

# Mount Mulanje

Restoring forests to protect water and biodiversity

Annual Progress Report 2022



## Summary

2022 saw us meet our planting targets, despite a fuel crisis in October.

120 000 seedlings were planted this season, which brings the total number of seedlings planted for ecological restoration to over 253 000 in just four years.

In our 1500 hectare target area of forest regeneration areas in Kazembe and Tchete, ranger patrols took place, firebreaks were made to stop wildfires, and ten schools were engaged in the environmental awareness programme.

By November our new entity WeForest Malawi was established, and we had prepared the new 12-year scaled up programme to protect a total of around 7500 hectares (over 8 million native trees) including an agroforestry and cookstoves programme with over 13 000 families inside this incredible Biosphere Reserve.

This report shares an update of our progress during 2022. Thank you for all your support!

## 2022 in numbers

### Planting:

**100%** of planting complete – approximately **120 000** seedlings planted in the 2021-2022 season

To date, approximately **253 000** seedlings planted for ecological restoration

### Regenerating mountainside forests:

**1500 hectares** of miombo forest within 2 co-management areas, representing approximately **1.6 million trees** protected and regenerating

**14km** of firebreaks established and maintained

**35** native species regenerating

Over **400** beehives hung and **76** beekeepers trained

**10** schools engaged



## Planting

# 100% of our overall planting target is complete

Our Mulanje project restores two types of native forests: montane and miombo. In the montane forests the endemic Mulanje cedar (*Widdringtonia whytei*), a species that is sensitive to disturbance, is not able to generate quickly by itself. Active planting is necessary, and the seedlings are carefully grown and nurtured by 8 local community nurseries (above).

Our original target of 120 000 seedlings planted by 2023 has been met, despite several challenges including severely rationed fuel for vehicles during October, when devaluation of 25% saw prices rising dramatically.

The seedlings are dominated by cedar (96% of the total) and their companion species include *Dodonaea viscosa*, *Cussonia lucida* and *Podocarpus milanjanus* – all good for cedar as they come from the same ecosystem, providing shade while not competing with the cedars for resources.

Measuring and monitoring 8 to 9 months after the final planting is next in our plan, and we will continue to care for and monitor planted cedar (below) until 2028 with firebreaks around planting sites, weeding, mulching and survival counts, and cedar stakeholder meetings to support aftercare.



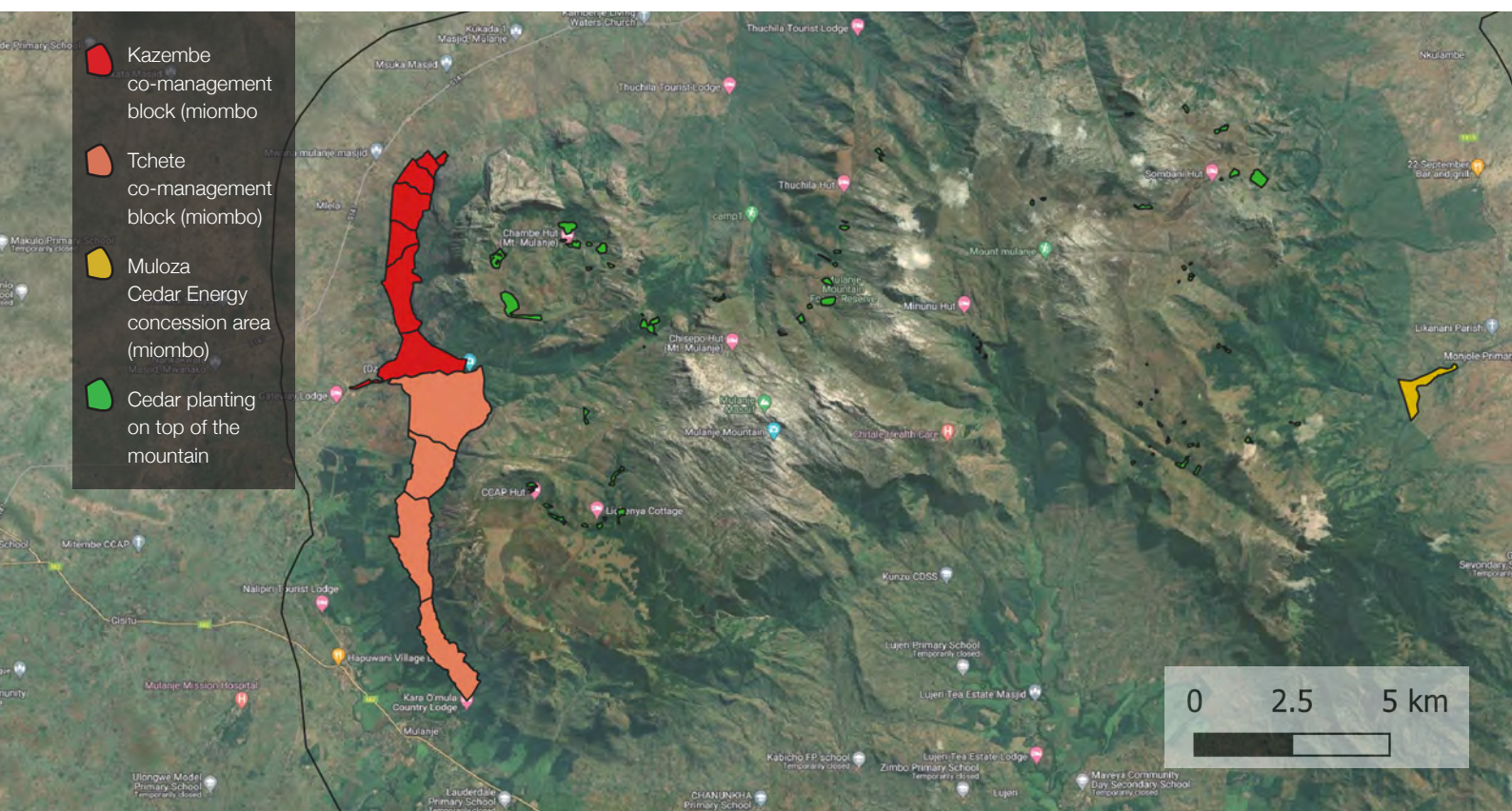


## Assisted Natural Regeneration

# Regenerating hillside forests: 1500 hectares and 8 million threatened trees

All forests on Mulanje need to be protected and regenerated, including those on the sides of the mountain. The native miombo forests here are under threat from harvesting for firewood and charcoal production, and we are protecting and restoring around over 35 tree species here.

Regenerating these hillsides means working to support local community groups to take care of the forests. In two areas, Kazembe and Tchete on the western flank of the mountain, we are working to support the Forest Block Committees that can protect and regenerate around 8 million trees. Together we develop all the key formal and legal documentation and establish the capacity and relationships with the Forestry Department so that the Committees can take on effective management in the future: law enforcement and ranger patrols and establishing firebreaks to stop





wildfires. The turnover rate in government staff has been high and each change requires new relationships to be built, which has caused delays in the administrative procedures and agreements.

## Law enforcement in co-management blocks

For restoration to be successful, it's important that the project supports law enforcement activities to stop deforestation. In other WeForest projects such as in Katanino in Zambia we recruit and fund Forest Rangers to carry out patrols and protect the forest. In the Mount Mulanje project's co-management blocks, we plan to set up a similar system by building up the capacity of the Village Natural Resource Management Committees to carry out forest law enforcement and fire management activities. The delays experienced with the formal procedures described above mean that Committees cannot yet formally recruit rangers, so in the meantime WeForest is supporting local law enforcement patrols conducted by community groups, and the Department of Forestry.

*The aftermath of burning for charcoal production in Mulanje's forests*



## Restoration to safeguard water supply

On the eastern outer slopes of the reserve (main picture), the opposite side from our large-scale co-management sites on the western slopes, and in the zone for scaling our wider programme, we've been working with Cedar Energy, a small-scale hydropower company on conservation and restoration of the Muloza river catchment area. Restored forests here will support a steady water supply, both for the communities to grow crops and for Cedar Energy to electrify Malawi.

An on-site nursery hosted by Cedar Energy was set up in Muloza and will provide 15 species of miombo and riverine seedlings. Three permanent nursery staff have been established there, and seeds and seedlings were all collected in the area. By the end of 2022 approximately 47 444 seedlings had been planted; 29 444 miombo/riverine seedlings planted early in 2022 on 24.9 hectares and in late 2022, a further 18 000 miombo/riverine seedlings on 8 hectares.

A further 16 360 agroforestry seedlings of 4 species were planted with 67 farmers who also took part in two agroforestry training sessions.



## Livelihoods

### Forest-friendly income generating activities begin

The key to successful forest regeneration is to ensure alternative income sources for the communities who have been using the forests around Mount Mulanje for construction wood, firewood and charcoal.

#### Setting the foundations for honey production

Beekeeping is an important future source of income for the Forest Block Committees. Since the Committees will eventually have full management responsibilities for the forest to ensure all the activities (such as fire management, law enforcement etc) are carried out, they will need income. The Forest Block Committee now has signed benefit sharing agreements with two beekeeping groups of Kazembe (Nakhonyo and Mangombo). The beekeeping groups harvest the honey with 75% going to the Forest Block Committee and 25% for the beekeeping groups.

All 400 beehives are now hung by beekeeping groups in Kazembe, Mangombo, Nakhonyo, Mwanyali and Nkanda and are expected to be occupied during the swarming season. Once occupied, the beehives need around one year to be able to produce enough honey before we harvest.

#### 10 more schools engaged in environmental awareness and action

Our new partner, the Wildlife and Environmental Society of Malawi (WESM), is delivering a school tree planting and environmental awareness programme in Mulanje and Phalombe. Ten new schools close to the co-managed forests took part in the programme during 2022, taking the total to approx. 30 schools engaged since 2019.

During 2022, 300 trees (fruit and non-fruit seedlings) including edible fruits (mango, orange and guava), were selected based on their compatibility with the microclimatic conditions of each school. Tree planting was supposed to take place at the end of July and the start of August. With the threat of a cholera outbreak the schools were closed and the programme will resume as soon as it is able.



# What's Next?

The scale-up of the Mulanje programme begins in 2023, aiming to protect and restore over 7500 ha, engaging 13 500 families and communities to create and strengthen community-led governance structures that and create new income generating models like beekeeping to support community resilience. Reducing pressure on forest resources through improved cookstoves will be complimented by creating new sustainable sources of fuelwood in agroforestry.

## 1. Enhanced Stewardship and Governance

- Establish 7500 ha of miombo co-management areas within Mount Mulanje Forest Reserve and strengthen 10 Forest Block Committees to effectively implement forest block management plans.

## 2. Improved income for co-management entities through forest-friendly livelihoods

- Between 3500 and 7500 operational beehives, managed by Forest Block Committees through beekeeping groups, cover the operational forest management costs over the long term.

## 3. Balanced fuelwood demand/supply in the buffer zone

- Reduce local fuelwood demand through improved cookstoves for over 10 000 households and create a sustainable supply of fuelwood from an estimated 2.7 million new agroforestry trees.

## 4. Create partnerships for successful buffer zone communities

- Identification of and collaboration with partners to support sustainable agricultural activities with families in the forest buffer areas. Support environmental education through partnerships to increase environmental awareness and behaviour change through households and school engagement programmes.

## The challenges of growing Mulanje cedar

Cedars grow from cones that are produced on mature trees (think of pine cones), but they don't produce them reliably each year so seed collection is unpredictable. There are currently two sites in Malawi, far from Mount Mulanje, where cedars have been planted and which have stands of mature cone-producing cedars suitable for seed collection. Germination from cedar cones is also affected by soil type and condition, watering regime and even the depth at which the seeds are sown.

After germination, handling during transplanting can also affect the sensitive seedlings. Growing cedar on top of Mulanje poses additional challenges: fire and frost. Continuous maintenance on the mountain to maintain fire breaks and carry out weeding and companion planting to offer protection is crucial for the survival of the growing seedlings.

WeForest is partnering with the Mulanje Mountain Conservation Trust, the Forestry Research Institute of Malawi and Botanical Gardens Conservation International on a research programme on cedar propagation. Together with a team of ecologists and plant specialists from around the world, we have devised an extensive, controlled trial to test the variables that influence cedar survival. As this research goes on, we use the results to inform the sowing and planting strategies in the nurseries and on the mountain.



Stay up-to-date with your interactive [Mulanje map](#), and check out the [photo album](#) of the project on Flickr.

Thank you for supporting the Mount Mulanje project!