

Riparian zone restoration



A goal of planting 15 000 trees in a region in southeast Norway has now reached a new goal of 30 000 trees in five years. Four river basin sub-districts cooperated on having trees on standby, with regional delivery service to farmers who were interested in restoring riparian zones on their land. An overwhelming interest has driven the goal to the double, and the project still runs on and develops.

The riparian zone was not a protected area in Norway before new legislation in 2008 secured a preservation of a minimum of a natural riparian zone of two meters from a water body, in addition to a general consideration zone of 100 meters from the shoreline. But there was no demand of restoring areas where the riparian zone was non-existent, and the area would only be considered protected by the law if natural vegetation was allowed to grow. A landowner could therefore keep clean cutting the area along rivers, brooks and lakes, to keep vegetation like trees and bushes from establishing.

The legislation for the riparian zone has always been deemed highly complicated and hard to put into reality. The zone is mentioned in 8 different pieces of national laws and directives, but with some vague definitions that is highly up to interpretation. The result has been many breaches of the protection, frustration from both landowners and environmentalists and a lack of legal prosecution or reactions to removal of existing natural vegetation.

With the benefits to both riverbank stability,

reduced erosion and nutrient loss and the other benefits such as climate adaptation on floods and temperature and the increased biodiversity, the sub-districts have been working on three different lines within the riparian zone: Restoration, dissemination and knowledge building. The sub-districts have reached out to landowners where there are low to none vegetation on the riverbank, and offered free trees combined with municipal funding for planting. Being able to offer a measure with no added cost to the landowner has been essential, although there are some landowners who are willing from an idealistic standpoint.

Preserving the existing riparian zone is just as important as restoring other areas. In later years there has been an increased focus on the preservation, and therefore the need for more dissemination on their importance, and the rules that are in place to protect them. Lastly the landowners that are reluctant often want proof of effects and documentation, so we also need to work further on materials we can provide and document short-, and long-term changes.



Further development

The project is a living thing, where we learn, we develop, and we improve. A major need is the materials for dissemination and knowledge sharing, and working on making some generalisations on such as nutrient and water usage comparisons on an area of just grass with area with trees in a figure, which show all the dimensions of the riverbank, also below surface and changes over time that we might not see or realize.

The project started with the focus on Alder (*Alnus glutinosa*) which has the most resistant to flooding and the deepest roots for bank stability. Later Birch (*Betula pubescens*) also for bank erosion but then also and Willow (*Salix caprea*) to also consider biodiversity, was added to the mix of available trees. Recently the assorted trees have been increased further, to include for example oak, hazel, rowan and bird cherry. The variety provided has also been an important aspect for many landowners to join the project, as they have different experiences and benefits that they look to for their land.

A project to also look at survival has been conducted previously in a similar project from 2010 and this one. Evident from these is the significant increased survival of older larger trees planted than the one-year-old plants. The investments in a plantation field for storage has therefore been essential for better results.



Reaching the landowners

There has been different measures to reach out to landowners, from passive information letters through different channels and messengers to more actively mapping areas in need and contacting landowners directly. The project have also attended farmers fairs and events that usually gather a wide range of landowners to reach more randomly and get to have dialogue with possible stakeholders.

Municipalities and regional authorities are also landowners and have been recipients of trees, but also volunteers working on preserving trout especially have been active in doing the middle management of getting the access to plant trees in areas where they see the need for it. For private landowners there are over 30 recipients of trees, where half have been visited after planting to check survivability after a few years.

Several practical aspects have been essential for the project, like a delivery service that can take for example 800 plants and deliver them to landowners over the 25 municipalities in our region. The trees have been given to landowners for free. With either grant money or funding from the municipal funding for "Special Environmental Efforts in Agriculture" – SMIL in Norwegian, can then further fund the working hours for the farmer to plant themselves, or the hired help from forestry agents that plant efficiently or using students from schools for agriculture, forestry and natural resource management. There are three of these schools in the region, whereas all of them have assisted in either planting or as landowners.

Possible partnerships

We are interested in cooperation with similar projects in other countries, to share experiences, learn from each other and to improve the projects for the future. We are especially interested in those that also have done or are working on educational and/or informational materials to engage and reach landowners. Many landowners see the negative possible effects for their land, so the need for good communication of the benefits and possible contribution to for example water quality in the region is an important aspect.

We are also interested in the evaluation of policy, and to look at how it can be improved. What needs to be changed to improve the preservation of the existing riparian vegetation and how can we better follow up and avoid illegal removal of the vegetation. Many landowners have generational experience with using trees from the riparian zone for added wood for the farm, but are now unsure how and how much they can do in the zone within the existing legislation.

