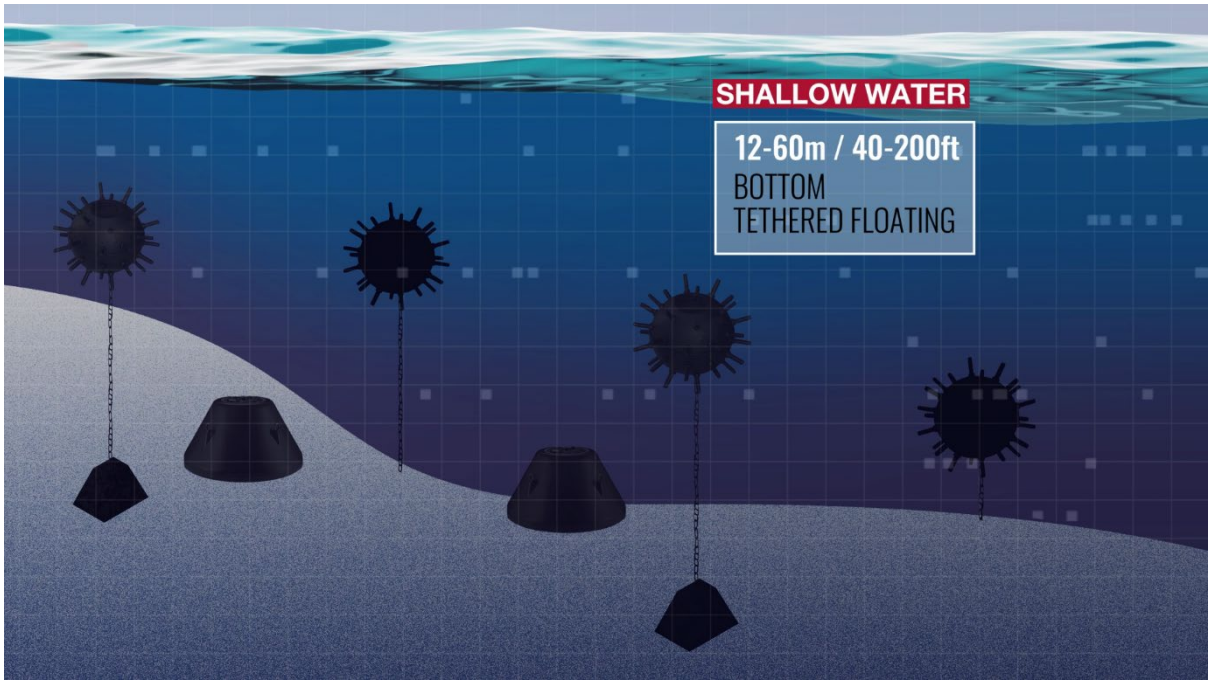
RANGE		SPEED
5000km		560kph
LENGTH	SPAN	SERVICE CEILING
36	38	10,400m
SENSORS		ENGINE
Radar, FLIR, MAD, sonobuoys		4x turboprop
ODIN Link		

6.3. Mine laydown

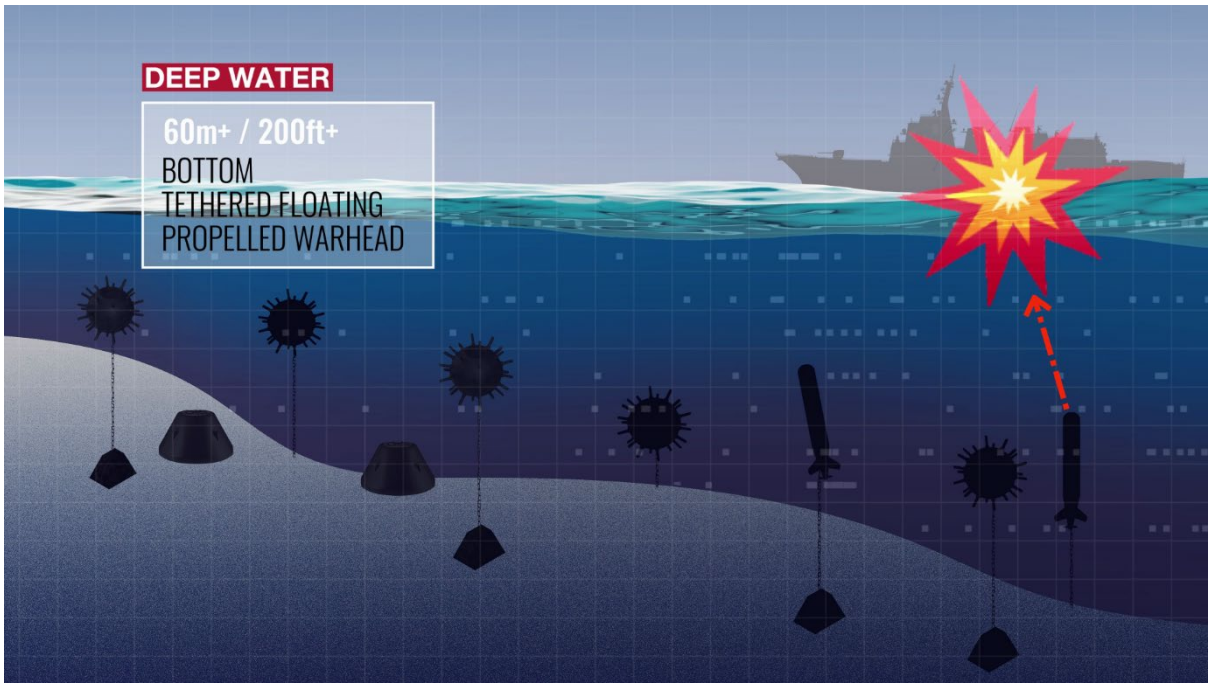
Mine warfare is a central tenet of Olvana's strategy of layered defence. A wide range of mine types is utilised at varying depths to provide defence in depth

Along the shoreline and in the intertidal zone, landmines and passive fortifications are more reliable than sea mines.

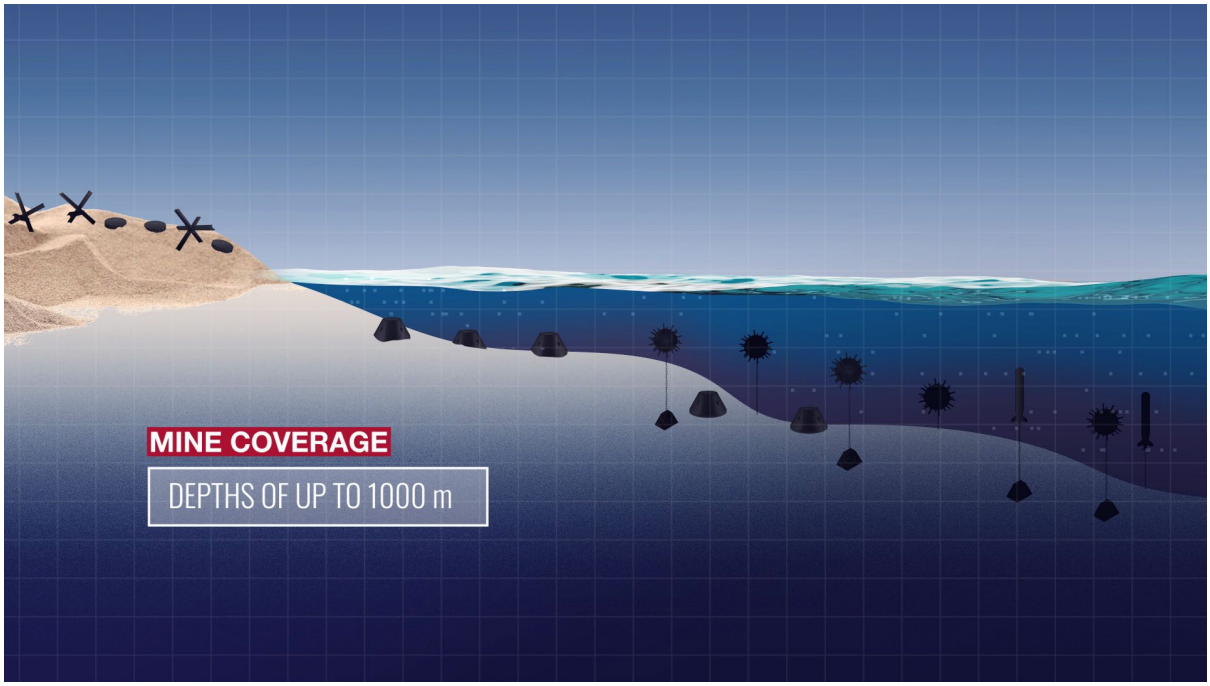
In very shallow water, bottom mines are laid while in slightly deeper water, tethered floating mines provide a variable height threat.



Propelled warhead mines will launch on activation and actively seek out targets.



Olvana does not employ untethered floating mines as the use of these weapons is prohibited under international law. This would counteract Olvana's strategic aim to be recognised as a legitimate military power. This layered approach provides mine coverage to depths of up to 1000 metres, which is sufficient for almost all relevant areas within the Near Seas and surrounding archipelagos.



7. Chokepoint transit

The chokepoint transit is probably the most dangerous part of the voyage for an Olvanan task group. Threats from air, land, sea, and sub-surface all converge at a time when the task group is unable to manoeuvre with freedom.

The OPN are well versed in executing choke point operations. All strategically viable choke point passages in the OPNs area of interest are shaped and prepared long before they are used. They are sure to have more than one option prepared and scoped in advance. Chokepoint transists are conducted over three phases;

1. Prepare
2. Surveil
3. Control

Each phase employs vast strategic and political approaches to the areas of operation in order to provide access to shaping units. Transit areas are selected well in advance and significant resources are applied to ensure the above phases are successful.

7.1. Platforms

7.1.1. Task group

The composition of the transiting task group depends on the subsequent mission to be achieved. Tranist of a chokepoint is not a mission in and of itself, but merely a necessary tasking that needs to be achieved in order to achieve a higher mission. For this reason, the organic capability of the task group may vary significantly, affecting what supporting elements need to be employed.

This example considers a standard amphibious task group (ATG) with the following platforms arranged in a sector screen as follows:

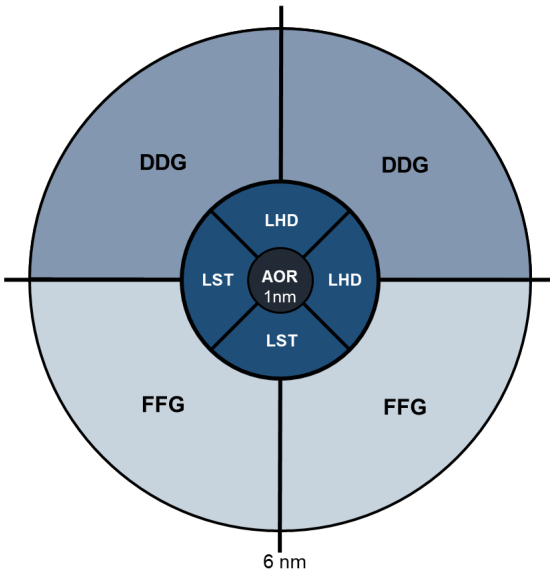
1x *Fuchi* Auxiliary (AOR)
1nm radius in centre of screen

2x *Yushen* Amphibious Assault Ship (LHD)
1-3 nm from AOR

2x *Yuting* Landing Ship (LST)
1-3 nm from AOR

2x *Luyang III* Destroyer (DDG)
180° AAW sector screen, 3 to 6 nm from ATG

2x *Jiangkai II* Frigate (FFG)
180° ASW sector screen, 3 to 6 nm from ATG



7.1.2. Supporting elements

Aircraft:

- Y-8 MPA (ASW variant) on-task in week prior to transit
- Wing Loong / WZ-7 (or similar) LR UAV, enough for constant presence during key phases
- Z-9 ASW helicopter (organic to taskgroup platforms)

Other supporting assets:

- Patrol submarine (*Yuan* or *Song* class)
- Special forces embedded in local area
- Satellite feeds
- HUMINT from land forces
- SURTASS vessels
- Hydrographic survey aircraft or ships

7.2. Prepare

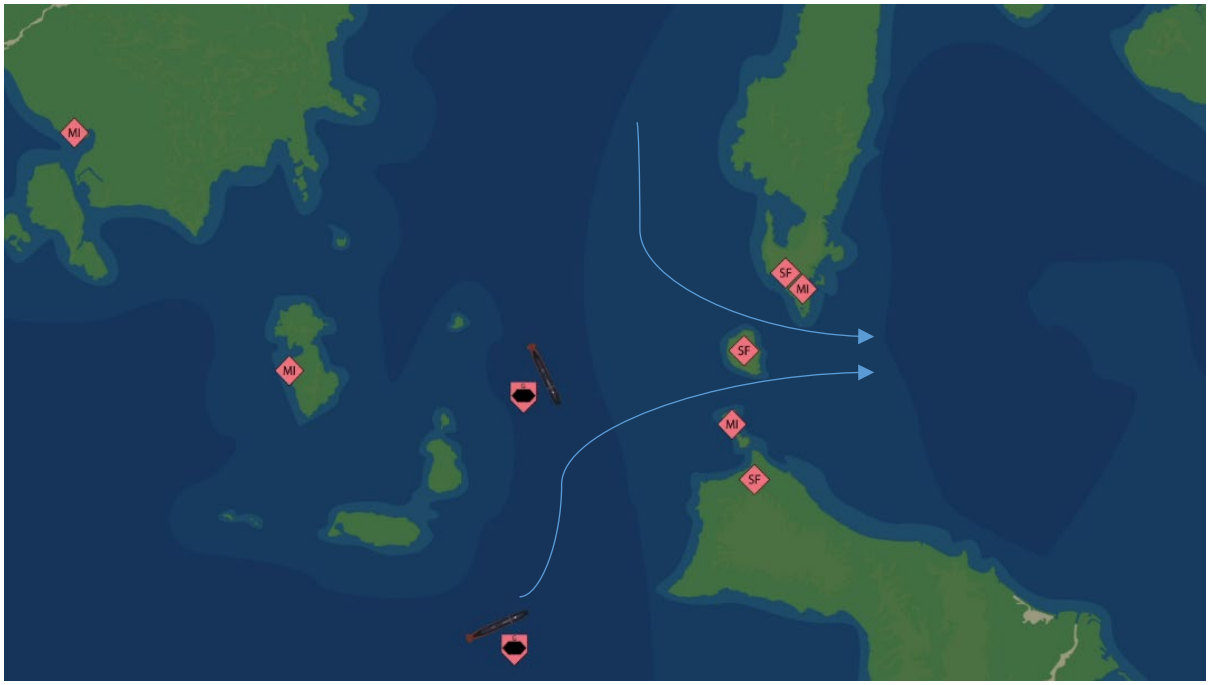
As with all Olvanan missions, the preparatory phase of the chokepoint transit begins well before the tactical action is planned. Foreign investment in ports, harbours, and other maritime infrastructure provides an opportunity for oceanographic surveillance vessels to conduct high quality hydrographic surveys of key channels. These surveys go far beyond the level required for economic investment, with a focus on acoustic and thermal conditions.

Figure 8 - Hydrographic survey vessels provide detailed charting of chokepoints

It is assessed that Olvana has achieved a high level of preparation for all key chokepoints in its Near Seas, and is increasingly carrying out such surveys in the Distant Seas.

7.3. Surveil

Once the need for a chokepoint transit has been identified, suitable options are selected and the surveillance phase begins. Where possible, at least two distinct options should be identified and both surveilled to an equal level. This provides options should one be found to be unsuitable, and creates a tactical dilemma for the enemy seeking to interdict the task group. Even if one channel should prove unfeasible, surveillance methods should be carried out on all options, so as to deny the enemy insight into which is the preferred option.

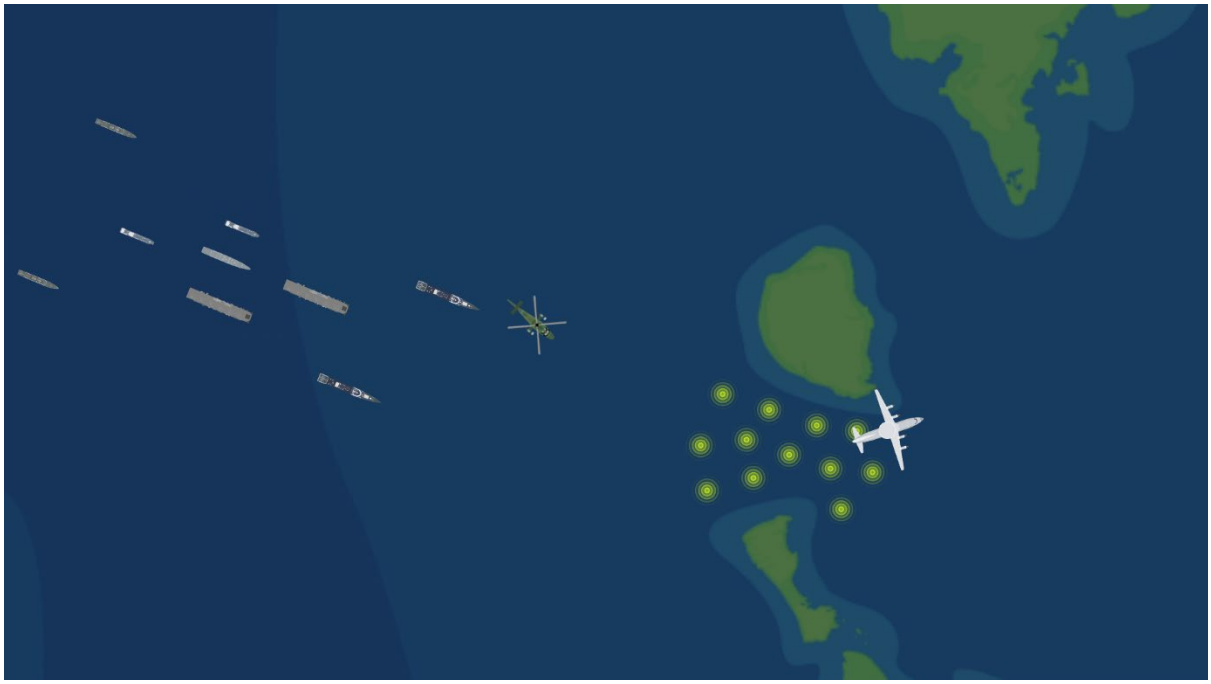


The surveillance phase takes place across all theatre domains. Satellites provide ongoing imagery of the area, while maritime patrol aircraft search for subsurface threats. On the ground, intelligence operatives apparently working on maritime infrastructure projects provide information on the human terrain, while special force soldiers infiltrate any potential weapon sites. Meanwhile, below the surface, Yuan-class submarine patrols ensure the waterway remains clear

7.4. Control

Sea control and air supremacy are established in the hours leading up to the transit. Enduring dominance is unsustainable, but for the period of the transit, it is necessary to maintain superiority over the battlespace. Fast air off from nearby island bases provides defensive counter air patrols. Threats on the ground are disabled by covert special force operations and a final *Yuan* transit is conducted a few hours prior to the task group transit.

MPA fly overhead, laying a multistatic sonobuoy field, supported by the dipping sonar of Z-9 helos launched from the task group.



Immediately prior to the transit, one FFH breaks off from the main group to sweep the planned route with its towed array sonar. Working with the sonobuoys, this sonar is able to create a multistatic field to provide enhanced acoustic fidelity and ensure that the channel is clear of any hostile assets.

The task group switches to an overt posture, with full coverage of the electromagnetic spectrum. Transit is conducted at the highest speed possible (dependant on the slowest unit in the task group), to minimise time in the high-risk zone. For the duration of the transit, Olvana has complete sea and air control over the area. Once the chokepoint transit has been completed, the task group can re-posture to minimise counter-detection and proceed towards its objective.

8. Amphibious operations

The ability to conduct an amphibious landing operation is a key pillar of Olvana's naval doctrine. However, with no contemporary amphibious operational experience, Olvana invariably prefers to utilise existing port facilities rather than attempt a contested beach assault.

However, where operational requirements demand a beach-style assault, Olvana will seek to leverage speed, relying heavily on air-cushioned landing craft (LCAC) and rotary wing air insertion. Where the assault is likely to be heavily defended Olvana will use overwhelming amounts of air power (including land attack cruise missiles) to conduct sufficient strikes to reduce the threat level to much more manageable level. Only then will an amphibious landing be attempted.

8.1. Phase 1 – Shape (months prior to lodgement)

Olvana's doctrine of any amphibious operation requires an extensive surveillance and shaping campaign. At least two amphibious objective areas (AOA) are surveilled to increase landing options and conceal the force's intentions.

Industrialised port facilities provide deep-water berths, reinforced wharves and shore-based cranes to facilitate rapid disembarkation of troops and equipment. Foreign aid and direct investment in local infrastructure gives Olvana access to key facilities, and as well as financial leverage over political leaders. Meanwhile, Olvanan military intelligence personnel infiltrate integrate into port authorities and other agencies as special forces infiltrate the local populace.

Surveillance and collection platforms include:

1. Type 927 *Dongjian*-class SURTASS ships recording oceanographic conditions,
2. Type 039A *Yuan*-class submarine, guided missile (SSG),
3. WZ-7 *Soaring Dragon* high-altitude unmanned aerial vehicle (UAV),
4. Shaanxi Y-8 maritime patrol aircraft (MPA), and
5. Low earth orbit (LEO) satellites.

With the exception of the SURTASS scans and *Yuan*-class submarine operations, all surveillance is conducted within a week of the landing operation, to ensure information is correct and reduce the risk of the operation being detected by the adversary.

Yuyi LCAC (726)

Landing craft, air cushion

RANGE		SPEED	
175nm		80kt	
LOA	BEAM	DRAUGHT	TONNAGE
33	16.8	N/A	160
PAX		VEHICLES	
60-70 troops with kit		1x Type 96 MBT or 2x ZBD-05 IFV	
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_726_Class_(Yuyi_Class)_Chinese_Landing_Craft_Air_Cushion_(LCAC)			

Yushen LHD (075)

Landing helicopter dock

RANGE		SPEED	
INA		23kt	
LOA	BEAM	DRAUGHT	TONNAGE
237	45	8.5	36000
Aircraft		Short range SAM	
28x Z-8C or Z-9C		2x 14-cell HHQ-10	
Flexible load capacity			
Up to 1800 troops, Type 726 LCAC, ZBD-05 IFV, Type 96 MBT			
ODIN Link			
https://odin.tradoc.army.mil/WEG/Asset/Type_075_Class_(Yushen_Class)_Chinese_Landing_Helicopter_Dock_(LHD)			

Z-8C

Transport helicopter

RANGE		SPEED
1020km		275kph
LENGTH	ROTOR	COMPLEMENT
20.3	18.9	3 crew, 27 pax
Sensors		WEAPONS
HS-12 dipping sonar		YJ-8, YJ-82, LWT torpedos
ODIN Link		
https://odin.tradoc.army.mil/WEG/Asset/Z-8_(Zhishengji-8)_Chinese_Multi-Role_Helicopter		

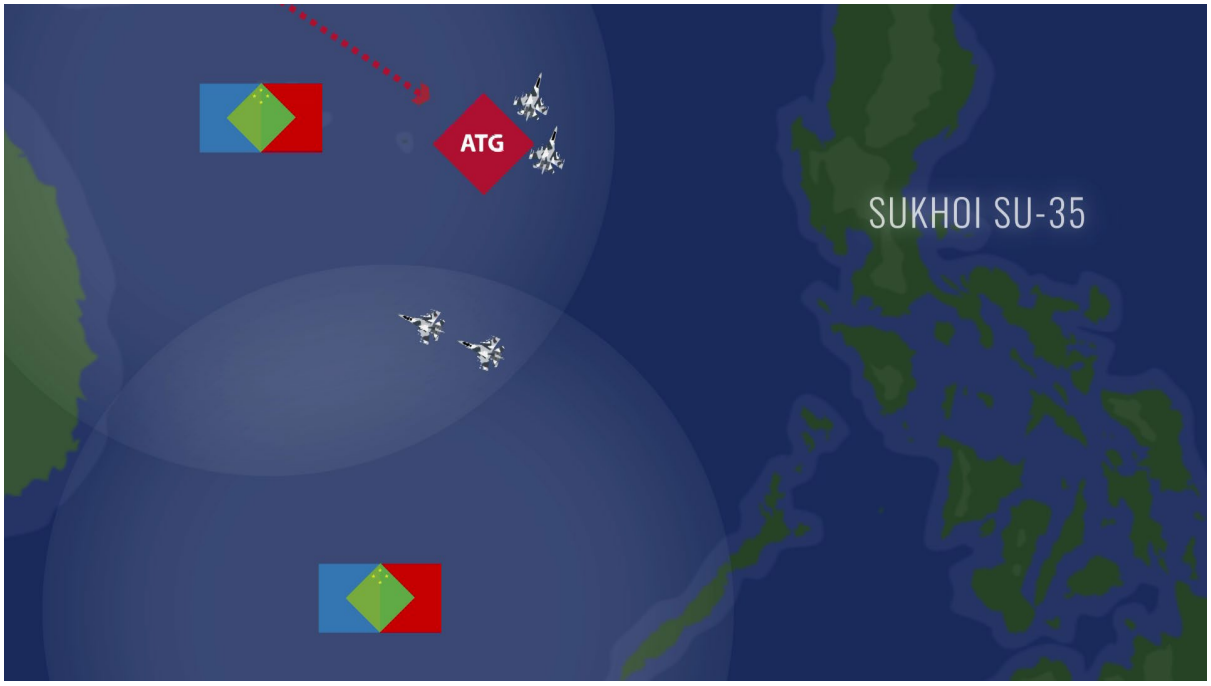
Figure 9 – Surveillance platforms utilised in Phase 1

8.2. Phase 2 – Sea and air control (days prior to lodgement)

Long-range strike bombers (H-6 Badger, Tu-22M Backfire) target coastal defence and surface-to-air missile sites defending the amphibious objective area. Launched from reef airfields in the near seas, these aircraft employ air-to-air refuelling to extend their strike range carry air-to-ground missiles and precision guided munitions. A Y-8 electronic attack variant accompanies the bombers, providing long-range jamming to support the mission.

Figure 10 - Long-range bombers supported by EW aircraft

As the amphibious task group (ATG) proceeds through the Near Seas, land-based fast air provides air cover, but soon the task-group moves beyond range of the reef airfields.

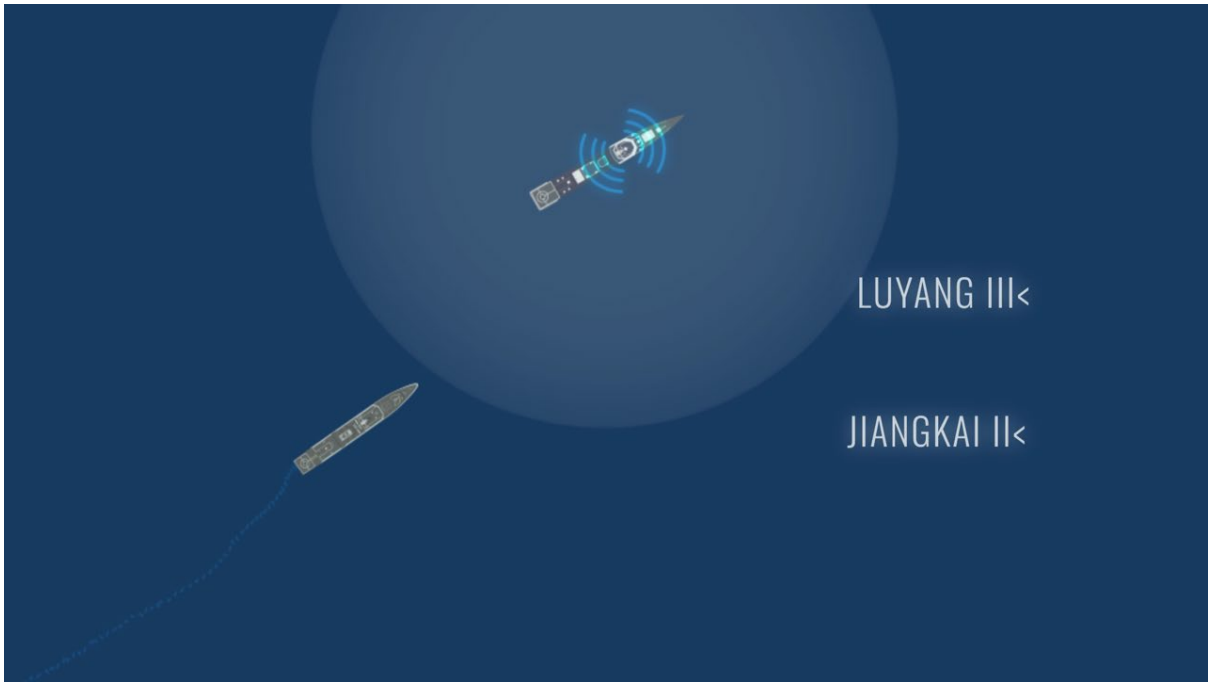


Entering the Distant Seas, the task group is joined by a *Liaoning*-class carrier strike group, which provides air cover superiority for the remainder of the lodgement period.

J-15s from the aircraft carrier fly combat air patrol missions supported by the KJ2000 ‘Mainring’ Airborne Early Warning and Control aircraft.

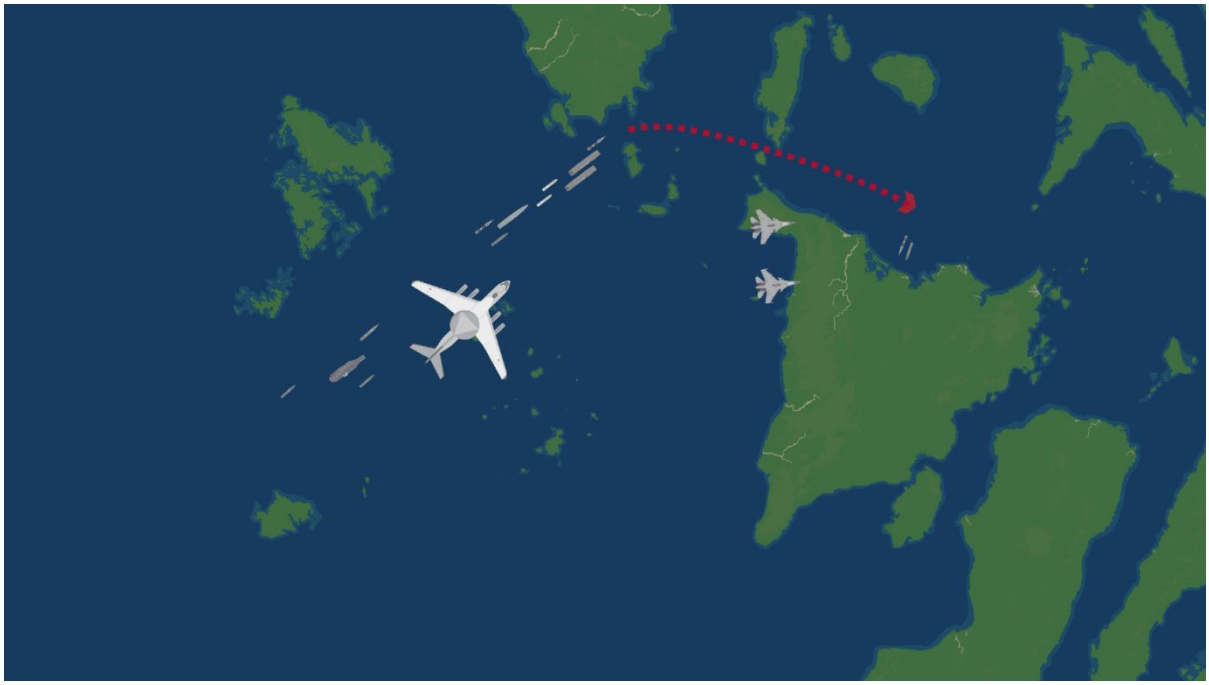
Z-9 helicopters from the task group conduct ASW tasks with land-based maritime patrol aircraft in support. UAVs continue to provide a constant feed of aerial reconnaissance.

Once the air threat has been reduced to an acceptable level, the task group deploys a pair of surface combatants forward. The DDG provides area air defence, while the FFH deters subsurface threats.

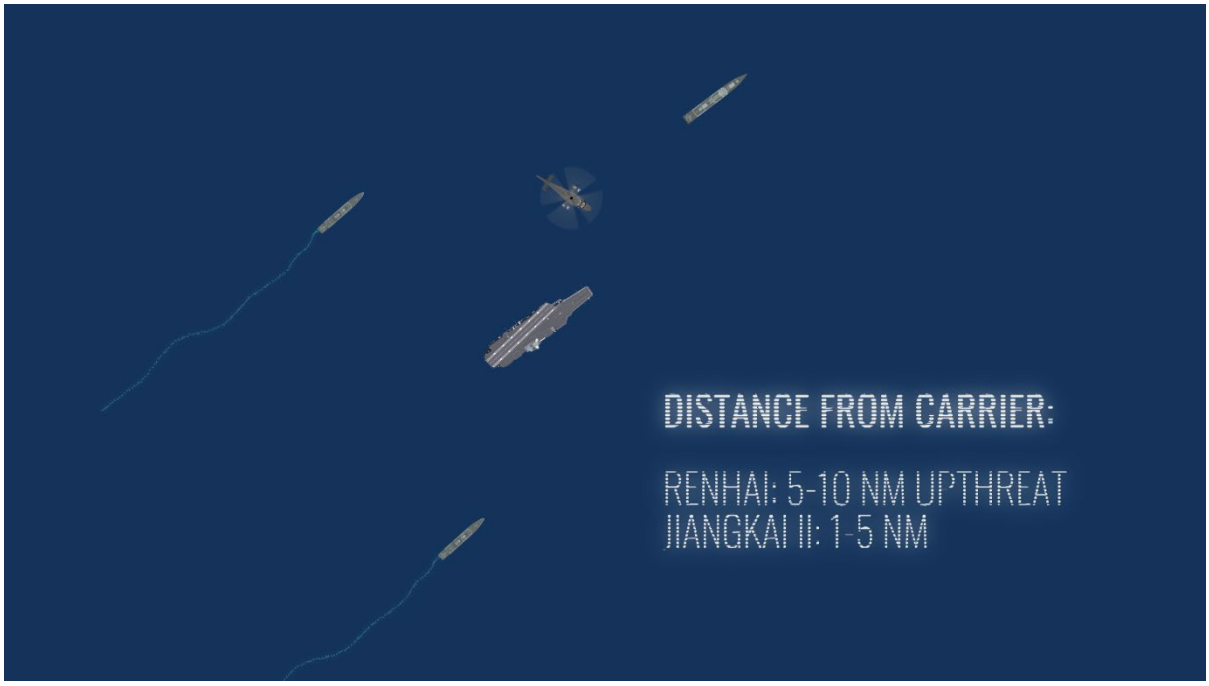


8.3. Phase 3 – Lodgement

Defensive counter air patrols are launched from the carrier, to ensure the skies remain clear. Once the threat level in the port is lowered to an acceptable level, the amphibious task group proceeds into the lodgement area.



The carrier strike group remains in the marshalling area 100 miles to the west, well outside the range of coastal defence cruise missile sites. Defending the carrier is a *Renhai* CG, to shield it from aerial threats, and two FFHs, monitoring the depths for hostile submarines.

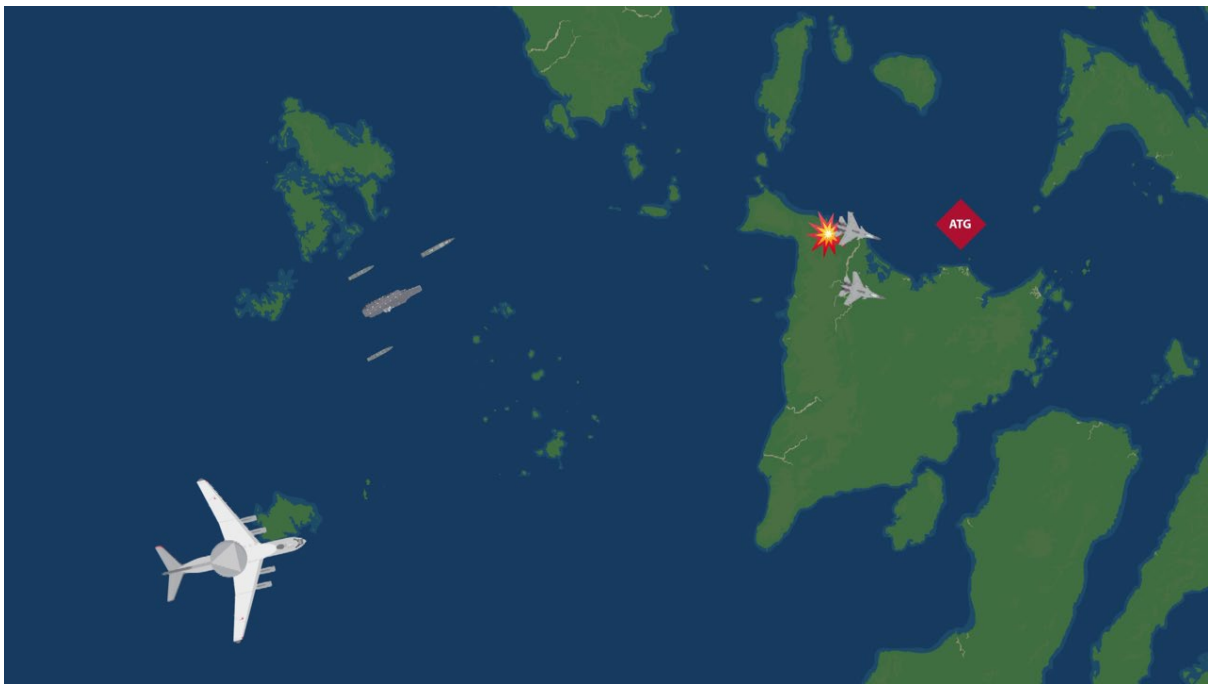


Surface combatants provide naval gunfire support as the amphibious landing ships enter the port to disembark soldiers and equipment to the initial landing area. Once ashore, self-propelled howitzers provide mobile firepower to combat any remaining hostiles, as the landing force organises itself for onward manoeuvres. They now rely on their air superiority and the vigilance of their fleet to hold the territory.

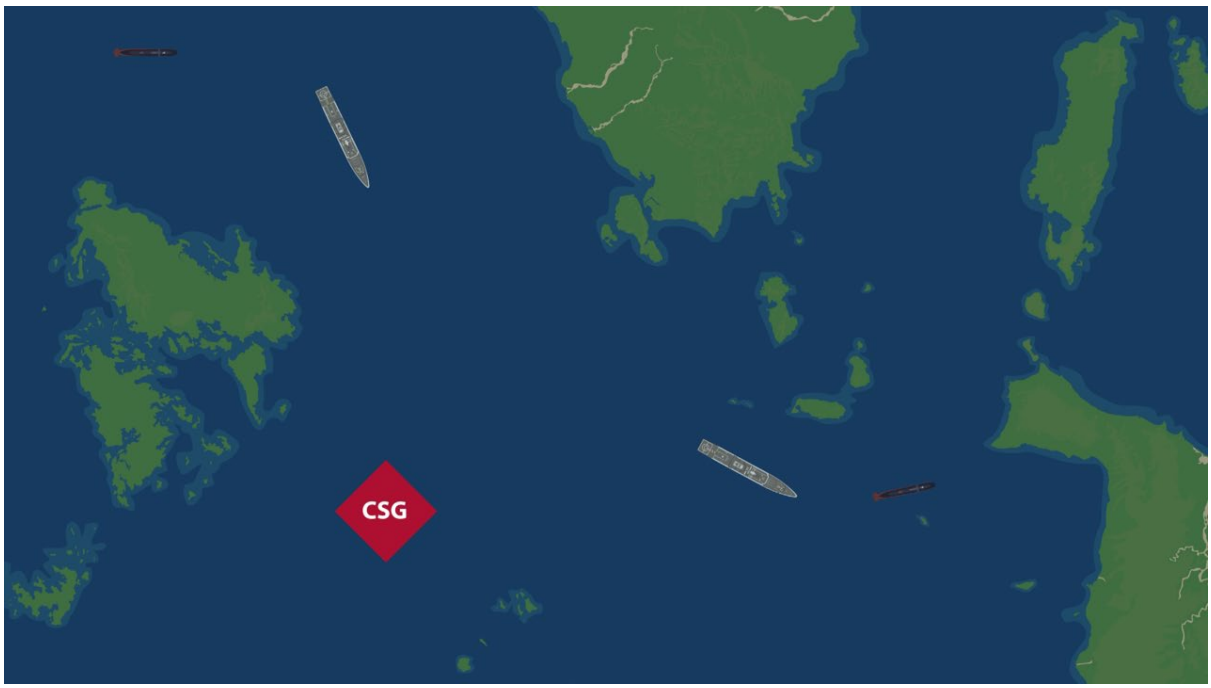
8.4. Phase 4 – Defend

From the marshalling area, the carrier serves as a platform from which to launch fighters into the region. Once air dominance is assured, an air-to-air refuelling tanker (IL-76) is available to extend the range of carrier-launched fighters.

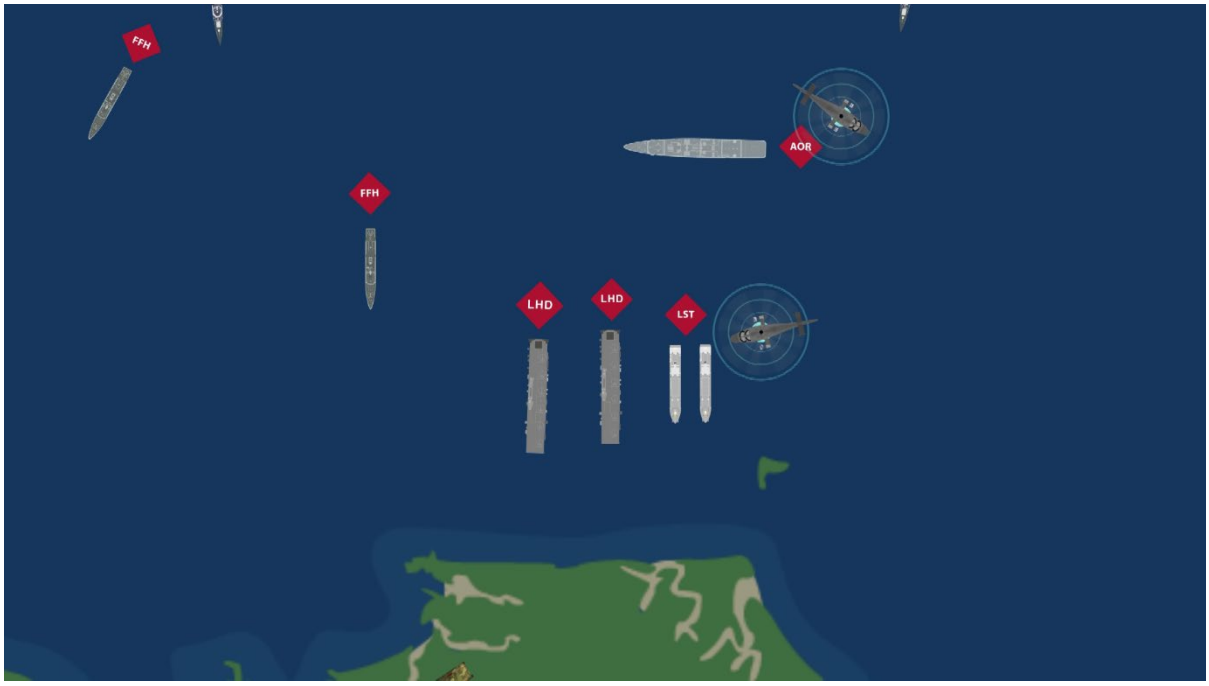
Flying in pairs, J-15s operate as a combat air patrol and can be configured for a dual strike role to attack targets of opportunity. ‘Mainring’ provides long range EW and C2 for the defensive and offensive counter air, and strike fighters.



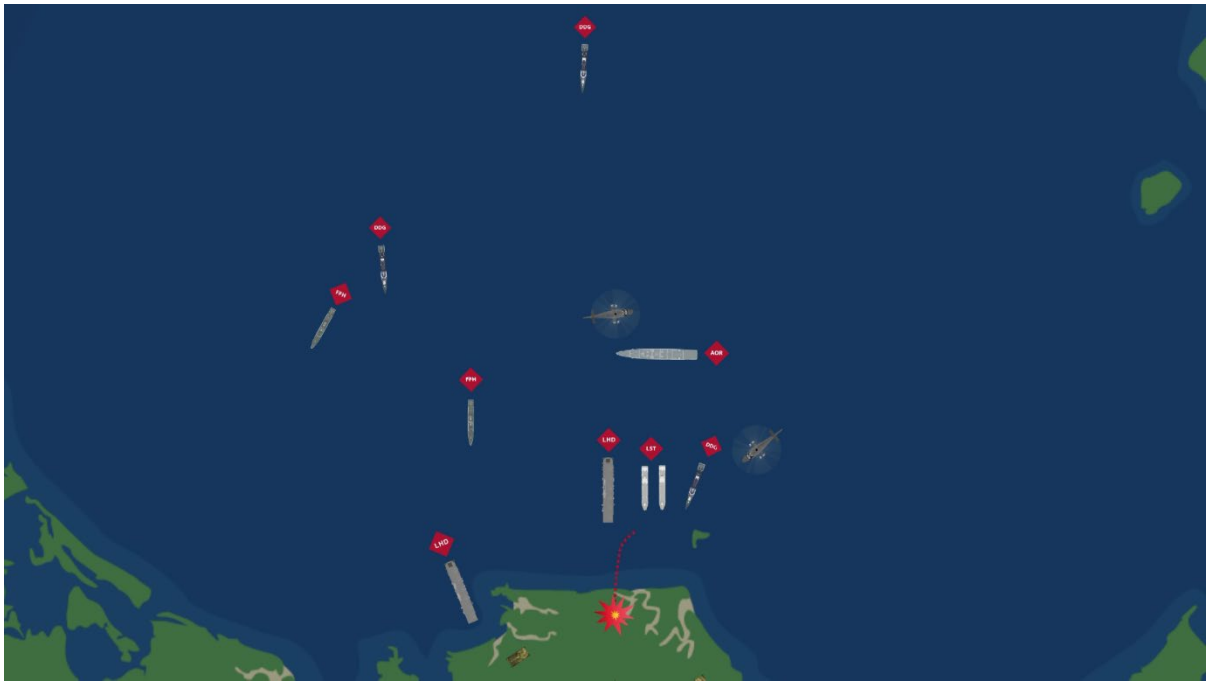
North of the carrier, two *Yuan*-class submarines and another FFH will hold station near natural chokepoints, lying in wait for enemies seeking to engage the Olvanan fleet.



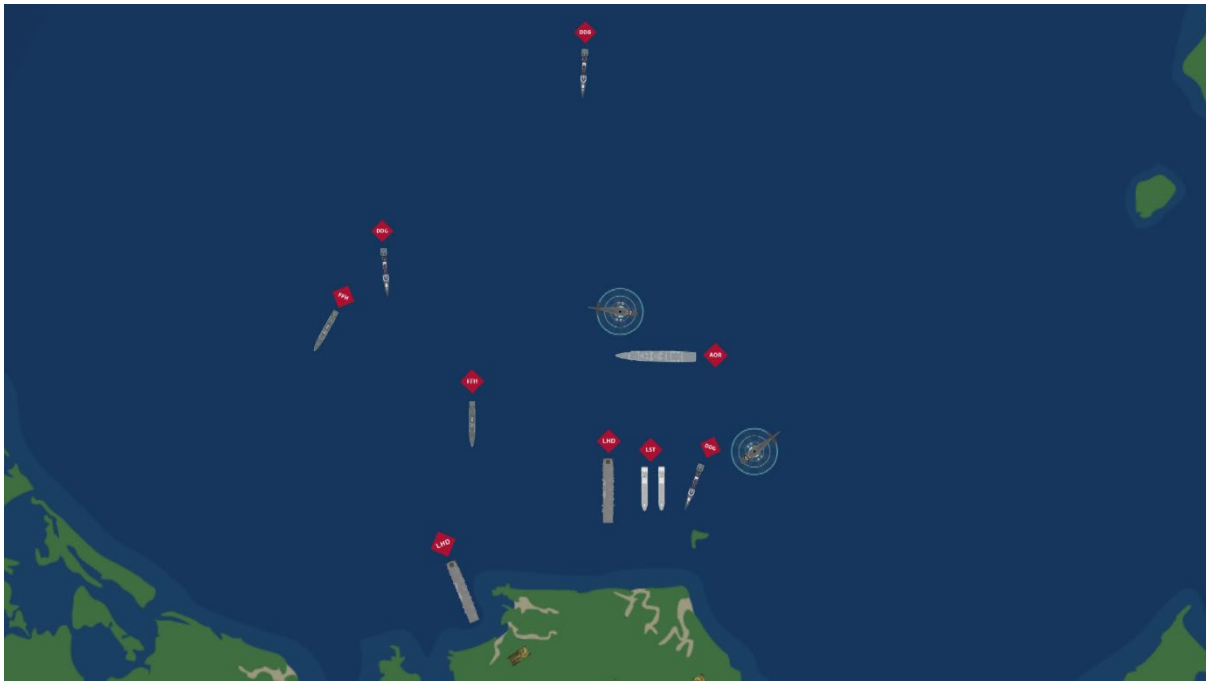
The most congested area is above the occupied city and its port. ASW helicopters dip for submarines around the vulnerable AOR and the amphibious landing ships.



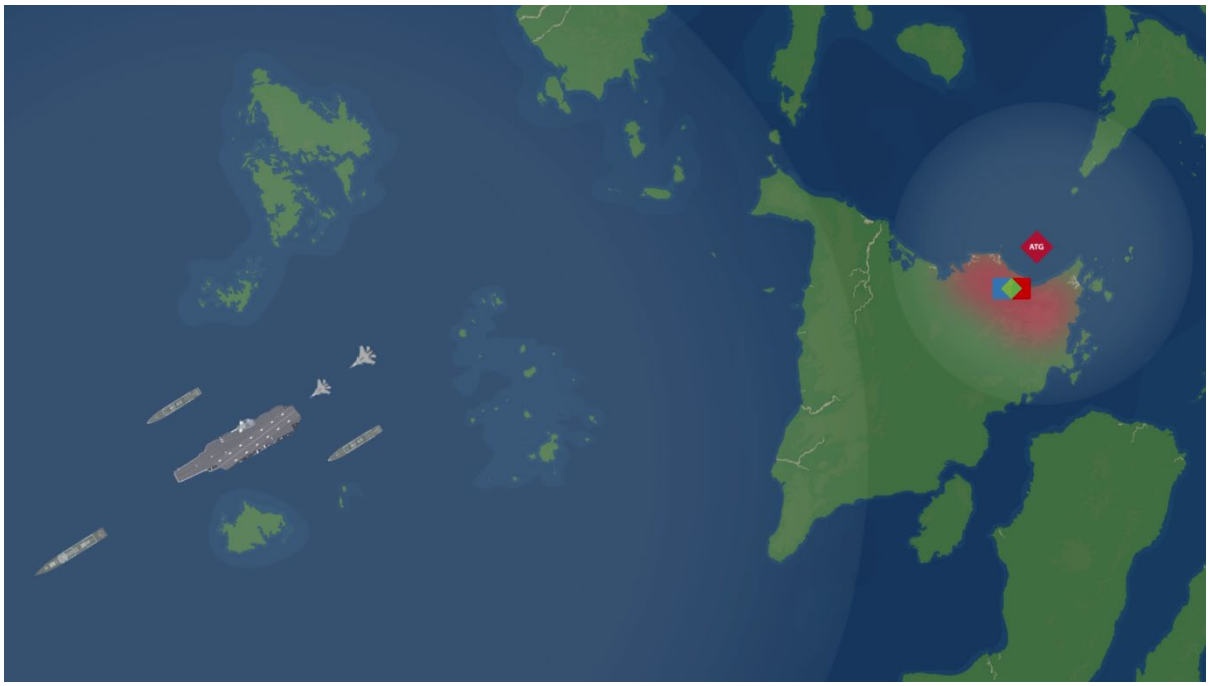
Within the amphibious assault area, the landing ships wait in a line formation offshore, entering the port in turn to resupply equipment and soldiers in WZ-551 amphibious armoured carriers.



Forming the end of the line is a DDG, which uses intelligence from aircraft (WZ-7 and Y-8s) to suppress ground opposition with naval fires. Further back, another DDG performs area air defence duties. The Fujian-class tanker ensures ongoing fuel supply for the entire task force.



With lodgement complete and the AOA secured, Olvana has established a foothold on foreign territory. The carrier strike group is now free to redeploy, assured that the ground forces can maintain control of the area.



9. Conclusion

This document is designed to be evolving due to the nature of the OPN tactical environment. Application of the above information will provide planners the ability to shape and counter potential emerging threats. Understanding the recent technological advances and geographic disposition of OPN units will help to anticipate where OPN assets will be deployed.