

# Sustainability- Protecting the mistletoe

## 1. An outline of the importance of an issue that impacts on the sustainability of the native mistletoe, with reference to at least one of the aspects of sustainability.

The native forest at Craigieburn is very important to the Canterbury region, it is a special place for people that enjoy tramping and camping in the area. This native forest in the Craigieburn ranges is very important for the reason that it holds a gem, the native mistletoe. The mistletoe has 9 different variations the red, scarlet, yellow are found in beech tree forests. The beech trees in the Craigieburn area are rapidly decreasing because of increasing demand for farmland and the spread of pine trees, the pine trees are faster growing and push out the beechtrees. With the rapidly decreasing tree's it's not just affecting the mistletoe but the animal life that is found there. Bellbirds, Tui and Fantail are the amazing native birds. These are another attraction for people coming to the Craigieburn region. If the native trees and foliage keep declining at the rate that it is now, there will be very little bird life. Bird life is very important to the poination of mistletoe (<http://www.biol.canterbury.ac.nz/mistletoes/pollination.shtm>), the only bird that polinates the mistletoe is the bell bird, if there were to be no habitat for this bird to live in it wouldnt be able to polinate the Mistletoe that are prominent in that area. If we want to be able to enjoy this amazing area right in our backyard, we will have to start taking serious action. The sustainability that this is focusing on is social. Social sustainability is about preserving an area so that future generations can enjoy them.

## 2. What measurement methods will be used and how data will be collected.

When me and my group go up to our area we will be looking at how many plants have survived from last year's planting. Statistics like survival probability and the growing rates will be measured. Other things like monitoring the trees myself will be done when we travel to that area later in the year and hopefully next year. For the planting of trees we will measure an area of 2.5X2.5m in the beech tree forest and see what ratio of big fully grown trees to small ones, this will allow us to gage how many small trees we will need to plant to ensure there is enough trees survive. When measuring how many trees there were in the quadrats we noticed that there were only 2-3 fully grown beech trees, but small trees were 82, this showed us that there is a low chance of getting trees to grow to full size because of competition, the smaller trees that grow under the canopy cannot get a good supply of sunlight and also water.

## 3. A timeframe and steps of action.

**Detail provided of how data will be gathered, what measurement methods will be used and expected timeframe.**

The time frame that i have worked off is a 12 week plan, this plan has consisted of getting in contact with \_\_\_\_\_ to find if this project was possible,, next was getting in contact with DOC to get the permission to take trees from the undergrowth and move them to a open area, after emails we had found that this project had been replicated last year and got in contact with last years group, after talking to some of the members in the group we had a good idea on what we should do.After taking to \_\_\_\_\_ and getting his advice where the most suitable location would be for the re-planting we sorted where we are going to plant. After sorting a date for our action plan we set for the 30th June, but due to weather we had to reschedule to the 25 August so the snow would be melted. After talking to Mr \_\_\_\_\_

we had sorted a date and transport to get to craigieburn. Next was to arrange gear that we would be using to re-plant, we had decided on bring our own gear so we wouldn't have to borrow off the school. The gear consisted of feed bins, pic, shovels and spades. On the 25th of August we put our plan into action by replating 20 trees. From the data that we gathered up from last years group we had found that 17/19 trees had survived. By going off last years numbers I can confidently say that majority of our trees will survive in the new relocated area

**4. Carried out a personal action, following the plan and modifying it if necessary.**

We had a team of 7 people and managed to get 20 trees planted, all the trees that we planted were taken from an overgrown area where the trees were most likely to die. The process that we went through to replant the trees was dig a 30cm wide hole and 15 cm deep to ensure the whole root system was dug up, after that we would dig a replica hole on the hill but slightly deeper, we gathered duff from the floor of the forest where the trees had come from and put a few handfuls in the bottom of the hole so the tree had some nutrients to boost its growth, then putting in the tree in the hole and placing more duff on top, to make sure that the tree got maximum water we compacted the soil down around the tree to create a well to collect more water.

**5. Evaluated own response to the personal action using supporting evidence and examples, including one or more of:**

The benefits of replanting beech trees isnt noticable immediately, this plan is a long term plan where the changes will only be visible many years from now. We should notice improvement in the later years when the beech forest starts to expand more and thus offering more room for the native mistletoe to grow, by taking the smaller trees from the forest floor that are most likely going to die due to natural competition, by us taking the smaller trees away we are giving them a new lease on life. some of the implications to our action could be that the trees that we have relocated could of been back for the larger trees when they die or fall over. But there isn't always bad implications, positive effects are from relocating we are expanding the native forest, in doing this we are making it harder for wild pine trees to seed in the area because of the expanding forest. What could we do next? in our action plan the next step for us could be having a nursery where we grow beech trees from seed, this way we are not having to go into the native forest and dig small trees up, not having to disturb the forest would be beneficial. Other factors from growing from seed would mean we would have a lot on hand to plant, making it faster to expand the chosen areas. This whole experience has changed my views on how i look at my local environment and how important it is not not only me but people around me and also the future generation, this has made me aware of sustainability and how a few small things like pulling out some wild pines can affect the spread of our native forests. If we all dedicated a few weeks a year like my class to preserving the environment we would be able to enjoy it for so much longer.