Search, Rescue and Emergency Services in New Zealand:

Overview, funding and challenges

Prepared for
Combined Community Trusts
by APR Consultants Ltd

May 2010

Disclaimer

Care has been taken to ensure this report's contents are as accurate as possible. However, neither APR Consultants Ltd nor the Combined Community Trusts nor any members or affiliated organisations take responsibility for incorrect information or decisions by any persons based on the information herein.

Acknowledgments

The research project was jointly administered by the ASB Community Trust and Community Trust of Southland on behalf of the Combined Community Trusts of New Zealand. Thanks also to various key informants who offered information and opinions as input to the research.

Photo sources

Fire engine: New Zealand Fire Service (online image library).
Ambulance: Order of St John.
Rescue helicopter: Taranaki Rescue Helicopter Trust.
Surf lifeguard: Surf Life Saving New Zealand.
Coastguard vessel: Coastguard New Zealand.
Search party: New Zealand Land Search and Rescue (LandSAR).

Note that provision of photographs for this report does not imply endorsement by the above organisations.

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Executive Summary

This report summarises the results from an overview of search, rescue and emergency services in New Zealand. The research was commissioned by the Combined Community Trusts to assist the group and its individual member trusts to:[1]

- Develop a better understanding of search, rescue and emergency services.
- Provide clarification as to central government's role in funding search, rescue and emergency services.
- Develop their individual strategies and policies toward search, rescue and emergency services.

The report provides information to support the community trusts in developing their strategies, policies and priorities. The information may also be of value to other agencies, for example:

- Umbrella agencies such the New Zealand Fire Service and National Ambulance Sector Officer may be interested in a broad overview of the search, rescue and emergency services sector in New Zealand.

- Other funding agencies such as energy trusts, gaming societies, Lottery Grants Board and COGS may be interested in how their contributions fit into the wider picture of funding for the sector.

The report has been made publicly available in order to maximise its value to all key stakeholders.

Overview

Emergency services share a common aim of preserving life and property, but each has a different area of focus and specialisation. Typically either the Police, fire or ambulance service will arrive first at a scene, and each attendee will work as part of an integrated team according to protocols and the situation at hand.

Excluding Police and Defence Force (collectively government-funded at around $3 billion per annum), fire services make up around 56% of the annual cost of the search, rescue and emergency sector, followed by road ambulance (34%), air rescue (6%), surf lifesaving (2%), coastguard (1%) and land search and rescue (less than 1%). This is supplemented by the work of more than 30,000 volunteers and a range of in-kind contributions from businesses and individuals.

[1] Community Trusts are grant making organisations created from former community ownership of Trust Banks in their region. The sale of shareholdings in these banks formed the basis of 11 of the 12 Community Trusts' investment funds. Income from these funds is distributed as grants, donations, scholarships and sponsorships for educational, cultural, philanthropic and recreational purposes in local communities. The twelve Community Trusts are ASB Community Trust, Trust Waikato, Bay of Plenty Community Trust (BayTrust), TSB Community Trust, Eastern and Central Community Trust, Whanganui Community Foundation, Community Trust of Wellington, West Coast Community Trust, Canterbury Community Trust, Community Trust of Mid and South Canterbury, Otago Community Trust and Community Trust of Southland.

Funding

A review of strategic directions and financial trends shows that New Zealand's search, rescue and emergency services have become increasingly professional, formalised, federated and better funded in recent years, in parallel with an increase in service demand. While all search, rescue and emergency services are effectively 'community-owned', there are marked differences in the way each sub-sector is funded. Each has a different proportion of community and government funding, based on historical developments and other factors. In percentage terms, surf lifesaving has the highest proportion of its income from community sources (100%), followed by land search and rescue (approximately 84%), coastguard (80%), air rescue/air ambulance (at least 50%), road ambulance services (at least 11%) and fire services (3%). The diversity of funding sources leads to extra transaction costs for both funders and recipients, particularly in sectors with a high proportion of income from community sources. Fundraising can be a significant burden on the voluntary sector. The regional and community-driven nature of some investments also has potential to result in 'over-capability' in some regions and hence a sub-optimal allocation from a national perspective.

Challenges facing search, rescue and emergency services

In addition to the administrative challenge of having a diverse set of funding sources, all search, rescue and emergency services in New Zealand have been facing a steadily increasing growth in demand. This is being driven partly by population growth (especially in the Auckland Region) and by specific issues within each sector.

Common challenges across all services include the increasing expectations of society in relation to a rapid and effective response, the need to keep up with technological changes such as digital radios and locator beacons, and ongoing challenges in recruiting and retaining rescue and emergency services volunteers. Funding is tight across all sectors, particularly for operational costs such as administration and training.

As part of this research project, a sample survey was undertaken of local and regional units throughout New Zealand. Sector-specific challenges, barriers and issues included the following:

- Fire services – Additional volunteer issues relating to paperwork/red tape. Level of training (including safety standards and medical skills). Substantial time commitment and imposition on the employers of volunteer firefighters.
- Ambulance services – Staff (both paid and volunteer) have to work long hours. A key issue is getting sufficient volunteers and equipment in rural areas.
- Rescue helicopters – Pressure from the Civil Aviation Authority toward using performance twin-engine helicopters rather than single-engine helicopters.
- Surf lifesaving clubs – Fundraising is difficult, particularly for operational costs and replacement equipment. It is difficult to plan ahead due to uncertainty of funding.
- Coastguard units – Boats and equipment are increasingly expensive. Volunteer training, administration and other operational expenses are difficult to get funded.
- Land search and rescue units – Difficult to recruit and retain appropriate volunteers, partly due to the low frequency of call-outs and also the time commitment and cost of training.

Contents

1.0 INTRODUCTION

This report was commissioned by the Combined Community Trusts to assist the group and its individual member trusts to:

- Develop a better understanding of search, rescue and emergency services.
- Provide clarification as to central government's role in funding search, rescue and emergency services.
- Develop their individual strategies and policies toward search, rescue and emergency services.

The twelve community trusts in New Zealand together distribute more than $100 million per annum in grants, donations, sponsorships and scholarships for a wide range of charitable purposes. As the demands on funds increase, it is essential that trustees and staff have access to relevant and up-to-date information to assist them in making the best decisions possible. This includes identifying the potential role of community trusts in relation to other significant funders such as central government.

The community trusts have a history of supporting search, rescue and emergency services in their regions. Total annual funding is approximately $2.5 million. However, the types of search, rescue and emergency services supported, the purposes for which funding/grants/donations are approved and the amounts of funding vary between trusts. This report provides descriptive information to support the community trusts in developing their strategies, policies and priorities. The report has been made publicly available in order to maximise its value to all key stakeholders.

1.1 The research process

Over the period October 2009 to February 2010, the project involved a comprehensive literature review and stakeholder interviews including:

- Overview of the various search, rescue and emergency services sectors.
- Research on current challenges and barriers facing fire and ambulance services.
- Compiling funding data from community trusts' websites, central government departments, local and regional government, energy trusts, community foundations, gaming trusts, casinos, Lotteries and COGS.
- Interviews with key national stakeholders and a sample survey of local and regional services.

2.0 OVERVIEW OF SEARCH, RESCUE AND EMERGENCY SERVICES

The table below summarises key attributes of the various services. The total cost for search and rescue services is difficult to determine accurately due to the multitude of organisations involved, the variety of income sources and different accounting practices. Excluding Police and Defence Force (collectively government-funded at around $3 billion per annum), fire services make up around 56% of the annual cost of the sector, followed by road ambulance (34%), air rescue (6%), surf lifesaving (2%), coastguard (1%) and land search and rescue (less than 1%). This is supplemented by the work of more than 30,000 volunteers and a range of in-kind contributions from businesses and individuals.

Table 1: Attributes of search, rescue and emergency services

	Fire	Ambulance	Air rescue	Surf lifesaving	Coastguard	Land search and rescue
Annual budget	Approximately $350 million	Approximately $220 million	Approximately $40 million	Approximately $13 million	Approximately $9 million	Approximately $2.1 million
Key purpose	Response to fires and other emergency situations	Transport and treatment of injured persons	Rapid transport and treatment of injured persons from remote and hard-to-reach locations	Response to incidents of drowning and other beach-related emergencies	Response to boating incidents	Finding, transporting and treating injured persons in remote locations
Professional staff	1,700 career NZFS firefighters, 450 support staff, 80 Communications Centre staff	900 full-time equivalent ambulance officers (head-count of 2,200 including casual)	Several hundred staff including pilots and medical crews	Approximately 34 full-time and 360 part-time staff	Approximately 26 full-time and 6 part-time staff involved in Coastguard, plus other professional staff involved in marine SAR	3 full-time and 1 part-time personnel at LandSAR, plus Police and other professional staff involved in land SAR
Volunteers	8,000 volunteer firefighters plus 3,000 rural volunteers (for rural fires)	7,600 volunteers	Due to their specialist nature, air ambulance services are not reliant on volunteers	Approximately 15,000 lifeguard volunteers each summer	At least 2,500 active coastguard volunteers	Approximately 2,500-3,000 trained SAR volunteers, plus trampers, mountaineers, amateur radio and other volunteers
Equipment	800 fire engines/ rescue tenders, 300 'white fleet' vehicles, pumps, ladders, ropes, hydraulic spreaders and other equipment	Ambulance stations, ambulances, defibrillators and other specialist equipment	At least 41 specially equipped helicopters and 13 fixed-wing aircraft. Of the 41 helicopters, 18 are 'dedicated' for emergency response	Local club houses, approximately 180 IRBs, other equipment	Approximately 81 specialist boats and 10 light fixed-wing aircraft	Radios, ropes and other equipment

2.1 NZSAR Council

Given the centrality of Search and Rescue (SAR) to this research topic, the following information about the NZSAR Council and related organisations helps provide additional context to subsequent sections.

Background

The NZSAR Council was established in early 2003 as a result of Cabinet direction to provide for strategic governance of the SAR sector, following a national review of the governance of search and rescue services. NZSAR provides strategic leadership and direction to the many and diverse organisations that make up New Zealand's SAR sector, including both land and water-based SAR. NZSAR consists of the chief executives or delegated senior officials from the Ministry of Transport, Maritime New Zealand, CAA, Police and NZDF. Co-ordination is provided through the NZSAR Secretariat Manager. The Council is also informed through advice from a broad-based Consultative Committee.

The nature and structure of search and rescue services

2008/09 provided to be a significant year for NZSAR, including the release of its five-year Strategic Plan for the period 2009-2014. The Strategic Plan sets out NZSAR's purpose (to provide effective search and rescue services for people in distress) and vision. The Council's goals are:

- To enhance the effectiveness and efficiency of New Zealand's SAR sector.
- To achieve a culture of 'one SAR body'.
- To promote continuous improvement.
- To maximise the potential of SAR people.
- To support SAR preventative strategies.

Co-ordination of SAR incidents

Commencing July 2008, there were changes to the way in which the co-ordinating body for SAR incidents is identified. The new system comprises Category 1 (NZ Police) and category 2 (Rescue Co-ordination Centre New Zealand). This new NZSAR Council-approved system has reportedly resulted in improved responses to SAR incidents and less confusion by the two co-ordinating authorities.

Service Level Agreement (SLA) funding

Interim Crown funding commenced on 1 July 2008, which allowed a number of long-planned initiatives to come into effect. These have served to strengthen SAR organisations, stabilise resources and improve the capacity to respond to SAR emergencies. The funding allowed Service Level Agreements (SLA) between the NZSAR Council and Coastguard New Zealand, LandSAR and Surf Life Saving New Zealand to be established. A subsequent SLA has been established with Amateur Radio Emergency Communications (AREC). The current total value of NZSAR SLAs is approximately $2.7 million per annum.

The SLAs have reportedly proved to be successful in allowing key voluntary SAR agencies to resource their activities adequately and provide more effective leadership on a range of SAR issues. This includes greater capture and analysis of SAR statistics and the initiation of a number of research projects.

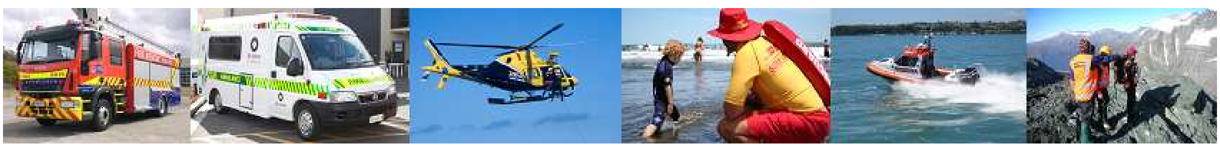
3.0 FUNDING OF SEARCH, RESCUE AND EMERGENCY SERVICES

In addition to ongoing substantial voluntary input, the search, rescue and emergency services throughout New Zealand rely on funding from a variety of sources including central, regional and local government, national lotteries, gaming societies, corporate sponsors and fundraising drives. This is summarised below on a spectrum from 'government funding' to 'community funding'.

Table 2: Funding summary of search, rescue and emergency services in New Zealand

	Government funding ← - - - - - - - - - - → **Community funding**					
	Fire	Ambulance	Air rescue**	Coastguard	Land search and rescue	Surf lifesaving
Central government funding rationale	On-call service provided by a mix of professional staff and volunteers	Largely volunteer-driven, with capacity funding by the Ministry of Health and operational funding by ACC	On-call service, provided as a supplement to other activities (eg, inter-hospital transfers)	Almost entirely volunteer-driven, with seasonal demand and local variation	Almost entirely volunteer-driven, with a high level of local variation. Supplementary to NZ Police's general and specialist SAR functions	Almost entirely volunteer-driven, with a high level of seasonal demand and local variation
Central government funding level (including both contracts and grants)	86% property insurance levy (including Rural Fire Fighting Fund and Grant Assistance Scheme) 3% DoC/NZDF	33% Ministry of Health bulk funding 24% ACC fee-for-service 3% DHB inter-hospital fees	Up to 25% DHBs Up to 16% ACC 4% Ministry of Health and other government departments	20% Police (SAR funding) Service Level Agreement with NZSAR Council 52% Lottery Grants Board and COGS*	17% Police Service Level Agreement with NZSAR Council 50% Lottery Grants Board and COGS*	18% Lottery Grants Board and COGS* Service Level Agreement with NZSAR Council
Local government funding	6% ratepayer funding (Rural Fire Authorities)	Negligible	3% ratepayer funding (Northland, Waikato, Otago)	< 1% ratepayer funding	Negligible	< 1% ratepayer funding
Community funding	< 1% community trust grants and donations 3% other grants, donations, etc 3% other NZFS income (eg, false alarm charges, etc)	< 1% community trust grants and donations 11% other grants, donations and bequests 29% other income (eg, part-charges)	2% community trust grants and donations Approx 50% other grants, donations and sponsorships 5% commercial and other income	12% member subscriptions (skippers) 6% community trust grants and donations 45% other grants, donations, sponsorships, etc	4% community trust grants and donations 30% other grants, donations, etc	5% community trust grants and donations 77% other grants, donations, sponsorships, etc
Total grants and donations	3%	At least 11%	**At least 50%**	**80%**	**84%**	**100%**
	Government funding ← - - - - - - - - - - → **Community funding**					

** Lottery Grants Board and COGS are administered by the Department of Internal Affairs but are effectively 'community funding'.*
*** There is a complex funding arrangement between the air rescue and ambulance functions of air ambulances. Most rescue helicopters receive little or no government funding toward their rescue function.*



There are considerable differences in the way each sub-sector is funded. In percentage terms, surf lifesaving has the highest proportion of its income from community sources (100%), followed by land search and rescue (approximately 84%), coastguard (80%), air rescue/air ambulance (at least 50%), road ambulance services (at least 11%) and fire services (3%). Community trusts provide less than one percent of the total funding for fire and ambulance services, but are substantially more important in the context of overall national funding for coastguard, surf lifesaving and land search and rescue.

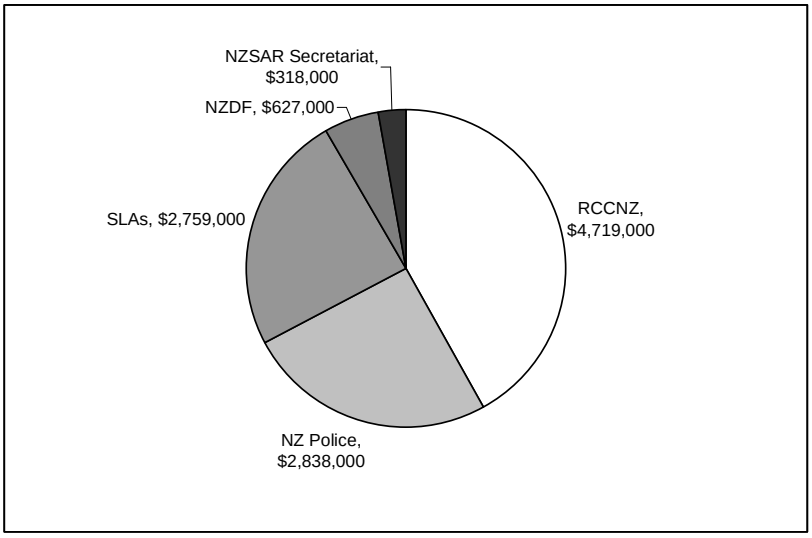
Table 3: Annual funding contribution of community trusts (indicative only)

Sector	Community trust funding	Total sector funding	Community trust contribution (%)
Air rescue	$680,000	$40,000,000	1.7%
Surf lifesaving	$670,000	$13,000,000	5.2%
Coastguard	$580,000	$9,000,000	6.4%
Ambulance	$320,000	$220,000,000	0.2%
Fire	$180,000	$350,000,000	0.1%
Land search and rescue	$80,000	$2,100,000	3.8%

3.1 Government SAR expenditure

The Government has been making an increasing investment specifically into SAR services (ie, excluding fire, ambulance and other emergency services). Much of the annual expenditure is variable in response to the number, length and type of SAR operations conducted in a given year. There are also significant overhead costs to ensure co-ordinating services are available 24/7 and SAR personnel and volunteers are adequately trained and equipped. The Government spent approximately $11.3 million on SAR objectives in the 2008/09 financial year. The increase from previous years is due to inclusion of additional interim funding (approximately $8.4 million over two years) to address identified SAR strategic risks. The graph below shows the breakdown of Government SAR expenditure. The full cost of providing SAR services in New Zealand is more difficult to determine, due to the many organisations involved within the sector and variations in how each organisation accounts for its expenditure.

Figure 1: Government SAR expenditure 2008/09



Source: Adapted from NZSAR Annual Report 2008/09.

4.0 FIRE SERVICES

4.1 Historical development

Insurance companies formed the earliest brigades in New Zealand during colonial times. These were taken over by local communities, and central government funding soon followed. In 1976, the New Zealand Fire Service (NZFS) took over national provision of local fire services. By 1998, the funding burden was transferred to property insurance policy holders.

Today, the paid fire fighting workforce undertakes most activity. NZFS's 1,700 career firefighters, though heavily outnumbered by 8,000 urban volunteer firefighters and 3,000 rural volunteers, handle approximately 68% of all incidents. Urban and rural fire services are funded and managed quite differently but work as a team to respond to fires and other emergencies. Note that the term 'urban fire services' refers to all NZFS services, regardless of whether they are in a major metropolitan area or a small provincial town. In contrast, 'rural fire services' refers to the predominantly council-funded control of fires in rural areas (focusing on wildfires).

NZFS was originally designed and equipped solely as a fire fighting service, however its additional role as a rescue agency is now of greater significance. NZFS provides first-response to essentially all emergencies not otherwise handled by the Police or a local ambulance service. This has mainly come through necessity and because fire fighting equipment is useful for a range of emergency situations. Today, fires account for only around one-third of all incidents attended by fire emergency services. False alarms are the most common incident attended, and hazardous emergencies (eg, petrol spills after vehicle accidents) are the most common non-fire incident.

Figure 2: Non-fire emergencies attended by NZFS 1999-2008

Source: NZFS 2007/08 Annual Report, p 7.

4.2 Current services provided

NZFS's key aims are fire safety and fire prevention. The NZFS Commission's stated vision is 'working with communities to protect what they value', and its mission is to reduce the incidence and consequence of fire and provide a professional response to other emergencies. NZFS's strengths include a comprehensive national network (approximately 450 fire stations), well-developed communications system and a 24-hour 7-day response capacity in all major urban areas. Its significant reserve of skilled personnel gives NZFS a unique advantage as a first-responder organisation. NZFS employs approximately 1,700 professional career firefighters, 450 support staff and 80 Communication Centre staff.

In addition to NZFS, there is a comprehensive network of rural fire forces throughout the country. The key difference between urban and rural fire systems is that the urban service focuses on managing risks associated with the built/structural environment whereas the rural service focuses on managing risks associated with the natural environment. Table 4 contrasts the key aspects of these two parallel systems.

Table 4: Key characteristics of New Zealand's urban and rural fire systems

	Urban Fire System	Rural Fire System
Focus areas:	- Built environment.	- Natural environment.
Accountability features:	- NZFS is responsible. - Building standards. - Evacuation schemes.	- Rural Fire Authorities and land owners are responsible. - Land management as a tool. - Fire weather monitoring. - Many contractors.
Funding:	- Funded primarily through a levy on property insurance.	- Funded by territorial authority rates, land owners, direct government funding and some property insurance levies.
Equipment:	- Reticulated water. - Aerial appliances. - Protective equipment (eg, breathing apparatus). - Large pumping appliances.	- Bulldozers. - Helicopters/fixed-wing aircraft. - Light 4x4 vehicles. - Tankers. - Lightweight fire pumps.

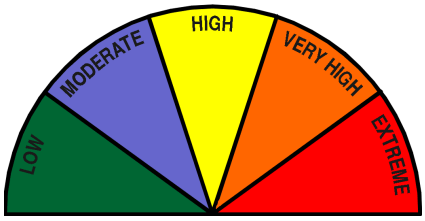
Source: Adapted from New Zealand Government and Local Government New Zealand (2003), p 7.

Urban Fire Service Delivery

Despite their name, 'urban' fire services reach into some of the smallest towns in New Zealand. Complementing the urban system are a series of specialised private brigades protecting major commercial installations such as airports, the Marsden Point Oil Refinery and Tiwai Point Aluminium Smelter, as well as major private forestry assets in rural areas.

According to a 2003 report by central government and Local Government New Zealand (LGNZ), NZFS is able to reach 96% of the population within a ten minute response time. Decisions about the location of fire stations are made in such a way as to optimise response times. NZFS may also assist with a range of non-fire emergencies where it considers it can render useful assistance.

Rural Fire Service Delivery



Rural fire legislation evolved from New Zealand's colonial history, with forests and vegetation being burnt to clear the way for farmland. The initial legislation focused on managing risks associated with these activities. Today, the delivery of rural fire fighting services is the responsibility of approximately 86 Rural Fire Authorities (FAs), 3,000 volunteers and various contractors. Each FA has a defined district and is required to provide effective fire control measures within its rural district. The Rural FAs have responsibility for fire suppression, fire prevention and protection of forests and rural lands under the Forest and Rural Fires Act 1977. This includes fire management services such as seasonal updating of rural fire warning signs. These services are sometimes contracted out, including to NZFS.

Collaboration with central government

Traditionally, NZFS has worked closely with key central government agencies involved in CDEM/Civil Defence Emergency Management (eg, Police) as well as maintaining close relationships with agencies such as the Building Industry Authority and Standards New Zealand. More recently, collaboration has expanded and NZFS is involved in a variety of 'whole of government' projects such as housing and health improvement programmes (eg, training community-based Fire Safety Ambassadors). NZFS works closely with the Police in many respects, including the three national Communications Centres which co-ordinate the Fire Service response across New Zealand.

Collaboration with local government and communities

A number of different statutes underlie collaboration between NZFS and local government, including the Building Act and CDEM Act. Certain aspects of the Building Act relating to issuing building consents and the closure of dangerous buildings require close relationships between NZFS and local government. Another forum where local government and NZFS work together relates to the National Rural Fire Authority (NRFA). The NZFS Commission is also the NRFA and hence responsible for providing co-ordination services to FAs. Within this role, the Commission is advised by the National Rural Fire Advisory Committee (NRFAC). A key role of the NRFAC is to establish policies and priorities for grants from the NRFA to Rural Fire Authorities for rural fire fighting equipment (eg, hoses, pumps, protective clothing, communications equipment, etc).

Other forums where close collaboration occurs is in the design of urban roads to ensure access for firefighting vehicles, and the provision of sufficient volume and pressure in the water supply to ensure fire fighting activities can be achieved. One of the drivers of NZFS responsiveness to local government is the need to co-ordinate the urban and rural fire systems at the interface. Many local authorities have contracted out all or part of their responsibilities as a Rural FA to NZFS. In that sense, NZFS collaborates with local government as a contractor.

4.3 Operational structure

New Zealand is unique in having a nationally organised and funded fire service. NZFS has jurisdiction over the entire country rather than within specific regions or cities. The structure of the fire management system is summarised as follows.

New Zealand Fire Service Commission

The Fire Service is under the control of the NZFS Commission, a Crown entity that reports to the Minister of Internal Affairs. In broad terms, the Commission is accountable for:

- Fire safety public education.
- Fire prevention and risk mitigation.
- Provision of fire suppression and extinction services.

The NZFS Commission is unusual in that it has both governing and operational functions. As a Crown entity, the Commission is NZFS's governing board and is responsible to the Minister of Internal Affairs for efficient administration of the Fire Services Act. It also has direct responsibilities to take an active and co-ordinating role in the promotion of fire safety. The Commission is also the NRFA for the purposes of the Forest and Rural Fires Act, responsible for co-ordinating rural fire management activities.

NZFS

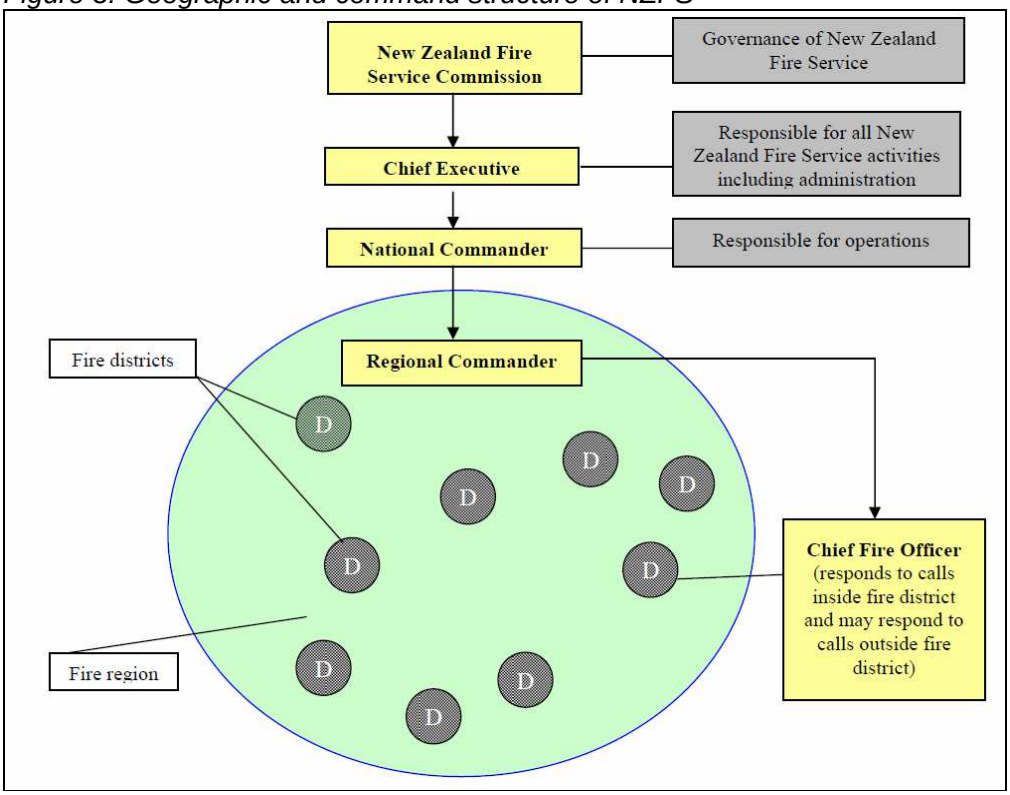
NZFS is headed by a Chief Executive who is accountable to the Commission for overall performance. The Chief Executive is responsible for day-to-day management and appointments of all other NZFS personnel, including:

- Eight Fire Region Managers.
- Staff in a national headquarters based in Wellington.
- Staff in the three emergency communications centres (Auckland, Wellington and Christchurch).

The National Commander is responsible for prevention, suppression and extinction of fires and the safety of people and property endangered by fires. This includes establishing national service delivery standards for all urban fire services, allocating resources between fire districts, forming agreements with other fire services and setting policy on NZFS attendance at non-fire incidents.

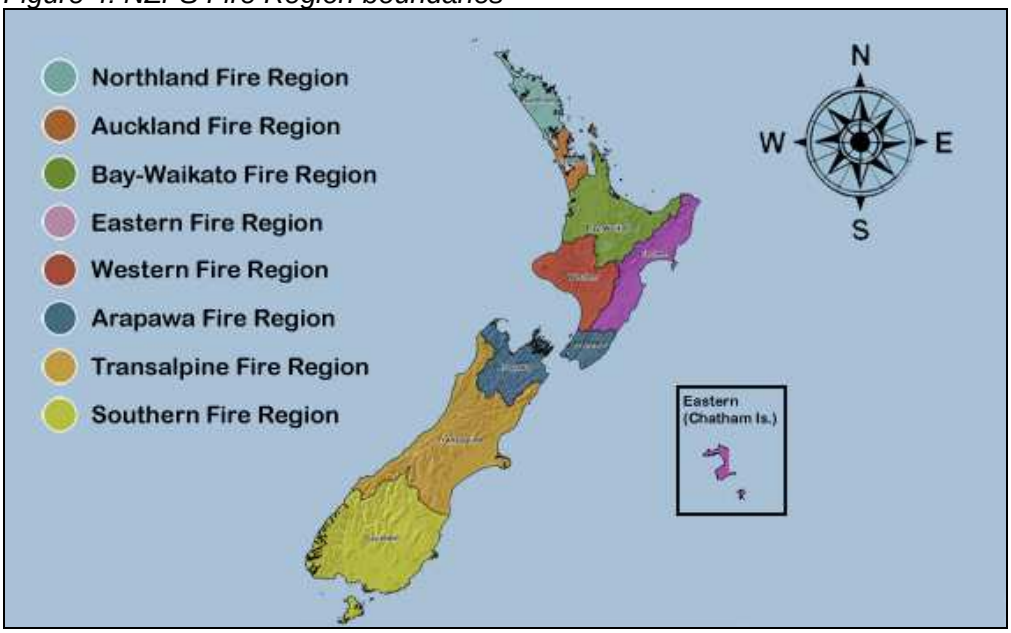
The operational structure of the NZFS is summarised in Figure 3. The geographic boundaries of NZFS's eight Fire Regions are shown in Figure 3.

Figure 3: Geographic and command structure of NZFS



Source: Department of Internal Affairs (2006) 'New Zealand's Fire Services: Their current organisation, funding and issues arising', p 10.

Figure 4: NZFS Fire Region boundaries



Source: New Zealand Fire Service website (accessed 23 November 2009)

National Rural Fire Authority

Delivery of rural fire fighting services is the responsibility of the Rural FAs, comprising:

- The Minister of Conservation for all State areas.
- The Minister of Defence for all defence areas.
- Rural Fire District Committees where there is a Rural Fire District.
- Territorial authorities for the balance of land outside of urban districts.

Members of the FAs sit on Regional Rural Fire Committees which promote regional co-ordination and provide advice and assistance for the activities of the NRFA. The key element of rural fire management is local responsibility, provided through the network of rural FAs. Territorial authorities that wish to amalgamate their fire protection responsibilities with neighbouring authorities may establish a broader Rural Fire District. Some territorial authorities have jointly formed council-controlled organisations, such as the Southern Rural Fire Authority, enabling regional economies of scale and increased effectiveness.

In some cases, one territorial authority will act as the administering authority for a wider collective of neighbouring authorities. Regional councils also tend to play a key co-ordinating role. Landowners looking to provide greater fire protection for their lands may also establish a Rural Fire District. Current Rural Fire Districts (predominantly managed by territorial authorities) range in size from several thousand hectares to three million hectares. The New Zealand Defence Force is the Rural Fire Authority for eight Rural Fire Districts covering its lands.

Rural fire fighting operations rely as much on contractors with helicopters and monsoon buckets as firefighters based in stations. Hence, rural fire management is largely 'invisible' because it does not necessarily require fire stations and conventional fire appliances.

4.4 Regulatory environment

New Zealand's fire risk management framework is set out in two main statutes:

- Fire Service Act 1975 – Assigns the New Zealand Fire Service with primary responsibility for the delivery of fire services in urban areas.

- Forest and Rural Fires Act 1977 – Assigns Fire Authorities with responsibility for delivering fire services in all areas not designated as urban districts.

Some functions in rural areas are undertaken by urban services, and certain parcels of land in urban areas may be managed by Fire Authorities. However, rural fire forces do not have a legislative mandate to assist with the wider range of emergency services, and are not legally protected if they undertake this work.

Despite prescriptive, out-dated and unclear legislation, the two management systems have evolved to allow effective co-operation. The urban fire service is the first-responder to as many as 80% of rural fires, as it can respond almost immediately to 111 fire calls. When Rural FAs arrive at a rural fire incident, they take over command. Both organisations know that Rural FAs are responsible for managing such incidents, so they have worked out operating protocols and charging mechanisms for NZFS's first response.

Cross-boundary assistance occurs in both directions. For example, NZFS attends many non-fire emergencies in rural areas, such as road accidents. NZFS participation is based on whether it can

render useful assistance rather than on the incident's location. Conversely, special agreements allow Rural Fire Authorities to manage parcels of urban land where special wildlife threats exist.

New Zealand's fire services are also involved in the wider picture of Civil Defence Emergency Management within New Zealand. The most recent development in emergency management that impacts on the NZFS has been enactment of the CDEM Act 2002, in which the NZFS is a key partner and service provider. A feature of the Act is the establishment of regional CDEM groups to co-ordinate planning and related activities within the respective regions. Each group is supported and advised by a Co-ordinating Executive Group. In addition, NZFS is increasingly required to fulfil responsibilities under the Hazardous Substances and New Organisms Act 1996.

A less obvious aspect of New Zealand fire management legislation is the building control system, which stipulates requirements for various safety design or product quality features to achieve passive fire control. In addition, building owners often have active warning and safety systems, and maintain evacuation schemes and drills.

Another important piece of legislation is the Health and Safety in Employment Act 1992, including amendments in 2002/03 which created increased responsibilities and requirements for volunteer firefighters. Within the last five year period, the NZFS's Professional Development Unit began implementing its new TAPS (Training and Progression) system, which is designed to provide a seamless approach to the training of all operational staff. TAPS incorporates criteria for progression and promotion to meet operational standards. More recently, during 2008/09, NZFS sought to introduce OSM (Operational Skills Maintenance), a system of training requirements. Survey responses from local fire services suggest that TAPS, OSM and other measures may be negatively affecting morale. In its August 2009 newsletter, the New Zealand Professional Firefighters Union advised its members not to have any involvement with the OSM system until confusion and concerns regarding its implementation have been addressed.

Proposed new fire legislation (2007)

In April 2007, following a period of initial consultation, the Department of Internal Affairs (DIA) released a report on 'New Fire Legislation: A framework for New Zealand's fire and rescue services and their funding'. In response to identified issues, the Minister of Internal Affairs had proposed a new national Fire and Rescue Service that would be based on the concept of local delivery and central support. The Fire and Rescue Service would replace the existing NZFS Commission and NRFA.

At the heart of the proposed system was a national response service with overall responsibility for the delivery of fire services and the provision of a first-response service for many rescues. It would also undertake leadership and co-ordination of other fire service providers. Responsibility for the management of vegetation fires would evolve to meet the needs of local communities and the country as a whole. Rural FAs that wanted to continue with their present functions would be able to do so but would also be able to pass on their responsibilities to the national Fire and Rescue Service.

Since the release of the 2007 DIA proposal, there has been a general election and change of government. The new Minister of Internal Affairs subsequently advised there was no intention to progress the proposals and that the new government would instead focus on encouraging Rural FAs to merge into larger structures, with consequent increases in resources and capability.

4.5 Sector-wide strategies

While a substantial number of stakeholders have been involved in various operational and legislative reviews, it is understood there is no formal 'fire services strategy' for the sector as a whole. An exception is CDEM national and local strategies and plans, in which fire services are a key player. In addition, the NZFS Commission (in its capacity as the NRFA) has an 'Enlarged Rural Fire Districts Strategy' aimed at rationalising the regional network of rural fire forces.

The NZFS Commission itself has a corporate strategy as expressed in its 2006-2009 Statement of Intent. The Commission's six strategic priorities are:

- Improve community fire outcomes through fire prevention, fire safety and better response.
- Foster integration of urban and rural service delivery.
- Contribute to enhanced community security.
- Support regional, national and international security.
- Develop and protect our people and promote internal stakeholder partnerships.
- Improve service performance, accountability and resource uitilisation.

4.6 Current challenges and barriers

A sample survey of NZFS units, NZFS regional managers and Rural Fire areas identified current challenges, barriers and issues as follows:

- Harder to get volunteers due to the amount of paperwork/red tape, level of training (including safety standards and medical skills), substantial time commitment, the changing nature of society and the imposition on volunteer firefighters' employers, especially during a recession.
- Fundraising is difficult and some equipment is not funded by NZFS.
- Fire services are responding to a wider range of emergencies, including medical events and Civil Defence.
- Industrial action within NZFS causes disruptions.
- Funding for rural fire services is tight due to council budget constraints.

Issues relating to fire management in New Zealand are discussed in detail in a 2003 report prepared by central government and LGNZ. This stemmed from previous central/local government discussions about issues around the funding system for fire services. It sought to provide a clear, concise account of the current status of fire management services in New Zealand and to highlight issues that require attention. In doing so, it also addressed the broader context of urban fire services, rural fire services and collaboration with other first-response services. Key challenges and barriers identified in the 2003 report and from other sources are summarised as follows.

The 'dual management' issue

One of the issues highlighted in the 2003 report was problems with the dual management of fire services. The two statutes (Fire Service Act 1975 and Forest and Rural Fires Act 1977) established very different arrangements for the delivery of urban and rural services. For all practical purposes, there is a single national provider of urban fire prevention and emergency response, and hence urban services tend to be delivered to a common national standard with efficient national allocation of resources. In contrast, services in the rural areas are managed by different authorities. While NRFA is the national co-ordinating body, different levels of service exist due to the localised nature of capability.

According to the 2003 report, the two different risk management frameworks for urban and rural areas provide an impediment to improving fire outcomes in New Zealand. In particular, the report noted that current legislation has resulted in unclear and overlapping responsibilities between the two systems. It also noted a weakness in existing legislation, which does not adequately provide for the wider role of fire services (ie, in responding to non-fire emergencies).

Motor vehicle accident attendance by rural fire forces

In some areas, especially rural areas, the fire services have become the first responder at medical incidents by default. NZFS is not funded for this role, and fire officers are not generally trained to the same paramedic standards as ambulance officers. In the case of motor vehicle accidents, it is considered important to have clear boundaries between ambulance and fire services in terms of victim extrication (eg, 'jaws of life') and paramedical treatment.

The Fire Service Act and the Forest and Rural Fires Act both exempt firefighters from liability, but only when they are carrying out their mandated activities. Since the primary intention of the Forest and Rural Fires Act is to attend wildfire incidents, there is no mandate for a Rural Fire Officer or rural fire forces to attend a motor vehicle accident unless fire is involved, and hence no exemption from liability if rural fire forces attend motor accidents. Nevertheless, for a number of reasons, rural fire forces do attend motor vehicle accidents. This is due to:

- Lack of urban coverage – NZFS can attend most motor vehicle accidents within a reasonable time, but in more remote areas there are service gaps which are filled by the rural fire forces.
- Community expectations – The community expects a quick response. If there is a rural fire force in the area, the community would expect that force to attend. Rural fire forces generally assume that attendance at motor vehicle accidents is part of their role.
- Community funding of rural fire forces – Communities are undertaking fundraising to assist rural fire forces to have appropriate equipment and training for rescue incidents.

Misalignment of urban and rural boundaries

According to the 2003 report, changing population patterns such as urban spread, lifestyle developments and holiday homes are creating misalignments between urban fire district boundaries and rural fire district boundaries. In some areas, this has meant Rural FAs may be covering areas that are really urban (ie, populated areas containing buildings rather than vegetation). This misalignment of boundaries flows on to issues around training and activity. Legislation currently empowers urban and rural services to fight any kind of fire. However, the wildfire emphasis of rural fire fighting means that rural fire forces are generally not trained or equipped to fully deal with

structural fires. This emphasis limits rural fire forces from entering burning buildings. Nevertheless, rural fire forces attend more structural fires and motor vehicle accidents that they do wildfire incidents.

Occupational health and safety requirements

Amendments to the Health and Safety in Employment Act 1992 increased the responsibilities and requirements on volunteers. Volunteers are now deemed to be employees, and the need for standardisation across fire services has led to increased paperwork and training for volunteers. Central government assisted the NZFS Commission to manage these new requirements. NZFS now employs volunteer support officers for local fire brigades, whose role is to undertake paperwork duties and help ensure that volunteers are ready and available for fire-related activities.

Increasing demand for service

A matter alluded to previously is the increasing number of incidents each year, particularly false alarms and non-fire incidents. False alarms are now the most common incident attended by fire services and hazardous emergencies are the most common non-fire incident.

Civil Defence Emergency Management (CDEM)

Through its participation in CDEM planning, NZFS takes on roles that extend beyond those it has under the Fire Service Act. During 2001/02, NZFS partnered with the Ministry of Civil Defence and Emergency Management to play a lead role in the establishment of national Urban Search and Rescue (USAR) capability. In addition, recognition of NZFS's response capability in hazardous substance emergencies has led to closer collaboration with agencies responsible for certain classes of terrorist activity and illegal drug manufacture. Other initiatives include the provision of community safety awareness programmes and professional development activities.

Other matters

Each year, NZFS's Human Resources Strategy Group undertakes a comprehensive environmental scan and reviews the priorities and themes of the NZFS Human Resources Plan. According to the NZFS Strategic HR Plan 2006-2011, there are a number of significant organisational, societal and legislative changes facing the organisation including:

- Continuing social pressures impacting on the ability of volunteer brigades to recruit and retain volunteers.
- The capacity of the workforce to keep pace with changing roles and expectations of the Fire Service.
- The need to manage the effects of increased workforce diversity and maintain the drive to recruit from non-traditional groups.
- Changing community risk profiles and the challenge of adjusting NZFS resources to meet these changes.
- Changes in legislation, including increased health and safety obligations, good faith obligations and minimum employment entitlements that have direct financial implications.
- A tight labour market and skill shortages in certain areas.
- The special needs and expectations of groups of employees and volunteers.

4.7 Volunteer levels and trends

Approximately 85% of the total 13,000-strong fire fighting force comprises volunteers. Volunteer firefighters respond to approximately 30% of all incidents that NZFS attends. Community members generally volunteer for fire service duty based on their personal commitment and desire to serve the local community. Volunteers come from all walks of life and are trained for their role with a seven-day residential recruit course, normally at the National Training Centre, covering the basics of modern firefighting.

Volunteer units within NZFS also provide support services beyond the role of firefighter. Various volunteer Fire Police and Operational Support Units are attached to fire districts and brigades throughout New Zealand, providing assistance to firefighters (both paid and volunteer).

Volunteer firefighters within the urban system are mandated under section 34 of the Fire Service Act 1975. Prior to registration of a new brigade, it must satisfy the NZFS Commission that it can be reasonably efficient in terms of organisation, staffing, equipment, discipline and training. The Commission may revoke the registration of any volunteer fire brigade that ceases to function or which fails to maintain a reasonable standard of operations.

The NZFS Commission recognises that its workforce must reflect the composition of local communities. It places considerable emphasis on recruiting from a broader background than has traditionally been the case. According to the Commission's 2006-2009 Statement of Intent, NZFS has made good recent progress in moving toward a more diverse workforce, particularly in terms of intakes of Māori, Pacific Island and female recruits. Local initiatives include profiling and supporting innovative recruitment approaches in volunteer brigades, targeting recruitment to members who offer availability in times of need, and considering opportunities for families and partners to be involved in the brigade.

In rural areas, territorial authorities and Rural Fire Committees are particularly reliant on volunteer rural fire forces. These volunteer rural fire forces are registered with the NRFA and form contracts with the relevant Rural FA. The local FA is responsible for training and equipping rural fire forces.

The United Fire Brigades Association (UFBA) is an important forum for volunteers. It was established to service and promote the needs of its members, representing approximately 470 volunteer, paid, urban, rural, industrial and NZDF fire brigades on local, national and international matters.

Volunteer recruitment and retention issues

The 2003 central government/LGNZ report notes UFBA advice that volunteer recruitment has remained relatively stable over recent years but recruitment is getting harder due to:

- Competition between rural and urban volunteer services in some parts of New Zealand, in terms of trying to attract volunteers from the same communities.
- Transient communities having problems with recruitment because people do not stay long enough to develop a strong attachment.
- Increased health and safety requirements for volunteers due to 2002/03 amendments to the Health and Safety in Employment Act. This creates increased responsibilities and requirements for volunteers, and contributes to issues around recruiting prospective new volunteers.

UFBA has also advised of a high turnover of volunteers in the fire service due to:

- Fire services competing with family commitments.
- Employment conditions, as some employers actively encourage their staff to volunteer whereas others dock pay and get annoyed at employee absences (particularly for activities which turn out to be false alarms).
- Increase in attendance at motor vehicle accidents, with consequent stress on volunteers, especially in rural areas.
- Lack of leadership skills amongst volunteer fire brigades.

The NZFS Commission is addressing the problem of volunteer recruitment, for example through recruitment resource kits for Chief Fire Officers. The Commission's strategy focuses on selling the benefits that individuals get from being a volunteer firefighter, such as gaining new skills. UFBA's strategy to retain volunteers is to recognise and celebrate their service to the community. In addition, the NZFS Commission is actively addressing the need for leadership skills amongst volunteer fire brigades by providing training in governance and leadership, and trying to mitigate problems in retaining volunteers.

The current reward system adopted by the NZFS Commission and UFBA recognises the personal satisfaction that volunteers get from helping their local communities. Volunteers are rewarded with certificates and medals for years of service. In addition, particular recognition by the NZFS Commission is awarded for retirement, with a maximum gratuity payment of $3,000 to volunteers

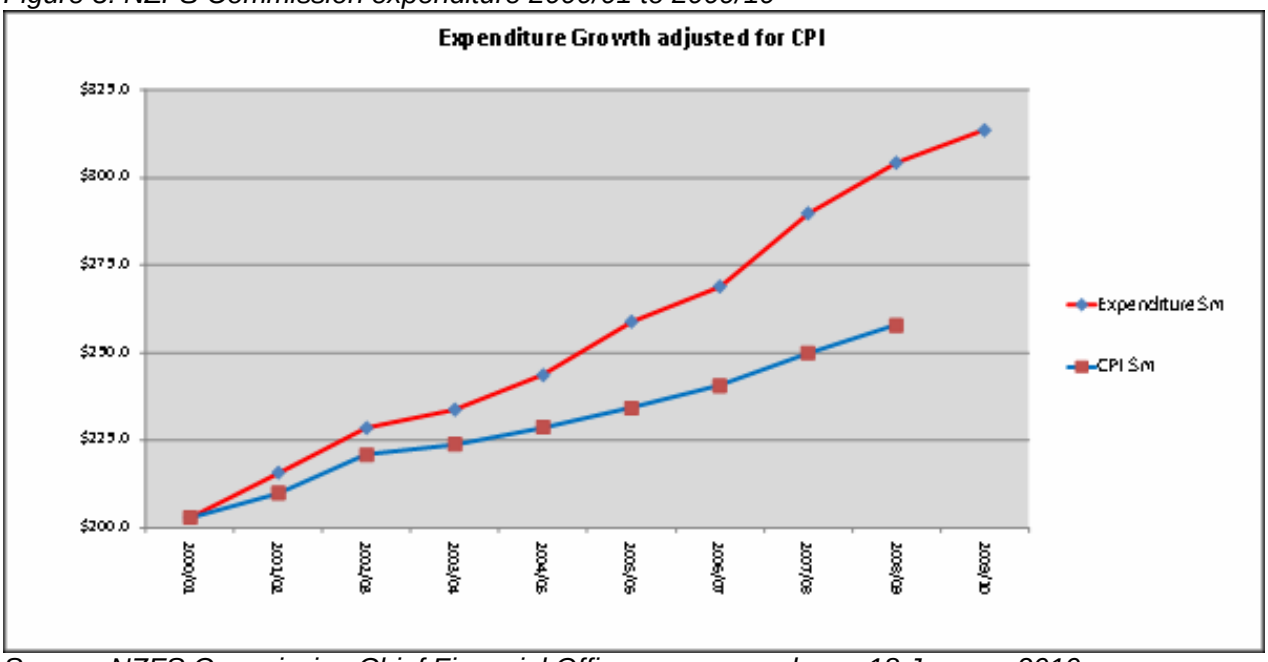
Urban volunteers do not receive financial payment for their services, but there are rural volunteers that receive some form of financial reward. The general view is that introducing any additional financial rewards would negatively impact on the volunteer ethic associated with fire fighting. The UFBA considers that the current reward and recognition systems for volunteers are successful and are a key factor in retaining volunteers.

4.8 Funding

New Zealanders collectively spend more than $1 billion per year on managing the risk of fire. NZFS spends approximately one quarter ($300+ million) of the total annual spend on fire risk management. An additional $20 million per annum is raised each year through fundraising and funding applications, to pay for fire station construction and upgrades, emergency vehicles purchase and maintenance, rescue equipment, First Aid equipment, office equipment, event costs and local fire safety campaigns. NZFS has a high proportion of fixed costs that need to be covered on an ongoing basis, to ensure the service maintains its capacity to respond to emergencies. Compared with the NZFS, rural FAs have relatively low fixed costs and higher marginal costs, and are funded from a wider variety of sources.

The real costs of urban fire services have been relatively stable over the long-term despite increases in population and total incident numbers. However, over the past decade NZFS's nominal expenditure growth has been trending upward as in Figure 5 below. In order to get a clearer picture of revenue and expenditure trends for NZFS, annual reports for the period 1998/99 to 2008/09 were reviewed. This analysis showed that, after adjusting for inflation, revenue/income increased by 36% during the period 1997/98 to 2008/09 and expenditure increased by 32%.

Figure 5: NZFS Commission expenditure 2000/01 to 2009/10



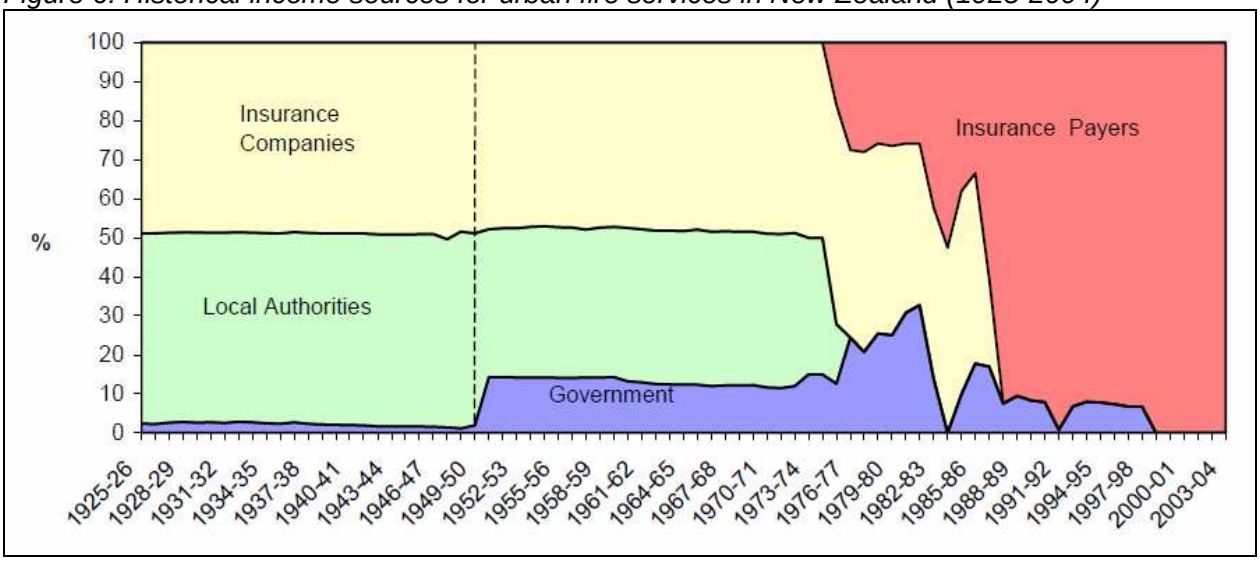
Source: NZFS Commission Chief Financial Officer, correspondence 18 January 2010.

In addition to the costs discussed above, there are also indirect costs which are hard to measure. In the urban system, there are the costs of providing water reticulation systems with appropriate volumes, pressures and delivery mains. According to local authorities, fire fighting requirements add an estimated 30% to the costs of urban water supplies. In the rural system, additional cost factors include land management issues (eg, permits to light fires), requirements for fire breaks and reduced fire loadings, weather warning systems and the need to impose fire bans at various times.

Funding of the urban fire service

New Zealand's urban fire system is funded almost exclusively from an insurance-based levy, along with an indirect contribution from central government and a small amount of revenue from other sources. Figure 6 shows the broad historical changes in funding sources. In 1976, NZFS took over from fire services funded by local authorities. By 1998, the government had progressively removed itself from a direct funding role and transferred the burden to insurance policy holders. Recent media information suggests that some companies may be using a loophole to avoid insurance levies, however any legislative change is unlikely until at least the next parliamentary term.

Figure 6: Historical income sources for urban fire services in New Zealand (1925-2004)



Source: Department of Internal Affairs (2006) 'New Zealand's Fire Services: Their current organisation, funding and issues arising', p 25.
Notes: Before 1950, data was collected only for fire boards. The data does not include expenditure for fire brigades under the control of territorial authorities. This has the effect of over-stating central government's pre-1950s contribution.

Section 48 of the Fire Service Act requires insurance companies to pay the NZFS Commission a levy calculated on the value of property insurance (including motor vehicle insurance) where fire risk is covered. According to the 2003 report by central government and LGNZ, the levy rate was 7.3 cents per $100 of insured value. In March 2008, the Minister of Internal Affairs announced a decision to increase the rate of the levy to 7.6 cents per $100 of insured value, effective from 1 July 2008. The levy is limited in the case of:

- Commercial property (including motor vehicles over 3.5 tonnes) to the indemnity value of the property.
- Residential property to a value cap of $100,000 (ie, a maximum levy of $76 annually).
- Personal contents to a value cap of $20,000 (ie, a maximum levy of $15.20 annually).

For insured motor vehicles less than 3.5 tonnes there is a small annual flat fee. There is no liability for motor vehicle insurance limited to third party.

As at 2009/10, levies on fire insurance contracts contributed approximately $300 million toward the total NZFS annual budget of $313 million (ie, approximately 90% of the cost of urban fire services nationally). This does not include the cost of operating rural fire authorities. Approximately 50% of the levy is paid by individuals and 40% from corporate/commercial, government agencies and local authorities. The remaining $13 million per annum is derived by NZFS from false alarm charges, interest on investments, hazardous substance charges, automated fire alarm monitoring and other sources. While insurance companies do not receive any payment for collecting the levy, they do benefit by being able to hold levy receipts for up to two and a half months, thereby collecting interest. The insurance companies also benefit indirectly, because protection provided by NZFS helps reduce losses on the properties they insure.

Until 1998, central government also made a direct annual appropriation to the NZFS Commission. Since this was removed, the government has continued to make a significant indirect contribution by making no capital charge on the Commission's $180 million net asset. This effectively amounts to approximately $8-10 million annually. The Commission also generates a small amount of other income (less than 5% of total revenue) from interest and additional sources such as charges for repeat false alarm callouts and hazardous substances incidents.

In 2001 the NZFS Commission, on the advice of UFBA, reviewed the grants system that had been in place since 1976. This resulted in a more transparent method for calculating the grant to each of the 400+ volunteer entities that the Commission formally recognises. In addition, the amount available for distribution to brigades was increased from $2.1 million to $2.9 million. In 2005/06, the Commission established a joint volunteer/staff working party to review the grant level and make recommendations on the grant allocation system. As a result, the allocation formula was varied to slightly favour brigades serving smaller communities, and the amount available for grants to volunteer fire brigades was increased by $320,000 in 2006/07.

Funding of the rural fire service

According to the 2003 report by central government and LGNZ, the rural fire services system expends approximately $20-30 million per annum. The lower cost of rural fire services depends to a significant degree on the readiness capability of NZFS, which is able to respond quickly to most rural fires. This effectively allows rural fire services to 'borrow' significant capital and trained personnel from the urban system, thereby keeping their fixed costs below what they would otherwise be.

The rural fire system is directly funded from a mix of:

- Central government funding – DoC and NZDF direct departmental expenditure on fire management of approximately $11-12 million annually.
- Local government rates – Territorial authorities serve as Rural FAs in all areas not covered by DoC, NZDF or Rural Fire District Committees in specially gazetted areas. Territorial authority expenditure on staff and resources employed by Rural FAs has been previously estimated at between $3.7 million and $14.8 million annually. The figures estimated in this research report are between $19 million and $23 million. The cost varies widely between areas, depending on local environments, corresponding levels of fire risk, and levels of resources available.
- Fire Service Levy – Approximately $1.6 million from the urban Fire Service Levy is transferred into the rural fire funding system and goes directly into the Rural Fire Fighting Fund. A further $2.5 million goes toward paying for the overhead costs of the national Rural Fire Authority.

- Private foresters contribute to rural fire services through provision of their own services.

The costs of fighting fires in the rural system are met by reimbursements from the Rural Fire Fighting Fund (where recovery of the costs cannot be made from persons causing the fire). This is made up of contributions from the Fire Service Levy and DoC. Commercial forest owners are excluded from the Rural Fire Fighting Fund, but contribute to rural fire management costs through the rates they pay to their local authority.

For the 2007/08 year, Rural Fire Authorities lodged 134 claims with the Rural Fire Fighting Fund. Of these, 53 originated within areas of DoC responsibility and 81 originated within other Fire Authority districts. Although there is significant variation from year to year, over the long-run the overall expenditure from the Rural Fire Fighting Fund has been growing over time (refer Figure 7). Claims lodged with the Rural Fire Fighting Fund do not provide a full picture of the total suppression costs involved in wildfires. In addition to the $4.3 million claim on the fund during 2007/08, an estimated $2.1 million was also directly recovered by FAs from persons who caused the fires. A further estimated $1.6 million was associated with suppression of wildfires originating inside commercial plantation forests (and hence with no access to the Fund) and a further $0.6 million was incurred from small wildfires costing up to $1,000 where no claims were made by FAs on the Fund.

Figure 7: Rural Fire Fighting Fund expenditure 1988/89-2007/08

Source: NZFS 2007/08 Annual Report, p 10.

Grant Assistance Scheme (capex contribution for rural fire service)

Applications from FAs for grants in 2007/08 totalled $2.2 million, exceeding the available funding of $1.3 million. All applications were assessed and priorities established to ensure the available funding provided the best overall outcome. Grants provided to FAs under the Grant Assistance Scheme are only available for approved resources, to ensure national consistency and standardisation across the sector. A change to the policy was made in 2002, which has seen 33 new rural appliances delivered to the Fire Authorities' voluntary rural fire forces.

Grants and donations

All NZFS fire stations are funded to meet their operating and capital costs but there are times when volunteer stations apply to community organisations to help fund equipment not considered necessary by NZFS, such as boats, four wheel motor bikes, vehicle rescue equipment and self-help projects. NZFS funding is primarily focused toward fire suppression activities.

NZFS volunteer fire brigades and FA rural fire forces face additional administrative costs from the need to fundraise. According to grant and donation records, various funding contributions to fire services have been made by community trusts, energy trusts, Lottery Grants Board and COGS. The types of items funded from community funding sources include:

- Fire station construction, extensions and upgrades (capex).
- Emergency vehicle purchase and maintenance (capex).
- Rescue equipment purchases and maintenance, including protective clothing (capex).
- First Aid and other equipment (capex).
- Office equipment (eg, computers) (capex).
- Event costs (eg, fire service gatherings) and fire safety campaigns (opex).

Collectively, the community trusts contribute more than $180,000 toward fire services during an average year. Although volunteer fire brigades are explicitly excluded from the Lottery Grants Board application process, contributions are occasionally made to the UFBA and individual rural fire forces from the Lottery Minister's Discretionary Fund (in 2009/10 this totalled $32,000).

Shortcomings of current funding systems

According to the 2003 report by central government and LGNZ, the current insurance-based levy system lacks equity and transparency. Earlier policy work by officials of DIA assessed the current funding system and identified various problems, including:

- Lack of horizontal equity between those who fully insure and those who do not. The latter category includes those who avoid compliance through offshore insurance arrangements.
- Lack of equity for levy payers overall because they fund services unrelated to the fire risk against which they have insured.
- Perceived lack of equity for residents in remote rural fire districts, who receive services which are not necessarily related to the urban Fire Service Levy which they pay.
- Dissatisfaction by the insurance industry at its enforced 'tax collection' role to pay for a government-owned service.
- A relatively narrow funding base which is susceptible to erosion in some sectors, particularly as a result of new kinds of insurance policies.

The 2003 report went on to discuss alternative funding models and concluded that some form of property-based funding system should be introduced, possibly in conjunction with a levy related to motor vehicles, and that any changes should be introduced at the same time as the general legislation for fire services is reviewed.

Within the 2007 DIA proposal titled 'New Fire Legislation: A framework for New Zealand's fire and rescue services and their funding' (p 47), it states that "everyone is a beneficiary of the services and should contribute to their funding. This indicates that any funding base should be as wide, or have as many people contributing, as possible… Conversely, when the priorities of saving lives or minimising injuries have been addressed, much of the activity of fire and rescue services is about the protection of property. Whether this be through extinguishing fires, securing roofs during storms, or pumping water during floods, the concern is to save property from loss or damage. Property owners benefit in direct proportion to the value of property that is protected." In this context, equity considerations suggest that:

- Any funding levy should apply to the widest possible range of property at risk.
- Property owners should contribute to the cost of the services indirect proportion to the value of their property being protected.

The 2007 DIA proposal stated that continuation of a property insurance-based levy would be fairer than other alternatives in terms of the number of people who contribute to funding fire and rescue services. It stated that an insurance-based levy is fairer than a local rates-based alternative because insurance companies are also direct beneficiaries from fire services (ie, in terms of reduction in property loss or damage). It also stated than an insurance-based levy would more fairly target the properties that benefits from fire services, in that it encompasses more than just land and buildings (eg, industrial plant and equipment, stocks of goods and materials, housing furnishings and contents, etc). These broader kinds of property not only benefit from fire protection, they are also often the cause of fires and other accidents.

Since the release of the 2007 DIA proposal and subsequent general election, the Minister of Internal Affairs has advised there is no intention to progress the previous government's proposal to merge urban and rural fire services.

5.0 AMBULANCE SERVICES

5.1 Historical development

St John Ambulance was founded in England in 1877 to provide ambulance transport and instruction on First Aid. During 1885-1892, the first divisions of the St John were formed in New Zealand. Within the public hospital system, many hospitals developed either their own ambulance services or a collaborative system using St John volunteers. However, with the various restructurings of the health system that have taken place, most public hospitals have since exited this service. Only Taranaki DHB and Wairarapa DHB continue to operate ambulances today. There is also a community-owned free ambulance service in Wellington. St John is the major provider of ambulance services, covering 86% of the population and 94% of the geography of New Zealand.

The history of St John is one of an expansion of small, semi-autonomous units through to the 1970s, followed by progressive strengthening of regional and then national structures. Local Area Committees are a foundation of St John, carrying out activities such as informing local communities about training programmes, contributing to planning processes, helping to raise funds and supporting paid and volunteer members.

5.2 Current services provided

The nature of the ambulance service is often described as one of a 'capacity' service, needing sufficient scale to respond promptly to changing levels of demand. In theory, population distribution determines the spacing of services. Hence, ambulance stations covering relatively small populations have more variable demand and difficulties in establishing an appropriate capacity. These low-demand stations tend to be community-managed services run by volunteers. More remote areas are assisted by Primary Response in Medical Emergency (PRIME), a medical and advanced paramedic support scheme that works by training General Practitioners and nurses in paramedic skills. PRIME adds to the quality of service in rural and remote areas through a multidisciplinary approach.

The most common type of ambulance station is one in which core services are provided by one or more paid day staff, who often remain on-call to support volunteer staff on nights and weekends. In metropolitan areas with the highest levels of demand, ambulance stations are staffed largely by paid personnel and professional managers. The larger the volume of work undertaken by an individual station, the lower the average cost of service.

People donate their time and resources to ambulance services in the confidence that they are helping their community. Ambulance officers range from fully trained advanced paramedics with many years' experience, to volunteers with more limited training who have dedicated themselves to the service. Each day, approximately 1,100 people rely on ambulance services to treat and/or safely deliver them to health care facilities around New Zealand.

Emergency ambulance activities require significantly more resource than non-emergency activities. The former needs to have capacity in place for immediate response, whereas non-emergency activities can be rescheduled. Medical emergency cases are most likely to be taken by road to the nearest Emergency Department, stabilised, assessed and treated or transported further.

All road ambulance providers have a wider range of activities in which they are engaged. For the two DHB providers (Taranaki and Wairarapa), ambulance services are in addition to the range of

health activities expected of DHBs. Other road ambulance providers have a range of charitable and commercial activities which feature in their operations. Most road ambulance providers have been expanding their non-ambulance businesses into:

- Alarm monitoring.
- Servicing events.
- First Aid supplies.
- Training (internally and externally).
- Subscription schemes.
- Gaming for fundraising purposes.

According to St John's 2008 Annual Report, the organisation provides First Aid training to approximately 55,000 people annually. St John also has a Safe Kids programme which teaches pre-school and primary school children what to do in an emergency. In addition, community resilience is improved through the deployment of Lifelink Alarms, supporting people with medical conditions to live independently at home and making it easier for them to call help in an emergency. St John is also actively scoping a role of paramedic practitioner to provide primary health care services in communities when not responding to emergency call-outs. The type of care could potentially include preventative health checks, diagnosis and vaccination programmes.

The CDEM Act 2002 specifically mentions Police and NZFS as first-response organisations to be represented on CDEM Co-ordinating Executive Groups, but due to their non-statutory basis, ambulance services are not mentioned. Nevertheless, there is nothing to prevent ambulance services from being included in CDEM planning and activities. The Act requires representation from local hospital and health services, and allows for any other person to be co-opted by the CDEM group.

5.3 Community benefits

Ambulance services respond rapidly to medical emergencies and accidents by treating and/or transporting patients. The national vision is to be the first line of mobile emergency intervention in the continuum of health care (New Zealand Ambulance Service Strategy 2009). Ambulance sector providers have adapted over the years to new challenges and technologies, including the introduction of centralised communication centres in Auckland, Wellington and Christchurch.

The primary role of ambulances is to meet emergency pre-hospital care needs, including telephone triage, dispatch and communication activities to support emergency work. To be fully effective, the hand over from pre-hospital care to treatment by other health care providers also needs to be seamless. In addition, most ambulance organisations also provide patient transfer services as a complementary use of resources and skills. Beyond their emergency role, ambulance services have the potential to provide out-of-hospital clinical care service which may enhance access to health services for rural communities.

St John's mission is to prevent and relieve sickness and injury, and to act to enhance the health and well-being of people of all races and creeds anywhere in New Zealand. According to the New Zealand Ambulance Service Strategy 2009, central government and ACC seek an ambulance sector where:

- Service expectations are aligned to patient outcomes using a sound funding rationale.
- There is community pride and confidence in the service.
- Patient outcomes are improved as a result of more co-ordinated care.

5.4 Operational structure

The direction of ambulance services in New Zealand is one of increasing co-ordination and professionalism. Better co-ordination is possible with the introduction of new communication and GPS technologies. At the time of the Ambulance Services Sustainable Funding Review (Ministry of Health, 2004), the number of communications centres operating across all ambulance providers was being reduced from eight to three, with each able to maintain services in the event of operational failure of other centres. Any 111 phone call asking for an ambulance response goes to a call centre and is directed to one of the ambulance control centres. Professionalism is being improved through the development of voluntary standards with common quality standards, and through the development of improved protocols for dispatch, transfer and delivery.

St John has progressively evolved into more regionalised and centralised administrative structures. Effective control of the organisation has moved from districts to regions and, more recently, to a national administrative structure, with the community aspect retained through area committees. A new operations structure was put in place during 2007, including a Planning and Development team. Geographically, St John is organised into five regions, each responsible for the delivery of services to national standards within its boundaries. Each region is represented by a trust, each with a board operating under delegation from the National Board. Every region has a general manager responsible for ensuring that the range of activities is delivered effectively and within national policies and standards.

At the local level, Area Committee volunteers play a vital role in contributing fundraising and administrative skills. While Area Committees focus their energies locally, the Regions take responsibility for ensuring that everyone in their geographic area is working as a team. The arrangement is like that of a franchise, with individual responsibility where it is most effective but information shared centrally and delivery of all products and services to prescribed practices and systems.

Another important aspect of the operational structure of ambulance services is the central government administration component. In parallel with the development of the New Zealand Ambulance Service Strategy 2009, the Ministry of Health and ACC jointly established a National Ambulance Sector Office (NASO) which was launched in 2008. The organisation is headed by a Group Manager and staffed by individuals seconded from each of NASO's parent organisations. Running expenses are shared between the parent organisations. NASO aims to help foster a consistent, national direction for New Zealand's ambulance services and co-ordinate funding from the main agencies that fund the sector. Its responsibilities include developing a national vision for the ambulance sector, setting priorities and associated performance targets, and developing a clear funding policy linked to the sector's national objectives.

5.5 Regulatory environment

Unlike most OECD countries, there is no governing legislation for the administration of ambulance services in New Zealand. The ambulance sector is unregulated and made up of non-government organisations such as St John, Wellington Free Ambulance and the Taranaki and Wairarapa DHBs. Ambulance New Zealand's position is that there is no additional need or desire for legislation to govern ambulance services.

Personnel qualification levels effectively determine the capability of an ambulance. Emergency ambulances crew members are defined as Basic Life Support (BLS), Intermediate Life Support (ILS) or Advanced Life Support (ALS). Both BLS and ILS crews need backup from ALS personnel. BLS crews are generally qualified at the entry level to ambulance officer status, whereas ALS crews tend to be more experienced, with at least one officer generally being qualified to the National Diploma in Ambulance Paramedic standard.

Although there is no legislative impediment to any organisation operating an ambulance service, there does need to be compliance with the voluntary New Zealand Ambulance Service Sector Standard (NZS 8156:2002). This standard was reviewed in 2006/07 and a new version was released in May 2008.

5.6 Sector-wide strategies

According to a 2007 submission by St John to the Health Select Committee, growth in ambulance demand is exceeding St John's capacity to respond. This is being driven by a number of factors:

- Growing national population.
- Population ageing (at an exponential rate).
- Chronic illnesses such as Type 2 diabetes.
- Obesity and resulting clinical conditions.
- Rural health care is under-resourced in many areas.
- Society expects and demands more from ambulance and other health service providers.

These factors have combined to see ambulance demand grow at a reported 6-8% per annum consistently over the past ten years (ie, more than double the national population growth rate), and demand is projected to continue growing in the future.

The Ministry of Health facilitated a Sustainable Funding Review for Ambulance Services during 2004, as a combined initiative of the ambulance funders and providers. The review had been intended to commence years earlier, but was postponed due to restructuring in the national health sector. The 2004 review led to new insights into the structure of the ambulance service but acknowledged that further work was needed to fully understand the connection between cost and quality of service. Future work was identified around the relative input of injury and medical emergency funders (ACC and the Ministry of Health), the input of volunteers, integration of road and air ambulance services, and the costs of implementing ambulance standards.

In June 2009, following a period of extensive consultation, Health Minister Tony Ryall announced the release of the New Zealand Ambulance Service Strategy 2009. The strategy was developed jointly by ACC and the Ministry of Health in conjunction with the ambulance sector. It sets a vision for ambulance service as "the first line of mobile emergency intervention in the continuum of health care". The Strategy has three key goals to be achieved by the year 2020:

- Strategic leadership – Ensure the ambulance sector has clearly defined roles in the emergency and health sectors.
- Community resilience – Deliver a long-term plan for meeting community emergency health needs.
- Seamless delivery – Integrate ambulance services within the wider health sector.

The Strategy aims to provide leadership for the ambulance sector, to ensure a cohesive and consistent approach between emergency ambulance providers and greater national consistency in training, clinical guidelines and oversight. Whilst mentioning some 'far-reaching' options, such as nationalisation of ambulance services, devolution to DHBs, integration with other emergency services and other similar models adopted internationally, the 2009 Ambulance Service Strategy explicitly seeks to build on the existing strengths of New Zealand's system. The Strategy comprises ten initiatives (in no particular order):

1. Establish a unit that is accountable to (and under the direction of) funders, to progress the Strategy, advise the funders and administer Health and ACC policy, providing strategic leadership to the sector.
2. Develop mandated, transparent, sustainable funding models that link external drivers to agreed service expectations. This includes recognition by government that inter-hospital transfers are critical to certain providers.
3. Develop outcome performance indicators that monitor the contracted performance of providers.
4. Develop a framework to facilitate effective consultation with the community on long-term planning for the required quantity, locations and funding for ambulance services.
5. Improve the sustainability of the paid and volunteer workforce and investigate alternative service models.
6. Improve the integration of the ambulance sector into New Zealand's emergency management planning system.
7. Improve the level and extent of clinical expertise, develop procedures for utilising consistent protocols for a given condition regardless of setting, and extend the role of the paramedic.
8. Introduce sector-wide information capability for evaluating health outcomes.
9. Improve ambulance service configuration and deployment.
10. Ensure that response and resolution of call-outs is clinically appropriate for each patient.

Each of the initiatives above is associated with a timeline over the period 2009-2020, and with one or more action plans within the Strategy document. Feedback from St John National Office regarding the ten key initiatives above suggests that their key areas of impact on St John are:

- Phased support for investment in ambulance staff.
- Greater focus on clinical expertise, training and qualifications.

According to a recent media release from St John (12 October 2009), further opportunities for the ambulance sector include integrating services more seamlessly with the wider health sector, expanding the role of ambulance officers to include home care options, and advances in medical treatment and technology. In addition to the 2009 sector-wide Ambulance Strategy, St John also has its own organisational strategic plan.

5.7 Current challenges and barriers

The Ministry of Health's 2004 Funding Review for Ambulance Services found that while the sector was financially sound, there was imprecision in the specification of performance. "A mixture of analysis and anecdote indicates that ambulance providers are not meeting the quality measures in the [NZS 8156:2002] Standards document".

One of the greatest challenges in relation to funding sustainability is that of volume growth. Providers have also reported increases in significant medical emergencies, though not with great impact on costs. Growth in medical emergencies beyond that implied by population may be linked to the growth of other ambulance sector activities such as alarms and 'caring callers'. These activities alter the balance of responsibility for the activation of an ambulance from the public to the ambulance provider.

At the time of the 2004 Funding Review, there was a push to have at least two ambulance officers attending each emergency (ie, double/full crewing), so that patient care could be maintained by one officer while the other drove. In 2007, St John reported that funding issues and problems with staffing had dangerously increased the number of single-person ambulance call-outs, mainly but not solely in rural areas. Normally two officers are considered the only safe solution for patient and staff safety. St John has noted that the issue could be alleviated with additional funding of approximately $5 million per year, although Ministry of Health officials have noted that they consider some two-person-callouts would be an inefficient use of resources.

According to St John's 2008 Annual Report, currently around 82% of St John ambulance responses are double crewed. Increased government funding during 2007/08 enabled a ten percent increase in the number of St John paid staff, with 80 additional ambulance officers appointed in locations with the greatest level of need. While it is difficult to quantify the benefits from having full (ie, double) crews in all vehicles, in mid-2009 the Minister of Health did announce some additional funding to support training for up to 250 more rural volunteers on an annual basis.

The 2004 Sustainable Funding Review for Ambulance Services was initiated by the Ministry of Health as a response by various parties to a perceived need for a better understanding of funding requirements. In summary:

- The Ministry of Health (and ACC) faced claims of substantial funding deficits from at least one provider, and had a long-standing intention to better understand ambulance service cost drivers.
- Ambulance New Zealand, as the sector representative of ambulance service providers, had been advocating for the Crown to sort out the mix of funding arrangements.
- DHBs have an interest in ambulance services both as funders of inter-hospital transfers and as the main delivery point for emergency transports.

The main findings of the 2004 Review reinforced a number of factors relating to the provision of ambulance services, including the following cost factors:

- Population and volume demand are closely matched at all levels of analysis and this is particularly true of emergency volume demand.
- There is a strong match between resourcing of ambulance stations and demand. The cost of service provision is closely matched with volume demand.
- There are clear economies of scale in station costs.
- Cost per unit of volume decreases with increasing utilisation of ambulances.

- Cost per unit of volume varies according to the nature of the volume and significantly varies between emergency and non-emergency volumes.
- There are significant differences in station cost structures between providers. These can only be partially explained by the information provided for the review.

From a St John perspective (refer 2007 submission to the Health Select Committee), the four key issues facing ambulance services in New Zealand are:

- Growth in ambulance demand is constant.
- St John is 'fundamentally under funded' by comparison with overseas ambulance jurisdictions and other New Zealand emergency services.
- Successive governments have not applied a strategically planned approach to funding of the ambulance sector.
- Single crewed emergency ambulance responses, particularly in rural areas, 'place an unfair burden on Ambulance personnel, endanger patient safety – and increase risks around Ambulance officer personal safety'.

Until recently, the key government funders of ambulance services had not taken a cohesive national approach when purchasing such services. Issues arising within the sector were often dealt with in differing ways by each agency independently. Funding streams and contract terms differed, with providers reporting that the different approaches inhibited longer term planning and investment by the sector (particularly the air ambulance sector). However, according to the New Zealand Ambulance Service Strategy 2009, the sector is now working collaboratively to address a number of issues associated with inconsistencies in service delivery.

Consultation and research underlying the New Zealand Ambulance Service Strategy 2009 identified a number of additional issues which need to be addressed from a strategic perspective, including:

- While there are standards, they are not compulsory and are not linked to a monitoring regime, leading to inconsistencies in both operational and clinical performance.
- There have been challenges to reaching agreement between the government and ambulance sector on necessary changes.
- Divergent approaches by the funding agencies (Ministry of Health and ACC) to purchasing ambulance services.
- Increasing costs to the government and ACC, without the availability of information to monitor the quality of services purchased.
- Lack of clarity regarding the roles of ambulances in the health and emergency services sectors.
- Impacts of changes in the rest of the health sector on ambulances.
- Lack of recognition of paramedics as health professionals.
- Inconsistent clinical standards and crewing among providers.
- A high reliance on volunteers and increasing difficulty in recruiting and retention of volunteers.
- Lack of a single 'ambulance' voice in emergency and disaster forums.

According to a media release from St John (12 October 2009), overall challenges for the ambulance sector include ensuring sufficient funding of services in the face of increasing demand for services, addressing reduced health services in rural and remote communities, and managing high patient demand during emergencies and global pandemics.

5.8 Volunteer levels and trends

Ambulance services are held in high regard in New Zealand communities, with ambulance officers being perceived as one of the country's most trusted professions. Road ambulance services attract large numbers of community volunteers, which are relied upon for most levels of service provision. In particular, they are the mainstay of rural and remote ambulance stations.

Recent figures from St John suggest that New Zealand's ambulance sector relies on approximately 7,600 volunteers and 2,200 paid staff (including part-time and casual staff). Given the population and geography of New Zealand, the ambulance service will always be reliant on volunteers to a considerable degree. The reliance on volunteers in some large cities and all smaller towns is unusual from an international perspective and makes significant demands on a limited pool of skilled people. According to estimates commissioned by St John and reported in its 2007 submission to the Health Select Committee, the estimated value of volunteer ambulance officers' time contribution is approximately $35 million per annum.

According to findings from the Ministry of Health's 2004 Ambulance Services Sustainable Funding review, and in the 2009 New Zealand Ambulance Service Strategy, ambulance volunteers are becoming increasingly difficult to attract and retain. This is a common concern of non-governmental organisations and has been linked with societal and cultural trends. According to St John's 2008 Annual Report, the organisation saw a modest increase in operational volunteers to both its ambulance and events services, but volunteer recruitment remains an ongoing area of concern.

The sustainability of volunteer input to the ambulance service is uncertain, and the cost of replacing volunteers with paid staff would be very high. Indicative figures cited in a FRSITO (2008a) report suggest that the time supplied by volunteers in emergency services is very high compared with other voluntary activities. An Australasian study found that volunteer ambulance officers provide an average of 1,344 hours of service per annum compared with 75 hours for volunteers in general.

5.9 Funding

Substantial funding and responsibility is held by central government in relation to the road ambulance sector. On top of this, the organisations that operate road ambulance services are able to attract additional financial support from communities and corporate sponsors, although the total level of donations is reportedly only a small part of total revenue. The majority of revenue is made up of direct funding for emergency services, patient transports and event attendance from ACC, the Ministry of Health and clients in the form of either a fully commercial transaction or as a part-charge for medical emergencies.

According to a 2003 central government and LGNZ report (focusing on fire management), the government funding streams for ambulance services comprise capacity funding of approximately $40 million per annum from the Ministry of Health and $30-32 million of fee-for-service payments from ACC. Contributory funding of approximately $5-8 million per annum is received from bequests, donations and fundraising (note: this amount is likely to be significantly under-estimated in relation to individual St John local services). Ambulance services are not funded to take part in emergency operations such as natural disasters of terrorist incidents. More detailed figures for St John Ambulance annual funding are provided in Table 5.

Table 5: Funding of St John ambulance services 2006/07

Funding Source	Amount
MoH bulk funding	$38.49m
ACC fee-for-service	$30.20m
PRIME (MoH) contract	$1.22m
Inter-hospital fees from DHBs	$4.93m
Sub-total (government funding)	**$78.84m**
Part charge income (gross)	$7.54m
St John contribution to operating expenses	$8.02m
Other income for ambulance (donations, private hire, supplies sales, interest income and St John supporters' scheme income)	$7.40m
TOTAL	**$97.80m**

Source: St John 2007 Submission to the Health Committee NZ House of Representatives, p 2.

In order to get a slightly longer-term picture of revenue and expenditure trends for St John, annual reports for the period 2007 to 2009 were reviewed and the figures were inflation-adjusted using a CPI deflator. This analysis shows that:

- Nominal revenue/income increased by approximately 47% over the period 2006 to 2009.
- Nominal expenditure increased by approximately 50% over the same period.
- After adjusting for inflation, revenue increased by 36% during this period and expenditure increased by 39%.
- By far the largest source of revenue is in relation to service provision (ie, MoH and ACC income), comprising 86% of total annual revenue.
- The largest expenditure item is employee costs (58%), followed by administrative costs (16%) and depreciation (8%).
- The figures suggest that the total annual budget for ambulance services is in excess of $180,000 per annum.

According to the 2003 central government and LGNZ report, the current funding system for ambulances reinforces the view that ambulance services provide a transport service rather than a medical emergency service. The service is viewed as being "the emergency element of the health service rather than being the health element of an emergency service". At the time of the 2003 report, the Ministry of Health and ACC were looking into the funding of ambulance services, including funding for contingent capability.

Ambulance funding arrangements are regionally inconsistent for medical cases and inter-hospital transfers and, for emergency ambulance services, are divided according to the cause of the emergency. Inter-hospital transfers are mostly the responsibility of health agencies (primarily DHBs). In the case of emergency ambulance services, ACC contracts directly with each provider for a set fee for each claimant transported. In addition, the Ministry of Health contracts with each provider for a set amount, nominally representing the non-accident share of capacity required to respond to emergencies (inclusive of necessary air ambulance responses). The Ministry's relationship with air ambulance providers is also through road ambulance contracts.

According to key findings from the Ministry of Health's 2004 Ambulances Services Sustainable Funding Review, ambulance services in New Zealand are in relatively good financial shape to provide the level of service required. At the time of the review, road ambulance service revenues had been growing faster than costs. The financial state of providers showed they continued to at

least break-even financially. The report suggested that the sector had an overall surplus of $6.7 million (excluding GST) in 2002/03, largely as a result of non-ambulance activities developed around community goodwill (eg, gaming society funds and subscription schemes) and/or infrastructure that supports the ambulance service (eg, alarm monitoring).

Direct staff costs at the time of the 2004 review for all ambulance services nationally were about $45.5 million. Cost estimates for meeting the 'full crew' requirement for emergency ambulance service vehicles ranged from around $5 million to $16 million, which would translate into approximately 36% increase over current staffing levels at the time, if the proposal was implemented.

Fixed costs in the road ambulance service do not appear to be a significant cost driver. The 2004 review found that capital depreciation in the road ambulance sector almost matched capital expenditure ($9.969 million compared to $10.088 million). This suggests that the ambulance sector has the financial capability to maintain business capacity on an ongoing basis, with its capital stock being maintained at a constant level (assuming the scope of activity remains largely unchanged). However, the review report also noted indications that quality of vehicle stock is variable between providers, with some vehicles being older than the depreciation term (generally between eight and ten years). Compared with the overall cost of the service, the age of the fleet would not appear to be a significant issue. However, there are particular challenges with St John Northern Region (South Island) and Central Region, both of which have numerous stations with low usage.

In costing up road ambulance services, the 2004 Funding Review report found that the relative share between emergency and non-emergency ambulance services placed an 'inappropriate' reliance on emergency services. The share of costs between road inter-hospital transfers, emergency ambulances and private hire is in the order of 1:2:1. Relating revenue directly to costs would indicate that revenue should also be split along these lines (ie, half of ambulance provider revenue should come from inter-hospital transfers and privates hires, and half from emergency contracts). However, the current revenue distribution places significantly more reliance on emergency ambulance revenue. The 2004 report found that within emergency road ambulance services, several factors suggested a case for a higher price per unit to be incurred by ACC, including:

- ACC not directly paying for patients cared for at the scene and not transported.
- The process of meeting ACC's information requirements and claim vetting procedures may be a disincentive to the full capture of trauma-related activity.
- Low acuity medical cases may be attributed as medical emergencies as a result of the Ministry of Health's bulk funding method.
- The higher risk that a provider faces in ACC's fee-for-service environment than in the Ministry's bulk funding environment.

Road and air ambulance providers contend that contractual arrangements which are entirely fee-for-service place undue risk on them in their need to maintain a capacity to respond, without certainty of revenue. According to the St John 2008 Annual Report, the Ministry of Health and ACC recently moved to a two-year contract term, rather than one year, enabling longer-term planning and a firmer basis for investment decisions. In addition, according to a 2007 submission by St John to the Health Select Committee, in the mid-2000s St John started a process of identifying specific localities where capacity to deliver ambulance services was well below the St John national average. These were labelled 'hot spots', and included a prioritised list to inform annual contract negotiations.

In recent years, central government funding has been received for some 'hot spot' areas for the employment of additional frontline St John ambulance staff. However, St John argued in 2007 that a 'substantial lift' in overall funding was also required to get the base to a level which compared with similar emergency services. In support of this argument, St John presented government funding comparison figures on a per capita basis for relevant ambulance services in Australia and with NZFS and St John. In making these comparisons, St John noted that ambulance services respond three times more often than the NZFS, but per capita funding is less than 50% of NZFS government funding.

Following stakeholder requests over a number of years, the New Zealand Ambulance Sector Strategy was formulated. In announcing the release of the Strategy, Health Minister Tony Ryall highlighted a number of additional funding commitments by the government including:

- The previous government gave a commitment to increase the ambulance funding baseline by an additional $10 million. Through Budget 2009, an additional $2 million was added, giving the ambulance sector an additional $12 million dollars over the next four years. Through this additional funding, government is funding 100 new paramedic positions to support the sector's ability to respond to medical emergencies. The need for new ambulance officers was highlighted as a key priority following intensive consultation with the health sector and the public.
- Increasing the proportion of ambulances that have two crew members was also identified as an important objective, and hence government funding was made available to support rural volunteers to receive training. This initiative will support 250 volunteers an annual basis.
- Mr Ryall also announced that the government would provide funding to support the start-up costs for its requirement to register paramedics as health professionals.

Overall, an announcement of additional funding of $48 million over the next four years accompanied the release of New Zealand Ambulance Service Strategy. According to a media release from St John (4 June 2009), the organisation will continue to subsidise its ambulance operations to a level of approximately $10-12 million per annum to maintain current service levels. Funding is raised by St John toward ambulance stations, ambulances, other vehicles and equipment through community sources and donations, as well as health-related commercial services such as First Aid training courses.

According to St John's 2007 submission to the Health Select Committee, a feature of both the MoH and ACC funding of ambulance services is a heavy administration requirement for billing each patient to ACC and in billing and collecting a patient part-charge for medical calls. St John's perspective is that these resource and cost requirements could be avoided if the requirement for part-charges was removed and ACC moved to a bulk funding arrangement (as it has already done for the Emergency Ambulance Communications Centres).

St John and other ambulance groups also face a relatively high administrative burden from submitting regular funding applications. According to grant and donation records, various funding contributions to ambulance services have been made by community trusts, energy trusts, community foundations, Lottery Grants Board and COGS. (Note that, according to correspondence received from the Lottery Grants Board in January 2010, general ambulance and health services are not funded by the Lottery Grants Board). Funding is also received from gaming societies and other sources. The types of items funded from these sources include:

- New ambulance stations, extensions and upgrades, heat pumps, carpets etc (capex).
- New or replacement ambulances (capex).
- Defibrillators, First Aid and other equipment (capex).
- Administrative equipment (eg, computers) (capex).
- Youth leadership and other training courses (opex).
- Health shuttles and vans (capex/opex).
- New member recruitment and training expenses (opex).
- Ambulance officer/paramedic salaries (opex).
- Volunteer costs and other operational expenses (opex).

Collectively, the twelve community trusts contribute more than $320,000 toward ambulance services during an average year. Feedback from the community trusts suggests that they receive funding applications from St John, Wellington Free Ambulance and other largely voluntary services, but do not receive funding approaches from the Taranaki and Wairarapa DHBs (which operate ambulance services in these regions).

Based on St John consolidated financial statements, its total annual income and expenditure is approximately $180 million per annum. However, St John only accounts for 86% coverage of New Zealand's population. Additional funding and expenditure is required to account for the remaining services, namely the ambulance services provided by Taranaki DHB, Wairarapa DHB and the community-owned Wellington Free Ambulance. This additional funding and expenditure is summarised in Table 6. In short, the total sector expenditure for road ambulance services as at 2008/09 is estimated at $220 million per annum.

Table 6: Estimated total annual expenditure on road ambulance services

Service	**Annual expenditure**
(a) St John	$191 million
(b) Taranaki DHB – Emergency and Ambulance Services	$8 million
(c) Wairarapa DHB	Not disaggregated
(d) Wellington Free Ambulance	$18 million
Estimated total sector expenditure	**$220 million**

Sources: (a) St John Annual Report 2009; (b) Taranaki DHB Annual Report 2008/09; (c) Wairarapa DHB Annual Report 2008; (d) Wellington Free Ambulance Annual Report 2009.

The overall finding from this research project in relation to road ambulance services is that, while there have been substantial increases in government funding in recent years, the sector continues to be under-resourced particularly in rural areas.

6.0 AIR RESCUE/AIR AMBULANCE

6.1 Historical development

Rescue helicopters have been introduced since the 1970s to complement New Zealand's largely road-based ambulance sector. One of the biggest arguments used by proponents of air ambulance services is the concept of a 'golden hour', referring to the observation that rapid treatment offers the greatest chances of survival after a severe injury. Consistent with this view, emergency air ambulance services (largely by helicopter) are mostly utilised by ACC claimants.

The use of aircraft to deliver emergency ambulance services has built upon the development of community-based rescue helicopter services, which also undertake search and rescue missions and assist in other non-medical emergency situations. These community-based services have often been driven by passionate individuals who saw a need for the service and set about raising funds. Consequently, there is a high level of community ownership, with community donors and corporate and grant funders being key stakeholders. From a community perspective, rescue helicopters tend to be associated with adventure and excitement compared to road ambulances which are associated with more 'mundane' emergency responses.

6.2 Current services provided

Planes and helicopters can potentially respond more quickly under certain circumstances than road ambulances, but they also have disadvantages. A fixed-wing aircraft can only land at designated airports, limiting their role to inter-hospital transfers with the assistance of road ambulances at either end of the journey. Aircraft can also take significantly longer to activate than road vehicles, are more limited in their ability to operate in adverse weather and at night, and usually require assistance to secure the safety of a landing site (eg, a helicopter would not land directly on a highway until traffic had been stopped). Aircraft are also much more expensive to operate than road ambulances, especially if they are of sufficient size to allow patient care to be maintained. However, winch-equipped helicopters can rescue people from otherwise inaccessible places.

Despite their high public profile, air ambulances are mobilised for only approximately one percent of emergency responses (an average of around 100 responses per operator per annum). The majority of emergencies are responded to by road ambulance providers. Road ambulance providers control both the mode of response and the supply of trained paramedics.

Major aviation assets used by air rescue/air ambulance services as at 2007 are listed in Table 7. Note that the BK117B2 Kawasaki and Sikorsky S76 helicopters are twin-engine aircraft with greater space, weight limits and safety capabilities, whereas the Squirrel, Bell and others are predominantly smaller, single-engine helicopters.

Table 7: Major aviation assets – air rescue/air ambulance services (2007)

Organisation	Location	Type	Number
Northland Emergency Services Trust (Northland Electricity Helicopter)	Whangarei	Sikorsky S76 helicopter	2
Auckland Rescue Helicopter Trust	Auckland	BK117B2 Kawasaki helicopter	1
Westpac Waikato Air Ambulance (Philips Search and Rescue Trust – PSRT)	Hamilton	Bell222B helicopter	1
Waikato Air Ambulance (PSRT)	Hamilton/Taupo	Piper Chieftan aircraft	1
Waikato Air Ambulance (PSRT)	Hamilton	Mitsubishi MU2 helicopter	1
TrustPower TECT Rescue Helicopter	Tauranga	AS350FX2 Squirrel helicopter	1
BayTrust Rescue Helicopter (PSRT)	Rotorua	AS350BA Squirrel helicopter	1
Lion Foundation Rescue Helicopter (PSRT)	Taupo	AS350B2 Squirrel helicopter	3
Philips Search and Rescue Trust (Square Trust)	Taupo	Piper Navajo aircraft	1
Philips Search and Rescue Trust (Square Trust)	Taupo	Mi-8 helicopter	1
Taranaki Rescue Helicopter Trust	New Plymouth	Augusta Westland A119 Koala helicopter	1
Taranaki Air Ambulance Trust	New Plymouth	[Fixed-wing IHT]	1
Eastland Helicopter Rescue Trust	Gisborne	AS350BA Squirrel helicopter	1
Hawke's Bay Helicopter Rescue Trust	Hastings	Cessna 421C aircraft	2
Hawke's Bay Helicopter Rescue Trust	Hastings	Piper Navajo aircraft	1
Hawke's Bay Helicopter Rescue Trust	Hastings	AS350BA Squirrel helicopter	2
Hawke's Bay Helicopter Rescue Trust	Hastings	BK117B2 Kawasaki helicopter (acquired December 2009)	1
Palmerston North Air Ambulance (PSRT)	Palmerston North	AS350B2 Squirrel helicopter	1
Life Flight Trust	Auckland	Fairchild Metroliner fixed wing	1
Life Flight Trust	Wellington	Fairchild Metroliner fixed wing	1
Life Flight Trust	Wellington	BK117B2 Kawasaki helicopter	1
Canterbury West Coast Air Rescue Trust (Garden City Helicopters) – Summit Rescue Helicopter	Nelson	AS350 Squirrel helicopter	1
Canterbury West Coast Air Rescue Trust (Garden City Helicopters) – Solid Energy Rescue Helicopter	Greymouth	AS350 Squirrel helicopter	1
Canterbury West Coast Air Rescue Trust (Garden City Helicopters)	Christchurch	BK117B2 Kawasaki helicopter	2
Canterbury West Coast Air Rescue Trust (Garden City Helicopters)	Christchurch	AS350 Squirrel helicopter	2
Canterbury West Coast Air Rescue Trust (Garden City Helicopters)	Christchurch	Cessna aircraft	2
Lakes District Air Rescue Trust (Heliworks, The Helicopter Line and Glacier Southern Lakes Helicopters)	Queenstown	AS350 Squirrel helicopter	6
Lakes District Air Rescue Trust (Southwest Helicopters and Southern Lakes Helicopters)	Te Anau	AS350 Squirrel helicopter	2
Otago Rescue Helicopter Trust (Lion Foundation Rescue Helicopter)	Dunedin	BK117B2 Kawasaki helicopter	2

Source: Adapted from New Zealand Search and Rescue Secretariat (2007), pp 8-9 and other NZSAR sources, plus correspondence 25 January 2010 with Hawke's Bay Helicopter Rescue Trust and correspondence 7 May 2010 with Life Flight Trust.

There is variation in the mix of missions flown by different types of aircraft. Inter-hospital transfers are the mainstay of fixed-wing air ambulances, although a significant number of missions are flown by twin-engine rotary aircraft. Missions flown by helicopters include a mix of all types of activity. Trauma-related missions are mainly served by single-engine rotary, with twin-engine helicopters tending to do longer missions. Search and rescue operations are a significant activity in terms of flying hours for single-engine helicopters, even though these are only 1% of missions.

Medical emergency cases are most likely to be taken by road to the nearest Emergency Department, stabilised, assessed and, if necessary, transported to the appropriate point of definitive care. When this point of definitive care is a greater distance away than could reasonably be expected to be covered by road, or if the condition of the patient requires it, the most appropriate form of air transport is used. Cases that can be transferred with a nurse assisting would be likely to use a charter fixed-wing aircraft with limited additional medical services. Cases requiring services such as available in an intensive care unit (ICU) would be more likely to be retrieved by a team of specialists from the receiving hospital in a fixed-wing aircraft equipped as a 'flying ICU'. The flying ICU would be dedicated to ambulance work and hence not be able to spread its costs over other activities. The cost to the user of these services is therefore quite different.

According to a 2008 report by the Air Ambulance Reference Group (AARG), there are at least 41 helicopters and 13 fixed-wing aircraft providing ambulance services throughout New Zealand. Of the 41 helicopters, 18 are 'dedicated' for emergency response (ie, available solely for ambulance or other emergency response work). The different types of service provided by air ambulances include primary retrievals (ie, transporting a patient from the scene of an accident to an emergency department), search and rescue missions and inter-hospital transfers. The Life Flight Trust's two Fairchild Metroliner fixed wing air ambulances (one in each of Auckland and Wellington) account for approximately 20% of New Zealand's air ambulance missions each year, moving roughly 1,200 patients. The Auckland air ambulance does almost all of the ICU work for Starship hospital and in doing so is the only truly national air ambulance service in New Zealand.

In addition to emergency ambulance services, helicopters also undertake other emergency missions such as search and rescue and non-medical related emergencies (for example, missions initiated by Maritime New Zealand, Police, NZFS and CDEM groups). Air ambulance services must integrate with PRIME providers, EACCs, Emergency Care Co-ordination Teams, road ambulances, DHBs, air navigation service providers, the Rescue Co-ordination Centre (RCCNZ), and other functions of emergency helicopters and other emergency services.

The majority of missions involving emergency helicopters are dual response, in which a road ambulance or another pre-hospital care service is activated along with the emergency helicopter. Air ambulance statistics cited in the 2008 AARG report identify the following key patterns in air ambulance rescue services in New Zealand:

- Both the North Island and South Island have a pattern of missions following main roads.
- The North Island has high concentrations of missions in Taranaki and the Central Plateau. The Central Plateau concentration appears to be due to ski fields and other recreation-related activities as well as road accidents.
- Northland mission numbers (over 500 per annum) are relatively high.
- The Gulf Islands account for 52% of all air ambulance missions in the Auckland Region, with 40% from Waiheke Island.
- The South Island has a concentration of missions around Canterbury (focused around the population centre of Christchurch).

- There are a significant number of missions in the southwest part of the South Island, but apart from some concentrations around Queenstown, Wanaka and the ski fields, patient locations are widely dispersed and variable between years.

Some inter-hospital transfers can only be realistically done by air. For example, the transfer of a patient from Nelson or Blenheim to Wellington could not be considered via road ambulance utilising the Inter-Island ferry.

Many inter-hospital transfers are conducted in single-engine helicopters, although recent CAA actions in notifying operators and DHBs about the rules for operating these helicopters in built-up areas is seeing the number of transfers diminish over time.

In the majority of regions, the local tertiary and/or secondary hospital is the primary destination for retrievals. For emergency helicopters based in Tauranga, Rotorua and Taupo there are more out-of-region destinations, accounting for 28%, 31% and 40% of missions respectively.

AARG has proposed that a pragmatic and proactive approach to emergency helicopter crewing and service arrangements be implemented (in conjunction with road ambulance providers as the primary source of paramedics), to ensure that:

- Advanced Life Support (ALS) paramedics continue to predominate as the minimum level of clinical care on all primary retrievals.
- There is participation by suitably qualified and experienced doctors in primary retrievals where information indicates that the patient's condition merits this.
- Response times are consistent with the expectation that emergency helicopters undertaking primary retrievals will generally arrive at the scene and provide treatment and/or transportation to definitive care within minutes rather than hours.

Helicopters have relatively high fixed costs which limit the number in use. This is particularly true of helicopters that are of sufficient size to permit patient care in-transit. The number of helicopters, together with the additional time to activate compared to a road ambulance, leads to their use being predominantly limited to areas that are well away from roads and main population centres. These are largely the same areas where limited demand means the establishment of road ambulance stations is not an option.

6.3 Community benefits

The over-arching goal of air ambulance service provision is to obtain the best medical outcome for the patient through rapid treatment and retrieval. Key community benefits from the air rescue/air ambulance sub-sector are implied by the terms of reference of the Air Ambulance Reference Group (AARG):

- Safe, sustainable, cost-effective, appropriate and efficient service.
- Meeting the reasonable expectations and needs of New Zealand's diverse communities.
- Meeting, as best possible, patient needs and targeted patient outcomes.
- Ensuring that appropriate resources are reasonably available for the needs of communities, agencies and organisations involved in SAR and other non-medical emergencies.

AARG has proposed that it is reasonable for the public to expect the following of emergency helicopter services in New Zealand:

- Timely retrieval – Emergency helicopters located and available so as to arrive at the scene and provide treatment and/or transportation to definitive care generally within minutes rather than hours.
- Co-ordinated service response – A single point of contact will initiate a process to ensure appropriate resources and personnel are dispatched to meet the patient's needs as part of a continuum of service (ie, from call receipt through to delivery and care at the appropriate health facility).
- Appropriate clinical care – Suitably qualified, trained and competent clinical crew will be on the aircraft, or otherwise readily available, in sufficient numbers to attend to their clinical needs.
- Suitable transport and equipment – Transport and equipment are fit for purpose relative to the clinical needs of the patient and the operating environment.
- Safe practices and processes – Risks are appropriately managed.
- Quality assurance – Independent verification that all parts of the service continuously meet recognised standards and performance criteria.
- Effective monitoring – Consistent reporting to, and monitoring by, the purchaser on the overall performance and continuing adequacy of the services, and a purchaser who will intervene directly where problems are identified.

6.4 Operational structure

Air rescue trusts and related organisations have been predominantly set up as autonomous local and regional entities. The following charitable trusts and private organisations operate emergency helicopters and/or fixed-wing aircraft to deliver ambulance services throughout New Zealand. Of these, ten operate emergency-specific helicopters.

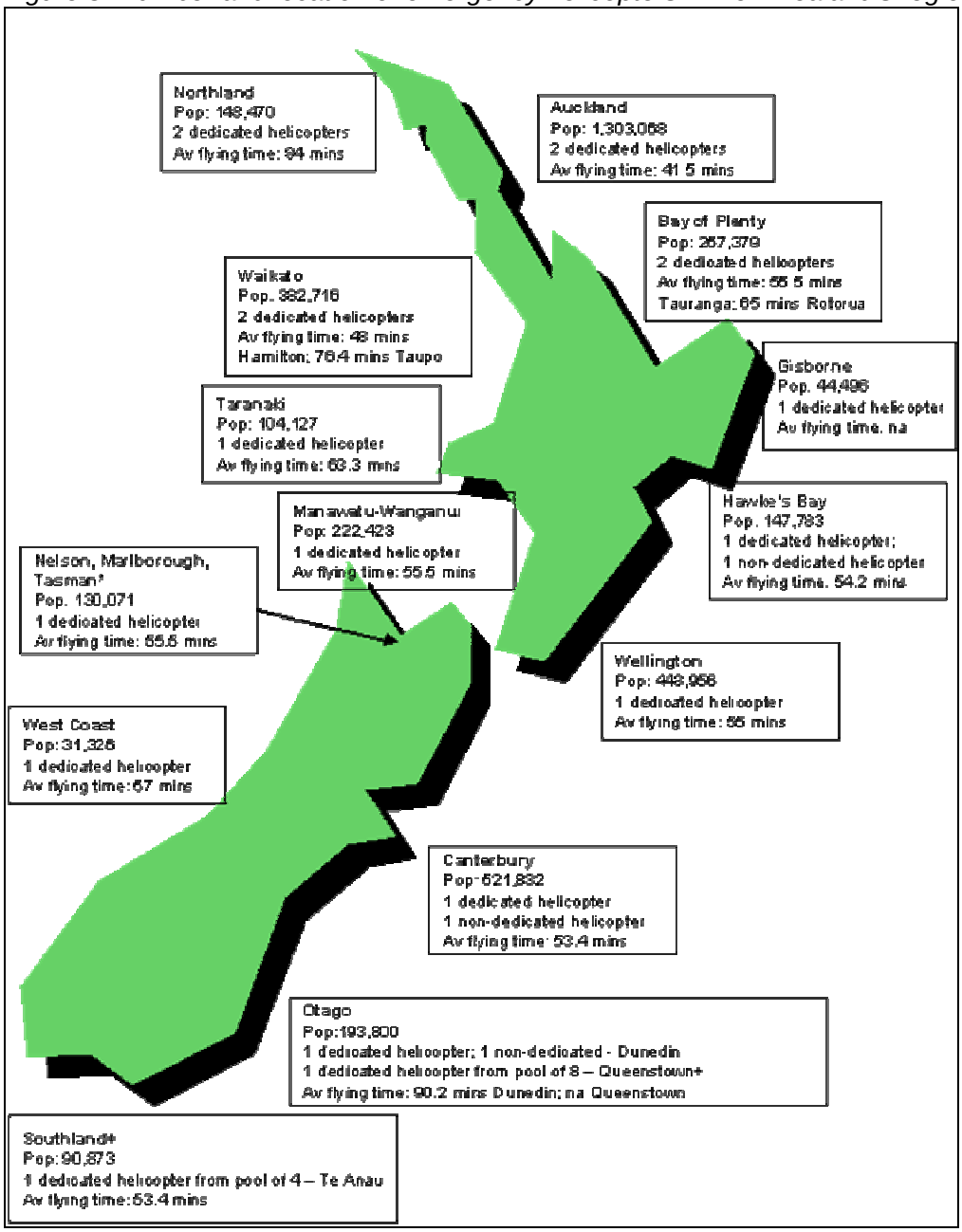
Table 8: Trusts and organisations operating air ambulance services in New Zealand

Charitable trusts	Private operators
- Northland Emergency Services Trust - Auckland Regional Rescue Helicopter Trust Inc - Philips Search and Rescue Trust (Hamilton, Tauranga, Rotorua, Taupo, Palmerston North) - Taranaki Rescue Helicopter Trust - Eastland Helicopter Rescue Trust - Hawke's Bay Helicopter Rescue Trust - Life Flight Trust - Nelson Marlborough Rescue Helicopter Trust - Canterbury West Coast Air Rescue Trust - Lakes District Air Rescue Trust - Otago Rescue Helicopter Trust	- Air Hawkes Bay Ltd - Air Wanganui (IHT only) - Garden City Helicopters Ltd - Glacier Southern Lakes Helicopters - Helicopters Otago - Helicopter Leasing New Zealand Limited - Heliworks Ltd - Skyline Aviation (IHT only) - South West helicopters - Southern Lakes - The Helicopter Line

Source: Air Ambulance Reference Group (2008), p22 and additional sources.

Figure 8 shows the number and location of emergency helicopters based on regional council boundaries. Information is also provided on each region's population and the average flying time for primary missions.

Figure 8: Number and location of emergency helicopters in New Zealand's regions



Source: Air Ambulance Reference Group (2008), p23.
Notes:
** Nelson, Marlborough and Tasman have been combined as one region.*
+ Southland/Otago has a pool of emergency helicopters that are rostered on as the dedicated emergency helicopter, to provide a 24x7 service.

Key decisions affecting the speed of response, the appropriate ambulance service in terms of skill level, and whether to respond by road or by air, are largely taken by ambulance control centres. As these decisions have a direct influence on the income of competing ambulance providers, the objectivity and neutrality of those decisions is critical to the sustainability of the air ambulance sector. Search and Rescue co-ordinators may also initiate air responses, sometimes with vehicles that may not be ideal for ambulance work, but these may result in a claim to ACC for an ambulance transport.

One of the issues of concern for community trusts is the complex geographic arrangement of air rescue helicopters, including cross-boundary servicing (eg, Rotorua, Tauranga and Hamilton). There is a question over whether there is duplication of services and over-capacity. In its 2008 report to the Ministers for ACC and Health, the Air Ambulance Reference Group (AARG) made no recommendations about the location of emergency helicopter bases, or whether aircraft should be dedicated to ambulance and/or other emergency services. However, it did recommend establishing a lead Crown funder and undertaking a medium to long-term funding needs analysis and funding plan for both government and community funding streams. The National Ambulance Sector Office (NASO) was subsequently established as a joint venture of the Ministry of Health and ACC. NASO aims to help foster a consistent, national direction for New Zealand's ambulance services and co-ordinate funding from the main funding agencies.

6.5 Regulatory environment

In the absence of any specific legislation covering the means by which ambulance services are organised, funded and provided, the New Zealand Standard for Ambulance Services (NZS 8156) was introduced in 2002 as a first attempt at providing a national benchmark for all ambulance providers. The Standard covers equipment and transport safety, service and crewing capability, emergency ambulance communications centres, management practices, consumer rights, and risk management processes.

NZS 8156 (as amended) establishes guidelines for the provision of services that are safe, reliable and efficient. As yet, Life Flight is the only air ambulance / rescue service with this certification and we have been so for almost two years. In its 2008 report to the Ministers of ACC and Health, AARG proposed (subject to any other relevant legal requirements) that NZS 8156 should be the primary Standard for emergency helicopter services, particularly for clinical requirements. AARG also proposed that the inclusion of paramedics under the Health Practitioners Competence Assurance Act 2003 be treated as a matter of priority by the Ministry of Health.

AARG also recommended that the Aviation Industry Association Air Ambulance/Air Rescue Division Standards Manual should be the primary standard for aviation requirements relating to emergency helicopters, provided that the Crown (including the Civil Aviation Authority) agrees to the contents of the Manual prior to publication. The minimum proposed acceptable aviation safety requirements are the relevant Civil Aviation Authority (CAA) Rules.

6.6 Sector-wide strategies

Air ambulance services in New Zealand have been the subject of a number of reviews over the past decade. The sub-sector involves a large number of stakeholders, many of whom have diverse interests. The existing national response to emergency medical incidents has a foundation in the Ministry of Health's 1999 'Roadside to Bedside' proposal, which suggested the establishment of regional networks of health providers to ensure the quickest possible access to the most appropriate place of care.

During the period 2004/05 to 2007/08, a proposed National Air Ambulance Strategy foundered, apparently due to community concerns about prescribing where emergency helicopters should or should not be based (as opposed to setting standards and guidelines against which providers can base their own decision-making). In its 2008 report to the Ministers for ACC and Health, AARG noted that the absence of any over-arching funding strategy for both government and non-government funding has the potential to increase costs and reduce the sustainability of services. AARG felt there was a need for a national strategic direction for the entire ambulance sector, encompassing road, air and sea ambulances. "Continuing to address components of the ambulance sector in isolation will make it more difficult to achieve a sustainable, cost-effective and efficient national ambulance service".

While the AARG project did not deliver an 'ultimate solution' for emergency helicopter services, or ambulance services generally, it did help clarify many of the issues and what needs to be done to ensure future success. Of particular significance were proposals to:

- Establish a lead Crown funder and a representative sector advisory group.
- Undertake a medium to long-term funding needs analysis and a long-term funding plan for both government and community funding streams.
- Introduce parallel contracting arrangements for primary retrievals and inter-hospital transfers as the first step toward fully co-ordinated Crown (including DHB) contracts for all emergency helicopters and fixed-wing ambulance services.

Other proposals supported the development of a national framework with a clear purpose, principles and service expectations including national standards and protocols. The AARG report proposed the following principles to guide emergency helicopter service design and delivery, and the ongoing implementation of other proposals:

- Equitable – Service provision is fair, reasonable and impartial in all circumstances.
- Safe – Patients, clinical staff and air crew are safe throughout the service from medical, workplace and transport perspective.
- Consistent – All organisations and personnel involved in the service apply the agreed minimum standards and follow agreed operating procedures to ensure national consistency, recognising issues with particular operating environments affected by geography, distance, climate, etc.
- Auditable – Data is identified, collected and available centrally to support and inform a quality management framework that enables funders, purchasers and service providers to monitor the service against agreed standards and ensure continuous improvement
- Interoperable – Through the use of common techniques and, where appropriate, equipment, to enable emergency helicopters to work effectively with other air and road ambulances, hospitals, PRIME practitioners and other emergency service organisations.

- Sustainable – Governance, funding and service delivery model are operationally sustainable for the medium to long term (15–20 years).
- Transparent – Funding and purchasing responsibilities are clear and enable accountability for the outcomes of the specified service against requirements through the governance process.
- Cost-effective – The ability to deliver outcomes expected of the service while also providing value for money.
- Efficient – The service meets the operational and clinical goals using the minimum of resources required.

According to a media response by St John (18 July 2008), the road ambulance organisation largely agreed with the AARG report's findings and recommendations. Comments from St John Chief Executive Jaimes Wood were that: "We believe it is important that air ambulance services in New Zealand are rationalised to ensure New Zealanders are receiving the most efficient and cost-effective service for the investment by taxpayers and donors. Air ambulances are a vital part of the ambulance sector but should be dispatched based on the clinical needs and situations of patients. Public expectation for air ambulance has been driven to unrealistic heights. The resulting total economic cost to New Zealanders is disproportionate to needs or requirements, particularly when compared to road ambulance patient numbers and funding."

6.7 Current challenges and barriers

Funding is an ongoing challenge for air ambulances due to their relatively high capital and operational costs. Accident retrievals tend to be charged at a higher hourly rate than other types of mission, with medical retrievals having a lower hourly rate. The ACC average hourly rate for emergency helicopters is approximately $2,500. For helicopters, fixed costs are about $500,000 per annum and variable costs $1,500 per hour for single-engine aircraft and about $2,200 per hour for twin-engine aircraft. Fuel costs are expensive at around 300 litres per hour. Additional costs are incurred through the need for specialist medical crews, pilots and intensive care equipment. According to a 2004 report compiled by the Ministry of Health, even the busiest helicopters are not breaking even on the ACC hourly charge rates or average DHB rates, as they are not sufficiently well-used. A similar argument can be applied regarding the use of fixed-wing aircraft.

The indicative capital cost for an emergency helicopter can range from $2 million to $4 million or more. The likely future cost of aircraft (or upgrades) is even higher to keep up with technological advances and aviation safety standards, with the likelihood of increased operating costs arising from bigger aircraft. According to interviews with some air rescue operators, there is a trend toward requiring performance twin-engine helicopters rather than single-engine helicopters in order to: (a) provide for greater safety (eg, in case one engine fails while flying or landing in an urban area), (b) provide greater space for paramedics to access and treat patients during the flight, (c) allow for an increasing number of obese patients needing transport.

As part of this research project, clarification was sought from the CAA about the move toward twin-engine helicopters. In response, CAA noted that existing rule provisions are generally not being met by rescue helicopter operators. In particular, Part 91.127(3) of the Civil Aviation Rules states that: "… unless the helicopter is a performance Class 1 helicopter, any place used as a heliport or as a place to hover has such approach and take-off paths that an autorotative landing can be conducted without causing a hazard to any persons or property on the surface". A Class 1 helicopter is defined as being able to land or continue flying in the case of a critical power-unit failure. Hence, a helicopter with just one engine cannot be considered a Class 1 helicopter. (There

are also some twin-engine helicopters that would not be considered Class 1 under some operating conditions). The rules do not differentiate between aeromedical service providers and any other type of operation.

During 2008/09, the CAA identified that its rule provisions were not being met in many instances. While there is limited provision for a pilot to breach certain requirements for the purpose of saving lives, the conditions under which those breaches may take place were being ignored in the case of routine non-critical medical flights into helipads in urban areas. Accordingly, in February 2009 the Director of Civil Aviation wrote to all certificated helicopter operators requesting a response as to how each operator was complying with the legislation. More recently, the CAA has issued a further letter to all DHBs regarding their use of helicopter service providers and has emphasised that each DHB has a responsibility to ensure that their helicopter emergency service provider (whether flying primary rescue missions or inter-hospital transfers) must comply with Performance Class 1.

Further to the above issue, feedback was received from NASO as follows (correspondence 6 April 2010):

(a) The ACC contract with rescue helicopter services expires on 30 June 2011. No decisions have yet been made regarding Crown agency requirements from 1 July 2011. NASO is in the process of developing a briefing paper to the Ministers with an outline of the proposed purchasing strategies for emergency ambulance services. Once these have been confirmed, NASO staff will begin work on developing service specifications in consultation with the emergency ambulance sector.

(b) The twin-engine versus single-engine debate is a long standing one. The ambulance and paramedical services standard NZS8156:2008 includes clinical requirement for air ambulance, but does not include 'front of aircraft'. That is being addressed in the development of a joint Aviation Industry Association/Ambulance NZ standard.

Another concern for the rescue helicopter sector is the level of uncertainty around ongoing corporate, community and government funding for air ambulances. The development of air ambulance services in New Zealand continues to be driven largely by local/regional expectations. There is no universal agreement over service and safety standards, the most appropriate funding and contracting arrangements or the best options to achieve patient-related outcomes. This leads to continual debate over such matters as suitability, utilisation and cost-effectiveness.

From the perspective of St John (from its 2007 submission to the Health Select Committee), there are a number of issues of concern around the use of air ambulances. Activation of an aircraft needs to be based on the needs of the patient and circumstance of the emergency. The conflict between patient need and economic considerations is a source of tension within the wider ambulance sector. The drive for higher utilisation (and hence a lower cost per patient) is within a context of at least $40 million per annum cost of current air ambulances to deliver approximately 1% of patients, compared with a $98 million cost to deliver road ambulance services to the 86% of population serviced by St John. St John has concluded that the “resulting economic cost to New Zealanders is disproportionate to needs or requirements”.

In early 2008, AARG reported back to the Ministers for ACC and Health on a framework for the provision of air ambulance/emergency helicopter services. The focus of the report was on primary retrieval missions by emergency helicopters, rather than secondary transfer missions between

hospitals. Page 6 of the report lists a number of issues that AARG identified as warranting further considerations, including the following:

- The current mix of standards, contract requirements, service guidelines and protocols do not provide clarity about desired outcomes, or the flexibility needed to ensure appropriate and cost-effective emergency helicopter services throughout New Zealand.
- The range of stakeholders, funders, service provider structures, multiple roles of aircraft and lack of any over-arching strategy for emergency helicopters and related ambulance services constrains central government and sector's ability to adequately plan for the future to meet the needs of communities throughout New Zealand.
- The short-term nature of the funding and contracting environment, variability of cost structures and funding mechanisms and absence of any over-arching funding strategy for both government and non-government funding, has the potential to increase costs and reduce the sustainability of the services. There is considerable potential for cost savings if local and wider regional purchasing decisions were made within a wider national context.
- Despite previous reviews of the sector, there is still an absence of consistent and reliable data on which to base long-term planning, investment and service specification decisions.

While its report focused on emergency helicopters, AARG also noted there would be significant benefits in adopting a whole-of-sector approach to funding, planning and policy processes for all ambulance services. "AARG's discussions have highlighted that many of the issues faced by the emergency helicopter services are also faced by the wider ambulance sector".

Overall, the AARG report noted many positive aspects of emergency helicopter services in New Zealand and did not consider the services to be 'broken'. However, the group did acknowledge there was room for improvement and further development of emergency helicopter services as part of developing a fully integrated national ambulance service. "Without some collective action to address these issues, appropriate and efficient emergency helicopters will not be sustainable throughout New Zealand in the medium and long-term". The subsequent establishment of the National Ambulance Sector Office (NASO) will go at least partly toward resolving these issues.

6.8 Volunteer levels and trends

Due to their specialist nature, air ambulance services are not reliant on volunteers. ALS paramedics predominate as the minimum level of clinical care.

6.9 Funding

The funding model for air ambulance is markedly different from that of road ambulance services, which derive the majority of their funding from central government. Funding for air ambulance services comes from a wide range of sources as shown in Table 9. Air ambulance services tend to attract more funding from community support and corporate sponsorship than from central government. In terms of government funding, accident retrievals are generally charged at a higher hourly rate than other types of mission, with medical retrievals having a lower hourly rate. Total annual revenue reported by the eleven operators that responded to a 2007 survey was $34.7 million, of which 45% was from the Crown (ACC, Ministry of Health, DHBs and other government sources) and 50% was raised through sponsorships, grants and donations.

Table 9: Air ambulance funding (based on survey results)

Funding source	Total revenue ($m)	Proportion
Sponsorship and grants*	8.7	25%
Donations*	8.5	25%
DHBs	8.8	25%
ACC	5.4	16%
Ministry of Health/St John	0.8	2%
Other government	0.8	2%
Commercial	0.5	1%
Other	1.2	3%
Total	**34.7**	**100%**

Source: Air Ambulance Reference Group (2008), p28.
*Note: * Only applies to emergency helicopters.*

Corporate sponsors are often highly appreciative of their association with emergency helicopters. Excluding fixed-wing aircraft providing ambulance services, the bulk of revenue for emergency helicopters is from donations, grants and sponsorships (59%), followed by Crown funding (17%), ACC (17%) and other funding sources (7%) (refer Table 10).[2] Individual rescue helicopter trusts face the challenge of raising community donations and sponsorship to cover anywhere between $400,000 and $4 million per year each to cover the unfunded fixed costs of service provision and to update emergency and life support equipment. By comparison, the bulk of revenue for fixed-wing aircraft is from DHBs for inter-hospital transfers (82%), followed by ACC for inter-hospital transfers made within 24 hours (10%).

Table 10: Emergency helicopter funding (based on survey results)

Funding source	Total revenue ($m)	Proportion
Donations, grants and sponsorships	17.25	59%
Government – Medical primary missions	0.84	3%
Government – DHB inter-hospital transfers	4.01	14%
ACC – Accident primary missions and inter-hospital transfers	4.84	17%
Other government (rescue and non-medical emergencies), commercial and 'other'	2.00	7%
Total	**28.94**	**100%**

Source: Adapted from figures cited in Air Ambulance Reference Group (2008), p28.

Corporate sponsors

A review of the websites of rescue helicopter trusts reveals that corporate sponsors tend to include local media (newspapers and radio stations), gaming trusts, energy companies and other major industry representatives, community trusts, Lottery Grants Board, service clubs (eg, Lions, Rotary), car dealers and other local businesses. A common sponsor across many rescue helicopters is Westpac bank, which runs an annual national Chopper Appeal. Westpac has naming rights on the Auckland, Hamilton, Wellington and Christchurch rescue helicopter services, and is an associate sponsor of the West Coast, Tauranga, Taupo, Palmerston North and Rotorua rescue helicopter trusts. During 2009, Westpac raised $1,133,562 toward the Westpac Rescue Helicopters. This was the first time the appeal raised more than $1 million since it started five years ago.

[2] Alternatively, based on earlier survey figures, the Ministry of Health's 2004 Ambulance Services Sustainable Funding Review report (p4) suggests that direct Crown funding for emergency helicopter services amounts to around 15% of total revenue, mostly from ACC fee-for-service payments.

Key issues relating to funding, contracting and sustainability

In early 2008, the Air Ambulance Reference Group (AARG) reported back to the Minister for ACC and the Minister of Health on a framework for the provision of air ambulance/emergency helicopter services. Page 5 of the AARG report states that: "To date the sector has maintained an excellent aviation safety record and good relationships with primary funders (community and corporate donors, sponsors and grant funding organisations) and service providers. These relationships have enabled the sector to secure the significant funding needed for the aircraft, equipment, personnel and other aspects of the services that are not fully funded by the Crown".

Key issues relating to funding, contracting and sustainability of air ambulances are summarised in Table 11. In short, the total cost and economic efficiency of the current funding model cannot be accurately determined due to incomplete and inconsistent data.

Table 11: Key issues relating to contracting and funding of air ambulances

Type of funding	Issues
Community and corporate	- The sustainability and adequacy of corporate sponsorship and community donations is uncertain. - Reliance on gaming income may be subject to change. - Grant funding is often tagged to activities that provide region-specific benefits (ie, not national services). - Lack of transparency about the cost of fund-raising and sponsorship. - Lack of transparency about how public donations are used.
Contracting	- Potential for conflicts of interest. - Annual contracts and the absence of assured capacity funding do not provide sufficient certainty for capital investment decisions. - Significant transaction costs for all parties due to multiple contracts and service arrangements. - Geographic locations and community size need to be reflected in any national funding model to ensure viability of services.
Crown funding	- Inconsistent funding mechanisms for accident (fee-for-service) and medical (bulk-funding) primary retrievals, leading to different dispatch approval processes. - The Crown and ACC approach to purchasing relies on community and corporate sponsorship to fund the capital costs of purchase and upgrades. - ACC possibly under-funds accident retrievals. - Bulk-funding by the Ministry of Health (via third parties) does not cover the actual cost of medical air ambulance work. - Relatively small contribution by the Crown and ACC to total revenue gives the sector grounds to resist attempts to direct or influence the development of services that may lead to cost increases.

Source: Adapted from text in Air Ambulance Reference Group (2008), pp 32-34.

According to a 2004 funding review of ambulance services by the Ministry of Health, the provision of corporate and other sponsorship has meant there is "a larger number of air ambulance providers operating at a lower level of activity than would otherwise be viable. It also means that there is a wide range of quality of service in this area with limited ability for the Crown or ACC to push for improvements". A feature of the air rescue sector is that there is considerable variation in the scale and frequency of operations from region to region.

Looking ahead – a more strategic approach to funding

The New Zealand government's mandatory rules and guidelines require an open tender process for the procurement of Crown-funded emergency helicopter services. The 2008 AARG report proposed that:

- Emergency helicopter services should continue to be funded by both government and non-government funders.
- Government funding should be centrally pooled or at least much better co-ordinated, and non-government funders should also consider how they can better co-ordinate their funding.
- Government funding should be provided on the basis of partial capacity funding and full activity funding for the agreed minimum service level.
- The lead Crown funder should commission a medium to long-term funding needs analysis. On completion of the analysis, the lead Crown funder should develop a medium to long-term funding plan to inform budget setting processes. This should include anticipated cost increases due to advances in technology and safety requirements. The medium to long-term government funding plan should: (a) specify the proportion of capacity funding to be provided by the government and non-government funders; (b) specify the contributions to be made by different parts of government; (c) indicate the level of increases (if any) of those contributions over time necessary to meet anticipated cost increases; and (d) be in place and ready for implementation as soon as practicable.

In announcing the release of the Ambulance Strategy 2009, Health Minister Tony Ryall highlighted a number of recent funding commitments by the government, including more funding for the air ambulance sector to address shortfalls in the current economic climate. NASO is in the process of considering air ambulance services contracts which expire in 2011. Since the AARG report, the Auckland Regional Amenities Funding Act 2008 has also been passed into legislation. This established a mechanism to provide secure funding for specified major arts, education, rescue and community facilities and services in the Auckland Region, including for example the Auckland Regional Rescue Helicopter Trust (costing $1.5 million per annum), Coastguard Northern Region ($0.5 million) and Surf Life Saving Northern Region ($0.7 million).

Grants and donations

According to grant and donation records, various funding contributions to ambulance services have been made by community trusts, energy trusts, Lottery Grants Board and COGS. Approximately 5.5% (ie, $1.3 million) of Lottery Outdoor Safety funding contribution to search and rescue over the past few years has been toward air rescue services in the regions. Note that only costs associated with search and rescue are funded by Lottery Grants Board. General air ambulance services and patient transfers services are not funded. Funding may also be received from gaming societies and other sources. The types of items funded from these sources include:

- Equipment purchase, upgrades and maintenance (capex).
- Purchase of new helicopters (capex).
- Construction and extension of aircraft hangars (capex).
- Annual operating expenses, including pilots' wages, insurance, flight crew training, interest on loans, etc (opex).

Collectively, the community trusts contribute more than $680,000 toward air rescue/air ambulance services during an average year.

7.0 SURF LIFESAVING

7.1 Historical development

New Zealanders have access to a wide range of water environments, including surf beaches. However, a negative consequence of this tradition is that more than 100 people drown in New Zealand every year and many hundreds are hospitalised as a result of water-related injuries (including beach-related and other forms of drownings and injuries). In the early years of the 20th century, the New Zealand Amateur Swimming Association (NZASA) undertook limited amounts of life saving activity by promoting resuscitation methods and providing demonstrations at swimming club carnivals. The Royal Life Saving Society (RLSS) was formed in 1912, around the time the first surf lifesaving clubs began. Soon afterwards, local and regional competitions were established between clubs. Throughout subsequent years, surf lifesaving in New Zealand has continued to grow. There are now close to 80 surf clubs operating.

7.2 Current services provided

Marine search and rescue (including Surf Life Saving New Zealand and the New Zealand Coastguard) is the largest segment of New Zealand SAR sector. The purpose of surf lifesaving is to protect people from drowning and injury at surf beaches. Surf lifesaving clubs patrol designated beaches, with areas identified by yellow and red flags. There are approximately 180 inflatable rescue boats (IRBs) used by surf lifesaving clubs throughout New Zealand. All SLSNZ IRBs are equipped with oxygen packs and defibrillators. Individual clubs also have equipment for training and competitions as well as for lifesaving activities.

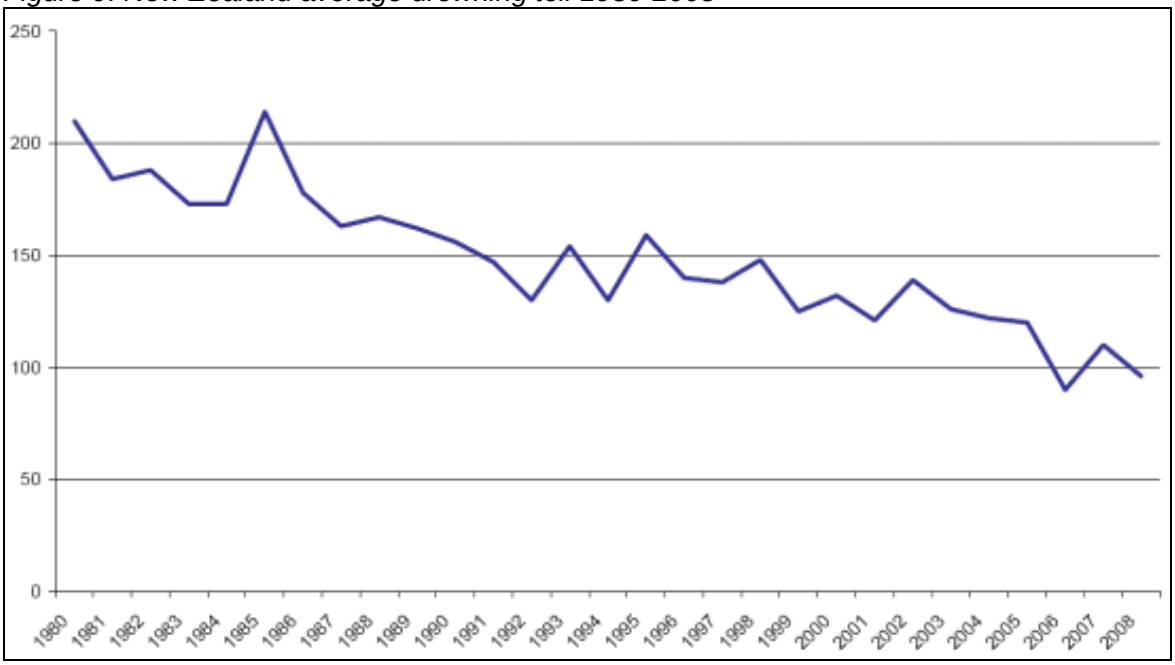
Surf lifeguards perform more than 2,000 life saving rescues and approximately 100,000 preventative actions on local beaches each year. The competition and training elements of surf lifesaving clubs help to promote youth development, fitness, camaraderie and long-standing affiliations with local beachside communities. In addition to lifesaving services, surf clubs also often rent out their clubhouses for social gatherings for a rental fee.

Surf lifesaving is both a sport and a community service. To participate in either facet, it is necessary to be a member of a surf lifesaving club and to have the 'entry level' qualification, the Surf Lifeguard Award. Sport events are held at the club, district and national levels, and in different age categories (Under 14, Under 19 and Open). Events span the range of rescue skills and test competitors' strength, fitness and agility in swimming, running, paddling a surf ski, board or canoe, or rowing a surf boat. Racing IRBs is an increasingly popular part of the sport.

7.3 Community benefits

According to information on the Water Safety New Zealand (WSNZ) website, drowning is New Zealand's third highest cause of accidental death (following traffic incidents and falls). Annual drowning statistics peaked at 214 in 1985 and today are around 110-130 per year. Much of the improvement over the past 25 years can be attributed to the success of initiatives to raise awareness of water safety as an important social issue. According to WSNZ, the improved delivery of targeted educational initiatives has also contributed. Nevertheless, compared with other OECD countries, New Zealand still has one of the highest rates of drowning. Twice as many New Zealanders per capita lose their lives annually through drowning compared to Australia.

Figure 9: New Zealand average drowning toll 1980-2008



Source: Water Safety New Zealand website (accessed 9 December 2009).
Note: Includes all incidents of drowning (not just those occurring in coastal areas).

Drowning affects all age groups, but particular groups are more vulnerable. Pre-school children are constantly at risk if not appropriately supervised. Amongst adults, males aged 18-35 dominate the drowning statistics, partly due to an increased likelihood of participating in risky activities. Almost 80% of all drownings are male victims. For every drowning fatality there are also approximately eight near-fatal drowning incidents.

WSNZ has analysed its database of drowning incident information to produce a range of Fact Sheets. Key figures in relation to surf lifesaving-related incidents are contained in Table 12, which shows there are approximately 16-26 beach drownings each year. Supplementary information shows that 25% of all drownings in New Zealand occur at beaches; 84% of beach drowning victims are male; 12% of beach drownings involve alcohol; and 70% occur while participating in a recreational activity such as swimming, water sports, land-based fishing or underwater activities.

Table 12: Drownings at New Zealand beaches 2004-2008

Environment	2004	2005	2006	2007	2008	Total
Calm water beach	6	6	1	-	1	**14**
Rocky foreshore	11	9	6	3	9	**38**
Surf beach	9	8	13	15	6	**51**
Total	**26**	**23**	**20**	**18**	**16**	**103**

Source: Water Safety New Zealand website (accessed 9 December 2009).

Throughout the compilation of this research report, various comments were made by stakeholders regarding a common perception that the average level of water safety/swimming skills had been declining over time, especially for certain sectors of the population (eg, Pacific Islands and Asian ethnic groups). According to feedback received from Surf Life Saving New Zealand, there have been some studies around declining swimming skills but there is no established benchmark for the measurement of swimming capability. Anecdotally, swimming lessons continue to be fully subscribed. In summary, New Zealand has a relatively high average level of drownings per annum compared to some other countries, but there is no strong confirmation that the level of water safety/swimming skills has necessarily been trending downward.

7.4 Operational structure

SLSNZ is the national association that oversees surf lifesaving in New Zealand. Its strapline, 'In it for life', emphasises the long-lasting relationship that many members have with the organisation, and also alludes to the organisation's mission of preserving life by preventing drowning. SLSNZ represents 72 surf lifesaving clubs and 15,000 individual members. The SLSNZ Governance Board comprises six people. The Board employs the Chief Executive (CEO), who delivers an annual management plan to support the Board's strategies.

SLSNZ is currently restructuring during the 2009/2010 season. The national association and nine District entities are effectively being merged, with a target date for completion by 30 June 2010. Previously, the organisation had a cascading structure with each of the nine regional bodies being a separate legal entity. The status and structure of individual surf lifesaving clubs will not be affected by restructuring of the regional and national entities, and members of surf lifesaving clubs will continue to automatically be a member of SLSNZ. At the end of the 2009/10 transition, SLSNZ will have established four offices nationwide (Auckland, Tauranga, Wellington and the South Island) from which staff will operate. Their role will be to support the SLSNZ CEO through the delivery of a management plan in their specific portfolio.

SLSNZ is not to be confused with a related organisation, the Royal Life Saving Society of New Zealand (RLSS), a voluntary organisation that teaches lifesaving techniques. The mission of RLSS includes lobbying for free access for all children to basic survival, rescue and swimming skills in order to ensure their own and others' safety. The organisation's vision is to educate every New Zealander to be safe in, on and around water, and to render assistance to others who may be in difficulty in an aquatic environment. Through publicity, demonstrations, competitions and other events, RLSS attempts to increase awareness of safety in an aquatic environment.

7.5 Regulatory environment

Surf lifesaving is unregulated apart from health and safety and other standard legislation.

7.6 Sector-wide strategies

The SLSNZ Board is currently leading an organisational redevelopment project known as Project Groundswell, which was voted through at the Surf Life Saving AGM in September 2009. While surf lifesaving currently enjoys a high level of success, SLSNZ is seeking to achieve a vision of being 'New Zealand's leading aquatic essential service', and ultimately to ensure sustainability and relevance of surf lifesaving clubs throughout New Zealand into the future. The project involves looking closely at the structure of the organisation, being more efficient, removing duplication and creating a better team culture. Part of SLSNZ's motivation is to ensure that clubs have the right tools and equipment for the job, receive quality training, support and development, and are less bureaucratic over the long term.

As part of the organisational redevelopment, SLSNZ will seek to ensure all clubs and Districts are functioning efficiently and effectively and are committed to a 'one organisation' approach. Strategic initiatives include establishing a new national/regional organisational structure (note: this will not affect individual clubs), providing Districts and clubs with governance and management support to enhance their performance, and developing means of streamlining administrative processes. Club and District chairs are receiving regular communication about the project from SLSNZ to share with their respective committees/boards.

In parallel with the ongoing work of SLSNZ, Coastguard and others, WSNZ is implementing a Regional Water Safety Education Strategy designed to reduce the incidence of drowning in New Zealand. This involves leading and developing region-specific water safety education initiatives, with all regional strategies developed through a forum process. Regional forums are facilitated on a quarterly basis. Details of each of the regional strategies can be downloaded from www.watersafety.org.nz. SLSNZ is taking a comprehensive approach to drowning prevention, comprising: (1) education, (2) environment management in unattended areas (eg, water safety signage), (3) increasing survival swimming capability and (4) beach patrols.

ACC has also adopted a comprehensive Drowning Prevention Strategy 2005-2015, which can be found on the WSNZ website. One of the objectives of the strategy is to provide quality water safety education and awareness throughout New Zealand. Areas for action that have been identified to help achieve this include:

- Enhancing existing water safety education programmes and developing new programmes.
- Promoting learning to swim and water confidence as core life skills.
- Working with the education sector to facilitate and support the learn-to-swim component of the health and physical activity curriculum.
- Ensuring New Zealanders have the opportunity to achieve a minimum level of water safety knowledge and skills.
- Reviewing the water safety qualifications, certificates and awards available to the public and developing new qualifications where they are most needed.
- Undertaking water safety public awareness initiatives with priority groups and across environments and water-related activities.

- Supporting training opportunities for educators, instructors and coaches involved in water safety education and awareness programmes and implementing systems to support programme delivery.

7.7 Current challenges and barriers

Challenges and barriers facing the surf lifesaving sector revolve primarily around funding and volunteerism. A sample survey of individual surf lifesaving clubs and SLSNZ regions identified current challenges, barriers and issues as follows:

- Fundraising is difficult, particularly for operational costs (eg, patrol expenses, administration and maintenance costs) and replacement equipment (eg, due to fire or theft), and because filling in funding applications requires certain skills.
- Difficult to plan ahead due to uncertainty of funding and a reduction in funding availability (eg, from gaming trusts).
- Recruiting and retaining club members is difficult, particularly in the 20+ age group.

While the total number of drownings in New Zealand is relatively low, annual increases can stir a community outcry. According to the WSNZ website (accessed 9 December 2009), the national drowning toll stood at 90 as at 3 December 2009, compared with 89 at the same time last year. Regardless of year-to-year figures, there is widespread community concern that the closure of school pools due to funding constraints means that fewer children are learning to swim. WSNZ research from 2008 reportedly showed that one-quarter of Year 6 pupils were unable to swim 25 metres or tread water. Profile information on the WSNZ website states that in 2008, just one in five 10-year-olds could swim 200m (the benchmark that WSNZ considers necessary to swim and survive in the water) and that other lesser measurements of children's swimming skills are down on average by 10% on comparable data from 2001. In response to school pool closures, schools are increasingly using public swimming pool facilities, although the increased travel time can be inconvenient. In turn, some councils are taking an increasingly active role in swimming education and ensuring that access to public swimming pools is affordable.

7.8 Volunteer levels and trends

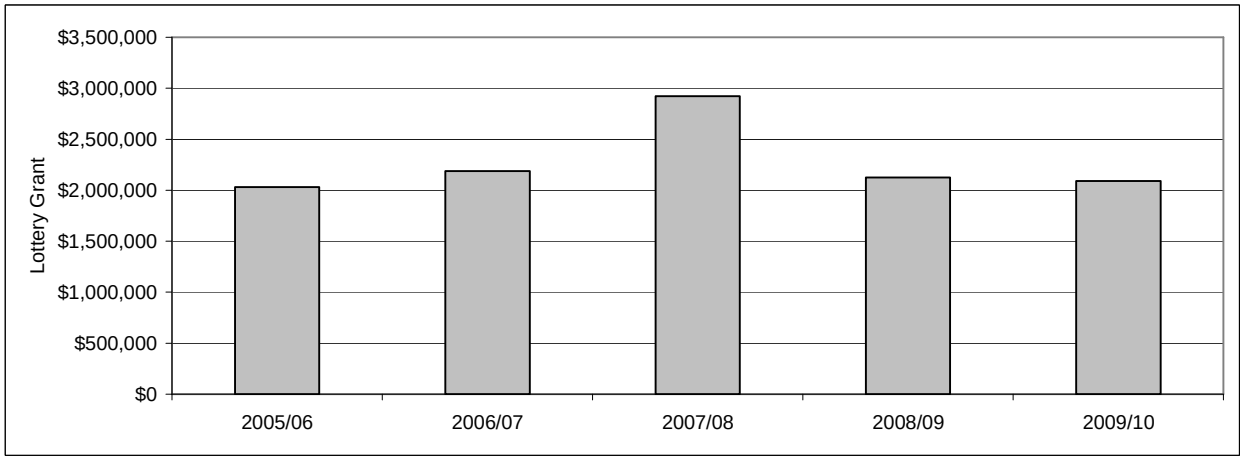
Numerous volunteer lifeguards patrol beaches and work with the public each summer to prevent people getting in trouble. Volunteers perform more than 100,000 preventative actions during 150,000+ hours of beach patrols every year. According to recent SLSNZ statistics, approximately 15,000 surf lifesaving volunteers give up their free time each summer to keep New Zealand's beaches safe. SLSNZ estimates that for every hour worked by one of its volunteer lifeguards, at least another hour is provided by instructors, supporters and coaches. With more than one-third of SLSNZ's members being under 14 years of age, hanging onto experienced volunteers as they grow up is an ongoing challenge.

7.9 Funding

Surf lifesaving is almost entirely volunteer-driven, with 100% of revenues coming from fundraising, donations, grants, member subscriptions, bar/canteen sales and other sources. Surf lifesaving relies on the generosity of individuals and businesses for funding. Coastal property development, increased popularity of the New Zealand coastline for recreational purposes, and the increasing costs of rescue equipment and training are stretching the sector's resources.

SLSNZ's head office income is around $6m a year, derived from sponsorship, gaming trust grants and New Zealand Lottery Grants Board sponsorship, as well as from individual donations. As a principal funder of surf lifesaving, the Lottery Grants Board's Outdoor Safety Committee granted SLSNZ approximately $3 million in 2007/08. This fell back to previous levels in 2008/09, to approximately $2.3 million. The Lottery grant to SLSNZ has increased in recent years, up from approximately $2 million in 2005/06. After adjusting for inflation, this equates to an increase of 4.8% between 2005/06 and 2008/09 (refer Figure 10). (Note that Lottery Distribution Committees, including the Lottery Outdoor Safety Committee, are discretionary funders. This means that should any Committee decide to support a project or organisation in any particular year, funding should not be regarded as an ongoing commitment or obligation from the Committee towards that organisation in any subsequent years). SLNZ's total income including districts and clubs is approximately $13 million. Recently, SLSNZ has started providing First Aid training to the general public, both to support its purpose of preventing drowning and injury in New Zealand and as a revenue raising mechanism. SLSNZ also receives funding through a Service Level Agreement (SLA) with the NZSAR Council.

Figure 10: Lottery Grants Board funding to SLSNZ (inflation adjusted) 2005/06 to 2009/10



Source: Lottery Grants Board lists of grants.
Note: Excludes additional grants to individual surf lifesaving clubs. CPI deflator for 2009/10 has been estimated.

Collectively, the community trusts contribute more than $670,000 toward surf lifesaving nationally during an average year.

8.0 COASTGUARD

8.1 Historical development

Most coastguard units were started up by passionate locals following a local boating tragedy. The first permanent rescue service was established in 1898. In 1971, the Police decided that separate volunteer groups were needed to help with marine rescues, and hence they encouraged the formation of more coastguard organisations. The New Zealand Coastguard Federation was established in 1976 and has since grown to 73 affiliated units, including ten Air Patrols. In 1990 Royal Patronage was granted, and the national body subsequently became known as the Royal New Zealand Coastguard or Coastguard New Zealand. It is only recently that all coastguard units around the country have worked together under one brand, enabling the organisation to more effectively market itself to the boating public.

8.2 Current services provided

Marine search and rescue (including Surf Life Saving New Zealand and the New Zealand Coastguard) is the largest segment of New Zealand SAR sector in terms of funding requirements. Provisional Police SAR statistics for 2007/08 showed that marine SAR incidents made up 50% of the total number of incidents (with the remainder being predominantly land based searches), costing $700,000 to respond.

The training and education segment of the SAR sector is substantial with nearly 1,600 people involved. Many of these are with polytechnics, providing training for both land and marine SAR environments. According to notes in the Police's Search and Rescue Annual Statistics Report 2007/2008, greater alignment in training and co-ordination is occurring between SAR partners which will ensure continual improvement in the SAR environment.

Major marine and aviation assets used for search and rescue in New Zealand as at 2007 are shown in Table 13. There are approximately 80 dedicated search and rescue vessels in the Coastguard New Zealand fleet, plus two small fixed-wing single engine aircraft and further access to aeroclub aircraft at nine locations from Kerikeri in the north to Invercargill in the south.

Table 13: Major marine and aviation assets – coastguard and related services (2007)

Organisation	Location	Type	Number
Coastguard	Northern Region	Boats (variety)	23
Coastguard	Eastern Region	Boats (variety)	16
Coastguard	Central Region	Boats (variety)	22
Coastguard	Southern Region	Boats (variety)	20
Police	Auckland	Launch; 2x12m RIB (rigid inflatable boat); 2x4.5m RIB	5
Police	Wellington	Launch and 4.5m RIB	2
Police	Wellington	Dive Squad	1
Police	Auckland	Squirrel Helicopter	1
NZDF	Auckland	P3K Orion aircraft	1
NZDF	Ohakea	UH-1H Iroquois helicopter	1
Coastguard	Northland	Light fixed-wing	1
Coastguard	Auckland	Light fixed-wing	1
Coastguard	Bay of Plenty	Light fixed-wing	1
Coastguard	Taranaki	Light fixed-wing	1
Coastguard	Hawke's Bay	Light fixed-wing	1
Coastguard	Kapiti	Light fixed-wing	1
Coastguard	Nelson	Light fixed-wing	1
Coastguard	Kaikoura	Light fixed-wing	1
Coastguard	Canterbury	Light fixed-wing	1
Coastguard	Southland	Light fixed-wing	1
Heliworks	Queenstown	Squirrel Helicopter	4

Source: Adapted from New Zealand Search and Rescue Secretariat (2007), pp 7-8 and other NZSAR sources.

8.3 Community benefits

Marine incident types include assisting people whose boat won't start, searching for persons missing at sea and responding to boats that have hit submerged objects or are having a medical emergency. With approximately 68 local units currently operating throughout New Zealand's coastline and major lakes, Coastguard New Zealand's affiliated search and rescue vessels, aircraft and communications volunteers provide for a large number of local communities.

According to information on the WSNZ website, drowning is New Zealand's third highest cause of accidental death (following traffic incidents and falls). Key figures from WSNZ's drownings database in relation to boating-related incidents are summarised in Table 14, which shows there are approximately 11-17 boating-related drownings each year. Supplementary information shows that 18% of total drownings in New Zealand occur while participating in boating activities; 88% of boat-related drowning victims are male; and 19% of boat-related drownings involve alcohol.

Table 14: Boating-related drownings in New Zealand 2004-2008

Activity	2004	2005	2006	2007	2008	Total
Powered boat:						
Jet boat	-	-	-	-	1	**1**
Jet skis	-	-	-	1	1	**2**
Over 4m	7	4	6	2	3	**22**
Under 4m	-	2	2	3	-	**7**
Non-powered boat:						
Canoeing	-	-	-	-	3	**3**
Kayaking	6	2	2	3	-	**13**
Rafting	-	1	-	1	1	**3**
Rowing craft/dinghy	3	5	1	4	3	**16**
Sailing:						
Fixed keel boat	-	-	-	-	2	**2**
Offshore sailing	1	2	-	-	-	**3**
Sailing dinghy	-	-	-	-	1	**1**
Windsurfing	-	-	-	-	1	**1**
Total	**17**	**16**	**11**	**14**	**16**	**74**

Source: Water Safety New Zealand website (accessed 9 December 2009).

8.4 Operational structure

Most local coastguard units have been independently established by communities concerned with a lack of available marine safety. They are made up of vessel-based activity, air patrols and communications volunteers. It is only recently that all coastguard units around the country have pulled together under one banner as the Royal New Zealand Coastguard (ie, Coastguard New Zealand), allowing the service to make better use of resources for search and rescue, maritime safety and marine education.

Coastguard New Zealand is a not-for-profit organisation with a Board made up of nine members. Four of these are elected by the member units of the organisation at the annual AGM and five are appointed by the four Coastguard Regions (Northern, Eastern, Central and Southern) and the Boating Education Service. In addition to sea-based (and lake-based) vessels, Coastguard air patrol units are located strategically throughout the country to assist with SAR and other Coastguard activities.

Most of the nearly 300 people involved with co-ordination and policy for land, air and sea SAR combined belong to either the Police or Maritime New Zealand's Rescue Co-ordination Centre. The New Zealand SAR sector is operationally focused, with only small numbers being involved at the strategic and executive levels. For marine search and rescue overall, there are approximately 117 full-time staff, 320 part-time staff and 2,500 volunteers. In addition, other organisations work with marine SAR on an as-needed basis, including the Federation of Commercial Fishermen and Antarctica New Zealand.

8.5 Regulatory environment

The coastguard sector is essentially unregulated, apart from health and safety and other standard legislation.

8.6 Sector-wide strategies

There is no known sector-wide strategy, however the relatively recent formation of Coastguard New Zealand has enabled a more coherent national identity for coastguard units, with associated benefits in terms of funding and planning.

In parallel with the ongoing work of Coastguard, SLSNZ and others, WSNZ is implementing a Regional Water Safety Education Strategy designed to reduce the incidence of drowning in New Zealand. This involves leading and developing region-specific water safety education initiatives (refer www.watersafety.org.nz). ACC has also adopted a comprehensive Drowning Prevention Strategy 2005-2015, which can be downloaded from the WSNZ website.

8.7 Current challenges and barriers

A sample survey of individual coastguard and air patrol units and of Coastguard NZ regional managers identified current challenges, barriers and issues as follows:

- Funding is tight, boats and equipment are increasingly expensive, and volunteer training, administration and other operational expenses are difficult to get funded.
- Air patrols find it difficult to find funding particularly for in-flight training (expensive and intangible).
- It is difficult to recruit and retain volunteers, in part because of the need for them to help with fundraising and in part because of the substantial training requirements and time commitments.
- Funding applications require specialised administrative skills and knowledge.
- Coastguard administrative paperwork is a burden.
- Declining membership (ie, skippers).
- Level of funding is uncertain from year-to-year.

8.8 Volunteer levels and trends

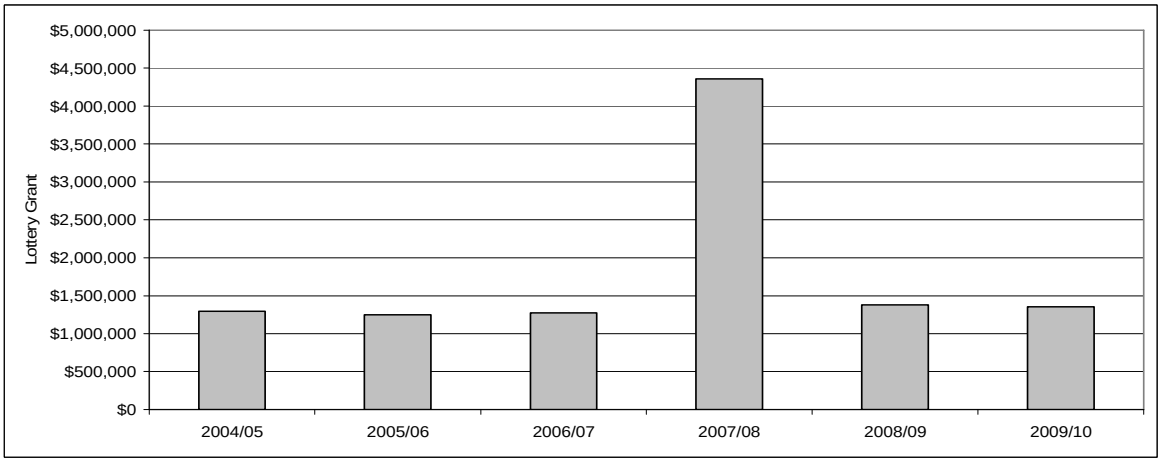
Coastguard is made up of more than 2,500 dedicated active volunteers working on rescue vessels and air patrol craft. These volunteers are trained to handle a wide variety of search and rescue incidents that can occur on the water. Whenever a call for help comes in, they rapidly depart their ‘day jobs’ and take their place as the crew on one of the rescue vessels located around the country, providing more than 300,000 hours of volunteer time every year. Undertaking coastguard services creates camaraderie amongst the volunteers. Coastguard New Zealand also encourages boat skippers to become supporter members of the association.

8.9 Funding

Annual member subscriptions of $95 contribute approximately $1.1 million per annum toward coastguard services nationally. A further contribution is recovered from non-members who are asked (but not forced) to pay $280 an hour for rescue efforts (up from $225 in 2008). The coastguard service is funded approximately 80% through community fundraising, including Lottery Grants Board grants, corporate sponsors, community trusts and other sources. According to the Coastguard New Zealand website, the total national cost of the service is estimated at approximately $25,000 per day (ie, $9 million per year). (In addition to the Coastguard service, Maritime New Zealand has an annual operating budget of around $800,000). Since 2008, central government has provided a level of financial assistance for the provision of rescue services to distress calls through the Police or the Rescue Co-ordination Centre (RCCNZ). This contributes approximately 20% of funding. Coastguard NZ also receives funding through a Service Level Agreement (SLA) with the NZSAR Council.

According to the Lottery Grants record for 2006/07 (DIA), Lottery Grants Board funding continues to support Coastguard New Zealand's mission, with $1.3 million granted in 2006/07. In the 2007/08 year, the Lottery Grants Board increased its contribution to the Royal New Zealand Coastguard to approximately $4.6 million, then in 2008/09 this returned to previous levels at approximately $1.5 million. According to correspondence from the Lottery Grants Board (28 January 2010), the 2007/08 one-off increase was predominantly to enable the Coastguard to upgrade vessels. Between 2004/05 and 2008/09, Lottery Grants Board funding to Coastguard New Zealand increased by 6.5% (inflation-adjusted). (Note that Lottery Distribution Committees, including the Lottery Outdoor Safety Committee, are discretionary funders and hence funding should not be regarded as an ongoing commitment or obligation). Other major sponsors include the New Zealand Community Trust, Caltex, Century Yuasa, DDB, 3M, Rainbow Print, Hutchwilco and Rocket.

Figure 11: Lottery Grants Board funding to Coastguard NZ (inflation adjusted) 2004/05 to 2009/10



Source: Lottery Grants Board lists of grants.
Notes: (a) CPI deflator for 2009/10 has been estimated. (b) The one-off increase during 2007/08 was predominantly toward the upgrade of Coastguard vessels.

Collectively, the community trusts contribute more than $580,000 toward coastguard services nationally during an average year.

9.0 LAND SEARCH AND RESCUE

9.1 Historical development

Before the 1900s, people who got lost in the back country were often never rescued or were found only by chance. From the 1920s, local search parties of Police and volunteers from tramping, hunting and climbing clubs were formed as a precaution, in case people went missing in the mountains or bush. After a major incident in 1933, the organisation of search parties was changed to ensure a more co-ordinated approach by Police and tramping clubs. The first rules for mountain searches were drawn up and adopted by the Police and Federated Mountain Clubs (FMC) in 1935. It was agreed that the Police should organise searches, liaising with FMC contacts in each Police District. The nationwide presence of the Police and their communications network made them the logical agency to oversee SAR operations.

New Zealand had no national organisation for Civil Defence or SAR before World War II, although many local and volunteer search and rescue organisations did exist prior to this. Around 1944, New Zealand signed the Chicago Convention on International Civil Aviation. This required New Zealand to have a system of searching for missing aircraft. A national Search and Rescue Committee, convened by the civil aviation division of the Ministry of Transport, first met in February 1949. Its members included representatives of the FMC, Police, Amateur Radio Emergency Communications (AREC) and government departments. The committee's responsibility extended to all search and rescue operations. The FMC was given an annual grant to recognise its role in land searches.

By 1961, sub-committees in Auckland, Wellington, Christchurch and Dunedin were co-ordinating searches within their respective regions. Three classes of rescue were defined, with Police managing the first two (Class I being Police-only rescues, and Class II involving assistance from other government and volunteer organisations). Class III searches, involving activations of Emergency Locator Beacons, missing aircraft and ships at sea, are controlled by the Civil Aviation Service through RCCNZ.

From the 1960s more people began taking part in outdoor activities. SAR incidents more than doubled between 1963/64 to 1965/66. Although the Police theoretically controlled operations, in practice these were often run by volunteers with experience of local conditions. This changed from 1964 when the Police set up special search and rescue squads.

FMC set up a search and rescue committee in 1966 to set policies and arrange training. In 1968, responsibility for search and rescue was passed from the Civil Aviation Service to the newly formed Ministry of Transport. In 1994, the national search and rescue committee became a separate organisation called New Zealand Land Search and Rescue Inc (LandSAR). LandSAR is the national volunteer organisation providing land search and rescue services to the Police and general public. LandSAR's role is formalised through a Memorandum of Understanding with the Police.

New Zealand has international obligations in respect of SAR as a signatory to the conventions on International Civil Aviation (1944) and Search and Rescue (1979). The Minister of Transport has statutory responsibility for the organisation and conduct of SAR activities under the Civil Aviation Act 1990. An NZSAR Council was established in early 2003 as a result of Cabinet direction to provide for strategic governance of the SAR sector, following a national review of the governance of search and rescue services.

9.2 Current services provided

According to a 2007 stock-take by NZSAR, there are more than 10,000 people involved in search and rescue activities in New Zealand (including land, air and water SAR providers). This includes approximately 470 full-time personnel, 460 part-time staff and 9,200 volunteers. In addition, there are many thousands of other individuals such as NZDF personnel and Police who are called upon to assist with search and rescue operations. Major SAR assets in New Zealand as at 2007 included 19 helicopters, 19 aeroplanes and 264 boats of all sizes.

Provisional Police SAR statistics for 2007/08 showed that land SAR incidents made up 50% of the total number of SAR incidents (with the remainder being predominantly marine based searches), costing $1.8 million to respond. Approximately 2,500 to 3,000 trained LandSAR search and rescue volunteers freely contribute their time. LandSAR operates in suburban/urban and wilderness/rural SAR operations, underground operations in caves or other natural underground areas, shoreline operations linked to marine incidents, and other SAR operations as agreed with Police.

The training and education segment of the SAR sector is substantial, including training providers involved with the Mountain Safety Council and also polytechnics which provide training for land and marine SAR environments. The bulk of the nearly 300 people involved with co-ordination and policy for land, air and sea SAR combined belong to either the Police or Maritime New Zealand's Rescue Co-ordination Centre. The New Zealand SAR sector is operationally focused, with only small numbers being involved at strategic and executive levels. Approximate numbers of staff and volunteers involved in land search and rescue are summarised in Table 15. Note that some of these organisations (eg, NZSAR Secretariat and DoC) are also involved in air and water SAR. In summary, for land SAR only, the table shows there are approximately 68 full-time staff, 319 part-time staff and 5,600 volunteers. In addition, some organisations work occasionally with SAR on an as-needed basis, including Ambulance New Zealand and NZFS. Additional resources include niche groups and support services such as the Northern K9 Search Specialist Group and USAR Search Dog Camp.

Table 15: Land search and rescue staff and volunteers (2007)

Organisation	Full-time	Part-time	Volunteers	Total
Land Search and Rescue	3	1	2,773	**2,777**
New Zealand Mountain Safety Council	10	4	1,507	**1,521**
Amateur Radio Emergency Communications (throughout NZ)	0	0	1,262	**1,262**
New Zealand Police	5	255	10	**270**
Ruapehu Alpine Rescue Organisation	0	0	38	**38**
New Zealand Defence Force	31	0	0	**31**
Department of Conservation	4	4	4	**12**
Aoraki/Mt Cook Alpine Search and Rescue				**12**
Ministry of Transport	2	0	0	**2**
NZSAR Secretariat	1	0	0	**1**
Search and Rescue Institute of New Zealand (SARINZ)	5	35	7	**47**
Emergency Management Academy of New Zealand (EMANZ)	7	20	0	**27**
TOTAL	**68**	**319**	**5,601**	**6,000**

Source: Adapted from New Zealand Search and Rescue Secretariat (2007), p 4 and other NZSAR sources.

9.3 Community benefits

In the year ended June 2008, LandSAR volunteers (as distinct from Police) participated in 251 search and rescue incidents involving 2,487 volunteers. In addition, 500 SAR managers (advisors) and team leaders were involved for 4,088 hours directing and managing search operations.

A further indication of the scale of annual search and rescue activities in New Zealand (land and marine) is provided by the Police's Search and Rescue Annual Statistics Report 2007/2008. This showed that the Police had been involved in 1,547 SAR land and marine incidents, assisting more than 2,000 people (of whom approximately 8% were tourists).

According to LandSAR's 2007/08 Annual Report, the high proportion of successful outcomes to searches involving LandSAR volunteers demonstrates the capability, training and professionalism of the organisation. Apart from the search and rescue aspect, participation in LandSAR can also help volunteers gain new friends and new skills and participate in youth development.

9.4 Operational structure

The Police co-ordinate most land-based SAR activities in New Zealand. Police officers in each district are trained as SAR Co-ordinators. They work with volunteer groups such as the Coastguard New Zealand, AREC, LandSAR and other organisations. The Police are usually the first point of notification when people are overdue from an outdoor activity such as tramping, boating or hunting.

LandSAR's first full year of operations was 1994/95, although its history as a volunteer organisation goes back to the 1930s. The society was formed around a consensus of the SAR community, with Police District volunteer committees as the base for operations. Various sub-committees are in place to ensure appropriate input from people with experience. Current sub-committees are: Communications; Search Dogs; Specialist; Training; and Underground.

Approximately 2,500 to 3,000 trained volunteers are associated with LandSAR, participating in approximately 58 land search and rescue groups organised into seven Regions. There are also two national specialist groups – LandSAR Search Dogs and LandSAR Caving. Other specialist groups such as Alpine Cliff Rescue and Whitewater SAR operate on a local level where there is requirement for such specialist skills.

LandSAR's current Constitution was approved by members at its 2009 AGM, following extensive consultation with membership throughout the country. A previous business review established a Board of independent, elected Directors and a full time Chief Executive and staff, to replace the original National Committee. Under the new 2009 Constitution, Associate Members of LandSAR are:

- New Zealand Search and Rescue Council (NZSAR).
- New Zealand Police.
- Rescue Co-ordination Centre of New Zealand (RCCNZ).
- Search and Rescue Institute of New Zealand (SARINZ).
- Department of Conservation (DoC).
- New Zealand Mountain Safety Council.
- New Zealand Speleological Society.
- Federated Mountain Clubs of New Zealand (FMC).
- Amateur Radio Emergency Communications (AREC).

The NZSAR Council was established in April 2003 as a result of Cabinet direction to provide for strategic governance of the SAR sector. NZSAR consists of the chief executives or delegated senior officials from the Ministry of Transport, Maritime New Zealand, CAA, Police and NZDF. This high-level of representation on the Council aims to ensure that those involved have general SAR knowledge, and also seeks to reduce the risk of organisational self-interest impinging on strategic thinking and decision-making.

The NZSAR Consultative Committee was also established in 2003 to provide expert advice to the NZSAR Council on relevant SAR issues. The Committee serves as a forum for SAR issues to be discussed and to create and strengthen linkages across participants within the SAR sector. In addition, the Consultative Committee serves as a link between the NZSAR Council, SAR providers and other stakeholders, including voluntary groups. An NZSAR Secretariat was also established in 2003 to support the Council in the provision of leadership to the sector and to Chair the SAR Consultative Committee. The Secretariat works from (but is not part of) the Ministry of Transport.

According to LandSAR's 2007/08 Annual Report, significant changes were recently made to the way LandSAR does business, with the establishment of a Business Manager position in March 2007 and subsequent appointment of an Office Manager and two Field Support Officers.

9.5 Regulatory environment

The land search and rescue sector is essentially unregulated, apart for health and safety and other standard legislation.

9.6 Sector-wide strategies

There is no known sector-wide strategy, however relatively recent changes within LandSAR are aimed at ensuring the organisation is more efficient and effective. LandSAR is at a timely point in terms of its organisational development, having just begun to operate as a truly national organisation with paid field staff levels rising from two to five in the last six months (servicing 63 groups throughout New Zealand). In the past, LandSAR sought to exist within a purely non-paid structure. That meant that its evolution was somewhat stunted and regionally-based and was not keeping pace with many of its partner organisations. LandSAR is now heading towards a more formalised and sustainable structure, including looking at new funding sources and ways of working.

9.7 Current challenges and barriers

According to the 2007/08 LandSAR Annual Report, it has been challenging for the organisation to secure its place in the national emergency services environment. On the positive side, a Memorandum of Understanding has been signed with the New Zealand Police and a Service Level Agreement has been signed with the NZSAR Council, Police and Maritime New Zealand. These agreements are important for establishing LandSAR as the leader in the land search and rescue environment, and for helping to secure government funding. At the national level, challenges included turnover of key staff and Board members and resulting delays to strategic planning and related activities during 2007/08.

In terms of regional challenges, a number of LandSAR regions are reporting a growing incidence of searches involving tourists. There is also a growing trend of searches for people with dementia and other medical and mental conditions.

A sample survey of land search and rescue units and LandSAR regional managers identified current challenges, barriers and issues as follows:

- Funding is tight.
- Difficult to recruit and retain appropriate volunteers, partly because the low frequency of call-outs (and the changing nature of call-outs) makes it difficult to maintain responsiveness capacity and partly because of the time commitment and cost of training.

Further feedback from LandSAR suggested the following key challenges:

- Getting the level of funding required to fully cover costs.
- Getting volunteers to give up their time and expertise or even volunteer in some 'quiet' areas.
- Maintaining a consistent support of services throughout New Zealand.
- Ensuring local SAR capability reflects the needs and wants of each community.

9.8 Volunteer levels and trends

According to the 2007 NZSAR stock-take, more than 90% of the people involved in search and rescue activities are volunteers (note: this relates to land, air and water SAR combined). Previous studies have identified that New Zealand has one of the highest rates of volunteer involvement in SAR in the world. Approximately 2,500 to 3,000 trained volunteers are associated with LandSAR, with a smaller number from AREC. For many providers, their search and rescue function is only a small part of their everyday work. To ensure health and safety, volunteers are provided with expert training and assistance.

9.9 Funding

The cost of fully equipping a trained volunteer is estimated at more than $3,000. LandSAR also needs funding to support its national infrastructure, to ensure volunteers are fully trained to meet assessment standards, and to provide specialist equipment such as GPS tracking systems.

During 2007/08, total expenses incurred by LandSAR New Zealand were almost $800,000, of which 62% was for National Office Expenses (including salary, fees and ACC levy, consultancy fees, communications, travel and other expenses) and 17% for National Field Officer/s salary and related expenses. The costs associated with LandSAR National Office have been increasing since 2005/06 when the organisation's new Strategic Plan was developed. The cost of Field Officer has also recently increased as the organisation has become more professional and supportive of regional needs and administration.

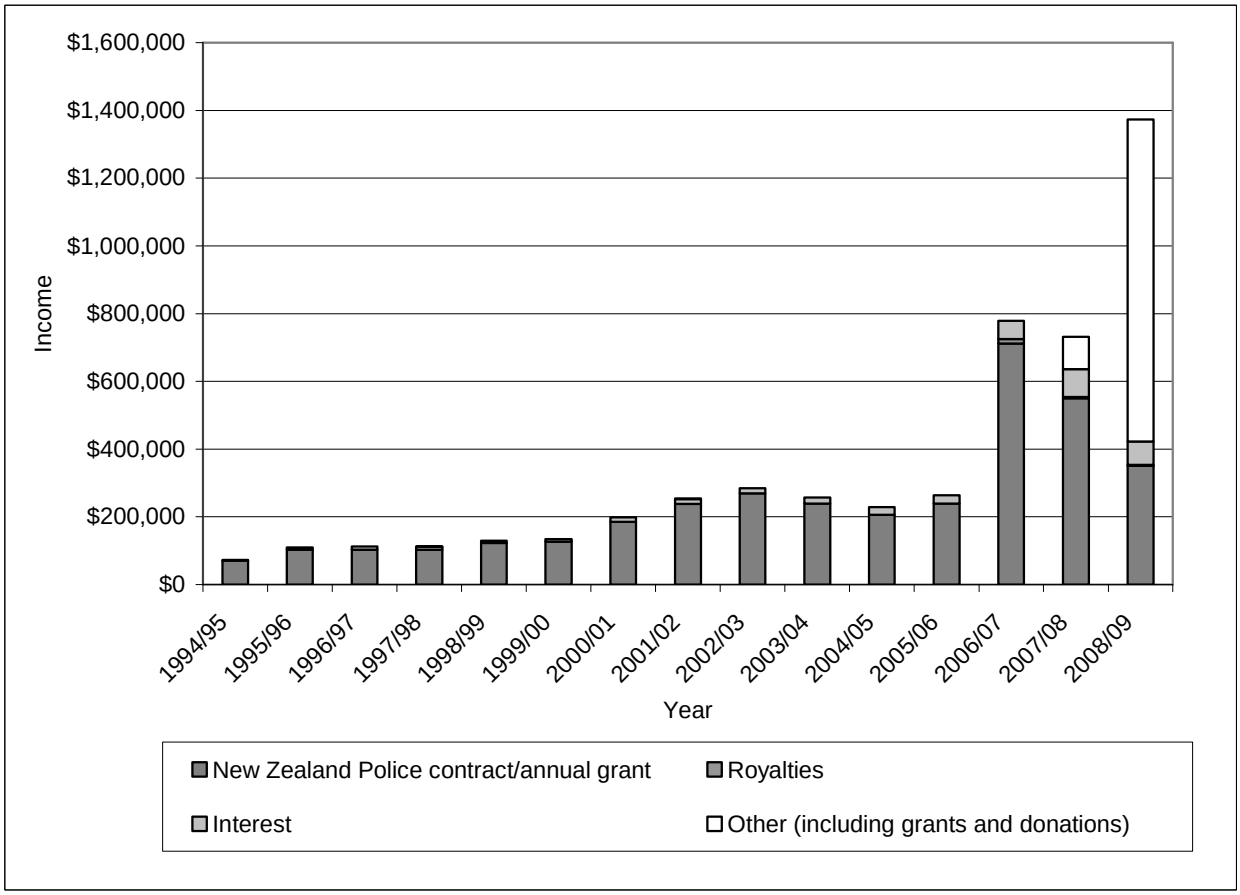
LandSAR actively seeks donations from the public and businesses through its website and networks. While LandSAR New Zealand benefits significantly from volunteer time and occasional in-kind services, traditionally it has received relatively little funding support from the community compared to central government funding sources. Prior to 2005/06, LandSAR operated under a contract-for-service with the New Zealand Police to provide trained, competent volunteer services as and when required. This funding is now provided as an annual grant. Throughout the past decade, Police funding has generally comprised 90-95% of LandSAR's total income, with a further 5-10% each year coming from interest on investments. Note that this does not include funding received by individual SAR groups throughout the country.

According to LandSAR's website, it is now receiving increasing support from key trusts and funding bodies but this is only a recent development. During 2007/08, almost $90,000 was raised in grants funding from the community, making up 12% of total LandSAR funding. Funding was received from New Zealand Lottery Grants Board, Pelorus Trust and The Southern Trust. As a result, the proportion of funding from Police reduced to 75% of total funding. In addition, in July 2009 TVNZ announced that LandSAR was one of four charitable organisations that were selected to receive free-to-air advertising for the next two years. In a recent development, various gaming trusts have their logos promoted on the LandSAR website including Pub Charity, New Zealand Community Trust, The Lion Foundation and The Southern Trust. Between 2007/08 and 2008/09, the Lottery Grants Board funding to LandSAR increased from $105,000 to $421,570.

Also during 2008/09, Lottery Grants Board's Outdoor Safety Commttee provided funding to a record number of individual land search and rescue organisations, as a result of localised land search and rescue groups applying individually. LandSAR has subsequently begun collating and applying for funding on behalf of the localised groups, with the 2008/09 national application mainly focusing on equipment, training and volunteer expenses.

More up-to-date information from LandSAR's financial statements for 2008/09 (refer Figure 12) show a further reduction in the annual Police grant to $350,000, in parallel with a substantial increase in funding from other sources including Lottery Grants Board and New Zealand Community Trust. This is part of a strategic move toward funding diversification. LandSAR also receives funding through a Service Level Agreement (SLA) with the NZSAR Council.

Figure 12: LandSAR income sources 1995/96 to 2008/09



Source: LandSAR Annual Reports 1995/96 to 2007/08, plus additional financial information for 2008/09 as received from LandSAR's Chief Executive (correspondence 28/1/10).
Note: For improved comparison with previous years, the 2008/09 'other' figure excludes income of $156,359 derived from the 2008/09 LandSAR National Conference.

According to LandSAR's 2007/08 Annual Report, the fruition of some significant work was realised when the New Zealand SAR Council secured from central government an additional $8.4 million over two years for the SAR sector. Volunteer agencies that benefited from this money included LandSAR New Zealand, Royal New Zealand Coastguard Federation, Surf Life Saving New Zealand and Amateur Radio Emergency Corps. The additional funding gave greater funding certainty and assisted in planning for the future. Service level agreements have been signed to enable payment for agreed performance. LandSAR's share of the fund represents a significant portion of LandSAR's total budget and was contingent upon signing of a Service Level Agreement (SLA).

In its 2007/08 Annual Report, LandSAR noted that it made a successful submission regarding the Land Transport Amendment Bill on the distribution of funds from fuel tax. In its original form, the Bill specified that the New Zealand Coastguard would receive all of the funds made available through the fuel tax. LandSAR's submission recommended that funds from the tax be spread across the whole search and rescue sector.

Funding for search and rescue dogs is separate from other SAR activities. According to the Annual Report of the New Zealand Search Dog Association (accessed via the online Charities Register, 17 November 2009), the Association is reliant on the Ministry of Civil Defence and Emergency Management (MCDEM) and (going forward) NZFS for continuing to fund the training of search dogs in New Zealand. The annual funding requirement for the NZ USAR Search Dog Association is approximately $70,000.

Additional clarification regarding LandSAR's current funding was distilled from financial information received from LandSAR as follows:

Table 16: Current national funding of land search and rescue

Annual budget	Approximately $2.1 million.
Central government funding level (contracts and grants)	17% Police = $350,000. 50% Lottery Grants Board and COGS = $1.05 million (including support of all 63 groups and NZSAR).
Local government funding	Negligible.
Community funding	4% community trust grants and donations = approx $80,000; 30% other grants, donations, etc = approx $620,000.

Source: Adapted from information received from LandSAR's Chief Executive (correspondence 28/1/10).

Collectively, the community trusts contribute more than $75,000 toward land search and rescue services nationally during an average year. According to feedback from some community trusts, search and rescue services have grown considerably in recent years with corresponding increases in requests to fund equipment. There is a difficulty in ascertaining the extent to which funding requests are 'needs' rather than 'wants'.

10.0 SUMMARY OF FUNDING SOURCES AND FINANCIAL TRENDS

The table below summarises the various sources of funding for search, rescue and emergency services. This highlights the complexity of existing funding arrangements (and related transaction costs). One of the things to bear in mind regarding 'government funding' is that all government monies are ultimately sourced from the community, whether it be through taxes, property insurance levies, ACC levies or proceeds from lottery gaming.

Table 17: Summary of funding sources (as at 2009/10)

	'Government funding'							'Community funding'					
	Insu-rance levy	Minis-try of Health/ DHBs	ACC	Police	NZSAR Service Level Agree-ments	Lotte-ries	COGS	Comm-unity trusts	Energy trusts	Gam-ing trusts	Casi-nos	Local/ region-al govt	TOTAL FUND-ING
Fire	86%	×	×	×	×	Discre-tionary	✓	<1%	✓	?	?	6%	100%
Ambu-lance	×	45%	30%	×	×	✓	✓	<1%	✓	?	✓	×	100%
Air rescue	×	30%	16%	×	×	✓	✓	2%	✓	✓	✓	3%	100%
Surf life-saving	×	×	×	×	✓	23%	✓	5%	✓	✓	✓	✓	100%
Coast-guard	×	×	×	20%	✓	51%	1%	6%	✓	✓	?	✓	100%
Land SAR	×	×	×	17%	✓	50%	✓	4%	✓	✓	?	×	100%

A review of strategic directions and financial trends shows that New Zealand's search, rescue and emergency services sector has become increasingly formalised and better funded in recent years (refer Table 18).

Table 18: Funding trends and strategic changes within each sub-sector

Sub-sector	Funding trend	Strategic changes
Fire Service	– Over the period 1998/99 to 2008/09, NZFS's revenue/income increased by 36% and expenditure increased by 32% (inflation-adjusted).	– In March 2008, the property insurance levy increased from 7.3 to 7.6 cents per $100 of insured value. – Proposed new legislation in 2007 sought to create a unified urban/rural Fire and Rescue Service (subsequently retracted). – Rural Fire Authorities are merging into larger regional structures to achieve economies of scale.
Ambulance services	– Over the period 2007 to 2009, St John's revenue increased by 36% and expenditure increased by 39% (inflation-adjusted).	– Ministry of Health and ACC recently moved to a two-year contract term, enabling longer-term planning and a firmer basis for investment decisions. – 'Hot spot' ambulance stations are identified by St John annually for priority funding. – The National Ambulance Sector Office (NASO) was established in 2008 by the Ministry of Health and ACC to develop a national vision, clearer funding policies and priorities for the ambulance sector (including air ambulances).

Sub-sector	Funding trend	Strategic changes
Air rescue/air ambulance services	– Expenditure and revenue have been rising to match an increase in the number and capability of rescue helicopters.	– Funding burden is shifting between stakeholders on a region-by-region basis. For example, Northland rescue helicopter receives ratepayer funding of $675,000 per annum from Northland Regional Council; Canterbury West Coast helicopter rescue receives substantial funding from gaming machines; Westpac rescue helicopters receive more than $1 million per annum from the Westpac Chopper Appeal; Rotorua's rescue helicopter receives $200,000 per annum from sponsorship by BayTrust; Auckland regional rescue helicopter (and others) make substantial use of telemarketing for fundraising. – The National Ambulance Sector Office was established in 2008 to clarify government funding policies for the whole sector (road and air ambulances).
Surf lifesaving	– Lottery Grants Board funding to SLSNZ increased by 4.8% (inflation-adjusted) between 2005/06 and 2008/09. – SLSNZ has been diversifying and expanding its revenue streams (eg, providing First Aid training for the general public). – Service Level Agreement with NZSAR Council.	– National and regional restructuring is currently underway to provide more efficient and effective management (completion date 30 June 2010).
Coastguard	– Lottery Grants Board funding to Coastguard NZ increased by 6.5% (inflation-adjusted) between 2004/05 and 2008/09. – There was a substantial boost from Lottery Grants Board during 2007/08, primarily to upgrade Coastguard vessels. – Service Level Agreement with NZSAR Council.	– National and regional restructuring is enabling better use of resources and increased brand recognition.
Land Search and Rescue	– LandSAR's income has increased substantially since 2005/06. – Service Level Agreement with NZSAR Council.	– LandSAR National Office is increasingly professional and supportive of regional needs and administration. – LandSAR is driving a substantial diversification and increase in community funding. – During 2008/09 there was a one-off technological change in radio equipment and locator beacons.

11.0 SUMMARY OF CHALLENGES, BARRIERS AND ISSUES

In addition to the administrative challenge of having a diverse set of funding sources, which can be a significant burden on the voluntary sector, all search, rescue and emergency services in New Zealand have been facing a steadily increasing growth in demand. This is being partly by population growth (especially in the Auckland Region) and by specific issues within each sector. Common factors across all services include the increasing expectation of society in relation to a rapid and effective response, and the need to keep up with technological changes such as digital radios and locator beacons. The 'demand-side' factors below are combined with various 'supply-side' issues as described in the following pages.

Table 19: Key drivers of increasing demand for services

Sector	Specific drivers of demand	Common drivers of demand
Fire services	- Increasing number of false alarm call-outs. - Increasing number of motor vehicle incidents, medical and other emergencies. - Increasing variety of incident types, including hazardous materials (eg, P-labs). - Increasing public awareness of fire safety and the 111 emergency phone number. - Increasing number of wildfires throughout New Zealand.	Increasing public expectations for rapid response and effective treatment, throughout the whole of New Zealand. Technological improvements (eg, rescue equipment and more specialised response vehicles). Increasing number of tourists needing assistance. Longer-term – climate change and related effects.
Ambulance	- Population ageing, chronic illnesses (eg, diabetes), obesity and related clinical conditions. - Under-resourcing of rural health care. - Faster cars and greater distances travelled.	
Air rescue/air ambulance	- Population ageing, chronic illnesses (eg, diabetes), obesity and related clinical conditions. - Under-resourcing of rural health care. - Increasing number of motor vehicle incidents, medical and other emergencies.	
Surf lifesaving	- Population pressure in coastal regions, including transient holiday populations. - Increased use of the beach for recreation. - Relatively poor average water safety/swimming skills at a national level.	
Coastguard	- Population pressure in coastal regions, including transient holiday populations. - Increasing number of water-craft and constant need for education (eg, navigation skills).	
Land search and rescue	- Increasing number of tourists seeking a wilderness experience.	

Common challenges, barriers and issues are discussed further on the following page.

11.1 Funding

A survey of more than 100 individual services throughout the country identified that funding is tight, particularly for operational costs such as administration and training. In the Fire Service, some equipment is not funded by NZFS such as operational support vehicles. In rural areas the fire services is funded by local ratepayers, with associated council budget constraints. In the ambulance sector, call-outs are often attended by a 'single crew' unit because there is insufficient funding for double crewing. Surf lifesaving services (which receive no government funding) find fundraising is difficult particularly for operational costs such as patrol expenses, administration and maintenance costs, and also for replacement equipment due to fire or theft. For coastguard services, boats and equipment are increasingly expensive and volunteer training, administration and other operational expenses are difficult to get funded because they are intangible. Coastguard air patrols find it difficult to fund in-flight training because it is both intangible and relatively expensive. Land search and rescue units also have difficulty sourcing funds, even though their expenses are lower than most other search, rescue and emergency services sectors. Across the board, most services find it difficult to engage in strategic planning due to funding uncertainty from year to year.

11.2 Volunteer recruitment and retention

Compared with volunteers in other sectors (eg, arts and sports administration), many rescue and emergency services volunteers undertake very demanding and potentially dangerous activities which also require substantial time commitments. Volunteer recruitment and retention was identified through survey results as a common and increasing challenge for search, rescue and emergency services. The Fire Service is finding it harder to get volunteers due to the amount of paperwork/red tape, the level of training (including safety standards and medical skills), substantial time commitment, the changing nature of society and the imposition on employers for staff to attend daytime call-outs, especially during a recession. Surf lifesaving clubs have a particular concern around recruiting and retaining club members in the 20+ age group. Coastguard services find it difficult to recruit and retain volunteers in part because of the need for the volunteers to help with fundraising (which is of little interest to them) and in part because of the substantial training requirements and time commitments. Coastguard also has an issue with declining membership numbers (ie, fee-paying skippers). Land search and rescue units also find it difficult to recruit and retain appropriate volunteers, partly because the low frequency of call-outs makes it difficult to maintain responsiveness capacity, and partly because of the time commitment and cost of training.

11.3 Performance monitoring, reporting and service standards

There is pressure on all emergency services to improve their performance data measurement, monitoring and reporting. There is also a trend toward mandatory minimum service standards, driven by government contracting agencies. This includes an increasing requirement to have fully documented policies and procedures. This type of compliance cost places an additional burden on the voluntary sector.

12.0 FUNDING PRINCIPLES

The search, rescue and emergency services sector is comprised of groups and activities that vary widely in terms of funding models, capital intensity, levels of volunteerism and other factors. However, they share a common outcome of community safety and security. The substantial underlying level of public interest in community safety and security places an onus on central government and other agencies to 'get it right first time' when it comes to resourcing and managing such services. Factors underlying the current funding models in New Zealand are summarised as follows.

12.1 Historical development

Many of New Zealand's civic associations have been established for more than 120 years, including volunteer fire brigades and ambulance services. Central government assumed responsibility for national health and education services from a relatively early stage in New Zealand's history. After the passing of the Social Security Act 1938, service provision was increasingly characterised by central government provision. Major institutional and economic reforms commenced in 1984, resulting in government disengagement from direct service provision in a number of areas. The aim was to ensure that government interfered as little as possible with the workings of the commercial and not-for-profit sectors. Resulting service gaps were filled, often by default, by a mix of private enterprise, non-profit organisations and territorial authorities. In parallel, during the 1980s and 1990s the basis of government funding to the non-profit sector moving from direct grants to contractual arrangements, whereby organisations undertook to supply specific services. From the late 1980s, purchase-of-service contracts became the dominant mechanism for government funding of the non-profit sector.

12.2 Solving the 'public good' problem

Search, rescue and emergency services partially meet the criteria for a public good, particularly in the sense that it would not be practically or morally feasible to exclude potential consumers by charging for search, rescue and emergency services on a strictly user-pays basis. A major emergency or SAR operation can costs tens of thousands of dollars or more. Societal expectations are that this cost will be borne across a large number of potential beneficiaries, in recognition of the public security element. If this were not the case, then such services would likely to be under-supplied by private firms and/or the voluntary sector, or not supplied at all, because individual organisations would not be able to recover the full costs of supply in order to maximise net societal benefits.

In dealing with the public good problem, governments tend to assess their funding and taxation mechanisms against a set of criteria such as 'yield' (ie, net societal benefit), accountability to the taxpayer, ease of enforcement, transparency and equity. One of the foundation concepts behind optimal taxation is deadweight loss, also known as allocative inefficiency or the excess burden of taxation. This refers to the theoretical loss of economic efficiency that can occur due to market distortions caused by the levying of taxes.

A challenge for decision-makers is determining how much funding should be allocated to search, rescue and emergency services, and how the costs should be split. Decision-makers must take account of a wide range of economic, political and practical issues in arriving at funding allocations, driven by their values in relation to health, safety, the environment and other aspects of human welfare.

In undertaking its funding role, central government's over-riding philosophy is to support private enterprise and civic associations without displacing them through direct service provision unless absolutely necessary. In particular, the government seeks to maintain existing incentives for firms to maximise shareholder returns and for civic associations to foster volunteerism, social capital and community well-being.

12.3 Subsidiarity, transaction costs and economies of scale

In addition to the public good criteria of non-rivalry and non-excludability, another dimension in the funding question is the level at which public goods should be provided. This is essentially a question of whether the costs and benefits accrue at a national, regional or local level. A key concept here is that of 'subsidiarity' – the principle that all matters ought to be handled as locally as possible to the affected individual, with central authority having a subsidiary function and performing only those tasks which cannot be performed effectively at a more immediate or local level.

Allocating responsibilities between the national, regional and local levels requires consideration of criteria such as where the relevant expertise and/or knowledge exists (particularly where local conditions mean that preferences are heterogeneous between areas), where effective accountability arrangements exist (for example, close to those affected by the policy), the levels of transactions costs imposed by decentralised funding, and how best to make trade-offs. Local decision-makers are likely to have a comparative advantage over central government in providing public goods and services where local knowledge and preferences are important, where the costs and benefits accrue locally, and where appropriate incentives apply at the local level. Central government would have a comparative advantage where preference are homogeneous throughout the country, where there are significant economic externalities, and where there are significant decision-making costs (ie, benefits from economies of scales).

In order for local agencies to deliver an optimal (ie, efficient) level of service, decision-makers need to avoid over-supply or under-supply and optimise the cost of producing the services, including transaction costs. There is a trade-off between providing services through a responsive local agency and one that can realise economies of scale and scope (such as regional or central government). Larger bodies may be more efficient and able to spread risks across a wider base, although they would also be more likely to generate cross-subsidies in which some constituents contribute to the funding of services but derive little benefit from them. A key balance in the trade-off equation is between meeting the specific needs of individual communities and delivering consistency and economies of scale between jurisdictions. Minimising transactions costs is important, but so is the desire to reflect local conditions and cultures.

12.4 Capacity funding vs. activity funding

A key concept in the literature relating to ambulance services provision is that of 'capacity funding', although the term itself is rarely defined explicitly. Capacity funding essentially means covering the fixed costs that would be incurred when the service is 'at capacity', and hence available to respond 24 hours a day and seven days a week. In contrast, activity funding means covering the variable operating costs of undertaking specific activities.

Capacity funding is generally seen as providing security of funding to ensure that an appropriate minimum level of service or infrastructure is maintained. It provides certainty of revenue to ensure continuity of basic services. Service types which are more appropriately funded on a capacity basis are those where the need is variable and episodic (eg, 111 emergency communications centres). In other cases there is a sound rationale for providing funding through a mix of capacity and activity funding, as is the case with most search, rescue and emergency services. In the specific example of road ambulance services, fixed costs are funded predominantly from the Ministry of Health via capacity funding while variable costs are funded on a fee-for-service basis by ACC and DHBs (ie, for primary retrievals and inter-hospital transfers).

Decisions around what level of capacity funding to provide are inherently political and based around competing funding priorities. There is general agreement that some degree of capacity funding is desirable in order to maintain a minimum capacity to respond, but there is no 'magic answer' as to what the optimal balance of capacity and activity funding should be. Consideration of any major switch toward capacity funding would need to address the reason that individualised funding was introduced in the first place, and in particular the desire for market forces to help direct the efficient allocation of activity funding to where it is most needed.

12.5 The specific matter of funding for air rescue/air ambulance services

A key question for central government and other funders at present is why the capacity funding model applied to road ambulances is not also applied to air ambulances. The short answer is that road ambulances services are provided almost entirely by a single provider (St John) whereas air rescue services are provided by a variety of independent regional trusts with varying levels of annual activity, and hence there is a range of complexities that would be involved in bulk-funding air rescue services. Any cross-subsidisation of emergency helicopter services (medical and accident) by other service users (eg, search and rescue or commercial activity) or vice-versa would need to be very transparent. It remains to be seen how the establishment of the National Ambulance Sector Office (NASO) will impact on the current funding arrangements. NASO is in the process of considering air ambulance services contracts which expire in 2011. There are eight government-contracted air ambulance providers. Crown funding (including Police, SAR and other agencies) currently covers 40% to 90% of costs, depending on Trust and structure.

There is an argument put forward by the road ambulance sector in particular that air ambulance services should be rationalised to ensure a more efficient and cost-effective overall service. Under the ownership model of individual rescue helicopter trusts, there are potential impacts from regional decision-making onto other parts of the air ambulance sector and regional communities. In particular, there is potential for cost savings if local and regional purchasing decisions were made more formally within a wider national context.

13.0 CONCLUSION

The emerging picture from this research project is one of complexity and fluidity. Central government's primary contributions toward search, rescue and emergency services are in the form of a full-time permanent Police force, major contributions toward a national Fire Service and road ambulance services, and lesser amounts toward air rescue/air ambulance services and search and rescue services. The remaining costs of provision are filled by corporate sponsorship, the philanthropic sector and fundraising activities.

An underlying principle of good government is that it should not supplant the contributions of civil society or disrupt the effectiveness of existing community institutions unless there is a compelling reason. As a principle, central government would prefer public goods problems to be resolved through voluntary community giving to the extent possible, rather than relying solely on compulsory measures such as taxes and levies.

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GLOSSARY

The following table includes a variety of words, phrases and acronyms that are used at least once in this report. The list is a combination of:

(a) Terms and acronyms peculiar to the search, rescue and emergency services sector (eg, ALS – Advanced Life Support paramedic);
(b) Acronyms relating to organisations referred to in this report (eg, AARG – Air Ambulance Reference Group); and
(c) Other technical terms relating to the content of the report (eg, capex and opex).

Term/Acronym	Definition
AARG	Air Ambulance Reference Group.
ACC	Accident Compensation Corporation.
Air ambulance	Helicopters and fixed-wing aircraft that operate as ambulances.
ALS	Advanced Life Support (as opposed to BLS Basic Life Support, and ILS Intermediate Life Support) – Refers to qualification levels for ambulance personnel.
Ambulance New Zealand	An incorporated charitable trust that represent the collective interests of ambulance providers.
AREC	Amateur Radio Emergency Communications (formerly Amateur Radio Emergency Corps).
CAA	Civil Aviation Authority.
Capacity funding	Bulk funding of overhead expenditure by central government to ensure availability of specific response services.
Capex	Capital expenditure (as distinct from operating expenditure).
CDEM	Civil Defence Emergency Management.
Civil Defence	Refers to the application of emergency operations (prevention, mitigation, preparation, evacuation, recovery, etc) for responding to natural or man-made disasters. Civil Defence planning and co-ordination is undertaken by local government in partnership with emergency services and other groups.
COGS	Community Organisation Grants Scheme, a community based grant-making scheme, administered by DIA and local distribution committees, to provide grants to non-profit community organisations.
CPI	Consumers Price Index, a measure of annual price inflation.
Crown	Refers to central government departments and ministries.
Deadweight loss	An economic term relating to the theoretical loss of economic efficiency that can occur due to taxes, subsidies and other market distortions.
DHB	District Health Board.
DIA	Department of Internal Affairs.
DoC	Department of Conservation.
EACCs	Emergency Ambulance Communications Centres (located in Auckland, Wellington and Christchurch).
FAs	Fire Authorities. As defined in the Forest and Rural Fires Act 1977, Rural FAs can vary depending on the area under consideration, and may include territorial authorities, rural fire committees, the Minister of Conservation or (in limited cases) Minister of Defence.
FMC	Federated Mountain Clubs of New Zealand.
FRSITO	Fire and Rescue Service Industry Training Organisation.
GPS	Global Positioning System, a navigation satellite system.
ICU	Intensive Care Unit.
IHT	Inter-Hospital Transfer (ie, medical/non-emergency transfer ambulance service, by road or air).

Term/Acronym	Definition
IRB	Inflatable Rescue Boat (used for surf lifesaving).
LandSAR	Land Search and Rescue, a national volunteer organisation providing land search and rescue services to the Police and general public.
LGNZ	Local Government New Zealand.
MoH	Ministry of Health
NASO	National Ambulance Sector Office, established in 2008 as a joint venture of the Ministry of Health and ACC to develop clearer funding policies and priorities for the ambulance sector (including air ambulances).
NRFA	National Rural Fire Authority.
NRFAC	National Rural Fire Advisory Committee.
NZDF	New Zealand Defence Force.
NZFS	New Zealand Fire Service.
NZSAR	New Zealand Search and Rescue council.
OECD	Organisation for Economic Co-operation and Development, an international organisation of 30 developed countries including New Zealand.
Opex	Operating expenditure (as distinct from capital expenditure).
OSM	Operational Skills Maintenance – A system of training requirements introduced by the NZ Fire Service during 2008/09 but not currently being implemented due to concerns by firefighters.
PRIME	Primary Response in Medical Emergency – A medical and advanced paramedic support scheme in more remote communities, achieved by training GPs and nurse practitioners in paramedic skills.
PSRT	Philips Search and Rescue Trust, operating rescue helicopters in Hamilton, Taupo, Tauranga, Rotorua and Palmerston North.
RCCNZ	Rescue Co-ordination Centre of New Zealand.
RIB	Rigid Inflatable Boat.
RLSS	Royal Life Saving Society of New Zealand, a voluntary organisation that teaches lifesaving techniques.
SAR	Search and Rescue.
SARINZ	Search and Rescue Institute New Zealand (provides training and support to core SAR organisations).
SLSNZ	Surf Life Saving New Zealand.
TAPS system	Training and Progression system – Introduced to the NZ Fire Service's Professional Development Unit during the past five years, the TAPS system is designed to provide a seamless approach to the training of all operational staff. It incorporates criteria for progression and promotion to meet operational standards.
UFBA	United Fire Brigades Association, a forum for fire fighting volunteers that represents brigades on local, national and international matters.
Urban fire services	Refers to all NZFS services, regardless of whether they are in a major metropolitan area or a small provincial town. In contrast, 'rural fire services' refers to the predominantly council-funded control of fires in rural areas.
USAR	Urban Search and Rescue, a multi-agency capability to provide assessment, rescue and recovery from single and multiple building collapse situations after disasters such as landslides or earthquakes. USAR teams are generally associated with territorial authorities' Civil Defence Emergency Management functions.
WSNZ	Water Safety New Zealand (Water Safety Council).