

Water and nature in the city: 2 assets for the welfare of a community

E.SIBEUD^[1]V.HARTMANN^[2]

KEY WORDS

Water, Nature, ecological Services, urban planning

CONTEXT AND OBJECTIVES

Water is an essential resource for the greater LYON and its inhabitants. Through the rain and watertable that ensure its storage, it is renewable throughout the year.

Although it is therefore an unlimited resource our ability to handle it is constrained by urban development and sanitation techniques used in past centuries. Our cities releases concentrated pollutants and increased the risk of flooding without the heritage and ecological value of natural environments.

Since the 1980s new sanitation techniques have emerged aimed essentially to compensate for soil sealing and the worsening flood risk. At the end of the 1990s, these techniques have largely evolved to take into account the treatment of storm water pollution and to be better integrated into the city.

The large retention basins treated in dry prairie have let place to more small, holders of public spaces or wet area, wells and pits were abandoned to be replaced by swales or by "rain gardens".

The analyses of the Greater Lyon heritage can now plebiscite the construction of these areas of rain as public spaces for nature and biodiversity. Their link with water gives them a function of air conditioning for the city which can be a simple answer and rustic to urban heat islands.

Better take into account the water in urban development is one of the issues identified by the territorial Coherence scheme (SCOT 2030) for the Lyon conurbation.

Return to a more natural cycle of water in our cities, leaving space to our streams and rain for its good infiltration into groundwater is one of the ways to restore and valuing nature in the city.

It is one of the objectives of our policy in the water the greater Lyon now sign in its next Local urban Plan (PLU).

METHOD OF INTER-SERVICE WORKING ON WATER AND THE NATURE IN THE CITY

Before starting the review of the PLU, a Working Group "Nature in the city" was created to consider how to operationally implement this policy in the future PLU.

This group helped bring together and make them think experts and technicians of the development of the territory, urban ecology, green spaces, highways and water.

"Nature in the city" theme was explored from an analysis of the present situation and the presentation of the issues of each partners taking into account the aspects related to the maintenance.

Using the GIS tools, maps of issues were able to be built on the cities of Lyon and Villeurbanne to identify sectors with the following issues:

- Sectors with deficits in public and private green spaces
- Areas with water requirements for the maintenance of the plants
- Flood areas by runoff of surface or lower area flooding in case of exceptional rain
- Current and former stream trace
- Perimeters of urban development and road projects
- Map of heat island effect

Examination of these cards by the multidisciplinary group to identify areas with multiple constraints for which it was offer multifunctional planning and shared and efficient answers.

RESULTS

The objective of this work was to provide 'cookies' sectors to show new and concrete solutions to integrate the nature in the city in a more operational way.

3 types of projects were worked at the "feasibility" level to be able to be presented:

- The development of a road and a public space in permeable zone to allow infiltration of runoff of a lower sector
- The development of a cycle lane identified as a strong green liaison between major urban parks with a filter swale that will collect runoff for the trees. The plantations will be so much better fed and freeway by rainwater and could produce a cooler space.

- The creation of an urban River fed by permanent pumping of underground car parks on the old alignment of the now defunct River Rize. This artificial blue frame would represent an opportunity for drainage pumping. But it is also an opportunity to create a new path soft and fresh across the city and an outlet for flood-prone areas. This water will also be made available to local residents to irrigate areas shared gardens.

The second was achieved during the presentation of the work in the workshops of the PLU on nature in the city. The management of rainwater in superficial and natural spaces is an inexhaustible source of opportunities to live vegetation in the city including dense urban center and to bring a mitigation of the phenomena of heat island effect with rustic and simple techniques requiring little maintenance. "Stormwater" tax with a suitable reduction policy was even recognized as an opportunity to act on the existing and very private heritage important for more than nature in the city. Biotope or "full earth" factors that could be introduced in the future PLU tomorrow will combine the objectives of biodiversity and infiltration of water in the city center.

Finally, a third was achieved thanks to the collaborative work put in place since the start of this working group. Now regularly together on different subjects, each technician can advance in its field methods and converging policies. The new Charter of the tree published by the road fully integrated issues and the benefits of better management of the waters rain in the city and their reuse for the good health of the trees. The next plan of revegetation of the city of Lyon will be based among others on the plans of flood runoff and will take into account these risks to provide locations of new green spaces in areas of strong issues.

CONCLUSIONS AND PROSPECTS

Public spaces created by Grand Lyon for the management of rainwater present social and cultural qualities and are completely appropriate by the inhabitants.

Our water infrastructure can't now only be functional.

They may be exceptional biodiversity and creative nature supports for new landscapes and new urban forms.

The communities must also take measures today to reduce stormwater pollution and meet the objectives of the aquatic quality. The treatment at source of these pollutants by limiting their production and minimizing their concentration is one of the solutions to achieve this ambitious goal.

The work of partnership committed to the realization of new public spaces management of rain in the city, both with the technicians and the inhabitants could sensitize everyone to stormwater pollution.

It is thus no doubt that we will get a real consideration of this issue by all and decisive behavioural changes to limit the use of pesticides and other toxic chemicals.

Managing rain water to be seen is to raise awareness of the small water cycle across neighbourhoods and the need to preserve our water resources for future generations.

Live at the edge of the water is a dream for many of our fellow citizens and occurs in the urban programs. With the rain we have a free resource to operate to meet this demand.

^[1] GRAND LYON water

^[2] GRAND LYON urban planning

Microsoft®

TranslatorX

Langue source

Eau et nature en ville : 2 atouts pour le bien-être d'une agglomération