

The Old Sheep Camp on Mount Majura

*Research on the history of the site and a management plan
for its rehabilitation.*

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Introduction

Mount Majura is located in the North of the Australian Capital Territory. A majority of Mount Majura is currently run as a Nature Reserve. Many parts of the reserve have infestations of non-indigenous plants, or weeds, because of prior land use and farming practices. One particular site, at the top of the Casuarina trail, on the saddle between Mount Majura and Mount Ainslie, known as the “Old Sheep Camp” is particularly infested with weeds. In my project I investigated the history of the site, the reasons for the weed infestation and the methods of rehabilitation the local park care group have available to them, and are utilising.

This project seeks to answer the following questions about the site:

1. Who owned and managed the area and how was it used before it became a Nature Reserve?
2. What are the reasons for the heavy weed infestation on the site?
3. What processes and procedures can the local environment group use to rehabilitate the area?

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Part 1 – The History of the area

The first person I contacted was Peter Mills who is a ranger at Environment ACT. He suggested that the best way to research the history of the site was to find the old Parish map of the area, which shows who owned the area in the past.

The ACT Planning and Land Development agency was very helpful in providing a copy of a parish map of the Mount Majura area as surveyed in 1911¹. This map shows the block number and the name of the leaseholder. A family of the name Darmody owned the majority of Mount Majura farming leaseholds at the time.

Records held by the Canberra and District Historical Society show that the Darmody family arrived in the area around the 1860's². They had many children and utilised the Robertson Act³ that the government had passed in 1861. It allowed them to buy between 40 acres and 320 acres from the government at one pound per acre.⁴

The Darmodys owned most of the block surrounding Mount Majura including the blocks 100, 102, 103, 104, 131, 133 which cover Mount Majura and its slopes⁵. The only non-Darmody owner close to Mount Majura was F Campbell who owned block 132 to the east of Mount Majura. The 1911 Parish Map indicates that a James Darmody actually bought the land which goes over the Mount Majura summit and that the old sheep camp itself may have been in this or the selection made under the name of Mary Darmody.

A William Darmody, owned a property called 'Oakview' on the eastern base of Mount Majura. Originally it was 600 acres in 1872, but he expanded it several times to eventually become 2053 acres. The Federal Government resumed it in 1913 as part of creating the Australia Capital Territory.⁶

It seems that the family moved out of the Majura area in the early 20th Century moving to Sutton, Bungendore and Sydney⁷. Peter William Darmody held a family reunion and wrote a history of the family in 1984, entitled "From Banagher to Majura".

To follow this research line I contacted P Darmody who's details I found in the telephone book. His name is Patrick, he has a brother called Peter but from calling their mutual brother Greg, it became apparent that this Peter is not the Peter Darmody, who wrote "From Banagher to Majura". As this line is difficult and tedious to follow I decided that it would be good to come from the future backwards.

In 1974 Frank Ingwersen, Owen Evans and B. Griffiths published a study entitled "*Vegetation of the Ainslie-Majura Reserve*"⁸. The study was commissioned by the Department of the Capital Territory to assist with management and improvement of land use of the Ainslie-Majura area.⁹ The study refers to the past land use of Mount Majura and Mount Ainslie. The farming practices of the

¹ Department of lands, 1911, *Parish of Pialligo - County of Murray- Land district of Queanbeyan Eastern Division NSW & Commonwealth Territory- Yarrowlumla Shire*, Fourth Edition, Scale: 2 Inches to the Mile

² Darmody, P.W. 1984, *From Banagher to Majura*, Canberra Publishing and Printing Co.

³ The Crown Land Alienation and Occupation Acts. Persons over two years of age were allowed to select from 40 to 320 acres of crown land for one pound per acre.

⁴ Darmody, P.W. 1984, *From Banagher to Majura*, Canberra Publishing and Printing Co.

⁵ Department of lands, 1911, *Parish of Pialligo - County of Murray- Land district of Queanbeyan Eastern Division NSW & Commonwealth Territory- Yarrowlumla Shire*, Fourth Edition, Scale: 2 Inches to the Mile

⁶ Darmody, P.W. 1984, *From Banagher to Majura*, Canberra Publishing and Printing Co

⁷ Darmody, P.W. 1984, *From Banagher to Majura*, Canberra Publishing and Printing Co

⁸ Ingwersen, F et.al 1974, *Vegetation of the Ainslie-Majura Reserve*, Australian Government Publishing Service

⁹ Ingwersen, F et.al 1974, *Vegetation of the Ainslie-Majura Reserve*, Australian Government Publishing Service
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era led to the land being divided into grazing paddocks and the sub-division of paddocks peaked in the second half of the 19th century. The authors of the study suggest that the current make up of the vegetation covering Mount Majura is the result of the past land use amongst other factors such as drought and fire. The authors of the study reported that at the time of writing at least some parts of Mount Majura were still being grazed. The study however, does not reveal which parts were being grazed and whether the grazing was permanent or occasional.

When I rang Frank Ingwersen, whose details I found in the phone book, he was very happy to provide help and insight for the project. He reported that grazing was slowing down but still going on when he did the research on the area back in the 1970's. He said that a man named Eddy Pook, who lives in Hackett, might be able to provide confirmation of when grazing stopped on the site.

Eddy Pook is a retired fire ecologist who was working in the area around the time that the grazing was finishing. I discussed with Eddy Pook when the grazing would have stopped on Mount Majura. He said that there was a major fire on Mount Majura during the weekend of the 2nd and 3rd of March 1985, which got into the pine plantation right next to the Sheep Camp. There are fences near the site, which look like they were severely damaged by a major fire. Any repairs do not appear to have been made to secure sheep near the site after the fire. This indicates that grazing would have stopped just before or because of the fire. Eddy Pook recalls having to move sheep on the eastern face of the mountain away from the path of the fire. This suggests grazing was happening at least on the base at that time. He also recalled a policy of using cattle to keep fuel loads low on the Hackett side of the hill until at least the 1980's. He also added that he could not remember seeing any grazing happening on the Hackett side of Mount Majura since the mid to late 1970's

Summary

It seems that the site was owned by the Darmody family, most likely James Darmody or Mary Darmody. Grazing began in the 1860's and began to decline around the turn of the century. Minimal grazing continued until just before or stopped in 1985. It seems that the Sheep Camp site itself was not grazed after the 1970's. It is possible that the site was cleared for a proposed expansion of pine plantation that was never completed.

Part 2 The reasons for the infestation of non-indigenous flora at the Sheep Camp site.

The past grazing of Mount Majura had specific and lasting effects on the vegetation. Ingwersen et al (1974) report that eutrophication¹⁰, i.e. the enrichment of soils with nutrients, favoured the growth of some plants over others at least in certain areas of the mountain. Movement of nutrients “*from the pasture to an area such as a sheep camp*”¹¹ occurs when nutrients gathered from a large area accumulate on a small area, i.e. the rest sites or sheep camps where the animals enriched the soil with the nutrients from the surrounding pasture through their droppings. The “old sheep camp” site has very similar conditions to other areas around Canberra where sheep were known to congregate in a similar manner.

Initially it seems strange that sheep would congregate on the ridge of a reasonably steep hill. Peter Mills explained that the site provides for stable and temperate conditions compared to the harshness of other places (personal communication, Peter Mills). In the heat of the summer the sheep would get a cool breeze and in winter it is several degrees warmer on the ridge than it is down with the frost of the valley. Given the free roam of the pasture the sheep will have chosen this area on a more regular basis than other places in the paddock. With the sheep spending more time in that area they will excrete more of their nutrient rich waste into the soil. They will also bring with them the seeds of weeds from other places they have been. The high nutrient content of the soil resulted in a high infestation of non-indigenous flora. Nutrient loving plants such as Horehound or thistles are flourishing and since grazing animals avoid these plants these “pasture weeds” out-compete other plants and eventually took over.

Mount Majura and Mount Ainslie provide for a good comparison of vegetation distribution to indicate which plants are indigenous and which have been introduced and to separate the effects of grazing from other factors such as drought and fire that caused disturbance and influenced the pattern of vegetation on the two mountains (personal communication, Frank Ingwersen). The Campbell Family who owned the land that covers Mount Ainslie did not have the desire to use it for extensive sheep grazing or farming because they owned higher quality and much more accessible land on the plains (personal communication, Frank Ingwersen). In contrast Mount Majura fell under the management of much smaller leaseholders struggling to make a go of their much smaller plots of land. Most of the leaseholders utilised their land for grazing and tree clearing was abundant to promote pasture grasses. This opened the area up for the infestation of non-indigenous plants and with the grazing came the increased nutrient load for the soil.

At present about two thirds of the Sheep Camp is treeless. These conditions favour some of the herbaceous weeds growing at the site. The few trees that grow at the sheep camp belong to two major age groups: some are quite old and exhibit extensive fire scars, whereas others are young, probably not older than up to 20 years (personal communication, Frank Ingwersen). This could indicate either that the site has been kept cleared for grazing well into the second half of the 20th century or that the 1985 fire consumed the small trees. Eddy Pook, retired fire ecologist and resident of Hackett for a long time with an interest in Mount Majura, suggested that clearing of the area may have been reinforced or happened when the 1985 fire went through.

A cleared area of the sheep camp close to the established pine plantation has furrows along the contour lines. This area is infested with a large variety of herbaceous weeds. Waltraud Pix suggested that the furrows were either caused by stock movements or by ripping the site in preparation for planting pines. Frank Ingwersen agreed that the most likely reason for the

¹⁰ *Eutrophication* 2006, viewed 20 August 2006, < <http://en.wikipedia.org/wiki/Eutrophication> >

¹¹ Ingwersen, F et.al 1974, *Vegetation of the Ainslie-Majura Reserve*, Australian Government Publishing Service p.26
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disturbance was site preparation for planting pines and that for unknown reasons planting did not eventuate.

Part 3 – What to do now that the problem has been identified

Non-indigenous plants at the Sheep Camp compete with native flora for water, light and nutrients. Weed growth not only suppress indigenous plants, but disrupt other ecological processes, for instance many native animals depend on indigenous plants for food. The local park care group, Friends of Mount Majura (FoMM), intends to improve the site. The group removes non-indigenous plants to assist indigenous vegetation to become re-established in the area. This will promote a flora composition that resembles a more original makeup of the site. The group aims to encourage more native animals to return to the area when improved natural habitat is available to them.

The first thing that the group had to find out was what the site was originally like. In 2003 Waltraud Pix began assembling an inventory of both the indigenous and non-indigenous plant species, identifying the species found in the area in order to gain an understanding of which species were indigenous and which needed to be removed. This inventory appears as appendix 1 to this report. The other activities, which began in 2003, include:

- Recording and monitoring of the site to establish the state it was in and to allow for proper records of the rehabilitation process;
- Removal of the main weed species or target weeds identified in the inventory, establishment of the procedure and of a schedule for follow-up weeding;
- Establishment of native plants to compete with the weeds. Waltraud Pix started trials with indigenous plants. The group collected seeds, directly seeded native ground cover plants and began raising and planting the seedlings of indigenous trees;
- The engagement of volunteer support from the community in the rehabilitation process and raising awareness in the community about the project. This involved organising working parties, events, presenting displays, reporting on the Friends of Mount Majura Website¹² and writing articles for local media.

It was decided that the area would be rehabilitated in three stages. This was done to make it as manageable as possible. The borders of the Sheep Camp site were established by the presence of the most abundant perennial weed, Horehound (*Marrubium vulgare*) and recorded using a GPS. Using the co-ordinates from the GPS Waltraud Pix produced a map using the Geographic Information System, *Arc View*. The map of the site appears as appendix 2. The site was broken up depending on the considerations of the level of weed infestation, the topography and pedestrian traffic. The major ideas behind the plan are to move from the least infested to the most infested areas of weeds - consistent with the Bradley method of bush regeneration¹³ -, from the top of the ridge towards the lower sides and to remove the weeds along the walking track. Considering the large amount of weed seeds in the soil Waltraud Pix has advised to supplement the weeding with direct casting of indigenous seeds that are collected from the area.. This will serve to establish the growth of a “living seed bank” and to inhibit the regrowth of non-indigenous plants through competition.

I have been involved in two of the conservation activities conducted by FoMM at the sheep camp: the large-scale removal of Horehound and the planting of tree seedlings.

Removal of Horehound

Friends of Mt Majura held several working parties during the winters in 2005 and 2006 to remove Horehound. Winter was chosen because it is well before new seed set and because other conservation activities of the group stop during the cold months of the year (personal communication, Waltraud Pix).

The weeds are pulled by hand, placed in bags and removed from the site. When pulling the horehound all attempts must be made to remove the whole plant as it can regrow if only the top of it

¹² <http://www.majura.org>

¹³ Bradley, J 1988, *Bringing Back The Bush*, Lansdowne-Rigby Publishers, Willoughby, NSW

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is pulled off. After pulling the weed out it is best to put it straight into a thick garbage bag so that any remaining seeds do not get into the ground. For this same reason it is important not to shake the plant but it is important to minimise the erosion on the site by removing some of the dirt from the roots of the weed.

Waltraud Pix estimates that so far thirty truckloads of weeds have been removed. The removal of large quantities of weeds helps also to lower the nutrient load of the site. The weeded areas are immediately seeded with indigenous plants and monitored for new plant growth. Follow-up weeding is absolutely necessary and conducted two to four times pending on the original weed infestation and the presence of native ground cover (personal communication, Waltraud Pix).

Tree planting

Trees are an important component of a functioning eco-system of Mount Majura. They provide habitat for many animals such as sugar gliders which depend on tree canopy to move around. Trees also provide a natural sunlight barrier for weed suppression. The natural recruitment of trees is a slow process. FoMM decided to assist the establishment of an open tree canopy at the sheep camp by planting a small amount of trees.

Waltraud Pix collected seeds of eucalypts from nearby sites during summer 2004/05 and propagated the seedlings during winter 2006.

On Sunday 20th August 2006 FoMM had a tree-planting day. We had 45 seedlings to plant. The species that were planted are Apple Box (*Eucalyptus bridgesiana*), Bundy (*E. goniocalyx*), Yellow Box (*E. melliodora*) and Scribbly Gum (*E. rossii*). The trees were planted in positions as directed by Waltraud Pix on the basis of where they would naturally occur. Yellow Box was planted on the west slope at the site marked as stage 1 on the map, Bundy and Apple box were planted on the east slope at stage 2 and 3 and Scribbly Gum at the top part of the ridge at stage 1. It was decided that trees would not be planted right up to the ridge line to preserve the lovely views from the site and to lower the risk of being damaged by passers by.

The method of planting is relatively simple. First the planting sites are chosen. They are placed at least 8 metres from each other and away from sites where natural recruitment already occurs i.e. where seedlings from a nearby parent tree grow. Depressions in the ground are preferred sites because runoff water would accumulate there. A rake-hoe is used to clear a level surface, and a mattock is used to dig a hole about 1.5 times as deep as the seedlings. Any large rocks are removed and placed outside the hole so as to direct water to the seedling. The soil from the planting hole is mixed with water holding crystals and then the seedling is carefully removed from its punnet, placed in the hole and the soil is lightly patted around it keep it upright. Then it is given a good watering. A cardboard biodegradable cover is placed around it to suppress weed growth and to direct water to it. Three stakes are placed evenly around the seedling and a green plastic guardis put over the stakes with the pointy side facing in the main wind direction to prevent it from blowing away.

Conclusions

Most of Mount Majura was used for grazing. The land, that includes the old sheep camp was owned by the Darmody family until the beginning of the 20th century when the land was resumed by the Commonwealth. After being resumed the Darmody's may have been allowed to continue farming the site. Grazing continued in the area and most likely ceased slightly before or because of the March 1985 fire at the site.

Grazing, tree clearing, activities in conjunction with the possible expansion of the pine plantation, the fire of March 1985 or any combination of these factors led to a major infestation of non-indigenous plants.

The local park care group Friends of Mount Majura will continue to use a variety of rehabilitation strategies to improve the habitat and landscape values of the site. These methods include:

- Weeding of major weeds such as Horehound;
- Direct casting of the seeds from indigenous plants to out-compete the non-indigenous species, and
- Planting of trees both by direct seeding and propagated seedlings to aid in the long-term suppression of weeds.

Acknowledgments

Many thanks are due for Waltraud Pix in recognition of her guidance and assistance with this research project. Without her I would have no idea where to have started. Waltraud has put many, many hours into the rehabilitation of this site.

Thanks are also in order to the ACT Planning and Land Authority for their assistance in providing the old parish map, in full-size and free of charge.

Peter Mills a ranger from Environment ACT was very helpful in providing advice for the method and direction of my research. He was the person who put me onto ACTPLA to find the old Parish Map.

Frank Ingwersen must also be thanked for all the work he did in writing the report of Majura and Ainslie back in 1974, along with being so willing to help us when I rang him out of the blue.

Antoinette at the ACT Heritage Library was very helpful in directing me to where to look for books on the subject and how to approach different people for assistance.

The Canberra and District Historical Society provided their time for me to use their collection and also provided a photocopy of "From Banagher to Majura".

Eddy Pook was extremely helpful at the end of my research in providing memories and dates for loop holes in my research. I wish I had contacted him earlier as that would have allowed for greater utilisation of his knowledge.

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