

# Remediation of former landfill sites

## Frequently Asked Questions

Following an audit in the south of the region to identify potential contamination issues, groundwater, surface water and landfill gases were observed above the relevant guidelines' threshold level at:

- Adcock Park, West Gosford
- Hylton Moore Park, East Gosford
- Frost Reserve, Kincumber

This was reported to NSW Environmental Protection Authority (EPA) and following further testing, these sites have been identified as Contaminated Lands under the Contaminated Land Management Act.

### **What contaminants have been found?**

Central Coast Council carried out preliminary contamination investigations across a number of their parks that were historically landfills.

Preliminary results for Hylton Moore, Garnet Adcock and Frosts Reserve have identified the presence of ammonia and PFAS in ground and surface water at the sites which have the potential to migrate offsite to nearby creeks. Landfill gases, including methane have also been detected onsite.

### **Why has this happened?**

As is common with landfills, the waste buried at the site is generating leachate, which contains a range of contaminants that can be harmful if released into the environment. As old landfills were not provided with a protective liner, contaminants such as ammonia and PFAS have leached to groundwater and spread to surrounding areas, including creeks.

Landfill gases such as methane and carbon dioxide have also been detected at the sites.

### **What does this mean for me? Is it safe?**

There is currently no evidence that this contamination is a risk to your health. The parks are safe to continue using for sporting and recreational activities. The landfill gases found are also not considered to pose any risk to nearby residential houses.

As some contamination is known to have impacted surface waters at the parks, you should avoid consumption of water. Town water supplies in the area are not impacted and are safe to drink.

### **What about animals? Is the park safe for my dogs?**

Pets should refrain from drinking surface water. This means if you are walking your dog you should only provide them with clean town water.

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### **What is methane and is it a health risk?**

Methane is an odourless, colourless gas produced by the decay of organic materials such as food and garden waste in a landfill environment. It only poses a risk in large concentrations in confined spaces. Exposure at low levels does not cause impacts to human health in open spaces like sporting and recreational ovals.

As the parks were previously landfills, the presence of landfill gases at low levels is not unexpected.

### **What is ammonia and is it a health risk?**

Ammonia is a colourless gas with a distinct, pungent odour. It is commonly used in household and industrial cleaners, bleaching agents and disinfectants and is also present in landfill leachate. Ammonia can be toxic to fish and other aquatic creatures if it reaches water bodies in high concentrations. Exposure to typical environmental concentrations of ammonia will not affect humans. Exposure to high levels of ammonia can cause irritation and burns on the skin.

### **What are PFAS and is it a health risk?**

PFAS are a group of manufactured chemicals that include perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexanesulfonate (PFHxS).

PFAS are very stable chemicals that bioaccumulate, do not easily break down and can persist in the environment for a long time.

Due to their fire retardant, waterproofing and stain resistant qualities, these chemicals have been widely used in many industrial and consumer products worldwide. PFAS can be found in food packaging, non-stick cookware, fabric, furniture and carpet stain protection applications, clothing, and some types of fire-fighting foam.

The breakdown of waste and products containing PFAS produces contaminated leachate.

Finding PFAS in the environment does not necessarily mean there is a human health risk. It is important to assess if there are any exposure pathways, through which people might come into contact with PFAS, including drinking contaminated water or eating contaminated food.

Expert advice released by the Australian Government in June 2019 states PFAS has not been shown to cause disease in humans and "probably has minimal impact on human health".

However, the Australian Government's PFAS Expert Health Panel recommends limiting exposure to PFAS as a precaution until further research into health effects is completed. The NSW Government adopts this precautionary approach to assess and limit exposure pathways to PFAS.

Skin contact, inhalation and incidental ingestion of PFAS-impacted soil are not primary exposure pathways for PFAS.

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### **I live nearby - is my property also contaminated?**

Landfill gases (methane and carbon dioxide) found to the boundaries of the parks are not at levels of concern, but further investigation and monitoring will take place to ensure that the risks remain low.

While ammonia is not considered a concern for in drinking water, PFAS has been found in ground water and surface water at levels above the PFAS drinking water guideline. Therefore, nearby residents will be advised not to drink groundwater or use it for growing produce. Town water is completely safe.

### **How will this impact the environment? Local ground water, waterways, local flora and fauna?**

The presence of ammonia and PFAS in ground and surface water at the sites have the potential to migrate offsite to nearby creeks. Landfill gases, including methane have also been detected onsite.

Council will be undertaking environmental and human health risk assessments to better understand the impacts of the contamination. The results of these assessments will be made available to the community.

### **If the initial tests were carried out in 2018, why are we only finding out about it now?**

Council engaged consultants to undertake voluntary audits across all our former landfill sites in the south of the local government area. Preliminary reports for six former landfills were provided to the EPA in March 2019 and further investigations were requested across all of these to better understand the contamination issues.

Having provided the further testing and sampling results to the EPA it was decided that three former landfill sites (Austin Butler Memorial Oval, James Brown Oval and Rogers Park all at Woy Woy) did not require regulation. Based on the contamination at Hylton Moore Park, Garnet Adcock Park and Frost Reserve the EPA have decided to regulate these sites.

### **Isn't Council carrying out works at Adcock Park now? Will this release more contaminants?**

Adcock Park redevelopment project is following all due diligence to ensure no contaminants release to the environment. Council has engaged an independent consultant to develop and implement Construction Environment Management Plan which provides guidance to control any potential risk of contamination exposure from the project.

A regrading of the site and installation of a stormwater and field drainage systems will be beneficial in controlling groundwater inflows and helps to avoid contact with the waste mass underneath.

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### **What about former landfill sites in the north of the region? Will they be tested?**

All former landfills in north have been undergoing routine monitoring on a regular basis for many years, some of those sites will also have works done in the future to reduce any environmental impacts from past activities.

### **What are we doing about these contaminants at our current landfill sites?**

Central Coast Council has three licenced waste facilities. All sites are managed as per the Environmental Protection Licences issued by the NSW EPA. Unlike the former landfill sites, Councils current waste facilities are controlled sites with the sites operated consistent with industry best practice. This includes engineer designed landfill cells incorporating both leachate and gas collection systems. An independent consultant is monitoring air and water quality at these facilities on monthly, quarterly and annual basis. Council is continuously upgrading and improving the facility assets to maintain and improve environmental performance.

### **What are the next steps? How will this be monitored and how is the land going to be remediated?**

Central Coast Council will put forward a voluntary management plan for each site outlining steps for further investigation, monitoring and remediation.

As part of that plan, further testing and assessment works will be required around the parks.

The Central Coast Council and the EPA will continue to work together and will keep the community informed of any progress and continue to monitor the sites for any changes.

### **Where can I find more information?**

You can contact Council on 1300 463 954 during business hours or email [ask@centralcoast.nsw.gov.au](mailto:ask@centralcoast.nsw.gov.au) or call the EPA on 131 555.