



WILDFLOWER SOCIETY OF WESTERN AUSTRALIA (Inc)

23 November 2021

Appeals Convenor
Office of the Appeals Convenor
Level 22 Forrest Centre
221 St Georges Terrace
PERTH WA 6000

Re: **CPS 9303/1 Shire of Dandaragan**

The Wildflower Society of WA (WSWA) hereby appeals the conditions of the Clearing Permit (CPS 9303/1) granted by the Department of Water and Environmental Regulation (DWER) to the Shire of Dandaragan (SoD) for clearing of up to 8.7 ha for gravel extraction at Hill River. Whilst we regard the conditions as being generally correctly applied according the EPA guidelines, the revegetation conditions will not ensure restoration of the vegetation to be cleared. Completion targets and criteria are inadequate, and there is insufficient detail in the revegetation methodology. We also note that the SoD has failed to provide evidence of their capacity to conduct successful revegetation.

Completion targets and criteria

The completion targets and criteria set out in the permit (Schedule 3) are incomplete, unclear and contradictory. For example, criterion A (i) and A (ii) both state that “Minimum of 60% of native species returned, based on reference sites” as a target but their associated completion criteria state that 41 and 22 species respectively should be returned. There is further confusion when considering criterion A (iv) which states that 26 shrub species should be returned, potentially more than the total number of species to be returned. Without clear criteria, it will not be possible to assess the success of revegetation efforts. DWER and the SoD must review and set out clear, consistent criteria before clearing can commence.

No reason is given as to why 60% has been chosen as an acceptable threshold for targets for the criteria above as well as others (e.g. criterion E). The number seems to have been taken from the completion criteria exemplar provided in the Department’s revegetation guide (DWER, 2018). This alone is not a justification for the threshold, which appears at best arbitrary and at worst, to set a low bar. A 60% threshold will not support the SoD’s statements in its revegetation plan (Maia Environmental Consultancy, 2021) with regards to addressing impacts of the clearing:

- “• Ensuring that there is no long-term loss of vegetation from the cleared area.
- Ensuring that the vegetation that regrows in the cleared area is as similar as possible to the vegetation cleared from the area”

Given the relatively small area to be revegetated each year, the availability of fresh topsoil and mulch material, and the ever increasing knowledge on seed and plant propagation, a much more ambitious target threshold should be set along with clear justifications before clearing commences.

No completion targets and criteria have been set with regards to the re-establishment of the five priority flora species which will impacted by the clearing (Maia Environmental Consultancy, 2021a) despite the SoD having identified in its revegetation plan that it would aim to do so. This intention must be reflected in the permit conditions before clearing commences so that it can be considered when assessing the success of revegetation.



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Revegetation methodology

Little detail is given in the revegetation plan or the permit conditions (Part 2, 10 (a) and (c)) on the methods of stripping and spreading of topsoil, the main source of propagules for revegetation. Double stripping is known to give the best revegetation outcomes (Tacey & Glossop, 1980), and the depth and timing of stripping and relaying also influence outcomes (Rokich et al, 2000). Such additional relevant details need to be included in the permit conditions to confirm that best revegetation practice is in place before clearing commences.

The use of cleared vegetation (Part 2, 10 (a) and (c)) as “mulch” is known to have a particularly positive effect on the return of species with canopy borne seed (Bellairs & Bell, 1993) as well as in aiding soil stabilisation. However, over application of mulch also has the potential to inhibit germination and smother seedlings (Rokich et al, 2002). The revegetation plan and permit conditions should therefore both include greater detail on the optimal application of cleared vegetation as mulch.

We note that translocation was dismissed in the revegetation plan as a component of the revegetation methodology and is not included in the clearing permit conditions. Several species found in the impact area are known to return poorly from topsoil (e.g. sedges, *Xanthorrhoea* sp. Lesueur) and seeds are not commercially available (Maia Environmental Consultancy, 2021). Such species should be salvaged during clearing and translocated, something which has been done successfully elsewhere (one commercial operation that uses this technique is Nuts about Natives, nutsaboutnatives.com.au), particularly given that they have specific completion targets and criteria attached to them (Schedule 3, A (iii), B (i), C).

Evidence of prior success

The revegetation plan state that:

“The Shire of Dandaragan rehabilitates and revegetates previously disturbed areas as required for various projects in the Shire”

and

“The Shire has achieved good seed germination results using the regeneration method previously (i.e., spreading the topsoil and brush / woody debris over revegetation areas), and it proposes to continue using this regeneration method for future revegetation areas”.

However, no evidence to verify this assertion has been provided. The time lapse of photographs from 2006 to 2018 of revegetated areas immediately adjacent to the impact area (Appendix 1 of the revegetation plan) does not constitute such evidence since it provides no information on criteria comparable to those in the permit conditions. The SoD must engage botanical consultants to formally assess multiple areas which have already been revegetated using the current topsoil/mulch methodology to see if does indeed allow for the return of vegetation comparable to reference vegetation. Such information will also assist in the review of completion targets and criteria.

Conclusion

In summary, the WSWA contends that prior to clearing commencing, completion targets and criteria in Schedule 3 should be reviewed for consistency and thresholds considerably increased; greater detail on topsoil/mulch methodology be included in both the permit conditions and in the revegetation plan; and that the Shire of Dandaragan demonstrate its ability to complete revegetation to the required standard.



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

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