

# AUSTRALIA'S DEFENCE



David Archibald



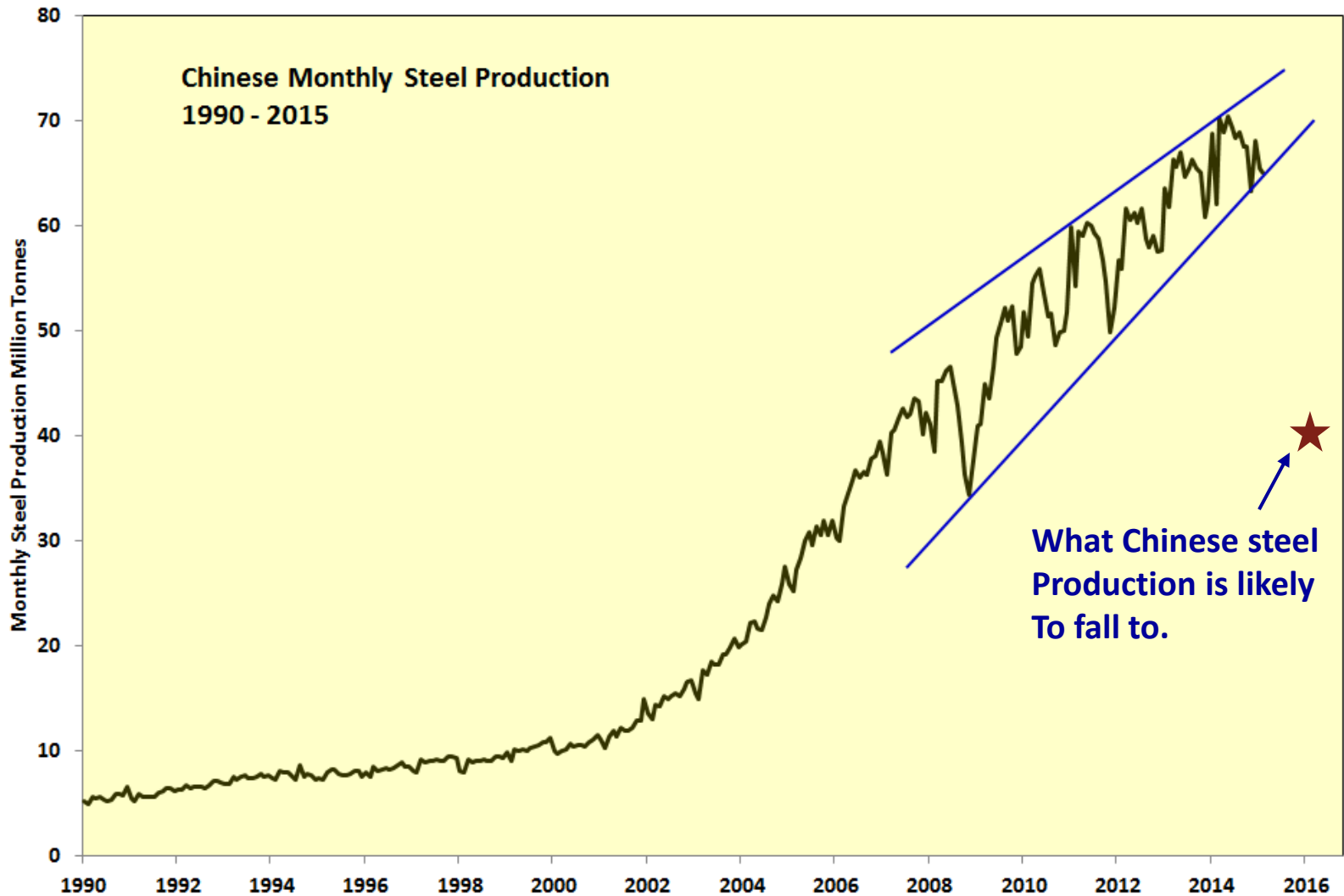
## What has seven heads?

*And there appeared another wonder in heaven; and behold a great red dragon, having seven heads and ten horns, and seven crowns upon his heads.*

Revelation 12:3

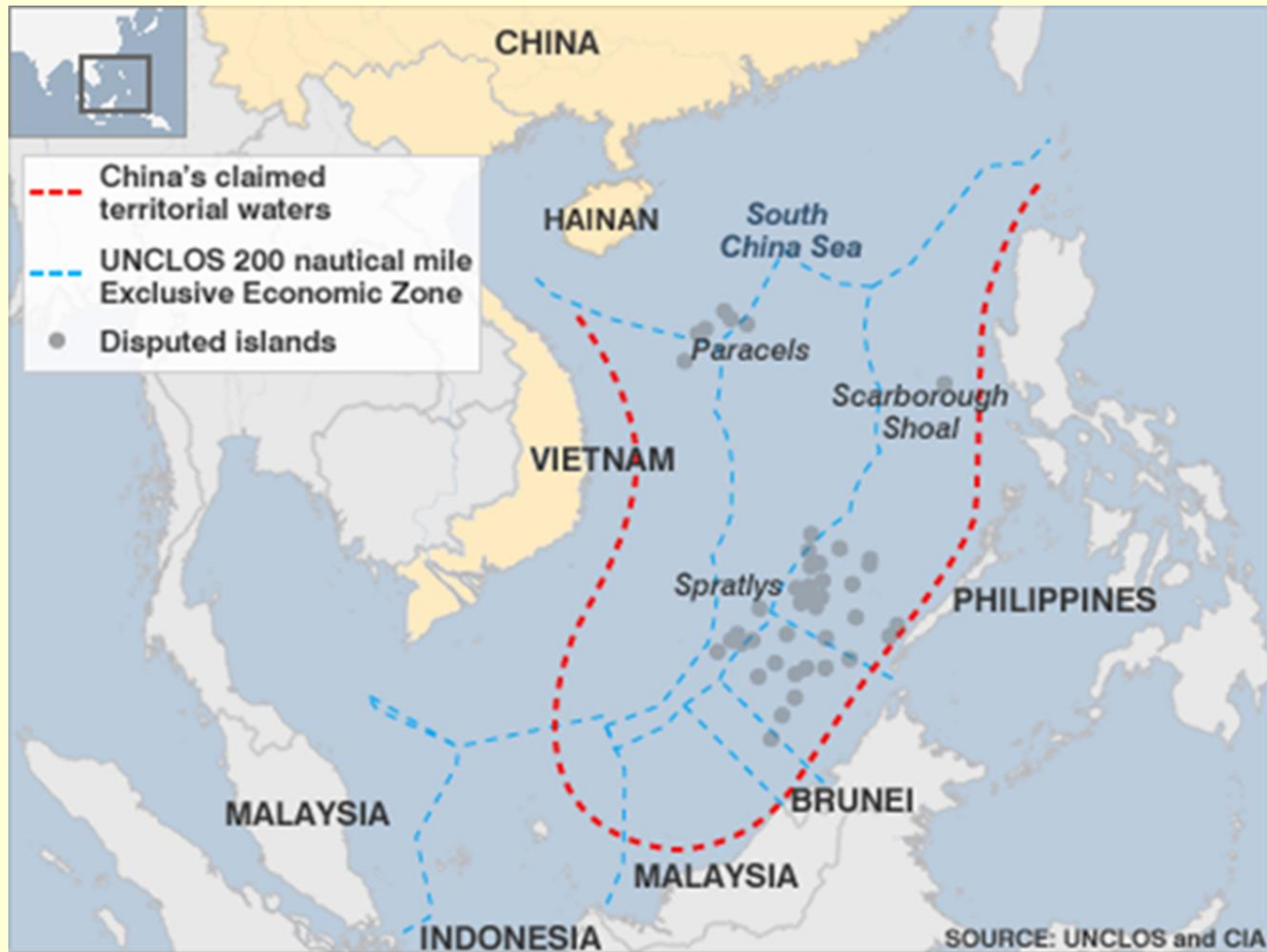


## Australia's Defence



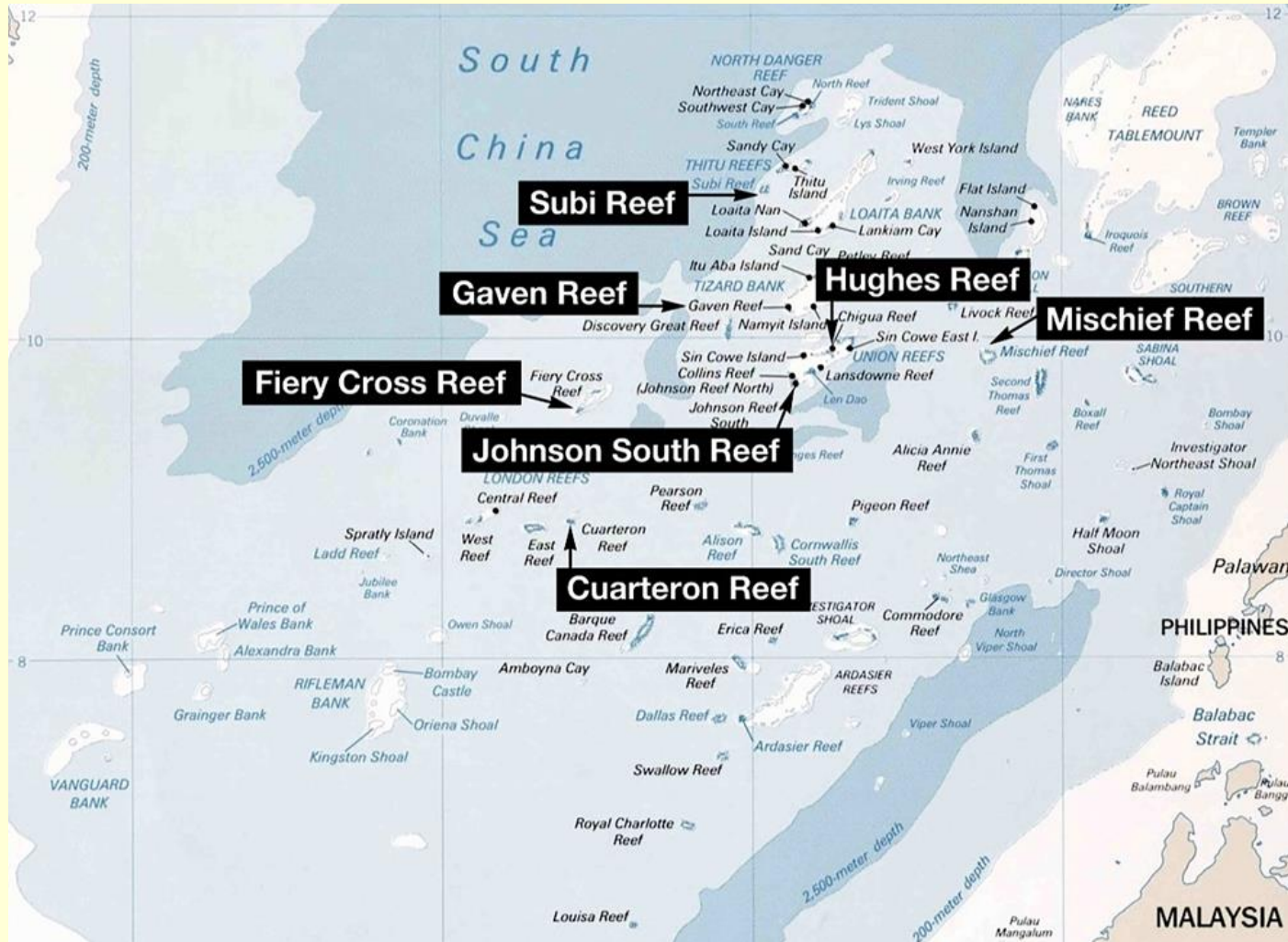
**Chinese steel production could fall 30% as their real estate bubble bursts.**

### China wants all the South China Sea





## Current Base-building in the Spratlys



**More Lebensraum: Chinese Coast Guard vessel anchored for two years at Luconia Shoals in Malaysian waters:**





Fiery Cross Reef



# Johnson South Reef, Spratly Islands

4 March, 2015





## The original base at Mischief Reef







# Hughes Reef, Spratly islands

14 Feb, 2015



Image via Victor Robert Lee and Airbus Defense & Space





**Gaven Reef, Spratly Islands**  
**20 Feb, 2015**

Image via Victor Robert Lee & DigitalGlobe

Cuarteron Reef, Spratly Islands  
10 Feb, 2015



Image via Victor Robert Lee and Airbus Defense & Space





**Subi Reef**



### Comparison of multi-story buildings under construction



**Gaven Reef**

(original north-south orientation)

**20 Feb, 2015**



**Hughes Reef**

(original north-south orientation)

**14 Feb, 2015**



**Johnson South Reef**

(rotated 199 degrees)

**4 March, 2015**

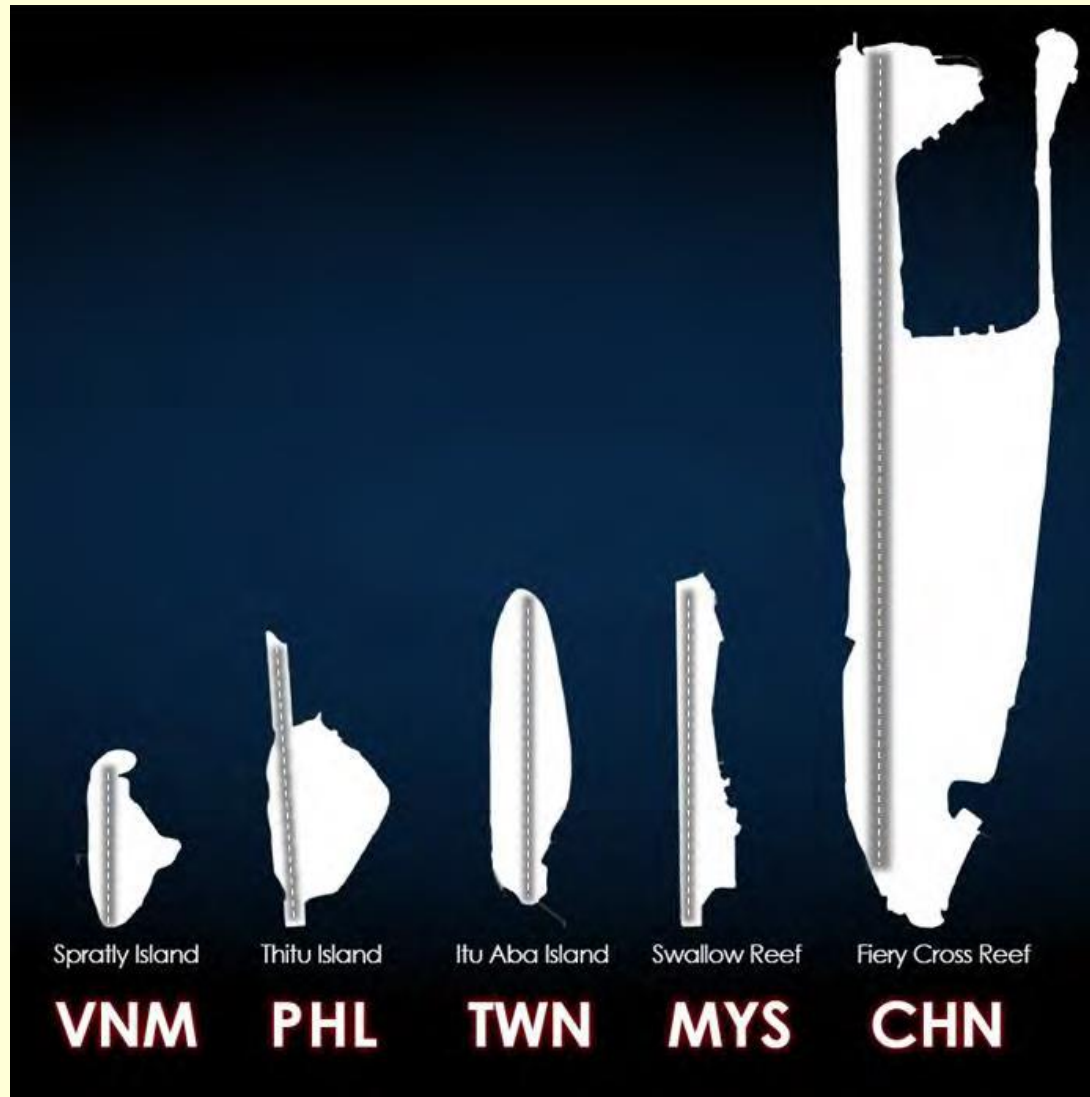
**Flak towers make a comeback after 70 years.**

## **Filipino Counter - Basing**



**Landing ship Sierra Madre run up on Second Thomas Reef in 1999**

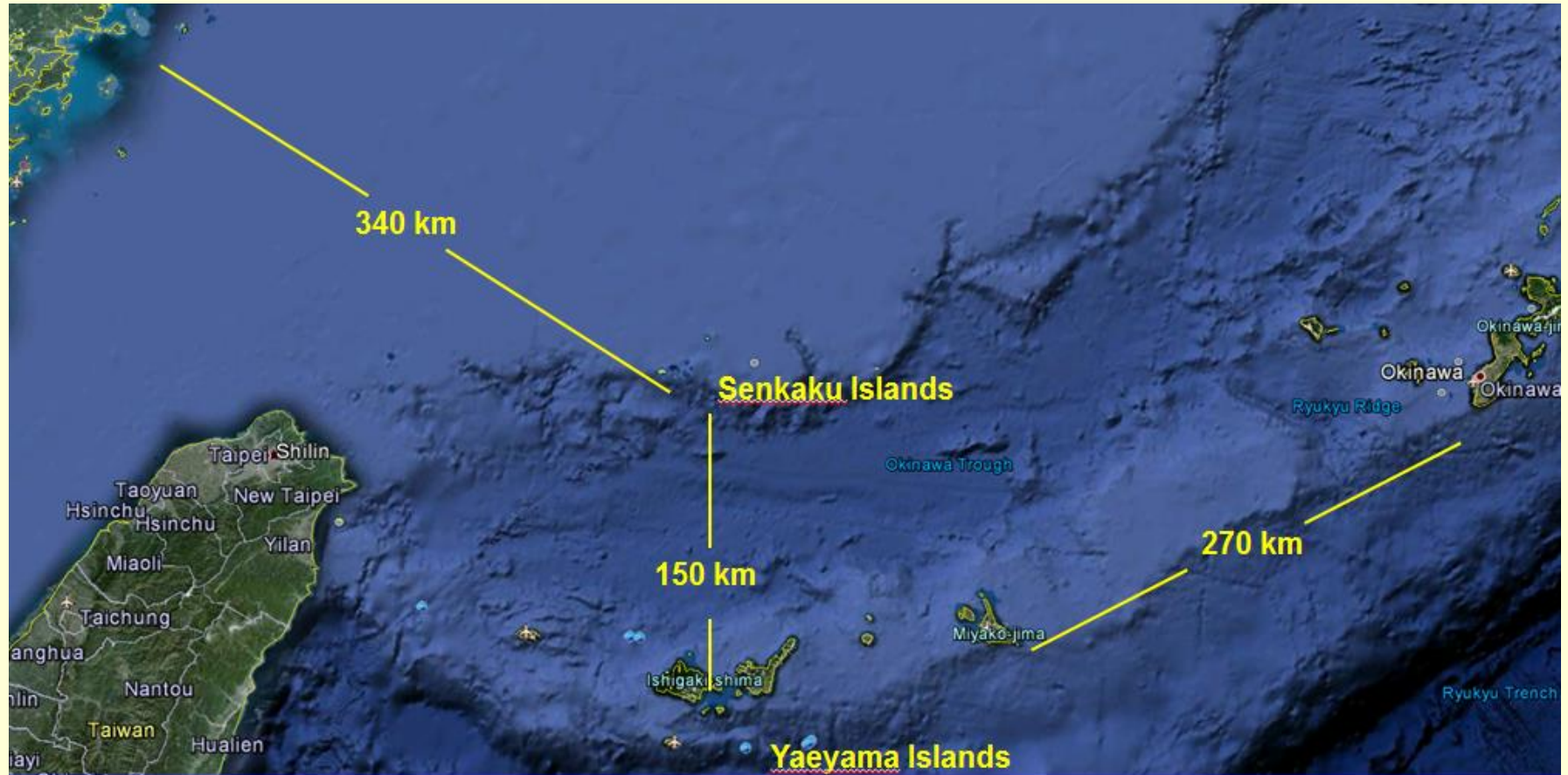
## Australia's Defence



China is building another two airfields the size of the one on Fiery Cross Reef.



## The Senkaku Standoff



**If China seizes the Senkakus, they might as well seize the Yaeyama Islands while they are at it.**

## Shuimen Air Base



**26° 56' 32" N, 120° 04' 39"**

---



## Nanji Islands expeditionary helicopter base

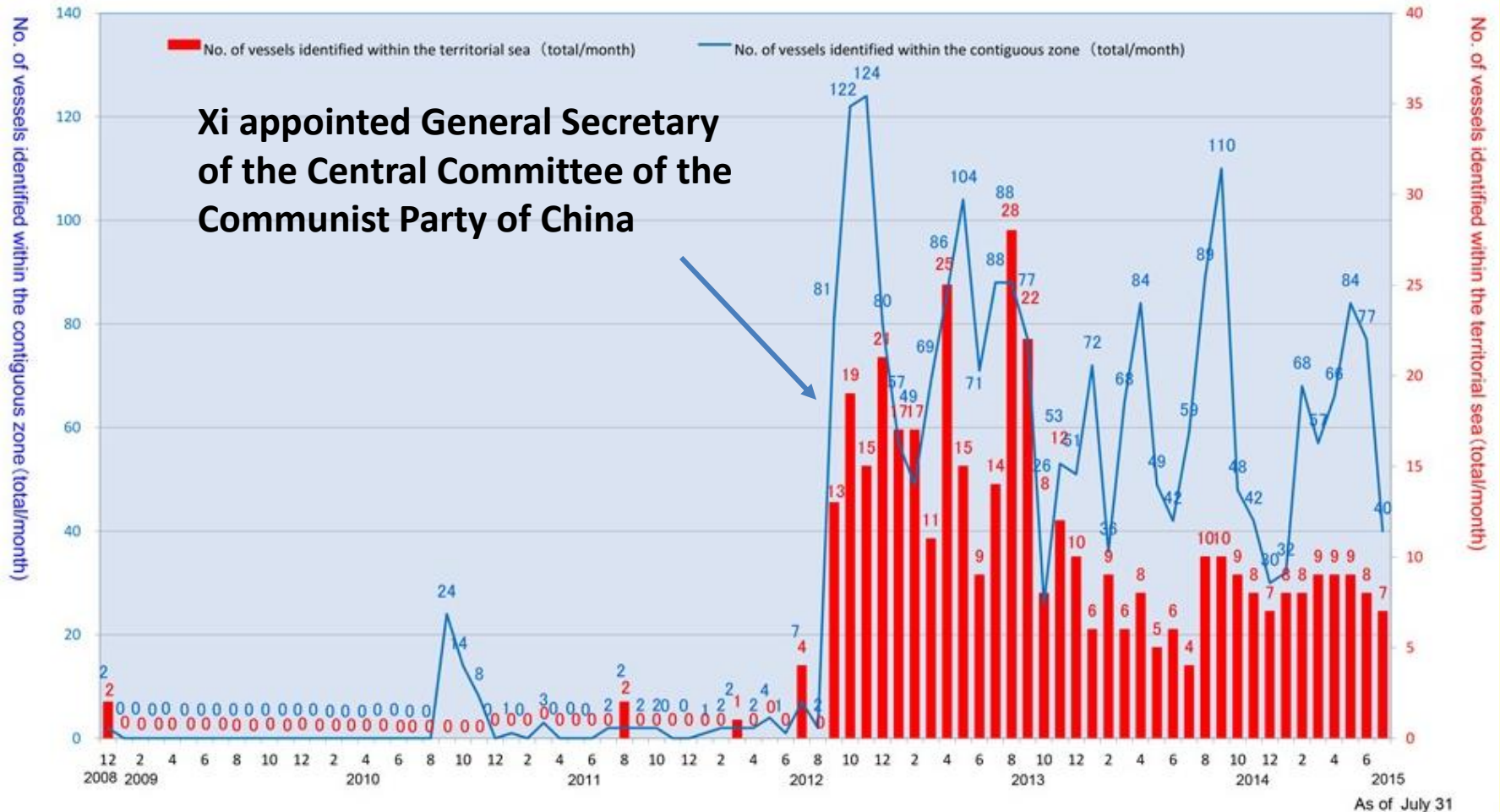


**27° 27' 58" N, 121° 04' 22"**



## Xi Jinping's handiwork: baiting Japan in the Senkaku Islands

**Xi appointed General Secretary of the Central Committee of the Communist Party of China**



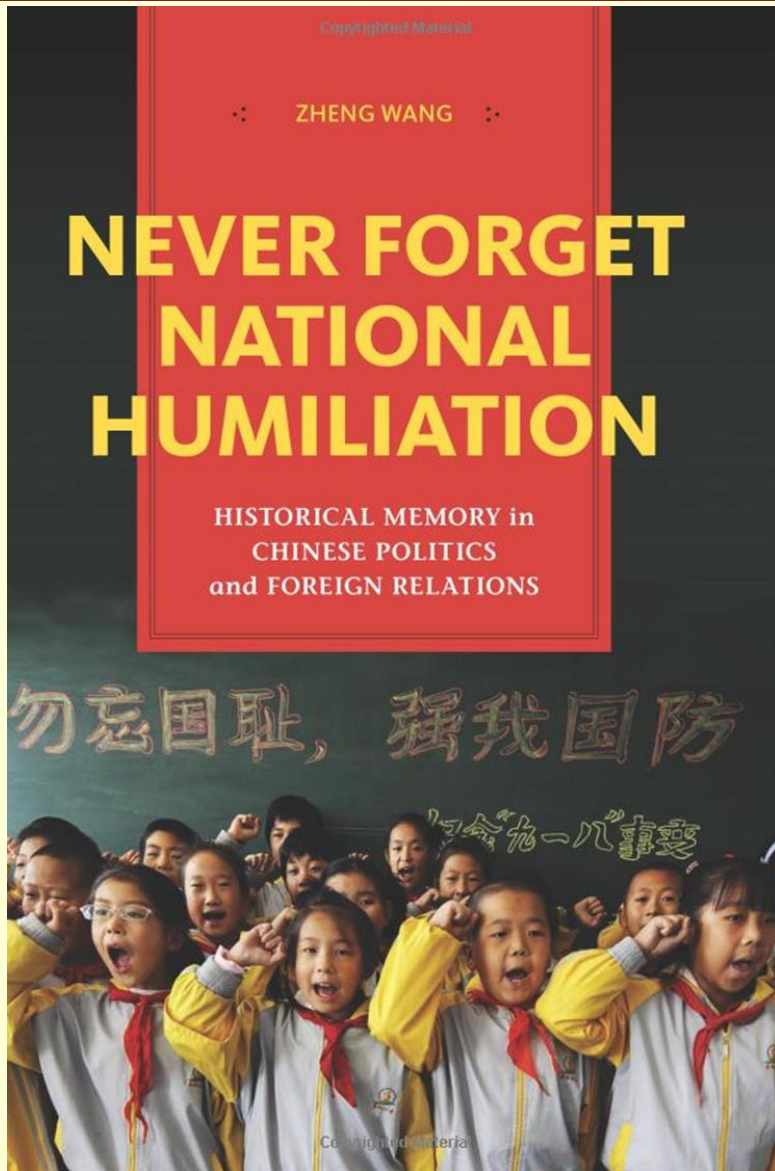
**They stay exactly two hours, more recently including the Osagawa Islands.**

**Museums of the century of national humiliation  
- psyching the Chinese public for war**



**Entrance to the September 18 Historical Museum in Shenyang**





“The current focus on the Nanjing Massacre has intensified.”

## **Internal Communist Party propaganda film: *Silent Contest***

“The process of China's achieving a national renaissance will definitely involve engagement and a fight against the U.S.' hegemonic system. This is the contest of the century, regardless of people's wishes.”

## **China Economic and Security Review Commission Report to Congress 2014, William Reinsch:**

Finally, close readers of this year's report will notice that it is less nuanced and less temperate with respect to China's military activities. That is deliberate, and while it is not my style, I did not object to it. It appears the Chinese have embarked on a path intended to push the U.S. to choose between confronting them militarily or abandoning our friends and allies in the region, gambling that we will choose the latter. That is a dangerous path, and the Commission is right to note it.



### At least the US is listening to China:

#### News Story: US preparing for potential conflict in South China Sea

During the Air & Space Conference and Technology Exposition held by the Air Force Association in National Harbor, Maryland on Sep. 16, the US secretary of defense, Ashton Carter, said Washington was already moving ahead to prepare for a potential conflict with China in the disputed South China Sea region, Russia's Tass news agency reports.

Carter noted that China is turning submerged reefs into airfields and military bases through land reclamation to bolster its sovereignty claims in the region, where territory is claimed by several different parties. At the same time, he also said that it is time for the US to demand China slow down its militarization of the Spratly islands while promoting new diplomacy to protect the rights and interests of all countries in the region.



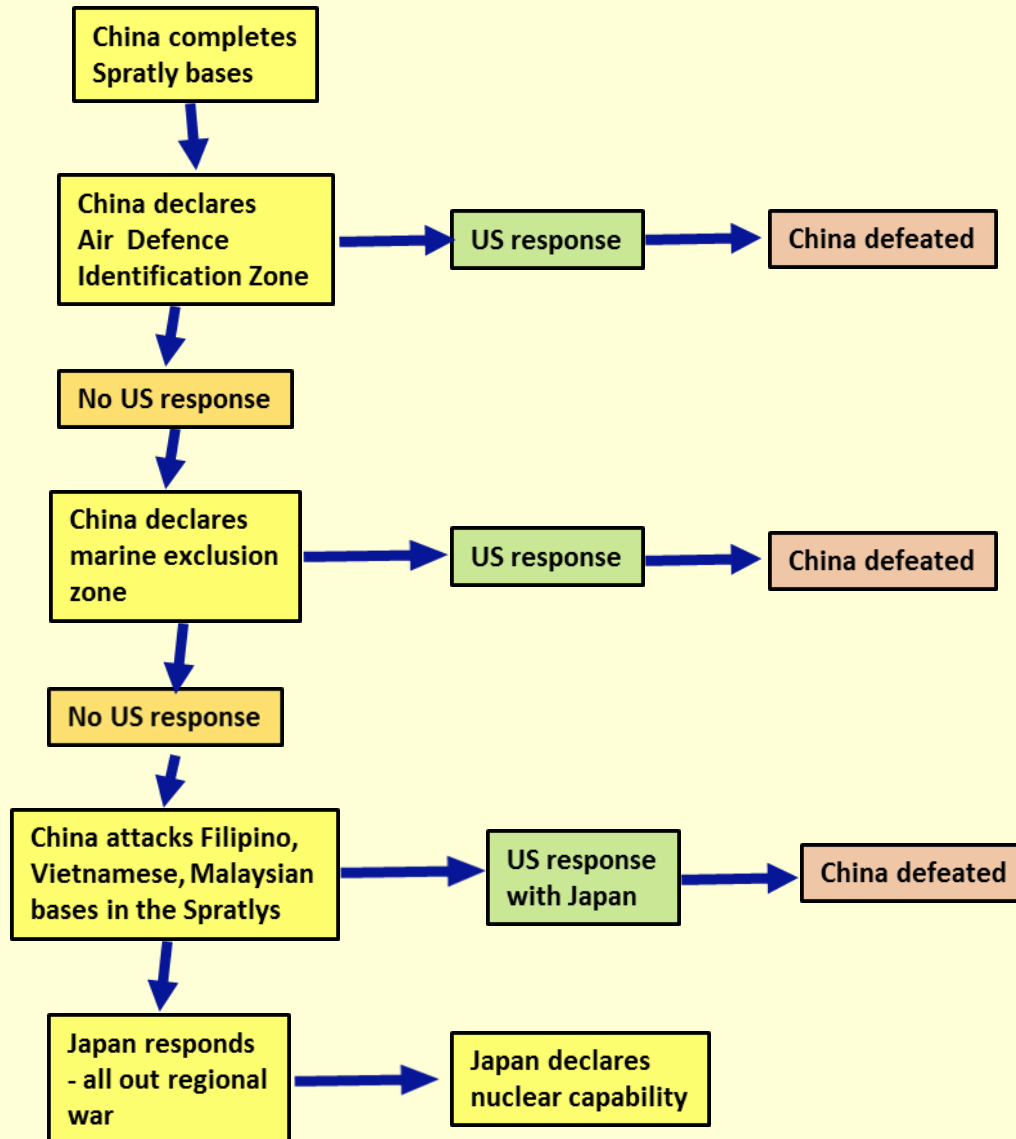
Ashton Carter US SecDef

**American UUV recovered in a fishing net off Hainan Island**



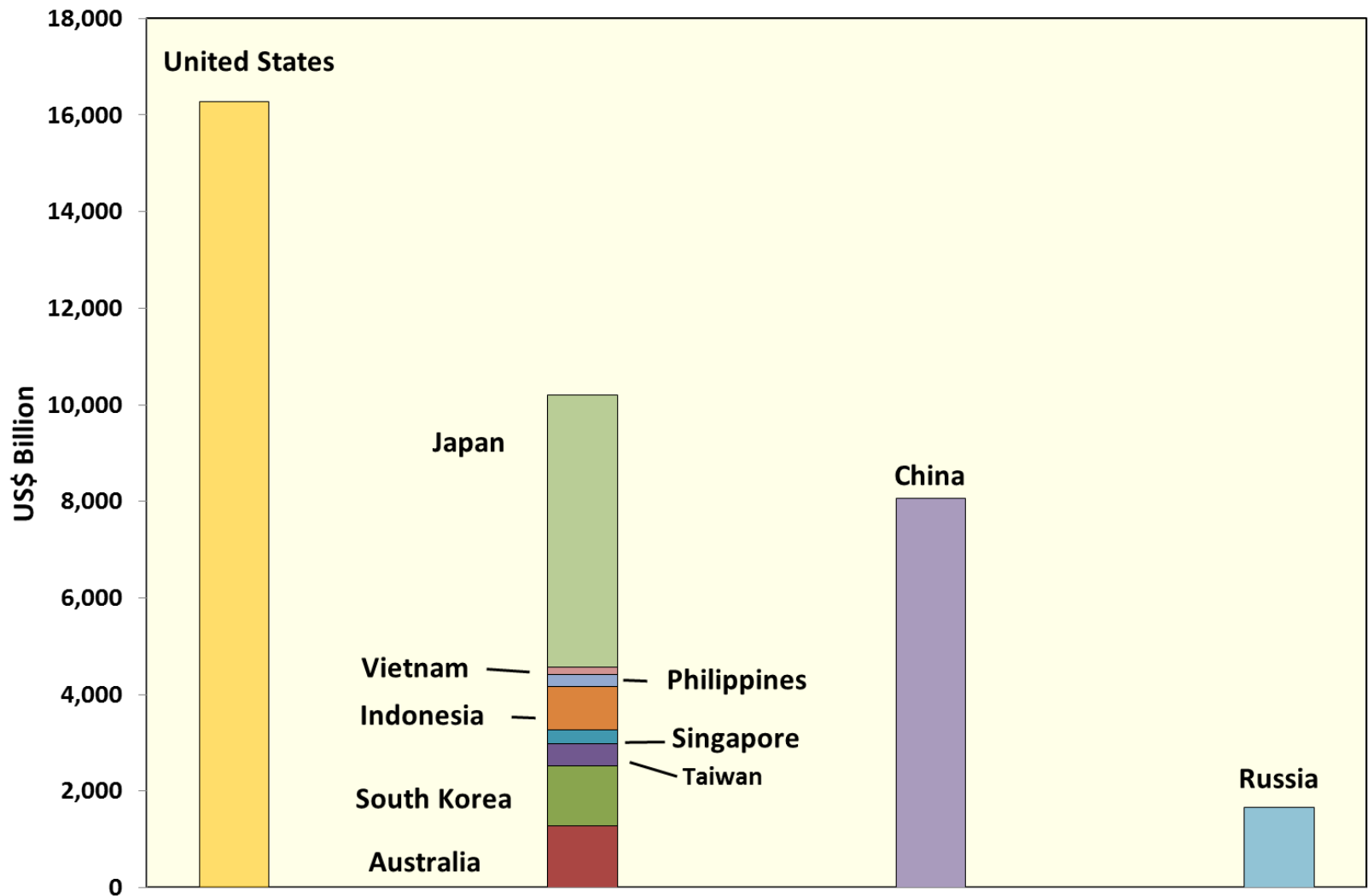


# Australia's Defence



1. China can't back down in the Spratlys without losing face – therefore war is inevitable.
2. Escalation until war with Japan or the US combined with Japan.
3. If the US does not respond at the ADIZ stage, the only protection against China is a nuclear capability.
4. Alternative is “out of the blue” Chinese attack on US and Japan.
5. Japan won't wait to be attacked directly – will respond to the Spratlys attack by China.

# Australia's Defence



Size of Economies in East Asia

**Australia's security is guaranteed by two elements (assuming the US nuclear umbrella remains in place):**

- 1. A submarine force large enough to sink any surface fleet coming south.**
- 2. A fighter aircraft qualitative and quantitative advantage sufficient to maintain control of the airspace close to Australia.**

**The role of the Army is to destroy any landing force that has got through these two screens. The larger the Army, the larger the enemy force required to effect a landing.**

---





**Super Hornet – too heavy for its thrust to survive in combat now  
– could be tasked to carrying anti-ship cruise missiles  
Australia has 71 legacy Hornets (25% smaller than the Super Hornet) and 24  
Super Hornets in service, with 12 electronic warfare variants (Growlers) on order.**

---



**F-35 – this dog will suck all the money out of the defence budget  
– and then get shot out of the sky in combat  
– actually a light bomber with low survivability  
Only two have been contracted for, the other 70 could be dropped.**

---



**Sukhoi Su-35 – very big, maneuverable, carries up to 14 air-to-air missiles**

**Not as agile as the Euro-canards**

**Su-35 is 12% heavier than the Su-27, 15% more thrust, 22% more internal fuel.**

**It has an internal fuel fraction of 38% - 11.5 tonnes of internal fuel.**

**But the Gripen is going to see the Su-35 far earlier than the Su-35 sees the Gripen  
- radar, infrared, visual.**

---

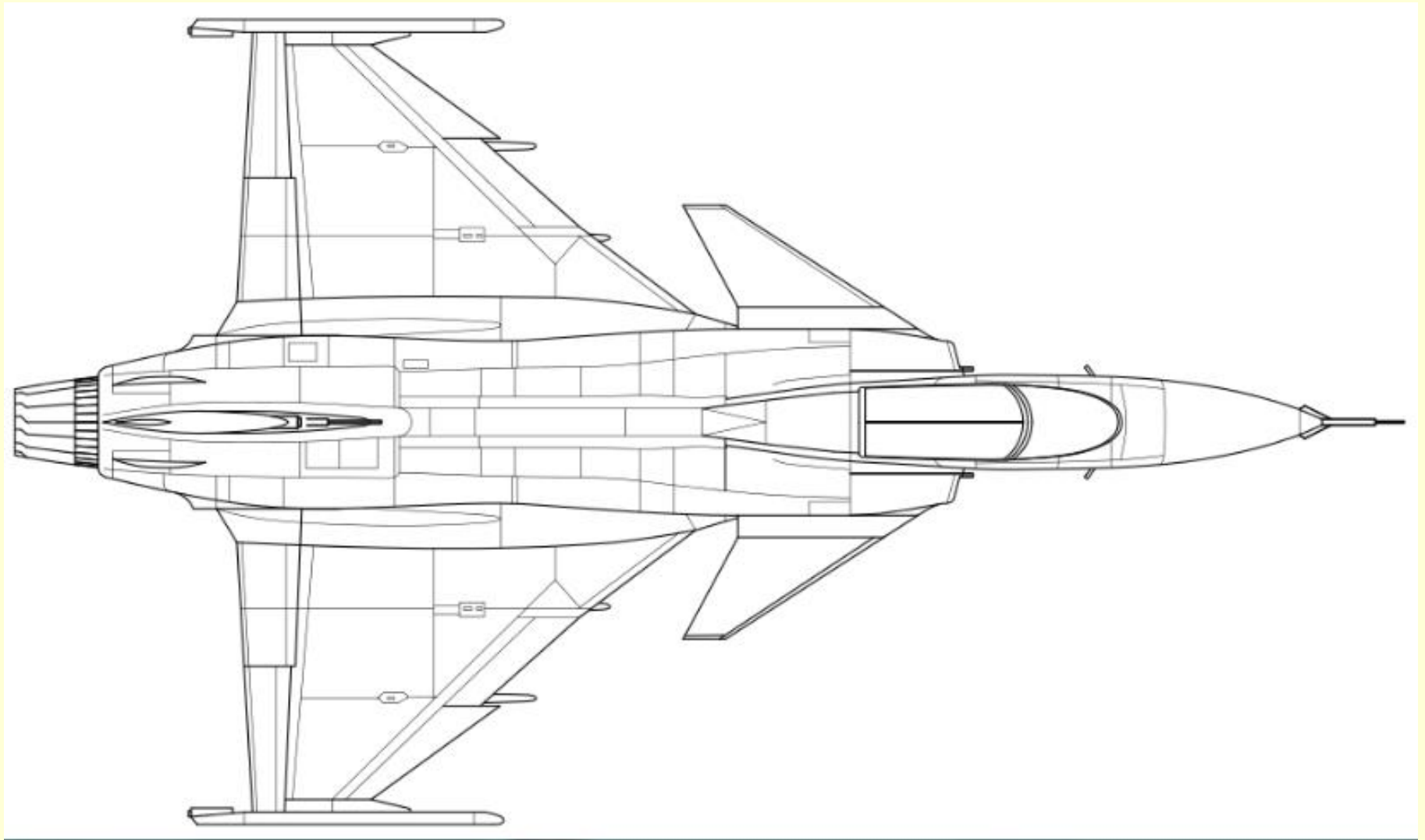




**Saab Gripen – a pure fighter put together from MOTS components**

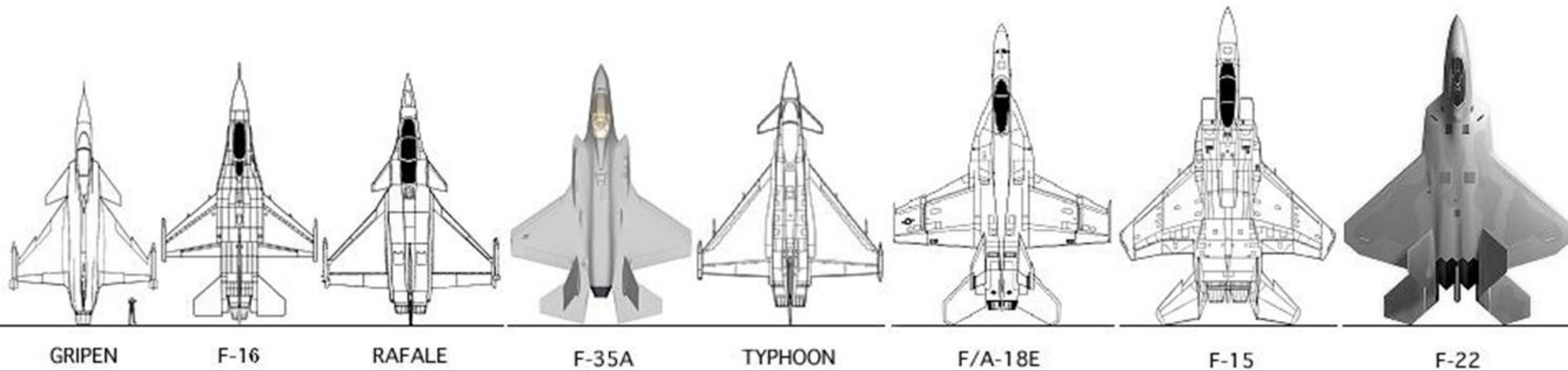
**Our best chance of getting air superiority over the Su-35**

---



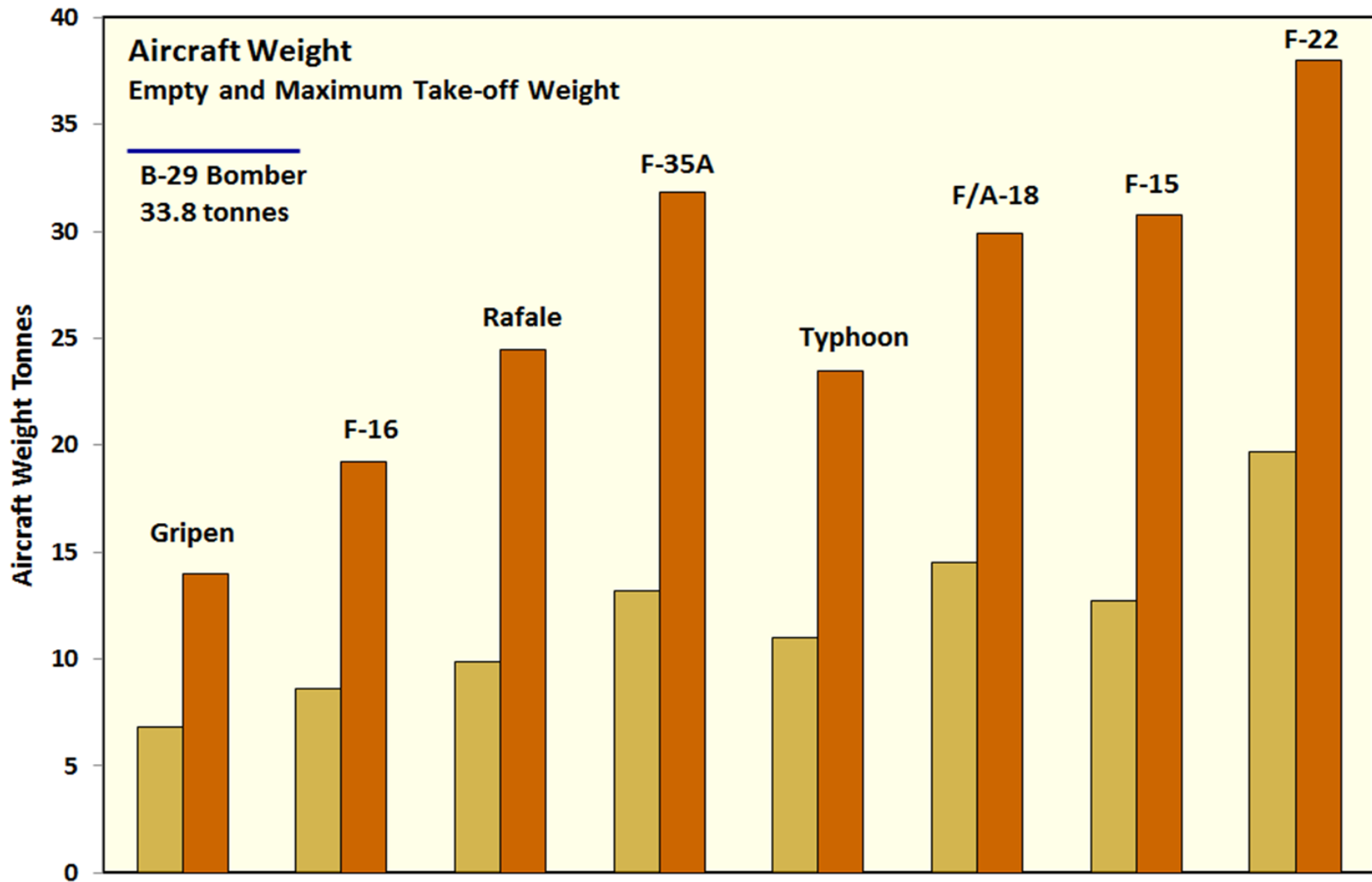
**Gripen plan view – 14 metres long, 8.4 metres wide**

# Comparison of Western Fighter Aircraft





## Australia's Defence



The F-22 is three times the size of the Gripen.

I	ACHIEVE SURPRISE BOUNCES WITHOUT BEING SURPRISED	<ul style="list-style-type: none"><li>● FROM WWI TO VIETNAM, 65% TO 85% OF ALL AIR-TO- AIR LOSSES WERE SHOT DOWN UNAWARE</li></ul>
II	OUTNUMBER THE ENEMY <u>IN THE AIR</u>	<ul style="list-style-type: none"><li>● 70 VASTLY SUPERIOR ME-262s WERE GROUND DOWN BY 2000 INFERIOR P-47s AND P-51s</li></ul>
III	OUTMANEUVER THE ENEMY TO GAIN FIRING POSITION	<ul style="list-style-type: none"><li>● ALWAYS DOMINATED BY PILOT ABILITY/TRAINING</li><li>● ENERGY MANEUVERABILITY PLUS TRANSIENT PERFORMANCE</li></ul>
IV	ACHIEVE RELIABLE KILLS DURING ANY SPLIT-SECOND OPPORTUNITY	<ul style="list-style-type: none"><li>● AIR COMBAT HAS ALWAYS REQUIRED VISUAL ID</li><li>● THE MORE AIRCRAFT ENGAGED, THE MORE FLEETING THE FIRING OPPORTUNITIES</li></ul>

**John Boyd formulated the rules, as summarised by Pierre Sprey in 1982:  
*Comparing the Effectiveness of Air-to-Air Fighters F-86 to F-18***

---

## **How to win in air-to-air combat**

- 1. Surprise the opponent without being surprised.**
    - better situational awareness
    - ability to supercruise
  - 2. Outnumber enemy in the air.**
    - lower purchase cost without losing qualitative edge
    - lower operating cost per hour of flight
    - low maintenance requirement for higher sortie rate
  - 3. Out-maneuver the enemy to gain firing position.**
    - low wing loading for high turn rate
    - ability to decelerate and accelerate
  - 4. Outlast the enemy while out-maneuvering him.**
    - have a high fuel fraction of the fighter's loaded weight
  - 5. Achieve reliable kills.**
    - carry enough missiles and rounds for the gun
-



# Performance: Air-to Air

In the words of Lieutenant General George K. Muellner, USAF ...

- ▶ *JSF design: 70% for air-to-ground, 30% for air-to-air.*

Director and program executive officer, Joint Advanced Strike Fighter

- ▶ *... the JSF complements the F-22 in the high-low mix. The F-22, as the high-end of the force mix, is designed to dominate the air superiority arena through the combination of stealth, supercruise, integrated avionics, and large internal weapons bays. The JSF, as the low-end, will be designed as a stealthy multi-role air-to-ground fighter reliant on the enabling force of the air dominant F-22. ...*

PRESENTATION TO THE HOUSE NATIONAL SECURITY COMMITTEE  
SUBCOMMITTEE ON MILITARY PROCUREMENT

Principal deputy, Office of the Assistant Secretary of the Air Force  
(Acquisition)

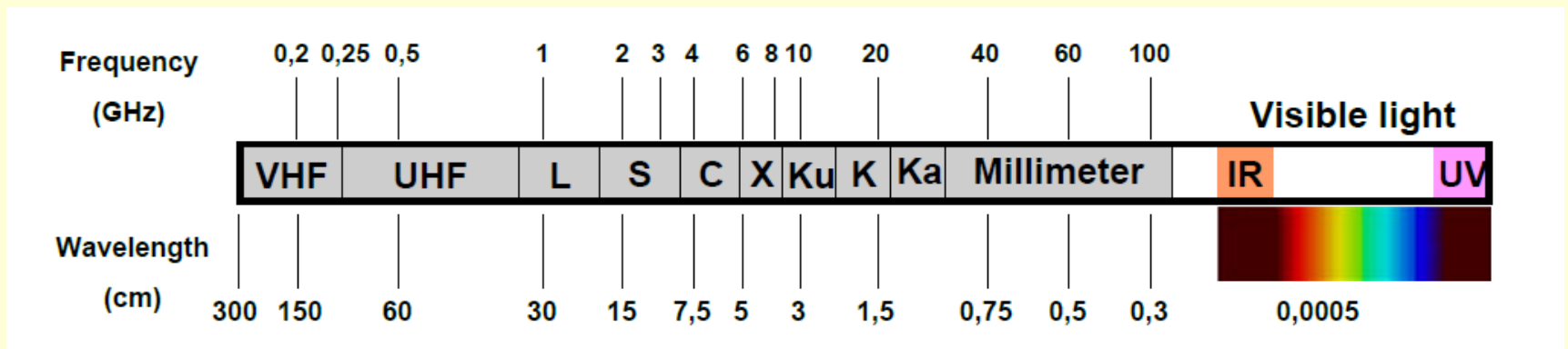
**Gripen's infrared detector is looking at the sky.**



**F-35A's infrared detector is looking at the ground.**

## Stealth isn't that important anymore.

1. Aircraft don't fly with their radars on anymore because it just attracts radar-homing missiles and tells the enemy where the emitting aircraft is. "He who emits, dies."
2. Stealth only works in the X band that aircraft radars use. Ground-based VHF radars can detect stealth fighters hundreds of kilometers away.
3. The electronics of infrared detection have improved and infrared is the best passive way of detecting other aircraft.



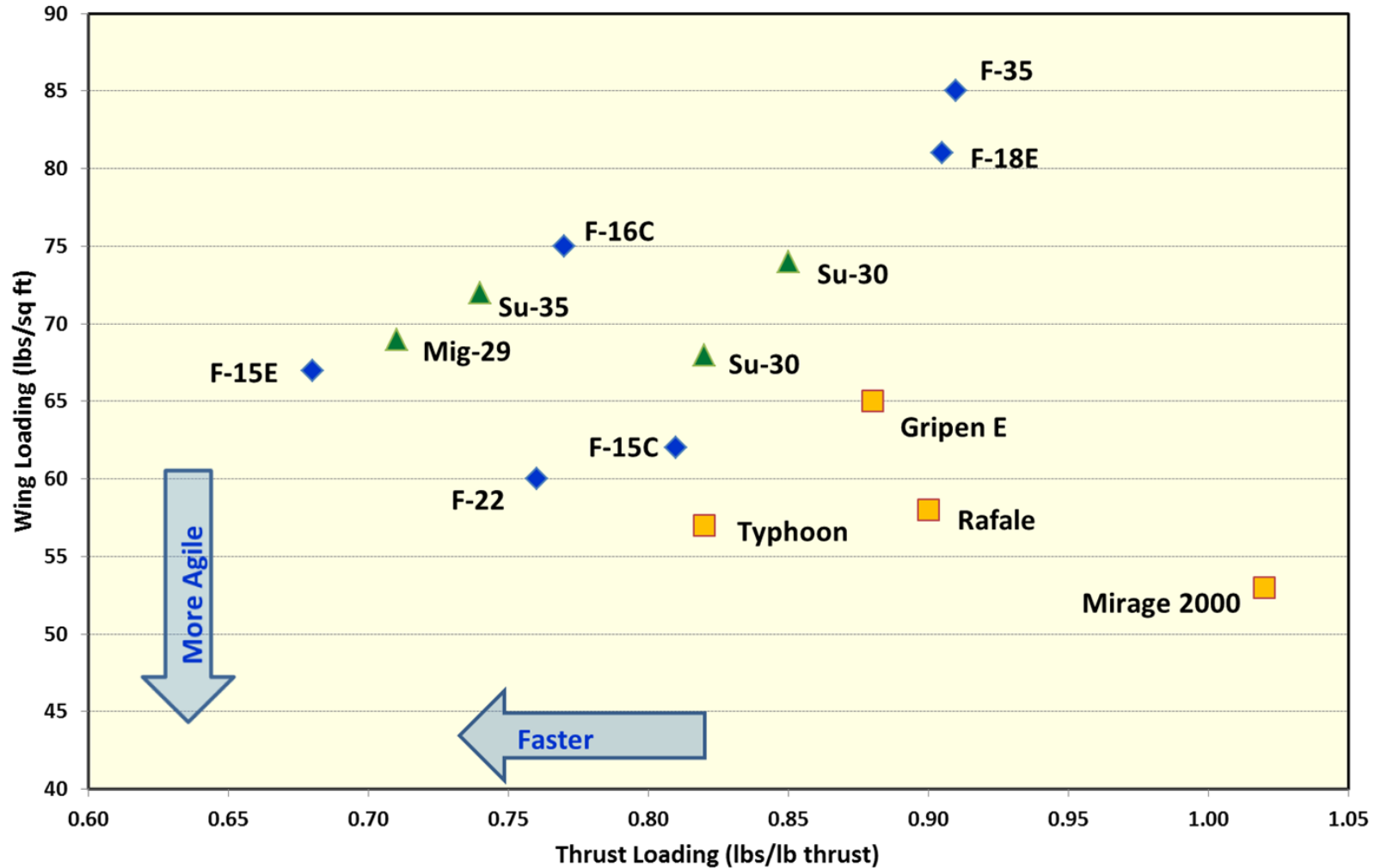


### Stealth negated

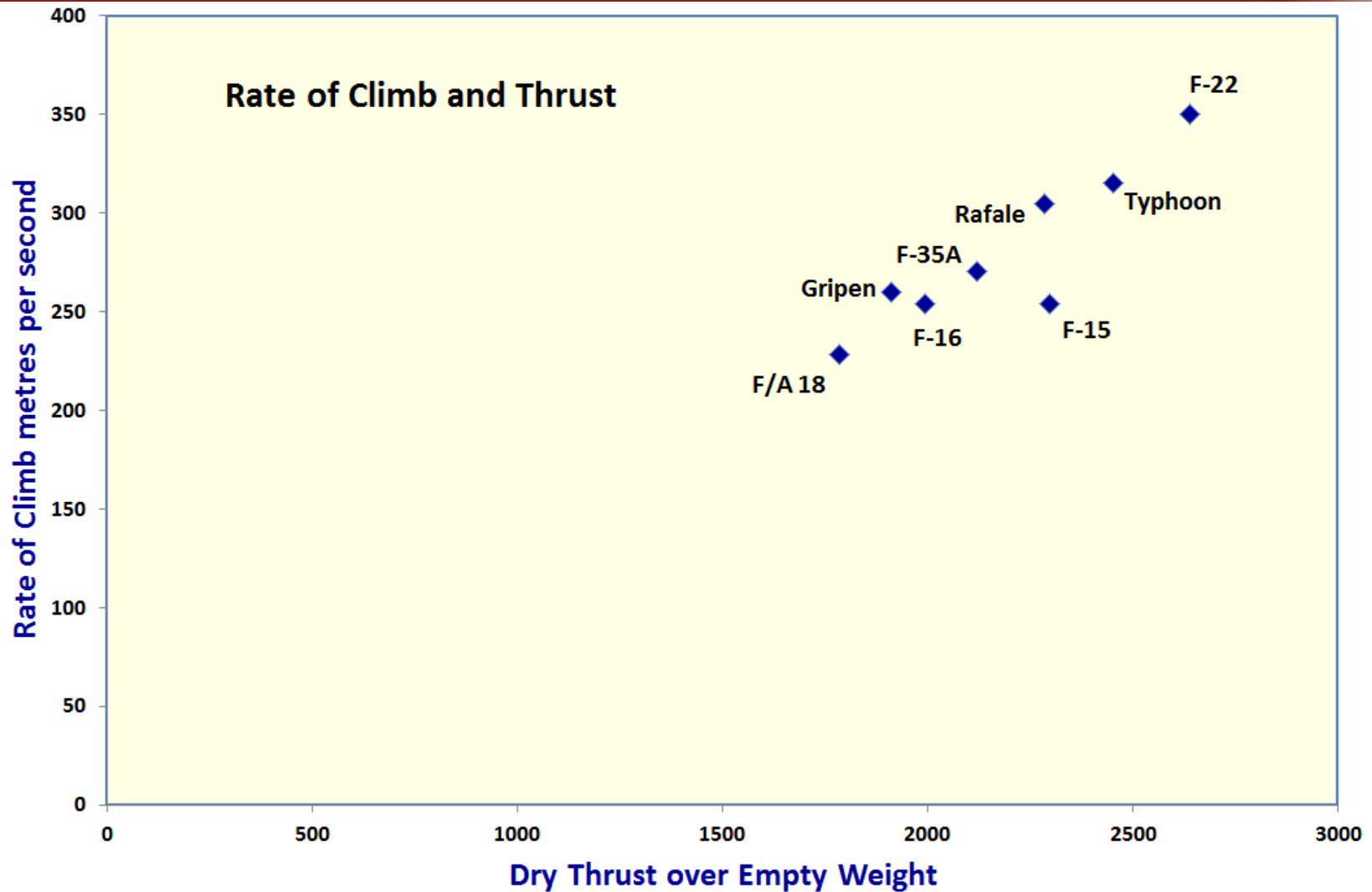
Long range radars, sophisticated ESM (coordinated DF), lower frequency L-Band radar and infrared scan and track sensors on aircraft when cued by HF OTH radars that can track current generation stealth aircraft, effectively negate Stealth, especially over water where there is no “fog of war” in which to hide;

- ESM** – electronic support measures
  - DF** - direction finding
  - HF** - high frequency
  - OTH** - over the horizon
-

## Australia's Defence



Australia's two fighters, the F-35 and the Super Hornet, will be out-maneuvered by everything else in the sky.

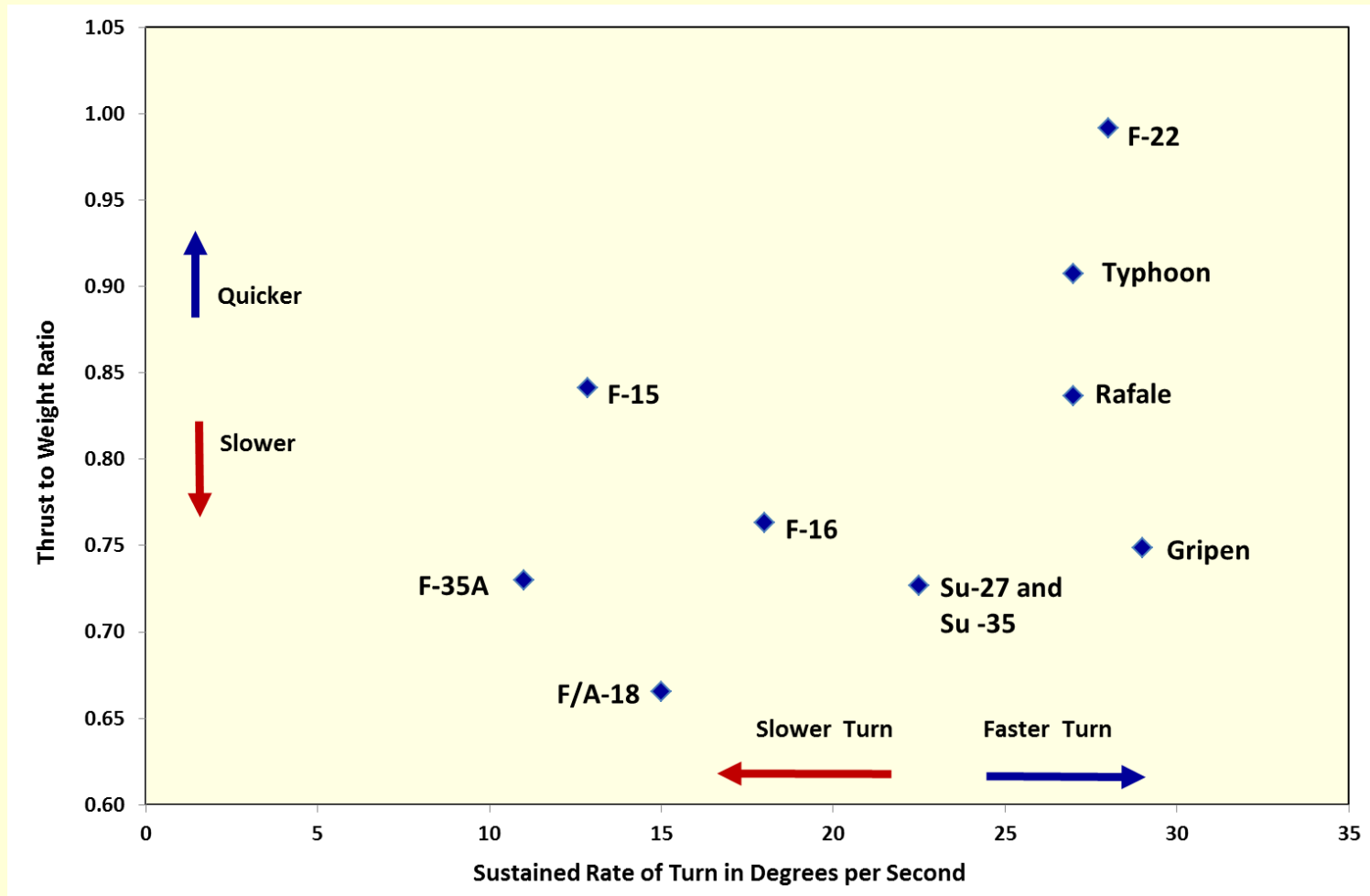


**The bigger fighters are more muscular.**



## Australia's Defence

The can't turn and can't run of the 2008 Rand study's  
"Can't Turn, Can't Climb, Can't Run" assessment of the F-35.



Australia has the two dogs.

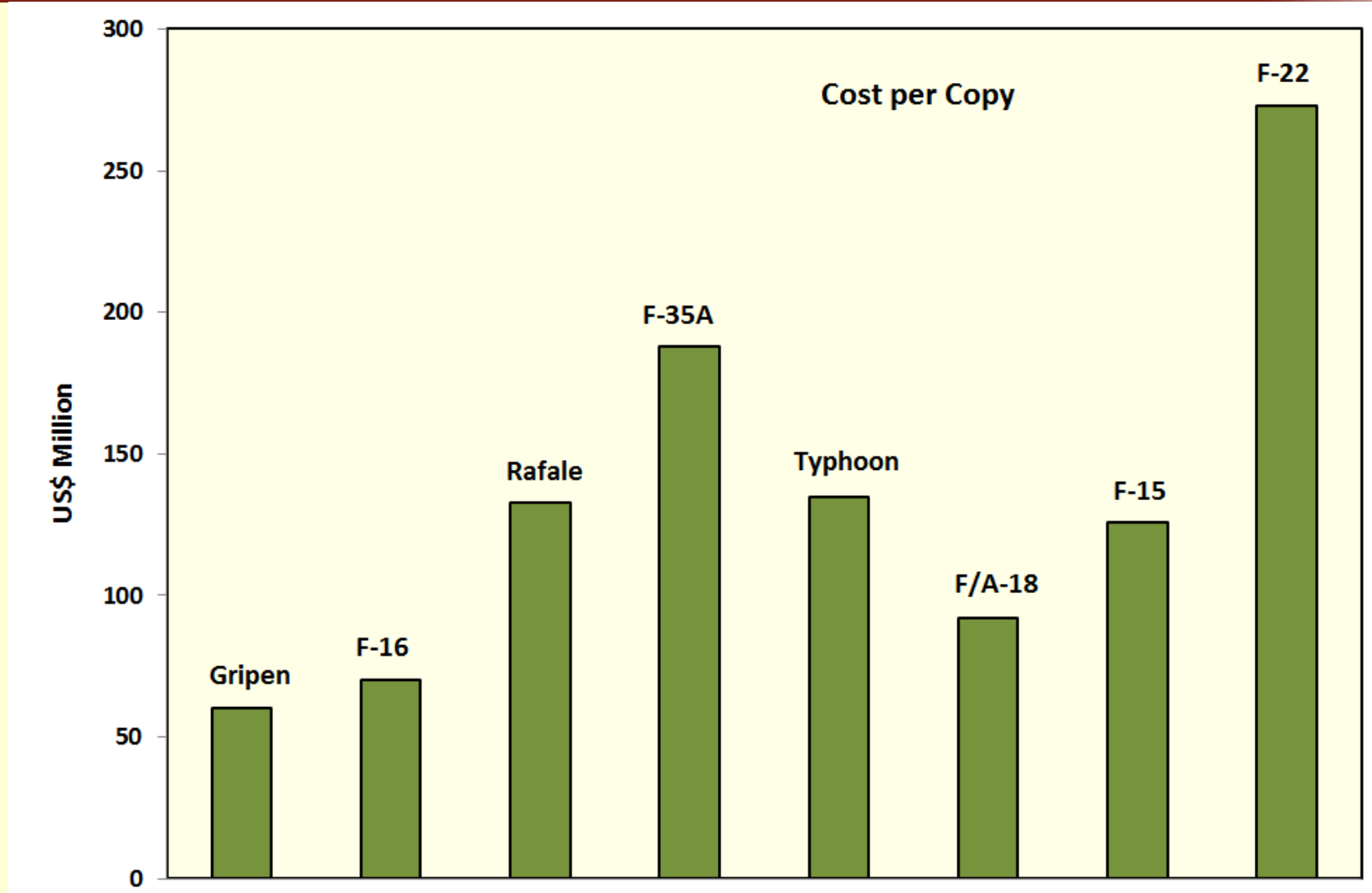
**Situational Awareness - Uber Alles?**



**Three F-22 kills on a German Typhon from Red Flag Alaska 2012**

---

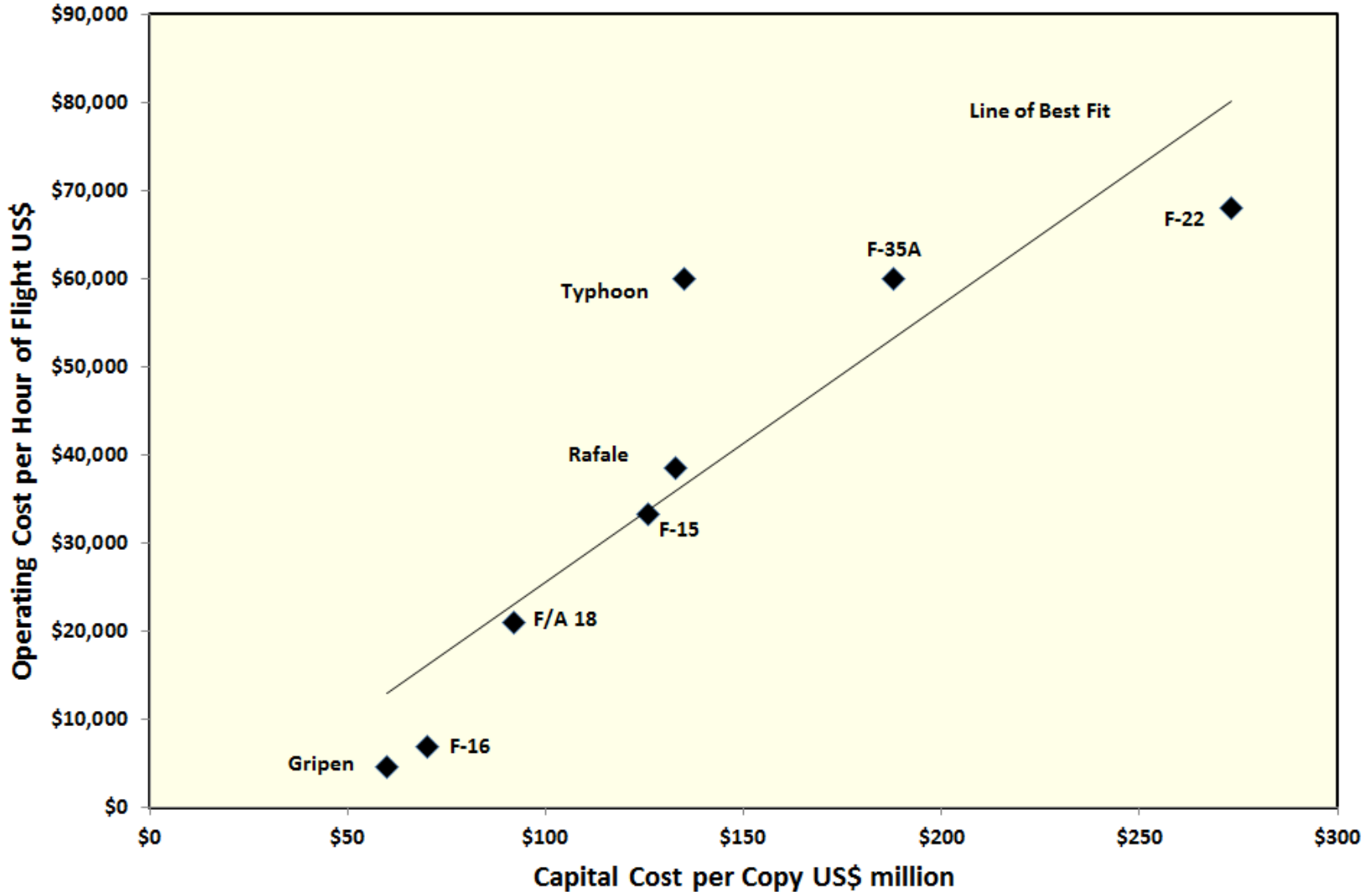
## Australia's Defence



Trying to be stealthy against X-band radar is expensive.

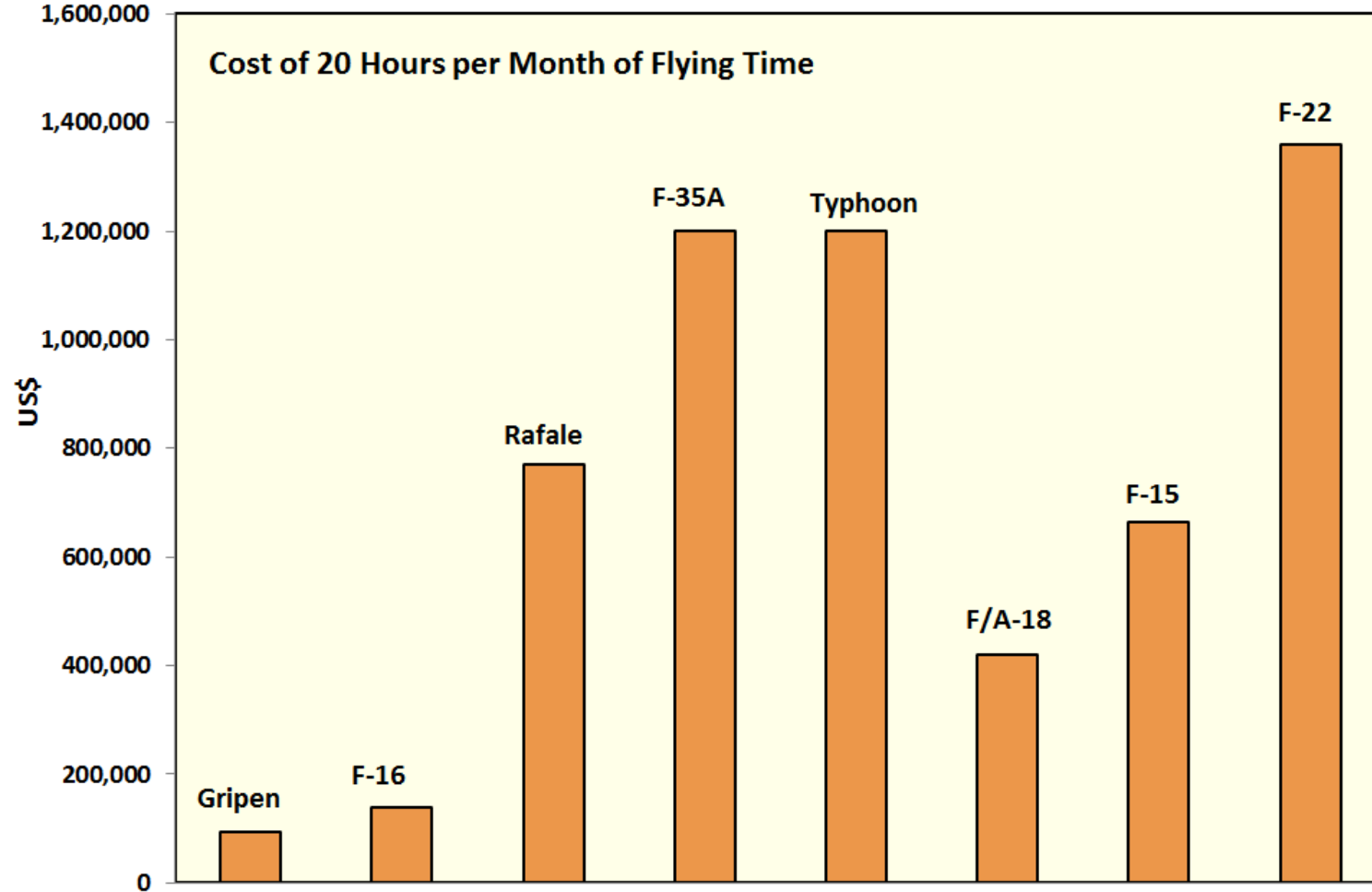


## Australia's Defence



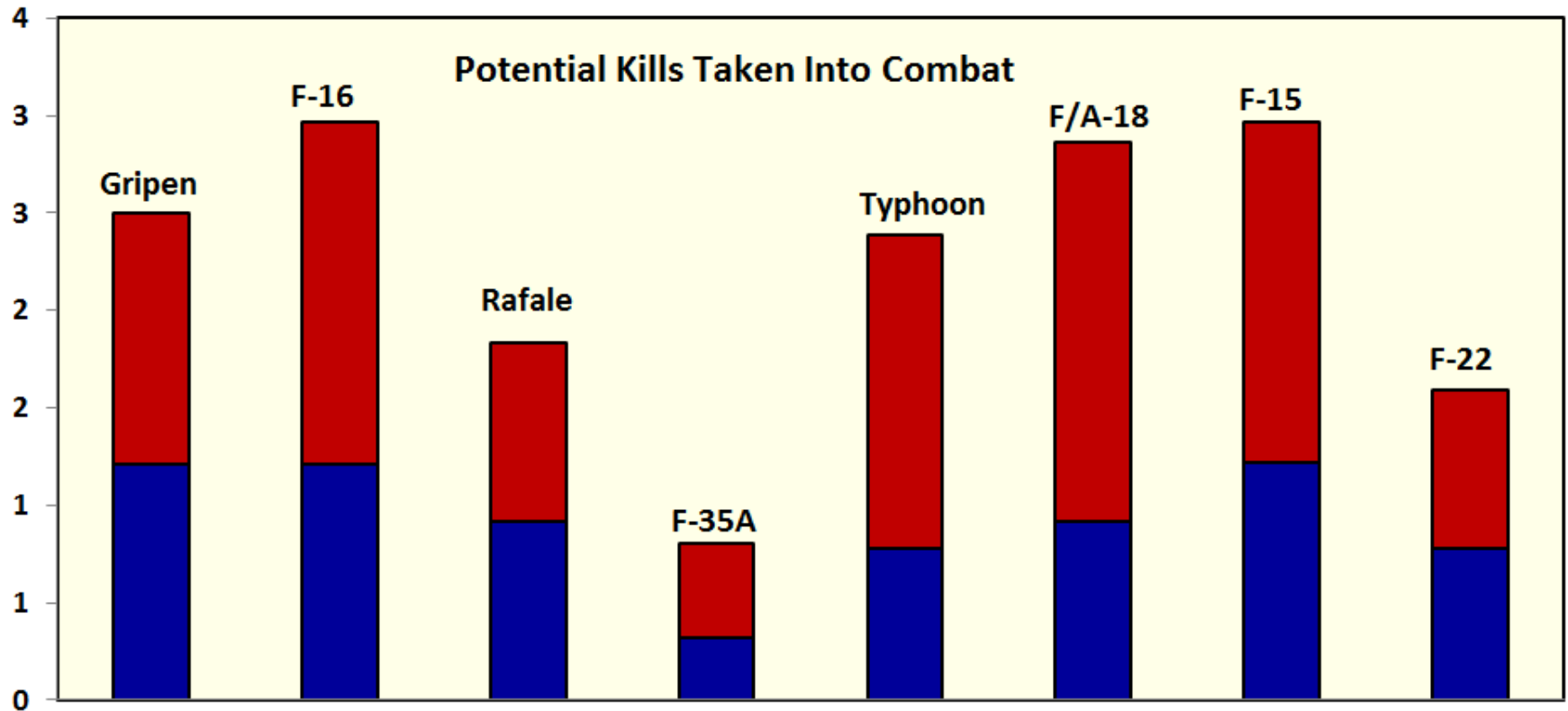
**Double whammy – operating cost is proportional to capital cost.**

## Australia's Defence



To keep 72 F-35 pilots proficient would cost A\$1.5 billion per annum.  
To keep 72 Gripen pilots proficient would cost A\$116 million per annum.

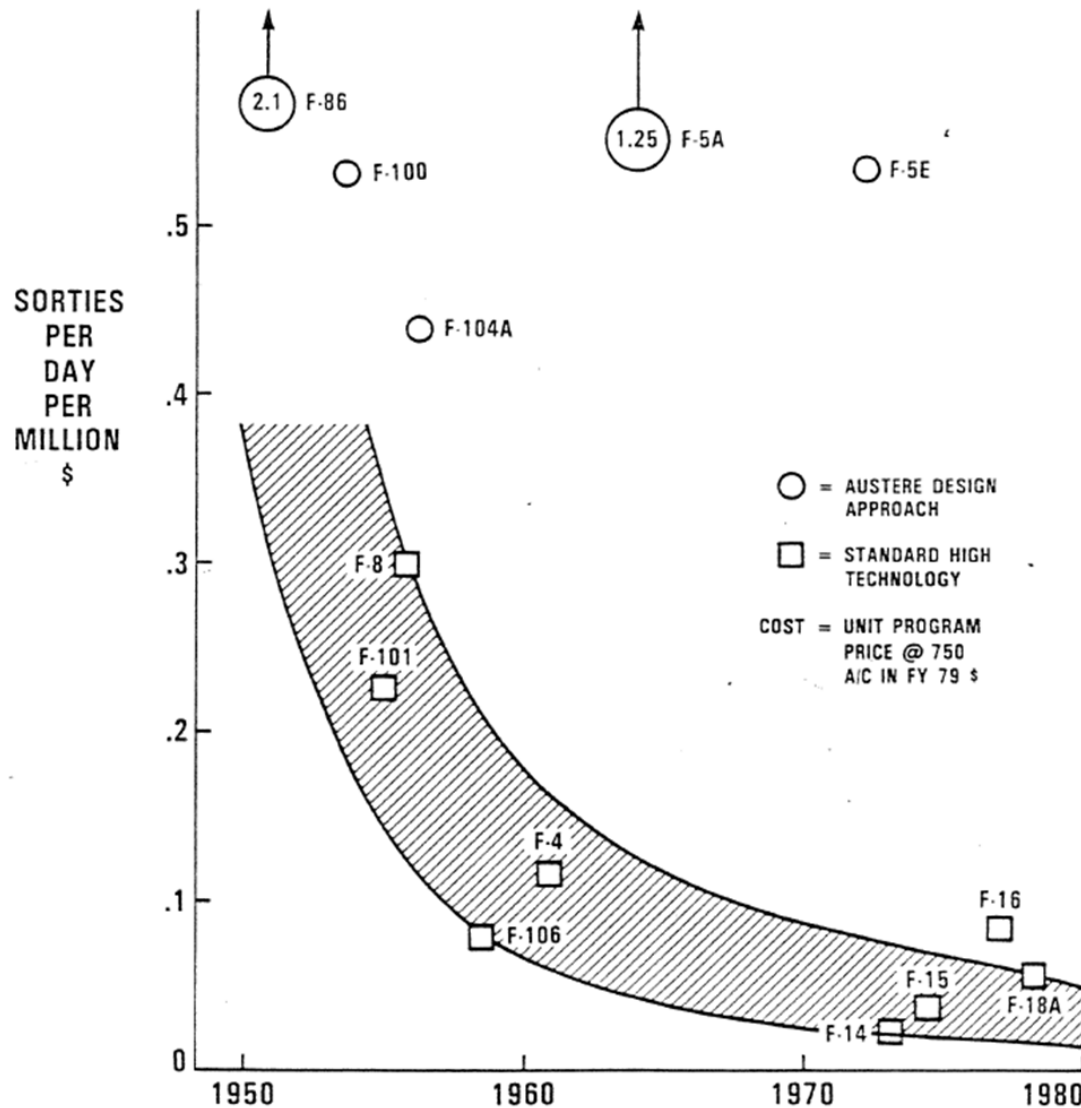
## Australia's Defence



- Blue is missiles, red is guns based on typical weapons loadout.
- BVR probability of kill is 0.08, WVR probability of kill is 0.15.
- F-22 takes half a second to open its gun port cover and takes time to spin up.
- F-35A cannot reasonably be expected to ever be in a gun-firing position on another fighter.
- F-35A carries only two BVR missiles.
- All other fighters are much the same, so what does matter?

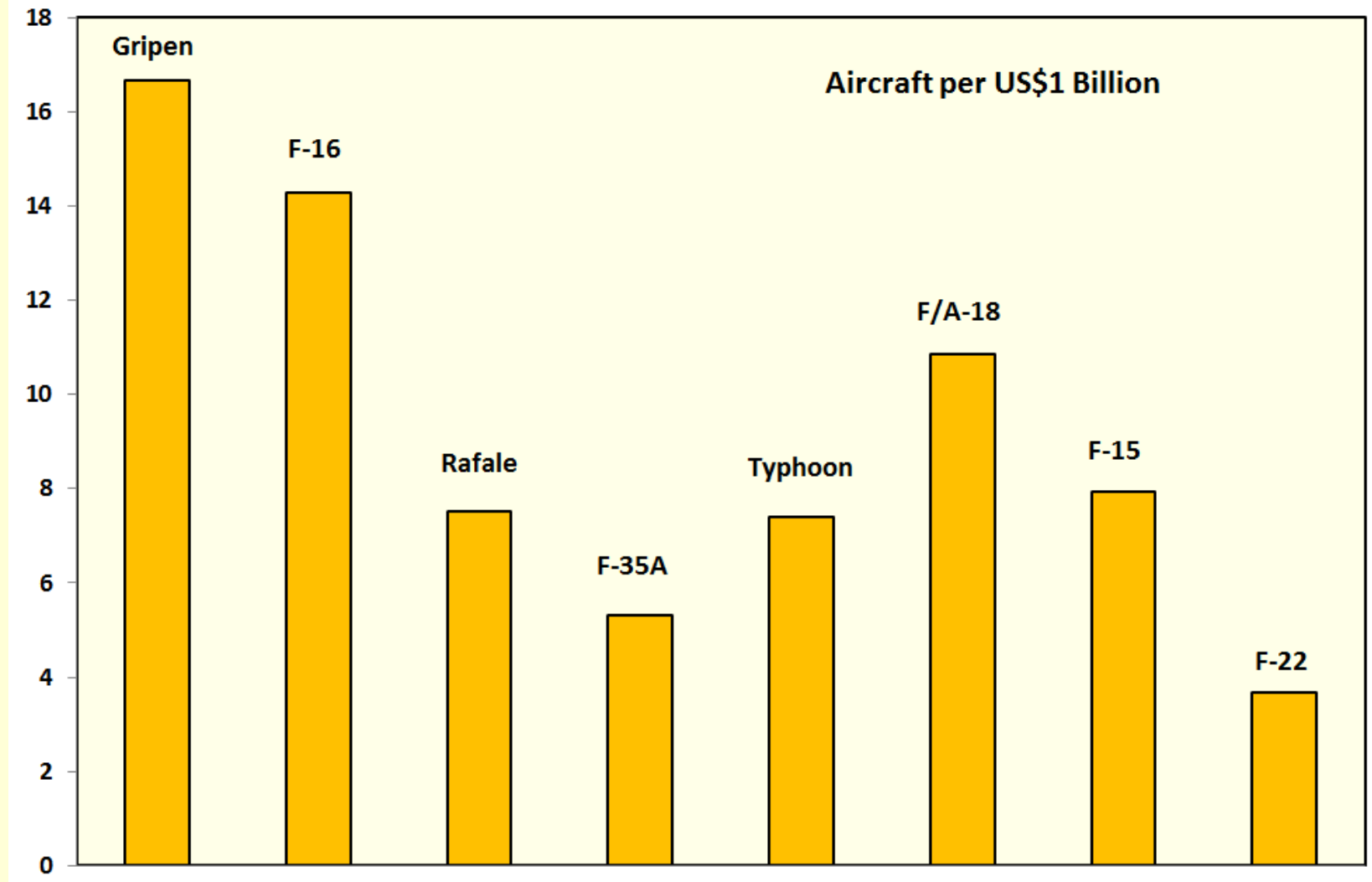


# Australia's Defence



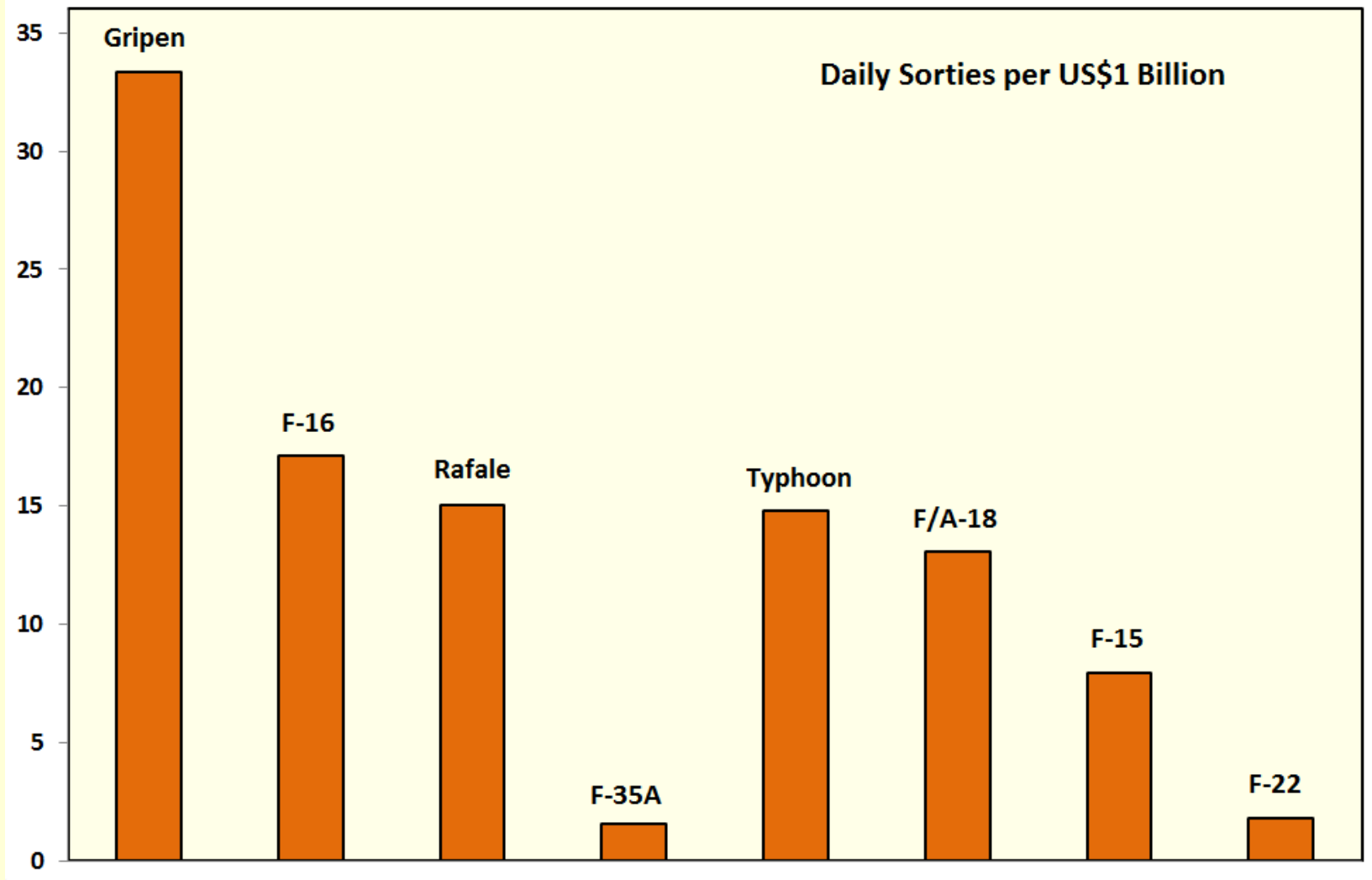
**Sortie rate is important  
– from Pierre Sprey's 1982 report.**

## Australia's Defence



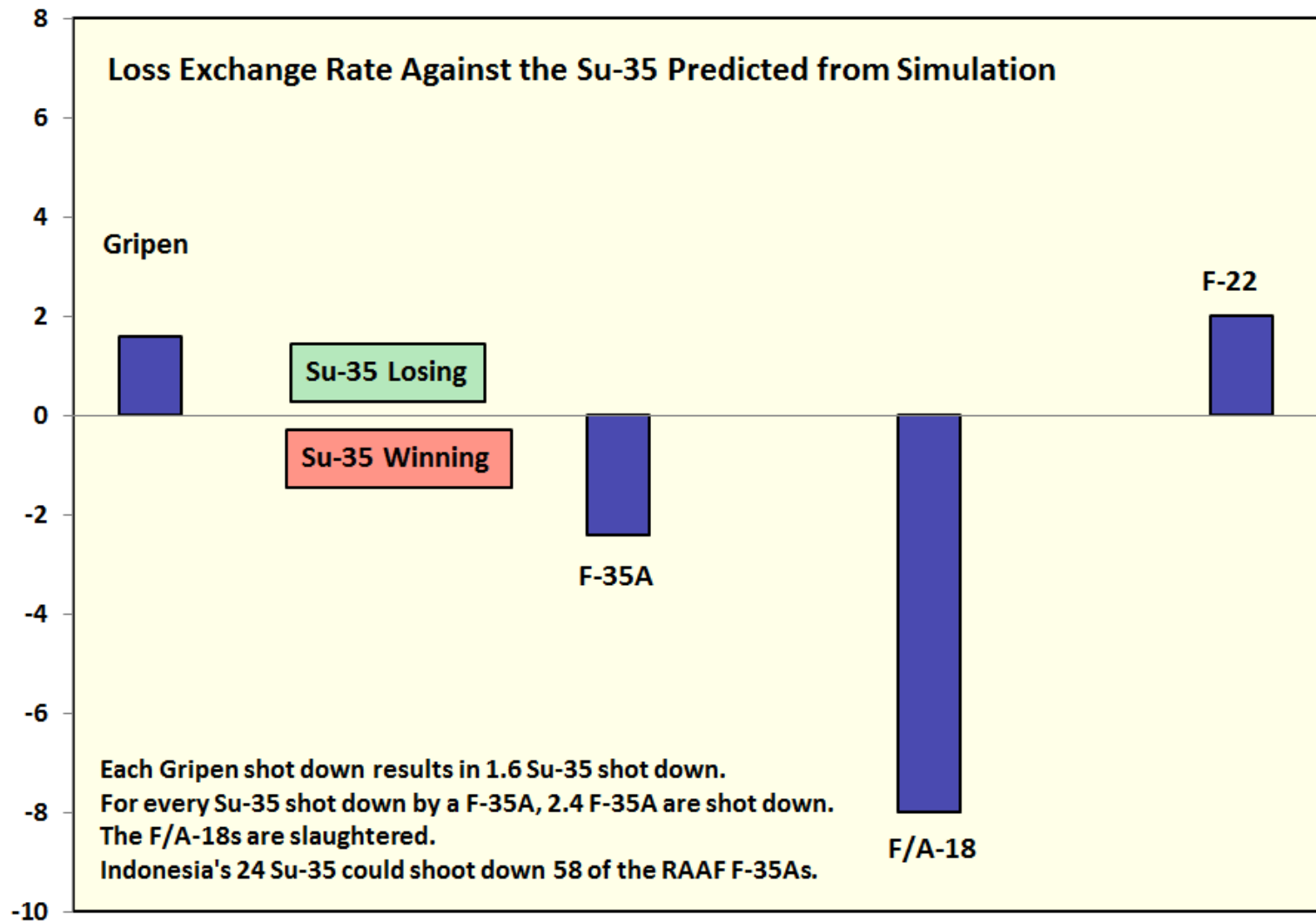
**A good path to air superiority is to get more aircraft, of equal capability, for the same outlay.**

## Australia's Defence



Combine aircraft cost with sortie rate and the real picture emerges.

## Australia's Defence



And then what happens in battle. We should give our pilots a better than even chance.



### Loss Exchange Ratios

F-22 v Su-35	F-35A v Su-35	F/A-18F v Su-35
1 to 2.1	2.4 to 1	8.0 to 1
Not bad at all	Depressing	Devastating

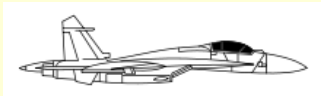
Today, the Navy's F/A-18E/Fs provide the nation with a powerful instrument for precision strike in non-contested operating environments at very short ranges, or at longer ranges when enabled by aerial refueling. As for survivabil-

From: CSBA Report September 2010 "Sustaining America's Strategic Advantage in Long-Range Strike"

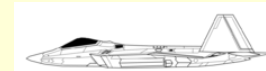
So why are we still buying Super Hornets?

By the way, the loss exchange ratio of the Gripen to the F-35 is 1: 21.

## Optimum Cruise Altitude

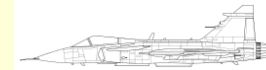


**Su-35**



**F-22**

— 70,000'



**Gripen**

— 60,000'



**F-18 Super Hornet**

— 50,000'



**F-35**

— 40,000'

— 30,000'

— 20,000'

— 10,000'

---

**BVR missiles from the F-35 have to climb 15,000 feet to the Su-35, decreasing range.**

**“No Escape Zone” of the Su-35’s missiles increased relative to the F-35.**

---

# Australia's Defence



## Combat Radius

**Su-35      1,600 km**

**F-35      1,080 km**

**Gripen E   1,500 km**

**By the choice of the F-35, we have ceded control over northern Australia to Indonesia.**

## **Summary on Fighter Aircraft**

- 1. If the F-35 goes ahead, it will be the most disastrous defence acquisition ever.**
  - 2. We won't be able to afford to give our pilots enough time to practice.**
  - 3. The F-35 is ineffectual in any role.**
  - 4. The rest of our air force will be shot down as well.**
  - 5. We are only contracted for two – drop the other 70.**
  - 6. Buy the Gripen instead.**
  - 7. Gripen is as good as any other aircraft in a dogfight at a fraction of the cost.**
  - 8. Use the F-18 Super Hornets for carrying large anti-ship missiles.**
-





- Wedgetail AWAC aircraft – the heyday of AWACs was in the 1970 - 1990s**
- long range missiles may keep it too far from the battlefield to be useful
  - will be useful on maritime patrol anyway

**Australia has 6 in service.**

---

## Australia's Defence



**C-17 Globemaster – payload of 77 tonnes, can carry main battle tanks**

**Australia has 7 in service, one on order.**

---

## Australia's Defence



**C-130J – 20 tonne payload**

**Australia has 12 in service.**

---



**C-27J Spartan – 11.5 tonne payload**

**Australia has 2 in service, 8 on order.**

---



**P-3 Orion for maritime patrol**

**Australia has 15 in service, to be replaced by 8 P-8 Poseidon (based on Boeing 737 airframe).**

---



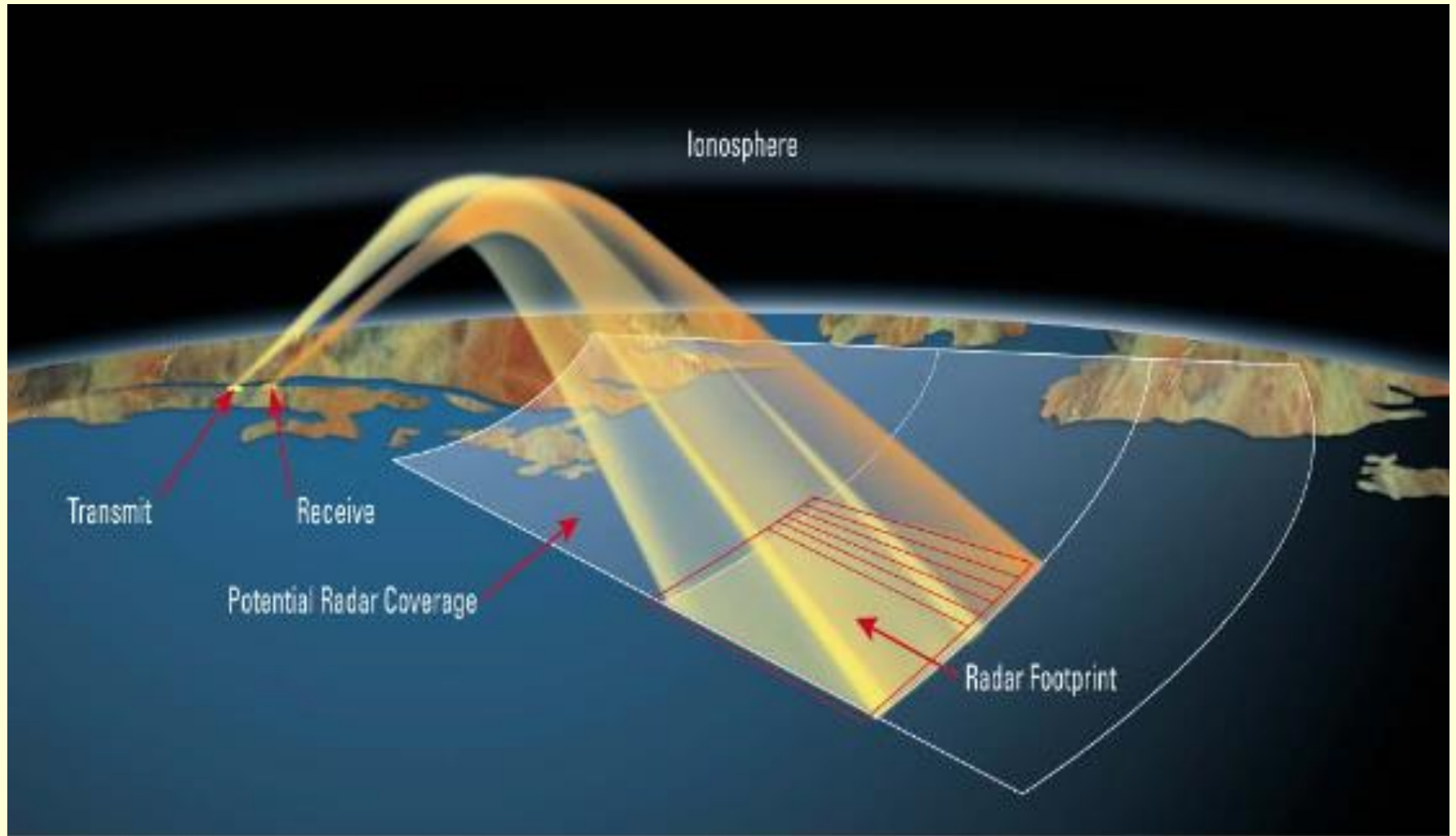


**US-2 flying boat, can also land on runways**

**How else are we going to recover people from the open ocean?**



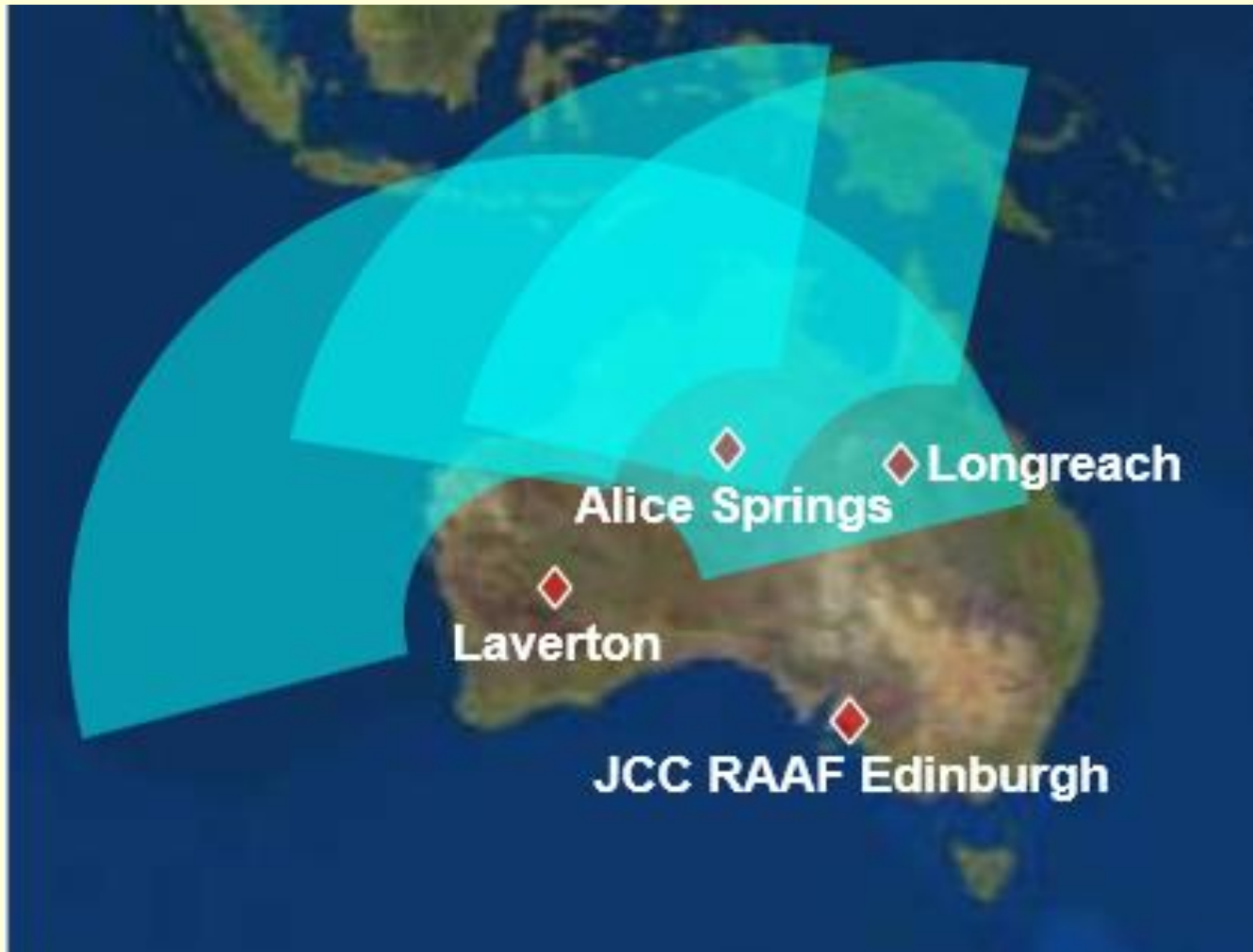
**Skytruck – Polish version of the An-28**



**How the JORN system operates**



## Australia's Defence



Coverage of the three JORN radar stations – sited so that coverage begins at the coastline

### Submarines

**The real reason we got the Collin Class: Rear Admiral Michael Hudson**

**“In several cases these revisions were marked. The covert transit range at ten kts was assessed by Kockums as 9300 nm and by the RAN at 10 440 nm. The days on station claimed for the Type 2000 were reduced by 36 per cent; in contrast, the battery endurance estimated by Kockums was increased by 15 per cent.”**

[http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/rp/rp0102/02RP04](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp0102/02RP04)

**Lloyds Register observed, "The number of diesel engine-related failures sustained onboard HMAS Farncomb and indeed the Collins class submarines as a group is totally unacceptable to the point of being quite unique in modern medium speed diesel marine applications."**

**Commander James Harrap: “Collins has consistently been let down by some fundamental design flaws leading to poor reliability and inconsistent performance.” and “I do not believe a service life extension for Collins is even possible, much less recommended.”**

**We need a new submarine fleet as soon as possible.**

---



### Cost:

- Vietnam bought six Russian kilo class submarines for US\$350 million each (US\$500 million including armaments).
  - Japan 11<sup>th</sup> Soryu class submarine has a budget of US\$537 million (\$700 million)
  - Singapore is getting two Type 218 submarines from Thyssen Krupp for €1.0 billion (\$725 million each).
  - So it seems that a modern diesel submarine displacing about 4,000 tonnes should cost about \$800 million.
  - The total acquisition cost for 24 submarines would therefore be \$19 billion.
-

## How many submarines are needed?

- 24 is the minimum to have an effect.
  - That equates to one per million head of population.
  - It will be 8% of the submarines in the Asian region.
  - Australia is too big to have just one submarine base.
  - It would take two weeks for a submarine to sail from *HMAS Stirling* to Townsville.
  - The *Collins* class submarines were being worn out by doing the 5,000 km round trip to Adelaide for repairs.
  - We can have more than one class of submarines.
-

## *Soryu* Class

- Japan is producing one new submarine per year with production alternating between Kawasaki Heavy Industries and Mitsubishi Heavy Industries.
  - First *Soryu* submarine commissioned in 2009 so it is a new design.
  - Latest iteration has lithium batteries in replacement of Air Independent Propulsion (AIP).
  - Can carry 26 torpedoes.
  - Range could be increased by adding diesel tankage.
  - Rated as the best diesel submarine available by the US Navy.
-

## ThyssenKrupp Type 216

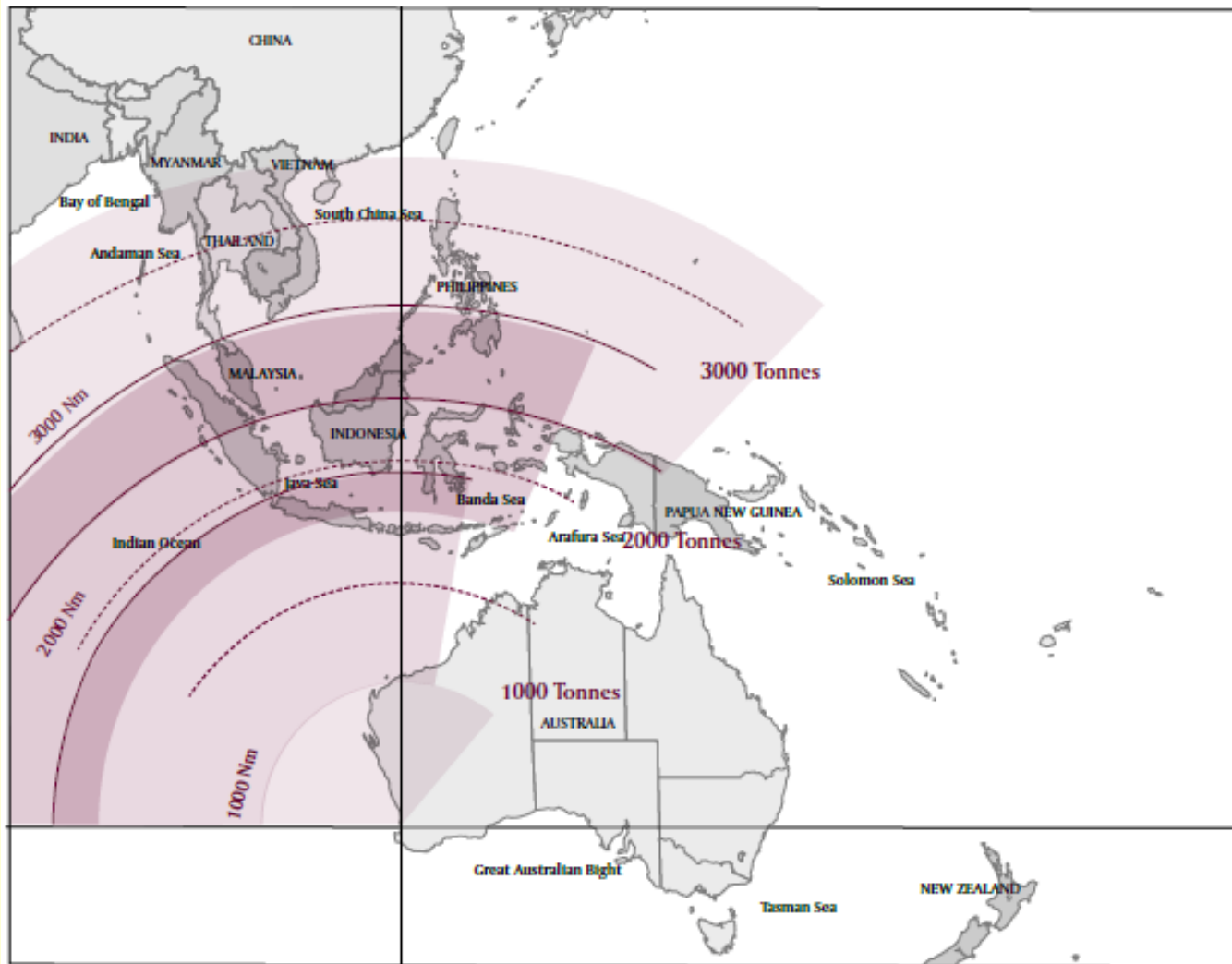
- This is design based on the Type 214 class which is the export version of the mid-90s Type 212 class.
  - Korean shipyards have built six Type 214 to date with another three on order.
  - The first vessels in the class had significant problems despite ThyssenKrupp being a highly experienced submarine designer.
  - ThyssenKrupp have suggested that they buy ASC and build the submarines in Adelaide.
-

### **Ideally:**

- **We take Soryu class off the two Japanese production lines rather than wait five years or more for our own design.**
  - **Also take Virginia class nuclear-powered submarines from the two US production lines.**
  - **Establish a second submarine base at Double Bay in north Queensland, 10 km north of Airlie Beach.**
-



## Australia's Defence



**Refueling at Exmouth  
is worth 1,000 tonnes  
of displacement.**

Figure 1. Indicative displacement tonnages required for Australian-based submarines to operate effectively in the Indo-Pacific region

## **Basing**

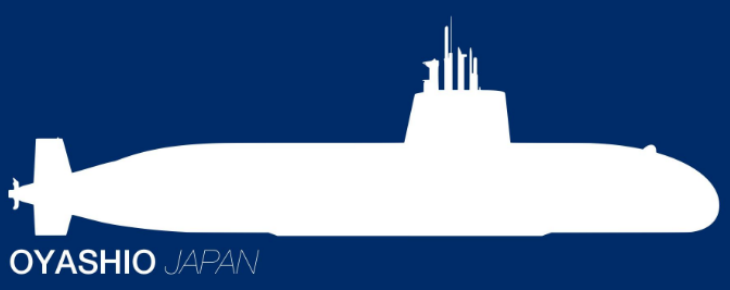
- **Keep the main submarine fleet bases as far from Chinese Anti-Ship Cruise Missiles as possible.**
  - **Provide top cover so that submarines can't be seen tied up at the wharf by satellites.**
  - **Develop bare bases on the west coast at Shark Bay and Exmouth for refueling on the way north.**
  - **Refueling at Exmouth is equivalent to 1,000 tonnes of displacement in terms of range.**
  - **Similarly, a fuel barge at Milne Bay or Manus Island would extend range into the northern Pacific.**
-



### **HMAS Rankin**

- last of the Collins Class
- Laid down on 12<sup>th</sup> May, 1995
- Launched 7<sup>th</sup> November, 2001
- Commissioned 29<sup>th</sup> March, 2003
- Three and a half years behind schedule
- Cannibalised while under construction to keep the other Collins class boats going.

# Australia's Defence



	Surface Displacement tonnes	Submerged Displacement tonnes	
<i>Collins Class</i>	3,100	3,407	
<i>Soryu Class</i>	2,900	4,200	US\$537 million

### Other naval vessels:

- Surface vessels can now be attacked from a considerable distance.
  - Surface vessels can be detected by satellites, by over-the-horizon radars at several thousand kilometres and by AWACs at 400 km.
  - Submarine-launched torpedoes have a range of more than 50 km.
  - Swarming ASCMs will be successful in penetrating the anti-air screen.
  - A high proportion of a ship's combat systems are devoted to the anti-air and anti-submarine role instead of attacking other ships.
  - Reloading vertical launch cells require the ship to return to port.
  - Ship to ship warfare now involves launch of volleys of anti-ship missiles on detection of the enemy combatant.
  - The sea's surface is now like the Mediterranean during World War 2 – a no man's land in which combatants are constantly under threat of attack.
-



## The Better Solution

- Long range aircraft are now a better solution for anti-shipping warfare than surface combatants.
  - Specifically second hand 737s converted to launch ASCMs.
  - 737s are used as the PC-8 which launches torpedoes.
  - A 737 can carry 20 tonnes which equates to 10 two tonne ASCMs.
  - Aircraft move at 890 kmph and could do two missions per day.
  - Capital cost per missile carried of \$3 million as opposed to \$150 million for a ship.
-

## Australia's Defence



**Cruise missiles carried on rotary racks, launched out of a rear starboard port.**

## Australia's Defence

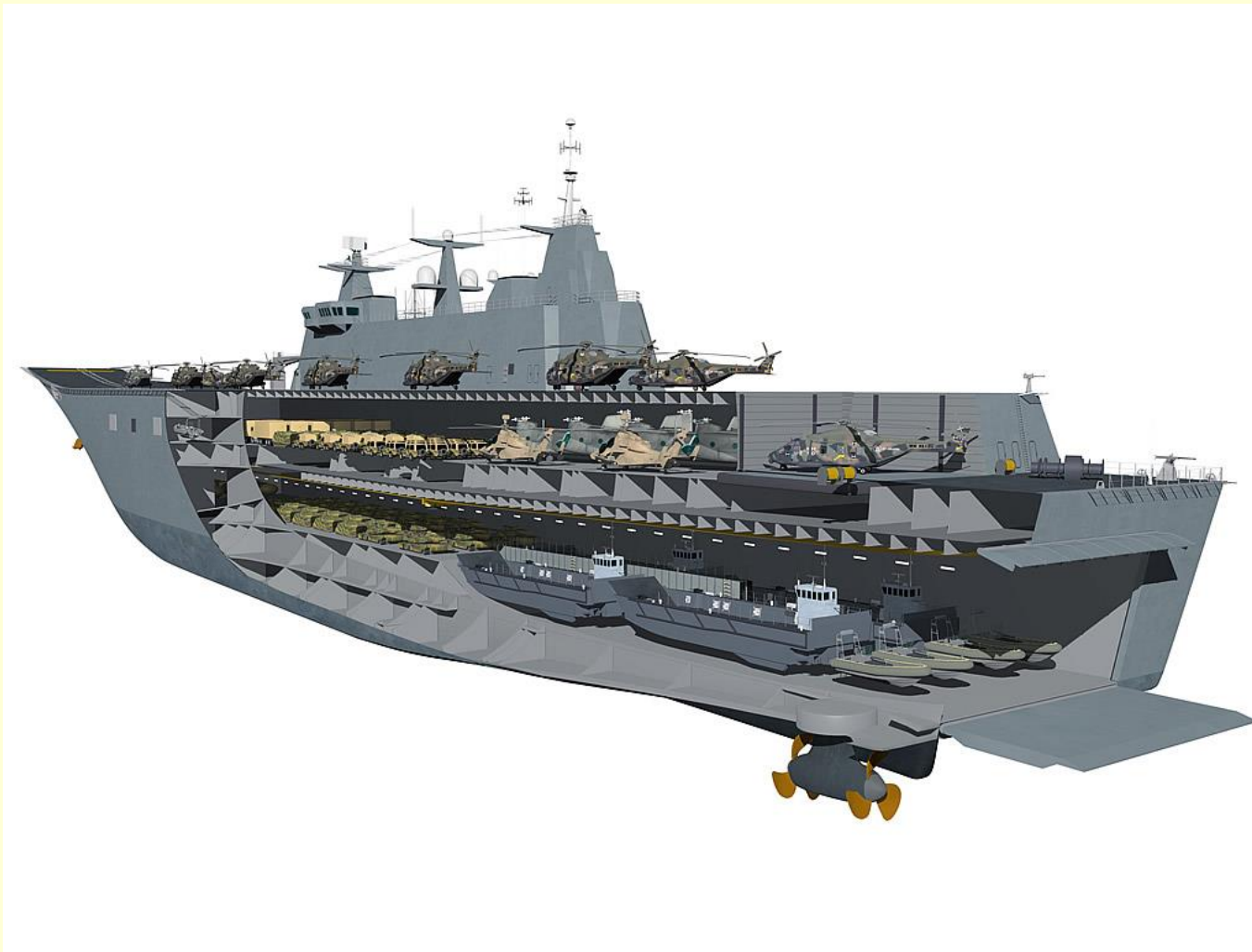


**HMAS Anzac      3,600 tonnes full displacement**





***RSS Steadfast, Formidable class frigate from La Fayette class of DCNS***



***Canberra* class amphibious assault ship – unarmed and needs half a dozen frigates to protect it.**





**HMAS *Armidale* patrol boat – one 25 mm cannon on the foredeck.**

---

# Australia's Defence



**CANBERRA CLASS - LHD**

Length Overall 230.82m - Maximum Beam 32.00m



**HOBART CLASS ---- AWD**

Length Overall 147.20m - Maximum Beam 18.60m



**ADELAIDE CLASS -- FFG**

Length Overall 139.00m - Maximum Beam 14.00m



**ANZAC CLASS ---- FFH**

Length Overall 109.00m - Maximum Beam 14.80m



**Royal Australian Navy major surface combatants**

### Australian Army

- Pathetically small
  - We can field one combined arms brigade at a time
  - About 3,800
  - Includes organic tanks and artillery
  - Not enough tanks, but we have the wrong type anyway
  - Not enough artillery
  - No self-propelled howitzers
  - New Infantry Fighting Vehicle needed
  
  - All governments have underspent, and chosen the wrong gear when they have bought something
-





**Abrams tank – diesel-guzzling gas turbine engine, big thermal signature  
– too hot for troops to follow behind**

---

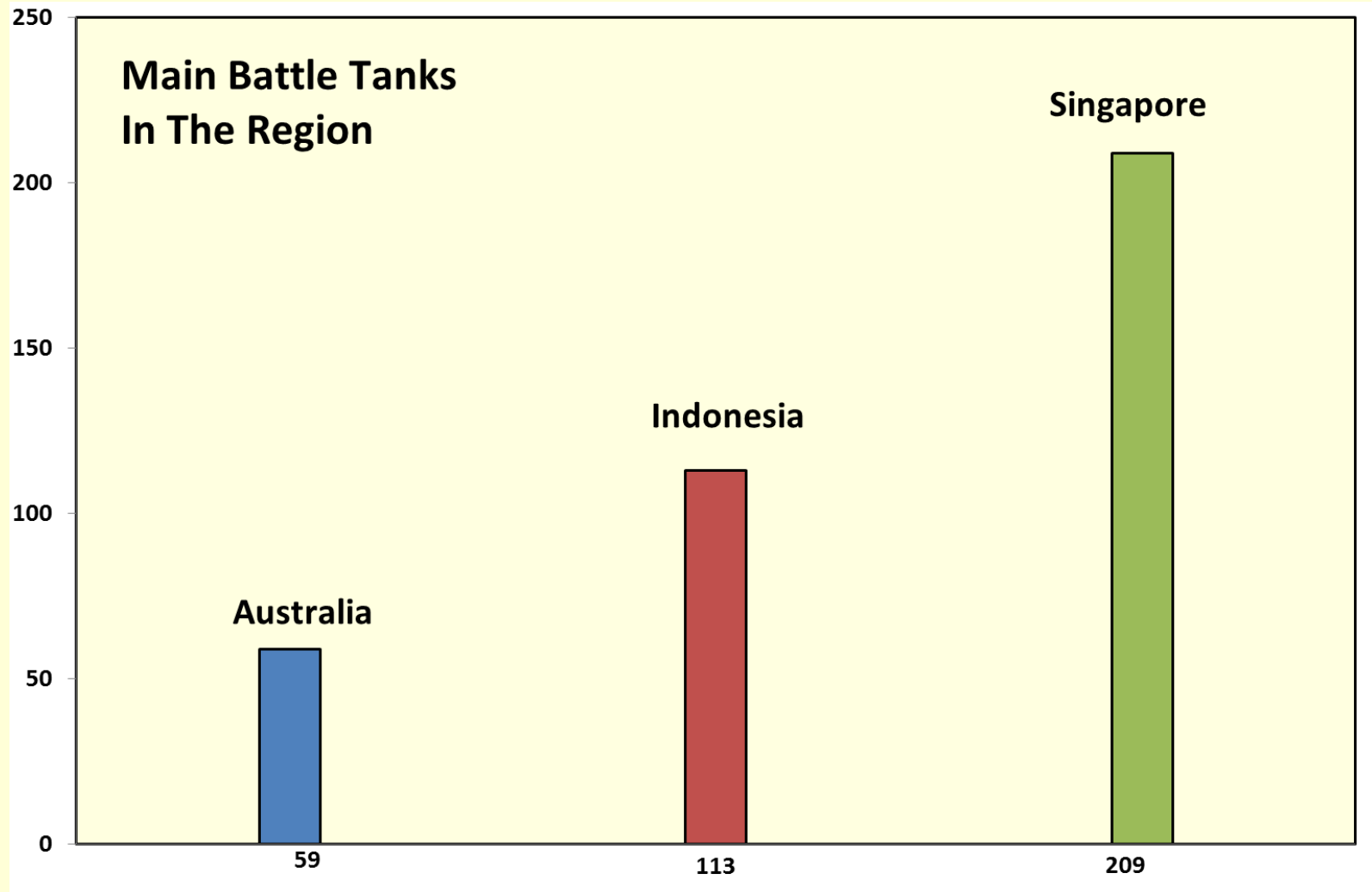


**Leopard 2 – twice the fuel economy of the Abrams**

---

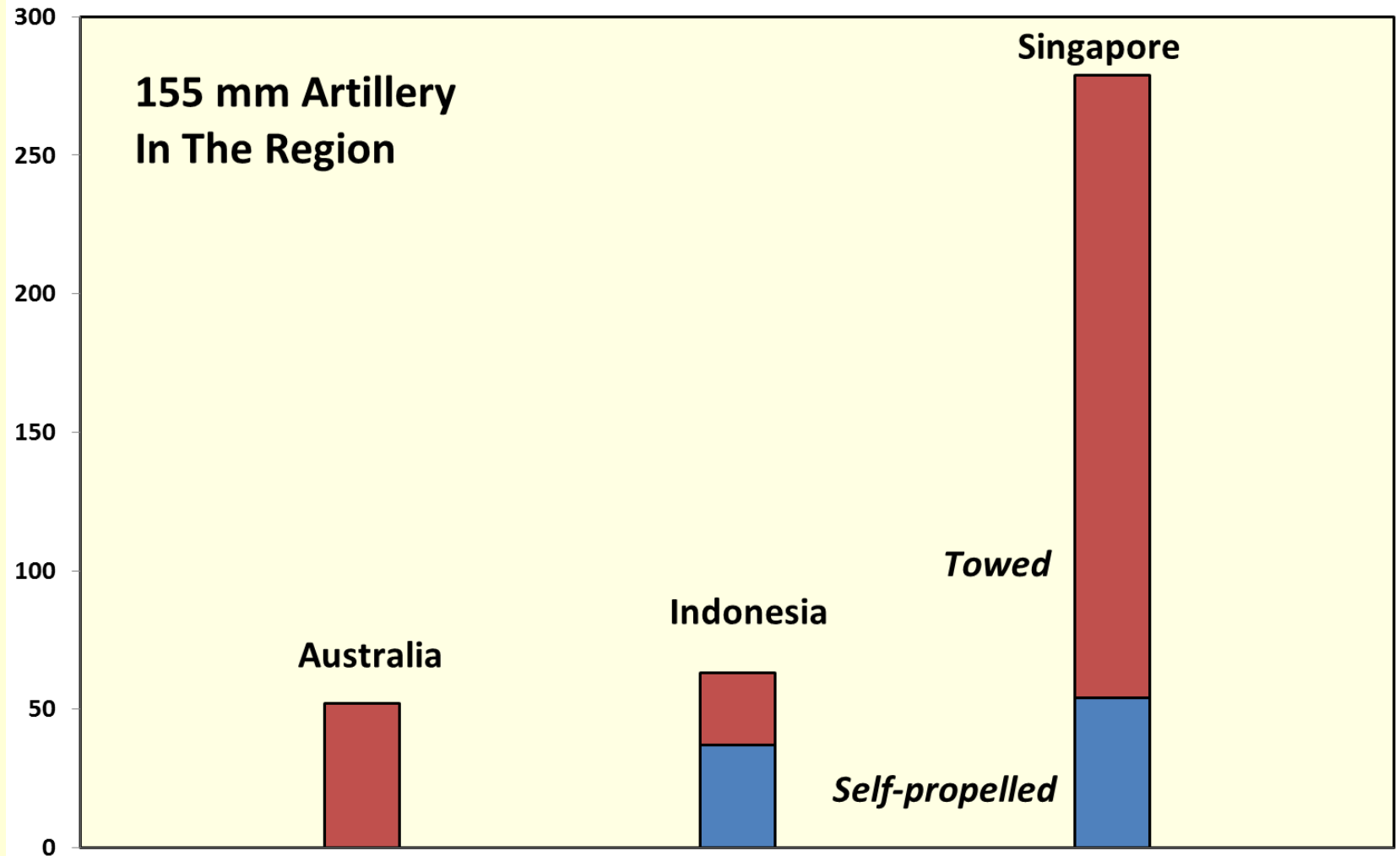


## Australia's Defence



Per capita, Singapore has 14x the number of tanks that we do.

## Australia's Defence



Per capita, Singapore has 21x the number of 155 mm artillery pieces that we do.

## Australia's Defence



**M777 155 mm towed howitzer**

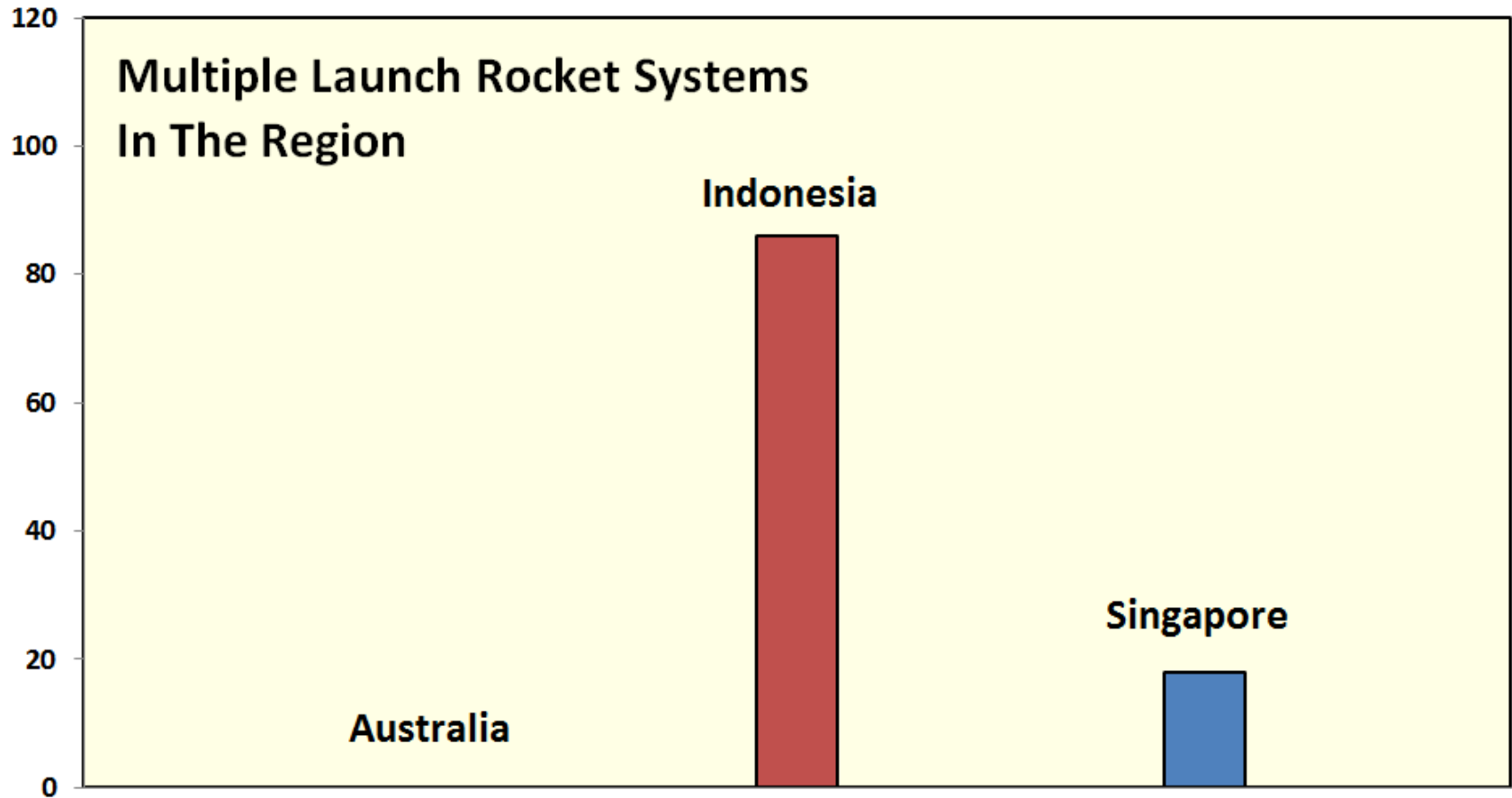
- titanium used in the carriage
- 4.2 tonnes



**K-9 Thunder**

- 47 tonnes

## Australia's Defence



Australia is completely missing in this category and thus we don't have the reach of our neighboring countries' bombardment systems.



HIMARS system





### Israeli Jumper system

- 30 km range
- bringing the naval vertical launch cell concept ashore
- 8 in a box



**ATACMS, 300 km range**



**ASLAV infantry fighting vehicle**



## Australia's Defence



**Rheinmetal's Boxer**



**Patria's Armoured Modular Vehicle**



**CV 90**

**ASLAV replacement – tracked is better**

---



**Headquarters Joint Operations Command, 13 km east of Queanbeyan**



## **Let's Go Nuclear**

**Under Article IX.3 of the Nuclear Proliferation Treaty, a country may accede to the treaty as a Nuclear-Weapon State if that state “manufactured and exploded a nuclear device prior to January 1, 1967”.**

**Australia qualifies due to the U.K. nuclear tests in the 1950s that Australia contributed to.**

**Optimum warhead size is 400 kt in terms of weight versus yield.**

**Buy from France, Israel, Russia or assemble here from Japanese components.**

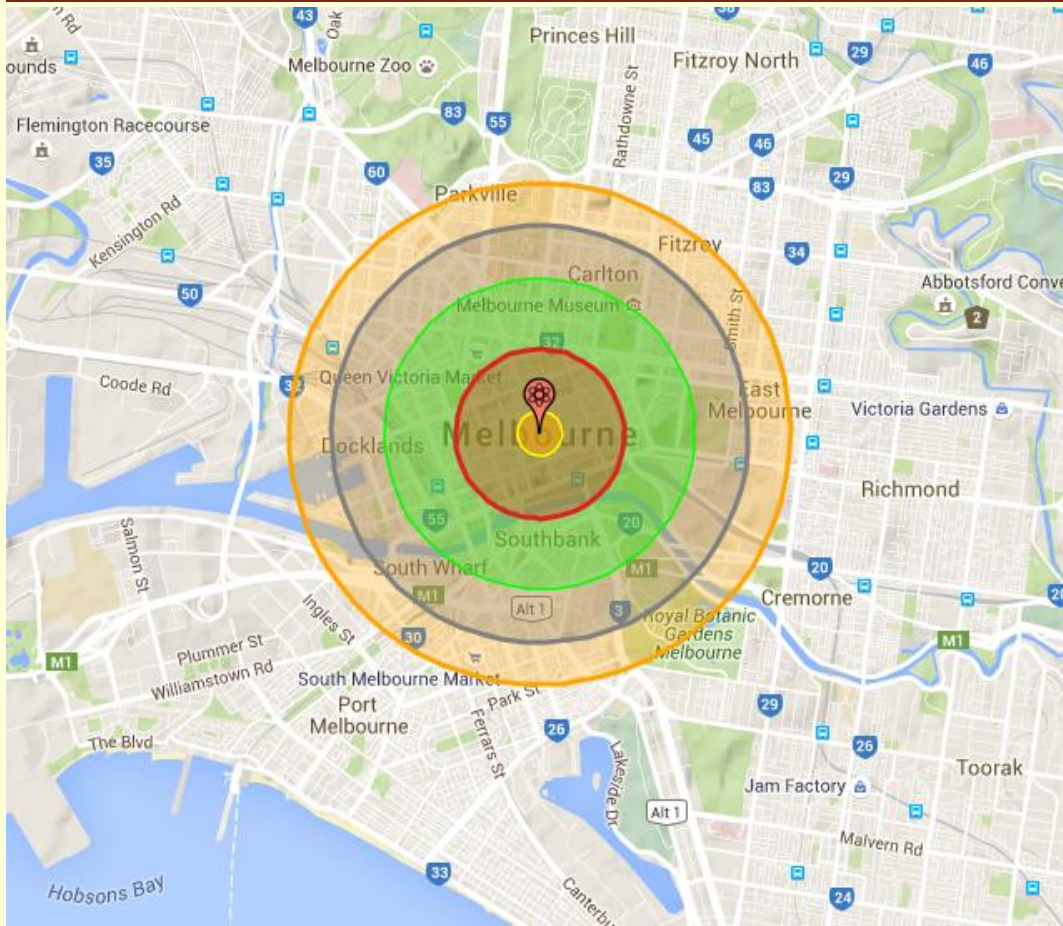
**Mate with solid fuel rockets carried on TELs.**

**China does not have an Anti Ballistic Missile system.**

**We therefore would have Mutually Assured Destruction with China.**

---

# Australia's Defence



**20 kiloton Airburst on Melbourne**

**Fireball radius: 200 metres**

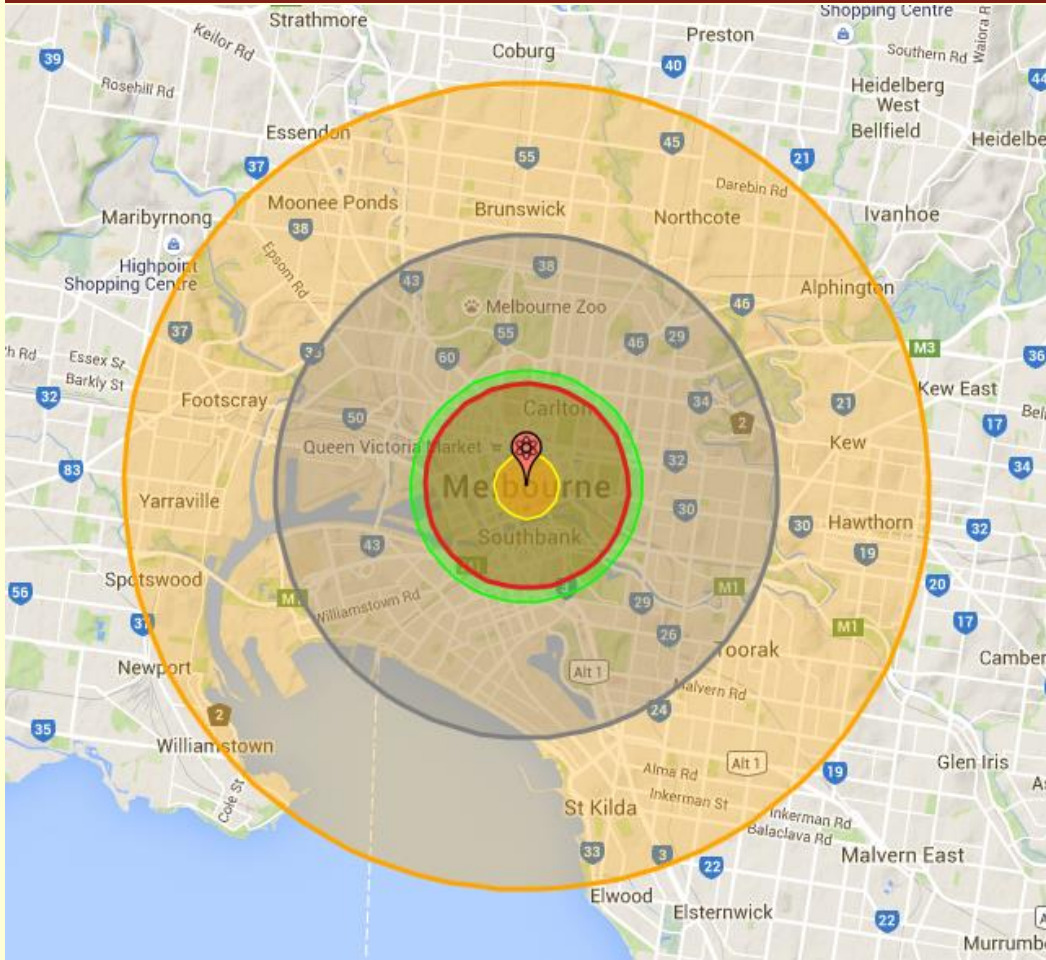
**Air blast radius: 770 metres (20 psi)**

**Radiation radius: 1.4 km (500 rem)**

**Air blast radius: 1.9 km (5 psi)**

**Thermal radiation: 2.3 km  
(3<sup>rd</sup> degree burns)**

# Australia's Defence



## 300 kiloton Airburst on Melbourne

**Fireball radius: 600 metres**

**Air blast radius: 1.9 km (20 psi)**

**Radiation radius: 2.1 km (500 rem)**

**Air blast radius: 4.7 km (5 psi)**

**Thermal radiation: 7.5 km  
(3<sup>rd</sup> degree burns)**





**That is one thing.**



Australian Government

Australian Civil-Military Centre

Australian Civil-Military Centre is particularly proud to be part of White Ribbon, not only because it reflects Defence's core values and expectations, but it also accords with some of Australian Civil-Military Centre's key projects and publications, including: Side by Side, Women, Peace and Security; Gendered Crises, Gendered Responses; and Conflict-related Sexual and Gender-based Violence.

In June 2014, Navy became Australia's largest organisation to complete the program and receive White Ribbon Accreditation. Many of Defence's senior leaders are White Ribbon Ambassadors, including the Chief of the Defence Force ACM Binskin, Vice Chief of the Defence Force VADM Griggs, the Chief of Navy VADM Barrett, the Chief of Army LTGEN Morrison, and the Chief of Air Force AM Brown.



## **The Department of Defence is Polytheistic**

**Religions with offices on Russel Hill:**

**Ancestor Worship**

**Office of Indigenous Affairs**

**Nature Worship**

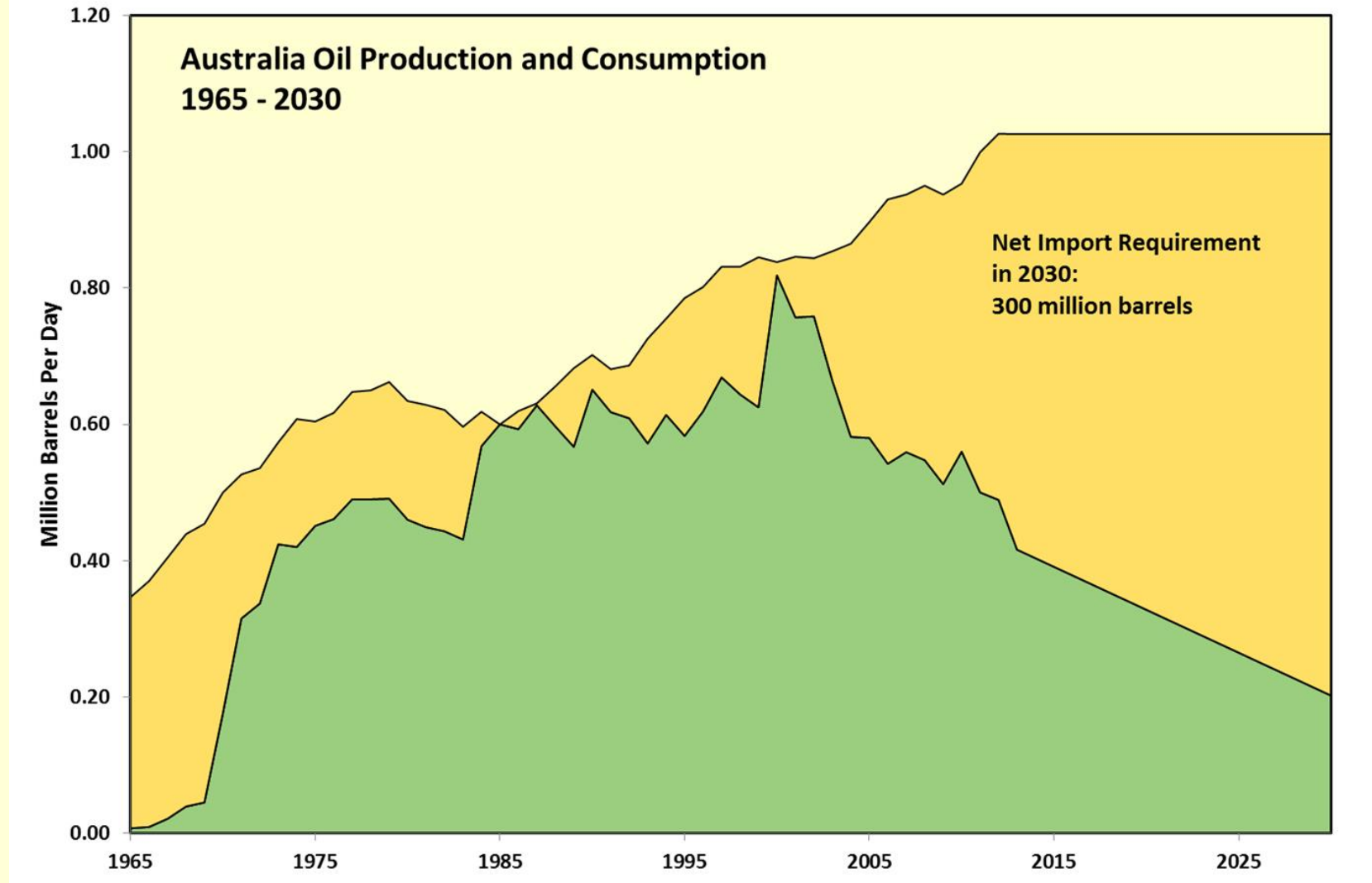
**Combat Climate Change Initiative**

**Fertility Goddess**

**Gender Equality Advisory Board**

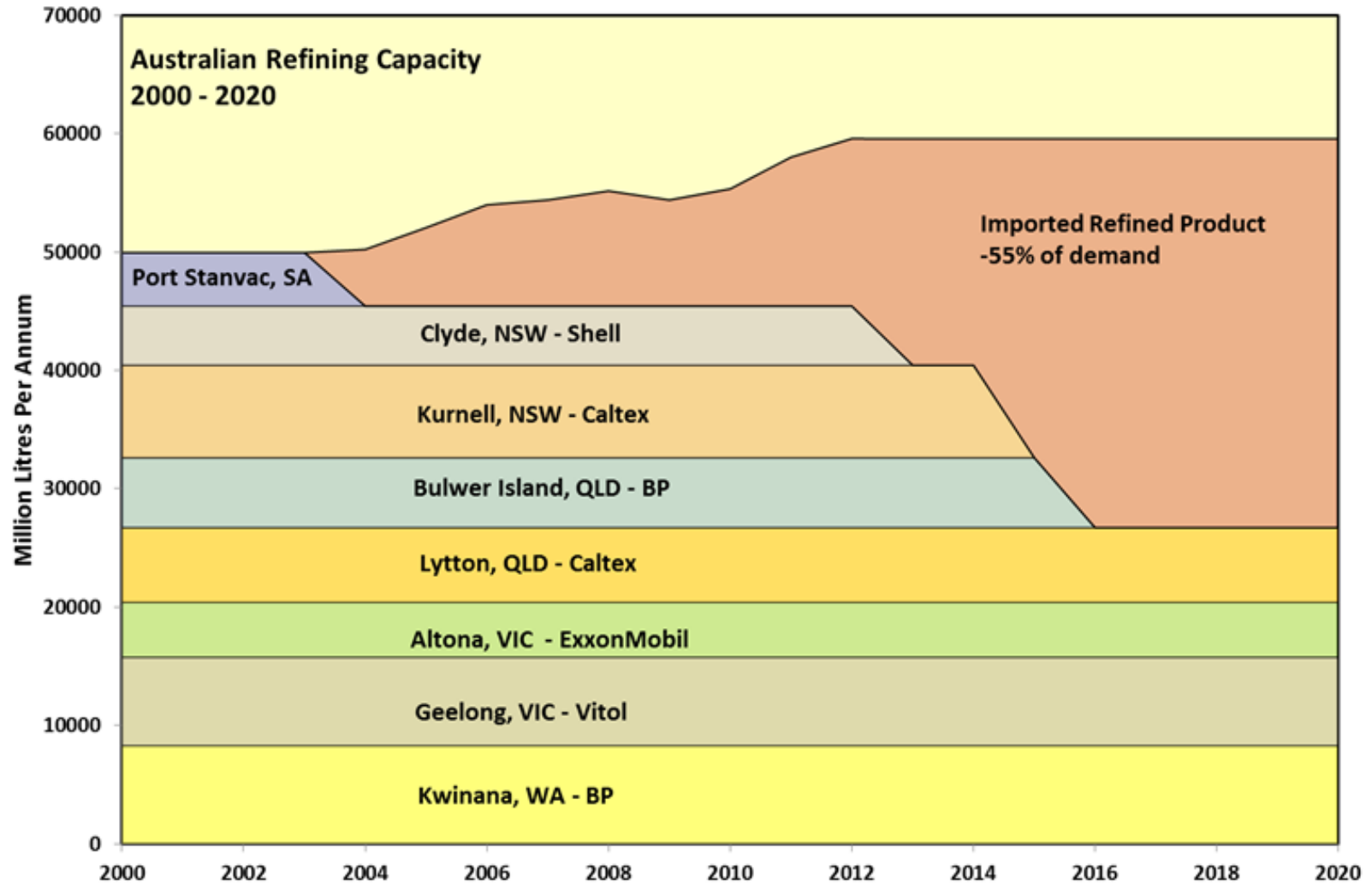
---

## Australia's Defence



**If our planes and ships don't have fuel, they are useless.**

# Australia's Defence



**No stocks and little refining capacity.**

### Summary

- China's aggression has similarities to the lead up to World War I.
  - Australia has a lot to do to get our house in order.
  - A war that is "Come as you are" will be very painful for us.
  - Expenditure on weapons systems needed is a moving feast but \$100 billion is a good starting figure.
  - Expenditure on coal-to-liquids plants is also a \$100 billion plus exercise.
  - Good household budgeting has necessary expenditures go to the top of the list and indulgences fall off the bottom.
  - The money is there to do all the things we need to do.
-



# Australia's Defence



David Archibald

Publisher: Connor Court

Pages: 258

Price: \$29.95

Ph.: 03 53326205

[www.connorcourt.com](http://www.connorcourt.com)

Also on Amazon, Book Depository