

Alluvial forests

© F. Helmbacher, 2016

Alluvial forests are located in the floodplains of rivers and streams. There, the water table is shallow, and alluvial forests are subject to flooding, so they are made up of plant species that are adapted to regular flooding.

Alluvial forests are biological corridors of prime importance, especially since alluvial plains are generally heavily developed. In contact with the water table, they have a beneficial purifying effect on water quality. Finally, by slowing down the flow of water during floods, they slow down the spread of flood waves.

Implementation and management

There are two options for restoring alluvial woodlands: natural regeneration or planting.

1. Natural regeneration ensures the establishment of suitable species and the revegetation of many watercourses at a lower cost. However, although it is less expensive, natural regeneration is not without management and investment requirements.

2. Planting allows for the faster restoration of a diverse and functional alluvial forest. It is possible to plant a fairly dense mixture of tall trees and shrubs in order to achieve good forest cover and high diversity within a few years. Another option is to plant only certain species and allow regeneration to complete the planting. The latter solution is less costly, but the diversity of the forest may be lower.

In all cases, these decisions must be made following a diagnosis and mapping exercise. In addition, project planning must include consultation with all stakeholders. A promotion phase targeting different audiences may also be relevant at the end of the project, in order to encourage the creation and maintenance of alluvial forests, while raising awareness of their positive impacts.

Restored forests require significant maintenance, at least during the first few years, in particular to ensure that the plants take root successfully. The idea behind maintenance operations is to diversify the heights and strata in the alluvial forest, which should not be dense or homogeneous.

Scale of implementation

The extent of alluvial forests can vary greatly from one context to another, depending in particular on the width of the floodplain of the river concerned. The complexity of alluvial woodlands can only be expressed in sufficiently large forest areas: their management therefore differs quite significantly from that of smaller riparian forest strips (a few decametres wide, for example).

Information on implementation costs

The restoration of alluvial forests involves variable costs depending on the scale of the project and the initial condition of the site. The main items of expenditure include:

1. Land acquisition, if necessary
2. Preliminary studies (hydrology, ecology, topography)
3. Hydraulic and ecological restoration work
4. Purchase and planting of suitable species
5. Regular maintenance
6. Long-term scientific monitoring (optional)

Costs can range from a few thousand euros per hectare for minor interventions to tens of thousands of euros for complete restoration. Public funding (local authorities, water agencies) and European funding are often available to support these projects, due to their multiple ecological benefits and their role in flood prevention. Sustainable forestry management, particularly of riparian forests, is compatible with the establishment of alluvial forests and can represent a source of compensatory income.

Key players

Institutional stakeholders: Government departments responsible for agriculture and the environment (Regional Directorates for Food, Agriculture and Forestry - DRAAF) and ecology (Departmental Directorates for Territories (and the Sea) - DDT(M), Regional Directorates for the Environment, Planning and Housing - DREAL), local authorities, National Federation of Forest Communities (FNCOFOR)

Professional and technical stakeholders: the National Forestry Office, Water Agencies, French Forestry Experts (EFF), Nature Conservation Centres,

Local stakeholders and civil society: forestry operators, landowners, forestry cooperatives and forest management groups, fishing associations, other local associations

Some bibliographical references for further information

- [Alluvial forests along major waterways.](#) Rhône-Alpes Conservatory of Natural Areas. 24 pages. (2007) *[in French]*
- [Practical guide to the sustainable management of riparian forests and alluvial forests for forest owners and managers.](#) Bourgogne-Franche-Comté Regional Forest Property Centre. 12 pages. (2007) *[in French]*