Landscape Restoration Weed Management at The Fair

Project Description

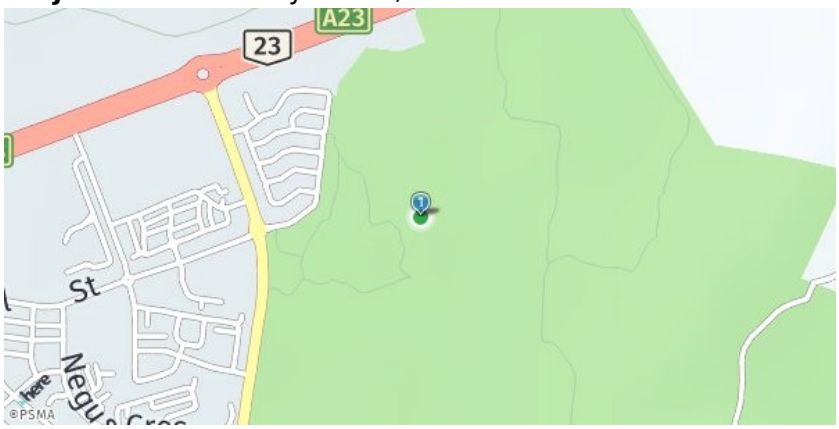
The proposed project supports a Landscape Restoration Weed Management Plan (the Management Plan) to be written by the Office of Nature Conservation (ONC) to control St John's Wort and the invasive grasses African Lovegrass, Chilean Needlegrass and Serrated Tussock in an area of critically endangered Grassy Woodlands on Mt Majura's northwest slopes. We seek funding for the first stage implementation of weed control actions guided by the Management Plan.

The project area is a dynamic system driven by seasonal change, herbivore (over) grazing, loss of native and introduction of new species, and a vast weed seed bank accumulated over decades. The hard work of volunteers over the past eleven years is beginning to tip the balance towards a diverse grassy woodland that is attractive for wildlife and human visitors alike. To secure this gain, persistent, effective and coordinated management of St John's Wort and other transformer weeds is required.

The project area includes critically endangered Yellow Box/Apple Box and Blakely's Red Gum/Yellow Box tall grassy woodland declared under Commonwealth and ACT legislation, habitat for rare and endangered species, and sites with an exceptional variety and prevalence of native ground-covers, including orchids.

Highly invasive transformer weeds, such as St John's Wort and exotic grasses threaten the area's high conservation values. A project resulting in collaborative, coordinated and professionally guided work by the land manager and ParkCare volunteers to contain and reduce these transformer weeds will be evaluated for effectiveness and inform their management in situations similar to those on Mt Majura.

Project Location Tay Street, North Watson



Latitude: -35.228233 | Longitude: 149.171848

Merit Criteria 1: Alignment with Funding Priorities for the Environment Grants Stream

For the purpose of this application, we divide the site into an Inner and an Outer Asset Zone as indicated in Attachment 1: Map of the Project Area. The ecological communities and values of both Zones are shown in Attachment 2: Map of ecological assets and Attachment 3: Showcasing ecological assets.

Background: The Inner Asset Zone ("The Fair site") is a rehabilitation, soil improvement and revegetation project that started in 2013 and continues to be managed by FoMM volunteers. ParkCare Hub statistics for 2022/23 log more than 1350 volunteer hours

dedicated to this site. See https://majura.org/progress-the-fair/ https://www.flickr.com/photos/181729955@N04/albums/72157717084759956/).

Past land use such as farming, horse riding and car racing severely modified and damaged the grassy woodland. Local trees were cleared and invasive exotic species planted. Soil was heavily compacted and eroded and the herbal ground-cover comprised mainly introduced species including Paterson's Curse, Serrated Tussock, St John's Wort, thistles, Mullein and Buchan Weed.

Volunteer work in the past decade has loosened compacted soil to allow water penetration, spread mulch to add carbon, reduce evaporation and suppress weeds, broadcasted native grass and daisy seeds, and removed woody weeds and replaced them with local species to provide wildlife habitat. The local community and organisations such as scouts have participated in planting events introducing local shrub and herb species.

FoMM's Seeding Node project (https://majura.org/seeding-nodes-reintroducing- wildflowers-to-mt-majura/) aims to further increase the diversity of native ground layer species.

FoMM volunteers continue to monitor, map and control herbaceous weeds mainly within the Inner Asset Zone, but also at adjacent high conservation sites.

The biggest challenge, however, continues to be the overabundance of St John's Wort, and the transformer weeds and weeds of national significance Chilean Needle Grass, African Lovegrass and Serrated Tussock. Tackling this requires a Management Plan which guides and better coordinates future action.

How the project addresses the Funding Priorities: The project will support initial control actions in the project area as indicated by the Management Plan, thus facilitating the effective and coordinated control of St John's Wort, Chilean Needle Grass, African Lovegrass and Serrated Tussock by both FoMM volunteers and P&CS and other agencies, such as the Office of Nature Conservation. It will protect the native plant communities that have been re-established by volunteer conservation work, reduce threats to biodiversity by controlling invasive species and thus will be enhancing the condition and connectivity of woodlands and grasslands.

In addition, FoMM will continue to contribute to Citizen Science projects such as Canberra Nature Mapr and to Biosecurity through their weed monitoring and weed control activities recorded on Field Maps.

Merit Criteria 2: Feasibility and Effectiveness

The problem: The project area is a dynamic system driven by seasonal change, herbivore (over) grazing, loss of native and introduction of new species, and a vast soil seed bank which accumulated over decades from uncontrolled weeds. The hard work of volunteers over the past ten years is beginning to tip the balance towards a diverse grassy woodland that is attractive for local wildlife and human visitors alike. However, to secure this gain, persistent, effective and coordinated management of St John's Wort and other transformer weeds is required.

How the project will help address this problem: Until very recently, weed control by FoMM volunteers has received little professional guidance and, most critically, has only sporadically and haphazardly been coordinated with weed control by Parks and Conservation Service (P&CS). We are fully aware of the need for P&CS to set priorities given funding and staffing constraints, as well as bottlenecks due to seasonal conditions and availability of contractors. We expect a Landscape Restoration Weed Management Plan to acknowledge such constraints, but at the same time define priority areas, control options and action plans that would facilitate better coordinated work by FoMM volunteers, contractors and P&CS staff. A Management Plan would also help to optimally allocate work that would be enabled by additional funding sources, such as was recently made available through ACT Natural Resource Management (NRM) funding and the Office of Nature Conservation, should they become available in future.

On-ground work included in this project: The pattern, timing and type of weed control at the project site (10ha, Attachment 1) will in future be guided by the ONC's Management Plan which informs this project. This application asks for funding to support initial on-ground weed control activities in the 2024/2025 summer season. We are particularly interested in

controlling buffer-zones around biodiversity rich rehabilitation sites within the Inner Asset Zone (Attachment 3: Showcasing ecological assets). Attachment 4: Management needs of Project Area and Attachment 5: Examples of current St John's Wort at Project site demonstrate, taking St John's Wort as an example, the state of infestation and the weed management requirements.

We are further interested in demonstrating the critical importance of weed control follow-up actions, such as wood-chip mulching and direct seeding, in particular in the fight against the invasive grasses Chilean Needle Grass, African Lovegrass and Serrated Tussock.

Merit Criteria 3a: Project Plan

Key step/activities	Activity	Timeline/Key Dates	Description
Management Plan	Liaise with Biosecurity Professional	Winter 2024	Engage/consult with biosecurity professional to develop weed Management Plan
Weed treatment	Liaise with P&CS to engage weed contractors/Liaise with contractors/Coordinate volunteer weed control	Nov/Dec 2024-Jan/Feb2025	Engage with contractors and coordinate with volunteer weed control
Monitoring	FieldMap/NatureMapr	Continuous	Monitoring weeds; weed control, ecological communities
Follow-up work	Direct seeding/mulching follow-up treatment	Depending on season and rainfall	Such follow-up work is particularly important when treating invasive grasses to prevent reinfestations

Merit Criteria 3b: Maintenance of the project post end date

FoMM volunteers will maintain a regular schedule of work at the project site, with activities every Monday, including monitoring, hand-weeding and spraying. In addition there are three summer twilight weeding sessions a week, with further activities at some of our monthly Sunday working bees as well as extra events scheduled for community organizations such as Scouts. The ParkCare Hub shows 1350 volunteer hours worked on Mondays alone in 2022/23.

After the Project ends these continuing activities will be guided by the Management Plan. We will in addition continue to coordinate weed control with P&CS, seek funding as

opportunities arise (e.g. ACT NRM, Office of Nature Conservation projects) and contribute our own funds to contractor weed control, if needed.

For instance, in 2024 the Office of Nature Conservation chose the Inner Asset Zone ('The Fair' project site') as one of its Restoration Project Sites, which also involved St John's Wort control actions in selected areas. In addition, in 2023/2024 FoMM was successful in obtaining funding from the NRM's Community Stewardship Weed Control Support Program for St John's Wort control at the project site. Most importantly, we will continue monitoring weeds and documenting our activities on FieldMaps and Canberra NatureMapr.

Merit Criteria 3c: Monitoring and Evaluation of the Project

The main and initial project outcome will be weed control actions for the season 2024/2025 guided by the Management Plan. We plan to have the project outcomes professionally evaluated, possibly by ONC staff, who have already collected baseline data for the project area. We expect the Management Plan to provide guidance over many years, which will require a longer time-frame for evaluating the success of sustained weed control.

All future control actions will be guided by the Management Plan, monitored and recorded in FieldMaps; as will be the weed density and control over following seasons. FoMM volunteers will continue to monitor native vegetation and wildlife, including rare and endangered species, contributing the data to Canberra Nature Mapr.

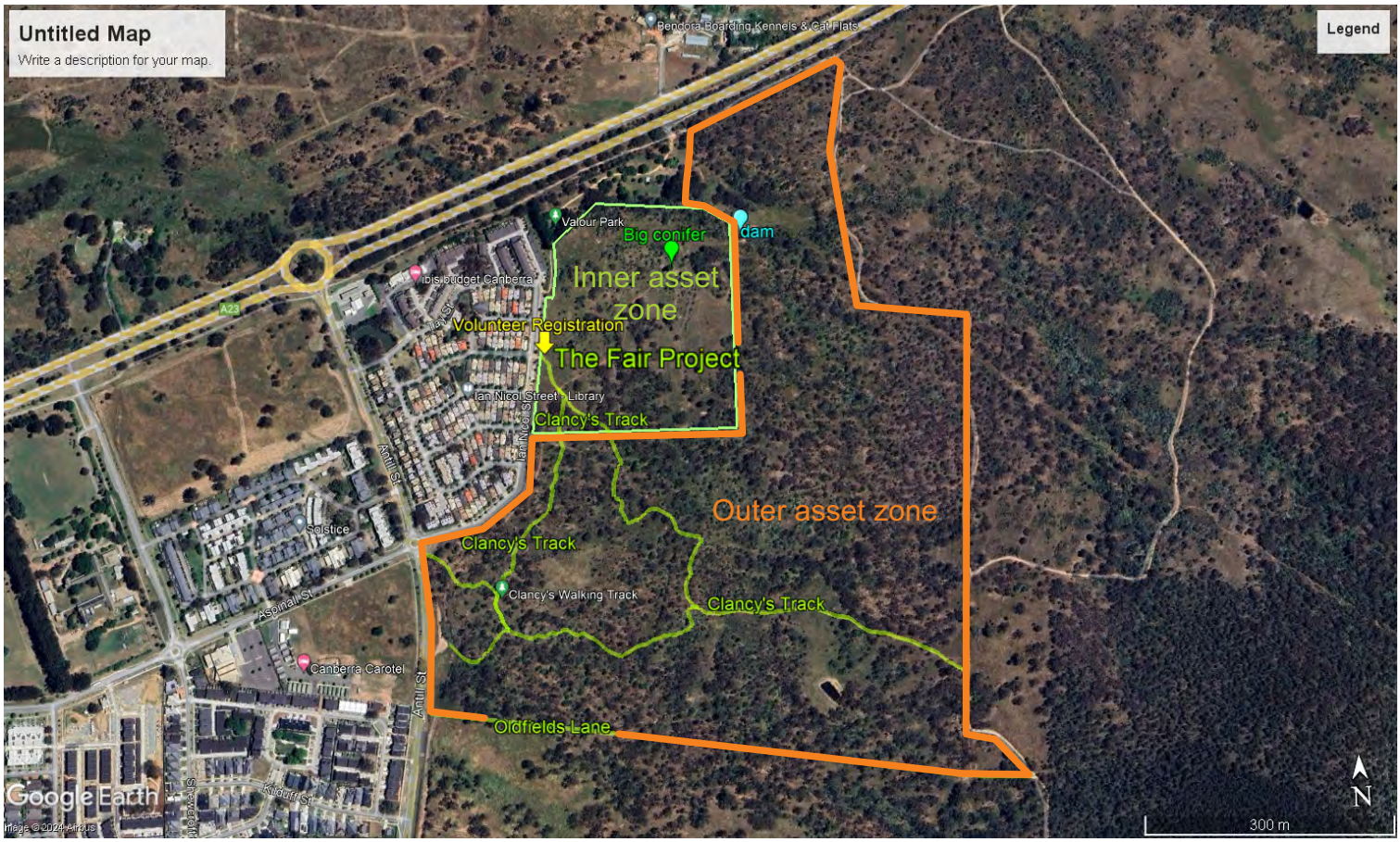
A critical outcome of the project will be the contribution a Management Plan makes to the coordination of control activities by FoMM volunteers, by P&CS and other programs, such as run by ACT NRM or the Office of Nature Conservation, should such programs be available in future.

We hope to demonstrate that persistent and professionally guided weed control actions, combined with follow-up work, such as direct seeding and mulching, can make regenerating ecological communities resilient against future weed invasions.

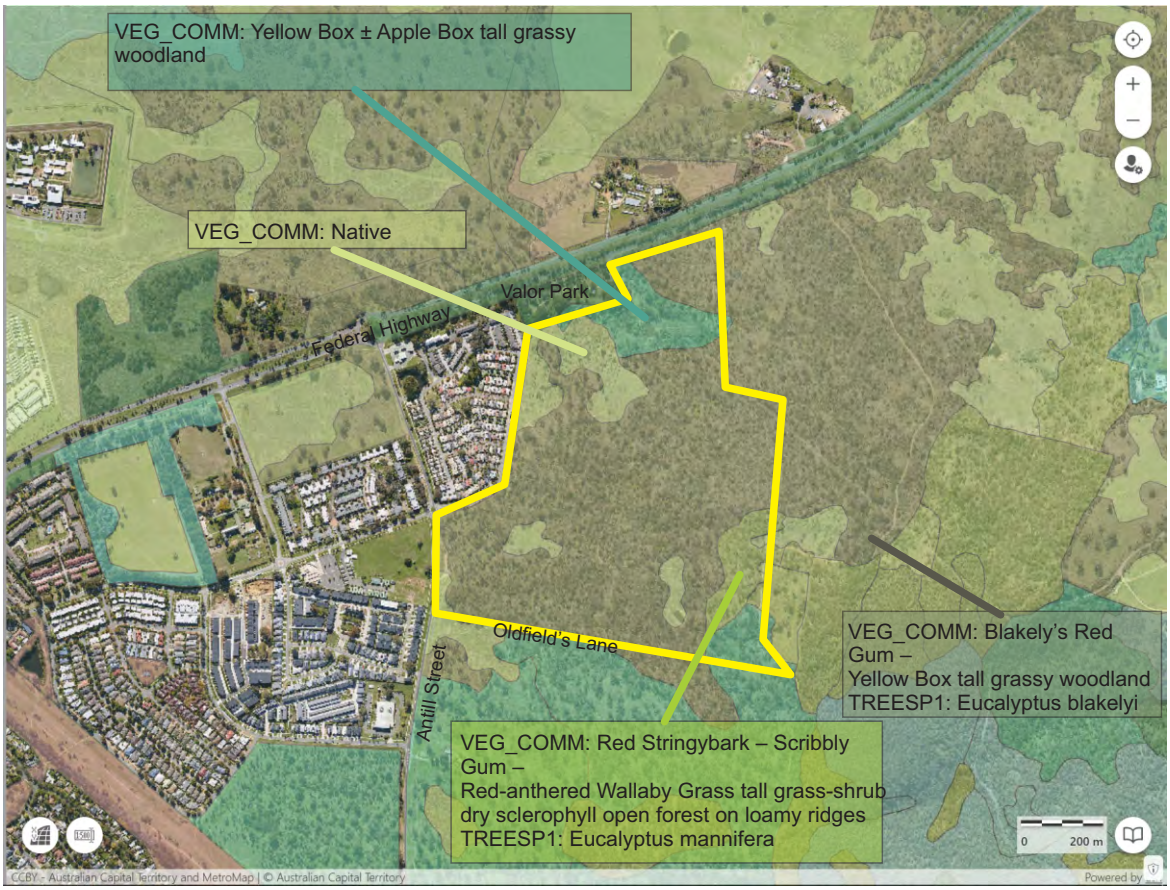
Merit Criteria 5: Community Engagement

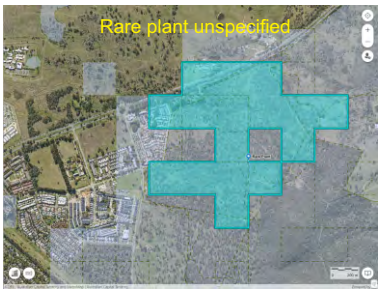
A core group of 9 people works each week at the project site. In 2022-23 ninety individuals volunteered some time to on-ground work at various FoMM project sites, including at The Fair. Of all 31 ParkCare (Patch) groups, FoMM volunteers contribute the most hours (3667) recorded on the ParkCare Hub (Source ParkCare Annual Report 2022-23).**The demographics of community members**: Core volunteers are retirees, but are regularly joined by younger participants at weekend and evening activities, including families and children. Work with community organizations attracts younger participants, e.g. Scouts>18 years and ANU Intrepid students (18-25 years).**How these community members will be engaged**: On-ground activities, such as weed control (manual and herbicide), monitoring and mapping. **How the project and outcomes will be communicated to a wider audience**: Monthly FoMM newsletter, distributed to ca. 300 subscribers; FoMM Website (www.majura.org); ACT Weed Forum via ParkCare representative; ParkCare Convenor Meetings; Presentation to EcoFocus Conference 2025; Communication with ACT Biosecurity, Office of Nature Conservation and Canberra NaturePark North staff. **What other groups or organizations you are partnering with**: Office of Nature Conservation; Canberra Nature Park North; P&CS Volunteer and Visitor Experience, Parks and Partnerships team. **What each partner/s is/are responsible for or contributing to your project**. P&CS Volunteer and Visitor Experience, Parks and Partnerships team ParkCare Support Ranger: Material support for volunteer weed control work; Canberra Nature Park North: Weed contractor engagement & coordination; Office of Nature Conservation: Preparing management plan, provide baseline data & evaluation.

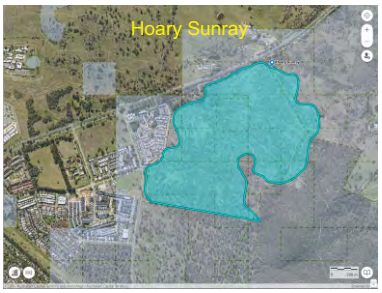
Attachment 1:
Map of the Project Area

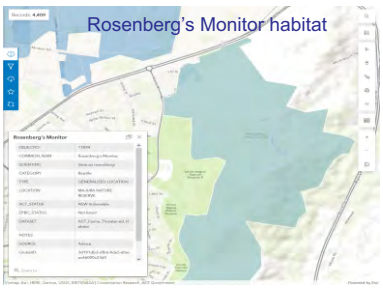


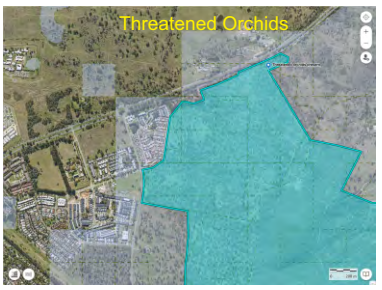
Attachment 2:
Maps of ecological assets

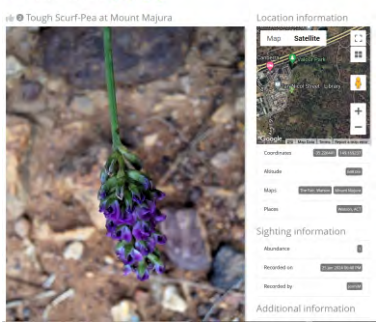


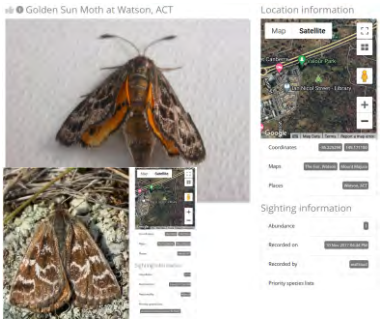






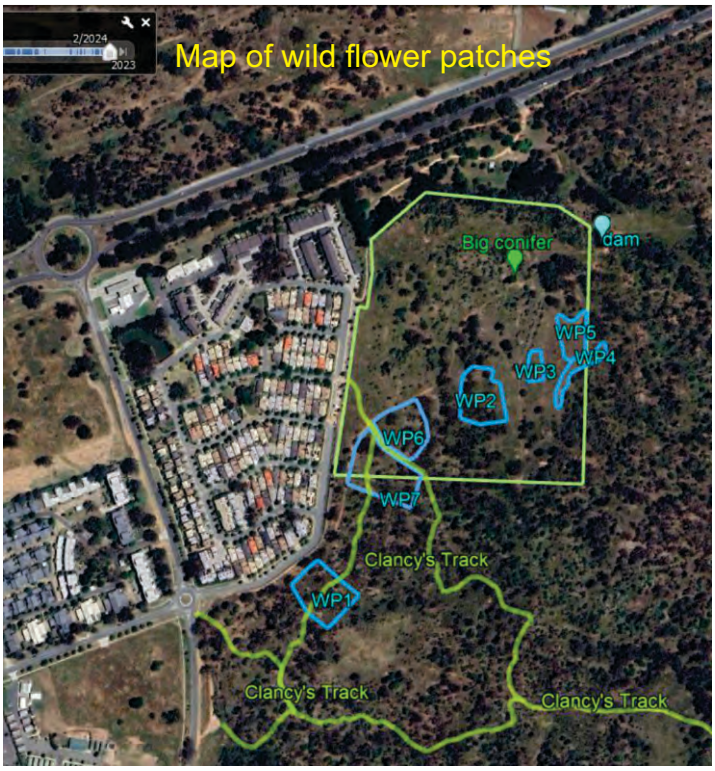






Source: ACTMapi, accessed on 20/2/2024
For a complete list of plants in the Inner Asset Zone see:
https://canberra.naturemapr.org/sightings/map?locationId=15173

Attachment 3:
Showcasing ecological assets



Source: Waltraud Pix

Attachment 4:
Management needs in Project Area

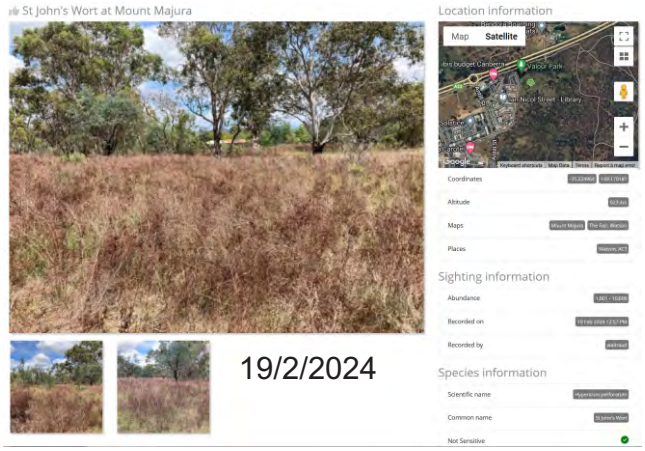
Site	MM 3
Description Land Class 5	MM3 refers to three separate issues in this location which includes 1) a copse of historically planted Tasmanian Blue Gums with a high level of regeneration, 2) a high infestation of St John's Wort and 3) an area of erosion that is largely stable but does have some nick point (head cut) areas that need to be monitored to ensure they don't become worse or threaten infrastructure. **Photo 5 Tasmanian Blue Gums and Photo 6 St John's Wort infestation**
Actions Priority: Medium	Cut and paint regrowth of Tasmanian Blue Gums under 2m as the highest priority, followed by control of mature and medium sized trees as resources allow. It is likely that the seed burden in the soil is high and ongoing control will be necessary. Tasmanian Blue Gums were historically planted across Canberra and continue to invade reserves. It is not feasible to eradicate the large infestation of Saint John's Wort, the burden of which is largely driven by climate and a lack of competition. A containment strategy is therefore recommended to prevent spread into surrounding 'clean' areas. However, patches of important groundcover species (e.g. wildflowers) within this footprint are a very high priority for control, and St John's Wort should be carefully eradicated to a buffer of 20m around these sites. This may require hand weeding or wick wiping to limit off target effects. Although mostly stable, the erosion gully should be monitored for further movement of nick points (head cuts) within the gully floor. If this occurs, it may need to be assessed for suitability of a rock flume. At this stage, movement is relatively slow and there are numerous deposition areas downstream to capture any loss of soil.
Other Considerations	Ensure important plant species are accurately mapped.

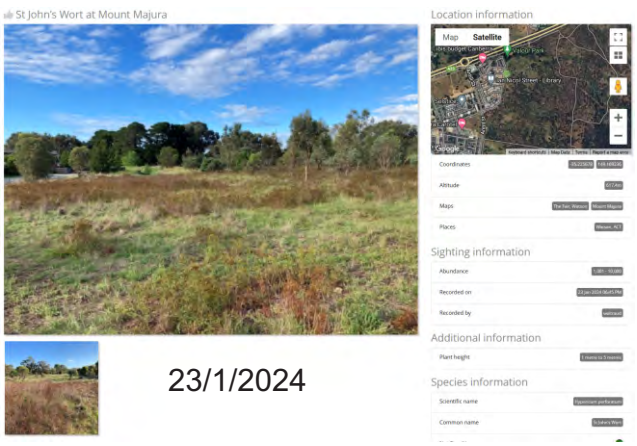
Site	MM 4
Description Land Class 5	This area contains important wildflowers which are a high priority for protection from weeds. There is also a patch of Chilean Needle grass which is currently small and needs to be controlled as a very high priority. The gully in this area has been successfully treated with woody debris and is stable. **Photo 7 Successful erosion control using woody debris and rocks and Photo 8 Wildflower areas such as this are a high priority for protection from weeds.**
Actions *Priority*: Very High	Hand weed wildflower area and maintain a buffer of 20m to reduce future threat. Follow up weed control will be necessary ongoing. Spray Chilean Needle grass and leave biomass in situ to break down. Monitor and follow up on an annual basis. Seeding and mulching has been undertaken by FoMM in similar
	situations and although labour intensive, this could be considered if resources are available and volunteers are happy to manage the site over the longer term. The erosion gully requires no additional restoration activities other than maintenance of woody debris if some areas becomes displaced.
Other Considerations	Monitor the site for new areas of erosion and map weed infestations to inform future management.

Site	MM 5
Description Land Class 5	MM5 is otherwise known as 'The Fair' where numerous FoMM volunteers have undertaken an incredible amount of weed control and revegetation activities over the past decade. This work continues, particularly weed control. See Appendix D and the website reports at https://majura.org/ for details. They have significantly improved the conservation value of this area improving it from a very degraded state. Outstanding issues include: 1) a dam which is in relatively good condition overall, but which has some localised erosion in the intake area, 2) a stable gully which feeds the dam and 3) a significant patch of St John's Wort along with some smaller patches of Horehound and Serrated Tussock. There are many planted trees, shrubs, grasses and forbs which need to be maintained ongoing. **Photo 9 'The Fair' rehabilitation activities and Photo 10 Sheet erosion around the dam.**
Actions *Priority*: Medium	Treat the intake area of the dam with different sized woody debris placed across the slope at 90° angle to the flow direction. This will help to reduce flow velocity and trap sediment to promote grass growth. The gully feeding the dam is largely stable and does not require structural works. Ensure groundcover is maintained, monitor and treat bare areas with woody debris if necessary (particularly during drought). As with site MM3, it is not feasible to eradicate the large infestation of Saint John's Wort, and a containment strategy for the broader area is recommended to prevent spread into surrounding 'clean' areas. The Horehound and Serrated Tussock in this area however are a very high priority for control to reduce the threat to biodiversity over time. Continue to maintain past works through weed control and supplementary planting as necessary (in alignment with the Mount Majura plant list). Additional plantings are a lower priority then managing threats and maintaining existing plantings, however
	additional revegetation activities can continue to be undertaken to maximise diversity and connectivity.
Other Considerations	Map the extent of the wildflower population.

Source: Mount Majura Nature Reserve, ACT Landscape Improvement Implementation Plan 2013

Attachment 5:
Examples of current St John's Wort at the Project Site





Source: Canberra Nature Mapr, accessed on 20/2/2024