Technology and maritime enforcement:

Is international law ready for the future?

Professor Stuart Kaye
Outline

• UAVs and surveillance and enforcement
  – Maritime
  – Aerial

• Satellites

• Legal constraints
  – Ships
  – Enforcement

• The Way Forward
MQ-4C Triton

Range: over 9000 nautical miles at 60,000 feet
Over 30 hours endurance
<table>
<thead>
<tr>
<th>State</th>
<th>EEZ Size (km²)</th>
<th>Vessels</th>
<th>Area per patrol vessel (per km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiribati</td>
<td>3.44 million</td>
<td>1</td>
<td>3,442,000</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>1.87 million</td>
<td>1</td>
<td>1,870,000</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>0.75 million</td>
<td>1</td>
<td>750,000</td>
</tr>
<tr>
<td>Fed. States of Micronesia</td>
<td>2.996 million</td>
<td>3</td>
<td>999,000</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>1.990 million</td>
<td>1</td>
<td>1,990,000</td>
</tr>
<tr>
<td>Palau</td>
<td>0.604 million</td>
<td>1</td>
<td>604,000</td>
</tr>
<tr>
<td></td>
<td>Patrol Vessel</td>
<td>Surveillance UAV</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
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<td></td>
</tr>
<tr>
<td>Initial Cost</td>
<td>$45 – 60 million</td>
<td>$1 million – 20 million</td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td>10 knots (cruising)</td>
<td>90 – 180 knots (cruising)</td>
<td></td>
</tr>
<tr>
<td>Compliment</td>
<td>20-25 crew</td>
<td>2-3 operators</td>
<td></td>
</tr>
<tr>
<td>Availability</td>
<td>30-90 days per annum</td>
<td>250+ days per annum</td>
<td></td>
</tr>
</tbody>
</table>
Source: http://www.globalfishingwatch.org/
Source: http://blog.skytruth.org/
Legal Constraints

- Ships are assumed to be under human control and crewed
  - SOLAS
  - COLREGS
  - Law of the Sea Convention
Is a USV a ship?

• Law is characterised by multiple definitions of what constitutes a “ship” under legislation and at common law

• None of these jurisdictions specifically deal with a craft that is not under direct human control
Australia

*Admiralty Act 1988 - Section 3*

- “ship” means a vessel of any kind used or constructed for use in navigation by water, however it is propelled or moved, and includes:
  
  (a) a barge, lighter or other floating vessel;
  
  (b) a hovercraft;
  
  (c) an off-shore industry mobile unit; and
  
  (d) a vessel that has sunk or is stranded and the remains of such a vessel; but does not include:
  
  (e) a seaplane;
  
  (f) an inland waterways vessel; or
  
  (g) a vessel under construction that has not been launched.
New Zealand

Ship Registration Act 1992 – Sect 2

• “ship” means every description of boat or craft used in navigation, whether or not it has any means of propulsion; and includes—
  (a) a barge, lighter, or other like vessel:
  (b) a hovercraft or other thing deriving full or partial support in the atmosphere from the reaction of air against the surface of the water over which it operates:
  (c) a submarine or other submersible
Other Jurisdictions

United Kingdom - Merchant Shipping Act 1995 (c. 21) - Section 2
• “ship” includes every description of vessel used in navigation;

India - Merchant Shipping Act 1958
• “vessel” includes any ship, boat, sailing vessel, or other description of vessel used in navigation;

Canada - Canada Shipping Act, 2001, SC 2001, c 26
• “vessel” means a boat, ship or craft designed, used or capable of being used solely or partly for navigation in, on, through or immediately above water, without regard to method or lack of propulsion, and includes such a vessel that is under construction. It does not include a floating object of a prescribed class.
Common Law

Not a ship

• *Raft of Timber* (1844) 166 ER 749 (raft)
• *Gas Float Whitton No 2* [1897] AC 337 (floating beacon)
• *Steedman v Scofield* [1992] Lloyds Rep. 163 (jet ski)

A ship

• *The Von Rocks* [1998] 2 Lloyds Rep. 198 (backhoe dredger)
• *Perks v Clark Same* [2001] 2 Lloyds Rep. 431 (jack up rig)
Common Law

• United States Supreme Court in *Lozman v City of Riviera Beach, Florida* (2013) 568 US.

• This case dealt with the status of a houseboat as a ship:
  – “reasonable observer, looking at the home’s physical characteristics and activities, would not consider it to be designed to any practical degree for carrying people or things on water”.

SOLAS

• Chapter V
  – Responsibilities of the master
    • Master is mentioned 111 times in the Australian legislation implementing SOLAS Chapter V
  – Crew training
  – Navigational charts to be embarked
  – Signage aboard ship
COLREGS

• Proper look-out by sight and hearing (Part B)
• Lights (Part C)
• Sound and light signals (Part D)
(b) that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship;

(c) that the master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction and control of marine pollution, and the maintenance of communications by radio.
Law of the Sea Convention – Art 110(2)

In the cases provided for in paragraph 1, the warship may proceed to verify the ship's right to fly its flag. To this end, it may send a boat under the command of an officer to the suspected ship. If suspicion remains after the documents have been checked, it may proceed to a further examination on board the ship, which must be carried out with all possible consideration.
Assumptions

- The law assumes a physical presence to detect an offence
- The law assumes a physical presence to enforce the law
- States will enforce their own law in their own jurisdiction
Hot Pursuit

• **Saiga (No.2)**
  – A radio message as an auditory signal?
    • Position of the Tribunal not explicit (para. 147-148), although implicitly not sympathetic
    • See the separate opinion of Judge Anderson (penultimate paragraph)
  – “good reason to believe that the ship has violated the laws and regulations”
    • Would circumstantial evidence from a satellite be sufficient?
WCPFC

• Adopted by FFC74, May 2010
• Mandate
  • In recognition of the need for comprehensive monitoring, control and surveillance (MCS) arrangements to ensure the integrity of fisheries management frameworks, Forum Leaders committed themselves and their governments to “the development, with the assistance of the Forum Fisheries Agency (FFA), a comprehensive regional monitoring, control and surveillance strategy.”

• Purpose and Scope
  – The primary purpose of this strategy is to support compliance with fisheries management frameworks and associated measures at national, sub-regional, regional and WCPFC Commission levels to ensure the long term sustainability of oceanic fish stocks and associated economic benefits flowing from them to Pacific Island Countries.
The Way Forward

- Increasing use of VMS and AIS
  - Extension of security architecture to fishing vessels?
- Improving capabilities
  - First successful prosecution by Kiribati of a vessel detected fishing in the Phoenix Islands Protected areas based entirely on satellite sourced evidence
- Need for legislative updating to take account of technology
- Possibilities for cooperation in enforcement
  - Port State Measures Agreement