

Addendum to - Environmental surveys, management and land degradation in the Murrah river catchment (February, 2024)

### Shotgun Noise Assessment

The initial noise report undertaken for the Bermagui field and game shotgun club was supposed to ascertain the impacts of noise on the local community. The second report from the club's noise consultants, Renzo Tonin and Associates (dated 4 February 2013) indicates -

#### **Comment on noise impacts from modified operations**

We are advised by Bermagui Field and Game that since the original approval was granted to allow shooting, there has been no significant change to the following parameters:

- The types of firearms being used;
- The locations from which shots are typically fired;
- The directions in which shots are typically fired; and
- The distances from the firing locations to the nearest residential dwellings;

Since there has been no change to these parameters, we expect that noise levels from current shooting events would still be within the ranges that were reported in our original noise assessment, and therefore the conclusions of that assessment report are still valid.

Since the original report concluded that shooting is permissible up to one day per week according to the EPA noise criteria, and in the absence of any other specific Council issued noise limits, we advise that the current proposal for shooting on two days per month is therefore also permissible.

There is no information provided in either the initial noise report, or subsequent desktop report of the locations from which shots are typically fired, or the directions in which shots are typically fired. The suggestion from the Bermagui Field and Game shotgun club that the modification of the shooting locations from Lot 10 DP 849934 to Lot 101 DP 1172182, does not represent a significant change to these parameters is factually incorrect.

The Baseline contamination study also did not provide the locations from which shots are typically fired, or the directions in which shots are typically fired. During a discussion with the EPA Regional South Unit Head Matthew Rizzuto, he agreed that the lack of this information was not good.

The absence of information detailing these parameters means no confidence can be placed in the validity of the conclusions of either the noise report or the baseline contamination study.

### The Coolagolite fire

As a member of the Far South Coast Bushfire Management Committee, Bega Valley Shire Council (BVSC) may be aware of the suggestion on the Rural Fire Service (RFS) UHF radio, on the day the fire started "to let it rip in the Murrah". BVSC may also be aware of the suggestion from the RFS

that the initial speed and intensity of the fire was the result of wattle trees that had grown since the Badja fire in 2019-20.

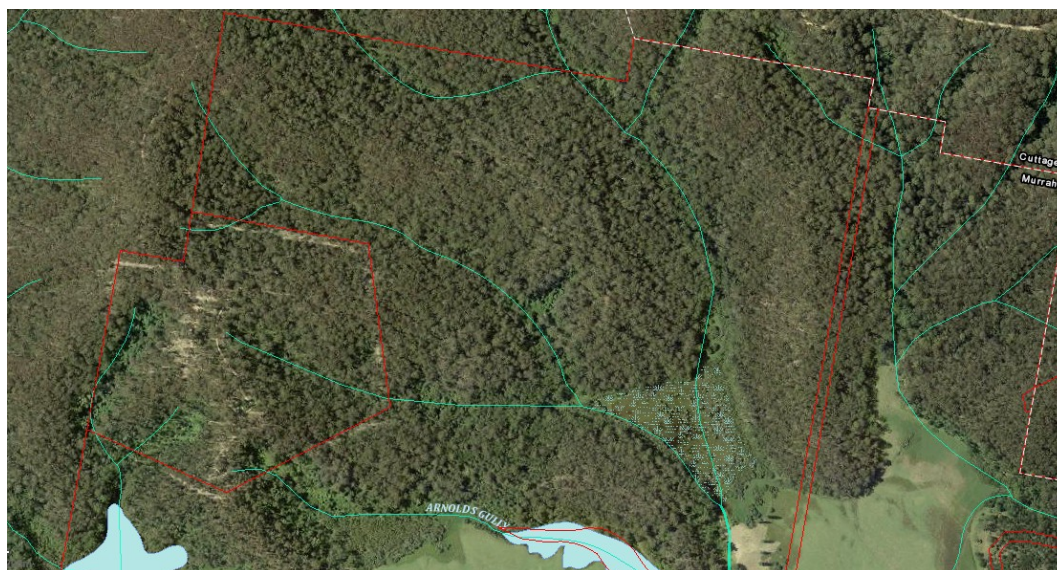
While noting the weather is generally accepted to be the major factor propelling uncontrollable bushfires. There is no evidence to support the claim that wattle trees contributed to the initial speed and intensity of the fire. A more likely explanation is that standing black forest oaks (*Allocasuarina littoralis*), killed during the Badja fire, were a contributing factor to the intensity and speed of the fire.

Another and perhaps as significant contributing factor is the reduction in soil Water Holding Capacity (WHC), that results in drier vegetation, including the leaves of trees. BVSC's Climate Resilience Strategy 2050 suggests - ". . . changes to average temperatures, rainfall patterns, droughts and subsequent reductions in soil moisture are likely to alter fire regimes and make our forests more susceptible to large, destructive bushfire and inhibit their ability to recover post fire." However, the reduction in soil WHC increases the likelihood of dry weather and drought leading to extensive canopy dieback.

While the evidence tends to confirm the intention was to use the Coolagolite as a justification for burning and bulldozing as much of the Murrah as possible. There were at least two acts of arson during 2023 in Murrah and Mumbulla state forests prior to the Coolagolite fire. Both of these fires were associated with broad acre burning of critical koala habitat undertaken by the NPWS. While it has been suggested the NSW Police would be investigating the cause of the Coolagolite fire. It is difficult to see how this fire could have initiated some of the spot fires south of the Murrah river, that were identified the following day.

All previously or currently forested areas within Lot 10 DP 849934 and Lot 101 DP 1172182 and surrounding areas of the Murrah Flora reserves are within a designated bush fire prone area and were burnt during the Coolagolite fire.

The following map shows the watercourses either emanating from or passing through Lot 101 DP 1172182 and an intermittent wetland to east on Lot 10 DP 849934, dry at the time the image was taken, where two watercourses originating from Lot 101 DP 1172182 terminate. The catchment areas for the watercourses are delineated in the report previously provided to BVSC (Bradshaw 2019) and tagged as drainage cells A and B.



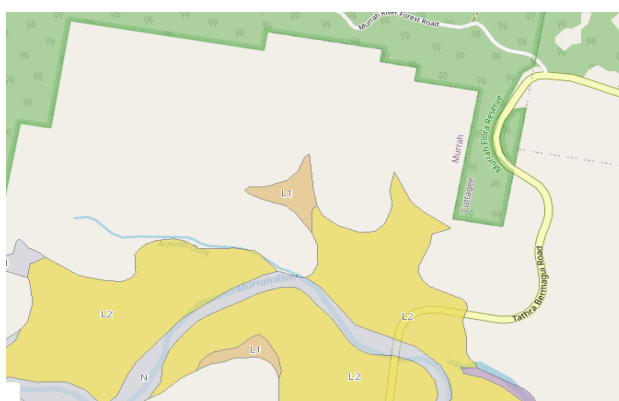
The most recent post Coolagolite fire Google earth image below reveals areas burnt and the extent of BVSC approved clearing of Lot 101 DP 1172182, including a significant area at the head of drainage cell B, centrally located on Lot 101 DP 1172182. As indicated, at the time of this image being taken the wetland is full of water, but the area was dry and burnt during the fire.



The fire would have melted all of the lead pellets both in and around Lot 101 DP 1172182. This would increase the surface area of the pellets, the rate at which they further degrade and the uptake of lead by vegetation.

As the Murrah soil landscape soils generally have a high erosion potential and based on the likelihood that shooting stations are located in the cleared area, particles of lead, that are emitted with every cartridge shot, are highly likely to be transmitted with the tonnes of other eroded soil materials to the wetland with overland water flow. Alleged sediment traps along the watercourse would not be capable of limiting the movement of materials suspended in water to the shotgun club property.

The wetland also features in the NSW government’s map below of areas with probable acid sulfate soils. While noting the wetland is categorised as L1 where the presence of acid sulfate soils are suggested to be a “Low probability <1 m below ground surface in Pleistocene sediments”. These suggestions have not been verified with appropriate soil testing. However, as indicated in the Guidelines for the Use of Acid Sulfate Soil Risk Maps <sup>1</sup> “Where ASS are identified as bottom sediments, at or near the ground surface, or within 1 m of the ground surface, there is considered to be a severe environmental risk because the likelihood of disturbance of ASS materials by various land uses is greatest in these areas.”



1 <https://www.environment.nsw.gov.au/resources/acidsulfatesoil/assmapsguide.pdf>



The potential combination of lead and sulphuric acid produces another persistent pollutant, lead(II)sulphate (PbSO<sub>4</sub>).

On November 3 2023, Bega Valley Shire Council posted the following announcement on its social media page.

### BUSHFIRE VEGETATION CLEAN-UP WORKS

We have a team of local contractors commencing work on Monday 6 November to undertake the removal of fire affected vegetation, as part of a state government funded program.

Crews will commence work on Murrah River Road, before moving on to other bushfire impacted Council and Crown managed roads:

- Nutleys Creek Road
- Head of Cuttagee Road
- Benny Gowings Road
- Tathra Bermagui Road

Traffic control will be in place for the duration of the works for a period of 2 to 3 weeks. Road users are advised to allow extra time for travel, with minor delays expected between 7:00am to 4:00pm.

Thanks to everyone for your patience while these important works are undertaken.

For more information, please contact Council's Project Officer on (02) 6499 2222.

The following photo shows the remains of one of the preferred koala feed trees, a woollybutt, cut down along the privately managed road through the Murrah Flora Reserve, to the shotgun club. Epicormic growth on the trees in this area had not appeared at the time the trees were cut down. Consequently all of the trees would appear to be dead, to those inexperienced with how surviving trees respond to high intensity fire. Hence there is no evidence to demonstrate fire affected vegetation along the road represented a threat to anyone.



Woollybutt do not grow back and stopping the logging of koala feed trees is why the flora reserves were declared. The importance of the works at this location could be seen as BVSC's ongoing support for the club at the expense of the forested environment generally and koalas in particular.

The fire burnt most of the large woody debris on the forest floor. The loss of large woody debris is listed as a Key Threatening Process in NSW. BVSC's removal of logs has contributed to this threatening process.

According to BVSC's Climate resilience strategy 2050 -

“. . . Council itself is a significant stakeholder in the management of resources locally and as such has a duty to be efficient and reduce environmental harm where identified Council works with the Bega Valley Community and various agencies on programs to promote the need to move towards greater sustainability – environmentally, socially and economically. Bega Valley Shire Council recognises the need to continue to work together to reduce our vulnerability to these unforeseen and unprecedented events.”

BVSC's Contaminated Land Policy defines contamination as “The condition of land or water where any chemical substance or waste has been added as a direct or indirect result of human activity at above background level and represents, or potentially represents, an adverse health or environmental impact.” For the Murrah soil landscape BVSC seems content to accept that the club has not added lead to the land and the background level of lead ranges from <5 to 1,000 mg/kg.

BVSC's Climate resilience strategy 2050 also suggests -

“. . . The restoration of our catchment areas to achieve greater natural system water storage, riparian revegetation and improved soil moisture retention is one of the greatest challenges in increasing our resilience to potential climate impacts. Current research underway examining the response of various forest types to climate change are indicating that the forests will be more susceptible to stressors such as drought, fungal and pathogen attack and bell minor dieback susceptibility.”

The only information on BVSC's regulation of the Bermagui Sporting Clays shotgun club are claims about sediment traps. The absence of any evidence to confirm these traps could be or are effective reflects a lack of duty to reduce environmental harm. Similarly, the attitude behind the management of the Coolagolite fire is coupled with a poor understanding of the outcomes of historic and current forest management. These factors can only limit an understanding of why the increased risk of uncontrollable fire has arisen, is perpetuated and raises significant concerns about the efficient use of public funds to both control and extinguish the fire.

Robert Bertram  
9 February 2024

