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Notes on Coupe RS142E, Bass District Northeast Tasmania

Coupe location and size

The coupe is located in State Forest managed by Forestry Tasmania (FT) in the Northeast Highlands.

The area of the coupe is 30 hectares. It is sited on a steep northeast facing slope draining to the Tombstone Creek a major tributary of the South Esk River. Altitude ranges from 550m to 750m asl. The coupe is bounded to the NE, SW and SE by other native forest coupes harvested and regenerated in 1996, 1980 and 1991 respectively. The coupe is bounded to the northeast by the Tombstone Creek and associated wildlife habitat corridor and stream side reserve. About 1.5 km to the east of the coupe is the Tombstone Creek Regional Reserve, protecting a large area of forest typical of this vicinity, including extensive areas of undisturbed rainforest and tall wet Eucalypt forest.

Forest Communities

The forest within the coupe is dominated by tall wet Eucalypt forest. Detailed forest type mapping by FT shows the coupe prior to recent harvesting containing 28 ha of forest typed as E2bSTw. This forest type is described as tall mature Eucalypt forest with a dominant tree height averaging 41-55 m and tree crown density of 40-70% with an understorey of scrub less than 15m high and silver wattle (*Acacia dealbata*).

The remaining 2 ha was typed as MTwE2f. This translates as a "Mixed Forest" with the over storey tree species comprising myrtle (*Nothofagus cunninghamii*), silver wattle and scattered tall eucalypt species.

Observations at the site and of historic aerial and Google Earth photos confirmed ~~this forest typing~~. The majority of the coupe was dominated by tall wet *Eucalyptus delegatensis* forest (alpine ash or white-top stringybark) of relatively high density and mature age but not over mature or old growth. There were many silver wattle of large size. The understorey was dominated by wet sclerophyll species very characteristic of this common forest community. These include musk (*Oleria* sp), stink wood (*Zieria* sp), *Phebalium*, and a variety of ferns. The characteristics of the stand indicate it is the product of a wildfire about 100 -150 years ago. This is especially indicate by the presence of the silver wattle, a relatively short lived species with a life span of around 100-150 years old, that regenerates profusely after disturbance of soil or fire from ground stored seed.

Towards the lower altitude and wetter parts of the coupe mountain ash (*E. regnans*) was the dominant eucalypt species. Here the forest was much wetter with an understorey of species typical of temperate rainforest in the Northeast. Small trees of sassafras (*Atherosperma moschatum*) and myrtle along with scattered silver wattle and Blackwood (*Acacia melanoxylon*) are present along with a rich variety of ferns, including tall tree ferns (*Dicksonia antarctica*).

Coupe History

According to FT the coupe had some selective logging for eucalypt sawlogs during the early to mid 20th century.

The coupe was harvested in 2004-5 using a cable harvesting method. This resulted in a clear fell of all vegetation within the coupe. The logged area was burnt in autumn 2006 and aurally sown with eucalypt seed collected from the site or nearby in the same proportion as the species naturally found on the site. According to the harvest documentation most of the rainforest dominated community and some buffering *E. regnans* forest was excluded from harvesting.

Surveys in the following year showed that the regeneration in the coupe exceeded the minimum quality stocking standards required under the Forest Practices Code and the coupe was subsequently given a certificate of compliance by the independent Forest Practices Authority.

Site observations August 2015

The regenerated coupe contains a healthy and vigorously growing young (9 year old) forest that contains all of the tree and understorey species identified in planning documentation as being present prior to harvesting. There is a well stocked eucalypt stocking round 10 m in height with a dense understorey of small scrub and tree species and ferns typical of the early successional stage of this forest type and what would be expected to be present. There prevalence is typical of the pioneering species on disturbed sites including after natural wildfire. In later growth stages of the forest abundance of many of these pioneering species will be less, especially as the eucalypts start to dominate the upper canopy over the next 15-20 years. Natural thinning of the dense wattle regrowth is already occurring through competition and insect attack.

No exotic (weed) species were observed other than some foxgloves indicative of past human (and horse) disturbance in past times. There is nothing I saw that I would describe as "woody weeds" . All of the woody plants are native to the site, and represent species that were present in the forest before harvesting. None should be described as "weeds".

Particular attention was made to finding species indicative of a rainforest understorey. My conclusion (was) that there was little or no myrtle and sassafras in the Southern parts of the coupe inspected prior to harvesting. No evidence of stumps or residual wood indicative of these species was observed. In one location seedlings and coppice regrowth off sassafras was observed. This was a very damp drainage area that appeared to have avoided much impact from the regeneration burn.

Due to the difficult steep terrain, thick undergrowth and lack of road or track access to the lower section of the coupe it was not possible to directly inspect the regeneration of these areas. However, particular observations were made from a lookout that afforded an excellent view of the coupe and adjacent unlogged stands. A time series of Google Earth photos of the coupe was also inspected.

I have extensive experience in researching and observing the regeneration of mixed forest and rainforest after clear fall harvesting and regeneration burning throughout Tasmania. My conclusion is that it is likely that in the lower parts of this coupe did contain scattered small trees of myrtle and sassafras. These trees would probably have been either harvested if any contained merchantable wood (FT records indicate a small volume of sassafras was recovered from the coupe) or were left. If these species were burnt in the fire it is likely they would not recover. However if they escaped the fire due to a wet topographic position or microclimate or were only lightly burnt it is likely they would have survived and re sprouted. Also due the proximity of the large areas of adjacent

vegetation it would be expected that seeds of both species would disperse into the logged areas germinate.

I suspect that the individual sassafras featured on the ABC website was located towards the bottom end of the coupe near to the adjacent unlogged rainforest. It may or may not be dead or resprouted since the photo was taken soon after the burn in 2006. However I can predict that this area does have an actively growing forest containing all of the tree and understory species previously on the site, including sassafras, and sequestering forest carbon rapidly.

In summary the coupe is regenerating well and shows all the signs of becoming a fully functioning ecosystem which, in another two or three decades, would be barely recognisable to most people as ever having been disturbed.