

Reversing the Image of a Coal Basin

Long regarded as a serious handicap, the coal basin's brownfield sites in the French Nord – Pas de Calais region, heritage of a glorious industrial past, constitute an experimental laboratory for the regeneration of derelict post-industrial land.

Faced with an unrivalled opportunity, covering almost one quarter of the French brownfield sites at the beginning of the 1990s, public policy wavered between sustainable reallocation and necessary mass rehabilitation. From the early 1980s on, thanks to the mobilisation of considerable public funds, major portions of land were re-appropriated with two objectives in mind: the creation of zones for economic activity and of large recreational parks. In the early 1990s, the emphasis was on quantity, particularly with the concomitant foundation of a funding programme specifically for abandoned industrial sites and of a public real estate company (Etablissement Public Foncier) in charge of implementation. Finally, from the 2000s on, with the creation of Mission Bassin Minier Nord – Pas de Calais, a strategic local task force in charge of sustainable urban, economic, social and cultural development, the objective of large-scale consistency for natural and converted sites evolved. The green belt (Trame verte) was defined as a regional planning tool to control urban development, to protect and develop biodiversity and to make a range of recreational areas available to the population, which was increasingly expressing its need for “nature”. A plan was developed identify-

ing the hubs and the links that provide points of reference both for financial policy for contracts and for planning projects of urban agglomerations under development.

To illustrate this collective effort, we have chosen to focus on three of the most exemplary projects, be it for their objective of sustainable reallocation (Lagunage de Harnes, Parc Naturel Urbain de Drocourt) or for their ability to generate public partnerships (for a section of the national hiking trail known as Grande Randonnée de Pays, or GRP).

The lagooning in Harnes resulted from the coming together of a voluntarist – even avant-garde – mayor, Yvan Druon, Mayor of Harnes, and a sensitive and innovative landscape architect, François-Xavier Mousquet. In a square pit at the foot of a slagheap, the project consisted of creating a lagooning system for purifying wastewater through phyto-remediation. The challenge was to respond to the technical requirement (to continue the purification of wastewater that was still impure after leaving the purification plant) while integrating the ecology at the bottom of the valley, the residents' use of the site, the visibility of the project, and the project's connection to other natural areas along the canal.



The lagooning in Harnes completes the wastewater purification process and provides high-quality water for a swimming pond. The photo shows the sedimentation pools.

LAGUNAGES DE HARNES, HARNES, FRANCE

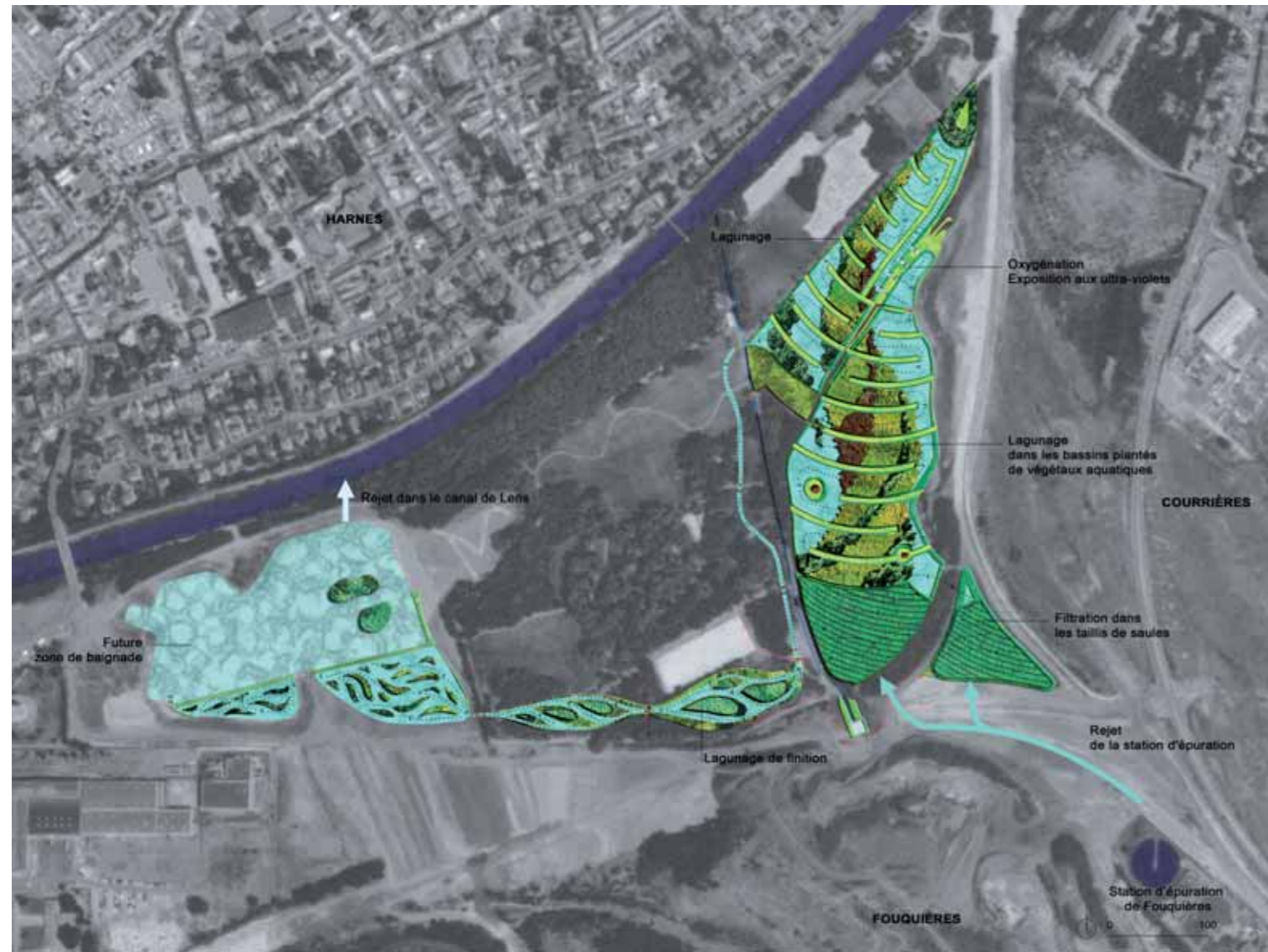
Client: Communauté d'Agglomération Communauté de Lens-Liévin, Lens, Pas-de-Calais

Landscape architects: Agence Paysages, François-Xavier Mousquet, Lille

Completion: 2005

Area: 100 hectares

Costs: 1.8 million euros



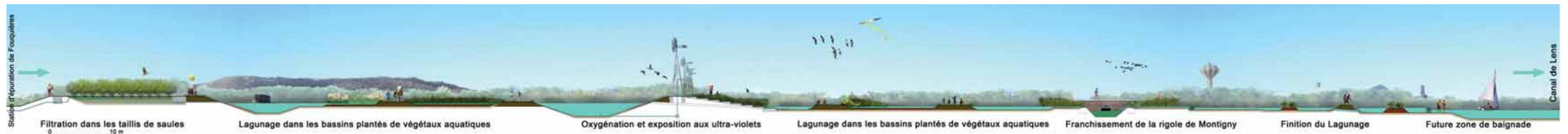
Realised in two phases (the first dedicated to terracing and planting the surroundings, the second to building the dams, planting the pools, and related work), the Harnes lagoon today reconciles technical efficiency with high-quality water ultimately for use in a bathing pool as well as landscape and ecological qualities (significant bird, bat, frog, toad and insect communities).

In order to understand the project, let us follow the progress of wastewater from a kitchen sink, washing machine or toilet, heavy with organic pollution. In the purification plant, bacteria nourished by the organic matter in the active sludge reduce the water's mineral content. Leaving the plant, the water is still full of minerals, the notorious nitrates which nobody needs but which are so good for vegetation. Willows perform the first treatment. Planted in a gravel bed with the mineral-rich water running through it, the roots of these most voracious plants absorb a maximum amount of fertilizer. This pool is called the short rotation thicket, because the willows grow very quickly and need to be "harvested" every three years. By now the water is considerably lighter but still carries some nitrates and phosphates. Bulrushes await the water in the second pool, where it is treated by the roots of aquatic plants. These absorb the minerals that feed the plants, which are later harvested for composting. This lagoon has intensely active periods during the growth and flowering

of *Typha angustifolia*, *Butomus umbellatus*, *Iris pseudacorus* and *Epilobium hirsutum*, species with beautiful flowers and fruits, as attractive for ecology as for the landscape. In these pools, the water is sucked up by wind turbines. They pump and eject it two metres higher, thus oxygenating the water and making it run down large, slightly sloping, concrete steps in a very thin layer exposed to ultraviolet rays. This method has historically been used in Arab countries, where it is called "chador" or "veil" of water. Once back in another pool, the oxygenated and disinfected water continues its voyage among the roots of aquatic plants. It moves very slowly, taking over two weeks to travel from the beginning to the end of the pools. Finally, the water crosses the former wastewater ditch of the plant via a "bridge-canal" and slowly continues to its destination in the bathing pool.

The Urban Nature Park of Drocourt is one of the major hubs in the green belt thanks to the reconquest of 60 hectares of the former coking works and 120 hectares of the neighbouring slag heaps. Conceived by the landscape architect Guéric Péré, the park provides theme gardens nestled in the heart of a large wetland, broad open country, recreational areas in the midst of nature, and preservation and biodiversity zones. It will be a new link within hitherto fragmented urban space and will generate dynamics for urban renewal. The first construction phase will get underway at the end of 2006, with costs

The project plan is the outcome of technologies, existing conditions and other equally important factors: the ecology at the bottom of the valley, the use of the site by local residents, and the connection to other natural spaces.





The second sequence of the lagooning is accomplished mainly by the roots of aquatic plants such as *Typha angustifolia*, *Butomus umbellatus* and *Iris pseudacorus*.



Wooden footbridges allow visitors to walk through the area. The site is used for sports as well as for strolls and short cuts by college students.

URBAN NATURE PARK OF DROCOURT, PAS-DE-CALAIS, FRANCE
 Client: Communauté d'Agglomération de Hénin-Carvin, Pas-de-Calais
 Landscape architects: Ilex Paysage & Urbanism, Guéric Péré, Lyon
 Construction: 2006 – 2010
 Area: 160 hectares
 Costs: 14 million euros; first construction phase: 6.5 million euros



Education was integrated into the project with a series of ecological information panels. They mark characteristic sites and draw visitors' attention to both water purification techniques and animal species.

totalling 6.5 million euros before taxes. The ambitious landscape project advances the functional diversity that will make the park a central element. The vocabulary of the islands in particular can convey atmosphere and variety and highlight ecological standards (dealing with the mine's overburden and debris, fertilising the soil mainly with ecological engineering techniques, taking differentiated forms of maintenance into account in the development plan).

The green belt scheme projects the development of a large number of links, about 620 kilometers in all. With the support of the Mission Bassin Minier, the departmental council of Pas de Calais – soon taken over by that of Nord – decided to construct and maintain a section of the national hiking trail (GRP). This is to promote hiking on the one hand and tourism and heritage development on the other. In fact, the coal-field landscape constitutes a heritage that people have only recently become aware of, to the point of its becoming a catalyst for image transformation. This is materializing in Bassin Minier's candidature for the status of UNESCO organically evolved cultural landscape.

The landscape, its staging and its upgrading, has gradually become one of the major elements of regional planning policy with regard to its contribution to residential appeal, a major stake for a former industrial area that long had a negative

image. We have worked hard to lend credibility to the notion of programme. The contracting authority's ability to precisely define its objectives and expectations is the necessary condition for the architects and landscape architects to express their talent and creativity. From now on we will be able to give priority to multidisciplinary approaches in project management teams, which will enhance the projects. We will pay more attention to certain elements. These include the project concept, or how to go beyond simple renaturation; the links to the site's urban or rural environment, or nature as a structuring element for the city; the project's capacity for addressing the residents' need for nature while diversifying the range of leisure activities; the project's ability to narrate the story of an area, notably by setting off the value of "schist" material or indigenous species of vegetation; freedom for creativity, rejection of dogma; great strictness in integrating forms of site management, causing project managers to make choices that are not exclusively aesthetic or functional. It is the combination of these constraints that generates a sustainable project.

The combined conviction of several visionary elected representatives and men and women in the profession made it possible to think of the spatial and built heritage of the great coal-mining era as a lever for development and positive identity today.



The Urban Nature Park of Drocourt will provide theme gardens nestled in the heart of a large wetland, broad open country, recreational areas in the midst of nature, and preservation and biodiversity zones.



Local residents had the opportunity to participate in the planning process. Their demand to integrate an area for fishing has been taken into account.