ANNEX I

CONSULTATION FOR MARITIME PATROL REVIEW

Core Departments

Customs Service
Defence (Ministry)
Defence Force
Fisheries
Foreign Affairs and Trade
Maritime Safety Authority
Prime Minister & Cabinet
Treasury

Government Agencies

Agriculture & Forestry
Civil Aviation Authority
Conservation
Economic Development
Environment
Fisheries Operations Control Centre
Govt Communications Security Bureau
Immigration
Research, Science and Technology
Land Information New Zealand
Parliamentary Commissioner for the Environment
Police
Royal New Zealand Air Force
Royal New Zealand Navy

Other Organisations

Auckland Rescue Helicopter Trust
Aviation Industry Association
Caspex Corporation Ltd
Cawthron Institute
Civil Aviation Authority
Coastguard Federation
Flightline Aviation Ltd
Landcare Research
Local Government New Zealand
MetService
National Institute for Water and Atmospheric Research

National Rescue Coordination Centre
New Zealand Aerial Mapping
New Zealand Antarctic Institute
Oceans Policy Secretariat
Research Vessel Committee
Pacific Air Ambulance
Seaworks
Taranaki Regional Council
Transpower

Overseas Consultation

Australian Centre for Remote Sensing (AusLIG)
Australian Customs Service
Australian Fisheries Management Authority
Australian Maritime Safety Authority
Australian Search and Rescue (AusSAR)
Coastwatch Australia
Department of the House of Representatives (Coastwatch Review)
Department of the Prime Minister and Cabinet
FR Aviation, UK
National Jet Systems, Australia
International Policy Division, Dept of Defence, Canberra
Provincial Airlines, Canada
Royal Australian Air Force
Strategic Command, Dept of Defence, Canberra
Surveillance Australia

Other Consultation

Individuals who had input into the review included John Henderson, Matthew Lloyd, Terrence O'Brien, John Boot, Piers Reid and Peter Cozens.

ANNEX II

MARITIME PATROL OPTIONS ANALYSIS*

INTRODUCTION

This paper proposes a whole of Government strategically driven approach to maritime surveillance and interdiction for the benefit of New Zealand incorporated.

New Zealand's maritime patrol interests cover a range of issues including resource management, environmental protection, illegal activity, maritime safety and sovereignty. As a small nation with interests in a large maritime area, New Zealand needs to co-ordinate and manage its resources carefully to meet its maritime surveillance needs and to ensure best return on dollars invested.

Logical conclusions of the work done to date are that:

- The collective interests of New Zealand Incorporated would be enhanced with increased maritime surveillance to ensure that its sovereign interests (particularly in the civilian area) are protected;

- Individual agencies (including military) do not presently have the assets or resources to meet their individual needs on their own;

- The knowledge and information held by individual agencies should be centralised in one place to allow a more complete picture to be produced and used as the basis for the management of New Zealand's maritime environment.

To this end the catalyst for meeting New Zealand's maritime surveillance needs would be the development of a National Maritime Patrol Strategy.

Such a strategy falls within the context of bringing together a number of Government goals including border security, environmental protection, resource management, illegal activity, marine safety, sovereignty, the development of an oceans policy for New Zealand and economic development. Given that context, we see a need for a framework within which it will be possible to make cohesive decisions about New Zealand's maritime patrol arrangements.

FRAMEWORK

Operational requirements and decisions about assets will become much easier to determine when viewed in the context of the outcomes Government wants from maritime patrol.

---

* Discussion paper prepared by Customs at the request of the group

A suggested model is:

Aspect of the framework	*Area of interest*
LEVEL ONE **Government Strategic Policy** Overarching context This will provide a comprehensive and integrated management approach to all aspects of the marine environment now and into the future	Government Integrated legislative framework
LEVEL TWO **Overarching maritime patrol policy statement/vision statement** This would most likely draw from the oceans policy framework, and would provide Government's specific desired outcomes from maritime patrol.	Government. Could be multi-ministerial group
LEVEL THREE **National Maritime Patrol Strategy** This would define Government's interests, and the agencies involved, and would draw out the broad outcomes into specific policy objectives (over, say, a three year period). It would cover such things as: • The relative contribution/interests of each agency • The key strategies for achieving the objectives • Defining priorities in times of conflicting demand • Mechanisms for monitoring and evaluation of effectiveness • Providing for the review of the mix of strategies and changing priorities as the environment changes	Multi-agency (approved by Govt) Could be led by central agency to ensure balanced view of interests
LEVEL FOUR **Specification of roles, responsibilities, governance and operational infrastructure** The governance and infrastructure will be driven by both the operational needs (ie how to manage the logistics) as well as the strategic and tactical needs (ie how to achieve the outcomes). This would address the legislative and privacy issues associated with information collection, analysis and dissemination, and, defining relationships	Multi-agency, but certain agencies would have specific responsibilities and accountabilities for managing infrastructure requirements
LEVEL FIVE **Day to day information collection, analysis and dissemination, management of assets, and operational resources, co-ordination and logistics**	As above.

In determining what sort of maritime patrol arrangements will best suit New Zealand's needs, it is clear that both day to day management requirements and the needs arising from strategic objectives need to be taken into account. In the above model, these come together in levels 4 and 5.

GOVERNMENT'S STRATEGIC GOALS AND INTERESTS FOR MARITIME PATROL

Currently there is no strategic statement for Maritime Patrol. The national need is driven by the needs and responsibilities of individual agencies. These are summarised as follows;

Agency	Role	Maritime patrol need
Customs	Customs is recognised as the principal border management agency and interlinks with other Government agencies to manage cross border transactions affecting goods, people and craft. To support this role Customs needs to be able to undertake information collection and analysis, targeted and routine patrol aerial surveillance and surface response activities.	Aerial Detect, Surveil, Identify, Deter out to extremes of aircraft capability Surface Detect, Identify, Surveil, Interdict, Patrol, Deter with jurisdiction within Contiguous zone
Fisheries	Fisheries manages the risks facing New Zealand from depletion of fish stocks and ensuring New Zealand achieves the economic benefit that arises from the managed harvesting of these stocks. Fisheries needs to be able to undertake information collection and analysis, aerial surveillance and surface response activities	Aerial Detect, Surveil, Identify, Deter out to extremes of aircraft capability Surface Detect, Identify, Surveil, Interdict, Patrol, Deter with jurisdiction within EEZ
MSA	MSA's role is to provide a safe maritime environment, prevent and manage pollution spills and to co-ordinate search and rescue responses. MSA needs to be able to take advantage of aerial surveillance and surface response assets.	Aerial Detect, Surveil, Identify, Deter out to extremes of aircraft capability Surface Detect, Identify, Surveil, Interdict, Patrol, Deter with jurisdiction within Nav area XIV
MFAT	MFAT'S role is to provide policy advice to Government on international affairs and trade matters. It has no operational maritime surveillance need. MFAT oversees N Z's interest in having a presence in, and maritime influence in relation to the Southern Oceans and the Pacific Island. This has been traditionally met by using Defence assets in the absence of other alternatives. MFAT also monitors NZ's compliance with international obligations.	Aerial Presence in Southern Oceans and Pacific Islands Surface Presence in Southern Oceans and Pacific Islands
MOD	MOD'S role is to provide policy advice to Government on international and national security matters. It has no operational maritime surveillance needs. Policies are developed for delivery by NZDF	
NZDF	NZDF protects New Zealand physical sovereignty from threats posed by foreign powers. They may assist civilian agencies in enforcing economic and environmental threats as an asset provider.	Aerial Detect, Surveil, Identify, Deter out to extremes of aircraft capability

	In peace time there is no proven need for defence capability other than as a deterrent. In times of war or national emergency, full aerial and surface capability is required for the defence of New Zealand.	<u>Surface</u> Deter through presence
MAF, DOC, NZIS, MOH etc	Each of these agencies has an interest of New Zealand stake in maritime surveillance which is mainly met through using Customs' border capability.	
Police	NZ has an international obligation to prevent terrorist activity coming to or within NZ. This requires Police to have early information that enables them to respond appropriately. In this role Police would need access to full aerial and sea surface response capability.	

All agencies have international treaty and convention responsibilities.

IMPLICATIONS OF A MARITIME PATROL STRATEGY AND FRAMEWORK

By accepting there is a need for a Maritime Patrol Strategy and Framework, ensuing work by Government would be able to determine the outputs required from the investment made and how these outputs will be best delivered.

As the agencies with principal policy responsibility for New Zealand's maritime area it is suggested the policy should be developed by MFAT, MSA, NZCS, MFE, MOD, MFISH, HEALTH, MAF, DPMC and DOC.

A principal premise of the strategy would be the need for co-ordinated or joint information management, intelligence analysis, asset tasking, relationship management and performance reporting.

The indications to date are that the peacetime justification for the nation's maritime patrol (and response) needs rests primarily with civilian agencies (based on the premise there has been no direct defence threat to New Zealand since 1945 – and there appears to be no foreseeable defence threat to New Zealand) and that Defence's involvement would be as a cost effective service provider. In establishing the nation's needs for pure maritime patrol and response activity we have added the additional tasks of protecting New Zealand's sovereign interests in the Southern Ocean, and New Zealand's obligations to the Pacific Islands. These needs have been met in the past mainly through the use of Defence assets.

For the purposes of this paper it has been assumed that these roles will form part of the national maritime patrol strategy. The question of whether or not the previous assumption that Defence is the most cost-effective organisation to achieve these national interest outcomes could be debated within the strategy. For example a debate could be held over whether or not Pacific Island patrols (flying the flag) could be better delivered by a Government Ship as opposed to a Government Warship.

DETERMINANTS OF INFRASTRUCTURE AND COVERNANCE (Level Four)

Assuming a Maritime Patrol Strategy, infrastructure and governance needs fall out of both the strategy and from operational practicalities. As demonstrated above there are needs in both civilian and defence arenas but Government has yet to determine a policy mix of the two.

Operational requirements therefore become the most compelling driver. There are two areas requiring maritime patrol infrastructure:

- management of information
- co-ordination of operational response covering logistics and air and marine capability requirements.

The following discussion is based on the premise that a central command process is the most effective way of managing each of these areas (based on the experience of the Australian Customs Coastwatch programme and the inefficiency of New Zealand's current arrangements).

MANAGEMENT OF INFORMATION

A key element of any future strategy will be how all the information held by individual agencies can be centralised and used for the benefit of New Zealand. In the context of New Zealand's national maritime surveillance needs the information gathering/analysis and operational management activities are principally civilian focused. For this reason the recommendation focuses on civilian solutions.

There are several options for managing this;

Option	Advantages	Disadvantages
Creating a standalone business unit	• Clear multi agency focus and low risk of capture by any one agency • Clarity of monitoring performance and cost drivers • Easy implementation of business rules for use of information and monitoring of information sharing principals	• Establishment costs • The need to legislate • On going operational costs • Compliance costs associated with Government requirements
Semi autonomous within existing agency	• Infrastructure costs are low • Strong organisational support in terms of infrastructure, HR management, career development • Governance • Existing technologies could be used	• Risk of capture by host agency • Funding and priorities would need to be separated from the host agencies principal business

	• Service level expectations can be easily described in performance agreements	
Contracted	• Service levels could be defined • Costs could be cheaper	• Privacy issues • Flow on costs to participating agencies could be excessive • Credibility to enforcement agencies • Cost of monitoring and standards • Access to information could be limited

While a standalone unit has its attractions, for the purposes of cost efficiency and to take advantage of existing infrastructures it is suggested that the establishment of a semi autonomous unit within an existing agency would appear to have the strongest advantages within the current environment.

In this context, Fisheries has a well developed technical capability in this area which gives them the ability to display a live plot of the maritime environment that Fisheries has an interest in. Other data could be added to this plot, particularly Customs ship movement data. enhanced to take other agency information.

Both Customs and Fisheries have the maritime intelligence analysis capability needed to support the information collection process.

Interested agencies could contribute to the centre by including their information, by providing staff to maintain the live plot, by assisting in the analysis and dissemination of information to the appropriate agency (or their representative) for intelligence analysis.

Collective analysis could also be done on site where multi-agency interests are identified. As a minimum it is expected that Customs, MSA, GCSB, MAF, NZSIS, Immigration, Health, Defence, Conservation, Local Government New Zealand, Police and the Ministry for the Environment would have an interest in the collective management of information.

The issues of governance and conditions of use of information could be covered off in relationship agreements between contributing agencies. Another option would be to have a governance board made up of representatives of designated agencies which would report to board of control made up of Chief executive officers. (e.g. the structure used for the National drug Intelligence Bureau). These agreements would describe how the agencies inter relate, how information would be used, how funding was provided and the procedures and processes to be followed in the collection and dissemination of the information.

OPERATIONAL RESPONSE

The logical consequence of better information management should be the identification of activity that requires some form of operational response (including planned patrol and surveillance to gather information or to act as a deterrent).

To maximise the use of assets and simplify secure communication links across Government agencies there needs to be a central co-ordination point for activity to be undertaken. To achieve best benefit any such centre would need to be able to direct resources, offer 24 by 7 capability when required, have a well-established secure communications and information network needed to support both strategic and tactical operations and be located at a site that all user agencies can easily access with appropriate people.

The options for this are very similar to those for the centralisation of the information collection being the creation of a standalone unit, a semi-autonomous unit or contracted.

Once again and for the same reasons as for information management, the concept of a semi-autonomous unit within an existing agency is considered to be the most attractive option. This unit would be given responsibility for tasking assets in accordance with the priorities laid out in the National Maritime Patrol Strategy (though not necessarily having responsibility for the ownership of assets), managing stakeholder relationships and reporting on performance of the unit.

Interested agencies could contribute to the operational command centre on a needs basis when operations were affecting their area of jurisdiction. Because of the importance of the activity, and the differing functionality, it might necessary to employ dedicated leadership capability to undertake the stakeholder relationship and performance management roles within this unit.

To support this centre a management structure consisting of representatives of agencies would be established to manage the implementation of the strategic direction laid out in the National Maritime Patrol Strategy and to receive performance reporting on behalf of Government.

ASSETS REQUIRED

To decide what assets are needed to undertake the surveillance and interdiction activities it is necessary to recognise the differences between sea and air requirements.

The distinction is crucial to determining requirements. Aerial surveillance is primarily a process that does not require direct contact or intervention with the craft being sought or surveilled. As there is no interdiction role, the activity is not required to be undertaken by Government employees under New Zealand’s present legislative framework.

Marine surveillance has a non-intrusive element, but importantly includes the requirement to be able to intercept and detain suspect craft, cargo or people. These processes require the use of powers to enable questioning, search, detention and seizure that under New Zealand legislation are only available to law enforcement officers with the appropriate training, delegations and authorities to act.

AERIAL SURVEILLANCE

There are three main categories of aerial surveillance carried out, these categories are characterised by the distance that needs to be covered and the length of time normally required in the air. Other relevant factors are all weather and day/night capability.

For the purposes of this paper these have been categorised as long range sustained, mid-range sustained and coastline short duration. Each category has its own characteristics, the most significant of which are shown below.

Long Range Sustained	Mid-Range Sustained	Coastline - short duration
• Specific targeted operations including support to SAR operations • Covering both the NZ and Nadi SAR regions • Access to aircraft on an ad hoc basis • "Opportunity" availability may be acceptable if dedicated "mid-range sustained" aircraft available as cover • Meet national interest obligations in Southern Ocean and Islands	• Specific targeted operations including support to SAR operations • Regular patrol - movement monitoring • Surface surveillance co-ordination • Deterrent factor • Required as dedicated resource • Co-ordinated pre-bid tasking to meet operational needs	• Specific targeted operations including support to SAR operations • Regular patrol - arrival/departure monitoring • Surface/land based interception co-ordination • Access to aircraft ad hoc • Availability as required • Variety of aircraft choice necessary (covert option)

It is expected that the operational requirements could be met using a mix of aircraft as follows.

	15%	70%	15%
	Long range	mid range patrol	coast line
part of one P3/C130 equivalent			
One Dash 8/F27 equivalent			
One Chieftain equivalent			
One Single engine aircraft			

For the purposes of this table the type of aircraft shown in each category is for indicative purposes only.

It is considered that the tiered approach to aircraft utilisation will give best "fit for purpose" options and potentially the lowest average operating costs. The long range and mid range aircraft should be fitted with compatible sensing and communication equipment for day and night time operations, to enable evidence gathering and real time data transfer to take place. Where possible consideration should be given to ensuring compatibility with Australian assets and resources where there is the likelihood of joint operations. Areas where potential trans-Tasman co-operation could achieve benefits are in the areas of Search and Rescue, Customs, Fisheries (even though it is recognised that New Zealand and Australia's stated sovereign interests could be in conflict on occasions) and maritime safety.

The options for ownership/operation of these aircraft would most logically appear to be:

Aircraft Type	Option	Advantages	Disadvantages
Long range Sustained	Defence owned and Operated	• Current assets exist • Aircraft can be equipped to meet the business need • Best asset utilisation can be achieved recognising that the total demand would equate to less than one aircraft per year • Due to the low number of hours required the aircraft could be provided at marginal cost	• Investment is required to upgrade P3's or C130's • Operating costs are very high if Airforce infrastructure costs are added into costing structures • Previous experiences show that Civilian user needs would not take priority • Previous experience shows that command and control would be an issue • Assets are not currently readily available to meet civilian needs
Long range Sustained cont	Dedicated Aircraft Contracted on a long term basis	• Aircraft can be equipped to meet the business need • Operating costs would be predetermined • Capital investment not required	• The contract opportunity may not be profitable enough to attract a reasonable bid • Budgeting of hours would need to be exact to prevent contract overspends
	Aircraft Contracted on as required basis	• Capital investment not required	• Suitable aircraft may not always be available to meet the need • The contract opportunity may not be profitable enough to attract a reasonable bid

Mid-range sustained/ mid-range coastal	Defence Owned and Operated	• Current assets exist • Aircraft can be equipped to meet the business need • Assets can be tasked to meet other Government directed national interest priorities	• Operating costs are very high if Airforce infrastructure costs are added into costing structures • Previous experiences show that Civilian user needs would not take priority • Previous experience shows that command and control would be an issue • Assets are not currently readily available to meet civilian needs • A substantial conversion cost would be involved and may make these aircraft unsuitable for other purposes. • assignment to this task could compromise other Defence objectives
	Dedicated Aircraft Contracted on hourly basis	• Proven operating procedure based on Australian customs Coastwatch and Canadian Fisheries models • Asset infrastructure and maintenance costs are the responsibility of the contractor • Fleet contractors can provide in-depth support, infrastructure and sustained availability • A number of proven contractors already exist • Aircraft is available when required • Aircraft can be equipped to meet the business need	• Asset utilisation would need to be maximised to ensure cost benefits are achieved
	Aircraft Contracted on as required basis	• Aircraft suited specifically to the task could be sought	• Suitable technology may not always be available to meet the need • A higher premium would be required for ad hoc charters • High administration costs for sourcing appropriate aircraft

Coastline Short Duration	Defence Owned and Operated	• Aircraft can be equipped to meet the business need • Assets can be tasked to meet other Government directed national interest priorities	• Operating costs are very high if Air force infrastructure costs are added into costing structures • Previous experiences show that Civilian user needs would not take priority • Previous experience shows that command and control would be an issue • Aircraft would not be able to represent themselves as being covert when undertaking low level operations • A substantial conversion cost would be involved and may make these aircraft unsuitable for other purposes.
	Dedicated Aircraft Contracted on hourly basis	• Proven operating procedure based on Australian and Canadian Fisheries models • Asset infrastructure and maintenance costs are the responsibility of the contractor • Aircraft is available when required • Aircraft can be equipped to meet the business need	• The term of contract would limit upgrades or variations to initial expectations • Asset utilisation would need to be maximised to ensure cost benefits are achieved • Aircraft would not be able to represent themselves as being covert when undertaking low level operations
	Aircraft Contracted on as required basis	• Aircraft suited specifically to the task could be sought • Aircraft would be covert	• Suitable technology may not always be available to meet the need • A higher premium would be required for • High administration costs for sourcing appropriate aircraft

Although one contracting agency e.g. NZDF may be able to provide the range of aircraft needed, other options should also be considered. “One of type” operations make it difficult to reliably ensure availability for daily operations. A combination of suppliers who can provide in depth support for each type should be considered. e.g. NZDF for long range, Australian Customs Coastwatch for mid range, Australian Customs Coastwatch or New Zealand supplier for mid range/coastal (light twin) and 3 or 4 geographically based suppliers for ad hoc coastal.

Contract management would be carried out by the operations unit.

SURFACE SURVEILLANCE INCLUDING RESPONSE CAPABILITY

New Zealand's maritime sea borne surveillance needs are primarily based on meeting civilian generated requirements. Like the aerial surveillance requirements it is assumed that the strategic activities of protecting New Zealand's sovereign interests in the Southern Ocean and the Pacific islands would form part of the National Maritime patrol Strategy.

The capability needed to meet New Zealand's sea borne surveillance and response requirements ranges from being able to:

- Surveil and intercept within the jurisdiction allowed by legislation
- Operate both in blue water and inshore coastal waters conditions with the ability where necessary to cope with the Southern Ocean
- Undertake sustained deployment when required
- When required carry boarding parties plus crew
- Be affordable for daily operations

It is not considered prudent to attempt to cover this area of operation with one type of vessel both from an economic and an operational point of view.

There are considered to be two main categories of surface surveillance to be carried out. These categories are characterised by the distance that needs to be covered, the onshore infrastructure needed to support their deployment and use, and the length of time normally required to be at sea.

For the purposes of this paper these have been categorised as deep sea and coastal operations. Each category has its own characteristics, the most significant of which are shown below.

Deep sea operations (Blue water)	Coastal operations (up to 100nm)
• Specific targeted Fisheries operations. • Meeting national interest obligations in Southern Ocean and Pacific Islands • Operating as domestic cover for the ANZAC Frigates • Routine deterrent patrol and surveillance around and near the EEZ • Co-ordinated pre-bid tasking to meet operational needs • Assistance to New Zealand and Pacific Island communities in times of natural disaster Support New Zealand's commitment to UNCLOS	• Specific targeted operations • Regular patrol - arrival/departure monitoring • Surface surveillance co-ordination • Surface/land based interception co-ordination • Deterrent factor • Co-ordinated pre-bid tasking to meet operational needs • Support New Zealand's commitment to UNCLOS

When all the potential taskings for a deep-sea vessel are taken into account (including national interest needs, and, the potential for coverage for the ANZAC

Frigates) there appears to be justification for a Frigate/Corvette sized vessel to operate as a “home waters only” vessel. The ownership and operation of this vessel most properly would rest with Defence. Contracting out the interdiction and national interest work is not an option due to sovereignty and legislative jurisdiction issues.

To make this vessels long range response and surveillance activities more affordable the activity could be undertaken by a commercially specified, ice capable ship fitted with military standard sensors and communications equipment. In the absence of a defence threat to New Zealand the cost of a military specified vessel would not appear sustainable. This vessel could carry sufficient firepower to act as a deterrent to any vessel that is likely to infringe within New Zealand’s EEZ.

As coastal operations would be principally focused on the enforcement of civilian legislation and the monitoring of activities for which civilian agencies are responsible it is suggested that three patrol vessels are required to undertake the role.

The option of contracting this work is not available as Government employees with the appropriate training, delegations and authorities are the only people empowered by legislation to undertake interdiction activities.

Defence staff are not allowed by legislation to undertake activities against New Zealand nationals or New Zealand craft which means they would not be able to interdict with a reasonable proportion of people and craft that Fisheries, Customs and Police have an interest in.

Operation and nominal ownership of these vessels should rest with Customs as the agency that has the authorities to stop and board craft for all civilian jurisdiction incursions of New Zealand’s sovereignty. While the vessels would be managed by Customs they should be multi-agency crewed including utilising Defence watch keeping, navigation and engineering staff who are being developed for later assignment to larger Navy vessels.

Naval reservists could also be rostered to doing sea time on these vessels, or even take the vessels over for assigned duration’s to maintain sea time. This would allow the current patrol vessels to be sold or disposed of.

To achieve best utilisation of the vessels they should not be “home ported” but be given principal areas of responsibility. The principal areas of responsibility should be the northern half of North Island, lower half of North Island and northern half of South Island and the third vessel assigned to targeted operations, providing coverage for maintenance and the lower half of South Island.

In making the purchase decisions consideration should be given to ensuring that operational costs are minimised by acquiring the smallest vessels necessary to do the job. A crucial consideration for the provision of resources for civilian law enforcement purposes is not only the original capital cost but also the operating costs and number of personnel required to undertake daily operations.

The risks associated with the required capital investment can be minimised by purchasing a proven performer using standard commercial running gear. This would mean that no support base infrastructure would be needed as commercial maintenance facilities could be used for repairs and maintenance.

The new maritime patrol arrangements will serve New Zealand's needs best if approached from a strategic viewpoint. While the Government has not articulated a strategic policy for maritime patrol, there are some existing principles which can be used to drive the development of these arrangements:

- whole of government approach
- outcome focused
- cost effectiveness and efficiency
- maximum leverage of existing resources and infrastructures
- matching operational need with capability

To meet New Zealand's Maritime Surveillance needs the following needs to occur:

- A National Maritime Patrol Strategy and Framework should be established.

- A centralised maritime information and intelligence co-ordination unit should be established within an existing civilian agency to manage New Zealand's maritime information.

- A centralised operations response centre should be established within an existing civilian agency to manage and co-ordinate operational responses using designated assets.

- Aerial surveillance should be contracted on the basis of seeking one full time aircraft equivalent for long-range sustained activities and two or three smaller dedicated aircraft for mid range activities.

- Provision should be made for independent contracting of coastline short duration aircraft on an as needed basis.

- A commercially built deep sea, ice capable surface response vessel should be acquired to undertake long range and national interest maritime surveillance activities.

- Several commercially built coastal patrol vessels should be purchased for multi agency operations to meet civilian needs.