



WILDFLOWER SOCIETY OF WESTERN AUSTRALIA (Inc)

14th July 2023

Chair

Environmental Protection Authority

Locked Bag 10

Joondalup DC WA 6919

Arrowsmith North Silica Sand Project - Public Environmental Review. Assessment Number:
2291. VRX Silica Limited silica sand mine in the Geraldton Sandplain bioregion, approximately 270 km north of Perth and 35 km northwest of Eneabba, WA.

The Wildflower Society of Western Australia (the Society) would like to respond to the Environmental Review Document (ERD) for a silica sand mine which threatens;

- Priority flora;
- possible and likely Threatened flora;
- vegetation in Pristine condition (>95%);
- Threatened fauna habitat;
- Geraldton to Shark Bay Sandplains Biodiversity Hotspot.

Flora & Vegetation / Environment

- *Paracaleana dixonii* (T) was unsuccessfully surveyed, despite being re-surveyed later in the season as this species typically flowers in late October – November. However, it is also said *P. dixonii* flowers when temperatures have begun to reach 37°C (Hoffman et al., 2019). Based on the table in section 4.1 of Appendix 06 Flora & Vegetation (pg. 13); temperatures well below the maximum average of 37°C were consistent with survey timing. The factor causing a later flowering was not considered, therefore insufficient surveying was conducted for *P. dixonii*; evidence must be supplied showing daily temperatures to conclude otherwise.
- Australia is recognised as one of the leading countries in biodiversity loss globally, with the driving cause being habitat destruction and land clearing, including ecosystem modification. “The ‘do nothing’ approach to the Proposal represents a lost commercial opportunity to VRX.” (pg. 26 ERD). The proponent’s concern is a lost commercial opportunity, their priorities solely reside with capitalising on natural resources with complete disregard for environmental impacts. The ERD is composed of justification for this project’s approval and insistence the environmental harm will be negligible, and not cause a significant impact.



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- What is failed to be recognised are the cumulative impacts this proposal contributes to. The key conservation response is identified as to ‘retain and restore habitat’, the loss of quality between pre-cleared and rehabilitated vegetation is significant and alters vegetation primarily rated as Pristine. ‘Death by a thousand cuts’ is a saying the Society often references and will continue to do so, as it describes the status of Western Australia’s declining environment perfectly. The primary cause of this manner of loss is associated with the approach taken by developers to their clearing of vegetation. There is no scientific evidence that revegetation can replace the values/species/habitats lost through clearing of Good quality (or better) vegetation as a result of clearing for mining. The proponent has not history of planning and implementing such works in the fragile sandplain kwongan of the Northern Sandplains and their assumption that they can achieve their stated objectives should not be taken on face value.
- The alteration to the permit to remove the solar farm which was located on cleared land due to Landholder negotiations not completed in time for the permit’s submission, should not be considered a viable reason to remove the renewable energy source. The Society’s position paper on Renewable Energy and clearing of vegetation discusses our stance on installation of renewable energy projects.
 - The permit should only be applied for with prior agreement from Landholders to construct and operate a solar farm on cleared land (only) due to the quantity of emissions released and contribution to climate change.
- Projects are often approved as they are viewed as a sole action, the impacts must be considered from a holistic aspect to surrounding projects (proposed, current, past, and future) to avoid disregarding the cumulative impacts. All environmental aspects listed in each ERD should be assessed collectively to gain a comprehensive understanding of the impacts proposed. (i.e. VRX Silica Limited’s project; Arrowsmith Central Silica Sand Project (Assess. No. 2344)).
- Significant declining rainfall patterns are predicted resulting from climate change and will reduce water availability and alter the hydrology of the area. The project’s life is estimated at 100 years and currently includes the abstraction of 0.9 GL per annum from the Yarragadee aquifer. Additional losses of water from this project will add further stresses at a local and/or regional scale which must be considered.
 - Rainfall modelling in the area with the addition of further water removal and the predicted impacts on local ecosystems must be provided.



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- There is no consideration of the potential for spread of the Phytophthora fungus as a result of movement of soil and equipment into and around the project site and the contribution it will make to the dieback of the highly susceptible Proteaceous vegetation in the area.
 - A detailed mapping program and a dieback assessment and management plan should be submitted prior to further consideration of the project environmental assessment occurs.

Offsets / Rehabilitation

- *Section 11.2.4 Justification of Offset Site, pg. 274* states unsuccessful vegetation direct transfer (VDT) will not result in the inability to continue the project post 30 years, but “...approval will be difficult to obtain”. What is considered as successful VDT is not specified.
 - Specifications of the ratings of VDT and what is considered successful or not must be clearly stipulated prior to the project’s commencement.
 - As well as the inclusion that failure to achieve successful VDT will result in ceasing mining in the area as proponents have failed to maintain the requirements of the agreement, and the mining activities have caused much greater impact than stated in the proposal.
- The proposed offset is directly opposed to principle 1 “*Offsets must deliver an overall conservation outcome that improves or maintains the viability of the protected matter*” (*EPBCA Offsets Policy*).
 - The proposed offset is not increasing significant flora, native vegetation, Carnaby foraging land, or habitat, it only replaces pristine vegetation and higher value foraging grounds with modified and lower quality habitat; as VDT is not expected to result in the same condition and quality of the original and current vegetation.
 - There will be no gain in vegetation or habitat, only net loss. Key conservation advice continues to state that; retaining and restoring habitat is the management process which will bring the largest benefit to threatened species (Kearney et al., 2020). ‘Protection’ of the offset area cannot be accepted when protection is against the proponent’s own future mining activities.

Fauna

- Indigenous and invasive fauna, or ecological processes are not included in the predicted results of VDT, nor was it surveyed in the supplied *Appendix 02 Iluka VDT Trial*. Through the principle of precaution, the lack of knowledge regarding this must be considered in the EPA’s decision and the potential significant impacts.



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- “Clearing of up to 353.8 ha of *potential* habitat including...” (pg. xiv) the misleading word use of ‘potential’ must be removed as fauna have been surveyed throughout the MDE. The vegetation is literal and identified habitat.
- Carnaby’s Black Cockatoo are expected to be extinct in 20 years and are expected to face starvation within the next few years from the recent clearing of pine plantations, and the cumulative clearing of foraging grounds since the 1960s. Further impact to foraging ground is unacceptable and completely contradictory to all conservation advice for this species. It is predicted to take 10 years to only potentially gain a portion of the original vegetation quality (pristine (96.5%) to excellent (3.5%)). This is an unacceptable pressure and threat to add to the specie’s survival. The Society believes the proponent should carry out replacement of the lost food sources should be initiated at least 10 years before any clearing of native vegetation occurs and the area planted should be sufficient to provide for ALL the food sources lost.
- The short-range endemics (SRE) that occur within the proposal area and adjacent are at risk of extinction by destroying, reducing, and moderating the pristine habitat as it is critical for survival. Poor dispersal capabilities suggest that SREs are able to survive in small patches of high-quality remnant vegetation (Mason et al., 2016).

The EPA’s objectives of a) to protect the environment; and b) to prevent, control and abate pollution and environmental harm.', will not be achieved by permitting this proposal, and will greatly contradict the purpose of the agency.



<https://www.wildflowersocietywa.org.au/>

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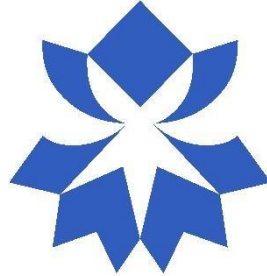
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Reference

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- Kearney SG, Watson JE, Reside AE, Fisher DO, Maron M, Doherty TS, Legge SM, Woinarski JC, Garnett ST & Wintle BA. (2020). A novel threat-abatement framework confirms an urgent need to limit habitat loss and improve management of invasive species and inappropriate fire regimes for Australia's threatened species.
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POSITION STATEMENT

Renewable Energy and Native Vegetation Wildflower Society of Western Australia (Inc.) Position

The Wildflower Society of Western Australia (the Society) in WA is opposed to the clearing of native vegetation for the purpose of constructing and operating renewable energy facilities, such as wind and solar farms, dams and bioenergy plants, and their attendant infrastructure including power transmission lines.

Renewable energy production facilities in WA are best located at, adjacent to, or near where the energy will be used. Suitable locations include:

- buildings, both public and private
- abandoned mine, quarry and industrial sites
- cleared land including farm land and unused cleared land • coastal waters.

These recommendations are applicable throughout the whole of Western Australia.

Background

The Society recognises the urgent need to shift to renewable energy supply as an action to reduce greenhouse gas emissions and limit global warming.



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WA has abundant solar, wind, wave, and tidal resources, and is well placed to capture this renewable energy to supply the entire state. To avoid and minimise transmission losses and costs, energy is best produced at or near where it is used. Independent 'off-grid' or 'micro-grid' local supply of renewable energy with local storage and/or backup is suitable in many cases, and especially for remote locations. Transmission losses may be up to 50% for energy produced far from its site of use.

Most renewable energy facilities require large areas of cleared land, or in the case of wind farms, large numbers of small cleared areas spread over large areas connected by constructed roads.

Impacts of constructing and operating renewable energy facilities on native vegetation

Western Australia, including the Southwest, Wheatbelt, Goldfields, Pilbara, Murchison, Gascoyne, Kimberley and 'deserts', is home to highly diverse and unique variety of native flora, fauna and vegetation. Many of these native flora, fauna and vegetation are rare or endangered as a consequence of development over the last 200 years, and are in serious need of protection and conservation.

Clearing native vegetation for renewable energy facilities in these regions, would have unacceptable impacts including:

- releasing greenhouse gases (that the construction of renewable energy facilities is meant to avoid and reduce) through the decomposition or burning of cleared vegetation;
- loss of carbon sequestration;
- destroying and removing native plants;
- disturbing and losing native animals including mammals, birds and reptiles through loss of habitat;
- fragmentation of native vegetation which makes it more susceptible to degradation through the introduction of weeds and other alien species;
- sending rare or endangered plants, animals and vegetation ecosystems to extinction through physical removal that the construction of renewable energy facilities is



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meant to address by reducing or avoiding temperature increases to which these plants, animals and vegetation cannot adapt;

- damaging areas of stunning views and landscapes and incredible wildflowers that tourists come from all over the world to experience;
- damaging soils;
- exposing and reducing the resilience of Western Australia to further climatic and meteorological impacts, including desertification, salinity and flooding;
- introducing weeds and disease, such as *Phytophthora dieback*, through unclean equipment;
- destroying and interfering with sacred and culturally important sites.

Construction and operation of renewable energy facilities

Native vegetation should not be cleared for the purposes of constructing and operating renewable energy facilities. The most appropriate locations to construct renewable energy facilities, in order of priority, should therefore be as follows:

- buildings, both public and private, including public and private car parks
- abandoned mine, quarry and industrial sites
- non-native forests and plantations.
- cleared land including farm land and unused cleared land
- highly degraded pastoral leases.

The uptake of roof-top solar in Australia has been very strong. However, there are still many opportunities for this to be further encouraged, financially supported, and expanded on:

- government and private company office buildings
- schools and hospitals
- warehouses and factories
- sporting facilities
- retail facilities
- farm buildings.

There are increasing numbers of solar and wind farms being established on already cleared farmland. In some cases, this is in conjunction with specific, albeit modified, farming practices. The Society opposes clearing of more native vegetation on farmland solely for the purpose of establishing renewable energy facilities.

Some of the best solar and wind resources in WA are in the rangelands and the Pilbara but unfortunately these regions are far from areas of electricity demand. Wherever possible,



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renewable energy facilities should be sited as close as possible to areas of substantial demand, such as population centres, mine sites or work camps, and be restricted as much as possible to already cleared areas such as:

- abandoned or mined-out mines and quarry sites
- mining waste dumps
- degraded pastoral lands beyond the point of being recoverable.

Benefits include:

- avoids the cost of clearing other land
- avoids the need and substantial costs to rehabilitate/restore native vegetation sites to their former environmental condition
- mine waste dumps may be higher in the landscape and provide improved wind or solar energy generation conditions.

The Society totally opposes the harvesting of native timber for the production of woodchips or other feedstock for the generation of electricity. There are existing and potential opportunities to harvest nonnative timber plantations established on previously cleared land.

In the pastoral zone of the Pilbara, Murchison and Gascoyne, there are some pastoral leases that are, at least partially, in degraded or very degraded condition. Some of these leases have been re-possessed by the WA State Government through the Department of Biodiversity, Conservation and Attractions with a view to de-stocking them and turning them into nature reserves. In some other cases, private lessees or other interests are acquiring these leases to revegetate/restore/rehabilitate them to return them to better condition. These are expensive, time-consuming activities with no guarantee of success.

An alternative option, **only for degraded or very degraded pastoral leases**, is to accept that these leases are degraded, with very limited flora and fauna, and to utilise them to site renewable energy facilities. While currently the Lands Administration Act prohibits activities other than grazing livestock on these leases, there is potential to allow activities to include tourism, and selected industrial activities such as renewable energy generation. This makes considerable economic, environmental and ecological sense compared with unacceptable clearing of pastoral leases in very good to excellent environmental and



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vegetation condition; and then potentially (as part of an environmental offset as a condition of approval to clear that particular pastoral lease), having to revegetate/restore another or the balance of the same pastoral lease in degraded or very degraded condition, to good or better condition.

To encourage the avoidance of vegetated areas for siting renewable energy facilities, detailed consideration also needs to be given, in the emissions accounting for a project, to the loss of CO₂ sequestration that occurs with clearing, as well as the increased emissions arising from the decomposition of the cleared material. From an economic perspective, the financial accounting needs to include the financial losses that arise from not being able to use the carbon credits attributed to any area proposed to be cleared.

Wildflower Society of Western Australia (Inc) www.wildflowersocietywa.org.au

Endorsed by the Society's Management Committee at its meeting on 22 February 2023