

# Stony Creek monitoring update



Environment  
Protection  
Authority Victoria



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Community information

## Stony Creek monitoring

EPA is continuing to monitor Stony Creek in areas affected by the fire. We are using the results to provide advice around human health and environmental impacts. This update includes water and sediment quality results collected on 10 January 2020 at four locations along the Stony Creek waterway (Figure 1).

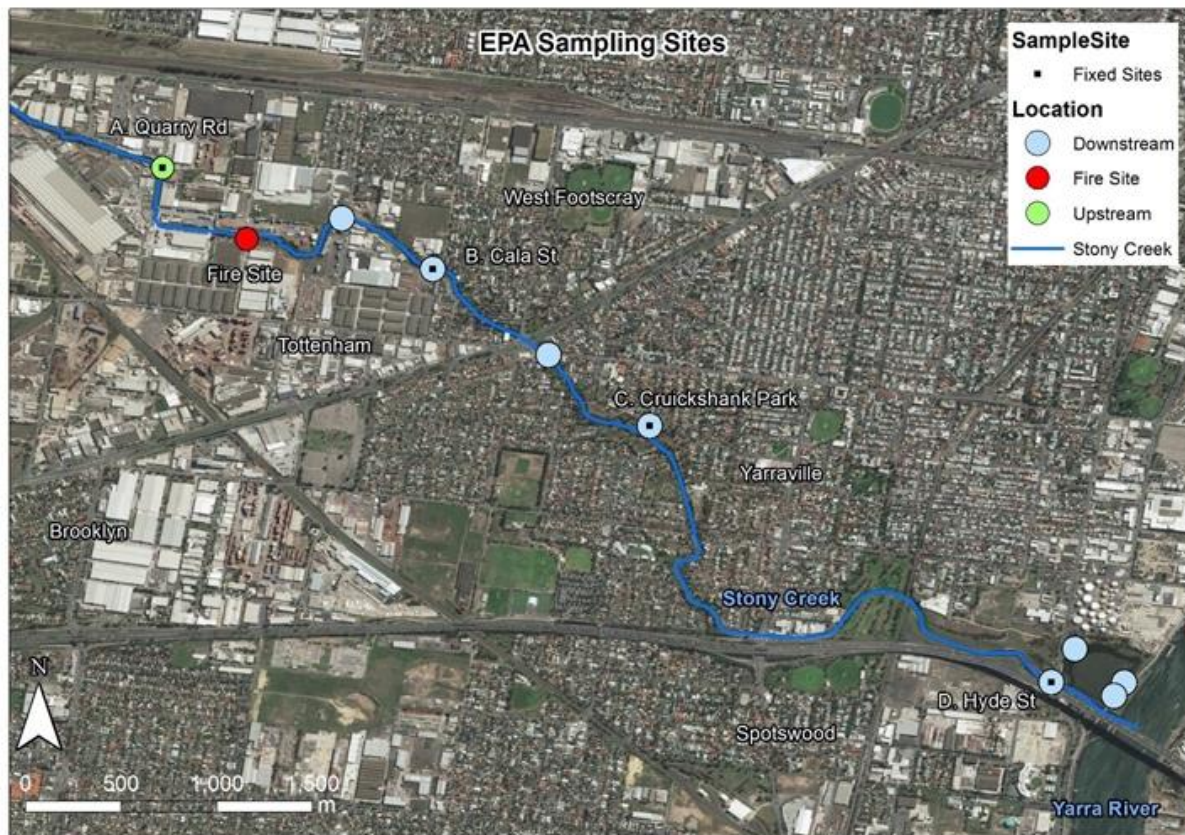


Figure 1. Map of monitoring sites along Stony Creek.



## Stony Creek monitoring update

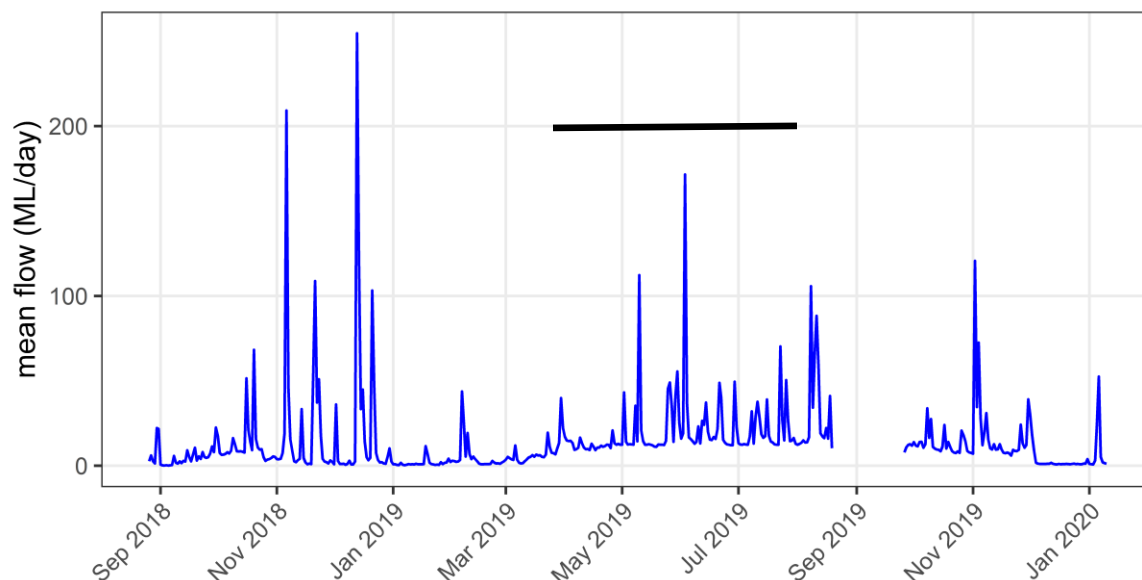
### Environmental monitoring

We have tested water for a range of contaminants from the Stony Creek area. We continue to advise not to eat fish taken from Stony Creek. Past results have shown that a range of industrial solvents, detergents and ash particles were washed into Stony Creek. The key chemicals detected were:

- phenol (an industrial chemical and cleaning product)
- polycyclic aromatic hydrocarbons (fire and soot by-products)
- lighter petroleum hydrocarbons called BTEX (benzene, toluene, ethylbenzene and xylene)
- PFAS (per- and poly-fluoroalkyl substances)
- industrial solvents such as acetone and butanone.

Concentrations of these chemicals were very high in Stony Creek on the days immediately following the fire on Thursday 30 August 2018. They caused rapid death of fish and aquatic life in Stony Creek. In some cases, chemical concentrations exceeded human health recreational contact guidelines for several days after the fire. Concentrations of these chemicals have declined significantly over time.

As part of the rehabilitation of Stony Creek, Melbourne Water removed significant quantities of contaminated sediments downstream of the fire site between April and July 2019. Figure 2 shows Stony Creek mean daily water flows from 26 August 2018 to 10 January 2020. The black horizontal bar shows that the period of dredging coincided with higher base flows in Stony Creek from May to August 2019. Higher flow events may have also contributed to further flushing of contaminants from affected areas within Stony Creek.



**Figure 2.** Stony Creek mean daily flows (ML/day) measured at the Spotswood gauging station (Bena St, Yarraville) from 26 August 2018 to 10 January 2020. Black line indicates period where dredging was undertaken.

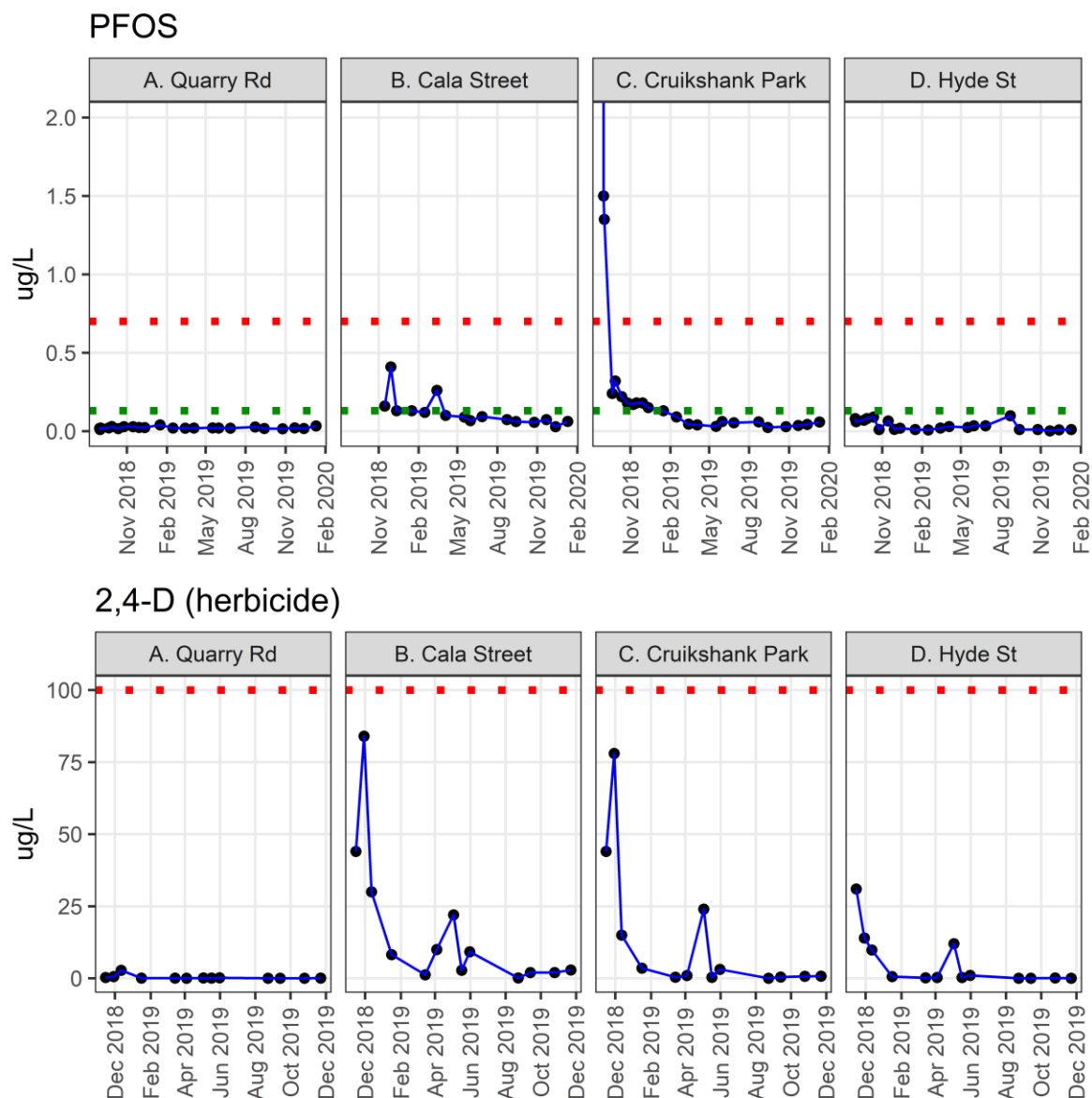
# Stony Creek monitoring update

## Latest results

### Water quality

This update includes water quality data from 30 August 2018 to the most recent available results from samples collected on 10 January 2020.

Concentrations for the persistent chemicals perfluorooctane sulfonate (PFOS) and the herbicide 2,4-D (Figure 3) were below human health and environmental guidelines on 10 January 2020 but remained above background levels at Cala St and Cruickshank Park.



**Figure 3.** Results for PFOS and the herbicide 2,4-D upstream of the fire site (Quarry Rd) and at three sites downstream of the fire site at Cala St, Cruickshank Park and Hyde St from 30 August 2018 to 10 January 2020. The red and green lines indicate recreational water quality and aquatic ecosystem guidelines, respectively. Note, the very high PFOS levels recorded on 30 August 2018 downstream of the fire site are not displayed at scale on this figure to aid interpretation.

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Chemicals presented in previous water quality updates occurred below detectable levels and therefore are no longer presented (for example BTEX chemicals benzene, ethylene, toluene and xylene, acetone, methylethylketone, and phenol). Note, that although these chemicals are not presented in these reports, we will continue to measure and assess these chemicals to ensure they remain below relevant guidelines.

### Sediment quality

This update includes sediment quality data from 11 September 2018 to the most recent available test results collected on 10 January 2020. This update reports on how sediment conditions have changed over time since the fire.

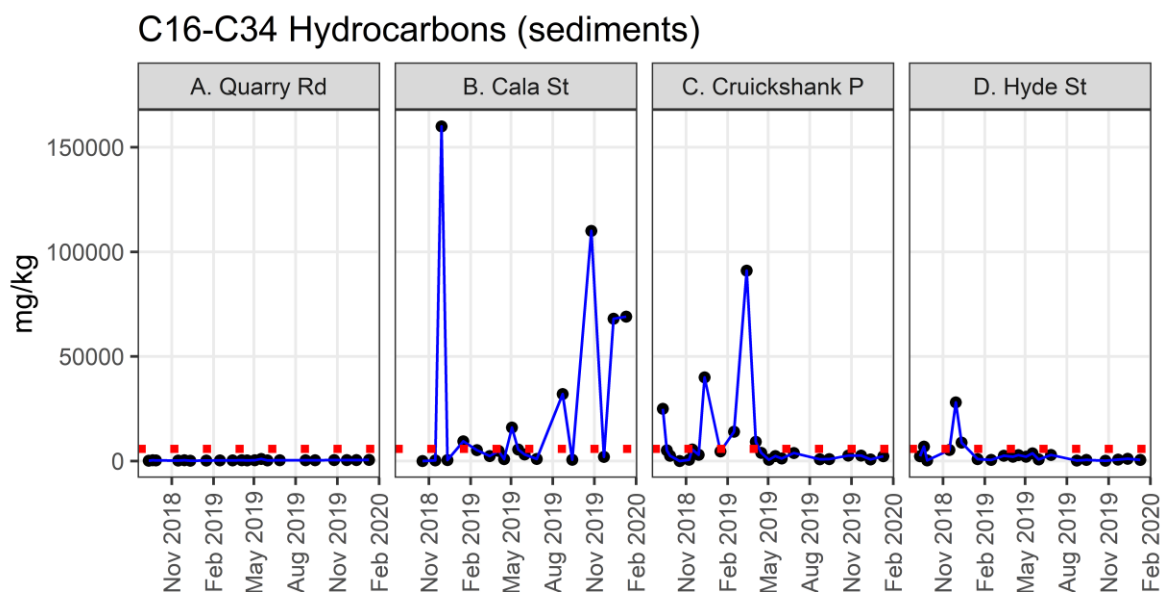
We have tested sediment at fixed locations for a range of pollutants from the Stony Creek area. In most cases contaminant levels in the sediment have declined. However, disturbing the sediments has the potential to mobilise contaminants and increase the risk of harm to the environment and human health. We continue to advise avoiding contact with creek sediments in Cruickshank Park until further notice.

Concentrations of hydrocarbons in the sediments of Stony Creek remained above human health and environmental guidelines at Cala St on 10 January 2020 (Figure 4).

**C16-C34 and C10-C40 hydrocarbon** concentrations at Cala St exceeded 60,000 mg/kg. This is well above the human health guideline for recreational contact and environmental guidelines for sediments (Figure 4). C16-C34 and C10-C40 hydrocarbon concentrations at Cruickshank Park and Hyde St were below human health and environmental guidelines

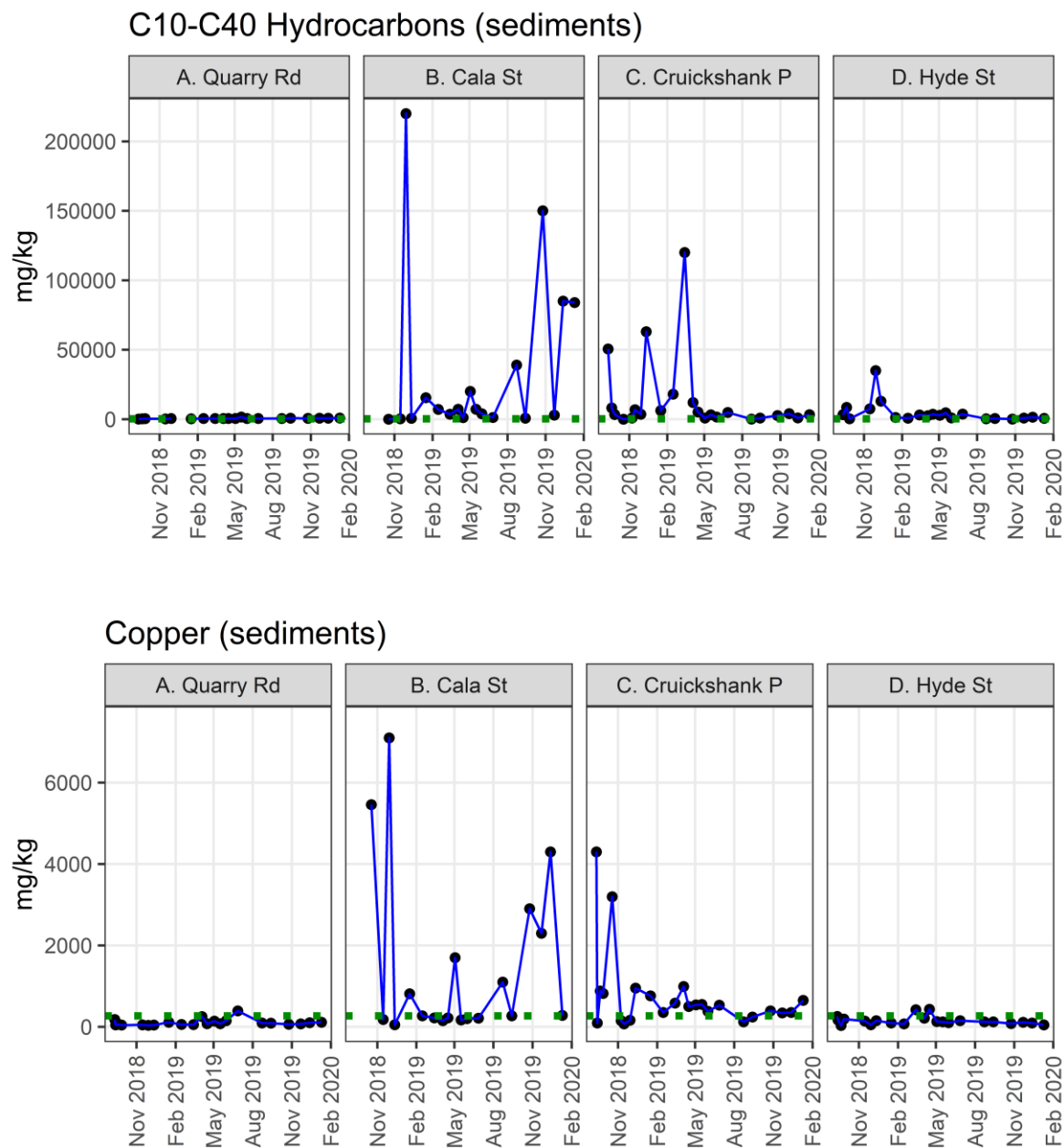
**Copper** concentrations at Cala St and Cruickshank Park were above environmental guidelines for sediments and continued to exceed background levels upstream of the fire on the 10/01/2020 (Figure 4).

There has been a high variation in sediment contaminant levels over time at Cala St, which likely reflects the patchy distribution of contaminants in the sediments at this site. These results continue to indicate that sections of the creek bed at Cala St still contain high levels of contaminants following the fire.





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**Figure 4.** Results for the C16-C34 and C10-C40 hydrocarbon fractions and copper in sediments sampled upstream of the fire site (Quarry Rd) and downstream of the fire site at Cala St, Cruickshank Park and Hyde St from 11/09/2018 to 10/01/2020. The red line indicates human health guidelines for recreational contact with sediments. The green lines indicate aquatic ecosystem guidelines for sediments.

Other chemicals presented in previous updates occurred below relevant guidelines and are therefore are no longer presented here (for example C6-C10 hydrocarbons and PFOS). Note that although these chemicals are not presented in these reports, we will continue to measure and assess these chemicals to ensure they remain below relevant guidelines.

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### Further information

- For information about the recovery, go to [maribyrnong.vic.gov.au/recovery](http://maribyrnong.vic.gov.au/recovery)
- For information about the management of the waterways, go to [melbournewater.com.au](http://melbournewater.com.au)
- Connect with EPA on Twitter at [@epa\\_victoria](https://twitter.com/epa_victoria) for updates.