



LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEES

BUDGET ESTIMATES 2019-2020 Supplementary Questions

Portfolio Committee No. 7 – Planning and Environment

ENERGY AND ENVIRONMENT

Hearing: Friday 6 March 2020

Answers due by: Monday, 20 April 2020

Budget Estimates secretariat
Phone 9230 2303
BudgetEstimates@parliament.nsw.gov.au

ENERGY AND ENVIRONMENT

Questions from Ms Cate Faehrmann MLC

Regional Forest Agreements

1. What are the implications of the impacts of the 2019-20 fires on the forested estate on the environmental calculations that underlie the existing Regional Forest Agreements?
2. What steps will the NSW Government and Commonwealth take to assess the ecological sustainability of the Regional Forest Agreements?

ANSWER Q1 – 2:

These questions should be referred to the Deputy Premier, Minister for Regional NSW, Industry and Trade.

Salvage logging and IFOA conditions

3. How will the EPA enforce the site specific conditions for forestry operations in fire-affected areas at Mogo State Forest compartment 174A and South Brooman State Forest compartment 60A in southern NSW?
 - (a) Will the EPA audit these two operations?
 - (b) What will this audit involve?
 - (c) Will this be a model for salvage logging operations across NSW?
 - (d) Does the EPA intend to apply these recommendations more extensively before logging operations are resumed in all burnt areas?
 - (e) Does the EPA have the financial and personnel resources to enforce site specific conditions across the state?
4. Does there need to be a modification of the IFOA for salvage logging operation to go ahead across the state?
 - (a) If so, will there be public consultation?
 - (b) What is the process for these changes being made?
 - (c) Who has to approve these changes at a Ministerial level?
 - (d) What, if any, changes can the EPA make without Ministerial sign off?
5. The EPA approved 75 compartments to be logged under the old IFOA rules in December:
 - (a) Will these approvals be updated to include site specific conditions?

- i. If not, why not?
- (b) Given there is currently no specification to manage the impacts of severe fire seasons (such as the one we have just experienced) in the IFOA - is the Government considering making changes to the IFOA that will help manage post fire environmental considerations for forest operations in the future?
 - i. If yes, will these changes involve public consultation?
 - ii. If not, why not?

ANSWER:

I am advised:

- 3. The EPA will undertake compliance and enforcement in accordance with the NSW EPA Compliance Policy.
 - (a) Compliance monitoring inspections have already occurred at both sites, and further assessments of compliance will occur as these operations progress.
 - (b) The EPA will assess compliance in accordance with the NSW EPA Compliance Policy.
 - (c) Site-specific conditions address the specific environmental issues at each site.
 - (d) Site-specific conditions for bushfire affected forests may be issued on a case by case basis.
 - (e) Yes.
- 4. No. The Coastal IFOA enables the EPA to grant site-specific conditions for a specific forestry operation where a condition or conditions of the IFOA would result in a poor environmental outcome, or if in a specific or unique circumstance, Forestry Corporation of NSW is unable to comply with the IFOA.
- 5.
 - (a) No.
 - i. The former IFOAs have been repealed.
 - (b) The NSW Government is working through the appropriate response to the bushfire impacts, including in relation to forestry.

National Parks vegetation management

6. What legal constraints apply to the damage or removal of native vegetation from reserves gazetted under the National Parks and Wildlife Act?
 - (a) Do these constraints prohibit the use of vegetation for commercial purposes?
7. What assessments have or will be conducted to determine whether vegetation that has been modified by fire operations, including the construction of control lines, should be left in situ or removed?
8. Are trees that have been felled in National Parks for fire breaks being removed by FCNSW or associated contractors?
 - (a) Will these trees be sold for profit?
9. What legal powers would be evoked to allow commercial operations in National Parks?

ANSWER:

6. Under clause 21 of the National Parks and Wildlife Regulation, a person must not remove, damage or destroy any vegetation in a park unless consent of the park authority has been obtained, or unless removal occurred as part of approved development activities or emergency circumstances listed in clause 21.

The National Parks and Wildlife Service may remove vegetation when carrying out park management works and activities in national parks in accordance with its responsibilities under the *National Parks and Wildlife Act 1974* (NPW Act).

 - (a) Vegetation may not be removed from a national park if the primary purpose of removal is commercial. Where the primary purpose of removal is consistent with the objects of the NPW Act, which are focused on conservation and sustainable visitor use, or it is necessary for park management purposes, then vegetation removed from a park can be used for a secondary purpose, regardless of whether that use is commercial or not.
7. Post-fire assessments are being undertaken as part of the recovery process to determine whether cleared vegetation should remain in a park for conservation or other reasons, or alternatively needs to be removed to open roads or fire trails, restore emergency fire breaks or make visitor areas safe and accessible.
8. Where post-fire recovery assessments determine that felled trees need to be removed from a park, then an appropriately skilled contractor or organisation will be engaged to undertake that activity.

- (a) The primary purpose of any removal of felled trees must be consistent with the objectives of the NPW Act. There is nothing to prevent the subsequent re-use of the material on a commercial basis, for example, to generate economic benefits for local communities.

9. Please refer to my response to question 6(a).

Mangrove Mountain

10. On 19 February 2020, following heavy rainfall in early February, the operator of Mangrove Mountain Landfill was observed to be deliberately discharging sediment-laden water potentially containing unknown pollutants from a holding pond into Stringybark Creek. This creek flows into Ourimbah Creek, which is a source of water for the Central Coast potable water supply. Why, when this was brought to the attention of the EPA by Mountain Districts Association on 21 February 2020, did the EPA choose to pass it on to the Central Coast Council?

ANSWER:

I am advised:

10. The Environment Protection Authority conducted an inspection of the Mangrove Mountain Landfill on 25 February 2020. It was determined that the alleged discharge came from an area of the Mangrove Mountain Golf Course, which is separate to the landfill and its associated pollution controls. As the EPA is not the appropriate regulatory authority for this non-scheduled premises, the EPA therefore referred the matter to Central Coast Council as the appropriate regulatory authority.

Post-Bushfire Wildlife and conservation recovery

11. How much is the government spending on post bushfire wildlife and conservation recovery?
12. How much is the government spending on post bushfire feral animal control?
13. In addition to the post-fire feral animal control program, have other measures been considered to bolster the protection of native animals in their remaining habitat such as introducing artificial refuge and cover?

ANSWER:

11. The NSW Government released the Wildlife and Conservation Bushfire Recovery Immediate Response January 2020, which detailed immediate actions being undertaken to protect wildlife and support the natural recovery process. The NSW Government will continue to make decisions regarding the activities and resources as needed to address the impacts of the bushfire season.

12. Please refer to my response to question 11.
13. The NSW Government released the Wildlife and Conservation Bushfire Recovery Immediate Response January 2020, which detailed immediate actions being undertaken to protect wildlife and support the natural recovery process. The Government has also commenced work on a medium-term NSW wildlife and conservation bushfire recovery plan. This will build on the actions identified in the immediate response and will consider detailed species or local protection plans, measures to support key refuge areas in national parks, and longer-term measures to protect wildlife from feral animals and other pests in key habitats.

Biodiversity Conservation Trust

14. Has the 2019 - 2020 bushfire season reduced the availability of biodiversity credits under the Biodiversity Conservation Act?
 - (a) By how much?
 - (b) How is the Biodiversity Conservation Trust determining the impact on biodiversity credits as a result of this season's bushfires?
 - i. Who is being contracted to undertake this work?
 - ii. What is the timeframe for this work?
15. How many areas of outstanding biodiversity value have been determined under Part 3 of the BC Act?
 - (a) What are they?
 - (b) How many hectares do they cover?
 - (c) When were they determined?
 - (d) How many applications are currently being considered by the BCT to be determined as areas of outstanding biodiversity values?
 - i. How many hectares are covered by these applications?

ANSWER:

14.
 - (a) The availability of existing credits on the market has not changed as a result of bushfire. For new Biodiversity Stewardship Agreement (BSA) applications, the 2019-2020 bushfire

season may affect the availability of new credits for a small number of BSA applications that will need to apply assessment guidelines for severely burnt sites.

(b)

- i. Environment, Energy and Science Group, in the Department of Planning, Industry and Environment, is developing guidelines for applying the Biodiversity Assessment Method for Biodiversity Stewardship Agreements to severely burnt sites, in consultation with the Biodiversity Conservation Trust and accredited assessors. Sites that were not affected by severe or catastrophic fire will continue to be assessed using standard methods with no impact on credits supply.
- ii. It is expected that these guidelines will be finalised in the coming months.

15. There are four sites which are areas of outstanding biodiversity value.

(a) The BC Act recognises four sites as areas of outstanding biodiversity value that were identified as critical habitats under previous laws. These are:

- Gould's Petrel on Cabbage Tree Island
- the Little Penguin population in Sydney's North Harbour
- the Mitchell's Rainforest Snail in Stotts Island Nature Reserve
- the locations of Wollemi Pine in Wollemi National Park.

(b) The areas of these sites are:

- Cabbage Tree Island: approximately 30 hectares
- Little Penguin population in Sydney's North Harbour: approximately 22 hectares
- Stotts Island Nature Reserve: approximately 165 hectares
- Wollemi National Park: approximately 5,000 hectares

(c) The dates on which these areas were determined as critical habitats are shown below. All critical habitats were taken to be areas of outstanding biodiversity value on 25 August 2017, with the commencement date of the BC Act.

- Cabbage Tree Island: 5 April 2007
- Little Penguin population in Sydney's North Harbour: 20 December 2002
- Stotts Island Nature Reserve: 23 November 2001

- Wollemi National Park: 23 February 2007.

(d) The Environment, Energy and Science Group (EES) is considering one nomination received from the public. The Biodiversity Conservation Trust provides advice to EES as part of the assessment process. Information about the number of hectares is not currently available as the nomination is under assessment.

In 2019, EES undertook external consultation on draft guidelines for the nomination and assessment of areas of outstanding biodiversity value. Feedback from the consultation is being used to inform the development of the guidelines.

Sydney flora and fauna

16. How will the NSW government measure the increase in tree canopy in Sydney as proposed by the Greater Sydney Commission?
17. Given the devastation of this summer's bushfires and loss of flora and fauna, Sydney's bushland is now a sanctuary for many species and safeguarding biodiversity. What measures is the NSW government now taking to give extra protection to endangered or vulnerable species in these areas?

ANSWER:

16. The Department of Planning, Industry and Environment's Planning and Assessment Group leads the 5 Million Trees Program.

An effective evaluation and monitoring approach is being designed to support the evaluation of programs and strategies addressing urban heat and green cover across the Sydney Greater Metropolitan Area. A fine-scale urban heat and green cover baseline was delivered by the Department's Environment, Energy and Science Group in 2019

17. The NSW Government released the Wildlife and Conservation Bushfire Recovery Immediate Response January 2020, which detailed immediate actions being undertaken to protect wildlife and support the natural recovery process.

Additional actions in the Sydney region have been delivered under the Saving our Species program, which is a state-wide program that aims to secure threatened plants and animals in the wild in NSW.

Narrabri CSG - Fugitive emissions and air toxins, disposal of salt waste

18. Following the release of Santos' response to submissions in July 2018, the NSW EPA indicated it was not satisfied with the information provided by Santos about fugitive emissions and

recommended the then-Department of Planning and Environment request additional clarification on “the characterisation and assessment of fugitive emissions, including methane, volatile organic compounds and air toxics” and detail on Santos’ proposed leak detection and repair program. In that July 2018 letter, the EPA also requested, for the second time, specific information from Santos and the Department of Planning about the capacity of nearby landfill facilities to deal with this. Has the EPA received any additional information from Santos or the Department of Planning about fugitive methane and air toxics from the proposed Narrabri gas field since July 2018?

19. Has the EPA received any additional information from Santos or the Department of Planning about details of its plans to dispose of tens of thousands of tonnes of waste salt from the proposed Narrabri gas field since July 2018?

ANSWER:

I am advised:

18. Yes.
19. Yes.

SEPP (Koala Habitat Protection) 2019

20. How many hectares of land does the new SEPP (Koala Habitat Protection) 2019 apply to?
21. How many hectares of land that have koala habitat does the koala SEPP not apply to?
22. Why is it that some areas of NSW with known koala habitat have been excluded from the new koala SEPP?
23. Of land mapped as potential koala habitat through the Site Investigation Area map, what percentage do you expect to be confirmed as core koala habitat through expert investigations (as required in the SEPP)?
24. What is the time frame and the process for updating the Native Vegetation Regulatory Map?

ANSWER:

20. The Site Investigation Area for the Koala Plan of Management Map applies to 25 million hectares of land. The Koala Development Application Map applies to 6.4 million hectares of land.
21. This information is not readily available.

22. The new SEPP (Koala Habitat Protection) 2019 applies to the same Local Government Areas as the previous SEPP 44.

The new SEPP adopts two maps that were informed by the best available state-wide data on koala habitat and occurrence in NSW. These maps provide greater certainty to councils and the community about which areas are likely to contain koala use trees and koala habitat

23. When preparing a Koala Plan of Management, the area of core koala habitat will be identified by councils following the method set out in Appendix C of the draft Koala Habitat Protection Guideline. The draft Guideline was on public exhibition until 30 March 2020.
24. The currently published Transitional Native Vegetation Regulatory map is updated annually to reflect any significant and widespread changes to land categorisation and includes a public submission process.

Incremental changes to land categorisation are made on a monthly basis, these originate from:

- a) Relevant approvals through the operation of the Land Management Code or Private Native Forestry Code.
- b) New conservation or stewardship agreements.
- c) Landholders requesting a map review for their property, which is normally determined within 40 days.
- d) Koala Plans of Management approved by the Department of Planning, Industry and Environment Secretary, providing there was public consultation on the preparation of the plan.

Bushfires Impacts on Aboriginal Culture

25. Given the devastating impact of the bushfires on places and landscapes of Aboriginal cultural significance, what is the Government doing to:
- (a) Map the specific impacts of the bushfires on culturally significant sites, and
 - (b) Protect or remediate these sites over the short and long term.
26. What existing measures are in place to support Aboriginal people to practice cultural burning across tenures across NSW, specifically in relation to:
- (a) Infrastructure and equipment for Aboriginal fire practitioners
 - (b) Investment into Aboriginal cultural burning to help mitigate wildfire risk, enhance habitat and biodiversity and protect cultural heritage

- (c) Investment into cultural awareness training and opportunities for collaboration between existing fire and land management agencies

ANSWER:

25.

- (a) The National Parks and Wildlife Service (NPWS) has undertaken mapping work to assess the potential impact of the fires on Aboriginal cultural heritage on national parks estate and identify areas where further on-ground survey work is required.

There are over 3,800 registered sites on national parks estate that are located in bushfire affected areas. These sites include scarred trees, rock art sites and stone arrangements.

There are also eight declared Aboriginal Places in the bushfire affected area. The impact of the fires on these Aboriginal places and objects has not yet been fully assessed due to concerns about safe access to the areas.

Heritage NSW, in the Department of Premier and Cabinet, has also undertaken mapping work across all tenures outside of the national parks estate.

- (b) NPWS has conducted information sessions with Aboriginal joint management partners in areas where Aboriginal cultural heritage on national parks estate has been impacted. Aboriginal partners may be contracted to undertake Aboriginal cultural heritage site assessments where safe to do so.

26. In 2016, the NPWS Aboriginal Cultural Fire Management Policy was developed in recognition of the importance of the traditional use of fire to enhance and protect natural and cultural values, express and maintain culture, kinship and identity, and to continue to share knowledge and practice. The policy is available at: www.environment.nsw.gov.au/research-and-publications/publications-search/cultural-fire-management-policy

In 2019, the Environment, Energy and Science Group (EES), which includes NPWS, participated in or funded at least 16 projects that include an Aboriginal cultural fire management component. EES also established a Fire and Cultural Sciences team to focus on the integration of scientific and cultural research in fire management. This team is working in partnership with university researchers, including the Bushfire Risk Management Research Hub.

NSW Rural Fire Service is the lead agency for hazard reduction burning in NSW and has supported Aboriginal communities with cultural burning as have other state agencies including NPWS and Local Land Services.

NPWS staff undertake cultural awareness training as part of a mandatory suite of training packages. Many NPWS staff participate in collaborative cultural burning projects and the Aboriginal joint management program. NPWS has 32 Aboriginal joint management arrangements across the national parks estate.

The independent inquiry into the 2019-20 bushfire season is expected to provide further recommendations on the role of Aboriginal cultural fire management practices, which will be used to inform future policy.

Monitoring Fire Recovery

27. One of the constantly occurring issues in bushfire response discussions is the need for the establishment of scientifically-based, systematic inventory and monitoring programs to assess the impacts of the recent fires, monitor recovery over time and apply adaptive management where required. Another issue is the availability of baseline data against which to gauge initial impacts and assess monitoring results. To be most effective, assessment and monitoring programs should be directed to areas where reliable pre-fire baseline data are available. Crucial to the establishment of such programs will be the sourcing and dedication of adequate funds to enable them to provide meaningful results. What funds are available to ensure that fire recovery projects are established and monitored for the long-term?

ANSWER:

27. Each NPWS fire recovery project allocates a portion of total budget to cover monitoring activities for up to four years.

Dingoes and Wild Dogs in NSW

28. What scientific evidence or justification formed the basis of the NSW 'wildlife and conservation bushfire recovery response' plan targeting 'wild dogs' aka dingoes?
29. Was the work of Geary et al. 2018 (J Appl Ecol. 55: 1594–1603) considered or reviewed in the creation of this bushfire recovery plan?
30. Have studies been carried out to ascertain the non-target impacts on native fauna from 1080 aerial and ground baiting in burnt landscape?
- (a) If so, when were these studies carried out, by whom and what were the results
31. How are non-target impacts on native predators such as quolls, goannas and dingoes being minimised?

32. What safeguards are in place to protect bushwalkers dogs, companion dogs, farm working dogs or livestock guardian dogs from ingesting baits dropped as part of this bushfire recovery plan?
33. The NSW 'wildlife and conservation bushfire recovery response' plan states that 1 million 1080 baits will be aially deployed across 60,000 kms of transects?
 - (a) Where exactly will these baits be deployed?
 - (b) What is the baiting dosage (density and bait type) that will be used?
 - (c) Is this baiting to be instead of or in addition to annual 'wild dog aerial baiting' activities carried out by NSW State Government and Local Land Services?
 - (d) What is the target of the aerial baiting?
34. There is strong scientific evidence that dingoes play a role in suppressing and modifying the behaviour of introduced mesopredators such as foxes and cats, how does killing dingoes demonstrate evidence-based conservation management for bushfire recovery?
35. Ultimately what are the key processes that have determined dingoes (wild dogs) to be targeted as threats to native species following the 2019/2020 bushfire season?
 - (a) What advice/consultation is this based on?
36. What DNA testing has been done in NSW by the NSW Government (DPIE) and what percent or number of animals were: pure dingoes, probable pure dingoes, greater than 75% dingo, greater than 65% dingo and greater than 50% dingo?
37. From the DNA testing work carried out by NSW Government (DPIE), what percentage of the population were feral dogs or animals with less than 50% dingo ancestry? Were these animals more common in peri-urban or remote areas?
38. How has knowledge from DNA testing about the ancestry of wild dingoes been incorporated into management plans?
39. In 2019, Cairns et al. published a study identifying three hot spots of high dingo ancestry near: Myall Lakes, North of Port Macquarie and Washpool National Park. What practical steps have been taken to protect these populations from lethal control and hybridisation with domestic dogs?
40. Are there any plans to make an exception for aerial baiting around populations of known 'high dingo purity'?
 - (a) If so, which areas are these?

- (b) What knowledge or information would be required for such considerations to take place?
41. Which conservation reserves have been identified, based on best available science and genetic testing, to support conservation management of the genetic integrity of dingoes?
42. Does the conservation of dingoes (and their ecological role) feature as a key process in the NSW bushfire recovery plan?
- (a) What are the motivations behind indiscriminate non target specific broad scale killing of dingoes?
- (b) What advice/consultation is this based on?
- (c) Is the baiting density to be 40 baits per kilometre across the board or is the dosage higher or lower in different areas? What baits will be deployed (4 or 6 mg 1080)?
- i. How is this decided?
- ii. Under what consultation?
43. What surveys have been undertaken across burnt habitat to estimate the population of surviving dingoes (wild dogs), quolls and other native animals prior to aerial or ground baiting programs.
44. What is the overall population size/goal for dingoes in baited areas?
- (a) Upon what evidence/justification or advice is this based upon?
45. Is the targeting of dingoes (wild dogs) as part of the NSW Bushfire Recovery Plan a result of advice from the Department of Agriculture?
- (a) In NSW, over the past 3 years, how many livestock have been verified as killed or harmed by dingoes (wild dogs)?
- (b) How was it demonstrated that this was the result of dingoes (wild dogs) rather than feral or roaming pet dogs?
- (c) What percent livestock loss does this represent out of the total number of livestock reared/held in NSW?
- (d) What non-lethal management strategies are in place to limit the impacts of dingoes (and other predators) on livestock?
- (e) What processes are in place to ensure that livestock producers make steps to limit risk to livestock before resorting to lethal management?

- (f) What evidence is there that aerial baiting practically and substantially reduces livestock predation?

46. What is the budget for 'wild dog' control in Kosciuszko National Park?

ANSWER:

28. The NPWS aerial baiting program has a strong conservation imperative and is essential to minimise the impacts, particularly from foxes, in a post-fire landscape. Foxes are having a devastating impact on native wildlife. Aerial baiting is the only effective landscape-scale control measure for foxes

The primary target of the aerial baiting program will be foxes and, in locations where there is a risk of negative impact to livestock production on neighbouring private properties, wild dogs.

Under the *Biosecurity Act 2015*, land managers, including the National Parks and Wildlife Service, have a general biosecurity duty to control wild dogs to the extent necessary to minimise the risk of negative impacts on agricultural enterprises.

29. Yes.

30. Extensive research has found that there is no significant negative impact of 1080 baiting on native species if the baits are laid consistent with appropriate guidelines. Native species either do not take the baits or consume the baits without negative impacts.

31. Extensive research has shown that quolls and goannas are not negatively impacted by 1080 aerial baiting.

32. Under the program, aerial baiting will be conducted on national parks and reserves managed by NPWS. Baiting is conducted strictly in accordance with the Pesticide Control (1080 Bait Products) Order 2019 that specifies distance restrictions (from boundaries) and public notification requirements.

Domestic dogs and working dogs are not permitted in most NSW national parks and reserves. People with a disability may be accompanied by a trained assistance animal, such as guide dogs or hearing dogs, in areas open to the public. Such areas are generally not subject to aerial baiting, and any public access points must be signposted with warning notices before baiting occurs.

33.

- (a) The baits will be deployed in national parks and reserves impacted by the recent bushfires and nearby reserves acting as refugia for native species that survived the bushfires

- (b) When targeting foxes only, the amount is three mg of 1080 per bait as per the amount of 1080 specified for fox baits in the Pesticide Control (1080 Bait Products) Order 2019 at a rate of up to 10 baits per kilometre. When baiting for wild dogs in areas that are having an impact on livestock production, the amount is six mg per bait at a rate of up to 40 baits per kilometre.
 - (c) This baiting will be integrated with the annual aerial baiting programs normally carried out by NPWS and Local Land Services.
 - (d) The primary target of the aerial baiting program will be foxes.
34. There is considerable debate in the scientific community as to whether dingoes play a role in suppressing cats or foxes and, in addition, whether any such relationship (if it exists) offers any protection for native species. The Department of Planning, Industry and Environment has robust monitoring data that shows high levels of foxes and feral cats co-existing with high levels of wild dogs (which includes dingoes, feral dogs and their hybrids). This data presents definitive evidence (at least for that location type) that wild dogs do not suppress foxes, and cats, to the degree that would be required to protect native species from their impacts, particularly post fire when shelter and cover for native fauna has been removed.
35. Please refer to my response to question 28.
36. The Department of Planning, Industry and Environment is currently carrying out a genetic study of wild dogs in NSW. Analysis is still underway and percentages are not yet available.
37. Please refer to my response to question 36.
38. The role of wild dog management plans is primarily to control wild dogs where they are having a negative impact on livestock.
39. NPWS control of wild dogs will occur where the risks to pastoral activity are high, and NPWS will avoid baiting in key remote areas of national parks. This approach is applied across the entire National Park estate.
40. Please refer to my response to question 39.
41. Please refer to my response to question 39.
42. Please refer to my response to question 39.
- (a) There is no indiscriminate non target specific broad scale killing of dingoes.
 - (b) There is no indiscriminate non target specific broad scale killing of dingoes.

(c) Please refer to my response to question 33(b).

43. A range of monitoring projects will be utilised. However, foxes are killing millions of native animals. Unless effective aerial baiting is implemented as soon as reasonably practicable, the impact of foxes on our wildlife in this post bushfire period will be even more catastrophic.

44. Please refer to my response to question 39.

45. The NPWS aerial baiting program is driven by a conservation imperative and biosecurity requirements.

(a) - (f) These questions should be directed to the Minister for Agriculture and Western New South Wales.

46. This will be determined as relevant details of the NSW Bushfire Recovery Plan feral animal control program are finalised.

Maules Creek Whitehaven Coal Mine

47. Concerning the Clean-Up Notice Number 1591771 dated 21 February 2020 issued by the NSW EPA against Maules Creek Coal Pty Ltd, which relates to serious pollution of the waterways which constitute part of the Namoi River catchment,

(a) The Clean-Up Notice states that a complaint was received from a property owner “on or around the 9 February 2020”. Why is there no certainty of when the complaint was received?

(b) Precisely when did the licensee Maules Creek Coal itself report the pollution event, and can you please provide the exact details of what was self-reported, if at all?

(c) What is known about the quantity of the expandable polystyrene balls (EPBs) that escaped from the Maules Creek Coal mine, (i) in cubic metres, (ii) in estimated numbers, and/or in any other metric used to measure them?

(d) What measures are being taken by the EPA to assess the harm to aquatic animals and birds who ingest the EPBs?

48. Concerning an inspection by the EPA of the Maules Creek Coal mine on 8 August 2019 in which the EPA observed that the EPBs were not being contained within the explosives depot,

(a) wherein fact were they being stored, including the location and the kind of receptacle?

(b) In the light of the successful prosecution earlier in March 2019 of the Rocglen coal mine, also a mine owned and controlled by another Whitehaven Coal company (Werris Creek

Coal), for blasting violations, why did the EPA consider that a mere verbal instruction to contain the EPBs within the explosives depot was sufficient action on their part?

- (c) Did the EPA conduct a follow-up inspection or in any other way take action to ensure that the verbal instruction had been adhered to? If so, please provide details of any reporting back by the mine to the EPA, any follow-up inspections, or other measures to ensure that the EPBs were stored correctly?
 - (d) What was the level of seniority of EPA staff who inspected on the 8 August? And who has conducted the investigation of this matter so far?
 - (e) Can you provide details of the so-called Mobile Mixing Unit and its known location at the time of the pollution event?
49. As it is alleged that the pollution which is the subject of the Clean-Up Notice occurred as a result of a storm event on Saturday 8 February 2020, but the EPA's investigation did not commence until Tuesday 11 February, what are the After Hours and weekend arrangements for staffing the Armidale Branch of the EPA that prevented the EPA from taking immediate action on Sunday 9 February?
50. What are the After Hours and weekend arrangements for staffing the Armidale Branch of the EPA that prevented the EPA from taking immediate action on Sunday 9 February?

ANSWER:

I am advised:

47.

- (a) The complaint was received by the EPA's Environment Line at 17:56 on Saturday 8 February 2020.
- (b) Maules Creek Coal Mine self-reported a discharge from an overflow drain to Back Creek following 186 millimetres of rainfall to the EPA's Environment Line at 17:21 hours on Saturday 8 February 2020.
- (c) The quantity of EPB's discharged is not known.
- (d) The EPA has received advice from specialists in the Department of Planning, Industry and Environment Contaminants and Risk Team regarding the ecological risks associated with the EPB's, their ingestion by wildlife, their chemical constituents and any break down products.

48.

- (a) In a sealed shipping container that connects and seals to the loading plant in the blast compound.
- (b) Verbal advice to clean-up the EPB's was considered appropriate having regard to the level of EPBs observed.
- (c) No.
- (d) The inspection on 8 August 2019 was conducted by a Senior Regional Operations Officer. The same officer is leading the investigation into the matter under the supervision of their Unit Head and Manager and is being assisted by other regional operations officers.
- (e) The MMUs were not directly involved in this incident. The locations of the MMUs at the time of the incident are not known to the EPA.

49. The EPA operates an After Hours Incident Service which has officers rostered on 7 days per week providing emergency response for environmental incidents. The Armidale EPA After Hours Duty Officer was notified of the self-report by Maules Creek Coal Mine on Saturday 8 February 2020, however localised flooding in the area affecting roads between Armidale and the mine site meant that it was not safe to attend the site on Saturday 8 February 2020.

50. The premise of the question is based on a false premise.

Trees and Carbon

51. Please provide the detail of what work the Government is doing to measure the amount of carbon stored in National Parks and other trees and vegetation around NSW?

52. Is there a target to retain carbon in vegetation in NSW?

- (a) If so, what is the target?
- (b) If not, are there plans to do so?

ANSWER:

51. Statewide modelling is undertaken that includes spatially mapping carbon stores and estimating the total carbon stored in national parks and other trees and vegetation in NSW. This modelling work is supported by data gained through field mapping and monitoring projects.

52. There is no target to retain carbon in vegetation in NSW.

Private Native Forestry

53. How many breaches of the Private Native Forestry Code have been reported in the past 12 months?
- (a) How many of these were investigated?
 - (b) What were the results?

ANSWER:

I am advised

53. The EPA received 15 public reports relating to Private Native Forestry through its Environment Line in the 2018/19 financial year.
- (a) All.
 - (b) Two of these reports are still under investigation. For the completed investigations:
 - i. One resulted in a formal warning and a corrective action request.
 - ii. One resulted in an advisory letter and a corrective action request.
 - iii. One resulted in an advisory letter.
 - iv. No further action was taken for 10 of the reports

National Parks Estate

54. What is the total funding budgeted to achieve the Government's goal of expanding the National Parks' Estate by 200,000 hectares?
55. What is the total additional funding budgeted to support the National Parks and Wildlife Service to manage this additional land?

ANSWER:

54. I am committed to the target of expanding the footprint of the National Park estate by 200,000 hectares. Funds to support the expansion of the national park system come from a range of sources.
55. Decisions on budget requirements for the management of land added to the national park system is made on a case by case basis, taking into account the circumstances of each addition.

Acquisition of Koala habitat at Mt Gilead

56. What revenue has been spent/ allocated for the acquisition of actual and potential koala habitat east of the Appin Rd (in the Mt Gilead vicinity) and further north in the George's River corridor (from Campbelltown to Glenfield and beyond)?
57. What measures and funding commitments have been made specifically to address the protection and management of the South West Sydney koala colony?
58. Is the Government planning to establish a Koala Care facility in the MacArthur region?
 - (a) If so, will it include permanent on-site staff?

ANSWER:

56. To date, no revenue from the Environment portfolio has been spent or allocated for the acquisition of koala habitat in these areas.

The Cumberland Plain Conservation Plan will identify strategic koala conservation measures and priority areas for investment. The plan is intended to deliver an 800-hectare koala conservation area along the Georges River. This was signalled in Greater Macarthur 2040: An Interim Plan for the Greater Macarthur Growth Area.

Questions about the Cumberland Plain Conservation Plan and Greater Macarthur 2040 should be directed to the Minister for Planning and Public Spaces

57. Under the NSW Koala Strategy approximately \$1 million has been invested to install more than nine kilometres of fencing along Picton Road in Wollondilly.

Over the last two years, approximately \$270,000 has been allocated to the Campbelltown and Wollondilly local councils for koala conservation research in the area through the Saving our Species program.

Measures to protect and manage the South West Sydney koala colony are being considered under the draft Cumberland Plain Conservation Plan and Greater Macarthur 2040: An Interim Plan for the Greater Macarthur Growth Area. Information on measures and investment priorities can be found at www.planning.nsw.gov.au/News/2018/Community-and-koalas-at-the-heart-of-Greater-Macarthur-2040-plan.

Questions about the Cumberland Plain Conservation Plan and Greater Macarthur 2040 should be directed to the Minister for Planning and Public Spaces.

58. No, there are no plans to establish a Koala Care facility in the MacArthur region.

Taronga Zoo has developed an online course for veterinarians and veterinary nurses to improve the knowledge and skills of veterinary staff on native wildlife triage, first aid, treatment and care, including koalas. The training is subsidised by the NSW Government through the NSW Koala Strategy. Veterinarians and veterinary nurses that reside and practice in NSW, including in the MacArthur Region, will be considered for a subsidy to cover the cost of the course.

Emissions Reductions

59. Last year, what were the total carbon emissions attributable to NSW government services?

60. What specific NSW-based emissions reduction initiatives are being allocated funding under the January 2020 bilateral agreement with the federal government?

61. What level of funding is allocated to supporting or upgrading coal fired electricity?

ANSWER:

59. In 2018/19, the carbon emissions attributable to government services were 1.7 million tonnes of carbon dioxide equivalent from Scope 1 and 2 emissions. Scope 1 emissions are direct emissions from owned or controlled sources such as on-site fuel use for diesel generators. Scope 2 emissions are indirect emissions from the generation of purchased energy. Total carbon emissions from certain Government services such as emissions from Government vehicles are not currently available.

60. The NSW and Commonwealth Governments entered into a memorandum of understanding (MoU) in January 2020. The \$1.97 billion in emissions reduction initiatives funded under the MoU include:

- Funding from the Commonwealth's Climate Solutions Fund for NSW projects.
- Emissions Intensity Reduction Program to take direct action to reduce emissions.
- Energy Efficiency Program – to reduce electricity bills, ease pressure on the electricity grid and include support for vulnerable households and small businesses.
- Electric Vehicle Infrastructure and Model Availability Program – to accelerate uptake of electric vehicles (EV) through competitive funding grants for private fleet procurement and fast vehicle charging.

- Primary Industries Productivity and Abatement Program – to support farmers and regional communities to take advantage of low-emissions technologies and carbon offset programs, saving farmers and landowners money and increasing production.
- Coal Innovation Program – to support research, development and commercialisation of low emissions coal and gas technologies.
- Clean Technology Program – to support research and commercialisation of new and emerging emissions reduction technologies not currently on the market.
- Hydrogen Program – to support commercialisation of hydrogen technologies across all sectors including energy, manufacturing and transport.

61. None of the programs under Schedule E of the memorandum of understanding between the NSW and Commonwealth governments are proposed to support or upgrade coal fired power stations. The memorandum of understanding is available for download at www.energy.nsw.gov.au.

ENERGY

Questions from the Hon Mark Buttigieg MLC (on behalf of the NSW Labor Opposition)

Nuclear Power in Newcastle

62. Does the Minister support the use of nuclear power in NSW?
63. Does the Minister support mining of uranium in NSW?
64. Will the Minister rule out a nuclear power reactor in the Hunter region?
65. Will the Minister rule out a nuclear waste storage facility in the Hunter region?

ANSWER:

62. The most economic form of delivering reliable electricity is firmed renewable generation. The NSW Government supports private sector-led investment in electricity generation. NSW law prohibits the mining of uranium, and the construction and operation of nuclear reactors for electricity generation.
63. Please refer to my response to question 62.
64. Please refer to my response to question 62.
65. Please refer to my response to question 62.

Smart Batteries for Key Government Buildings program

66. How many smart batteries have been rolled out under the Smart Batteries for Key Government Buildings program?
 - (a) Please provide a list of all sites.

ANSWER:

66. The Department is currently negotiating with the NSW Department of Education, NSW Health, Property NSW and the Sydney Opera House on battery storage installations at 22 NSW government-owned facilities across the four agencies.

Empowering Homes Solar Battery Loan Scheme – Hunter Region

67. Is the Newcastle LGA eligible for the Hunter Region's Empowering Homes Solar Battery Loan scheme?
 - (a) If not, why not?
 - (b) If not, what scheme(s) is the Newcastle LGA eligible for to purchase solar battery systems?

- (c) If not, will you reverse the unfair decision to exclude the Newcastle LGA from this scheme?

68. By postcode, how many applications for the Empowering Homes Solar Battery Loan scheme have been received?

ANSWER:

67. A list of eligible postcodes for the Empowering Homes program pilot is available at <https://energysaver.nsw.gov.au/households/solar-and-battery-power/solar-battery-loan-offer>.
Homeowners in the Hunter region are encouraged to check the Energy Saver website to see if their postcode is eligible as part of the pilot and for details on how to apply.
Homeowners across New South Wales can also register their interest in the broader program, which will be rolled out across the state after the pilot is complete in early 2021.
68. The pilot program launched on 28 February 2020. As at 6 April 2020, sixteen applications for finance had been submitted by customers from eligible postcodes.

All Roles Flex

69. Minister, the Premier announced on International Women's Day that the public service would all have access to flexible working arrangements by 2019.
- (a) What numbers of staff within your Department currently have access to a flexible role?
- (b) Do you centrally register staff, who have flexible working arrangements?
- (c) What measures are currently in place to implement this?

ANSWER:

- 69.
- (a) Flexible work options are available to all Department of Planning, Industry and Environment staff, however depending on the role, the flexible work arrangements vary due to the nature of the position.
- (b) No, Department of Planning, Industry and Environment takes a team-based approach to flexible working. This enables individual employees to have discussions with their direct managers about flexible working options and negotiate arrangements based on their unique needs and the needs of the business.

Managers and employees are required to retain copies of their flexible work arrangements to ensure all necessary WHS elements have been completed and employees are safe no matter what location they are working from.

(c) Initiatives in place to enable all staff to access flexible working arrangements include:

- A Flexible Working Toolkit
- Dedicated Intranet page with FAQs to help managers and employees implement flexible working arrangements
- New offices at 4 Parramatta Square were designed for agile working and staff have access to new technologies and collaboration tools to enable greater flexibility
- Regular messaging from the Department of Planning, Industry and Environment Secretary and Deputy Secretary People Performance and Culture to reinforce the commitment to flexible work arrangements.
- Facilitated face to face manager and employee sessions on flexible working; including developing this content online to provide all staff the opportunity to complete the training.
- Job advertisements for vacant roles indicate agnostic locations where appropriate.

ENVIRONMENT

Questions from the Hon Mark Pearson MLC

Kangaroos

70. What examples and evidence can the Minister provide to show how the Department is protecting kangaroos?
71. There are various scientific assertions made about the lifespan of kangaroos in the wild, ranging from six to sixteen years.
- (a) Can the Department advise what research it relies upon to calculate lifespans when estimating kangaroo populations?
 - (b) What assumptions are being made about kangaroo fertility, both under good conditions and drought conditions, and about the infant and adult mortality of kangaroos?
72. Several studies including a 20 year longitudinal study at Yean Yan Reserve in Victoria, showed that kangaroo populations, when human interventions such as managed slaughters and commercial 'harvesting' are withdrawn, ultimately stabilise in equilibrium with their environment.
- (a) Is the Department aware of this research?
 - (b) If so, are 'culling' programs undertaken on the premise that it is for the benefit of kangaroo population's sustainability or for the benefit of farmers to reduce grazing competition with farmed animals?
73. Research undertaken by ecologist Ray Mjadwesch estimated that the current kangaroo population in NSW is only about 11% of what it was at the time of European settlement.
- (a) Is the Department aware of the work of Ray Mjadwesch?
 - (b) If so, does the Department support Mjadwesch's findings?
 - (c) If not, why not?
74. Taking into account the post-European settlement mortality factors (loss of habitat, climate change causing longer and more severe droughts and fires, loss of water sources and other forms of ongoing climate destabilization, plus "harvesting: and "culling"):
- (a) Is the Department concerned that local kangaroo extinctions might become universal and irreversible?

- (b) Does the Department accept that a widespread collapse of kangaroo populations will impact adversely on other native biodiversity?

ANSWER:

I am advised of the following:

70. Kangaroos are protected under the *Biodiversity Conservation Act 2016* and it is an offence to harm kangaroos without a licence.

The Department of Planning, Industry and Environment licenses:

- commercial harvesting of kangaroos in commercial zones
- non-commercial culling to manage damage, safety or economic hardship caused by kangaroos.

The commercial harvesting program operates under the NSW Commercial Kangaroo Harvest Management Plan 2017–2021. The plan sets key performance indicators (KPIs) to regulate the program, quotas, compliance, animal welfare and population conservation and these are reported against annually.

In accordance with provisions of the plan, commercial harvesting is suspended in 2020 for some or all species in Tibooburra, Cobar, Bourke and Griffith South zones. The Department will also undertake a mid-term survey of the South East Tablelands zone when it is considered safe, to provide an index population variation since the previous 2018 survey to monitor the populations following the fires. The North East Tablelands zone was surveyed in 2019, and the Central Tablelands is due for a full survey in 2020.

In August 2018, the Department introduced limits on the maximum number of kangaroos that can be authorised to be culled per non-commercial culling licence, in response to population decreases associated with drought. These limits are set annually based on the population estimates provided by the commercial harvest program. The number of kangaroos authorised to be culled or harvested is reviewed monthly to ensure the total number of animals taken is ecologically sustainable.

Identified priority actions already underway are outlined in the recently released *Wildlife and Conservation Bushfire Recovery: Immediate Response January 2020*, available at www.environment.nsw.gov.au. These actions can also benefit kangaroos and include:

- conducting intensive feral animal and weed control to protect native wildlife and vegetation from invasive species
- working with partner organisations to collect individual animals for care and emergency housing until it is safe to release them back into the wild or to provide an insurance population should they struggle to survive
- providing an extra \$1 million to support wildlife rehabilitation and veterinary care and build longer-term capacity in the sector to respond effectively to emergencies.

71.

- (a) The Department does not calculate lifespans of kangaroos when estimating kangaroo populations. Small and inferably young kangaroos are not counted during population estimates.
- (b) Assumptions are not made about kangaroo fertility, or infant and adult mortality rates in kangaroo populations during any climatic conditions.

72.

- (a) The Department is not aware of this research.
- (b) There is no broadscale non-commercial kangaroo culling program in NSW. The Department grants licences to landholders to cull kangaroos on their properties when kangaroos are causing significant property damage, risk to health or safety, or economic hardship and non-lethal mitigation measures have been exhausted. Population numbers are regularly monitored to ensure licensing impacts remain ecologically sustainable.

73.

- (a) Yes.
- (b) No.
- (c) Peer reviewed research provides evidence to show kangaroo population size has increased since European settlement.

74.

- (a) There is no current scientific evidence supporting such claims.
- (b) There is no current scientific evidence to suggest that this is would occur.

Quotas

75. Given the ongoing drought and the recent unprecedented bushfires, why has the quota for kangaroos increased from 1,838,646 in 2019 to 2,126,176 for 2020?
76. According to the 2020 Quota Report Table 3 Actual take to 9 October 2019, none of the quotas have been filled. They range from 0% at Tibooburra, less than 10% at Broken Hill and Bourke, with the highest at 48% for the Upper Hunter Management zone.
- (a) Has the Department determined why the percentages for quota fills is so low?
 - (b) Has the Department contacted kangaroo harvesters to understand whether there was a paucity of kangaroos available for slaughter?
 - (c) Is the Department concerned that that ongoing drought is having an impact on the numbers of kangaroos available for slaughter?
77. Killing a female is likely to result in multiple deaths; an embryo, a pouch joey and a joey at foot- as well as the mother.
- (a) How can this be seen as environmentally sustainable?
 - (b) More specifically, how is it taken into account in the population estimates and quota calculations?
78. Can the Minister explain whether the population estimate method used for setting the quota changed in the years between 2015 and 2020 and if so, when and how?
79. I refer to the report to the New South Wales Office of Environment and Heritage: “Design and analysis of helicopter surveys of kangaroo populations in the South East NSW kangaroo management zone, 2018”. The report states that during the surveying that a total of 13,731 Eastern Grey kangaroos were sighted, 4.8% of the zone was surveyed and the population estimate was 1,721,400.
- (a) Is the Minister confident that with only 4.8% of the zone surveyed that you have an accurate figure?
 - (b) The density per square kilometers multiplied by the number of square kilometers in the zone gives 1,726,741, not 1,721,400. Can the Department explain the difference; what method was used for this adjusted figure?
80. In 2010 the number of kangaroos in Tibooburra was estimated at 636,037. In 2019 the number of kangaroos had reduced to 79,346.

- (a) Is the Department concerned about this plummet in the population?
 - (b) Does the Department have an explanation for why the quota was realised at 4% for Eastern Greys and 12% for Western Greys.
 - (c) Has the Department considered that the low take was because the original population estimates were inaccurate?
81. In the neighbouring zones of Broken Hill, the estimated numbers increased from 855,368 in 2010 to 1,124,115 in 2019. This is despite the severe drought and the drying out of Menindee lakes. How does the Department explain this increase?
82. In the Lower Darling, the kangaroo population has more than tripled from 193,930 in 2010 to 691,119 in 2019. How does the Department explain such a flourishing kangaroo population during a period of drought, and at a time when neighbouring zones are showing significant reductions in population?
83. According to the 2020 Quota Report Table 3 Actual take to 9 October 2019, none of the quotas have been filled. They range from 0% at Tibooburra, less than 10% at Broken Hill and Bourke, with the highest at 48% for the Upper Hunter Management zone.
- (a) Has the Department determined why the percentages for quota fills is so low?
 - (b) Has the Department contacted kangaroo harvesters to understand whether there was a paucity of kangaroos available for slaughter?
 - (c) Is the Department concerned that that ongoing drought is having an impact on the numbers of kangaroos available for slaughter?
84. Can the Minister confirm that the 2017-2020 quotas for kangaroo slaughter in the Northern Tablelands is based on a survey from 2016- a period of time before the drought started to significantly impact on numbers?
85. The Northern Tablelands figures are annotated by the statement that “Densities have been multiplied by 1.85, as suggested by Cairns (2004).”
- (a) Without an actual survey, wouldn't this cause increasing inaccuracy over a period of time?
 - (b) What was the rationale for Cairns' multiplier in the first instance?
86. The Central Tablelands have not been surveyed since 2017. Has there been any on the ground assessment whether the ongoing drought in the last three years impacted upon the accuracy of the population estimates?

87. Is the Department concerned that the relaxation of the licensing requirements (drop and let lie) for non-commercial harvesting is having a significant impact on the numbers of kangaroos available for commercial slaughter given that in the 2019 Budget Estimates, the Department advised that the numbers of non-commercial kills have soared from 107,575 killed in 2016, up to 279,454 in 2019, (figures were only available for the period January to September 2019).
88. Have commercial quotas been adjusted to take account of the escalation of non-commercial slaughter?
89. Is the Department concerned that the relaxation of the licensing requirements (drop and let lie) for non-commercial harvesting is having a significant impact on the numbers of kangaroos available for slaughter given that in the 2019 Budget Estimates, the Department advised that the numbers of non-commercial kills have soared from 107,575 killed in 2016, up to 279,454 in 2019, (figures were only available for the period January to September).
90. Have quotas been adjusted to take account of the increase in non-commercial slaughter?
91. In the 2020 Quota Report, it is stated that all “quotas are considered conservative with low impact on kangaroo populations”.
- (a) Does the Department still have this view given that moratoriums on commercial kangaroo slaughter were declared in several kangaroo management zones?
- (b) Is the Department concerned that the recent fires will have impacted adversely on remaining kangaroo populations?
92. The 2020 Quota report indicates that more than 90% of kangaroos killed were male.
- (a) What impact is this gender selection having on the genetics and leadership in mobs?
- (b) Is the Department concerned about related problems such as inbreeding, small males who are mistaken for females, loss of adult males to display adult males behaviour to young males?

ANSWER:

75. Quotas are set following surveys that provide population estimates in the commercial kangaroo harvest zones. The Western Plains survey took place during June and July 2019, and the Northern Tablelands survey was in September 2019. Estimates were higher during the 2019 survey period than the previous year, increasing the quota. While the bushfires occurred from September 2019 - February 2020, after the surveys, they had minimal impact on the commercial kangaroo harvest management zones where the surveys are undertaken.

76.

- (a) No. Cobar and Tibooburra zones had been closed or suspended due to population estimates falling below thresholds. In other zones, certain species are not included for harvesting under the Commercial Kangaroo Harvest Management Plan 2017-2021 (the Plan). Over the last 4 years, take against the quota has averaged 18.5 per cent.
- (b) Not specifically, however, the Department did advise the Kangaroo Management Advisory Panel of the cessation of harvesting red kangaroos in the Tibooburra zone and all species in the Cobar zone in 2019. Harvesters in those zones were supportive of the zone closures when discussed with Department staff.
- (c) No. The Department follows procedures outlined in the Plan to conserve populations of kangaroos. Annual population surveys provide the data and indicators for continued regulation and harvest management procedures under the Plan.

77.

- (a) One of the commercial program's objectives is to ensure commercial harvesting does not affect ecologically sustainable and viable populations of kangaroos across their range in NSW, in the areas where commercial harvesting is permitted. Where species quotas are not reduced to 10 per cent or suspended, conservative quotas are used to maintain population size. Conservative quotas are those such as 15 per cent of grey kangaroo and wallaroo population size, and 17 per cent of red kangaroo population size. The commercial program quota and tag allocation system cannot exceed set quotas, making overharvesting illegal. The regional compliance framework and Key Performance Indicators in the Plan also provide support to regulate illegal harvesting activity through monitoring and education or issuing penalty infringement notices.
- (b) Small kangaroos are not included in population estimates or quota calculations.

78. The NSW Government has been researching and monitoring kangaroos under the NSW Kangaroo Management Program since the 1970s. Over this period, improvements have been made to the design of surveys to estimate kangaroo population size, based on the best available science.

For example, since 2015, changes have included revising the methods for undertaking aerial surveys, and observers use new technology and flight patterns for enhanced sampling techniques.

Further detail about the methods used are published in annual quota reports available on the Department's website.

79.

- (a) Yes. The survey method uses robust, precise and accurate line transect sampling method and the Department contracts the University of New England to design and analyse surveys each year.
- (b) 1,721,400 was a preliminary determination of the Eastern grey kangaroo population in the South East zone, provided by the University of New England to the Department. The number was preliminary for inclusion in the calculation of quota and timely submission of the annual quota report to the Commonwealth. The final report submitted in June 2019 shows the population as being 1,807,500 Eastern grey kangaroos. This indicates the quota could have been higher than the quota allocated for harvesting in 2019. The final report is published online at www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Wildlife-management/Kangaroo-management/helicopter-surveys-kangaroo-populations-south-east-nsw-kangaroo-management-zone-2018.pdf

80.

- (a) Yes.
- (b) Figures quoted in your question are from red kangaroo population estimates data, which have higher population size than grey kangaroo species in Tibooburra and arid zone landscapes.

In the 2010 annual report, the grey kangaroo population estimate was 92,905, 55% of the eastern grey quota was realised and 76% of the western grey kangaroo quota was realised. In 2019, 0% of grey kangaroos were harvested in Tibooburra and red kangaroo quota was suspended.
- (c) No. Low take in the Tibooburra zone could be for a range of reasons. The Department does not regulate for the economic viability of the industry.

81. Kangaroos may have migrated from any of the five neighbouring zones or three neighbouring states in response to environmental conditions.

82. Kangaroos may have migrated from any of the three neighbouring zones or two neighbouring states in response to environmental conditions.

83. Please refer to my response to question 76.
84. ~~Partially~~. The 2016 survey provided for the quotas for 2017-2019. The Northern Tablelands were surveyed in 2019 for 2020-2022 quotas.
- 85.
- (a) No. Data obtained by the Department over time shows population variability. The Northern Tablelands surveys are undertaken every three years. The last survey was undertaken in 2019 the next survey will be undertaken in 2022.
 - (b) The second paragraph on page 33 in “Design and analysis of helicopter surveys of the kangaroo populations of the Northern Tablelands kangaroo management zones, 2016” available at www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Wildlife-management/Kangaroo-management/northern-tablelands-kangaroo-management-zones-populations-report-2016.pdf explains the rationale for Cairns’ multiplier. It is based on comparable results from walked line transect surveys and helicopter line transect surveys.
86. No.
87. No. The Department undertakes annual population surveys to ensure ecologically sustainable kangaroo populations. There are maximum cull limits per species in place, which are revised annually based on population surveys, commercial quotas and reporting data.
88. Commercial quotas are based on annual population estimates.
89. Please refer to my response to question 87.
90. No. Commercial quotas are based on annual population estimates.
- 91.
- (a) Yes. Four of fifteen zones have reduced or suspended quotas in 2020 due to population estimates.
 - (b) No. The September 2019 - February 2020 bushfires had minimal impact on the commercial kangaroo harvest management zones.
- 92.

- (a) Genetic structure of kangaroo populations shows they have high genetic diversity and body size will not be lost genetically, by selectively harvesting large males. Harvest take has always been male biased and no changes have been identified in over 40 years.
- (b) No. The report *Kangaroo Genetics: Impacts of Harvesting* available at www.environment.nsw.gov.au indicates there is evidence to show small males may have always played a pivotal role in population recovery. This is supported by the fact that large males are the first animals in a mob to die at the onset of a drought, indicating small males can, have been and will be responsible for population recovery.

Suspension of harvesting

93. The Department has suspended harvesting in four zones due to lack of kangaroos. In Bourke the Department has suspended the killing of Eastern and Western Grey kangaroos. Based on the quota report, the percentage of the quota taken of Eastern and Western Grey kangaroos was 4%. In the neighboring zone of Broken Hill there was similarly, only 4% of the quota of eastern greys taken and 12% of Western Greys.

Based on the above quote report, why has the Department chosen to suspend the killing of Eastern Greys in Bourke and not Broken Hill?

ANSWER:

93. Population estimates inform the quota and there are population thresholds for each species and zone in the NSW Commercial Kangaroo Harvest Management Plan 2017-2021. If there are substantial population decreases, quotas can be suspended until the population increases above threshold levels

Fires/numbers – the Central Tablelands North and Central Tablelands South

94. The following relates to information presented in the NSW KMP 2020 quota report for the Central Tablelands North and Central Tablelands South surveyed in 2017.
- Can the Minister provide a reason as to how the kangaroo populations have remained stable in three years of drought and why the Central Tablelands North population has more than quadrupled in the past 10 years and the Central Tablelands South has doubled?
95. I would like to draw the Minister's attention to the attached map of fire impacted areas. The burnt areas are referenced from the Bureau of Meteorology. There is significant fire damage in both these zones. The 2017-2021 management plan states that the precautionary principle will be applied to the commercial management of kangaroos.

Would the Minister agree that on this basis, the situation warrants an immediate moratorium based on the precautionary principle?

ANSWER:

94. There could be a variety of reasons that influence this outcome, such as the availability of water sources, irrigated and modified pastures, state forests, national parks and other protected areas and river systems, and feral animal control programs.

95. The Department closely monitored the bushfire situation and observed that the areas surveyed to determine population estimates were not significantly impacted, indicating the availability of habitat and resources. In these zones, the fires were predominately located within the national parks estate.

Broadly, population numbers are regularly monitored through surveys to ensure kangaroo populations remain ecologically sustainable.

Kangaroo Management Panel

96. I refer to the 'Kangaroo Management Advisory Panel' meeting minutes from 28 November 2018 Agenda Item 11: item The Code of Practice review. The following is stated: 'Highest levels of Welfare – Focus on Animal Welfare -Improvements on dependent young -standard operating procedure - Reference to avoiding females has been removed from the code'

- (a) Can the Minister elucidate what this means in practice?
- (b) What improvements in welfare have been made?
- (c) Why have none of the 2019 minutes been made publicly available?
- (d) What are the criteria for inclusion on this panel?

ANSWER:

96.

- (a) This refers to a national Code of Practice that is currently under review. I understand the new Code will aim to deliver the highest levels of animal welfare.
- (b) The review of the Code is still to be finalised and is expected later this year.
- (c) Ratified 2019 minutes will be made available on the Department's website shortly.
- (d) Information on the panel is available on the Department's website.

<https://www.environment.nsw.gov.au/topics/animals-and-plants/wildlife-management/kangaroo-management/kangaroo-management-advisory-panel>

Research and reports on which the government relies

97. I refer to the NSW 2017-2021 Commercial Kangaroo Harvest Management Plan - Table 2: Threats and issues pertinent to the conservation status of kangaroos.
- (a) Why is fire is not included in the list of potential threats to kangaroos?
 - (b) In the same table, drought is listed but deemed not to be threat to kangaroos; why is that?
98. Under the NSW 2017-2021 Commercial Kangaroo Harvest Management Plan “Habitat loss and Modification” it states: “The three largest species of kangaroos have benefited from habitat modification. Population size has generally increased and distribution of species has increased in area, due principally to pasture availability. Conversely, kangaroo populations have generally declined where there is intensive agriculture, urbanisation or extensive clearing. Despite more than 200 years of heavy exploitation and clearing of the land, the larger kangaroos have maintained or increased in abundance. Habitat loss and modification are not considered threats to the conservation status of kangaroos.”

What habitat modification have kangaroos benefited from when they have experienced adverse impacts from intensive agriculture, urbanization or extensive land clearing?

ANSWER:

97.

- (a) Habitat loss (including from fire) and modification are not considered threats to the conservation status of kangaroos at a state-wide level for the reasons given in Table 2 of the NSW 2017-2021 Commercial Kangaroo Harvest Management Plan.
- (b) Reasons are given in Table 2 of the Plan. Widespread droughts have occurred on several occasions since the Commercial Kangaroo Harvest Program commenced. Populations are well adapted and have recovered from drought impacts.

98. In addition to references in the Plan, research by the Department of Primary Industries indicates that modifications which provide water and feed sources may increase kangaroo populations.

Climate change

99. The NSW 2017-2021 Commercial Kangaroo Harvest Management Plan states that 'Impacts on kangaroos from climate change are not well documented. Effects on individuals include changes to forage composition, seasonal events, fecundity, survival and behaviour, while effects on populations include changing species abundance, distribution, and genetics. Tim Flannery has stated that increasing temperatures and heat waves are having an impact on kangaroo sperm and there are fears that they changing climatic conditions will lead to infertility in kangaroos.

Has the Department considered this fertility issue and the impact on kangaroo populations?

100. The scientific papers referenced in the 2017-2021 Management Plan are old. The most recent reference is from 2011 with some going back to 1970 and 1980. A review of the research reports included on the Department's website shows the following links:

- Federal Department of Agriculture, water and environment website 'Commercial Harvesting of Kangaroos in Australia' 1999.
- 'Situation Analysis Report: Current state of scientific knowledge on kangaroos in the environment, including ecological and economic impact and effect of culling' November 2000.
- 'Harvest Management of Kangaroos during Drought' February 2003

Is the Minister concerned that the current Kangaroo Management Plan is based on such dated research and information?

ANSWER:

I am advised that:

99. No. The Department will continue to monitor population change for conservation purposes and will work with research partners as appropriate to identify future research priorities to support sustainable populations in the future.

100. The research cited is foundational.

Licence to Harm

101. What measures is the government taking to ensure that the killing of every individual kangaroo under the relaxed licensing requirements complies with the relevant Code of Practice and the Prevention of Cruelty to Animals Act?

102. Who decides whether a licence to harm should be issued?

103. Is the applicant required to show that humane alternatives are not available? In other words, if there is a humane alternative available, will the licence to harm be refused?
104. What methods of 'harm' are allowed to be used to kill animals under these licences.
- (a) Are they restricted in any way, or can the animals be killed in any way the landholder chooses?
 - (b) Is any consideration given to the suffering of the animal involved?
105. The Department has published on its website Public Register of Landholder's Licences to Harm Native Animals for the period August 2017 - July 2019. According to the register, there were 938 licences to harm issued during this period.
- How many animals were killed under these licences?
106. The Department has issued thousands of licences to harm protected native animals to local councils. Have any restrictions been placed on the ability of councils to kill native animals in the wake of the bushfires?
107. The Department issued 8975 licences to harm kangaroos between August 2017 and July 2019. How many kangaroos were killed in that time?

ANSWER:

I am advised that:

101. All licences to harm kangaroos in NSW for non-commercial purposes contain a condition requiring the licensee and any associated shooters to comply with the *National Code of Practice for the Humane Shooting of Kangaroos and Wallabies for Non-commercial Purposes*.
- Any reports of non-compliance regarding this condition can be investigated by the National Parks and Wildlife Service (NPWS), the RSPCA, the Animal Welfare League or the NSW Police. Appropriate action may be taken under the *Biodiversity Conservation Act 2016* or the *Prevention of Cruelty to Animals Act 1979*.
102. Licences to harm native animals for non-commercial purposes are assessed and approved by NPWS officers who are authorised officers under the *Biodiversity Conservation Act 2016*.
103. Application forms require the landholder to provide information about any non-lethal methods of control they are currently using to reduce the problem, and how effective they have been. When assessing applications, authorised officers consider all information available

to determine if the application should be approved. If it appears some non-lethal methods have not been considered, officers may contact the landholder directly or conduct a site inspection to assess the situation and provide recommendations for an appropriate management strategy.

104. Depending on the species and situation, the lethal methods authorised may include shooting, euthanasia by a veterinarian, or other methods of euthanasia considered to be humane by the relevant authorities and experts.
- (a) The method of harm is not chosen by the landholder but is determined by the assessing officer.
 - (b) Yes. Assessing officers must consider the welfare of the animals when determining the most appropriate method of control. Licence conditions require licensees and their associates to comply with relevant codes of practice and standard operating procedures for the humane treatment of animals. Licences also note it is the responsibility of the licensee to understand and comply with other regulatory instruments including the *Prevention of Cruelty to Animals Act 1979*.
105. The Public Register of Licences to Harm for August 2017 to July 2019 shows there were 727 licences to harm native animals granted during this period. Some licences are reported on more than one row. This excludes licences to harm flying-foxes for crop protection or kangaroos. The maximum number of animals that could potentially be killed under these licences is 35,673 animals. The actual number killed (which will be less than the maximum authorised number) is not yet known because not all returns have been submitted.
106. During the period of the public register (Aug 2017 - July 2019), 104 licences to harm were granted to councils, with 68 of these authorising lethal methods. Any application from a council to harm native animals will be assessed on a case-by-case basis, as they are for all applicants, considering available information on the health of local wildlife populations.
107. The Public Register of Licences to Harm for August 2017 to July 2019 shows there were 7052 licences to harm kangaroos granted during this period. The maximum number of kangaroos that could potentially be killed under these licences is 895,692 animals. The actual number killed (which will be less than the maximum authorised number) is not yet known because not all returns have been submitted.

Audits

108. I refer to the Commercial Kangaroo Harvest Management Program 2017-2021 - Table 4: 'Methods used by OEH to comply with the RSPCA Australia Sustainable Use model. Number 4 Auditing - verify compliance of operators - harvester returns field audits inter-governmental MOUs.

Can you please provide us with all audit reports undertaken including information regarding the number of field audits and any compliance breaches?

ANSWER:

108. Compliance information and data are made available in the New South Wales Commercial Kangaroo Harvest Management Plan 2017–21 Annual Reports and published on the Department's website:

www.environment.nsw.gov.au/topics/animals-and-plants/wildlife-management/kangaroo-management/kangaroo-population-monitoring-and-reporting/reports-and-research

Bushfires, Damage to Forests

109. Given the fire damage caused to the World Heritage listed rainforests of the north coast, what plans does the Department have to protect this rare, remnant rainforest and in particular;

- (a) Nightcap Range which represents the highest-value forest in NSW and has more concentration of threatened species than anywhere in Australia.
- (b) Protection for the recently discovered (20 years ago) Nightcap Oak in Nightcap Range which is even more rare and endangered than the Wollemi Pine
- (c) Barrington Tops National Park world heritage area – how much of the rare and endangered Antarctic Beech forest was lost to fire?

ANSWER:

109.

- (a) The NSW National Parks and Wildlife Service (NPWS) is assessing the impacts of the fire and damage in Nightcap National Park.

Ground truthing of fire severity and extent is currently being undertaken in the park.

Work has also begun on the assessment and post-fire monitoring of threatened macropods, including the long-nosed potoroo, red-legged pademelon and parma wallaby, as well as the marbled frogmouth, Albert's lyrebird and threatened frogs, in partnership with the government's Saving Our Species program.

All public roads and the historic Nightcap Track have been cleared and work continues to open up management trails, including the replacement of bridges and culverts burnt during the fire.

An assessment of the heritage values on the historic nightcap track is underway.

Weed control and cane toad control is being conducted.

Research on fire impacts and management of ecotones to protect rainforest from future fire, and on the effects of fire retardant on Gondwana rainforest species, is being undertaken.

- (b) The Nightcap Oak is monitored under the Saving Our Species program. Most of the population lies outside the Gondwana Rainforest world heritage property. Monitoring of individuals in the Saving Our Species management site estimated that 36 of 253 individuals were directly impacted by fire. Monitoring will continue to investigate survival, recovery and fire thresholds. The efficacy of establishing an insurance population is also being investigated.

The incident management team and firefighters worked extremely hard to restrict the spread of fire into the known locations of Nightcap Oak and other threatened plants. The extent of the fire in the known habitat range was therefore significantly reduced due to the actions of these fire fighters.

- (c) There are 39,902 hectares of World Heritage Area contained in Barrington Tops National Park. 7,097 hectares (just less than 18 per cent) is Antarctic Beech. Of this, only 77 hectares (or 1 per cent) was affected by fire

Questions from Mr Justin Field MLC

Save our Species

110. How many of the projects funded under the Saving Our Species program since 2016 have been impacted by the bushfires?

- (a) How many have been destroyed?
(b) What is the value of the projects impacted or destroyed?

111. Saving Our Species currently lists 102 species on the Keep Watch management stream which means they don't have to be actively managed or subject to the same monitoring requirements as

other endangered species. A 2018 government review of the program, undertaken by Macquarie University, found that 74 of these species should be allocated to another management stream because the threat of extinction is too high.

- (a) Why haven't these species been reassigned?
- (b) Has there been any reassessment of the Keep Watch list in the wake of the fires?

ANSWER:

110. The Saving our Species (SoS) program is currently undertaking a systematic assessment of all threatened species and communities impacted by fire to understand the impact of the recent fires on SoS projects.

Initial analysis indicates that approximately 200 threatened species and ecological communities are in SoS sites in areas where fires occurred.

- (a) SoS staff are undergoing site visits to verify and assess the on-ground impacts indicated by the mapping analysis. For many species, particularly plants, their population response to the fires (either negative or positive) will not be immediate and monitoring will occur at relevant time periods (e.g. during spring) to assess the impact on the species.
- (b) The financial impact of the fires on SoS projects will be informed by the above assessment, which is ongoing.

111.

- (a) In response to the 2018 Keep Watch Review Final Report, prepared by Macquarie University on behalf of the Department of Planning, Industry and the Environment, Saving our Species (SoS) undertook an expert validation process in 2019 to validate the recommendations from the report.

As a result, SoS found that a further 14 species met the Macquarie University criteria. In total 88 species now require strategies for active management. SoS is commencing the development of conservation strategies for these species through further data collection and expert panels. It is anticipated these strategies will go on public exhibition in 2021.

- (b) SoS is currently assessing the impacts of the recent fires on all listed species, including any species in the keep watch stream. The assessment will inform future management and monitoring actions required to secure those species post fire in NSW.

Land clearing

112. The woody vegetation data set for 2017/18 shows a tripling in clearing, from 9,200ha in 2013-14 to 27,100ha in 2017-18:
- (a) How much koala habitat was cleared in this time?
 - (b) How much threatened species habitat was cleared in this time?

ANSWER:

112. The NSW Woody Vegetation Change 2017/18 data set provides an aggregate. It does not differentiate habitat classes.

Land clearing prosecutions

113. Since 25 August 2017 when reforms to the Biodiversity Conservation Act 2016 and the Local Land Services Act 2013, including the Land Management (Native Vegetation) Code, commenced:
- (a) How many, and what kind of enforcement actions have been commenced? What is their status?
 - (b) How many investigations have commenced? How many have been finalised?
 - (c) How many prosecutions for breaches under this legislation have been commenced?
114. In regards to the Government's 'Policy for resolving investigations under the now repealed Native Vegetation Act 2003' found at <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Native-vegetation/policy-resolving-investigations-under-repealed-native-vegetation-act-190462.pdf>
- (a) How many potential breaches of the Native Vegetation Act 2003 have been assessed under this policy?
 - (b) How many of these potential breaches are yet to be finalised?
 - (c) How many new set asides, Conservation Agreements, or other alternative mechanisms, have been secured as a result of this policy? Please provide details of what has been secured.
 - (d) How many matters have gone before each of the following committees:
 - i. the Native Vegetation Investigation Review Group
 - ii. the Compliance and Enforcement Panel
 - iii. the Assessment and Review Committee.

ANSWER:

I am advised that:

113.

- (a) Between 25 August 2017 and 13 March 2020, the Department has issued 308 advisory or warning letters, 58 penalty notices, 13 remediation orders, and 2 enforceable undertakings for matters relating to alleged breaches of native vegetation land clearing legislation.
- (b) Between 25 August 2017 and 13 March 2020, 1,662 cases have been opened, relating to alleged breaches of native vegetation land clearing legislation, and 1,410 cases have been closed.
- (c) Between 25 August 2017 and 13 March 2020, the Department has commenced 21 prosecutions for alleged breaches of the *Native Vegetation Act 2003*, and 4 prosecutions for alleged breaches of the *Local Land Services Act 2013*.

114.

- (a) 176
- (b) 129
- (c) One enforceable undertaking has been secured at 13 March 2020. Details of this enforceable undertaking are available online on the Biodiversity Conservation Act 2016 Public Register of Enforceable Undertakings.

One conservation agreement has been secured, covering an area of 432 hectares in the Narrabri local government area. This conservation agreement was negotiated as part of legal proceedings resulting from an appeal against a remediation order issued by the Department of Planning, Industry and Environment for unlawful clearing of native vegetation.

- (d)
 - i. 66 *Native Vegetation Act 2003* matters at 13 March 2020
 - ii. 18 *Native Vegetation Act 2003* matters at 13 March 2020
 - iii. 21 *Native Vegetation Act 2003* matters at 13 March 2020

Responding to the fires

115. How are the impacts of understory fires being assessed, noting that aerial photos do not capture the impacts of understory fires?

- (a) Is there a budget for ecologists to perform on ground surveys?

- i. If yes, how much has been allocated?
116. Over the past summer, how many bushfires that resulted in burns of more than 200 hectares started in national parks?
- (a) Please provide a list of the National Parks where these fires started
- (b) If known, please provide details of how they started.
117. How much of the National Park estate was burnt as a result of fires that started in National Parks and how much was burnt as a result of fires that started outside of National Parks?
118. The Victorian Government's 'Bushfire emergency: Biodiversity response and recovery' found at: https://www.wildlife.vic.gov.au/data/assets/pdf_file/0034/449746/Victorias-bushfire-emergency-Biodiversity-response-and-recovery-Version-1-23-January-2020.pdf provided significantly more detail than the NSW Wildlife and Conservation Bushfire Recovery immediate response report and included analysis of impacts on:
- The CAR reserve system
 - Heritage listed areas
 - EPBC listed communities
 - Ecological vegetation classes across the state
 - Vegetation communities that have been subject to multiple historical burns
- (a) Is the NSW Government going to provide similar detail in its medium to long term responses as referred to in the hearing?
- i. When will this work be complete and made public?
- (b) The Victorian Government's response also identified key unburnt refuges and populations that require immediate protection:
- i. Is the Government engaged in identifying any unburnt areas now in need of protection? If so, will this be made public?
- ii. What processes are occurring to protect unburnt areas?
119. The Federal Government, in its *Provisional list of animals requiring urgent management intervention* identified 113 animal species that have been significantly impacted by bushfires and recommended protecting remaining unburnt habitat of these species:

- (a) Will the NSW Government now exclude logging from the modelled habitat and the vicinity of records of these species, and from upstream of identified aquatic species?
- (b) What work is the NSW Government doing to assess the current status of each of these species that occur in NSW?

ANSWER:

115. The Department of Planning, Industry and Environment is progressing Fire Extent Severity Mapping, which uses high resolution aerial photography and machine learning algorithms to model and predict multiple burn impacts, including those of low severity fire.

A field validation campaign is also underway, which involves site visits by trained staff. Data from previous years also informs the analysis.

(a) Departmental staff have prioritised the response to the bushfires in their work programs in order to undertake the required field work.

i. See above

116. For answers to (a) and (b) see table at end of this document (attachment 1)

117. There is a high level of uncertainty about the data on fire source and movement this summer as a result of factors such as the level of activity, the scale of fires and the pace and extent of fire runs through multiple tenures, along with the merger/separation and renaming of fires. Accordingly, the following summary should be regarded as preliminary/provisional and subject to change as further analysis and validation occurs.

Of the approximately 2.7 million hectares of national park estate that was burnt during the past fire season (as at 20 March 2020), the best estimate the NPWS can produce from available data is as follows:

- Approximately 1.6 million hectares was from fires that started on park
- Approximately 1.1 million hectares was from fires that started off park.

118.

(a) The NSW Wildlife and Conservation Bushfire Recovery Immediate Response January 2020 was informed by the Google Earth Engine Burnt Area Map (GEEBAM). The GEEBAM was developed by the NSW Government during the 2019-20 fire season for high-level fast remote sensing. This mapping was the first such mapping to be produced by any state. Critically the mapping allows for a sophisticated view of both the extent and severity of the fires. This information is vital to recovery planning.

GEEBAM was revised on 3 February 2020. Finer-scale fire extent and severity mapping was published on 5 March 2020. Further ground-truthing is also underway.

An updated assessment of the impacts of the fires was published on 13 March 2020. This covered: areas affected by fire; impacts on animals, plants and vegetation formations; impacts on soil quality and erosions risks; impacts on water quality and aquatic ecosystems.

Drawing on this analysis, a medium-term NSW wildlife and conservation bushfire recovery plan is being developed and will be published shortly.

- (b) The publicly available fire severity mapping shows burnt and unburnt areas within the fire grounds. Native wildlife in unburnt areas in the national park estate are being protected through targeted pest and weed control, with supplementary feeding for wildlife (e.g. carrots and sweet potato for brush-tailed rock wallaby colonies), guided by ecological expert advice. Appropriate fire management strategies for unburnt areas are a key factor in future hazard reduction planning to ensure refuge areas are protected.

119.

- (a) NSW Government agencies and the Forestry Corporation of NSW are engaged in a process to understand the impact of the fires on the environment and wildlife, local communities and the forestry industry. This includes a process to transition forestry operations to burnt areas so that unburnt State forests can assist in recovery efforts for those species most significantly impacted by bushfires.
- (b) The NSW Government is assessing the impact of the fires on animal species through fire extent and severity mapping, ground-truthing, analysis of records of previous sightings and an analysis of other impacts such as fire frequency, pests, weeds, pathogens and ongoing drought. The assessment of the appropriate threat category for listing animal species in NSW is being considered by the NSW Threatened Species Scientific Committee, an independent committee of scientists.

Logging after the fires

120. In regards to the new site specific conditions for Mogo and South Brooman State Forests:

- (a) Will these site specific conditions be rolled out elsewhere across the state? What regions?
- (b) Does there need to be a modification of the Integrated Forestry Operations Approval for these site specific conditions?

(c) What auditing will occur on these two sites? Will these be made public?

121. Does the EPA consider that since the fires, logging both undertaken, and planned to be undertaken, by the Forestry Corporation of NSW is consistent with section 6(2) of the *Protection of the Environment Administration Act 1991*?

(a) Please explain why or why not?

122. Has the EPA raised any concerns within government or with the Forestry Corporation of NSW that logging activities after the fires may not be consistent with the *Protection of the Environment Administration Act 1991* or other legislation?

(a) If so, please provide details of concern and relevant legislation.

ANSWER:

I am advised that:

120.

(a) Site-specific operating conditions for bushfire affected forests are issued on a case-by-case basis for individual sites.

(b) No.

(c) The EPA will assess compliance in accordance with the NSW EPA Compliance Policy. The EPA makes information about its compliance actions publicly available where appropriate.

121. Yes.

(a) The Integrated Forestry Operations Approval authorises logging in accordance with the principles of ecologically sustainable forestry management.

122. The EPA has continued to reinforce to all relevant parties, including Forestry Corporation, that logging activities must comply with relevant conditions, approvals and laws.

Fire risk in state forests

123. In the [Forestry Snapshot Report](#) for 2017–18, the EPA gave an official caution to the Forestry Corporation of NSW for non-compliances in Mogo State Forest related to felling of hollow-bearing trees, leaving harvesting debris around retained hollow-bearing and recruitment trees

(a) What was the outcome of this caution?

(b) Was there any follow up investigation and compliance action?

124. In regards to Protocol 23.3 of the Coastal Integrated Forestry Operations Approval, relating to restrictions around leaving wood debris near retained trees:

- (a) What is the penalty for a breach?
- (b) Has the EPA ever sought for this penalty to be increased?
- (c) Does the Government consider that a breach of this Protocol may lead to an increased risk of fire?

i. Will the Government consider an increase in penalty for a breach of this Protocol?

ANSWER:

I am advised:

123.

- (a) The issuing of an official caution was the regulatory outcome for this matter.
- (b) Please refer to my response to question 123(a).

124.

- (a) Contraventions of an Integrated Forestry Operations Approval can be dealt with by a penalty notice of \$15,000 or a court imposed fine of up to \$5 million where an offence was committed intentionally and caused or was likely to cause significant harm to the environment.
- (b) Penalties were increased in November 2018 when the *Forestry Legislation Amendment Act 2018* commenced.
- (c) No.

i. As per my response to question 124(b) penalties for breach of this protocol were increase in 2018.

Impacts on native animals from baiting

125. How has the Government assessed the likely impacts of aerial baiting on native carnivores and what is the anticipated mortality of species such as Spotted-tailed Quolls and Dingos?

ANSWER:

125. Extensive research conducted by the Department of Planning, Industry and Environment has shown that aerial baiting does not have negative impacts on Spotted-tailed quolls. No mortalities are expected for this species as a result of the aerial baiting program.

Under the *Biosecurity Act 2015* land managers, including the National Parks and Wildlife Service, have a general biosecurity duty to control wild dogs to the extent necessary to minimise the risk of negative impacts on agricultural enterprises.

The focus of NPWS aerial baiting operations for wild dogs is on areas near agricultural land. NPWS will not bait for wild dogs in selected remote areas in national parks.

Biodiversity Conservation Trust

126. Since the inception of the Biodiversity Conservation Trust and in regards to private land reserved under conservation agreements:
- (a) What is the annual average cost of land per hectare?
 - (b) What is the annual average cost of land per hectare, broken down by the different types of conservation agreements?
 - (c) What is the annual average cost of land per hectare, broken down by the vegetation type?
 - (d) What is the annual average cost of land per hectare, broken down by LLS Region?
127. What is the total hectares of private land under permanent conservation covenants in NSW?
- (a) Please also provide this breakdown by LLS Region.

ANSWER Q126 and Q127:

The level of investment and typical annual payments being made for agreements entered following rounds of Biodiversity Conservation Trust (BCT) fixed price offers and conservation tenders can be found on the BCT's private land conservation outcome page at www.bct.nsw.gov.au/private-land-conservation-outcomes. Further information is contained in the BCT annual reports. However, the BCT does not disaggregate typical costs by LLS region.

Questions from the Hon Mark Buttigieg MLC (on behalf of the NSW Labor Opposition)

Feral Animals

128. How many feral horses have been removed from Kosciuszko National Park?
129. How many feral horses have been rehomed from Kosciuszko National Park?
130. What has happened to the horses that have been removed from Kosciuszko National Park but not rehomed?

131. What specific methods are being employed to remove feral horses from Kosciuszko National Park?
132. From which specific areas within Kosciuszko National Park are feral horses being removed?
133. From which other national parks are feral horses currently being removed?
 - (a) How many from each national park, and how are they being removed?
134. What is the budget of the government's recently-announced feral pest eradication program?
135. Are there any contract workers being employed for the purposes of the feral pest eradication program?
 - (a) If yes, how many contractors were previously employed by the NPWS?
136. Which areas across NSW are feral pests being targeted under the feral pest eradication program, and which feral species are being targeted?
137. What specific methods are being employed to kill feral species under the feral pest eradication program?
138. How many native animals does the Department expect will be poisoned by the NPWS feral pest baiting program? Which native animals are expected to be impacted?
139. Please list the areas that have been targeted by the feral pest baiting program.
140. What assessment and evaluation process will take place as part of the feral pest baiting program?

ANSWER:

128. As at 1 March 2019, 99 horses have been removed from Kosciuszko National Park in the 2019/20 financial year.
129. As at 1 March 2019, 68 horses have been rehomed from Kosciuszko National Park in the 2019/20 financial year.
130. Twenty-eight horses were sent to a knackery. Unfortunately, three horses died. One death related to trapping and two non-trapping related.
131. Passive trapping has been employed in 2019/20. A post-fire horse removal program in three key locations in the north of the park will be carried out during 2020 which will use methods such as mustering.

132. The passive trapping program targeted the Bluewater Holes campground area where there had been adverse interactions between park visitors and wild horses. The post-fire horse removal program will take place in the north of the park.
133. This is being assessed as part of the post-fire recovery response.
134. The final budget for the post-fire pest animal management program not yet been determined.
135. Not at the current time.
136. Feral animals are being targeted in all NSW national parks affected by the recent bushfires and/or which provide refuge for native species impacted by the bushfires. The feral animals being targeted include feral pigs, goats and deer, as well as foxes and feral cats.
137. The post-fire feral animal management programs includes aerial shooting, aerial baiting, ground shooting, ground baiting, trapping and fencing.
138. Native animals are generally not expected to be poisoned by the NPWS pest baiting program.
- In relation to wild dogs, which includes feral dogs, dingoes and hybrids, the focus of aerial baiting operations is on areas near agricultural land. Wild dogs are identified as a pest animal in NSW due to their impacts on livestock, especially sheep.
- Under the *Biosecurity Act 2015*, land managers, including the NPWS, have a general biosecurity duty to control wild dogs to the extent necessary to minimise the risk of negative impacts on agricultural enterprises.
- NPWS will not bait for wild dogs in selected remote areas in national parks.
139. NSW national parks that were affected by the recent bushfires, along with a smaller number of unaffected nearby parks which are providing important refuge value, will be targeted.
140. A risk assessment is undertaken before the pest baiting program is rolled out. Monitoring and evaluating projects will provide information about the success of the program as well as information to inform decisions about any adjustments that may be required.

Wildlife carers

141. How many national parks are currently closed to wildlife carers?
142. What strategy is the Government employing to assist injured wildlife in areas that are still closed to wildlife carers?
143. Has the Government undertaken any assurance work to assess the reach and capability of wildlife carer organisations, and identify areas without resources to care for injured animals?

144. How much of the Government's \$1 million bushfire wildlife rehabilitation funding, announced in November 2019, has been spent?
- (a) Which specific organisations have received funds, and how much?
 - (b) How much of the additional \$1 million has been spent on administration costs?
 - (c) How much of the additional \$1 million has been allocated to programs undertaken by the Department?
145. How many wildlife carer organisations hold a wildlife carer licence in NSW?
146. Which organisations hold a wildlife carer licence in NSW, and which area/region do they cover?
147. Are there any areas in NSW that are not covered by an organisation holding a wildlife carer licence?
- (a) If so, which areas?
148. How much money did the Government spend assisting wildlife carer organisations in:
- (a) 2011
 - (b) 2012
 - (c) 2013
 - (d) 2014
 - (e) 2015
 - (f) 2016
 - (g) 2017
 - (h) 2018
 - (i) 2019

ANSWER:

141. As of 16 March 2020, there were 24 national parks, reserves and recreational areas closed, or partly closed, to members of the public due to bushfires. An area closed to the public is not necessarily closed to licensed wildlife rehabilitation groups, and National Parks and Wildlife Service staff have been facilitating access to closed areas for the rescue and recovery of injured wildlife as needed.

142. Work is taking place with volunteer groups on a case by case basis, where resources permit, to facilitate search and rescue operations for wildlife. This includes access on foot and the use of

drones. Drinking stations, food stations and food drops have also been deployed across the state and in key areas to assist vulnerable wildlife, including populations of koalas, Brush-tail Rock Wallabies, and Mountain Pygmy-possums.

143. NSW is the only state to have completed an extensive investigation into the volunteer wildlife rehabilitation sector. Results are published in the *Review of the NSW Volunteer Wildlife Rehabilitation Sector: An evidence base for guiding reform*. The outcomes of the review form the basis for the Department's *Strategy for the NSW Volunteer Wildlife Rehabilitation Sector*. These documents outline the challenges faced by the sector and actions to ensure its sustainability and ongoing service delivery. In addition, throughout the unprecedented fires, departmental officers and delivery partners such as the Foundation for National Parks and Wildlife were in regular contact with rehabilitation groups and the NSW Wildlife Council to provide support and guidance.
144. Of the \$1 million bushfire wildlife rehabilitation funding approximately \$220,000 has been spent.

(a)

Organisation Name	Decision Date	Total Allocated
Sydney Metropolitan Wildlife Services Inc.	04/12/2019	\$10,000
Northern Rivers Wildlife Carers	04/12/2019	\$5,000
Wildlife Animal Rescue and Care Society Inc.	04/12/2019	\$10,000
Wildcare Queanbeyan	04/12/2019	\$10,000
Winc Wildlife in need of care	04/12/2019	\$10,000
WIRES Mid South Coast Branch	06/12/2019	\$6,169
WIRES-Blue Mountains Branch	06/12/2019	\$3,000
WIRES Mid North Coast Branch	06/12/2019	\$7,650
WIRES Clarence Valley Branch	06/12/2019	\$10,000
Port Stephens Koala	06/12/2019	\$8,500
WIRES Hawkesbury Branch	06/12/2019	\$6,353
WIRES New England Branch	06/12/2019	\$3,000
Wildlife Animal Rescue and Care Society Inc	16/01/2020	\$4,250
Native Animal Trust Fund INC	16/01/2020	\$4,250
Wildlife Rescue South Coast Inc.	16/01/2020	\$4,250
Sydney Metropolitan Wildlife Services Inc.	16/01/2020	\$4,250
Northern Rivers Wildlife Carers	16/01/2020	\$5,000

FAWNA (NSW) Inc.	16/01/2020	\$4,250
WIRES Northern Rivers Branch	16/12/2019	\$8,525
Native Animal Rescue Group NSW Inc.	19/12/2019	\$9,940
Wildlife Rescue South Coast Inc.	19/12/2019	\$10,000
WIRES Macarthur branch	19/12/2019	\$5,100
WIRES Central Coast	19/12/2019	\$7,500
WIRES North West	19/12/2019	\$7,310
WIRES Wingecarribee	19/12/2019	\$8,075
LAOKO Inc	29/01/2020	\$10,000
NSW WIRES	31/01/2020	\$4,250
F.A.W.N.A. (NSW) Inc.	28/02/2020	\$10,000
Winc Wildlife in Need of Care	21/02/2020	\$4,250
Tweed Valley Wildlife Carers Inc	02/03/2020	\$8,500
SONA Wildlife Rescue (Saving Our Native Animals Inc)	28/02/2020	\$10,000

b) no administration costs have been paid from this money

c) \$500,000 will be spent on Departmental initiatives. This includes:

- \$62,000 for post-fire koala habitat mapping to be undertaken by the Department of Planning, Industry and Environment's scientists to help identify priority locations for recovery efforts
- the balance is funding two wildlife coordinators within NPWS (and associated operational expenses) to:
 - o assist and coordinate efforts to search for and rehabilitate injured wildlife
 - o develop new procedures with fire combat agencies to ensure wildlife rehabilitators can access fire grounds quickly and safely in future
 - o coordinate fire supplementary feeding and breeding programs
 - o work with vets to support rescue and rehabilitation efforts, including deploying triage teams
 - o develop training for rehabilitators and fire-fighting personnel, so they can assist wildlife quickly and safely on fire-grounds
 - o deliver information about how community members can assist wildlife affected by fires or other disasters.

145. NSW has 26 licensed volunteer wildlife carer organisations. There are an additional 16 individual (non-organisation aligned) wildlife carers and five non-volunteer-based organisations that participate in wildlife care.

146.

Organisation	Area/Region
Australian Seabird Rescue	Coastal NSW, Ballina based
For Australian Wildlife Needing Aid	Central Coast (based at Wauchope)
Friends of the Koala	Northern NSW (based at Lismore)
Kangaroo Protection Cooperative Limited	Sydney, north-west (based at Dural)
Koalas in Care	Taree, Gloucester, Foster regions (based at Taree)
Ku-ring-gai Bat Conservation Society	Sydney, Lance Cove based
Looking after our Kosciusko Orphans	Snowy Mountains (based at Berridale)
Native Animal Rescue Group	Braidwood region
Native Animal Trust Fund	Hunter region, based in Toronto
Northern Rivers Wildlife Carers	Northern Rivers (based at south Lismore)
Northern Tablelands Wildlife Carers	North West NSW (based at Armidale)
ORRCA	Coastal NSW
Port Macquarie Koala Hospital	Port Macquarie region
Port Stephens Koalas	Port Stephens region
Rescue and Rehabilitation of Australian Native Animals	Western NSW (based at Broken Hill)
Saving Our Native Animals	Batlow region
Sunraysia	South west NSW (based at Gol Gol)
Sydney Metropolitan Wildlife	Sydney
Tweed Valley Wildlife Carers	Northern rivers (based at Murwillumbah)
Wildcare Queanbeyan	Queanbeyan based
Wildlife Aid	Hunter (based at Singleton)
Wildlife Animal Rescue and Care	Central Coast (based at Gosford)
Wildlife Carers Network Central West	Mudgee region
Wildlife in Need of Care	Central Coast (based north of Newcastle)
Wildlife Rescue South Coast	South Coast (based at Nowra)
WIRES	State-wide

Non-volunteer Organisation	Area/Region
Taronga Conservation Society	Sydney-based
Dolphin Marine Magic (renamed Dolphin Marine Conservation Park)	Coffs Harbour based
Sea World	Coastal (north NSW)
Sydney Aquarium	Coastal (Sydney-based)
John Morony Correctional Complex	West Sydney

147. There are no areas in NSW where a wildlife care organisation or member of the public cannot rescue a sick and injured animal.
148. Each year NPWS has provided \$25,000 to the NSW Wildlife Council (the peak body for the sector) to cover the public liability insurance costs of its member groups. NPWS has annually pledged 10's of thousands of dollars directly to wildlife rehabilitation organisations. The wildlife rehabilitation sector may also receive funding from NSW Environmental Trust grants or other Government funding mechanisms.
- From 2018/19, a total of \$6.5 million was pledged to support the wildlife rehabilitation sector. This includes \$1 million emergency funding, \$4.05 million committed under the NSW Koala Strategy and \$1.47 million Wildlife Heroes initiative managed by the Foundation for National Parks and Wildlife.

Coal Ash

149. Has the Government undertaken any risk assessments of any coal ash dams in NSW?
- (a) If so, which ones and when?
150. Is the Government aware of any risk assessments undertaken by operators of coal ash dams in the last ten years?
- (a) If so, is the Government in possession of those risk assessments?
151. Are there any coal ash dams in NSW that pose any safety risk?
- (a) If so, which ones?
152. Has the Department considered excavating and remediating any coal ash dams and shifting the waste to lined dams, similar to the process being undertaken in the United States?
153. Does the Government have a plan to deal with a coal ash dam failure?

ANSWER:

I am advised:

149. The EPA does not have a role in the respect of the safety and structural integrity of ash dams in NSW.

The NSW Dam Safety Committee regulates the safety of prescribed dams under the *Dam Safety Act 2015*. The Act falls under the portfolio responsibilities of the Minister for Water, Property and Housing.

The EPA's *Environment Compliance Report: Coal ash dams and emplacements (2017)* examined activities undertaken at premises in relation to the coal ash dam and/or emplacement and surface water management. The impacts of the dams or emplacements on groundwater was not included in the scope of the audits.

150. This question should be directed to the Minister for Water, Property and Housing.

151. This question should be directed to the Minister for Water, Property and Housing.

152. NSW has a robust environmental regulation framework to protect the community and environment from pollution from ash dams including legally enforceable conditions set out in Environment Protection Licences. The requirements for discharges from coal ash dams include limits on the pollutants that can be discharged and monitoring of surface and groundwater.

The majority of operating coal fired power stations in NSW have rehabilitation plans. The EPA is not considering requiring operators to excavate existing ash dams and transfer the ash to lined dams.

153. The EPA has procedural powers to deal with environmental aspects of emergencies, including the failure of a coal ash dam. However, questions in regards to dam safety under the *Dam Safety Act 2015* should be directed to the Minister for Water, Property and Housing.

Waste Programs

154. How much waste levy is the Government expecting to raise in 2019/20?

155. How much waste levy is the Government expecting to raise in 2020/21?

156. How many staff positions within the Department are funded from waste levy revenues?

(a) Which staff position titles are funded from waste levy revenues?

157. How many discrete program funding grants have been paid to the Department from Treasury in 2019/20 to undertake environmental programs? For instance, \$20 million grant to the Biodiversity Conservation Trust.

(a) Please list the grants, including beneficiary, program, and amount.

158. Did the Government provide financial support to any recycling industry assets in 2019/20?

(a) Please list the projects and the amount.

ANSWER:

I am advised:

154. The revised budget for 2019/20 published in the NSW Budget 2019-20 Half Yearly Review is \$771 million, however, this will be revised to account for likely impacts from the current pandemic.

155. The budget for 2020/21 published in the NSW Budget 2019-20 Half Yearly Review is \$777 million, however, this will be revised to account for likely impacts from the current pandemic.

156. There are a range of job titles funded from the waste levy revenues.

157. Of the total consolidated funding allocation made from Treasury in 2019/20, an amount of \$80.2 million is allocated (“tied”) to nine specific environmental programs delivered by the Department’s Environment, Energy and Science Group.

(a)

Program name	Program description	('000)
Saving Our Species	NSW Government 5-year commitment through to 2021 to protecting 500 threatened plant and animal species in the wild in NSW for the next 100 years.	\$21,260
Growth Centre	Growth Centres Biodiversity Offset (BOS) program administration in accordance with the Biodiversity Certification Order 2007.	\$13,107
Emerging Energy (non-Climate Change Fund)	Election commitment to co-fund new large scale, on-demand clean energy projects with the private sector, through the Emerging Energy Program.	\$10,000
Floodplain Risk Management	Hunter Valley Flood Mitigation (HVFM) Maintenance - insurance component.	\$4,345

Solar Panels and Batteries	Election commitment to pilot initiatives to recycle and re-use materials in solar panels and battery systems.	\$2,500
Kamay Botany Bay	Upgrade visitor, transport, educational and commemorative infrastructure at Kamay Botany Bay National Park (note part funded from the Commonwealth).	\$25,509
Minnamurra Rainforest Centre	Infrastructure and Experience Invigoration.	\$1,355
Protect Surfside from coastal erosion	Election Commitments to provide \$250,000 to fund engineering studies into options to managing coastal erosions in Batemans Bay, and \$5 million to build the best infrastructure solution arising from the engineering studies.	\$1,313
Air-Quality Research program	Air Quality research by the Science Division.	\$858
		\$80,246

158. Yes.

- (a) Grants to support recycling industry assets have been provided under grant programs such as the Major Resource Recovery Infrastructure, Organics Infrastructure (Large and Small), and the Product Improvement Program. All grant recipients for these programs are listed on the EPA or the Environmental Trust website.

Agency Staffing

159. Within the National Parks and Wildlife Service, please list the existing job title classifications and the most recent number of FTE staff in each classification.
160. Within the Environment Protection Authority, please list the existing job title classifications and the most recent number of FTE staff in each classification.
161. Within the NSW Resources Regulator, please list the existing job title classifications and the most recent number of FTE staff in each classification.
162. Within the NSW Biodiversity Conservation Trust, please list the existing job title classifications and the most recent number of FTE staff in each classification.
163. Within the Taronga Conservation Society, please list the existing job title classifications and the most recent number of FTE staff in each classification.

164. Within the Department's Environment, Energy and Science Group, please list the existing job title classifications and the most recent number of FTE staff in each classification.
165. Is the Department planning to permanently increase staff numbers within the National Parks and Wildlife Service?
166. How many redundancies were paid to NPWS staff in 2016/17?
167. How many redundancies were paid to NPWS staff in 2017/18?
168. How many redundancies were paid to NPWS staff in 2018/19?
169. How many redundancies have been paid to NPWS staff in 2019/20?

ANSWER:

159. Information of this nature can be found in the Department of Planning, Industry and Environment (or predecessor agencies) annual reports.
160. Information of this nature can be found in the EPA annual reports.
161. This question should be directed to the Deputy Premier and Minister for Regional New South Wales, Industry and Trade.
162. Information of this nature can be found in the BCT annual reports.
163. Information of this nature can be found in the Taronga Conservation Society's annual reports.
164. Information of this nature can be found in the Department of Planning, Industry and Environment (or predecessor agencies) annual reports.
165. NPWS staffing levels will vary over time depending on business priorities and objectives. As at 20 March 2020, the full-time equivalent staffing level had grown by more than 160 since July 2017.
166. Information surrounding redundancy payments can be found in the Office of Environment and Heritage Annual report for 2016/17
167. Information surrounding redundancy payments can be found in the Office of Environment and Heritage Annual report for 2017/18
168. Information surrounding redundancy payments can be found in the Office of Environment and Heritage Annual report for 2018/19
169. Information surrounding redundancy payments will be available in the Department of Planning, Industry and Environment Annual Report for 2019/20.

Ministerial Staffing

170. How many FTE staff are employed in Minister Kean's ministerial office?
171. Please list all the current job title classifications in Minister Kean's ministerial office and the number of FTE in each classification?
172. How many redundancies were paid to Minister Kean's ministerial staff in 2018/19, while Minister for Energy and Environment?
173. How many redundancies have been paid to Minister Kean's ministerial staff in 2019/20?

ANSWER:

Ministers' Office staff numbers and salary bands are available on the DPC website. Refer to:

<https://www.dpc.nsw.gov.au/publications/premiers-and-ministers-staff-numbers/>

Return and Earn Scheme

174. How many Container Deposit Scheme deposits were received in 2018/19, and what was the total value of receipted deposits?
175. How many Container Deposit Scheme deposits have been received in 2019/20, and what is the total value of receipted deposits?
176. How many Container Deposit Scheme deposits were refunded via redemption in 2018/19, and what was the total value of redemptions?
177. How many Container Deposit Scheme deposits have been refunded via redemption in 2019/20, and what is the total value of redemptions?
178. How many complaints have been received about the location of Container Deposit Scheme reverse vending machines since the program launched?
179. Does the NSW Government receive any revenue from the Container Deposit Scheme?
- (a) If so, what was the revenue in 2018/19?

ANSWER:

174. The NSW Container Deposit Scheme operates on a cost recovery basis where suppliers only pay for the containers that are collected and redeemed.

2.08 billion containers were redeemed through the scheme and a total of \$198.75 million (net of GST) was paid to citizens or to Material Recovery Facilities (MRF).

175. The most recent financial reporting for the scheme covers the July to September quarter of the 2019/20 financial year. 500 million containers were redeemed through the scheme in this quarter and a total of \$43.86 million (net of GST) was paid to citizens or Material Recovery Facilities (MRF).

Differences between containers collected and monies paid are due to MRF claims for containers collected during the quarter being submitted, assessed and paid following the closure of the previous quarter.

176. 2.08 billion containers were redeemed through the scheme and a total of \$198.75 million (net of GST) was paid to citizens or to Material Recovery Facilities (MRF).

Differences between containers collected and monies paid are due to MRF claims, which are submitted, assessed and paid following the closure of the previous quarter.

177. As of 30 September 2019, 500 million containers were redeemed through the scheme and a total of \$43.86 million (net of GST) was paid to citizens or Material Recovery Facilities (MRF).

Differences between containers collected and monies paid are due to MRF claims, which are submitted, assessed and paid following the closure of the previous quarter.

178. The Network Operator is responsible for maintaining and monitoring the return point network and responding to enquiries.

Enquiries associated with the location of reverse vending machines (RVMs) are broad and include requests from people who would like an RVM installed in an area.

During the commencement phase of the scheme, almost all enquiries received related to a request for the installation of a return point. Network Operator data since the full implementation of the scheme over the past 12 months indicates that approximately 6 percent of total enquiries are related to the location of RVMs. Some were related to single issues that the Network Operator has resolved with no further queries received. A small number are repeat queries that the Network Operator is working to resolve.

179. Yes.

(a) The Department of Planning, Industry and Environment recovers funds from the scheme in line with Treasury guidelines for cost recovery. For the 2018/19 financial year the Department recovered \$3.6 million for the scheme compliance fee and \$170,000 from container approvals, equating to \$3.77 million.

Environment Protection Authority

180. How many prosecutions did the EPA commence in:

- (a) 2011
- (b) 2012
- (c) 2013
- (d) 2014
- (e) 2015
- (f) 2016
- (g) 2017
- (h) 2018
- (i) 2019

181. How many EPA prosecutions were successful in:

- (a) 2011
- (b) 2012
- (c) 2013
- (d) 2014
- (e) 2015
- (f) 2016
- (g) 2017
- (h) 2018
- (i) 2019

182. How much fine revenue did the EPA receive in:

- (a) 2011
- (b) 2012
- (c) 2013
- (d) 2014
- (e) 2015
- (f) 2016

(g) 2017

(h) 2018

(i) 2019

183. How many redundancies were paid to EPA staff in 2016/17?

184. How many redundancies were paid to EPA staff in 2017/18?

185. How many redundancies were paid to EPA staff in 2018/19?

186. How many redundancies have been paid to EPA staff in 2019/20?

ANSWER:

I am advised:

180 – 182:

Details of regulatory action taken by the EPA can be found on its public register. Information about EPA prosecutions is available in the respective annual report.

183. Information surrounding redundancy payments can be found in the NSW EPA annual report for 2016/17

184. Information surrounding redundancy payments can be found in the NSW EPA annual report for 2017/18

185. Information surrounding redundancy payments can be found in the NSW EPA annual report for 2018/19

186. Information surrounding redundancy payments will be available in the NSW EPA annual report for 2019/20

Hazard Reduction Briefings

187. Has the Department provided any briefings to Deputy Premier John Barilaro regarding hazard reduction activities?

(a) If so, on which date?

188. Has the Department provided any briefings to Minister Adam Marshall regarding hazard reduction activities?

(a) If so, on which date?

189. Has the Department provided any briefings to Minister Andrew Constance regarding hazard reduction activities?

(a) If so, on which date?

190. Has the Department provided any briefings to Parliamentary Secretary Michael Johnsen regarding hazard reduction activities?
- (a) If so, on which date?
191. Has the Department provided any briefings to any other Government Members of Parliament regarding hazard reduction activities?
- (a) If so, on which date?

ANSWER Q187 – Q191:

The National Parks and Wildlife Service regularly briefs Government through its responsible Minister, the Minister for Energy and Environment, on issues related to national parks management, including hazard reduction activities. Issues related to hazard reduction activities are also routinely addressed in a range of correspondence with Members of Parliament and constituents.

Emissions Reductions Targets

192. What is the Government's emissions reduction target for 2030?
193. What is the Government's emissions reduction target for 2050?
194. What is the difference between an emissions reduction target and an 'aspirational objective'?

ANSWER:

192. The Government's Net Zero Plan is forecast to help deliver a 35 per cent cut in NSW emissions by 2030 compared to 2005 levels and it is the Government's objective to deliver that.
193. Net zero emissions.
194. The word 'aspirational' in the expression 'aspirational target' conveys that the target is a policy target rather than a target which will necessarily be achieved by operation of law. It concerns the mechanism used to bring about the desired outcome, not the level of commitment to achieving. I note that, as the words 'aspirational' and 'target' both refer to the notion of an outcome which is sought to be achieved, to read it any other way would involve tautology.

Land Clearing

195. How many hectares of private land have been cleared in NSW in:
- (a) 2018
- (b) 2019

ANSWER:

195. The NSW Government has committed to annual releases of native vegetation data in line with recommendations from the Auditor-General's report. Data on woody/native vegetation change in NSW to 2017/18 is available on the Department's website

(a) Data for 2018/19 will be released by June 2020.

(b) Data for 2019/20 will be released by June 2021.

Air Quality

196. Does the Government accept that increased PM10 levels lead to poorer health outcomes, including increased death?

197. Does the Government accept that increased PM2.5 levels lead to poorer health outcomes, including increased death?

198. Is the Government aware of how many deaths in NSW each year are attributable to air quality issues? If so, how many?

ANSWER:

196 – 198:

These questions should be directed to the Minister for Health and Medical Research.

Renewable Energy

199. How many MWh were produced by renewable energy sources operated on government buildings or land in:

(a) 2016

(b) 2017

(c) 2018

(d) 2019

ANSWER:

199.

(a) 1572 MWh

(b) 4767 MWh

(c) 10,148 MWh

(d) 14,945 MWh

Grant Programs

200. How many discrete grant programs does the Department operate for environmental purposes?

- (a) Please list the specific grant programs, the intended class of recipient, and the total grant program funding amount.

ANSWER:

200. There are a wide range of annual grant programs for a number of purposes within my portfolio.

Bush fire preparation in the Illawarra

201. How much did the Government spend on bush fire hazard reduction in the Illawarra Escarpment State Conservation Area in the financial years:

- (a) 2017/18
(b) 2018/19
(c) 2019/20 to date

202. Will the Government conduct bush fire hazard reduction in the Illawarra Escarpment in 2020/21?

203. How much money will the government spend on bush fire hazard reduction in the Illawarra Escarpment in the 2020/21 financial year?

204. How much did the Government spend on maintaining fire trails in the Illawarra Escarpment State Conservation Area in the financial years:

- (a) 2017/18
(b) 2018/19
(c) 2019/20 to date

205. How much money will the Government spend on maintaining fire trails in the Illawarra Escarpment in this financial year? In 2020/21?

206. Will the Government review the existing strategies for hazard reduction and fire trail management in the Illawarra Escarpment as a result of the recent bush fire crisis?

207. Will the Government increase the amount committed to hazard reduction and fire trail management in the Illawarra Escarpment as a result of the recent bush fire crisis?

ANSWER:

201. It is not possible to provide a figure for total expenditure on all hazard reduction activities, which include staff time spent on planning, engagement and relevant vegetation management and fire trail maintenance.
202. The National Parks and Wildlife Service intends to complete two hazard reduction burns in the Illawarra Escarpment State Conservation Area for the 2019/20 financial year providing the conditions are suitable.
203. The amount proposed to be spent in 2020/21 has not yet been finalised.
204. Please refer to my response to question 201.
205. Please refer to my responses to question 201 and 206
206. The 2019–20 NSW bushfire season is the subject of an independent inquiry. The findings of the NSW Independent Bushfire Inquiry will inform decisions of government about hazard reduction and fire trail management in the future. NPWS works closely with the Illawarra Bush Fire Management Committee, which is led by the NSW Rural Fire Service (RFS), to ensure there is a coordinated approach to fire management between agencies and land managers. The Bush Fire Management Committee has developed a Bush Fire Risk Management Plan for the Illawarra area that identifies community assets at risk and sets out a five-year program of coordinated multi-agency treatments to reduce the risk of bushfire. Treatments may include hazard reduction burning, community education, fire trail maintenance and establishing community fireguard groups. The future work of the committee will be informed by the outcomes of the independent inquiry.
207. The findings of the NSW Independent Bushfire Inquiry will help inform government decisions about future funding for hazard reduction and fire trail management in the Illawarra Escarpment.

Bush fire recovery in the Illawarra and South Coast

208. What strategies will the Government implement in 2020/21 to assist the recovery of the environment in national parks and reserves on the South Coast following the bush fire crisis?
209. How much will the Government spend on these recovery activities and when will activities commence?

ANSWER:

208. The NSW Government has developed an emergency recovery plan for all bushfire affected lands. The *Wildlife and Conservation Bushfire Recovery: Immediate Response January 2020* is available

on the Environment, Energy and Science website

<https://www.environment.nsw.gov.au/research-and-publications/publications-search/wildlife-and-conservation-bushfire-recovery-immediate-response>

The Plan sets out the immediate actions the government is undertaking to protect and support the recovery process for our natural environment. The actions set out in the Plan have already commenced on the South Coast, for example, implementation of the largest feral animal control program ever undertaken by the National Parks and Wildlife Service, and extensive financial support for wildlife carer groups. In addition, a major program is underway to restore national park infrastructure damaged in the fires.

209. NPWS has not yet finalised the full program of recovery activities so the cost is not yet known. Activities have commenced.

Walking Tracks in the Illawarra Escarpment State Conservation Area

210. In 2019/20, how much has the Government spent on extending, upgrading and improving walking trails and visitor facilities in the Illawarra?
211. What proportion of the \$149.5 million investment over four years announced in this year's budget for improving NSW national parks will be spent on national parks and walking trails in the Illawarra?
212. Will the Minister commit to funding a continuous walking experience along the Illawarra Escarpment State Conservation Area, including:
- (a) a connection with Royal National Park at Otford in the north;
 - (b) a continuous walking trail to Mount Kembla in the South, in line with plans developed by the National Parks and Wildlife Service (The Illawarra Escarpment Walking Track)?

ANSWER:

210. In 2019/20, the National Parks and Wildlife Service has spent (to 1 March 2020) \$115,000 upgrading and improving walking trails and visitor facilities in the Illawarra Escarpment State Conservation Area.
211. This election commitment will see \$149.5 million spent over four years to improve access to New South Wales national parks through upgrading and extending walking trails, improving visitor infrastructure and facilities and introducing online and digital tools for virtual tours.

212.

- (a) At this point in time, no funding has been committed to connect Royal National Park at Otford in the north.
- (b) At this point in time, no funding has been committed to a walking trail to the south to Mount Kembla.

Flood mitigation

213. What flood mitigation work will be funded by NSW Government in the Keira electorate in 2019/20 and 2020/21?

ANSWER:

213. The following flood mitigation projects are currently underway in the Keira electorate:

- Investigation and concept design - Ursula Road scheme
- Concept design of McMahon Street basin
- Bellambi Gully West Street swale
- Detailed design of debris control structures - Allans and Collins
- Investigation and concept design - Bellambi Gully scheme

EPA – Newcastle

214. How many warning letters were issued in Newcastle LGA by the EPA in:

- (a) 2015
- (b) 2016
- (c) 2017
- (d) 2018
- (e) 2019?

215. How many penalty notices were issued in Newcastle LGA by the EPA in:

- (a) 2015
- (b) 2016
- (c) 2017

(d) 2018

(e) 2019?

216. How many fines were issued in the Newcastle LGA by the NSW EPA in:

(a) 2015

(b) 2016

(c) 2017

(d) 2018

(e) 2019?

217. What was the fine revenue from fines issued in the Newcastle LGA by the NSW EPA in:

(a) 2015

(b) 2016

(c) 2017

(d) 2018

(e) 2019?

218. How many enforceable undertakings in the Newcastle LGA were entered into by the EPA in:

(a) 2015

(b) 2016

(c) 2017

(d) 2018

(e) 2019?

219. How many prosecutions for breaches in the Newcastle LGA were launched by the EPA in:

(a) 2015

(b) 2016

(c) 2017

(d) 2018

(e) 2019?

ANSWER Q214 – Q219:

I am advised:

Details of regulatory action taken by the EPA can be found on its public register. Information about EPA prosecutions is available in the respective annual reports.

Marine Park Sand

220. Can sand within a marine park be extracted for conservation purposes or for the purpose of preventing the risk of serious injury to a person or harm to the environment?
- (a) If so, can this sand be used for conservation purposes or for the purpose of preventing the risk of serious injury to a person or harm to the environment outside of the marine park?
 - (b) If so, is serious coastal erosion considered a conservation purpose or for the purpose of preventing the risk of serious injury to a person or harm to the environment?

ANSWER:

220. The *Marine Estate Management Act 2014* does not prohibit sand extraction within a marine park for the purposes described. The activity is subject to provisions in the Act and the Marine Estate Management (Management Rules) Regulation 1999 and the Marine Estate Management Regulation 2017. Other relevant statutes would also be considered including the *Environmental Planning and Assessment Act 1979* and the *Coastal Management Act 2016*.

Each case would need to be considered against relevant legislation.

- (a) The *Marine Estate Management Act 2014* does not prohibit this sand being used outside a marine park for the purposes described in the question, but as above each case would need to be considered against relevant legislation.
- (b) As above - each case would need to be considered against relevant legislation.

Stockton Erosion

221. Does the Minister support offshore sand extraction for beach nourishment purposes at Stockton?
222. What support has the Minister or the Department provided to the coastal erosion at Stockton?

ANSWER:

These questions should be directed to either the Minister for Local Government or the Deputy Premier and Minister for Regional New South Wales, Industry and Trade.

Cooks River

223. What actions has the NSW Environment Protection Authority taken to improve the health of the Cooks River:
- (a) In the last 12 months; and
 - (b) Since March 2011?
224. How much money has the NSW Environment Protection Authority spent to improve the health of the Cooks River:
- (a) In the last 12 months; and
 - (b) Since March 2011?
225. How many grants have been provided by the Environmental Trust to improve the health of the Cooks River:
- (a) In the last 12 months; and
 - (b) Since March 2011?

ANSWER:

I am advised:

223. The EPA regulates the environmental performance of scheduled activities in the Cooks River catchment (such as large industrial premises and infrastructure construction projects, and the public sewerage system) through strict enforceable conditions and programs imposed in environment protection licences. For example, the EPA is working closely with Sydney Water to reduce the impacts of sewage pollution on Sydney's waterways, including the greater Cooks River catchment, through programs to reduce the occurrence and severity of sewage overflows and leakage to waterways.

In the last 12 months, the EPA has imposed a requirement on Sydney Water to commission an independent review of its systems for responding to dry weather overflows (including those which occur in the Cooks River Catchment) to identify necessary improvements.

Since 2011, the EPA has imposed a requirement on Sydney Water to undertake a trial project within the Wollie Creek catchment (part of the Cooks River catchment) to identify, develop and test stormwater inflow source control measures to reduce wet weather overflows. The EPA has also provided \$320,500 between 2014/15 and 2018/19 in litter prevention grants to projects to prevent litter from entering the Cooks River.

The NSW Container Deposit Scheme (Return and Earn) and the Don't be a Tosser! Campaign have also likely reduced litter pollution in the Cooks River. The introduction of Return and Earn has generally had a significant and sustained positive impact on beverage container litter in NSW, decreasing beverage container litter volume by as much as 57 per cent, with an annual average reduction of 40 per cent. Don't be a Tosser! has resulted in more than 45,000 litter fines and greater awareness of littering.

224. Please refer to my response to question 223.

225.

(a) No projects were funded in the last 12 months.

(b) Since 2011 the Environmental Trust has funded a total of six projects worth \$397,021 within the Cooks River Catchment.

Bush fire preparation in the Illawarra

226. How much did the Government spend on bush fire hazard reduction in the Illawarra Escarpment State Conservation Area in the financial years:

(a) 2017/18;

(b) 2018/19;

(c) 2019/20 to date?

227. Will the Government conduct bush fire hazard reduction in the Illawarra Escarpment in 2020/21?

228. What type of hazard reduction activities are conducted in the Illawarra Escarpment State Conservation Area?

229. How much did the Government spend on maintaining fire trails in the Illawarra Escarpment State Conservation Area in the financial years:

(a) 2017/18;

(b) 2018/19;

(c) 2019/20 to date?

230. What type of work will take place to maintain fire trails in the Illawarra Escarpment State Conservation Area in 2020/21?

231. Will the Government review the existing strategies for hazard reduction and fire trail management in the Illawarra Escarpment as a result of the recent bush fire crisis?
232. Will the Government increase the funds committed to hazard reduction and fire trail management in the Illawarra Escarpment as a result of the recent bush fire crisis?

ANSWER:

226. Please refer to my response to question 201.
227. Please refer to my response to question 202.
228. The NPWS fire management strategy for the Illawarra Escarpment State Conservation Area applies an integrated approach to fire management, including hazard reduction burning, mechanical (slashing) of woody debris in asset protection zones next to residential property and participating in Rural Fire Service community fire awareness programs.
229. Please refer to my response to question 204.
230. Fire trails in Illawarra Escarpment State Conservation Area are checked throughout the year and routine maintenance works in 2020/21 will include roadside slashing and grading.
231. Please refer to my response to question 206.
232. Please refer to my response to question 207.

Bush fire recovery in the Illawarra and South Coast

233. What strategies will the Government implement in 2020/21 to assist the recovery of the environment in national parks and reserves on the South Coast following the bush fire crisis?
234. How much will the Government spend on these recovery activities on the South Coast?
- (a) When will activities commence?

ANSWER:

Please refer to my responses to questions 208 and 209.

Walking Tracks in the Illawarra Escarpment State Conservation Area

235. In 2019/20, how much has the Government spent on extending, upgrading and improving walking trails and visitor facilities in the Illawarra?
236. What proportion of the \$149.5 million investment over four years announced in this year's budget for improving NSW National Parks will be spent on national parks and walking trails in the Illawarra?

237. Will the Minister commit to funding a continuous walking experience along the Illawarra Escarpment State Conservation Area, including:

- (a) a connection with Royal National Park at Otford in the north;
- (b) a continuous walking trail to Mount Kembla in the South, in line with plans developed by the National Parks and Wildlife Service (The Illawarra Escarpment Walking Track)?

ANSWER:

Please refer to my responses to questions 210, 211 and 212.

Flood mitigation

238. What flood mitigation work will be funded by NSW Government in the Keira electorate in 2019/20 and 2020/21? How much will it cost?

ANSWER:

Please refer to my responses to question 213.

All Roles Flex

239. Minister, the Premier announced on International Women's Day that the public service would all have access to flexible working arrangements by 2019.

- (a) What numbers of staff within your Department currently have access to a flexible role?
- (b) Do you centrally register staff, who have flexible working arrangements?
- (c) What measures are currently in place to implement this?

ANSWER:

Please refer to my response to question 69.

Attachment 1

Fires starting on National Park estate burning more than 200 hectares of land

This data is drawn from the NSW RFS Incident Control Online (ICON) system and then validated for NPWS records

Commenced	Fire Name	Origin Location	Area Burnt (ha)	Suspected Cause
26/10/2019	Gospers Mountain	Wollemi National Park	512,626	Lightning
27/11/2019	Green Wattle Creek	Blue Mountains National Park	278,200	Lightning
17/10/2019	Carrair Creek	Oxley Wild Rivers National Park	238,602	Lightning
29/12/2019	Green Valley, Talmalmo	Woomargama State Conservation Area	208,275	Lightning
23/11/2019	Kerry Ridge	Wollemi National Park	191,575	Lightning
25/11/2019	Little L Complex	Yengo National Park	171,396	Lightning
06/09/2019	Kaloe Mountain Trail	Nymbodia National Park	120,866	Debris Burning (not by NPWS)
31/08/2019	Bees Nest	Mount Hyland Nature Reserve	113,706	Lightning
31/12/2019	Adaminaby Complex	Kosciuszko National Park	98,485	Lightning
04/12/2019	Bangala Creek	Cataract National Park	58,769	Arson
26/11/2019	Three Mile	Dharug National Park	45,944	Lightning
27/11/2019	Kowmung River	Kanangra-Boyd National Park	33,782	Lightning
08/11/2019	Border Trail, Woodenbong	Mount Nothofagus National Park	28,334	Miscellaneous/ Other
25/11/2019	Moggs Swamp	Guy Fawkes River National Park	25,749	Undetermined
05/01/2020	Erskine Creek Fire	Blue Mountains National Park	22,631	Lightning
20/12/2019	Grose Valley	Wollemi National Park	19,921	Lightning
23/01/2020	Big Jack Mountain	South East Forest National Park	19,633	Lightning
17/10/2019	Kaputar Fire	Mount Kaputar National Park	18,478	Lightning
01/01/2020	Pilot Lookout	Kosciuszko National Park	17,923	Lightning
27/11/2019	Ruined Castle	Blue Mountains National Park	17,058	Lightning

Commenced	Fire Name	Origin Location	Area Burnt (ha)	Suspected Cause
10/01/2020	Mount Youngal	Kosciuszko National Park	16,655	Natural
02/12/2019	Warm Crossing	Oxley Wild Rivers National Park	15,621	Lightning
26/11/2019	Meads Creek West	Goulburn River National Park	14,200	Lightning
25/11/2019	Andersons Creek	New England National Park	13,886	Lightning
26/10/2019	Bills Crossing Crowdy	Crowdy Bay National Park	13,367	Lightning
16/11/2019	Banyabba	Banyabba Nature Reserve	13,161	Suspicious
07/09/2019	Raspberry Rd, Jeogla	Cunnawarra National Park	10,642	Undetermined
11/12/2019	Carrot Farm Rd, Deepwater	Butterleaf National Park	9,070	Lightning
27/10/2019	Colletts Crossing, Woolli	Yuraygir State Conservation Area	7,371	Lightning
08/11/2019	Mt Nardi NP, continuation 2	Nightcap National Park	6,629	Lightning
23/11/2019	Carters Rd, Stewarts Brook	Barrington Tops National Park	5,778	Lightning
04/02/2020	Rolling Ground	Bimberi Nature Reserve	5,687	Accidental (not by NPWS)
14/12/2019	Ridge 400	Woko National Park	5,252	Lightning
13/12/2019	Warrabah Complex Fire	Warrabah National Park	5,093	Lightning
28/12/2019	Jacqua Creek, Bungonia	Morton National Park	4,063	Undetermined
14/12/2019	Wallabadah South	Wallabadah Nature Reserve	4,042	Lightning
26/10/2019	Carinda Rd, Carinda	Macquarie Marshes Nature Reserve	3,960	Lightning
26/10/2019	Crestwood Dr, Port Macquarie	Innes Ruins Historic Site	3,572	Lightning
09/01/2020	Yearinan Station Rd, Bugaldie	Pilliga Nature Reserve	3,476	Lightning
22/01/2020	Mirrie Rd, Boomley	Goonoo State Conservation Area	3,208	Lightning

Commenced	Fire Name	Origin Location	Area Burnt (ha)	Suspected Cause
17/10/2019	Den Mountain	Watsons Creek Nature Reserve	2,805	Lightning
05/12/2019	Bald Knob 2	Yuraygir State Conservation Area	2,802	Undetermined
06/09/2019	Thunderbolts Way	Bretti Nature Reserve	2,354	Undetermined
11/01/2020	Mary's Hill	Kosciuszko National Park	2,183	Undetermined
07/12/2019	Campbells Creek	Dthinna Dthinnawan National Park	1,887	Undetermined
08/08/2019	Kerriki Forest	Tapin Tops National Park	1,868	Burning Off - Illegal (not by NPWS)
25/11/2019	Dthinna Dthinnawan NP	Dthinna Dthinnawan National Park	1,493	Lightning
03/01/2020	Cowsby Rd, Niangala	Curracabundi National Park	1,479	Lightning
29/12/2019	Nine Mile Complex	Kosciuszko National Park	1,414	Lightning
06/12/2019	Jarrah Rd	Myall Lakes National Park	1,393	Suspicious
11/12/2019	Staggs Lane, Inverell	Goonoowigal State Conservation Area	1,362	Lightning
30/11/2019	Bora Link Rd, Bingara	Serpentine Ridge National Park	1,249	Lightning
18/09/2019	Watercourse Rd, Bullarah	Gwydir Wetlands State Conservation Area	1,050	Natural
04/08/2019	Clearview Rd, Coutts Crossing	Koukandowie Nature Reserve	984	Suspicious
05/12/2019	Spring Creek South	Mount Kaputar National Park	960	Lightning
03/01/2020	Geehi	Kosciuszko National Park	749	Lightning
11/12/2019	Melville range	Melville Range Nature Reserve	663	Lightning
09/09/2019	Cooperabung Range Rd, Gum Scrub	Kumbatine National Park	573	Suspicious
09/08/2019	Black Mountain Rd, Nymboida	Nymboi-Binderay National Park	560	Undetermined
22/07/2019	Burra Burra HR	Myall Lakes National Park	527	Burning Off - Legal (not by NPWS)

Commenced	Fire Name	Origin Location	Area Burnt (ha)	Suspected Cause
22/10/2019	Samuels Trl, Goonoo Forest	Goonoo State Conservation Area	415	Suspicious
07/08/2019	Ballengara Road	Kumbatine National Park	409	Suspicious
09/08/2019	Georges Trail	Cunnawarra National Park	357	Escaped Hazard Reduction
09/01/2020	Yellow Bog Road	Kosciuszko National Park	274	Lightning
10/01/2020	Woodlands	Wollemi National Park	203	Lightning