

Summary of Operation Watershed at Chesswood Allotments (Pages Lane)

The water table at Page Lane (Chesswood) allotments was very high, to the point that certain parts of the site were unusable all year round and other parts flooded most of the winter. This is related to a wider problem in the area and to flood cluster zones identified by WSCC on their maps, which showed the course of Teville Stream and the flood risk from surface water.

As well as improving the state of the allotment site directly, we aimed to improve reduce the flow of water to properties bordering the site so that the industrial estate and residential areas could rely on the allotment land to remove rather than collect and release water.

The obvious response was to plant enough of the right sort of trees to soak up water and dry the land, so that in future it would contribute to the solution and not the problem, but this had to be done carefully. Some mature trees can soak up 50-100 gallons a day and the roots of a typical 'shade tree' might use water from 20 cubic meters of soil (Journal of Arboriculture 13 (2): February 1987). But what kind of trees would do most good and are there potential disadvantages?

Trees that thrive in boggy area include varieties of willow, cypress, birch and cedar, maple, ash, Irish alder etc. Under planting to soak up water can include ferns, vines, reeds, lillies, sedge, goldenrod, verbenas and salvias families, members of the ilex family and dogwoods. However:

- 1) Some trees will take up water but then store it and return it to the ground.
- 2) Willows, for example, will put out extensive and destructive roots that can break drains, including the existing culvert, so could not be planted too close to houses.
- 3) The area is designated as an allotment site not just a fallow drainage area so needed to contribute as much as possible to horticulture and not hinder the growing of crops with excessive shade or land use.
- 4) Trees require maintenance and WAM is managed by volunteer labour, so we needed to minimise the amount of unpaid work that we put into tasks that are not our prime function, or we could not guarantee success in the long term.

Our answer to this was to:

- 1) Focus on plots that had historically been flooded or derelict for at least ten years, so that no existing productive plot was taken out of commission but wastage of land was reduced to zero.
- 2) Plant trees that could be either (a) used for food crops (e.g. orchards, especially sturdy heritage varieties) or coppiced for secondary use (e.g. willow, hazel and chestnut fencing). The coppiced material is to be used partly by WAM tenants and working parties, partly by WAGA and partly by our partners in the Transition GreenSpaces, via Pauline Cory, who can use it for educational projects and do so on our site at intervals.
- 3) Combine this with a wildlife area, landscaped so that a low set 'drainage pond' and selective planting soak up water not used by younger trees in the early stages.

4) Use our coppiced trees to multiply stock and offer free cuttings to local houses around our site, encouraging a wider spread of water-retaining growth.

This reduces maintenance and shade issues, keeps roots within bounds and contributes to our prime directive, whilst still using excess water and improving drainage in the surrounding area. The project thus has multiple benefits on several fronts; the industrial and residential areas surrounding us will be able to rely on the open land to manage, redirect and remove water that was previously unable to find a way out except as uncontrolled overflow from a saturated area.

