



PERFORMANCE AUDIT

27 FEBRUARY 2023

Planning and managing bushfire equipment

NEW SOUTH WALES AUDITOR-GENERAL'S REPORT

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In accordance with section 38EC of the *Government Sector Audit Act 1983*, I present a report titled '**Planning and managing bushfire equipment**'.

A handwritten signature in black ink, appearing to read 'Ian Goodwin'.

Ian Goodwin
Deputy Auditor-General
27 February 2023

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RECONCILIATION COMMITMENT STATEMENT

The Audit Office of New South Wales pay our respect and recognise Aboriginal people as the traditional custodians of the land in NSW.

We recognise that Aboriginal people, as custodians, have a spiritual, social and cultural connection with their lands and waters, and have made and continue to make a rich, unique and lasting contribution to the State. We are committed to continue learning about Aboriginal and Torres Strait Islander peoples' history and culture.

We honour and thank the traditional owners of the land on which our office is located, the Gadigal people of the Eora nation, and the traditional owners of the lands on which our staff live and work. We pay our respects to their Elders past and present, and to the next generation of leaders.

contents

Planning and managing bushfire equipment

Auditor-General's foreword	1
Section one – Planning and managing bush fire equipment	
Executive summary	3
Introduction	11
Firefighting fleet planning and reporting	15
Firefighting fleet management	28
Section two – Appendices	
Appendix one – Responses from agencies	35
Appendix two – About the audit	48
Appendix three – Performance auditing	50

Auditor-General's foreword

This audit assessed how effectively the NSW Rural Fire Service (the RFS) plans and manages the firefighting equipment needed to prevent, mitigate, and suppress bushfires. This audit also examined the role of local councils in managing bushfire equipment fleet assets. Local councils have vested legal ownership of the majority of the land-based firefighting fleet, including a range of legislated responsibilities to carry out fleet maintenance and repairs. The RFS has responsibilities to plan and purchase firefighting fleet assets, and ensure they are ready for use in response to fires and other emergencies.

This report describes the challenges in planning and managing the firefighting fleet, including a confusion of roles and responsibilities between the RFS and local councils in relation to managing certain land-based rural firefighting fleet – a point that has been made in our Local Government financial audits over several years. This role confusion is further demonstrated in the responses of the RFS and local councils to this audit report – included at Appendix one.

The lack of cohesion in roles and responsibilities for managing rural firefighting vehicles increases the risk that these firefighting assets are not properly maintained and managed, and introduces a risk that this could affect their readiness to be mobilised when needed.

While the audit findings and recommendations address some of the operational and organisational inefficiencies in relation to rural firefighting equipment management, they do not question the legislative arrangements that govern them. This is a matter for the NSW Government to consider in ensuring the fleet arrangements are fit for purpose, and are clearly understood by the relevant agencies.

Section one

Planning and managing
bushfire equipment

Executive summary

The NSW Rural Fire Service (hereafter the RFS) is the lead combat agency for bushfires in New South Wales, and has the power to take charge of bushfire prevention and response operations anywhere in the State. The RFS has responsibilities to prevent, mitigate and suppress bushfires across 95% of the State, predominantly in the non-metropolitan areas of New South Wales. Fire and Rescue NSW is responsible for fire response activity in the cities and large townships that make up the remaining five per cent of the State.

The RFS bushfire fleet is an integral part of the agency's overall bushfire risk management. The RFS also uses this fleet to respond to other emergencies such as floods and storms, motor vehicle accidents, and structural fires. Fleet planning and management is one of a number of activities that is necessary for fire mitigation and suppression.

The *Rural Fires Act 1997* (Rural Fires Act) imposes obligations on all landowners and land managers to prevent the occurrence of bushfires and reduce the risk of bushfires from spreading. Local councils have fire prevention responsibilities within their local government areas, principally to reduce fire hazards near council owned or managed assets, and minor roads.

The RFS is led by a Commissioner and is comprised of both paid employees and volunteer rural firefighters. Its functions are prescribed in the Rural Fires Act and related legislation such as the *State Emergency Rescue Management Act 1989*. The RFS functions are also described in Bush Fire Risk Management Plans, the State Emergency Management Plan, District Service Agreements, and RFS procedural documents. Some of the core responsibilities of the RFS include:

- preventing, mitigating, and suppressing fires across New South Wales
- recruiting and managing volunteer firefighters in rural fire brigades
- purchasing and allocating firefighting fleet assets to local councils
- establishing District Service Agreements with local councils to give the RFS permissions to use the fleet assets that are vested with local councils
- carrying out fleet maintenance and repairs when authorised to do so by local councils
- inspecting the firefighting fleet
- supporting land managers and private property owners with fire prevention activity.

In order to carry out its legislated firefighting functions, the RFS relies on land-based vehicles, marine craft, and aircraft. These different firefighting appliance types are referred to in this report as the firefighting fleet or fleet assets.

RFS records show that in 2021 there were 6,345 firefighting fleet assets across NSW. Most of the land-based appliances commonly associated with firefighting, such as water pumpers and water tankers, are purchased by the RFS and vested with local councils under the Rural Fires Act. The vesting of firefighting assets with local councils means that the assets are legally owned by the council for which the asset has been purchased. The RFS is able to use the firefighting assets through District Service Agreements with local councils or groups of councils.

In addition to the land-based firefighting fleet, the RFS owns a fleet of aircraft with capabilities for fire mitigation, suppression, and reconnaissance during fire events. The RFS hires a fleet of different appliances to assist with fire prevention and hazard reduction works. These include aircraft for firefighting and fire reconnaissance, and heavy plant equipment such as graders and bulldozers for hazard reduction. Hazard reduction works include the clearance of bush and grasslands around major roads and protected assets, and the creation and maintenance of fire trails and fire corridors to assist with fire response activity.

The RFS is organised into 44 RFS Districts and seven Area Commands. The RFS relies on volunteer firefighters to assist in carrying out most of its firefighting functions. These functions may include the operation of the fleet during fire response activities and training exercises, and the routine inspection of the fleet to ensure it is maintained according to fleet service standards. Volunteer fleet inspections are supervised by the RFS Fire Control Officer.

In 2021 there were approximately 73,000 volunteers located in 1,993 rural fire brigades across the State, making the RFS the largest volunteer fire emergency service in Australia. In addition to brigade volunteers, the RFS has approximately 1,100 salaried staff who occupy leadership and administrative roles at RFS headquarters and in the 44 RFS Districts.

Local councils have legislative responsibilities relating to bushfire planning and management. Some of the core responsibilities of local councils include:

- establishing and equipping rural fire brigades
- contributing to the Rural Fire Fighting Fund
- vested ownership of land-based rural firefighting equipment
- carrying out firefighting fleet maintenance and repairs
- conducting bushfire prevention and hazard reduction activity.

The objective of this audit was to assess the effectiveness of the RFS and local councils in planning and managing equipment for bushfire prevention, mitigation, and suppression. From the period of 2017 to 2022 inclusive, we addressed the audit objective by examining whether the NSW RFS and local councils effectively:

- plan for current and future bushfire fleet requirements
- manage and maintain the fleet required to prevent, mitigate, and suppress bushfires in NSW.

This audit did not assess:

- the operational effectiveness of the RFS bushfire response
- the effectiveness of personal protective equipment and clothing
- the process of vesting of rural firefighting equipment with local councils
- activities of any other statutory authorities responsible for managing bushfires in NSW.

As the lead combat agency for the bushfire response in NSW, the RFS has primary responsibility for bushfire prevention, mitigation, and suppression.

Three local councils were selected as case studies for this audit, Hawkesbury City Council, Wagga Wagga City Council and Uralla Shire Council. These case studies highlight the ways in which the RFS and local councils collaborate and communicate in rural fire districts.

Conclusion

The RFS has focused its fleet development activity on modernising and improving the safety of its land-based firefighting fleet, and on the purchase of new firefighting aircraft

The RFS has reduced the average age of the firefighting fleet from approximately 21 years in 2017, to approximately 16 years in 2022. The RFS has also enhanced the aerial fleet with the addition of six new aircraft to add to the existing three aircraft.

Recommendations from inquiries into the 2019–20 bushfires have driven significant levels of fleet improvement activity, mainly focused on the addition of safety features to existing fleet appliances. The RFS has dedicated most of its efforts to purchasing and refurbishing firefighting appliances of the same type and in the same volumes year on year.

However, the RFS is unable to demonstrate how the composition, size, or the locations of the NSW firefighting fleet is linked to current fire prevention, mitigation, and suppression requirements, or future fire risks.

There is limited evidence that the RFS has undertaken strategic fleet planning or assessment of the capability of the firefighting fleet to respond to current bushfire events or emerging fire risks

The RFS has not established a methodology to assess the composition or volumes of the firefighting fleet against fire activity and fire risks in the 44 NSW Rural Fire Districts. The RFS has not developed performance measures or targets to assess or report on fire response times in each of its districts, nor has it developed measures to assess the effectiveness of responses according to fire sizes and fire types. Similarly, the RFS has limited performance measures to assess fire prevention activity, or to assess fuel load reduction works, so it is not possible to assess whether its fleet capabilities are fit for these purposes.

The RFS does not have an overarching strategy to guide its planning, procurement, or distribution of the firefighting fleet

RFS fleet planning and fleet allocations are based on historical fleet sizes and compositions, and distributed to locations where there are appropriately trained brigade volunteers.

The RFS takes an asset protection approach to bushfire prevention and planning that is based on the Australian and New Zealand Standard for Risk Management. This approach requires that the RFS identify assets at risk of fire, and develop treatment plans to protect these assets. However, fleet requirements are not linked to NSW asset protection plans, meaning that fleet is not allocated according to the identified risks in these plans. Further, the RFS does not develop fire prevention plans for areas where there are no identified assets.

The RFS has not conducted future-focused fleet research or planning into technologies that match fleet capabilities to emerging or future fire risks. Since the significant fire events of 2019–2020, the RFS has not changed its approach to planning for, or assessing, the operational capabilities of the fleet. The RFS advises it is scoping a project to match resources to risk, which it plans to commence in 2023.

The RFS does not have effective oversight of fleet maintenance activity across the State, and is not ensuring the accuracy of District Service Agreements where maintenance responsibilities are described

The RFS does not have a framework to ensure that District Service Agreements with local councils are accurate. Almost two thirds of service agreements have not been reviewed in the last ten years, and some do not reflect actual maintenance practices. There is no formalised process to ensure communication occurs between the RFS and local councils for fleet management and maintenance.

RFS fleet management systems at the central level are not integrated with RFS district-level databases to indicate when fleet assets are in workshops being maintained and serviced. The RFS has a new centralised Computer Aided Dispatch System that relies on accurate fleet locations and fleet condition information in order to dispatch vehicles to incidents and fires. A lack of interface between the district-level fleet systems and the centralised RFS fleet dispatch system, may impact on operational responses to bushfires.

1. Key findings

Most RFS fleet planning has been focused on replacing and upgrading an ageing firefighting fleet with new appliances of the same type and in the same volumes

For the most part, the RFS approach to fleet planning and enhancement has been directed to replacing ageing firefighting tankers and pumpers, and upgrading older fleet appliances with new safety features. This approach has been driven by its Appliance Replacement Program Guide. In recent years, the RFS has accelerated its fleet replacement and refurbishment activity with additional funding. The one exception to this fleet upgrade approach, has been the enhancement of the aerial firefighting fleet. Since 2017, the RFS has planned for, and added, six new aircraft to its existing fleet of three aerial assets. There is limited evidence of any other RFS research or activity to investigate new fleet technologies for modern firefighting.

Business cases show that RFS fleet planning activity has been focused on bringing existing firefighting fleet vehicles up to service standards. RFS service standards specify that firefighting fleet assets have a service life of 25 years, after which they require significant maintenance, and should be replaced. In 2022, 19% of the RFS fleet was older than 25 years.

While the service life of a firefighting appliance is 25 years, the life of the asset can be shorter. According to the RFS, after 15 to 20 years, firefighting assets require additional maintenance and this can be costly. In addition, the RFS reports that older vehicles lack specialist systems and equipment, and technical obsolescence 'can impact on frontline operational effectiveness and safety'.

The pace of RFS fleet replacement and renewal has been influenced by factors such as the overall funding envelope for firefighting appliances in NSW, and the fleet production capabilities of the fleet building industries. In 2020–21, a significant increase in NSW Government funding meant that the RFS was able to double its purchase of new tankers and double the planned refurbishment of existing tankers. The RFS has reduced the average age of the firefighting fleet from 21 years in 2017, to 16 years in 2022.

The RFS has not made significant changes to its fleet planning in the past five years, basing most of its fleet requirements on historical fleet types and volumes

The RFS has not developed a formula or methodology to assess fleet requirements according to fire response activity, or the performance of rural fire brigades in responding to fire events. The RFS is also not using data analytics to calculate its fleet requirements across its 44 RFS Districts.

The RFS takes an asset protection approach to its bushfire prevention activity. This means that the RFS develops bushfire treatment plans for areas where there are identified assets, but does not develop treatment plans for areas where there are no assets. These areas with no assets can include remote bushlands and heavily vegetated areas.

The RFS firefighting fleet requirements are not linked to the RFS asset protection approach to bushfire management. The ongoing distribution of RFS fleet assets is predominantly based on the historical location of appliances, and not on the assessment of risks or the capability of the fleet to respond to fire incidents in RFS regions and districts.

All RFS Districts have a ten-year fleet management plan. Up until recent years, RFS District managers have been making bids for modest increases to their fleet profile based on historical fleet numbers and appliance types described in fleet management plans. This fleet bidding process usually involved district-level consultations with brigade volunteers about fleet capability.

Local-level Bush Fire Risk Management Committees, which include representatives from the RFS, are required to develop Bush Fire Risk Management Plans for every rural fire district in NSW with a reasonable risk of bushfires. These plans are not being updated regularly, so they are not always a reliable indicator of bushfire risk. At the time of this audit, approximately half of the State's district-level Bush Fire Risk Management Plans had not been updated within five years as required by legislation.

The plans describe local Asset Protection Zones, and include information about the fire risks and hazards associated with the local terrain types in the district. Plans contain information about the routine hazard reduction treatments to protect local assets, and the agencies responsible for carrying out works annually. The RFS advised that it is in the process of updating these plans and is reporting quarterly on progress to the NSW Parliament as required by the NSW Bushfire Inquiry 2020.

In recent years, central managers at RFS Headquarters have taken over fleet planning from RFS Districts. The fleet production department of RFS is now solely responsible for coordinating the distribution of fleet assets to districts and rural fire brigades, and this occurs without input from RFS Districts. In general, the fleet allocation process is following a one-for-one replacement of appliances.

The RFS has limited measures to assess the performance or the capability of the firefighting fleet to respond to fire incidents and risks

The RFS does not report on any performance metrics regarding the capability of rural fire brigades to respond to fires. The RFS has not developed targets to assess the performance of brigades or districts in relation to fire management activity. The RFS does not measure the time it takes for brigades to reach fires, or assess the number and size of fires in each of its 44 NSW Rural Fire Districts. Without metrics of fire activity, or assessments of brigade performance against set measurements and targets, it is not possible to determine whether the current RFS fleet size and composition is appropriate to meet fire activity and risks in different NSW regions.

In 2020–21, the RFS reported over 4,700 incidents of bush, grass, and forest fires across NSW – approximately half the number recorded in the previous year. The RFS publishes statewide, aggregate fire incident data, but does not identify the regions or districts where fire activity was higher, or areas where the risks in NSW were greater.

RFS publishes information about the number and types of firefighting fleet in each of its seven NSW Command Areas. However, the RFS does not publish information or analysis about the fleet capability to meet regional fire events or risks. RFS reporting does not include fire incident response times, nor does reporting contain information on the suitability of appliance types to meet identified risks. Therefore, it is not possible to assess whether the RFS has the right assets in the right regions according to data that identifies the fire risks in each district.

In September 2022, the RFS indicated that it would be implementing targets to limit 80% of fires in NSW to under ten hectares. The RFS Commissioner advised that fires can be kept under ten hectares through early interventions. The RFS intends to use aerial detection aircraft and satellite technologies to access fires 'when they're in their infancy, when lightning strikes ... and make sure we're on top of them'. The RFS has not provided information about whether the ten-hectare target will influence its acquisition or distribution of land-based fleet types or volumes.

The RFS is in the process of implementing a new system that uses artificial intelligence to predict fires. The system is called Athena and it has capabilities for fire risk visualisation, risk modelling, and the use of social media to gather fire risk intelligence. Athena combines data filtering methods with machine learning technologies to predict the location of future fires. It is not yet clear whether the Athena system will influence the type or location of fleet assets across the State.

The RFS does not have a fleet strategy to address future fire risks for the State

While the RFS has an approach to updating and replacing its aged land-based fleet, it does not have a methodology that demonstrates the logic or planning behind the firefighting fleet size, fleet type, or locations, according to climate risks or other predicted risks. The RFS is not able to demonstrate the ways in which research into fire risks, such as fire incident trend data, informs its planning for future fleet requirements.

In recent years, the RFS published the first of its two NSW Bush Fire Season Outlook Statements. The Outlook Statements describe NSW bushfire fuel loads in their current and predicted state, and the areas where there is predicted potential for bushfires. Maps show the likelihood of fuel loads being susceptible to fire across NSW, through analysis of location-based, climate predictions for the season. It is not clear how this information is used to inform fleet planning or fleet distributions.

The RFS could not provide evidence linking predictive data from Outlook Statements to fleet planning activity or allocations to RFS Districts. There is no evidence that Outlook Statement data is used to inform the allocation of fleet vehicles to districts where there are higher fuel loads or higher levels of predicted risk. The RFS advises that work is in preliminary stages to integrate information from the Outlook Statement into its cyclic maintenance planning and the management of its Asset Protection Zones.

The RFS advises that, for the most part, fleet types and locations have been determined by historical decisions. Decisions about the fleet are ultimately made by senior managers at RFS Headquarters but there is no framework to explain how the fleet decisions are made or how the RFS assures itself that its fleet is fit-for-purpose in a changing climatic environment. The RFS advises that it is in the preliminary stages of developing a 'Resource to Risk program'.

The distribution and location of the firefighting fleet is dependent on the availability of trained volunteers

The NSW Rural Fire Service has approximately 73,000 volunteers in brigades across NSW. The RFS classifies the firefighting brigades into different levels according to the capabilities of its volunteer workforce. Brigades are also classified according to varying geographical, economic, and environmental risks, but a brigade's classification is not set automatically according to these fire risks. According to RFS service standards, brigades must have appropriate capabilities before they can be endorsed.

A brigade's classification level has a direct impact on the types and numbers of fleet resources that are allocated to each brigade. RFS brigade volunteers are assessed on their ability to maintain, manage, and operate the firefighting fleet. They are also assessed for operational capabilities and a willingness to engage, train, and sustain a range of firefighting and operational skills. The RFS advised that while classification levels inform consideration of what brigades are capable of and are prepared to do, along with the equipment requirements, these classifications dictate the equipment and training brigades receive.

Given that brigade members are volunteers, they have autonomy in making decisions about the levels of firefighting activity that they're prepared to commit to each year. Some brigade personnel are prepared to commit to firefighting exclusively, and others extend their commitment to hazard reduction work, such as clearing grasslands and bush, and highway roadside maintenance. These factors impact on the fleet appliances that are housed within each brigade.

Brigades with higher classification levels such as Village 1 Brigades or Village 2 Brigades are more likely to have several fleet appliances and higher levels of capability in terms of skilled membership. Other rural and remote brigades have lower levels of capability and lower levels of appliances.

The RFS has to consider how fire response coverage can be provided to areas with lower functioning brigades. The RFS relies on the capabilities of neighbouring brigades to assist during fire events. Brigades with highly trained volunteers assist those with limited numbers of volunteers, or with volunteers with limited capabilities to manage firefighting appliances.

After the 2019–2020 fires, there was an influx of new firefighting volunteers. The advent of COVID-19 limited the ability of the RFS to maintain a training schedule for new volunteers, and the numbers of volunteers have since declined. Currently, the RFS does not have a strategy to ensure it can make full use of its fleet appliances in the areas where the fire risks are identified.

The RFS does not have a protocol to review its service agreements with local councils to ensure they are accurate and reflect current fleet servicing and maintenance practices

The Rural Fires Act specifies that local councils are required to service, maintain, and repair the firefighting fleet in accordance with RFS service standards. Councils usually transfer this responsibility to the RFS through District Service Agreements. RFS District personnel are responsible for ensuring that service agreements with local councils are current and effective, and that service standards and performance indicators specified in the agreements are met.

The RFS does not have monitoring and quality control processes to ensure that District Service Agreements with local councils are reviewed regularly. The RFS currently has 73 agreements with councils for firefighting fleet maintenance. Only four service agreements specify an end date, which should provide an automatic trigger for a review of the agreement. Of the agreements with an end date, one expired in 2010 and had not been reviewed at the time of this audit.

Sixty-three per cent of the service agreements between the RFS and local councils have not been updated in the last ten years. While there is no end date for most service agreements, when these agreements are not reviewed periodically, there is a risk that they become outdated, and do not reflect service arrangements.

According to service agreements, the RFS must provide local councils with a register of the firefighting fleet assets within their council boundaries. Councils report that this information is not always provided, and some councils report discrepancies in the fleet listings provided by the RFS.

Three councils were selected as case studies for this audit and, in one instance, the service agreement between the council and the RFS does not describe the actual fleet maintenance arrangements. This indicates poor communication between the RFS and local councils, and a lack of monitoring and reporting of fleet maintenance practices and agreements. The RFS does not have quality control processes or a management framework to ensure that service agreements are updated regularly. RFS advised that it is in the process of drafting a revised District Service Agreement for consultation with local government.

The RFS does not have effective systems for communicating with brigades and local councils about fleet management, and as a result, records are not always promptly updated

The RFS uses a fleet management system known as SAP EAM to record the location and status of firefighting fleet assets across NSW, including the land-based fleet that is vested with local councils. The system holds information about the condition of the firefighting fleet, the home location of each fleet asset, and the maintenance, servicing, and inspection records of all assets. The RFS uses the system for almost all functions related to the firefighting fleet, including the location of vehicles so that they can be dispatched during operational exercises or fire responses.

RFS District managers do not have permissions to enter information into the SAP EAM system about fleet locations. This work must be done by data managers at RFS Headquarters, and it means that RFS District staff must communicate district-level fleet movements to RFS Headquarters. This process can be time consuming and inefficient. At the time of this audit during mid-2022, the data manager position at RFS Headquarters was vacant. This vacancy was impacting on the ability of the agency to update fleet records. RFS District managers reported long wait times in response to their requests to change information in SAP EAM.

RFS brigade volunteers do not have access to the fleet management system. When fleet assets are used or moved, volunteers report on the location and condition of the fleet to RFS District staff using a paper-based system. Any changes to fleet location or fleet activity are then communicated to data managers at RFS Headquarters by email or phone. When volunteers do not report the relocation of assets to RFS District staff, or when there is a lapse in the reporting and the recording of fleet movement at the central system level, this can lead to system inaccuracies. Lapses and backlogs in record keeping can occur when RFS staff in the districts and at RFS headquarters are not available to update records at the time that volunteers report information.

In instances where brigade volunteers consider that the firefighting fleet has not been maintained to RFS service standards, they must notify RFS District staff. Brigade personnel and volunteers do not have visibility over how their requests are tracking through the system. They do not know whether their requests have been approved, actioned, or rejected. Any inaccuracies or lapses in updates to the SAP EAM system leads to an overall lack of visibility about the maintenance, status, or location of firefighting fleet assets. Inaccurate fleet data can potentially impact on the operational capabilities of the fleet.

The RFS conducts annual audits of system information to ensure that fleet location data is accurate and complete. At the time of this audit, RFS reported that work needs to be done to correctly assign vehicles to the districts where vehicles have been assigned. RFS District personnel advise that significant work needs to be done to cleanse fleet location data in the SAP EAM system.

2. Recommendations

By December 2023, the Rural Fire Service should:

1. develop a fleet enhancement framework and strategy that is informed by an assessment of current fleet capability to respond to fire incidents, and research into the most appropriate technologies and appliances to address emerging and future fire risks across NSW
2. develop performance measures to assess the performance and capabilities of the fleet in each RFS District by recording and publicly reporting on:
 - fire response times and fire response outcomes
 - completions of fire hazard reduction works
3. report annually on fleet allocations to RFS Districts, and identify the ways in which fleet resources align with district-level fire risks
4. develop a strategy to ensure that local brigade volunteers are adequate in numbers and appropriately trained to operate fleet appliances in the RFS Districts where they are required
5. establish a fleet maintenance framework to ensure regular update of District Service Agreements with local councils
6. review and improve processes for timely recording of fleet asset movements, locations, and maintenance status.

1. Introduction

1.1 Background

In 2019–20, NSW experienced a bushfire season that was described by both the RFS and the NSW Bushfire Inquiry as unprecedented in scale, duration, and intensity. The bushfire season started early in July 2019 and by March 2020 fires had burnt approximately 5.5 million hectares across the State. RFS volunteers undertook more than 186,000 firefighting shifts. Twenty-six lives were lost, including the lives of seven volunteer firefighters. More than 7,476 homes and buildings were destroyed, and an estimated 800 million animals died.

Scientists from the Australian Climate Council advise that the factors that exacerbate the risk of bushfire, such as drought and high temperatures, have worsened and intensified bushfire seasons in Australia. These predictions are supported by the Intergovernmental Panel on Climate Change which found that each of the last four decades has been successively warmer, and surface temperatures will continue to increase until at least the mid-century. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Bureau of Meteorology (BoM) report that extreme weather across Australia is more frequent and intense, and longer-term changes to weather patterns have led to an increase in the frequency of severe bushfires.

With forecast changes to the climate, bushfire planning and management for current and future conditions will require sustained commitment from fire authorities. This includes understanding bushfire risks before the bushfire seasons begin, and taking action to mitigate and suppress bushfire risks both before, and during, the bushfire seasons. The fleet appliances that are used to mitigate and respond to bushfires, are critical to this activity. Fleet appliances must be fit for purpose, functional, and equipped with up-to-date technologies so that firefighters have the highest levels of safety and firefighting capability.

1.2 NSW Rural Fire Service

The NSW RFS has responsibilities for preventing, mitigating, and suppressing bushfires across 95% of NSW. Fire and Rescue NSW is responsible for fire responses in the remaining five per cent of the State, predominantly in the cities and townships where 90% of the population resides. As the lead combat agency for bush and grass fires in NSW, the RFS has the power to take charge of bushfire prevention and response operations anywhere in the State.

In 2021–22, the RFS responded to a total of 22,885 fire and emergency incidents, including 4,746 bush, grass, and forest fires.

The RFS has approximately 1,993 rural fire brigades, located across the State. Rural fire brigades are organised into 44 RFS Districts and seven RFS Command Areas. RFS operations are managed centrally from its headquarters in Sydney Olympic Park.

The RFS relies on volunteers to carry out most of the firefighting functions. RFS volunteers are attached to one or more rural fire brigades. The RFS has approximately 73,000 volunteers, and about 1,100 salaried staff. Approximately 60% of salaried staff are also volunteers.

1.3 Local councils

Local councils have several functions relating to bushfire management planning, and fleet management and maintenance. Part four of the Rural Fires Act sets out the local council responsibilities. Local councils contribute to the preparation of bushfire management plans in conjunction with the RFS and other government and non-government agencies. Local councils have a legislated responsibility to service and maintain bushfire fleet appliances. However, this responsibility is generally carried out by the RFS through service agreement arrangements.

Local councils contribute funds to the Rural Fire Fighting Fund. These funds go towards the purchase of fleet assets and their maintenance. Local councils contribute 11.7% to the Rural Firefighting Fund, the NSW Government contributes 14.6%, and insurance companies contribute 73.7%. Local councils are not responsible for planning or purchasing firefighting fleet assets and do not have firefighting responsibilities.

In addition to funds available from the Rural Fire Fighting Fund, the RFS has access to funds from public donations. In order to manage all publicly donated funds, the NSW RFS established a Brigades Donation Fund in 2012. This fund contains donated funds that were received after the 2019–2020 bushfires, including those raised by Celeste Barber. In 2020, the NSW Supreme Court determined that funds from the Brigades Donation Fund could not be used to purchase new fleet assets. According to the trust deed, funds are primarily to be used for firefighting equipment and improvements to fleet safety. This includes personal protective equipment such as helmets, respirators, and face masks, and the retrofitting of firefighting fleet with new safety systems.

Exhibit 1: Functions and responsibilities for certain land-based rural firefighting equipment as described in legislation or as granted through District Service Agreements

Function	RFS	Councils
Suppress fires in rural fire districts	✓	✗
Mitigate and prevent fires through hazard reduction activities ¹	✓	✓
Form and disband rural fire brigades ²	✓	✓
Recruit and manage volunteer firefighters	✓	✗
Contribute to the Rural Fire Fighting Fund	✗	✓
Purchase and distribute the firefighting fleet	✓	✗
Acquire vested ownership of certain rural firefighting equipment	✗	✓
Use the firefighting fleet through service level agreements with local councils	✓	✗
Maintain and repair the firefighting fleet ³	✓	✓

Notes:

- Under the Rural Fires Act, bushfire prevention and hazard reduction works are the responsibility of land managers, which include local councils, government and non-government agencies, and private property owners. While the RFS is not a land manager, it does conduct hazard reduction activity in support of these land managers. RFS hazard reduction responsibilities are set out in local Bush Fire Risk Management Plans.
- The RFS may form and disband rural fire brigades if any local council requested to form a brigade refuses or fails to do so after being requested to do so by the RFS Commissioner.
- The RFS is responsible for maintaining and servicing the aerial fleet. Under the Rural Fires Act, local councils are responsible for maintaining and servicing vested land-based fleet assets. The RFS may enter into District Service Agreements with local councils to carry out fleet maintenance and repair work on behalf of councils.

Source: Audit Office analysis.

1.4 Firefighting fleet appliances

The RFS relies on a range of fleet appliances to carry out its legislated function to prevent, mitigate, and suppress bushfires in NSW. This audit focused on the large fleet assets such as fire tankers, pumpers, personnel transport and command vehicles, bulk water carriers, general purpose trailers, communications vehicles and trailers, catering vehicles and trailers, marine craft, and aircraft. According to RFS records, in 2021 there were 6,345 operational land-based vehicles, marine craft, and aircraft across NSW.

Most of the land-based, operational firefighting fleet is vested with local councils, meaning that councils have legal ownership of these assets. This land-based fleet has been historically known as the 'red fleet', and the RFS is able to use these appliances through service agreements with local councils.

The RFS owns some of the firefighting fleet. This includes six helicopters, a large air tanker (Boeing 737 Fireliner), and two citation jets. The RFS owns and operates a fleet of transport and communication vehicles, historically described as the 'white fleet'. These non-firefighting vehicles include cars, personnel transport vehicles, and catering vehicles. The RFS also owns and operates some heavy plant vehicles such as bulldozers and graders that are used for fire hazard reduction activities.

Local councils have their own heavy plant vehicles that are used for council hazard reduction activity and road maintenance works. These include bulldozers, graders, and front-end loaders. Some councils supply these vehicles to the RFS via contract arrangements. These council vehicles can be listed on an RFS-managed Heavy Plant Register.

1.5 About this audit

The objective of this audit was to assess the effectiveness of the RFS and local councils in planning and managing bushfire equipment. In this report, the term equipment is used to describe land, sea, and air firefighting fleet appliances.

We addressed the audit objective by examining whether, from the period 2017 to 2022, inclusive the NSW RFS and local councils effectively:

- plan for current and future bushfire fleet requirements
- manage and maintain the fleet required to prevent, mitigate, and suppress bushfires in NSW.

As the lead combat agency for the bushfire response in NSW, the RFS has primary responsibility for bushfire prevention, mitigation, and suppression.

Three local councils were selected as case studies for this audit, Hawkesbury City Council, Wagga Wagga City Council and Uralla Shire Council. These case studies highlight the ways in which the RFS and local councils collaborate and communicate in rural fire districts. The audit did not assess the activities of the other statutory authorities responsible for managing bushfires in NSW.

Our rationale for selecting the three councils included:

- high bushfire frequency
- diverse geographic locations
- diverse council sizes
- differing arrangements for fleet coordination and management.

More information about the audit approach is described at Appendix two.

2. Firefighting fleet planning and reporting

The RFS has not made significant changes to the size or composition of the firefighting fleet in the past five years and does not have an overarching strategy to drive fleet development

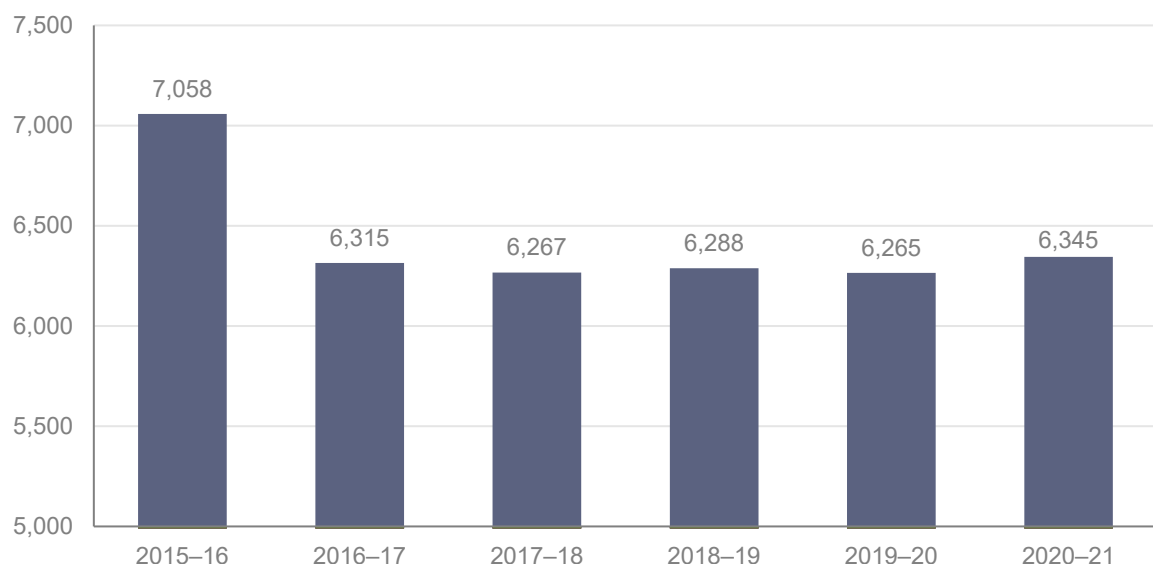
Since 2017, the RFS has made minimal changes to its firefighting fleet volumes or vehicle types. The RFS is taking a fleet renewal approach to fleet planning, with a focus on refurbishing and replacing ageing firefighting assets with newer appliances and vehicles of the same classification and type. While the RFS has adopted a fleet renewal approach, driven by its Appliance Replacement Program Guide, it does not have a strategy or framework to guide its future-focused fleet development. There is no document that identifies and analyses bushfire events and risks in NSW, and matches fleet resources and fleet technologies to meet those risks. The RFS does not have fleet performance measures or targets to assess whether the size and composition of the fleet is meeting current or emerging bushfire climate hazards, or fuel load risks across its 44 NSW Fire Districts.

The RFS fleet currently comprises approximately 4,000 frontline, operational firefighting assets such as tankers, pumpers, and air and marine craft, and approximately 2,300 logistical vehicles, such as personnel transport vehicles and specialist support vehicles. Of the land-based firefighting vehicles, the RFS has maintained a steady number of approximately 3,800 tankers and 65 pumpers, year on year, for the past five years. This appliance type is an essential component of the RFS land-based, firefighting fleet with capabilities to suppress and extinguish fires.

Since 2017, most RFS fleet enhancement activity has been directed to upgrades and the modernisation of older fleet assets with new safety features. There is limited evidence of research into new fleet technologies for modern firefighting. The RFS fleet volumes and fleet types have remained relatively static since 2017, with the exception of the aerial firefighting fleet. Since 2017, the RFS has planned for, and purchased, six additional aircraft to add to the existing three aircraft in its permanent fleet.

While the RFS has made minimal changes to its fleet since 2017, in 2016 it reduced the overall number of smaller transport vehicles, by purchasing larger vehicles with increased capacity for personnel transport. The consolidation of logistical and transport vehicles accounts for an attrition in fleet numbers from 7,058 in 2016, to 6,315 in 2017 as shown in Exhibit 2.

Exhibit 2: RFS operational vehicles boats and aircraft from 2016 to 2021



Source: Audit Office analysis of information provided by the RFS.

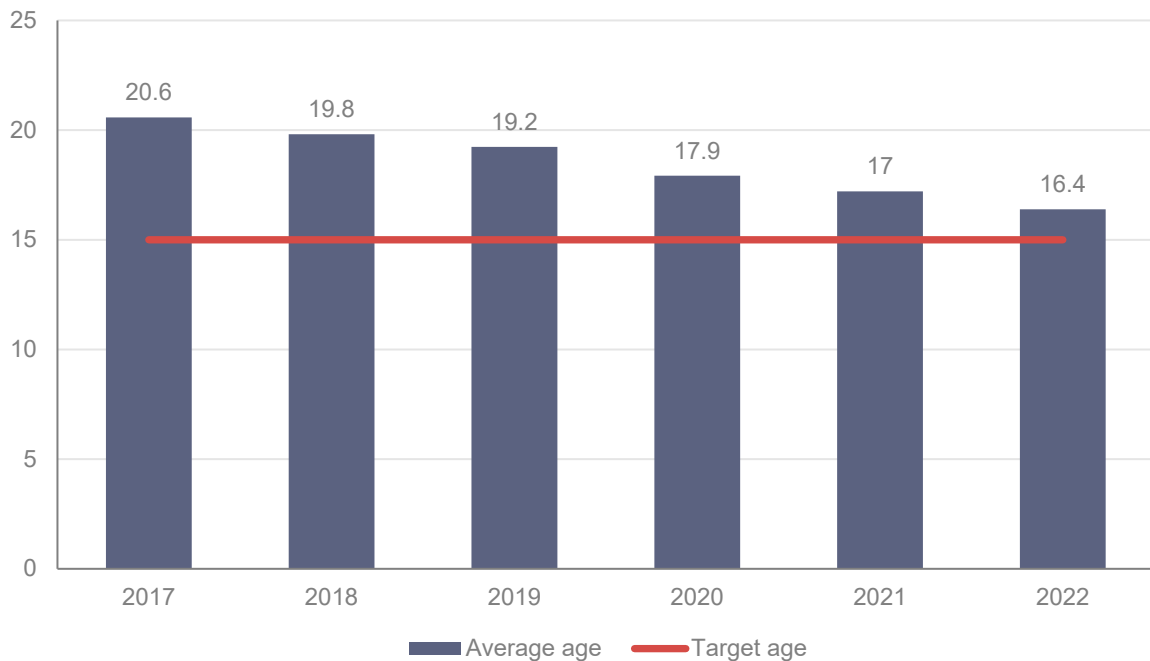
The focus of RFS fleet planning has been to modernise and reduce the average age of fleet appliances, and while progress has been made, targets are yet to be met

RFS business cases show that the agency has been focused on upgrading an ageing firefighting fleet in an effort to bring its vehicles up to service standards. RFS service standards specify that firefighting fleet assets have a service life of 25 years, after which they have reached the end of their functional and economic life.

The RFS has been working on refurbishing and replacing hundreds of vehicles since 2017. In 2020–21 alone, the RFS allocated 269 new vehicles to brigades across the State. These appliances replace older vehicles and go some way towards achieving the RFS objective – to establish a firefighting fleet with an average age of 15 years. While the service life of an asset is 25 years, the economic life of the asset is shorter, at between 15 to 20 years. After this period, the asset requires additional maintenance. Older vehicles lack specialist systems and equipment, and according to the RFS, technical obsolescence 'can impact on frontline operational effectiveness and safety'.

Over the past six years, the RFS has reduced the average age of its firefighting fleet by five years. In 2017, RFS appliances were in service for 21 years on average and by 2022 the average service age was 16 years as shown in Exhibit 3 below.

Exhibit 3: Average age of the firefighting fleet[^] from 2017 to 2022

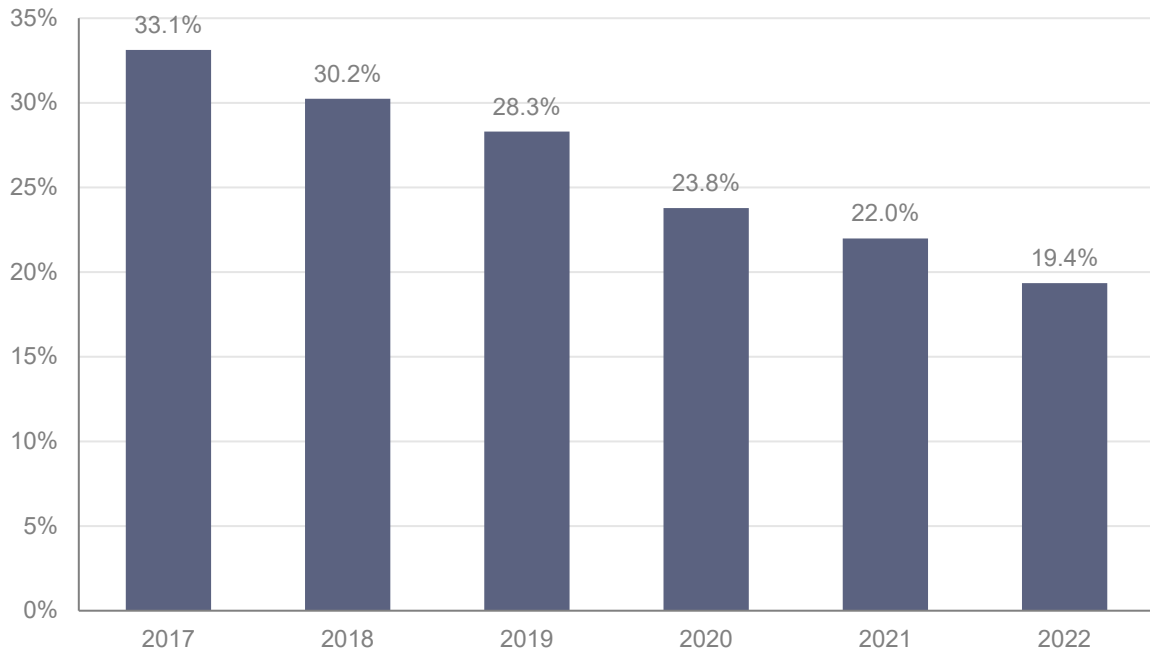


[^] Firefighting fleet data in this exhibit are fleet assets located with local councils. This fleet type has historically been described as the 'red fleet' and includes a range of firefighting pumpers and tankers and personnel transport.

Source: Audit Office analysis of information provided by the RFS.

Despite progress to reduce the average age of the fleet, the RFS continues to have assets that are older than 25 years. Nineteen per cent of appliances were in this over 25 year category in 2022. While the average age of the fleet is dropping, the RFS is yet to reach its fifteen year, average age target as shown in Exhibit 4 below.

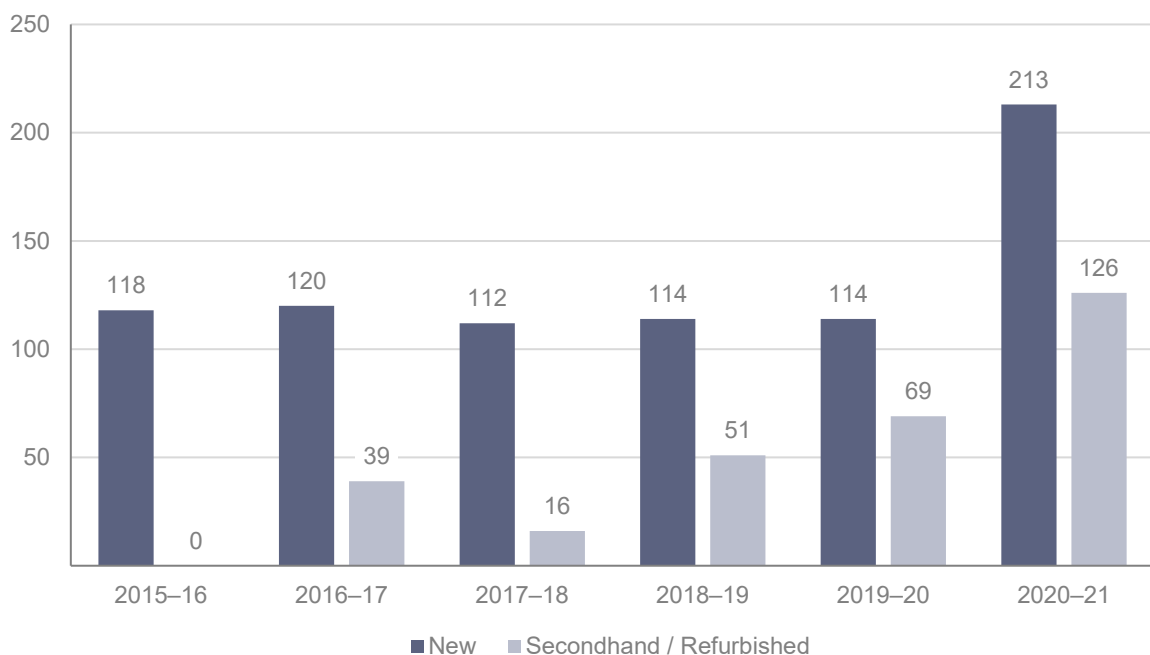
Exhibit 4: Percentage of firefighting assets 25 years and older from 2017 to 2022



Source: Audit Office analysis of information provided by the RFS.

The pace of RFS fleet replacement and renewal has been influenced by factors such as the overall funding envelope for firefighting appliances in NSW, and the fleet production capabilities of the fleet building industries. In 2020–21, a significant increase in NSW Government funding meant that the RFS was able to double its purchase of new tankers and double the refurbishment of existing tankers as shown in Exhibit 5.

Exhibit 5: Number of new and refurbished tankers allocated to brigades from 2015–16 to 2020–21



Source: Audit Office analysis of information provided by the RFS.

Government funding has not been sufficient to keep pace with the replacement costs of fleet appliances before they reach the end of their service life

In the ten years prior to the 2019–2020 bushfires, the RFS received an annual average of \$31.7 million in funding from the NSW Government for fleet renewal. During this timeframe, the RFS replaced or refurbished just over 170 fleet assets per annum.

Early in 2019, prior to the 2019–2020 summer of bushfires, the RFS presented the NSW Government with a business case seeking additional funding over ten years. It also sought a permanent adjustment to its baseline funding for the replacement, refurbishment and upgrading of firefighting appliances and operational vehicles.

The business case described an ageing fleet, with over 400 assets beyond their service life. It described 'historic under investment in the renewal of firefighting appliances', coupled with 'significant increases in appliance unit costs' as the reasons for an ageing fleet. The RFS identified more than 424 firefighting assets that were beyond their service life in 2019, at a replacement value of \$106.5 million.

The 2019 RFS business case identified a further 1,908 fleet assets that were due for replacement in the next ten years. The replacement value for these assets was estimated to be \$448.4 million.

Ageing vehicles and appliances suffer from reduced reliability and availability, due to greater maintenance downtime and higher support costs. Ageing assets also lack contemporary safety systems and may no longer comply with service standards.

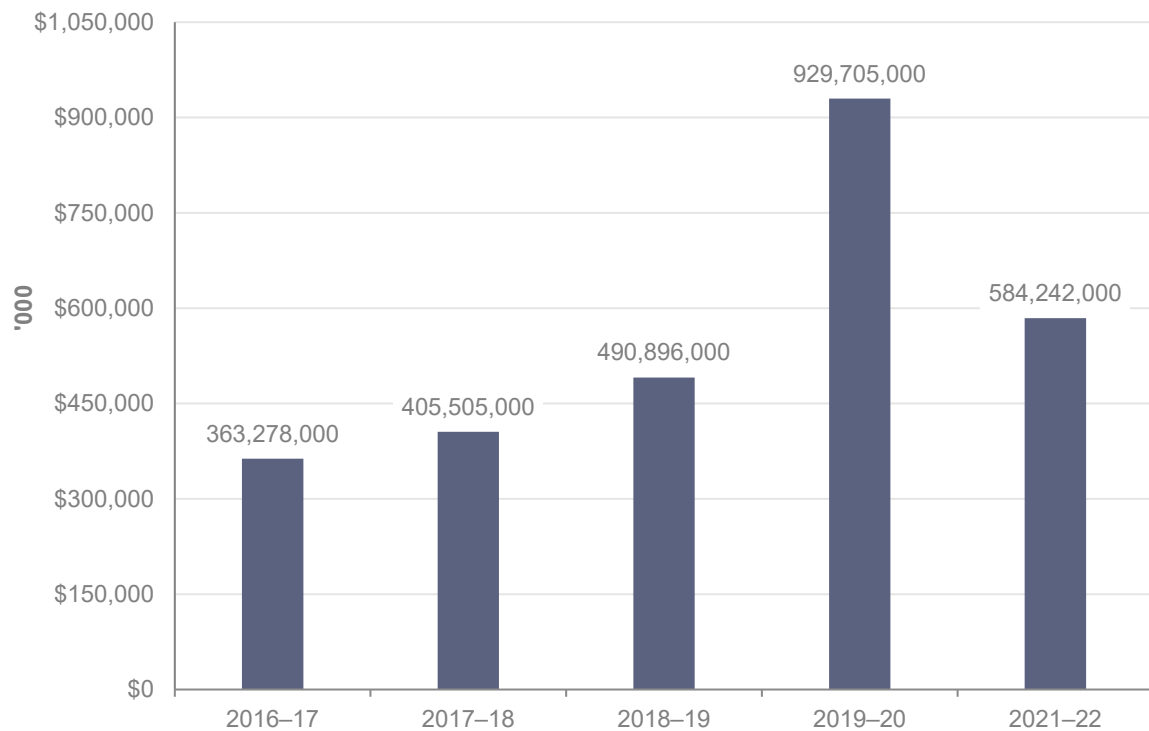
In 2020–21, the NSW Government provided the RFS with \$44.7 million in additional funding. In 2021, the RFS purchased 269 new firefighting vehicles. While this partially reduced the burden of an aged fleet, it was not sufficient to replace the 424 assets identified in the 2019 business case as having outlived their service life.

In 2022, the RFS presented a further business case to the NSW Government, requesting an enhancement to its baseline funding for fleet renewal. This business case was a joint submission with Fire and Rescue NSW, the NSW National Parks and Wildlife Service, and the Forestry Corporation NSW. This submission requested \$404.5 million in funding over eight years to implement Recommendation 40 of the NSW Bushfire Inquiry – to improve the safety of fire truck crew through the installation of cabin safety protections and the upgrade or replacement of fleet appliances.

In June 2022, the NSW Government allocated \$105.6 million to the RFS for new trucks and the retrofitting of old trucks to implement Recommendation 40 of the inquiry. RFS continues to add safety enhancements to the fleet such as the installation of radiant heat protection curtains in its tankers, and reports on progress to the NSW Government.

The NSW Government funding allocations to RFS from 2017 to 2022 are described at Exhibit 6 below.

Exhibit 6: NSW Government funding to the RFS between 2016–17 and 2021–22



Source: Audit Office analysis of information provided by the RFS.

The RFS has been implementing recommendations from the NSW Bushfire Inquiry to improve its fleet

Recommendations from bushfire inquiries have significantly driven RFS fleet planning, procurement, and expenditure since the 2019–2020 bushfires. In 2020, the NSW Bushfire Inquiry recommended that the RFS install a range of new technologies to meet firefighting fleet safety requirements in compliance with national and international safety standards. In the years since the NSW Bushfire Inquiry, the NSW Government provided funding of \$50.92 million (\$28.4 million in 2021–22 and \$22.5 million in 2022–23) for firefighting fleet safety upgrades and replacements.

The new safety modifications include the installation of rollover protections and falling object protections for fire trucks. The NSW bushfire inquiry found that 2,294 RFS vehicles were not compliant with fire protection safety features. The non-compliant vehicles were older appliances, built prior to 2008, and required the retrofitting of halo, self-protection sprays, and burn-over curtains.

In response to inquiry recommendations, the RFS installed a range of fleet communication technologies to improve contact with crews operating in firegrounds. Technologies included an acceleration of the roll out of mobile data terminals in firefighting vehicles, and the implementation of a computer aided dispatch system. The RFS advised that mobile data terminals will enable firefighters to share operational information with other firefighters and the incident management team in real time and improve its response capability. The RFS advised that 26 of its 44 RFS Districts have been using the computer aided dispatch system since December 2021.

The RFS is working with a number of agencies to implement the NSW Bushfire Inquiry safety recommendations. These collaborations involve State and Commonwealth government departments, emergency response groups, research bodies such as the CSIRO, and the Australian Bureau of Meteorology.

There is limited evidence of RFS research into modern fleet technologies for the prevention, mitigation, and suppression of bushfires

The RFS has not commissioned or published research into the fleet requirements or the fleet technologies that are required for modern firefighting. The RFS has not used the event of the 2019–20 bushfires to research new firefighting fleet technologies that could be used to identify fires when they are in early stages. This is a missed opportunity as significant funds have been expended on replacing the same fleet asset types and technologies, without research into whether these fleet appliances are the most effective for managing bushfire events in NSW.

While the RFS has recently purchased aircraft to assist with its aerial firefighting capabilities, there is limited evidence of other research into new firefighting fleet technologies and innovations. Since the 2019–2020 bushfire season, all research undertaken by the RFS and its partners has been focused on the behaviours of fire events and their impacts on communities, property, and assets. These research projects include a 2021 project undertaken with the Bushfire & Natural Hazards Cooperative Research Centre to investigate the ways in which fire risks are communicated to communities during fire events, and how communities behave in response to prolonged fire events. The RFS also contributed to a research project with the NSW Bushfire Risk Management Research Hub to investigate the behaviours of the 2019–2020 bushfires, and the impacts on assets and property.

The RFS advised it conducted a trial of remotely piloted aerial systems, commonly known as drones, in early 2022 to assess their ability to supplement aerial firefighting. The NSW Bushfire Inquiry found that drones were a valuable part of the aerial response during the 2019–2020 bushfires, providing situational awareness, livestreaming of bushfire conditions, and thermal data. The RFS also advised it was recently awarded \$3 million to conduct research into tethered drones and field robotics, with a view to enhancing firefighter safety and situational awareness.

The RFS also advised that in early 2022 it conducted a night trial using helicopters equipped with infrared technology, including a Chinook helicopter contracted from the United States. Infrared technology helps firefighters identify power lines and other potential hazards during emergencies. RFS reported that it will continue to improve its capability for night reconnaissance, response, and rescue.

The RFS is collaborating with the NSW Government, NSW fire authorities, and academics to investigate the historical and seasonal contexts of the 2019–2020 fires. This research is focused on the fire severity and behaviour, and the loss and damage to life and property. The future work of this collaboration will assess the impacts of the reduced fuel loads in NSW since the 2019–2020 bushfires, and the ways in which these fuel loads are likely to pose fire risks to life, property, and the environment.

The RFS advised it received \$16.1 million to fund temporary mitigation crew positions and trial new mitigation trucks and posi-track vegetation clearing equipment. Posi-track equipment can be used to clear vegetation in steep and difficult terrain. This equipment also reduces manual labour and enhances the safety of personnel.

There is a strong case for new research into fleet types and emerging technologies that can be used for the early identification and monitoring of fires, along with research into fleet appliances that can be used to mitigate and suppress the impacts of large wildfires on populations and the environment. In mid-2022, the RFS commenced a two-year project with academics and industry partners to research new firefighting fleet innovations.

The RFS has recently acquired six aircraft to add to its permanent fleet in order to improve its rapid bushfire response capabilities and to offset some of the costs of aircraft hire

In 2017, the RFS had one small helicopter and two medium-sized helicopters. These aircraft were the first additions to the RFS permanent aerial fleet. In 2019–20, the RFS acquired a water carrying Boeing 737 air tanker, to assist with bushfire suppression activities. The following year the RFS added two Cessna citation jets and three medium sized helicopters to its permanent fleet. The RFS advised that its Boeing 737 large air tanker, which is based in NSW, is the only one of its kind in Australia. The large air tanker is supported by two Cessna citation jets, or lead planes, which can scan and map bushfire activity and detect fire ignitions. In all, the RFS now has nine aerial assets. These aircraft are used for topographical imaging, thermal imaging, fire scanning, and fire suppression.

During fire seasons, the RFS has been supplementing its aerial firefighting capabilities with hired aircraft from other jurisdictions and private operators. The RFS has access to more than 100 aircraft. The RFS has contract arrangements with the Australasian Fire and Emergency Service Authorities Council for aircraft on a 'call when needed' basis. This national agency has cooperative arrangements with international providers of firefighting aircraft. However, during 2019–2020 when fires were burning across a number of Australian states and territories, there were limits on the aerial resources that could be provided to NSW.

During a significant fire event, senior officers at the State Air Desk are responsible for the coordination and prioritisation of aerial assets to bushfire sites. A State Operations Controller monitors the development of fire incidents and makes decisions about the allocation of aerial resources on advice from Incident Coordination Teams. During the 2019–2020 bushfires, some fire events had to be prioritised over others. The RFS reports that it was not able to respond to all fire events with aerial assets, given the finite level of resources, and the extent of the fire emergency during that season.

In 2019–20, the RFS spent more than \$255.5 million on aircraft hire for fire response activity during the unprecedented fire season. This expenditure was more than six times the amount spent in the previous year, when aircraft hire costs totalled \$42.5 million. RFS expenditure on aircraft purchased between 2019 and 2021, amounted to approximately \$31 million.

RFS business cases for aircraft purchases for the permanent fleet describe a need for a 'rapid firefighting response capability' and a need to offset some of the costs of airplane hire. Business cases indicate that helicopters can be rapidly deployed to remote fire ignitions on short notice, and these aircraft are suitable for response to fires up to ten hectares in size.

The RFS does not currently have a framework for assessing the capabilities of the permanent firefighting fleet, including the aerial fleet. However, the RFS is working with other Australian states and territories to ensure the right mix and type of aerial assets across the country. In 2020, a recommendation of the NSW Bushfire Inquiry directed the RFS to report to Resilience NSW on its aerial planning activity with the National Aerial Firefighting Centre.

The RFS has increased funding for bulldozers and graders to conduct fire hazard reduction works, but decreased funding for maintenance works on fire trails and fire breaks

The RFS is the lead agency with responsibility for bushfire hazard reduction in NSW. The RFS hazard reduction works include the creation of fire breaks, the maintenance of fire trails, and prescribed burning activities. The RFS has its own 'heavy plant' fleet for these works and is able to enhance this fleet with hired appliances from private or local government providers. Some of these include earth moving graders, bulldozers, excavators, and front end loaders.

Since 2017, the RFS increased its expenditure on its heavy plant fleet in small increments up until 2019–20, when expenditure was significantly increased. In 2017–18, the RFS spent \$2.3 million on heavy plant and made a minor increase in 2018–19 to \$3.2 million. In 2019–20, the RFS spent approximately \$73.1 million on heavy plant.

While RFS expenditure on the heavy plant fleet has increased over the past five years, expenditure on fire hazard reduction activity has been declining as a proportion of government funding. The highest proportional spend on fire mitigation was in 2016–17 when 2.3% of government funding was dedicated to this activity. In 2018–19, the year before the fires that impacted much of NSW and neighbouring states, the RFS received higher levels of government funds, but continued the trend of lower proportional spending on hazard reduction works. The lowest spend was in the year of the 2019–2020 bushfires when 0.6% of government funds was allocated to this activity.

It is not clear whether increased expenditure on the heavy plant fleet is connected to a lower proportional spend on hazard reduction works. There is limited information to explain the RFS changes to expenditure in its annual fire hazard reduction works.

Exhibit 7 shows the downward trend in expenditure on fire mitigation and the increasing spend on the heavy plant fleet since 2017.

Exhibit 7: Expenditure on fire mitigation works 2016–17 to 2020–21 as a proportion of government funding

	2016–17	2017–18	2018–19	2019–20	2020–21
NSW Government grants and contributions funding	\$363.3m	\$405.5m	\$490.9m	\$929.7m	\$584.2m
Fire mitigation expenditure	\$8.4m	\$8.0m	\$8.8m	\$5.4m	\$7.8m
Percentage of grants and contributions revenue	2.3%	2.0%	1.8%	0.6%	1.3%
Heavy plant expenditure	--^	\$2.3m	\$3.2m	\$73.1m	\$6.1m

^ Note: Information not available for the 2016–17 financial year.

Source: Audit Office analysis of information provided by the RFS.

The RFS advised that since the bushfires of 2019–2020, it has commenced a number of fire trail initiatives to create and maintain a strategic fire trail network. In 2021, the NSW Bushfire Inquiry recommended that the RFS conduct additional fire mitigation works across NSW and accelerate its work on fire breaks and fire trails.

The locations of the RFS firefighting fleet are largely determined by the availability and the capabilities of trained brigade volunteers

The RFS gives each firefighting brigade a classification level according to the capabilities of its volunteer workforce. While brigade classifications are also determined by the geographic and environmental risks in each location, a brigade classification is not set automatically, according to fire risks. Brigades must have appropriate capabilities before they can be endorsed, and in regions where fire risks may be high, the brigade will not receive a high classification if the volunteer workforce lacks fleet management capabilities.

A brigade's classification level has a direct impact on the types and numbers of fleet resources that are kept at each brigade. Brigade volunteers are required to maintain, manage, and operate the firefighting fleet, and members are assessed on their ability to carry out these functions. Volunteers are also assessed for operational capabilities and a willingness to engage, train, and sustain a range of firefighting and operational skills.

Brigade members are volunteers and have autonomy deciding the levels of firefighting that they're prepared to commit to each year. Some brigade personnel are prepared to commit to firefighting exclusively, while others extend their commitment to hazard reduction work, such as the clearing of bush and grasslands, and highway maintenance. These factors impact on the fleet appliances that are housed within each brigade. The process of brigade classification and fleet allocation occurs in collaboration with brigades on an annual basis.

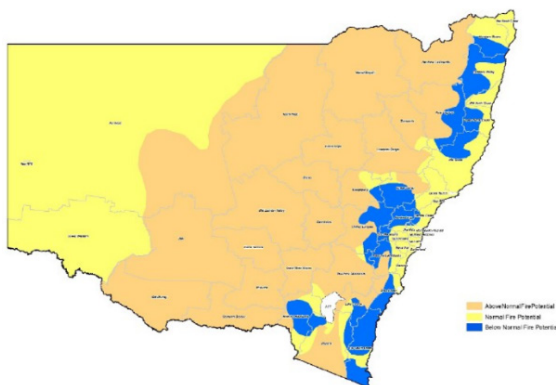
Brigades with higher classification levels such as Village 1 Brigades or Village 2 Brigades are likely to have several appliances and higher levels of capability in terms of skilled membership. Other rural and remote brigades have lower levels of capability and lower levels of appliances. The RFS has to consider how fire response coverage can be provided to areas with lower functioning brigades. The RFS looks at the capabilities of neighbouring brigades to assist during fire events.

The RFS publishes information about climate risks in NSW, but it is not clear how this information influences the size, composition, or locations of the firefighting fleet

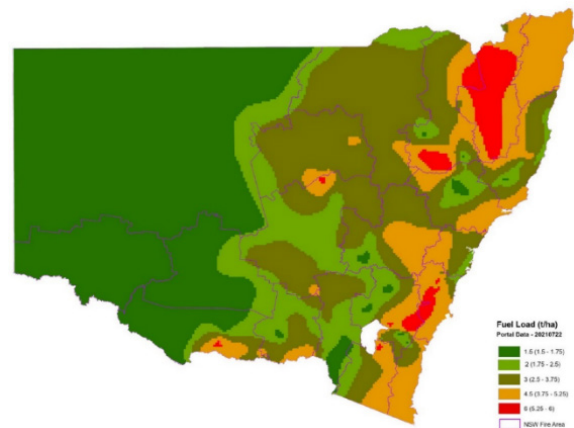
The RFS is not able to demonstrate the ways in which climate risk research or fire incident trends inform statewide fleet allocations. In recent years, the RFS published the first of its two NSW Bushfire Season Outlook Statements. The Outlook Statements describe NSW bushfire fuel loads in their current and predicted state and the areas where there is predicted potential for bushfires. Maps show the likelihood of fuel loads being susceptible to fire across NSW, through analysis of location-based, climate predictions for the season. It is not clear how this information is used to inform fleet planning or distributions.

Exhibit 8: NSW Seasonal bushfire outlook and grassland fuel loads for 2021–22

Seasonal bushfire outlook



Grassland fuel loads



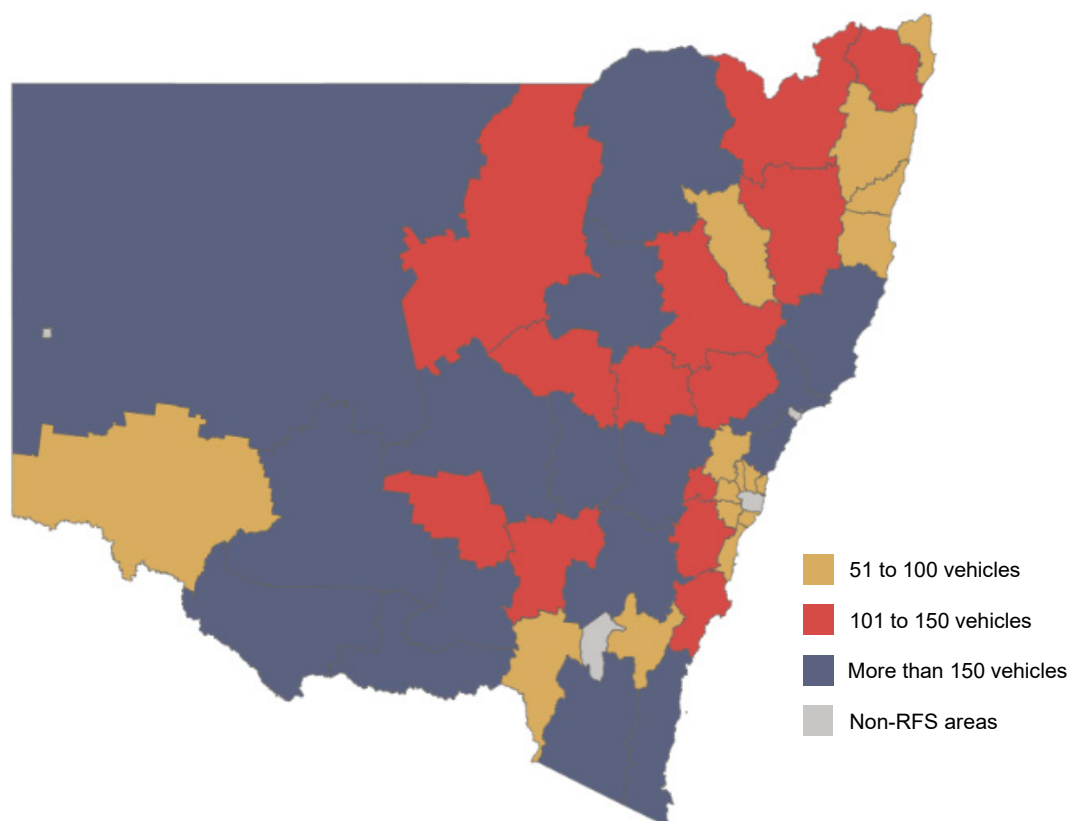
Source: NSW Seasonal Bush Fire Outlook 2021–2022.

The RFS could not provide evidence linking predictive data from Outlook Statements to fleet planning activity or allocations to RFS Districts. There is no evidence that Outlook Statement data is used to inform the allocation of fleet vehicles to districts where there are higher fuel loads or higher levels of predicted risk. The RFS advises that work is in preliminary stages to integrate information from the Outlook Statement into its cyclic maintenance planning and the management of its Asset Protection Zones.

As part of our analysis, we assessed the distribution of firefighting fleet in the RFS Districts. We listed the fleet assets that are located with local councils. They are sometimes described as the red fleet. They include fire tankers and pumpers, and RFS personnel and transport vehicles.

Exhibit 9 shows where the higher and lower concentrations of fleet assets are located. The RFS has not developed its own mapping of firefighting fleet appliance locations to demonstrate the ways in which the fleet locations match the areas where there is higher bushfire risk as described in the Seasonal Bushfire Outlook mapping. Work of this nature would be a useful addition to RFS reporting. Fleet appliance mapping would provide some assurance that the RFS is analysing its fleet resources according to identified bushfire risks.

Exhibit 9: Distribution of the firefighting fleet across RFS Districts in 2021



Note: All RFS Districts have at least 51 fleet appliances.

Source: Audit Office analysis of information provided by the RFS.

The RFS approach to fire prevention is focused on the protection of assets in identified zones, and fleet planning is not done according to broader bushfire risks

The RFS describes its fire hazard reduction approach as a 'qualitative rather than a quantitative assessment' of bushfire risk. The RFS approach is based on the Australian and New Zealand Standard for Risk Management which sets out processes for identifying assets at risk, but does not prescribe measures or methods for assessing performance in mitigating or addressing these risks.

The protected assets in NSW are described in 53 Bush fire Risk Management Plans and 100 Community Protection Plans. Protected assets include critical infrastructure such as schools, hospitals, and residential settlements in prescribed areas. The plans also describe the hazard reduction activity aimed at protecting identified assets, and the particular treatments according to terrain types.

A statewide Bush Fire Coordinating Committee collects all of the plans and collates information about fire risks across the State. Annual treatments are scheduled to reduce fire hazards in the land surrounding protected assets, and these areas are categorised into Bush Fire Management Zones.

In its submission to the Australian Parliamentary Inquiry into the 2019–2020 bushfires, the RFS rejected a proposal for a national standard in relation to bushfire fuel load management. The RFS submission stated that a target for fuel load management is inappropriate for NSW because the primary responsibility for fuel load management rests with the land manager, owner, or occupier of the relevant land. This responsibility is described in the Rural Fires Act.

The RFS does not see any benefit in imposing fuel load management standards or targets on landowners. According to its submission to the Australian Parliamentary Inquiry, the RFS advises that a nationally consistent standard would not cater to the vast differences in vegetation, land ownership and communities across Australia. In the absence of measures for fuel load reduction or fuel load management, it is not possible to assess whether fleet appliances are available in appropriate numbers or types to conduct this activity in NSW.

The RFS does not take a broad, statewide approach to bushfire prevention in NSW, beyond the protection of identified assets in identified areas. This narrowly focused, asset protection approach to bushfire management means that the RFS does limited or no fleet planning or reporting in relation to bushfire risk management in areas where there are no identified assets. The RFS does no planning to link its fleet requirements to large scale bushfires across the State.

Almost a quarter of scheduled fire hazard reduction works were not completed in 2021 and there is no assessment as to whether the availability of fleet impacted on the completion of these works

In 2021, the RFS reported that there were 10,000 planned fire protection works for NSW, of which 7,358 were completed. The RFS did not report on the reasons for the non-completion of almost a quarter of the fire protection works across the State. The RFS advised that fleet availability had no impact on the completion of planned hazard reduction works in 2021. However, there is no reporting at the RFS District level about the completion rates of hazard reduction works, and no visibility or rationale in RFS reporting to explain the non-completions.

The RFS has 44 Fire Districts across NSW, and each district has responsibility to conduct its own fire protection works. There is no indication whether the availability of appliances such as bulldozers and graders had any impact on the completion rates of hazard reduction works.

Fleet appliances that are used for fire hazard reduction works are generally known as the heavy plant fleet. The RFS has its own heavy plant fleet, but also contracts local government and private contractors to complete these works. The heavy plant fleet is stored on a register known as Arena Heavy Plant, but not all contractors are using the database to list their fleet and its availability.

The RFS Bush Fire Risk Management Plans do not assess or describe changing fire risks in prescribed areas, according to changing conditions. For example, plans do not contain data or analysis of fuel load volumes or RFS activity to reduce fuel load volumes. RFS bushfire planning documents are primarily descriptors of asset protection zones and fire hazard reduction requirements. They do not include information about fleet requirements or on the completion rates of annual hazard reduction works by location. As activity is not reported at the local level, it is not possible to assess fleet requirements by location, or whether the availability of heavy plant appliances had any impact on non-completions of works.

The RFS has limited targets to assess its performance in responding to fire incidents, so it is not possible to assess the capability of the fleet to respond to, and suppress fires

The RFS has not developed targets to assess its performance in fire management across its 44 Fire Districts in NSW. For example, the RFS does not measure the time it takes for brigades to reach and suppress fires, or the number of fires, or the size of fires in each RFS District. Without measurements of performance, it is not possible to assess whether the fleet size and composition is appropriate to address the fire risks.

In 2020–21, the RFS reported over 4,700 incidents of bush, grass, and forest fires across NSW – approximately half the number recorded in the previous year. The RFS publishes statewide, aggregate fire incident data, but does not identify the regions or districts where fire activity was higher, or areas where the risks in NSW were greater.

RFS records show the number and types of firefighting fleet in each of its seven NSW Command Areas, but they do not include evidence or analysis of the fleet capability to meet regional fire events or risks. For example, the RFS has not conducted assessments of RFS fire response times or fire suppression activity in its regions or districts. The RFS does not use other measures to assess the capability of its regional fleet to respond to fire activity in the region.

It is not possible to assess whether the RFS has the right assets in the right regions according to its performance in responding to fires across NSW. The RFS does not conduct analysis of fire incident response times or fire size and spread in the different locations. The RFS is not setting performance measures that would assist the agency to understand how the different districts and area commands are performing year on year.

In September 2022, the RFS indicated that it will be implementing targets to limit 80% of fires in NSW to under ten hectares. The RFS Commissioner advised that fires can be kept under the ten hectare threshold through early interventions. The RFS intends to use aerial detection aircraft and satellite technologies to access fires 'when they're in their infancy, when lightning strikes ... and make sure we're on top of them'. The RFS has not provided information about whether the ten hectare target will influence its acquisition or distribution of land-based fleet types or volumes.

The RFS is in the process of implementing a new system (Athena) that uses artificial intelligence to predict fires. Athena has capabilities for fire risk visualisation, risk modelling, and the use of social media to gather fire risk intelligence to improve its operational awareness and incident response. It is not yet clear whether Athena will influence the location of fleet assets across the State.

RFS District managers are not using fleet activity analytics to calculate their fleet requirements

The ongoing distribution of RFS fleet assets is predominantly based on the historical location of appliances, and not on the assessment of risk or the capability of the fleet to respond to fire incidents in RFS Districts. The RFS has not developed a formula or methodology to assess the fleet requirements of RFS Districts according to fire response activity, or the performance of fire brigades in responding to fire events.

All RFS Districts have a ten-year fleet management plan. Up until 2020, RFS District managers have been making bids for modest increases to their fleet profile based on historical fleet numbers and appliance types described in fleet management plans. The fleet bidding process does not include an analysis of the time it takes brigades to respond to fires, the size of fires, or assessments of fuel load metrics by district. There is no analysis of the distance that trucks have to travel to respond to fires, or the frequency with which they have to travel longer and shorter distances.

According to RFS District managers, the fleet bidding process is generally preceded by district-level consultations with brigade volunteers, and in some instances, an assessment and update of district Bush Fire Risk Management Plans. Prior to the 2019–2020 fire season, district-level bids would be assessed by central managers who would then decide the types, volumes, and distributions of fleet assets to brigades across the State.

Bush Fire Risk Management Plans are not being updated regularly, so are not always a reliable indicator of bushfire risk. At the time of this audit, approximately half of the State's district-level Bush Fire Risk Management Plans had not been updated within five years as required by the Rural Fires Act. The plans describe local asset protection zones and include information about the fire risks and hazards associated with the local terrain types in the district. Plans contain information about the routine hazard reduction treatments to protect local assets, and the responsible agencies for carrying out works annually. The RFS advised it is in the process of updating these plans, and is reporting quarterly on its progress to the NSW Parliament as required by the NSW Bushfire Inquiry in 2020.

Since 2020, RFS fleet planning and fleet allocation has been exclusively managed by RFS Headquarters and district inputs are no longer sought. The Fleet Production department of RFS is responsible for coordinating fleet planning and for the distribution of fleet to the districts and brigades. In general, the fleet allocation process is following a one-for-one replacement of appliances.

The pace of fleet production and fleet rotation is governed by available funding and the ability of fleet production companies to keep pace with demand

The RFS receives an annual funding envelope for fleet production. A program of money is allocated to build new vehicles and to incorporate safety modifications to existing fleet. RFS fleet analysts make decisions about vehicle builds according to a schedule to reduce the average age of the fleet. Once the RFS has assessed the numbers and types of new trucks that can be built according to the funding envelope, fleet analysts make decisions about where the new fleet will be located, where older fleet vehicles will be sent, and which fleet assets can be disposed.

In general, brigades with higher levels of activity receive the new appliances, and those with lower activity and capabilities, receive the older, refurbished vehicles. A truck can sometimes be moved three or four times, and ultimately end up in a remote brigade during its lifespan. A new appliance brings an enhanced level of capability compared with older fleet assets.

In order to assess the capability of each appliance, RFS analysts assess the mileage and the age of trucks in each brigade. Decisions are made about the lifespan of appliances according to their level of activity and wear and tear factors. The factors that impact on the lifespan of the asset include the mileage of the vehicle, the types of work they do, and the impact of the work on the appliance.

At the current time, firefighting fleet production industries are not keeping pace with fleet replacement requirements. According to the RFS, the fleet production industry does not have the ability to produce fleet appliances at a pace that is optimal for the Australian industry needs. The RFS is one of several agencies that require firefighting appliances in a multinational market. In the Australian context, fleet production is slow. Once local councils are advised that they will receive a new appliance, it can take between one to three years to arrive, depending on the volume of requests with appliance builders.

Over the past two years, the RFS has made changes to aspects of firefighting fleet design, including the incorporation of safety features that were recommended by 2019–2020 bushfire inquiries. The process of adding safety modifications to new and existing fleet, has further slowed and disrupted fleet production. Changes to fleet design necessitated the recontracting of building companies – midway through fleet production processes. This has had significant impacts on the pace of fleet production.

The RFS has identified opportunities to improve its processes when fleet modifications are required mid-production. These include a need for rapid communication with RFS engineering department staff, and prompt re-contracting with fleet building companies to incorporate fleet design changes.

The RFS is in the early stages of a two-year project to research a 'next generation' firefighting fleet

In mid-2022, the RFS commenced a two-year project to understand what 'new' looks like in firefighting appliances. The project incorporates the research capabilities of academic institutions and input from the industry sector. The intention of the project is 'to design the modern firefighting appliance'.

Fleet innovations will be dependent on available funding for the project. To date, funding for fleet innovation has only allowed for incremental improvements to firefighting appliances. While the funding for this project has not yet been decided, the speed of innovation will be driven to some extent, by the size of the funding envelope. The speed with which any design innovations can be incorporated into the fleet, will also be dependent on contractual arrangements and the future capabilities of fleet production companies.

3. Firefighting fleet management

The firefighting fleet management system is not always updated in a timely manner due to insufficient RFS personnel with permissions to make changes in the system

The RFS uses a fleet management system known as SAP EAM to record the location and status of firefighting fleet assets. The system holds information about the condition of the firefighting fleet, the home location of each fleet asset, and the maintenance, servicing, and inspection records of all assets. The RFS uses the system for almost all functions related to the firefighting fleet, including the location of vehicles so that they can be dispatched during operational exercises or fire responses.

Staff at RFS Headquarters are responsible for creating and maintaining asset records in the fleet management system. RFS District staff have limited permissions in relation to SAP EAM. They are able to raise work orders for repairs and maintenance, upload evidence to show that work has been done, and close actions in the system.

RFS District staff are not able to enter or update some fleet information in the system, such as the location of vehicles. When an RFS District receives a fleet appliance, it cannot be allocated to a brigade until the location of the asset is accurately recorded in the system. The location of the asset must be updated in the SAP EAM system by staff at RFS Headquarters. District staff can request system support from staff at RFS Headquarters to enter this information. At the time of writing, the position responsible for updating the fleet management system at RFS Headquarters was vacant, and RFS District personnel reported significant wait times in response to their service requests.

The RFS conducts annual audits of SAP EAM system information to ensure data is accurate and complete. RFS staff are currently doing data cleansing work to ensure that fleet allocations are recorded correctly in the system.

Communication between brigades, local councils and the RFS needs improvement to ensure that fleet information is promptly updated in the fleet management system

RFS brigade volunteers do not have access to the fleet management system. When fleet assets are used or moved, volunteers report information about the location and condition of the fleet to RFS District staff using a paper-based form, or by email or phone. Information such as vehicle mileage, engine hours, and defects are all captured by volunteers in a logbook which is scanned and sent to RFS District staff. RFS District staff then enter the relevant information into the fleet management system, or raise a service ticket with RFS Headquarters to enter the information.

Brigade volunteers move fleet assets for a range of reasons, including for fire practice exercises. If volunteers are unable to report the movement of assets to RFS District staff in a timely manner, this can lead to system inaccuracies. Lapses and backlogs in record keeping can occur when RFS staff at district offices or at Headquarters are not available to update records at the times that volunteers report information. A lack of accurate record keeping can potentially impact on RFS operational activities, including fire response activity.

Brigade volunteers notify RFS District staff when fleet appliances are defective, or if they have not been repaired properly. District staff then enter the information into the fleet management system. The inability of volunteers to enter information into the system means they have no visibility over their requests, including whether they have been approved, actioned, or rejected.

Local councils are responsible for servicing and maintaining the firefighting fleet according to the Rural Fires Act, but this responsibility can be transferred to the RFS through arrangements described in local service agreements. Council staff record all fleet servicing and maintenance information in their local systems. The types of fleet information that is captured in local council records can vary between councils. RFS staff described the level of council reporting, and the effectiveness of this process, as 'mixed'.

Councils use different databases and systems to record fleet assets, and some councils are better resourced for this activity than others

Firefighting fleet information is recorded in different asset management systems across NSW. Each council uses its own asset management system to record details about the vested fleet assets. All three councils that were interviewed for this audit had different systems to record information about the fleet. In addition, the type of information captured by the three councils was varied.

Exhibit 10: Systems used by local councils to manage the firefighting fleet

System	Hawkesbury City Council	Uralla Shire Council	Wagga Wagga City Council
Financial asset management system	TechnologyOne	Civica	Assetic
Asset management system	TechnologyOne	Manual	MEX

Source: Audit Office analysis of information provided by the RFS and local councils.

Local councils have varying levels of resources and capabilities to manage the administrative tasks associated with the firefighting fleet. Some of the factors that impact on the ability of councils to manage administrative tasks include: the size of the council; the capabilities of the information management systems, the size of the staff team, and the levels of staff training in asset management.

Uralla Shire Council is a small rural council in northern NSW. This council uses financial software to record information about the firefighting fleet. While staff record information about the condition of the asset, its replacement value, and its depreciation, staff do not record the age of the asset, or its location. Staff manually enter fleet maintenance information into their systems. Uralla Shire Council would like to purchase asset maintenance software that generates work orders for fleet repairs and maintenance. However, the council does not have trained staff in the use of asset management software, and the small size of the fleet may not make it financially worthwhile.

The Hawkesbury City Council uses a single system to capture financial and asset information associated with the firefighting fleet. Hawkesbury is a large metropolitan council located north-west of Sydney, with a relatively large staff team in comparison with Uralla Shire Council. The Hawkesbury City Council has given RFS District staff access to their fleet information system. RFS District staff can directly raise work orders for fleet repairs and maintenance through the council system, and receive automated notifications when the work is complete.

Two of the three audited councils report that they conduct annual reviews of fleet assets to assess whether the information they hold is accurate and up-to-date.

More than half of the fleet maintenance service agreements between the RFS and local councils have not been reviewed in ten years, and some do not reflect local practices

Local councils have a legislated responsibility to service, repair, and maintain the firefighting fleet to service standards set by the RFS. Councils may transfer this responsibility to the RFS through District Service Agreements. The RFS Districts are responsible for ensuring that the service agreements are current and effective.

The RFS does not have monitoring and quality control processes to ensure that service agreements with local councils are reviewed regularly. The RFS has 73 service agreements with local councils or groups of councils. Sixty-three per cent of service agreements had not been reviewed in the last ten years. Only four service agreements specify an end date and, of those, one agreement expired in 2010 and had not been reviewed at the time of this audit.

The RFS does not have a framework to ensure that service agreements with local councils reflect actual practices. Of the three councils selected for audit, one agreement does not describe the actual arrangements for fleet maintenance practices in RFS Districts. The service agreement with Hawkesbury City Council specifies that the RFS will maintain the firefighting fleet on behalf of council when, in fact, council maintains the firefighting fleet. The current agreement commenced in 2012, and at the time of writing had not been updated to reflect local maintenance practices.

When District Service Agreements are not reviewed periodically, there is a risk that neither local councils nor the RFS have clear oversight of the status of fleet servicing, maintenance, and repairs.

RFS District Service Agreements set out a requirement that RFS and local councils establish a liaison committee. Liaison committees typically include council staff, RFS District staff, and RFS brigade volunteers. While service agreements state that liaison committees must meet periodically to monitor and review the performance of the service agreement, committee members determine when and how often the committee meets.

RFS District staff and staff at the three audited councils are not meeting routinely to review or update their service agreements. At Wagga Wagga City Council, staff meet with RFS District staff each year to report on activity to fulfil service agreement requirements. Uralla Shire Council staff did not meet routinely with RFS District staff before 2021. When liaison committees do not meet regularly, there is a risk that the RFS and local councils have incorrect or outdated information about the location, status, or condition of the firefighting fleet. Given that councils lack systems to track and monitor fleet locations, regular communication between the RFS and local councils is essential.

The RFS has not established processes to ensure that local councils and RFS District personnel meet and exchange information about the fleet. Of the three councils selected for this audit, one council had not received information about the number, type, or status of the fleet for at least five years, and did not receive an updated list of appliances until there was a change in RFS District personnel. This has impacted on the accuracy of council record keeping. Councils do not always receive notification about new assets or information about the location of assets from the RFS, and therefore cannot reflect this information in their accounting and reporting.

RFS area commands audit system records to ensure fleet inspections occur as planned, but central systems are not always updated, creating operational risks

RFS District staff are required by the Rural Fires Act to ensure the firefighting fleet is inspected at least once a year. Regular inspections of the fleet are vital to ensure that vehicles are fit-for-purpose and safe for brigade volunteers. Inspections are also fundamental to the operational readiness and capability of RFS to respond to fire incidents.

RFS Area Command personnel conduct audits of fleet maintenance data to ensure that fleet inspections are occurring as planned. These inspections provide the RFS with assurance that the fleet is being maintained and serviced by local council workshops, or third-party maintenance contractors.

Some RFS Districts run their own fleet management systems outside of the central management system. They do this to manage their fleet inspection activity effectively. Annual fleet inspection dates are programmed by staff at RFS Headquarters. Most of the inspection dates generated by RFS Headquarters are clustered together and RFS Districts need to separate inspection times to manage workloads over the year. Spreading inspection dates is necessary to avoid exceeding the capacity of local council workshops or third party contractors, and to ensure that fleet are available during the bushfire season.

The fleet inspection records at RFS Headquarters are not always updated in a timely manner to reflect actual inspection and service dates of vehicles. District staff are not able to change fleet inspection and service dates in the central management system because they do not have the necessary permissions to access the system. The usual practice is for RFS District staff to notify staff at RFS Headquarters, and ask them to retrospectively update the system. As there is a lag in updating the central database, at a point in time, the actual inspection and service dates of vehicles can be different to the dates entered in the central fleet management system.

Fleet inspection and maintenance records must be accurately recorded in the central RFS management system for operational reasons. RFS Headquarters personnel need to know the location and maintenance status of fleet vehicles at all times in order to dispatch vehicles to incidents and fires. The RFS fleet management system is integrated with a new Computer Aided Dispatch System. The Computer Aided Dispatch System assigns the nearest and most appropriate vehicles to fire incidents. The system relies on accurate fleet locations and fleet condition information in order to dispatch these vehicles.

There is a risk that RFS Headquarters' systems do not contain accurate information about the location and status of vehicles. Some may be in workshops for servicing and repair, while the system may record them as available for dispatch. As there are many thousands of fleet vehicles, all requiring an annual service and inspection, a lack of accurate record keeping has wide implications for State fire operations.

RFS is currently exploring ways to improve the ways in which fleet inspections are programmed into the fleet management system.

RFS provides funds to councils to assist with maintaining the firefighting fleet, but does not receive fleet maintenance cost information from all local councils

Each year the RFS provides local councils with a lump sum to assist with the cost of repairing and maintaining the firefighting fleet. This lump sum funding is also used for meeting the costs of maintaining brigade stations, utilities, and other miscellaneous matters associated with RFS business.

In 2020–21, the RFS provided NSW local councils with approximately \$23 million for maintenance and repairs of appliances, buildings, and utilities. Ninety councils were provided with lump sum funding in 2021, receiving on average \$257,000. The amounts received by individual councils ranged from \$56,200 to \$1,029,884.

Some councils provide itemised repairs and maintenance reports to RFS District staff, showing the work completed and the cost of that work. However, not all councils collect this information or provide it to the RFS. Local councils collect fleet maintenance information in their local council systems. In some cases, the responsibility for fleet maintenance is shared across a group of councils, and not all councils have oversight of this process.

The RFS has not taken steps to require local councils to provide itemised maintenance costings for the firefighting fleet. Thus, the RFS does not have a clear understanding of how local councils are spending their annual fleet maintenance funding allocations. The RFS does not know if the funding allocations are keeping pace with the actual cost of repairing and maintaining the fleet.

RFS District staff report that funding shortfalls are impacting on the prioritisation of fleet servicing and maintenance works in some council areas. When fleet servicing and maintenance is not completed routinely or effectively, there is a risk that it can negatively impact the overall condition and lifespan of the vehicle. Poor processes in relation to fleet maintenance and repair risk impacting on the operational capabilities of the fleet during fire events.

The timeliness and effectiveness of fleet servicing and maintenance is affected by resource levels in RFS Districts and local councils

Local councils have a legislated responsibility to service and maintain the firefighting fleet to the service standards set by the RFS. Fleet maintenance is usually done by the entity with the appropriate workshops and resources, and the maintenance arrangements are described in District Service Agreements. RFS District staff conduct annual inspections to ensure that the firefighting fleet has been serviced and maintained appropriately, and is safe for use by brigade volunteers. If the fleet has not been maintained to RFS service standards or timelines, RFS District staff may work with local councils to support or remediate these works.

The effectiveness of this quality control activity is dependent on relationships and communication between the RFS Districts and local councils. While some RFS staff reported having positive relationships with local councils, others said they struggled to get fleet maintenance work done in a timely manner. Some councils reported that funding shortfalls for fleet maintenance activity was impacting on the prioritisation of RFS fleet maintenance works. When fleet maintenance work is not completed routinely or effectively, it can negatively impact on the overall condition and lifespan of the vehicle. It can also reduce the capacity of the RFS to respond to fire events.

Fleet quality control activities are carried out by RFS District staff. In some of the smaller RFS Districts, one person is responsible for liaising with local councils and brigade volunteers about fleet maintenance and repairs. In the regions where resources are limited, there is less ability to maintain ongoing communication. This is impacting on fleet service and maintenance timelines and the timeliness of fleet monitoring activity.

The RFS has mutual support arrangements with agencies in NSW and interstate, though shared fleet levels are yet to be quantified

The RFS has arrangements with state, federal, and international fire authorities to provide mutual support during fire incidents. In NSW, the RFS has agreements with the three statutory authorities – Fire and Rescue NSW, the Forestry Corporation of NSW, and the NSW National Parks and Wildlife Service. The agreement with Fire and Rescue NSW provides a framework for cooperation and joint operations between the agencies. The agreements with the Forestry Corporation of NSW and the NSW National Parks and Wildlife Service describe the control and coordination arrangements for bush and grass fires across NSW. These arrangements are set out in legislation and incorporated into local Bush Fire Risk Management Plans.

The RFS has agreements with fire authorities in three of the four Australian states and territories that share a border with NSW – the Australian Capital Territory, Queensland, and South Australia. Each agreement sets out the arrangements for mutual assistance and joint operations, including arrangements for sharing aircraft. The agreement between the RFS and Victoria had lapsed. The RFS told the NSW Bushfire Inquiry that the agreement with Victoria would be finalised by June 2020. In June 2022, the RFS reported that the agreement was in the process of being finalised.

The arrangements for mutual aid from Western Australia, Northern Territory and Tasmania, are managed by the National Resource Sharing Centre. These agreements set out the arrangements for interstate assistance between Australian fire services, emergency services, and land management agencies in those states and territories.

These mutual support arrangements may assist during state-based fire events. However, when there are competing demands for resources, such as during the bushfires of 2019–2020, there can be limits on fleet availability. During the 2019–2020 fires, resources were stretched in all jurisdictions as these fires affected NSW, Victoria, and Queensland.

There are opportunities for the RFS and other NSW agencies to quantify fleet resources across the State and identify assets that can be mobilised for different fire activities. This form of fleet planning may be used to enhance surge capabilities during times of high fire activity. There are also opportunities for the RFS and other agencies to match the levels of shared assets to projected bushfire risks.

Section two

Appendices

Appendix one – Responses from agencies

Response from NSW Rural Fire Service



M23/14(009)

Ms Margaret Crawford
Auditor General
Audit Office of NSW
GPO Box 12
SYDNEY NSW 2001

Via email: mail@audit.nsw.gov.au

margaret
Dear Auditor General

Thank you for the opportunity to formally respond on behalf of the NSW Rural Fire Service (RFS) to the Performance Audit Report, *Planning and managing bush fire equipment*.

While the RFS does not agree with the manner in which the review arrived at its findings, we do agree there is merit in the recommendations, which will assist in informing our ongoing work to add rigour to our fleet management. This is a significant element in the Service's comprehensive efforts to ensure we are in the strongest position possible to protect the NSW community, assets, infrastructure and environment, when, inevitably, the next severe fire season strikes the state. Crucially, it also meets our fundamental priority in enhancing safety for our members.

The Service has commenced a considerable body of work to drive improvements in the safety, delivery, rejuvenation and operation of its fleet, including the development of a Resource to Risk fleet management model, the Next Generation Fleet priority project to design the fire fighting appliances of the future and a suite of research and development.

The ability for the RFS to sustain a fleet management program that met growth and safety advancements has been inhibited by historical funding arrangements that have not sufficiently allowed for fleet expansion and rejuvenation. Funding enhancements in response to the NSW Bushfire Inquiry have enabled the RFS to make inroads in meeting its fleet targets, noting it is still operating with a funding shortfall of \$10 million per annum to meet submitted business cases. Nevertheless, the RFS has made a sustained effort since the 2019/20 bush fires to overhaul its fleet procurement, construction and distribution and optimise standard crew protection measures.

A Program Management Office has been established to implement a tactical production sustainability program, within a strategic program of broader reform focusing on Resource to Risk and maintenance program the next stage of this exercise.

While the report predominantly focuses on the management of the RFS road fleet, comprising 4,000-plus vehicles across the state with a replacement value of \$1.4 billion, this overlooks the Service's significant achievements in developing and managing the largest aerial firefighting fleet in Australia. These resources are increasingly important in bush fire suppression activities, playing a pivotal role in the Service's commitment to keep 80 per cent of fires to 10 hectares in area. This resource

deployment is far more effective in meeting the intent of Recommendation 2 than a vehicle response time matrix.

It is pleasing to note that the report acknowledges the fleet production effort in reducing the average age of the firefighting fleet, reflecting continuing Government funding that has enabled a consistent investment in new appliances to achieve the goal of reducing the average fleet age to 15 years.

The NSW Bushfire Inquiry found 2,294 vehicles did not have modern protection systems, including rollover bars, halo spray systems and crew protections. The RFS remains committed to upgrading its existing fleet to optimal safety standards to protect its people. Since the Inquiry, 484 of these vehicles have either been replaced or retrofitted and this remains an ongoing priority.

These fleet programs are supported by parallel investment in RFS technology to enhance operational performance and governance. Forty one of the 44 RFS Districts are now using **Computer Aided Dispatch (CAD)** to manage the assignment and deployment of resources to emergency and non-emergency incidents. Given this extensive roll out of CAD, the RFS, for the first time, is able to record brigade performance and fire protection coverage. Coupled with RFS ACTIV (RFS member availability app), this also allows the RFS to monitor mobilisation times with targets set against historical performance. District staff are able to record in the system when vehicles are unavailable. The remaining three Districts will be brought online at the end of the 2022/23 fire season. As such, these systems will provide the information required to assess brigade and district performance once sufficient data has been recorded.

The extensive program of works that the RFS is undertaking is not scheduled for completion within the 2023/24 FY, meaning it is likely pre-emptive to commit to the implementation of the report recommendations by February 2024, particularly within the context of the operational imperative of the 2023/24 fire season, the potential severity of which we have repeatedly flagged.

As outlined during the audit process, the RFS is investing significant capital in a range of projects focused on the fleet and other equipment that are boosting our response capability. These include:

- an extensive research project by the internationally-recognised **Monash University Accident Research Centre** to improve the protection offered to firefighters when travelling in appliances, particularly in relation to falling object and roll over protection.
- the **Next Generation Fleet priority project**, launched in 2021. This comprehensive project is studying the existing heavy tanker fleet to identify opportunities to enhance vehicle operability and safety deriving new prototype firefighting appliances of the future. The RFS is in the final phases of extensive consultation with all RFS members capturing the feedback through face-to-face sessions with brigades and an interactive service-wide survey. This data will form a prospectus for industry and tertiary institutions to assist RFS in designing a world class fleet with a clear focus on firefighter safety and technology enhancements.
- **Automatic Vehicle Location** devices have been rolled out to RFS vehicles to increase operational awareness and improve incident control (in response to a key recommendation of the Keilty Inquiry commissioned following the Tathra bush fire in 2018).
- Starting this year, **Mobile Data Terminals** will be progressively rolled out across the fleet. These tablets will provide firefighters a number of benefits, including two-way, real-time sharing of operational intelligence between members in the field and Incident Management

Teams (IMTs), to improve dispatch and response capability and incident management. Additionally, this will also enhance the AVL capabilities noted above.

- The RFS is the only Australian fire service to own and operate a Large Air Tanker for **aerial firefighting**. This aircraft is supported by two Citation jets equipped with an Overwatch scanning system installed which take images of fire activity, flooding and other hazards. The Overwatch system onboard the Citation jets is also being developed to undertake ignition detection taskings, flood mapping, and to assist in search and rescue operations.
- The RFS also operates five medium **multi-hazard helicopters** that can be used for fire fighting (tank equipped), search & rescue (winch equipped), reconnaissance (Forward Looking Infra Red camera equipped) and transportation. These aircraft - based in Sydney, Coffs Harbour, Dubbo and Cooma - are available to all agencies. These aircraft played a significant role during flooding operations during 2022 and 2023, rescuing trapped and isolated people, conducting search operations, relocating and dropping fodder to livestock, and performing reconnaissance missions.
- In a first for NSW, the RFS is trialling **night time fire-bombing operations** to provide around-the-clock back-up for fire crews on the ground. Operating helicopters at night will allow the RFS to directly attack fires at times when weather conditions are typically more favourable.
- The **ATHENA project** is an artificial intelligence technology platform to predict fire behaviour and provide RFS incident managers with insights to enhance their ability to prioritise and respond to incidents through reliable, timely, and scalable intelligence, improving community and environmental protections during fire events and incidents.

As highlighted in the Audit Office's Local Government 2022 Report to the NSW Parliament, the ownership of RFS assets purchased through the Rural Fire Fighting Fund is vested in local government under s119(2) of the *Rural Fires Act 1997*. This ownership - while disputed by some councils - also carries responsibility for the maintenance of the red fleet assets in particular.

Given local government's responsibilities under the *Rural Fires Act* and the objective of the audit to "assess the effectiveness of the RFS and local councils in planning and managing equipment for bush fire prevention, mitigation and suppression", the RFS does not comprehend how no findings or recommendations have been directed to councils to assist them in meeting their legislated fleet management responsibilities under the Act.

The Service remains disappointed by the audit's narrow focus on one metric in a complex matrix of factors required to prevent, mitigate, contain and respond to the threat of bush fire across the State. The suggestion that a strategy for addressing future fire risks would rest on our fleet ignores considerable advances in bush fire prevention and suppression, particularly driven by additional Government funding in response to the recommendations of the NSW Bushfire Inquiry. Unfortunately, a poor understanding of many aspects of the Service's operations, legislative framework and most valuable of all assets, our volunteer membership also is reflected in the report's findings. The RFS

has provided feedback throughout the review process, flagging inaccuracies and is concerned many of our contributions have not been adopted, resulting in a number of errors remaining.

The RFS response to the report recommendations is attached for your information. Regardless of its concerns, the RFS will continue progressing its body work that will meet the desired outcomes of the recommendations as it continues its work to enhance its fleet management.

Yours sincerely



**Rob Rogers AFSM
Commissioner**

20/2/2023

Annexure A: Report recommendations

RFS Response to Recommendation 1:

The RFS has invested \$195.2 million in fleet enhancement and rejuvenation in the past two financial years alone, as a result of enhanced NSW Government funding in response to the recommendations of the NSW Bushfire Inquiry.

The RFS has made a sustained effort since the 2019/20 bush fires to overhaul its fleet procurement, governance arrangements and distribution and optimise standard crew protection measures. A state-wide fleet planning model providing centralised oversight has been introduced to replace the historic system which saw individual District plans simply absorbed into the Service's overall State Budget bids.

A Program Management Office has been established to implement a tactical production sustainability program. A strategic program of broader reform focusing on Resource to Risk and maintenance programs is the next stage of this exercise.

The RFS is proud to have made a commitment to support NSW manufacturers, delivering vital skilled employment, particularly in regional areas of the state and has worked with builders to shield the production line from the supply chain shock of the Covid pandemic.

Significant changes have been made since 2021 to improve procurement practices to achieve efficiencies in mass production and standardisation of vehicle builds. This has focused on improved forecasting and scheduling to provide more certainty and economies of scale for businesses, encouraging them to invest in tooling, skilled labour and capital-linked process improvements.

The RFS is driving innovation and design improvement in the NSW firefighting fleet, with its vehicle designs also currently used by FRNSW and Forestry Corp. Unlike in North America and Europe, no current supplier-based market provides design improvements, meaning the RFS as the end customer needs to drive reform and enhancement.

Response to Recommendation 2:

The RFS and its agency partner, Fire and Rescue NSW, have existing joint obligations to report against targets including the number of dwellings impacted and response times in the annual Productivity Commission Report of Government Services. While the new CAD system enables better tracking of brigade mobilisation, this is not in itself a measure of fleet capability or effectiveness. Performance by time is different from fleet capability. For instance, a Category 9 appliance would be quicker but less capable in firefighting than a heavy Category 1 tanker.

As outlined during the audit process, the RFS has already committed to a target of limiting 80 per cent of bush fires to less than 10 hectares in area and disagrees that the introduction of fire response time targets across the state would enhance its operational success. A trial of Pre-Determined Dispatch of aircraft at the same time as ground resources was conducted in the 2021/22 fire season and has been expanded to another 10 locations in the 2022/23 season. Dispatching aviation assets that can attack a fire as soon as practicable after it is reported will help achieve this target and provide essential support to ground crews, reducing the risk that it will be able to spread and need numerous crews to respond.

The recommendation does not account for the reality of the significant differences in the size, geographic locations and distances, population concentrations and development densities of Rural Fire Districts across 95 per cent of the State. The response metrics for a brigade in western Sydney will be vastly different from those of a brigade in a remote and isolated area of Far West NSW, rendering targets and comparisons meaningless.

Hazard reduction is the responsibility of land holders and managers, including councils. The ability to conduct hazard reduction activities is dependent on suitable weather conditions and personnel. It is self-evident that the impacts of both the COVID-19 pandemic on crew availability and repeated La Nina events leading to prolonged above-average rainfall and extensive flooding emergencies across vast areas of NSW have prevented the RFS and its partner agencies from meeting their hazard reduction targets in recent years. To suggest that the RFS did not provide evidence that this shortfall was not a result of vehicle allocations may appear disingenuous.

Response to Recommendation 3:

The RFS Resource to Risk program will address this recommendation. The project will align risk modelling, be able to consider the seasonal outlook and inform allocation of resources.

Work on the development of an over-arching Fleet Strategy will begin in 2023. The development of the Strategic Fleet Plan will focus on:

- Fleet operating model realignment
- Fleet strategy planning and design
- Develop a supplier market place and shift it to a commercial management fleet production model
- Maintenance and Repair Integrated Reporting model

As the ATHENA project is expanded, it is expected that it will analyse not only fire behaviour modelling, and the resources required but also identify potential gaps that could develop due to the movement of assets and changing conditions.

The RFS accepts that it needs to re-implement a strategic overlay in relation planning and preparing for fires, however, this is an overly simplistic and one-dimensional view of the multiple factors involved in fire risk planning and operations. A stand-alone fleet plan is not a metric to address future fire risks.

Bush Fire Management Committees, which are established in each Rural Fire District (generally aligned to local government boundaries) are in the process of rolling out Next Generation Bush Fire Risk Management Plans over the next three years. These plans will take a multi-layered approach to mitigate bush fire risk, overlaying resources, personnel, fuel loads and seasonal outlook across existing and emerging hazards in the landscape.

These are an important step in improving the way the RFS plans and executes risk mitigation to better protect communities across NSW. The new process of developing the next generation plans includes analysis of data, which is then combined with input from a number of stakeholders to prioritise risk and develop a plan to mitigate the risk.

The importance of a new approach to Bush Fire Risk Plans was recognised in the NSW Bushfire Inquiry. Recommendations 8b and 19b of the Inquiry outlined the need to strengthen cross-agency accountability for improving bush fire risk management outcomes and implement processes for bush fire risk management planning that incorporate new modelling and methods for quantifying risk.

Response to Recommendation 4:

This implies one size fits all. Unlike our partner agency, FRNSW, which has a predominately permanently-employed workforce, the RFS relies on volunteer availability. Adequacy is a variable definition that depends on factors including locations, response distances, community demographics, differing risks, operational tempo and the incident/s to which crews are responding.

RFS District Managers already perform operational assessments, which can lead to the amalgamation, closure or formation of brigades to ensure the viability of emergency response. The Computer Aided Dispatch system also plays a pivotal role in ensuring appropriate and sufficient resources are deployed as required and cooperative Mutual Aid Agreements enable responding resources to be bolstered with FRNSW assets where needed.

Capability is one of the factors influencing fleet movements. District Managers and Area Commanders have detailed awareness of their grassroots fleet status and brigade operational ability and have the authority and flexibility to implement local solutions to local problems. For instance, a tanker was recently moved from a small brigade with declining membership in the North East Area Command and relocated temporarily to the District Headquarters brigade to ensure adequate fire coverage. These decisions are made locally by the Senior Management team as they have the superior on ground knowledge.

As the report notes, volunteers have the right to determine their availability for operational, training, community engagement and other brigade activities. This is at the centre of the volunteering ethos.

Village 1 and 2 brigades have additional appliances and greater skills base because this is a different capability for different operational requirements. As well as bush fires, these brigades respond to structure fires in their towns or villages, requiring a different fleet mix and often CABA.

It is correct that COVID limited training opportunities due to social distancing requirements but this not the only contributing factor to a decline in membership. It is the case that during and immediately after every major, high-profile emergency, whether bush fires, floods or major storms, the main combat agency will experience an increase in volunteer numbers. Members of the public are inspired to join an emergency service out of a desire to help their community but commonly find the time and commitment required to be unsustainable.

RFS Response to Recommendation 5:

The repair and maintenance of assets, including fleet vehicles, is a council responsibility under s119(5) of the *Rural Fires Act 1997*: *A council must take care of and maintain in the condition required by the Service Standards any fire fighting equipment vested in it under this section.*

The RFS does not agree that the management of Service Level Agreements should be driven by a fleet framework. Fleet repair and maintenance comprises only a small proportion of these Agreements, which are far more comprehensive in scope. The Agreements establish Liaison Committees that include Council representatives, volunteer representatives and RFS District

Management and are important to ensure effective local engagement in respect of bush fire risk and resourcing.

As outlined to the Audit Office, a new RFS standard Service Level Agreement has been developed for consultation with councils early in 2023. These agreements do not impact the accounting determination or control of assets.

The majority of councils have perpetual agreements, therefore remain current.

Fleet repair and maintenance is a legislated requirement for the councils in which these assets are vested, not an RFS responsibility. The RFS is reliant on councils' accurate and up-to-date reporting. In some cases this is less than optimal. A further recommendation to councils to help address this situation would have been a constructive approach.

The RFS provides councils with an annual Maintenance & Repair grant. This is not a legislative requirement but a process that has developed over time, funded from within the RFS budget, to contribute to – not cover – this cost.

It is worth noting that the RFS engages with 128 different Local Government entities that have varying understanding and views of legislation and make varying decisions about the activities they will undertake, not only in relation to fleet management and asset maintenance of infrastructure but also provision of land and resources, all of which provide additional challenges to the RFS.

RFS Response to Recommendation 6:

While the RFS has an existing system for recording fleet location and associated details, it acknowledges there is more work to do to ensure this is always up to date and that users have easy access to maintain data at all times, including location, status, maintenance and checking.

The RFS would need to secure additional funding to appropriately establish and resource a program to assist councils in meeting their legislative obligations. This recommendation would be better co-directed at councils.

As councils have responsibility for fleet maintenance and repairs, the RFS is reliant on their accurate and up-to-date reporting. In some cases this is less than optimal and including a recommendation to councils to help address this situation would be a constructive approach.

Response from Hawkesbury City Council

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Your Ref: D2300805/PA6697
Our Ref: ECM No. 8281964

13 February 2023

Ms Margaret Crawford
Auditor-General for New South Wales
GPO Box 12
SYDNEY NSW 2001

E-mail: [REDACTED]

Dear Ms Crawford

Performance Audit - Planning and managing bush fire equipment

I refer to your letter dated 25 January 2023 regarding the Performance Audit of planning and managing bush fire equipment. Hawkesbury City Council thanks you for the opportunity to provide a formal response for incorporation into the published report.

Council acknowledges and supports the findings made as a result of the audit, as outlined in the Final Report. It is noted that all recommendations were actions to be undertaken by the NSW Rural Fire Service (RFS).

Accounting for 'Red Fleet' Assets

I wish to reiterate Council's ongoing concerns about the accounting of the 'Red Fleet' assets, as outlined in Council's correspondence to you of 1 August 2022.

Council's position is that the 'Red Fleet' should not be accounted for by Council. The basis of this position is that the care and control is in fact with RFS and not local government, when considering:

- that the risk of these assets is held by RFS, as evidenced by insurance policies held by RFS; and
- the economic reward of the assets is retained by RFS, as the decisions made for initial procurement, allocation and retention vs redistribution are made by RFS without input from local government.

Council holds the view that this position is further supported and indeed advanced by the fact that all recommendations within the Final Report are identified to be the responsibility of the RFS. Additionally, as outlined in the Final Report, the core responsibilities for the management of the assets, including, planning, procurement, allocation, maintenance, and inspection resides with the RFS.

Council agrees that the actions should be undertaken by the RFS as the agency with the requisite knowledge, experience and legislative obligations to be achieved using bush fire equipment.

It is acknowledged that the ownership, or accounting recognition using an 'economic substance over legal form' consideration was outside the terms of reference for this audit. However, this is a vitally important issue within the Local Government sector and in the interest of transparency, worth noting that the recommendations and key findings of this audit contrast with the current position of the NSW Audit Office, being that local councils should be recognising Red Fleet assets and paying for their depreciation.

This is inequitable in an environment where councils' financial sustainability, and hence the ability to seek loans and grant funding, is being measured by their ability to use capped income to cover depreciation for assets over which they have no direct control and about which they cannot make sound economic decisions.



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Rural Fire District Service Agreements

Council would also like to provide feedback in regard to the recommendation to establish a fleet maintenance framework to ensure regular updates of District Service Agreements.

Council believes that regular updates of Rural Fire District Service Agreements (Agreements) are important but should not only be driven by a fleet maintenance framework. The Agreements cover a range of assets and functions, which are not limited in scope to fleet maintenance. Therefore, Council would seek acknowledgment that there are other benefits and drivers to the systematic and regular review of the Agreements, noting that these other matters were beyond the scope of the audit.

Council also believes that the development of any framework, or other input to the Agreements should be established on a collaborative approach, as this will impact the resources of both councils and the RFS. This is particularly important, given the continued position of the NSW Government, that councils' have care and control of Red Fleet due to the vestment of these assets, a position that we as a Council do not support, as outlined above. If however, this continues to be the adopted position of Government, that the care and control does reside with councils, then the development of the framework for the maintenance should be driven by councils.

I thank the Audit Office once again for the opportunity for Council to provide its response, and Council seeks further consideration by the NSW Government of the matters outlined above.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Elizabeth Richardson'.

Elizabeth Richardson
General Manager | Hawkesbury City Council

Cc: Cllr Sarah McMahon (Mayor)

Response from Uralla Shire Council



Responsible Officer: EA
In reply, please quote: Uo/23/5031

21 February 2023

Audit NSW

[REDACTED]

[REDACTED]

Via Email: [REDACTED]

Dear [REDACTED]

RE: URALLA SHIRE COUNCIL RESPONSE TO PERFORMANCE AUDIT – Planning and Managing Bush Fire Equipment

Thank you for the opportunity to comment on the recent performance audit report on planning and managing bush fire equipment dated 25 January 2023 (the Audit Report).

Uralla Shire Council appreciates the efforts of the Rural Fire Services (RFS) and its critical ongoing role in support of our community. Council also appreciates the significant effort and diligence applied by Audit NSW in its conduct and completion of the Audit Report.

From Council's perspective, the Audit Report correctly identifies a number of impactful issues and deficiencies in the Rural Fire Service's (RFS) current management of the assets. These shortcomings are very reasonably summarised in the Executive Summary (Audit Report, 1. Key Findings, pp4-8).

Recommendations to treat the identified shortcomings are summarised (Audit Report, 2. Recommendations, p8).

However Council finds that the Audit Report is deficient in that the audit scope quite deliberately did not include a review or consideration of "the process of vesting of rural firefighting equipment with local councils" (Audit Report, Executive Summary p2).

The failure to include a review of the vesting-with-councils requirement has resulted in a situation where the Audit Report has consequently been unable to consider, at all, the extent to which the forced council-ownership model plays in creating the identified deficiencies in the first place.

To demonstrate this point using just the first two (2) Key Findings (Executive Summary, p6) as examples:

1. The Audit Report correctly identifies that a rare departure from the otherwise problematic culture of replacing like with like has been achieved only in the recent instance of the procurement of six new aircraft. The Recommendations were unable to consider (due to the non-inclusion of the vesting question in the audit scope) whether one reason for the rare success was because the aircraft are the only fleet assets which the RFS has been able to

acquire without consulting individual local councils, exactly because the aircraft are not vested with any council for ownership.

2. The Audit Report also correctly identifies that RFS has not made significant changes to its fleet planning over the past five years. But again, because of the failure to include the 'council ownership of RFS fleet assets' within the audit scope, the Audit Report was consequently not able to consider whether or not the imposed necessity for RFS command elements to consult with and gain the tacit consent of their individual local council regarding the upgrading or changing of vehicle types had any detrimental impact on fleet planning performance.

In summarising, Council accepts the Key Findings of the Audit report are valid but questions whether the Recommendations can be implemented and genuine improvements made without a possible and highly significant, but unverified, root cause lies both uninvestigated and unexplored. Council also acknowledges that no other Combat Agency is required to operate under the same potentially performance limiting arrangements as are forced on the RFS in this regard.

Council understands that Audit NSW is not necessarily charged nor commissioned to question the merit of any existing government legislation. Nevertheless the upcoming tabling of the Audit Report would be a most appropriate time to flag a review the relevant legislation in regard to council ownership of RFS fleet assets, excepting aircraft.

Yours sincerely,



Kate Jessep
General Manager

Response from Wagga Wagga City Council



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22 February 2023

Ms Margaret Crawford
Auditor-General for New South Wales
GPO Box 12
SYDNEY NSW 2001

Dear Ms Crawford

Re: Performance Audit – Planning and managing bush fire equipment

Thank you for your letter dated 25 January 2023 on the Performance Audit on Planning and managing bush fire equipment and providing a copy of the final report.

I have discussed with Wagga Wagga City Council staff and note that staff were consulted by NSW Audit Office staff during this performance audit. In regard to sections of the report that reference Wagga City Council's interaction and relationship with Wagga's Regional RFS Brigade, I am comfortable with this specific content included in the Final Report.

Yours sincerely

A handwritten signature in blue ink, appearing to read "P. Thompson".

Peter Thompson
General Manager



Appendix two – About the audit

Audit objective

The objective of this audit was to assess the effectiveness of the RFS and local councils in planning and managing the equipment used to prevent, mitigate, and suppress bushfires.

Audit criteria

We addressed the audit objective by examining whether:

- the RFS and local councils effectively plan for current and future bushfire fleet requirements
- the RFS and local councils effectively manage and maintain the fleet required to prevent, mitigate, and suppress bushfires in NSW.

Audit scope and focus

This audit examined RFS activities to plan for and manage the equipment used to prevent, mitigate, and suppress bushfires from 2017 to 2022 inclusive. In assessing the criteria, we checked the following aspects:

1. The RFS and local councils effectively plan for current and future fleet requirements.
 - a) There are effective systems and procedures to ensure the fleet meets current bushfire requirements and is accurately recorded.
 - b) There are effective processes to plan for future fleet requirements.
 - c) There are timely reviews of fleet plans and procedures to ensure they are aligned with state-wide bushfire management approaches.
2. The RFS and local councils effectively manage and maintain the fleet required to prevent, mitigate, and suppress bushfires in NSW.
 - a) There are effective asset management practices and procedures to procure, manage, maintain, and replace the fleet.
 - b) There are effective firefighting fleet coordination, resource-sharing, and maintenance arrangements with other agencies.
 - c) There are sufficient funds and resources to procure, manage, and maintain the fleet.

Audit case studies

Three local councils were selected as case studies for inclusion in this audit. Our rationale for selecting the councils considered councils:

- in areas that experience high bushfire frequency
- in a range of geographic locations
- of diverse sizes
- with differing arrangements for fleet coordination and management.

The selected councils were:

- **Hawkesbury City Council** – Hawkesbury City Council is a metropolitan fringe council located north-west of Sydney. The Hawkesbury region has an average of 265 bushfires a year, of which approximately 20 can be considered major fires.
- **Wagga Wagga City Council** – Wagga Wagga City Council is a regional council located in the Riverina area of NSW. The region has an average of 200 bushfires a year, of which approximately two can be considered major fires.

- **Uralla Shire Council** – Uralla Shire Council is a rural council located in the Northern Tablelands area of NSW. The region has an average of 95 bushfires a year, of which approximately 12 can be considered major fires.

The NSW Government declared all three local government areas a natural disaster following the bushfires of 2019–20.

Audit exclusions

This audit did not assess:

- the personal protective equipment used by volunteer firefighters
- the activities of other fire authorities responsible for managing bushfire in NSW
- the decision to vest rural firefighting fleet with local councils as described in legislation.

Audit approach

Our procedures included:

1. Interviewing:
 - a) staff at RFS, Hawkesbury City Council, Uralla Shire Council, and Wagga Wagga City Council
 - b) key stakeholders, experts, and consultants.
2. Examining:
 - a) relevant documents
 - b) research into practices in other jurisdictions
 - c) internal controls
 - d) reports of external reviews, inquiries, and commissions
3. Analysing:
 - a) all relevant data relating to the planning, procuring, managing, and monitoring of the bushfire fleet.

The audit approach was complemented by quality assurance processes within the Audit Office to ensure compliance with professional standards.

Audit methodology

Our performance audit methodology is designed to satisfy Australian Audit Standard ASAE 3500 Performance Engagements and other professional standards. The standards require the audit team to comply with relevant ethical requirements and plan and perform the audit to obtain reasonable assurance and draw a conclusion on the audit objective. Our processes have also been designed to comply with requirements specified in the *Government Sector Audit Act 1983* and the *Local Government Act 1993*.

Acknowledgements

We gratefully acknowledge the co-operation and assistance provided by staff from the RFS, Hawkesbury City Council, Uralla Shire Council, and Wagga Wagga City Council, recognising the particular challenges associated with the floods that affected large parts of NSW. We also gratefully acknowledge the stakeholders who contributed to the audit.

Audit cost

The total cost of this audit, including expenses, was approximately \$655,000.

Appendix three – Performance auditing

What are performance audits?

Performance audits determine whether State or local government entities carry out their activities effectively and do so economically and efficiently and in compliance with all relevant laws.

The activities examined by a performance audit may include a government program, all or part of an audited entity, or more than one entity. They can also consider particular issues which affect the whole public sector and/or the whole local government sector. They cannot question the merits of government policy objectives.

The Auditor-General's mandate to undertake performance audits is set out in section 38EA of the *Government Sector Audit Act 1983* for State government entities, and in section 421BD of the *Local Government Act 1993* for local government entities.

Why do we conduct performance audits?

Performance audits provide independent assurance to the NSW Parliament and the public.

Through their recommendations, performance audits seek to improve the value for money the community receives from government services.

Performance audits are selected at the discretion of the Auditor-General who seeks input from parliamentarians, State and local government entities, other interested stakeholders and Audit Office research.

How are performance audits selected?

When selecting and scoping topics, we aim to choose topics that reflect the interests of parliament in holding the government to account. Performance audits are selected at the discretion of the Auditor-General based on our own research, suggestions from the public, and consultation with parliamentarians, agency heads and key government stakeholders. Our three-year performance audit program is published on the website and is reviewed annually to ensure it continues to address significant issues of interest to parliament, aligns with government priorities, and reflects contemporary thinking on public sector management. Our program is sufficiently flexible to allow us to respond readily to any emerging issues.

What happens during the phases of a performance audit?

Performance audits have three key phases: planning, fieldwork and report writing.

During the planning phase, the audit team develops an understanding of the audit topic and responsible entities and defines the objective and scope of the audit.

The planning phase also identifies the audit criteria. These are standards of performance against which the audited entity, program or activities are assessed. Criteria may be based on relevant legislation, internal policies and procedures, industry standards, best practice, government targets, benchmarks or published guidelines.

At the completion of fieldwork, the audit team meets with management representatives to discuss all significant matters arising out of the audit. Following this, a draft performance audit report is prepared.

The audit team then meets with management representatives to check that facts presented in the draft report are accurate and to seek input in developing practical recommendations on areas of improvement.

A final report is then provided to the head of the audited entity who is invited to formally respond to the report. The report presented to the NSW Parliament includes any response from the head of the audited entity. The relevant minister and the Treasurer are also provided with a copy of the final report. In performance audits that involve multiple entities, there may be responses from more than one audited entity or from a nominated coordinating entity.

Who checks to see if recommendations have been implemented?

After the report is presented to the NSW Parliament, it is usual for the entity's Audit and Risk Committee / Audit Risk and Improvement Committee to monitor progress with the implementation of recommendations.

In addition, it is the practice of NSW Parliament's Public Accounts Committee to conduct reviews or hold inquiries into matters raised in performance audit reports. The reviews and inquiries are usually held 12 months after the report received by the NSW Parliament. These reports are available on the NSW Parliament website.

Who audits the auditors?

Our performance audits are subject to internal and external quality reviews against relevant Australian standards.

The Public Accounts Committee appoints an independent reviewer to report on compliance with auditing practices and standards every four years. The reviewer's report is presented to the NSW Parliament and available on its website.

Periodic peer reviews by other Audit Offices test our activities against relevant standards and better practice.

Each audit is subject to internal review prior to its release.

Who pays for performance audits?

No fee is charged to entities for performance audits. Our performance audit services are funded by the NSW Parliament.

Further information and copies of reports

For further information, including copies of performance audit reports and a list of audits currently in-progress, please see our website www.audit.nsw.gov.au or contact us on 9275 7100.

OUR VISION

Our insights inform and challenge government to improve outcomes for citizens.

OUR PURPOSE

To help Parliament hold government accountable for its use of public resources.

OUR VALUES

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Courage (even when it's uncomfortable)

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