Submission No 17

INQUIRY INTO INQUIRY INTO PFAS CONTAMINATION IN WATERWAYS AND DRINKING WATER SUPPLIES THROUGHOUT NEW SOUTH WALES

Organisation: Georges Riverkeeper

Date Received: 26 November 2024

Georges Riverkeeper

26th November 2024

Georges Riverkeeper
Locked Bag 7064, Liverpool NSW 1874

To whom it may concern,

Re: PFAS Contamination in Waterways and Drinking Water Supplies throughout NSW

Georges Riverkeeper (GRK) works actively with its eight Member Councils and Financial Partner, (Sydney Water) within the Georges River catchment area. GRK works collaboratively with its members and stakeholders to protect the environmental health within the catchment and support research to guide best practise waterway management. Our Member Councils share a collective responsibility to improve the environmental condition of Georges River with a holistic and catchment wide approach.
On the request of our Member Councils, Financial Partner and stakeholders, GRK has been collating information on Per- and polyfluoroalkyl substances (PFAS) within the Georges River catchment to better understand the implications on its natural resources and communities.

Sources of exposure, including through historic and current firefighting practices

In Australia, PFAS contamination is primarily associated with firefighting foams containing PFAS chemicals predominantly used around airports, military bases, and firefighting training facilities. Over time, these chemicals have leached into surrounding soil and groundwater, resulting in contamination that has impacted local communities and ecosystems. Surface and groundwater sampling has been undertaken in areas where water is potentially contaminated based on previous land use like firefighting training facilities and military bases. Although ad-hoc monitoring of water quality for contaminated sites has been ongoing, routine testing has not been implemented for recreational water in Australia (Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra, 2019).
PFAS can also enter water bodies through wastewater discharge or leaching from landfill sites and travel long distances through waterways. Given the widespread use of PFAS in everyday consumer products of homes and businesses, these chemicals are very likely to be washed into our waterways during floods (Christie Gallen, 2014). While common sense tells us that these urban floodwaters must constitute a significant source of PFAS contamination, their impacts have been widely overlooked in discussions around PFAS.
GRK recognises the significant gaps in monitoring of recreational water, stormwater and floodwaters for PFAS contamination. It is vital that regular and coordinated

monitoring is carried out to adequately understand the sources of PFAS contamination and to inform the development of effective management strategies.
Sutherland Shire Council, a GRK Member Council, has advocated for the introduction of testing and treatment of wastewater to prevent further release of PFAS in the environment. GRK supports these calls and strongly recommends that the NSW Government drastically expands the scope of PFAS source investigations beyond traditional sites such as firefighting training areas, military bases, and landfills, in recognition of the impacts of urban floodwaters and other obvious sources of contamination.
GRK is aware that Water NSW is currently carrying out monthly testing for PFAS in Greater Sydney water storage dams focusing on data collection at the source water (Water NSW, 2024). This type of comprehensive testing regime, conducted at fixed intervals can be effective in the management of PFAS, but must be expanded beyond storage dams and in collaboration with a wide range of stakeholders and relevant Government agencies.

Recommendation 1: That the NSW Government expands beyond the traditional sites (firefighting training bases, military bases and airports), and shift focus to implementing regular and coordinated monitoring for PFAS contamination throughout catchments and waterways, in recognition of the likelihood contamination from wastewater, stormwater and floodwater.

Adequacy and extent of monitoring and data collection on PFAS levels in waterways and drinking water sources

The Georges River catchment encompasses diverse land uses that are likely to be the source of the PFAS contamination including industrial areas, urban stormwater runoff, firefighting training base, military bases, landfill sites and airports. Therefore, GRK recommends that in planning for detection and monitoring operations, the likelihood of multiple sources of PFAS contamination within the same catchment is considered, and that site-specific testing and monitoring is adapted accordingly. As stated in the PFAS National Environmental Management Plan 2.0, 2020, site-specific monitoring plans should account for the source of PFAS contamination which will help develop the scope, scale and focus of monitoring efforts. Development of a catchment level monitoring plan or site specific plan is encouraged to identify potential transport routes and exposure pathways.
Data collection should also meet key objectives like characterising the types of PFAS that may be present. The Australian Government's Intergovernmental Agreement on a National Framework for responding to PFAS Contamination states that, "Where a product or article is suspected of containing PFAS, information should be gathered to ascertain if it contains long-chain PFAS and it should then be managed accordingly." (National per- and polyfluoroalkyl substances (PFAS) Position statement, 2019).

Georges Riverkeeper recomends that the NSW Government also adopts this approach.
At present, GRK is not aware of any studies that have been conducted which detail the impacts of PFAS exposure from swimming in waters. While multiple studies do detail the prevelance of PFAS in swimming waters througout Australia, the question of impacts on those using these waters is yet to be explored.

Recommendation 2: That the NSW Government acknowledges the likelihood of multiple sources of PFAS contamination within any given site and adapts plans for monitoring and testing accordingly.
Recommendation 3: That the NSW Government adopts a catchment wide approach to PFAS monitoring and testing to identify potential transport routes and exposure pathways.
Recommendation 4: That the NSW Government commits to meeting key objectives in data collection such as the types of PFAS present.

Adequacy of the reporting and disclosure requirements to the public of monitoring and findings on PFAS contamination of water.

GRK initiated research of PFAS contamination within the Georges River catchment due to concerns raised by our Committee Members of potential health implications. This has been thwarted by the lack of publicly available information on PFAS sampling and monitoring. PFAS contamination has now emerged as a significant environmental and health issue globally, and there is currently a large disparity in how various government agencies respond. The Australian Government's Department of Climate Change, Energy, the Environment and Water (DCCEEW) has developed a PFAS National Environmental Management Plan and implemented a designated online information portal called the PFAS Taskforce. This portal facilitates greater transparency and enables the public to locate PFAS detected sites or potential contamination sites and keep up to date with the latest information including sampling undertaken or remediation plans.

Recommendation 5: That the NSW Government adopt the approach of the Australian Government in establishing an online portal to collate and maintain NSW Specific resources, reports and factsheets.
The NSW EPA has carried out conducted soil and water sampling on sites likely to be PFAS contaminated based on past land use under NSW Government PFAS Investigation Program (The NSW Government PFAS Investigation Program, 2023). The NSW EPA website clearly states that findings of these tests will be made available, however no results have been published. Upon reviewing the NSW EPA website, GRK has identified the gaps in disclosure of the results on website for certain sampling sites

under NSW EPA PFAS Investigation Program like Botany Bay has not been updated since 2021.
As a result of increasing concerns from the public about PFAS contamination, some GRK Member Councils have indicated that they now in the process of identifying potential sites with for future PFAS testing, and in some cases have already begun this work. GRK has also been made aware that some Member Councils have detected PFAS in water samples as part of water quality monitoring focused on other contaminants.

Recommendation 6: That the NSW Government requires that any agency that identifies PFAS in any sampling or testing, regardless of the reason for conducting those tests, publishes their findings on a shared and publicly available platform, such as the information portal recommended by GRK above.

All in all, there is a need for greater transparency around results as it seems that a number of government and independent bodies are identifying and testing for PFAS contamination, however the lack of requirements and platforms to disclose these results means that these finding are often not publicly available.

Recommendation 7: That the NSW Government coordinate a multi-agency approach to detecting PFAS to further develop an understanding of hotspots, research on health impacts in humans and animals, frameworks for disclose and best practice pathways to mitigation and containment of PFAS contamination in environment.

Health, environmental and economic impacts of PFAS.
The World Health Organisation (WHO) declared PFOA, a type of PFAS, a category one human carcinogen in 2023. While PFAS chemicals have been linked to adverse health impacts such as lower birth weight in babies, higher level of cholesterol, reduction in kidney function, thyroid disease, altered sex hormone levels, reduce in vaccine response, and liver, kidney, and testicular cancers, they have not yet been definitively proven to be a direct cause of these health issues (Landow, 2024). However, given the potential for such significant health impacts, the level of anxiety around PFAS in the community and among expert stakeholders is valid.
PFAS is commonly referred to as a “forever chemical” as it does not easily breakdown and therefore persists in the food chain, resulting in bioaccumulation which can potentially impact the predator species over time and pose long-term ecological risk. The persistence and mobility of PFAS chemicals has made remediation and management challenging. In the Georges River Catchment, PFAS contamination has resulted in environmental impacts leading to restrictions on water use in some places, and GRK is aware that residents in impacted areas have expressed concerns to Member Councils about their health and property values.
The economic impacts of PFAS contamination on residents is becoming clearer over time as properties in areas with known PFAS contamination result in higher insurance

premiums or lenders viewing affected areas as high-risk investments. Both factors are already causing a decrease in property prices in impacted areas. A Federal Government inquiry into PFAS contamination in and around defence bases was advised in 2018 that property prices at Williamtown in NSW had decreased by at least 15 % since issues with contamination had been discovered there (Inquiry into the management of PFAS contamination in and around Defence bases, 2018). It is reasonable to assume that such a pattern will continue as more contamination sites are discovered.

Despite some of the likely health impacts of PFAS being currently unproven, GRK is supportive of a cautious approach to the use of PFAS chemicals. GRK is supportive of the NSW EPA ban on the import, export and manufacture of certain PFAS chemicals in food packaging in NSW from 1 July 2025 and recommends further action to eliminate PFAS where possible.

Impacts, monitoring and mitigation of contamination on livestock, domestic animals and wildlife, including water birds, fish and other aquatic life.

In the Georges River Catchment, fishing restrictions have been in force due to elevated levels of PFAS since 2018. In Botany Bay, the NSW EPA still recommends that individuals practice catch and release when fishing or, if consuming fish, to limit intake to levels outlined in the health guidance to reduce exposure to PFAS (NSW EPA, 2018). These restrictions were introduced by NSW EPA to mitigate the potential health risks, which reflects concerns regarding bioaccumulation in aquatic life and persistence of PFAS in environment posing a significant health risk to humans.

PFAS contamination has the potential to impact iconic and threatened species which are already impacted by numerous other stressors. “Studies on laboratory animals have shown adverse effects of chronic PFAS exposure on the liver, gastrointestinal tract and thyroid hormones. However, the applicability of these studies to humans is not well established” (How might PFAS affect us?, n.d., Australian Government). The health risks posed by PFAS are known to be alarming for threatened and endangered species as PFAS exposure can have adverse health effects on animals (known to be similar to human epidemiological studies) (David Q. Andrews, 2023).

A recent podcast episode of ABC Listen discussed an alarming issue of how Platypus in NSW are dying due to PFAS contamination (Platypuses in NSW dying with high PFAS contamination, 2024). The source of contamination here has been identified as sediments and macroinvertebrates which are ingested by the platypus causing accumulation of PFAS in their liver and leading to their death. The Georges River catchment is home to a number of threatened species as well as iconic species like Platypus. While much research is being conducted on human health impacts, further attention is required to understand the potential health risks and impacts of PFAS contamination on animals.

Recommendation 8: That the NSW Government review safe levels of fish consumption and the level of PFAS contamination within fish stocks over time.
Recommendation 9: That the NSW Government ensures that the community are made aware of the potential for contamination of fish stocks through adequate signage and more efforts are put towards monitoring habitats of all iconic and endangered species for contamination.
Recommendation 10: That the NSW Government invests in research to identify key pathways of PFAS exposure for fauna.

Adequacy and effectiveness of government engagement with and support for communities disproportionately affected by PFAS contamination.

The Australian Government has been engaged in supporting communities affected by PFAS contamination for some time, with efforts being made in health assessment and compensation.
As part of these measures, public consultations have been conducted, enabling the expert health panel to gain a great understanding of impacted communities concerns and insights. Here, members of the public expressed their views on key areas to be prioritised for future research and testing in regard to PFAS. In this consultation, several respondents felt they were not well informed about the Government's response, and many were concerned of health effects from occupational or water source PFAS contamination (Expert Health Panel on PFAS, 2018).
Without adequate follow-up, public consultation on its own does not constituent support for impacted communities. Georges Riverkeepers calls on the NSW Government to develop more holistic strategies to address public concerns about impacts of PFAS contamination.
With the recent detection of PFAS in groundwater at Mullumbimby, NSW EPA and Fire and Rescue teams door-knocked impacted residents as a precautionary approach to comprehend groundwater use in the region and offer sampling. Although, residents were connected to town water and contaminated groundwater was not of immediate concern, residents were advised to avoid using groundwater or bore water, to avoid consuming home grown food and to avoid filling swimming pools with groundwater (EPA working with community after PFAS found in Mullumbimby, 2024). Georges Riverkeeper commends this direct communication approach and recommends that the NSW Government adopts similar measures wherever PFAS contamination is detected, particularly in areas with vulnerable communities.

Recommendation 11: That the NSW Government adopts direct communication measures such as doorknocks to residents wherever PFAS contamination is detected, particularly in areas with vulnerable communities.

Conclusion

GRK recognises the commendable work done by NSW government so far, but more attention should be given to below recommendations to efficiently manage PFAS in future.

Recommendations

1. The NSW Government expands beyond the traditional sites (firefighting training bases, military bases and airports), and shift focus to implementing regular and coordinated monitoring for PFAS contamination throughout catchments and waterways, in recognition of the likelihood contamination from wastewater, stormwater and floodwater.
2. The NSW Government acknowledges the likelihood of multiple sources of PFAS contamination within any given site and adapts plans for monitoring and testing accordingly.
3. The NSW Government adopts a catchment wide approach to PFAS monitoring and testing to identify potential transport routes and exposure pathways.
4. The NSW Government commits to meeting key objectives in data collection such as the types of PFAS present.
5. The NSW Government adopt the approach of the Australian Government in establishing an online portal to collate and maintain NSW Specific resources, reports and factsheets.
6. That the NSW Government requires that any agency that identifies PFAS in any sampling or testing, regardless of the reason for conducting those tests, publishes their findings on a shared and publicly available platform, such as the information portal recommended by GRK above.
7. That the NSW Government coordinate a multi-agency approach to detecting PFAS to further develop an understanding of hotspots, research on health impacts in humans and animals, frameworks for disclose and best practice pathways to mitigation and containment of PFAS contamination in environment.
8. That the NSW Government review safe levels of fish consumption and the level of PFAS contamination within fish stocks over time.
9. That the NSW Government ensures that the community are made aware of the potential for contamination of fish stocks through adequate signage and more efforts are put towards monitoring habitats of all iconic and endangered species for contamination.
10. That the NSW Government invests in research to identify key pathways of PFAS exposure for fauna.

11. That the NSW Government adopts direct communication measures such as doorknocks to residents wherever PFAS contamination is detected, particularly in areas with vulnerable communities.

Yours Sincerely,

Hiti Gandhi
Catchment Management Officer
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