

Will Chalice mine leave an unwanted legacy?

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I READ with interest the article by Sharon Richards (*Toodyay Herald*, March 2024) where local fauna is at risk through lack of control of feral predators.

The article exposes a much deeper problem facing protection of the natural environment, not only globally, but across Australia and specifically here in Western Australia.

A case in point being the ceased mining projects in the Northern Territory namely the Rum Jungle and Ranger Uranium mines, as well as the Lake George Mine at Captains Flat in New South Wales.

These mines may be termed "Legacy Projects", that is, someone else is cleaning up the mess.

Mining at Rum Jungle occurred from 1953 to 1971 and the environmental statements at the time gave a rehabilitation period of 15 years.

The minerals making up the ore were uranium, copper, lead, cobalt, nickel, and zinc.

A lack of clearly defined corporate responsibility led to the mine becoming one of Australia's most polluted environments.

This was due to the oxidation of sulphide minerals and the consequent development of acid mine drainage, resulting in the release of acid and metals into the East branch of the Finnis River.

Not surprisingly this mining operation leaves a legacy of acid mine drainage and downstream heavy metal contamination of surface and groundwater.

It is 53 years since the cessation of mining at Rum Jungle and it is important to note the owners of the mine consistently denied any responsibility for rehabilitation.

In early 2022 the final cost of rehabilitation of the Rum Jungle mine site was re-estimated at between \$1.6 billion and \$2.7 billion.

Fast forward to 2024 and rehabilitation is still ongoing.

In Western Australia, the state government has recently diluted the watch-dog powers of the Environmental Protection Authority, in an effort to fast-track mining approvals.

But in pursuit of what?

Tens of millions of dollars in royalty payments are at stake for the State coffers if Chalice Mining is unable to develop the Gonnevillie and Hartog prospects located 70km north-east of Perth.

It should also be acknowledged that mining is an integral and essential part of life in the 21st century.

Most of us drive motor vehicles, relying on them for work and relaxation, use telephones and computers, enjoy rapid communication with the rest of the world, fly off to distant places, cruise the Australian coast or just bask in the luxuries that our advanced technologies provide.

So, what is the cost?

If environmental costs are not accurately defined, along with appropriate management, remediation, and mine closure protocols, then the financial burden of rehabilitation leading to mine closure will be astronomic.

As an example, you cannot retrofit an acid mine drainage management program to an operating mine ten years down the track.

As a first priority, it would be reasonable to consider environmental costs that have a direct effect on human health, and the health of all organisms.

Such effects are defined in scales of time and space, corresponding with the potential severity of the effect and must include immediate and long-term consequences.

These are defined as the zone of environmental influence at regional and statewide levels.

For example, mercury contamination from the Lake George mine site at Captains Flat has extended approximately 24 kms downstream towards Lake Burley Griffin in the Australian Capital Territory via the Molonglo River.

There are a number of issues that are at the forefront of direct environmental effects, including air pollution and water pollution,

The geology of the original Gonnevillie discovery is publicly documented, and we know acid mine drainage, resulting from the oxidation of sulphide ores and waste products producing sulphuric acid, will be a major issue in long-term management requirements.

It will be extremely challenging to seal the floors of tailings dams and waste rock dumps to prevent acid mine drainage into the surrounding environment due to the structural characteristics of the underlying geology.

Once acid mine drainage water gets into local aquifers and drainage systems, it will be there for a very long time.

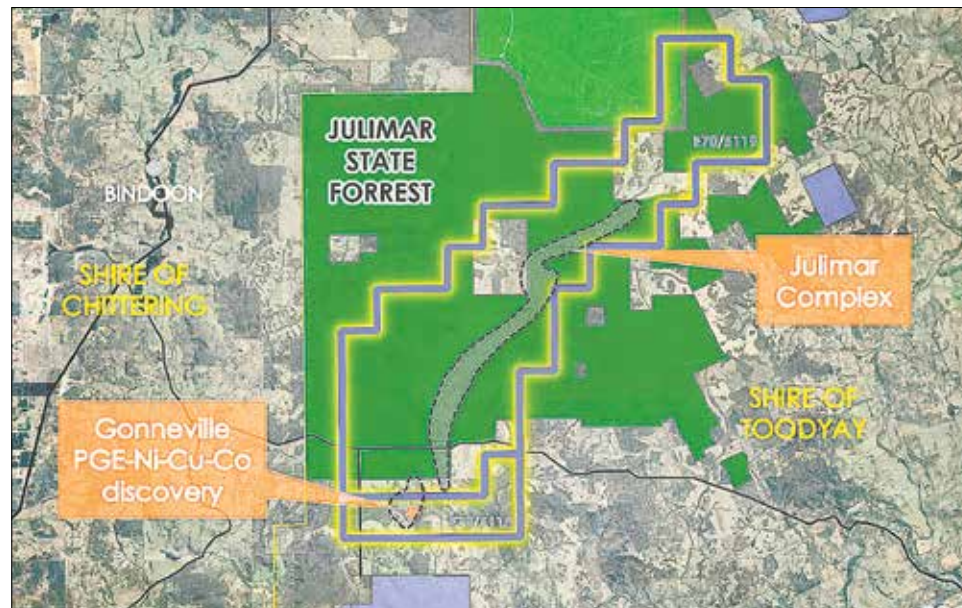
In terms of a potential hard rock mine at Julimar, water should be listed as a critical

natural resource, and every effort should be made to protect this rapidly diminishing resource from pollution and contamination.

It will be a brave law-maker in the WA Government that would approve a mining project that has the potential to result in long-

term contamination of local and regional surface and groundwater systems.

Don't forget that our environmental watchdog probably won't be going in to bat for us. *Continues in June edition. Toodyay Herald.*



Julimar tenement map.

Local mine to be reviewed at 'highest environmental level' – EPA

Sean Hefferon

BEFORE the Gonnevillie Project can be developed, an environmental assessment is required under State and Commonwealth legislation.

The WA Environmental Protection Authority recently closed a seven-day public comment period in response to the project proposal to build the Gonnevillie mine.

The environmental umpire conducts environmental assessments impacts in five stages with the first and now closed stage being the referral of a proposal to the EPA.

More than 740 public submissions were received by the EPA with many calling for the highest-level scrutiny of the proposed mine.

Should the green metals mine get the go-ahead, up to 940ha of Chalice-owned farmland on the southern edge of the Julimar State Forest could be cleared.

The ASX-listed company has confirmed that the mine operation would be kept out of the State Forest.

The Gonnevillie Project hosts a mix of critical minerals being palladium, platinum, nickel, copper and cobalt.

Mine construction is estimated to start in 2027 and has an expected cost between \$1.6 billion and 2.3 billion.

The construction workforce would be around 1200 at its peak with some living onsite.

Proposed mining operations are due to begin

in 2029, with a projected mine life of 25+ years.

Should the green mine become operational it is expected the bulk of the 500 workers would come from Perth with a portion also being drawn from local shires including Toodyay.

Access to water is critical to the project and is expected to draw water from the Alkimos desalination plant which is planned to be completed in 2028.

The water will be transported via a 54-kilometre-long pipeline from the plant to the mine site.

Chalice is yet to determine whether the mine will be open cut or underground.

On April 22 the Environmental Protection Authority published its decision to assess the Gonnevillie Project at Public Environmental Review level.

The decision stated the proposed mine may have potential significant effects including on "air quality from emissions during construction and operation, greenhouse gas emissions, flora and fauna from land clearing and ongoing operations, soil quality from disturbance of soil structure, acid sulfate soils; inland waters from changes to hydrological processes."

In addition the Gonnevillie Project has the potential to disturb Aboriginal cultural heritage places and values, as well as affecting amenity and recreational use.

Chalice states the assessment and approvals process are estimated to take around three years to complete.



Bird is safe when cat is indoors.

Cat control lacking

Sean Hefferon

THE SHIRE of Toodyay Local Cat Law 2024 is under review and is expected to come to Council within two months.

The Shire of Northam cat law includes a clause that states, "a cat shall not be in a public place unless it is under effective control".

Toodyay does not have an equivalent clause and states pet cats are restricted from prohibited areas such as Pelham Reserve.

The local laws fall under WA legislation, in this case the Cat Act 2011.

Under section 82 of the Act a local law is able to adopt the text of a "local law of any other local government."

Further, "the text may be adopted wholly or in part, or as modified by the local law."

Brian Foley from the Toodyay wildlife care group, Marsupial Mammals and Pappas, said that "cats are absolutely an issue" and that every week the group would receive injured birds and small marsupials that have suffered from a cat attack.

He wasn't aware of the Northam Cat Law and thinks that the Shire of Toodyay should follow suit.

Mr Foley said that pet cats should be kept indoors or in cat runs as even when placed in a backyard they can get out.

The Australian Veterinary Association agrees, "the fact is, the more time a pet cat spends safe at home, the less risk of injury or death from road accidents, fighting, and disease."

A pet cat kept safe at home can live up to four times longer than a cat left to roam, according to the Association.

Indoor cats have lower rates of infectious diseases, some of which can be spread to humans. For example, the cat-borne disease toxoplasmosis can cause illness, miscarriages and birth defects in humans.

The Biodiversity Council estimates that one third of Australian households have at least one pet cat, that the majority of these cats are able to roam, and that they can kill animals up to 4kg in size.

In addition, on average 186 animals (mammals, birds and reptiles) are killed per roaming cat per year.

There are 338 pet cats registered in the Shire of Toodyay, however, pet cats under six months do not need to be registered; and there would be cats over six months of age that remain unregistered.



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