CHAPMAN FOREST BLOCK MANAGEMENT

PLAN

DEPARTMENT of WATER

Plan prepared by Rose and Bending Forest Services

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The Department of Water manages a number of land parcels in key water catchments throughout the State.

Chapman Forest Block is part of this estate. The management objectives for these blocks is to preserve, protect and, where practical, enhance water resource values associated with the land for potential future water source utilisation, and, where compatible with this objective, to manage native vegetation and plantations in an ecologically sustainable manner to provide forest and timber produce to help offset land management costs.

GENERAL

This report primarily considers a 20 ha portion of the property, at the Eastern edge of the site, adjacent to Pretty Gully Plantation.

This area comprises approximately 8 hectares of previously cleared land, with retained isolated paddock trees, that is partially reclaimed by native vegetation, and an adjoining area of approximately 12 hectares of Jarrah / Marri forest that was grazed, and is somewhat denuded of understorey.

The remainder of the site is forested, with a variety of forest types. The majority of the upland sites with gravel loam soils, often with lateritic outcropping, is dominated by Jarrah / marri forest.

Eucalyptus rudis, (flooded gum), and eucalyptus wandoo (white gum) are present as woodland, mainly in the broad drainage system on the south western edge of the property.

An area of treeless heath is also adjacent to this drainage system, which is seasonally inundated.

Fire history is uncertain, but probably greater than 10 years since burning.

There are no obvious signs of Dieback, with generally a healthy understorey, comprising many known dieback indicator species.

DEGRADED SITE MANAGEMENT

Previously Cleared Area

An area of approximately 8 hectares was previously cleared for grazing, with retained isolated clumps and individual trees remaining. Originally the cleared area was developed with annual pasture varieties. This area is immediately adjoining cleared land, and Bluegum plantations.

Over time, and with the absence of grazing, seed fall from existing (mainly Marri) trees has resulted in significant re vegetation of the areas surrounding these retained trees. The regrowth is developing, and in some areas is well stocked and is establishing a canopy cover.

There are several distinct areas, totalling approximately 2 hectares where pasture, with no tree cover, remain.

Native understorey (scrub) is beginning to regenerate, even in the areas dominated by pasture, but to a lesser extent than those areas with some tree cover.

The following recommendations will assist with a more rapid return to native vegetation cover on this site;

1. Pasture dominated area (approx 2 ha). In order to successfully regenerate the site with understorey species, it will be necessary to control or reduce the weed (pasture) competition.
   Ideally, the area should be sprayed with herbicide to kill existing pasture cover, and therefore reduce seed set in the Spring prior to regeneration. Timing is important to ensure that a non residual herbicide can control weeds prior to seed development, but not allow sufficient time to regrow. (In most years a timing no later than late August / early September would be ideal).
2. The area should be scarified to a depth of 200 – 250 mm during the subsequent summer or autumn, allowing sufficient time for normal pasture germination at the break of the season.
3. Soon after pasture germination a non residual herbicide should be applied to remove any pasture.

4. The site can be sown, by broadcast spreading, with a mix of native scrub species and fertiliser. For best effect this should be done as soon after the break of the season as possible, as the onset of colder temperatures will result in delayed or staggered scrub germination. Scrub species chosen for this site should mirror those found in adjacent forest areas. (See species list).
5. Trees seedlings (Jarrah and Marri) should be planted over the scarified area at the rate of 500 to 600 trees per hectare, as soon as there is sufficient soil moisture to sustain them (in most years mid June to Mid August). A fertiliser (Forestry blend, including phosphorous and nitrogen) will assist the trees to become established before summer.
6. An overspray to remove re emerging pasture species in Spring may be required. There are several products that can be applied over establishing tree seedlings with no ill effects, to control grasses and broadleaves, but their known effects on native scrub species would need to be assessed first.

Important pests to consider during the establishment phase are Rabbits and insects, particularly Spring Beetle.

Rabbits can be baited before and during the establishment phase, which if successful is the best control method. Other measures, including application of an organic ' Blood and Bone ' fertiliser around problem areas, and trees guards (plastic tubes) around trees where rabbits are browsing, are also useful.

Spring beetle can cause significant damage to young seedlings during periods of warm weather early in Spring (September). Incidence of Spring Beetle is usually associated with adjoining native forest, where they harbour. Monitoring, and application of a suitable insecticide during active phases is successful.

It is probable that given these management systems are successful, the site can be returned to a vegetation mix similar to surrounding forest areas, although the development of the understorey component will likely take several seasons.

EX GRAZED NATIVE FOREST

This approximately 12 hectare area of Jarrah / Marri forest is directly west of the site outlined above, and although containing a healthy, well stocked overstorey, is denuded of understorey due to the effects of past grazing.

The site does contain sufficient understorey species to suggest that Dieback is not present, including banksia grandis and persoonia longifolia.

The site, on close inspection, is recovering, and a range of species are present, although scattered in nature.

Mid range understorey species, probably having survived browsing by stock are readily apparent, and include;

Banksia grandis (bull banksia).

Persoonia longifolia (snotty gobble).

Xanthorrhoea presseii (grass tree).

Zamia sp (palm).

All of these species are susceptible to Dieback, and their presence signifies a dieback free status.

Low understorey (scrub) species which are recolonising the area include;

Acacia pulchella.

Hakea lisocarpa.

Hibbertia sp.

Davesia sp.

Bossiaea ornata.

Caladenia sp.

Although this list does not match the much greater diversity of species found in adjoining non grazed forest, it is evidence that with time there will be a return to a mixed understorey.

A faster return to greater understorey cover, with a more comprehensive species representation could be achieved by broadcast spreading a native seed and fertiliser mix over the site, and allowing natural germination.

It is probable that this would be more successful following a mild burn to provide a better germination bed.

The overstorey of Jarrah and Marri is well stocked at 22 to 30 m2 / ha, and healthy. The forest has been harvested for timber at least once, approximately 30 to 50 years ago.

CHAPMAN FOREST (Balance – 840 Hectares)

The balance of Chapman Forest is typical Eastern Jarrah / Marri forest, with Wandoo woodlands on the lower broad valleys adjacent to watercourses.

Soil types range from gravels with lateritic outcropping on ridges and upper slopes, through sandy gravel loams, to some shallow clay soils in valleys.

An area of tree less Heath exists along a watercourse that is seasonally inundated, in the Southwest corner of the forest.

The forest is healthy, and with a good mix of understorey species, appears to be free from Dieback disease.

Timber harvesting has occurred across the site, at least once, and the most recent operation appears to have been conducted during the 1970 's.

There are Jarrah trees of merchantable quality for timber production on the site, however quantities are so low that an operation to extract them is likely not to be commercially viable.

Some gravel extraction has occurred along Pretty Gully Rd, but this was many years ago, and the sites are largely regenerated.

ACCESS

The site has had external breaks around the perimeter constructed some time ago, and these have not been maintained recently, and are, with the exception of the southern boundary, not trafficable.

It would be relatively easy to upgrade these breaks, to at least summer access. The SW corner is seasonally inundated, and to create all season access would be problematic and expensive.

Internal access to break the forest into smaller more manageable cells would be beneficial, particularly from a fire management perspective.

Care would be needed to ensure that any such operation was managed to ensure that Dieback is not introduced or spread.

FIRE MANAGEMENT

The site does not appear to have been burnt during the last 10 years.

The area of Forest to the South appears to have been burnt during the last 5 years, and the other boundaries abut mainly cleared land, or land converted to Bluegum Plantation.

A low intensity prescribed burn would aid in safeguarding against the potentially more severe effects of an uncontrolled wildfire, and reduce the threat to neighbouring landholders from a heavy fuel build up, and the subsequent greater fire intensity that may result.

A better internal access network will allow greater control with any intended fire management program.

RARE FLORA

There are two rare flora identified that may be present on site. Both species are known to occur in this region, and both are found in forest types represented in Chapman Forest.

1. Caladenia christineae. An orchid found adjacent to swamps in shallow clay soils.
2. Caladenia dorrienii. An orchid found in association with Wandoo woodland, and shallow clay soils.

Prior to any access upgrade requiring earthmoving, or prescribed burning it is recommended that a thorough survey be conducted to determine the presence or otherwise of these plants on this site.

Appendices

1. Site Map, Chapman Forest.

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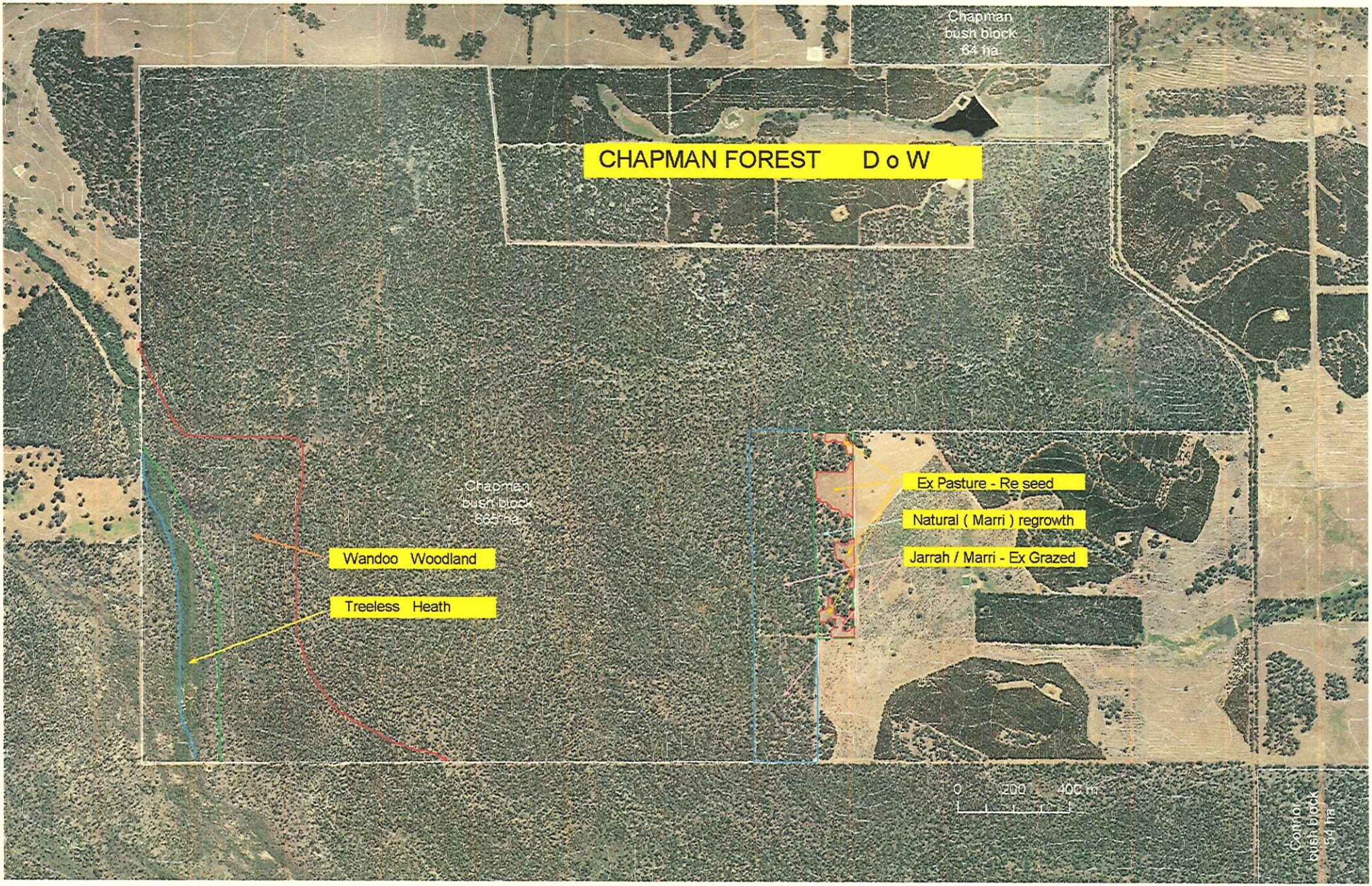
Chapman
bush block
64 ha
CHAPMAN FOREST D o W
Chapman
bush block
Wandoo Woodland
Treeless Heath
Ex Pasture - Re seed
Natural (Marri) regrowth
Jarrah / Marri - Ex Grazed
0 200 400 m
Connor
bush block