

les Ateliers

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Paris Region, France

Along the *rhythms* of the water

Imagining the Seine Metropolis



Context document

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«Ecology and Habitability of the Seine and its Tributaries»

44th international of urban and territorial creativity
from 7 to 25 September 2026
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Along the rhythms of the water

Imagining the Seine Metropolis

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Introduction: Les Ateliers

The workshop 'To the rhythm of water: imagining the Seine metropolis' proposes to examine the conditions for liveability in the Paris metropolitan area through the prism of water and ecology, treating them as guiding threads that enable us to reinterpret how the territory functions and to imagine new paths for its transformation. In the face of climate change, pressures on essential resources, social inequalities and the degradation of inhabited environments, it invites us to shift our perspective on metropolitan functioning by focusing on what sustains life: water cycles, soils, living environments and the multiple interdependencies that link territories together. This approach involves repositioning the Paris metropolitan area within the wider territorial system of the Seine basin, on which it depends for its water supply, part of its resources, the functioning of its environments and its ecological balances. Thinking about the metropolitan area from the perspective of the Seine basin therefore means more than just changing scale; it means gaining a better understanding of the relationships that enable its functioning, its liveability and its transformations.

It is from this perspective that the workshop proposes to explore the possibility of a 'garden metropolis'. More than just a planning model, this concept is an invitation to shift our perspective: to move from a metropolis that has largely been built on the principle of controlling water and transforming environments to one that is attentive to what permeates, connects, cools, nourishes, shelters and regenerates its territories. It is no longer simply a matter of managing water or restoring natural spaces, but of considering the conditions for a metropolis capable of working in harmony with the cycles of life and using these cycles to support its liveability.

To this end, the workshop proposes to use time as a method, taking into account the multiple temporalities – hydrological and ecological cycles, technical legacies, the rhythms of urbanisation, political timeframes and climatic events – that interplay within metropolitan transformations. This approach invites us to interpret the temporalities of the territory, to reveal the discrepancies and tensions between the dynamics of environments, infrastructure and land uses, and then to imagine trajectories of transformation capable of articulating immediate actions, gradual developments and long-term horizons.

This document forms part of this ongoing process. Its aim is not to provide an exhaustive overview of the Paris metropolitan area or the Seine basin, but rather to establish a common knowledge base and a shared framework for their interpretation. By putting the main historical legacies, territorial processes and ongoing ecological transformations into perspective, it aims to shed light on observations made in the field and to support the development of project proposals rooted in the realities of the territory.

The document is organised into four parts. The first offers an analysis of the Seine metropolitan area today, its functioning, its interdependencies and the main tensions at play within it. The second traces the historical evolution of the representations and relationships between the metropolitan area, the Seine basin, water and living organisms, in order to highlight the legacies that continue to shape contemporary challenges. The third part examines the ecological transformations currently underway, changes in governance models and the main challenges facing the territories within the basin. Finally, three territorial profiles present the workshop's study sites – Argenteuil, L'Île-Saint-Denis and Paris – through the major urban projects currently underway there, the challenges they address, the stakeholders driving them

and the debates they provoke. They serve as entry points for fieldwork and will enable to link the observations made on site with the metropolitan dynamics discussed in the preceding chapters.

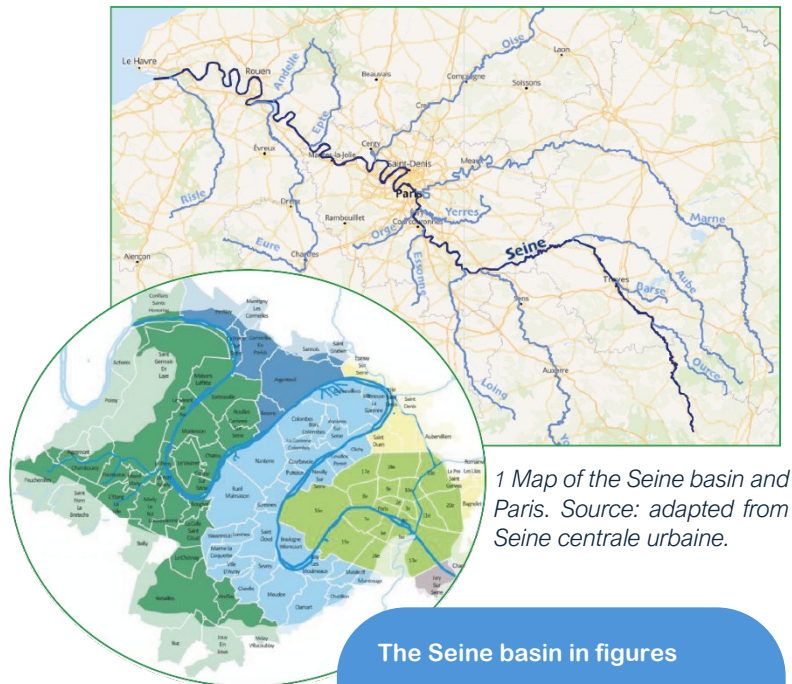
1. Understanding the Seine metropolis today

Understanding the metropolis from the perspective of the Seine basin invites us to shift our perspective. Beyond the image of a dense, concrete-filled capital, the Paris region emerges as a territory shaped by the Seine basin, where watercourses, infrastructure, agricultural land, natural environments and urban areas are closely interlinked. This approach allows us to move beyond a vision centred solely on administrative boundaries or metropolitan functions, and instead highlights the links that unite upstream and downstream areas, spaces of production and consumption, decision-making centres, and the territories that harbour resources and infrastructure. Water and living systems therefore provide a common thread for understanding the interdependencies that structure the metropolis, the forms of habitability they enable, and the inequalities and tensions they generate in the context of climate change.

a. A metropolis shaped by water

The Seine catchment area covers nearly 79,000 km², representing around 12 per cent of mainland France, and is home to more than 18 million people. Structured around the Seine and its major tributaries – the Marne, Oise, Yonne, Aube and Loing – it forms a vast hydrographic system linking agricultural plateaus, inhabited valleys, industrial areas and the metropolitan heartland. The water flows slowly through a relatively gentle landscape, shaping a territory characterised by meanders, confluences, groundwater tables and permeable soils, which have

profoundly influenced the location of towns, economic activities and infrastructure. Far beyond the visible river itself, the basin thus constitutes a geography of relationships and interdependencies between upstream and downstream, between rural, urban and industrial areas, and between aquatic environments and metropolitan functioning.



The Seine basin in figures

- 79,000 km²
- 18 million inhabitants
- 12 per cent of mainland France
- 6,700 municipalities
- 4 regions
- 25 departments (in whole or in part)
- 777 km in length

Whilst the main institutions currently responsible for metropolitan governance are

relatively recent – from the Paris Region District, established in 1961, to the Île-de-France Region as a local authority in 1976, and then the Greater Paris Metropolis, created by the MAPTAM Law of 2014 and established on 1 January 2016 – the principles underpinning the functioning of the Paris metropolitan area are rooted in a much longer history. From the early Middle Ages onwards, the valleys of the Seine, the Marne, the Oise and their tributaries served as key routes for the movement of people, goods and power (Noizet and Gautier 2019). From

the 7th and 8th centuries onwards, major abbeys such as Saint-Denis, Saint-Germain-des-Prés and Saint-Maur-des-Fossés administered vast agricultural estates, shaped the landscape, developed trade networks and played a part in the economic organisation of territories extending well beyond Paris.



2 Map of Paris by Truschet and Hoyau, 1552.
Source: Wikipedia

From the 12th century onwards, as Paris established itself as the Capetian capital, the royal authorities reinforced this central role by developing transport routes, markets, river ports and administrative functions, whilst the Seine became a major route for supplying the city with grain, timber, stone, wine and building materials. The major engineering projects of the 18th and 19th centuries – notably the gradual canalisation of the Seine, the construction of the Ourcq (1802–1822), Saint-Denis (1821) and Saint-Martin (1822–1825) canals, followed by the development of the railway network and industrial infrastructure – extended and intensified these links by increasingly integrating the territories of the basin into the functioning of the capital.

Paris's centrality was thus not built solely through the concentration of political and

economic functions within the city, but also through the gradual organisation of a territorial system that permanently linked Paris to the resources, infrastructure and communities of its catchment area. Even today, the Seine remains a defining feature of the metropolitan area's functioning. River transport accounts for around 20 million tonnes of goods per year in Île-de-France¹, whilst the basin's factories and networks supply drinking water to millions of residents every day.

This history has been accompanied by a profound transformation of the basin's aquatic environments and landscapes (APUR, 2010). To accommodate population growth, industrialisation and urban expansion, watercourses have been progressively straightened, embanked, covered or channelled; examples include the Bièvre, which was gradually covered between the late 19th century and 1912, and numerous streams in the Île-de-France region that have been incorporated into the sewerage networks. Wetlands were drained, riverbanks were altered, and large areas of land were sealed off to support urban development.



3 A maintenance intervention in the Paris sewers. Source: Jean-Baptiste Gurliat, City of Paris

¹ [Préfecture de région Île-de-France, 2024](https://www.paris.fr/economie/le-seine-une-artere-vitale)

From the 19th century onwards, the city gradually developed extensive technical networks: the Vanne (1874), Loing and Lunain (1900) aqueducts, followed by the Avre (1893), ensured the supply of drinking water; the major sewerage systems designed under the leadership of Eugène Belgrand and Prefect Haussmann transformed Paris's sanitation system; whilst the first large-scale wastewater treatment works, such as Achères (1940, now known as Seine Aval), and the four major dams and reservoirs built between 1949 and 1990 on the Seine, the Marne, the Aube and the Yonne, helped to regulate both high water levels and low water levels. These infrastructures still form the backbone of the metropolitan area's functioning today and make daily life possible for several million residents, whilst remaining largely invisible to those who depend on them.

This development model, based on increasing control over water and the environment, has, however, contributed to exacerbating certain vulnerabilities. Land sealing limits the soil's ability to absorb water, ecological corridors have been fragmented



4 The Georges Pompidou Road converted into a pedestrian zone (2011). Source: Wikipedia Commons

What is meant by the 'Seine metropolis'?

The concept of the 'Seine metropolis' refers to an interpretation of the Parisian metropolis based on the Seine basin, water and living organisms. It emphasises that the conditions for liveability in the metropolis rest on a system of interdependencies linking the river, its tributaries, groundwater, hydraulic infrastructure, agricultural areas, natural environments and urban areas. More than just an administrative boundary or an institution, it invites us to view the metropolis as a component of a wider territorial system, on which it depends and which it, in turn, transforms.

and natural floodplains significantly reduced, whilst much of the infrastructure was designed for hydrological and climatic conditions different from those of today. Recent events – from the Seine floods of 2016 and 2018 to the droughts of 2022 and the increasingly frequent extreme rainfall – serve as a reminder that the functioning of the metropolitan area remains deeply linked to the dynamics of the Seine basin. Behind the image of a dense, urbanised city lies a geography of water that remains ever-active: groundwater, valleys, streams that are sometimes hidden from view, wetlands, technical networks and ecological corridors continue to shape metropolitan areas and largely determine their capacity to adapt to climate change.



5 The Pont Alexandre III during the 1910 Seine flood. Source: Wikipedia Commons



6 The Pont du Carrousel and the Louvre during the 2016 Seine flood. Source: Wikipedia Commons

b. Understanding the Paris metropolitan area today

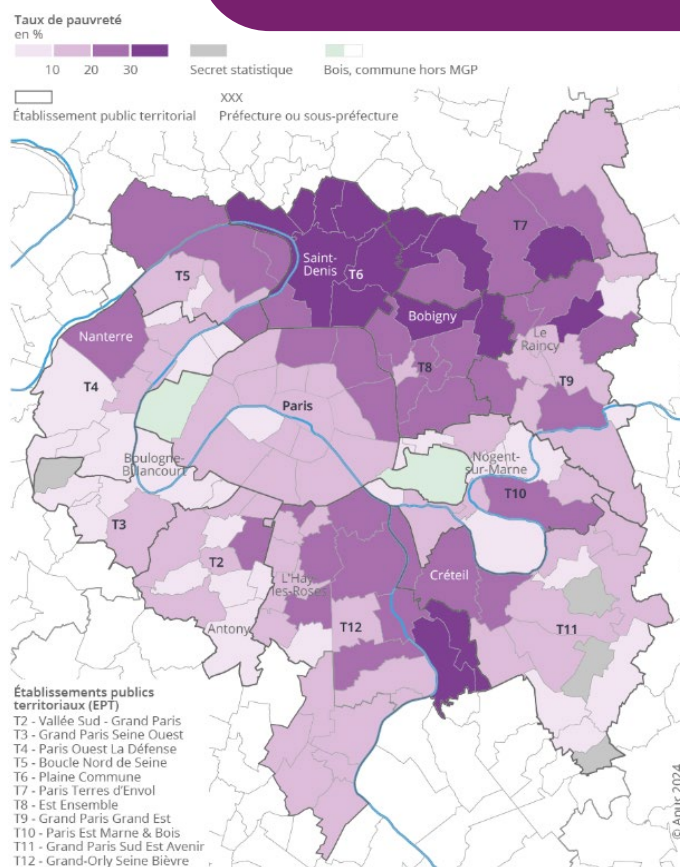
With a population of nearly 12.6 million as at 1 January 2026 and accounting for around 30 per cent of the national gross domestic product, the Île-de-France region is the country's main demographic, economic and institutional hub. This exceptional concentration of people, jobs, services, facilities and decision-making functions results in a metropolis that is not only particularly dense but also deeply diverse. The heart of Paris and part of the inner suburbs are home to a high concentration of skilled jobs, high-level services and decision-making centres, whilst other areas accommodate a significant proportion of the residential, industrial, logistical, energy and environmental functions necessary for the region's day-to-day functioning. This structure generates high levels of mobility and links together areas with very different characteristics: dense city centres, suburban neighbourhoods, large housing estates, business parks, logistics hubs, agricultural land and forest areas.

The region's economic strength coexists with significant social and regional inequalities. In 2021, 1.2 million people – 18.3 per cent of the population of the Greater Paris Metropolis – were living below the poverty line. This rate stood at 36.2 per cent in Plaine Commune, compared with around 9 to 11 per cent in certain areas of the western part of the metropolis; at the local authority level, it ranged from less than 7 per cent in Garches or Vaucresson to over 40 per cent in Aubervilliers or La Courneuve². These disparities are reflected in access to housing, transport, services, open spaces, cool areas and the resources needed to cope with crises. The effects of climate change

therefore do not affect a socially homogeneous area: the quality of housing, building density, the presence of vegetation, proximity to a cool space or the ability to travel determine very different levels of exposure and adaptive capacity (Jeudy, Nussaume and Perysinaki, 2016).

A powerful, yet unequal, metropolis

- 12.6 million inhabitants in Île-de-France by 2026
- around 30 per cent of national GDP, accounting for around 18 per cent of the French population
- 1.2 million people living below the poverty line in the Greater Paris metropolitan area in 2021
- a poverty rate ranging from less than 7 per cent to over 40 per cent depending on the municipality.



7 Poverty rates in the Greater Paris metropolitan area in 2021, by municipality and arrondissement. Source: INSEE and APUR

² <https://www.insee.fr/fr/statistiques/8257369>

These contrasts are particularly evident in the working-class, densely populated neighbourhoods of north-east Paris. In the 19th arrondissement, the poverty rate stood at 22 per cent in 2021, rising to 27 per cent among tenants³; in the 20th arrondissement, the figures were 21 per cent and 26 per cent respectively⁴. These areas are not lacking in green spaces – the 19th arrondissement, in particular, is home to the Parc des Buttes-Chaumont and the Parc de la Villette – but their presence alone is not enough to guarantee equal access to cool, open spaces.



1. Seeking respite from the heat at night in the Parc des Buttes Chaumont during the heatwave (June 2026). Source: Josephine Brueder, City of Paris (19th arrondissement)

The distance from home, the quality of footpaths, opening hours, visitor numbers, population density and even the possibility of finding a shaded area in the immediate vicinity all influence residents' actual ability to benefit from these resources. Inequalities in liveability are thus linked as much to the distribution of amenities as to the practical conditions of their accessibility.

The Paris metropolitan area has developed around major territorial structures that continue to shape its contemporary dynamics. The valleys of the Seine, the Marne and the Oise constitute historic axes of urbanisation, transport and industrial development, along which housing, infrastructure and economic activities have gradually become concentrated. Rail and motorway networks, the Paris ring road, airport hubs, ports and canals structure the territory at various scales and link the capital region to the Seine basin as well as to the major European transport corridors.

Alongside the urbanised core, vast agricultural, forested and natural areas remain, fulfilling essential functions: food production, water infiltration and storage, the maintenance of ecological connectivity, and recreational activities. Far from pitting an urban centre against a 'natural' periphery, the metropolis thus emerges as a hybrid territory, where built-up areas, living environments, technical infrastructure and productive, landscapes remain closely intertwined.

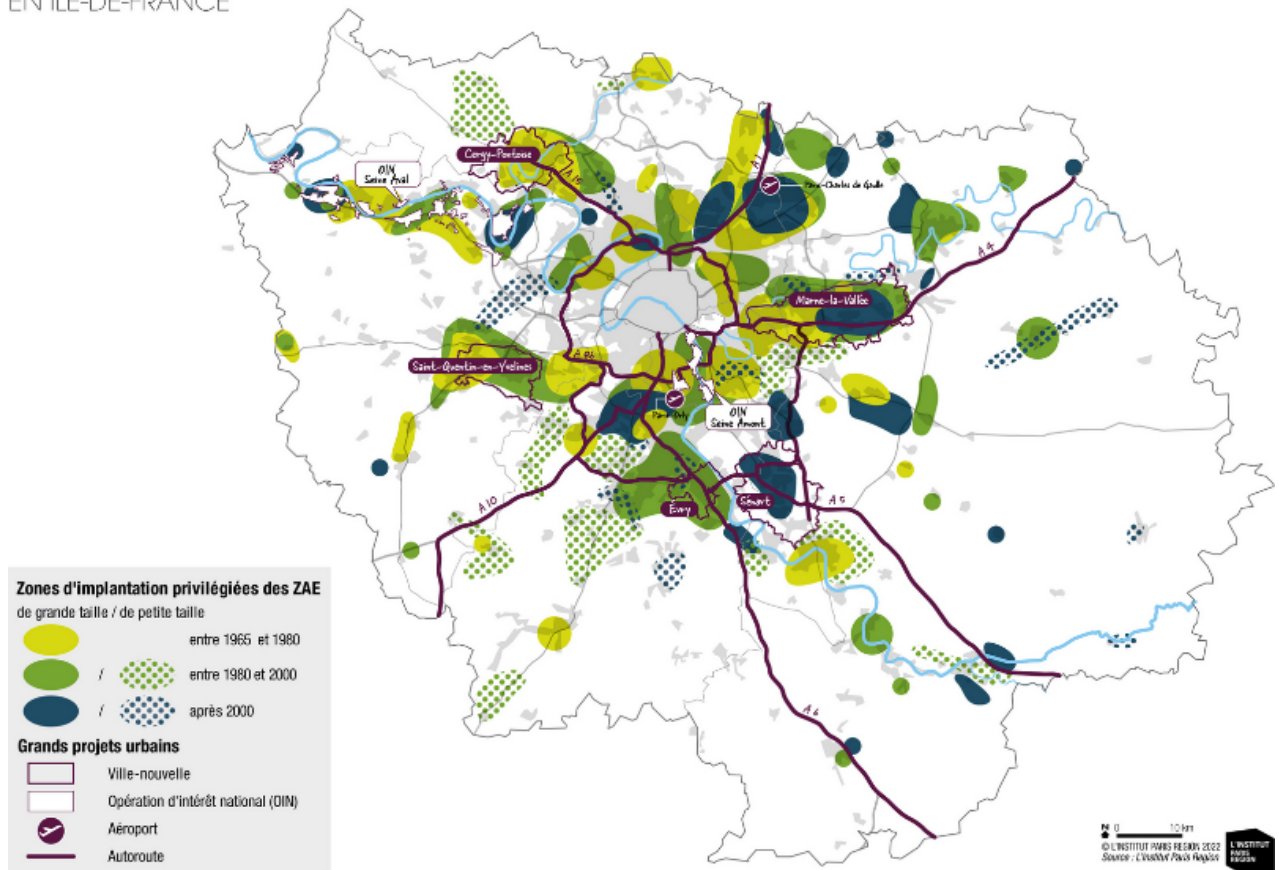


8 Forest of Rambouillet, 50km from Paris. Source: Wikipedia Commons

³<https://www.insee.fr/fr/statistiques/7758831?geo=COM-75119>

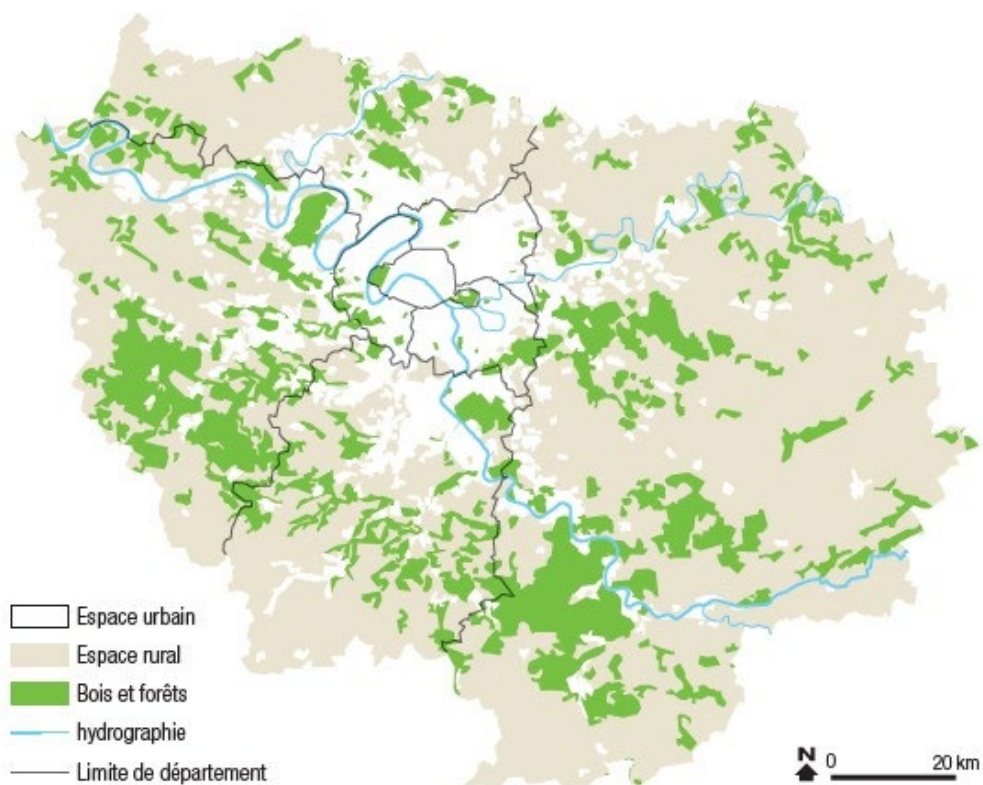
⁴<https://www.insee.fr/fr/statistiques/7758831?geo=COM-75120>

50 ANS DE ZONES D'ACTIVITÉS ÉCONOMIQUES EN ÎLE-DE-FRANCE



10 Fifty Years of Business Parks in the Paris Region (Île-de-France). Source: Institut Paris Region. (Yellow: business parks developed between 1965 and 1980; Green: business parks developed between 1980 and 2000; Blue: business parks developed after 2000; Purple outlines: New Towns; Grey outlines: National Interest Operations (OINs); Airport symbols: airports; Purple lines: motorways.)

OCCUPATION DES SOLS EN ÎLE-DE-FRANCE



9 Land Use in the Paris Region (Île-de-France). Source: Institut Paris Région (White: built-up areas; Beige: agricultural and other rural areas; Green: forests and woodlands; Blue lines: hydrographic network; Grey lines: departmental boundaries.)

The governance of the metropolitan area is based on an overlay of political, administrative, technical and hydrographic boundaries. Île-de-France comprises eight departments and 1,266 municipalities; within it, the Greater Paris Metropolis brings together 130 municipalities organised into twelve regional public bodies. The Region, the departments, the municipalities, the Greater Paris Metropolis and the territorial public bodies each operate at their own level across the metropolitan area.

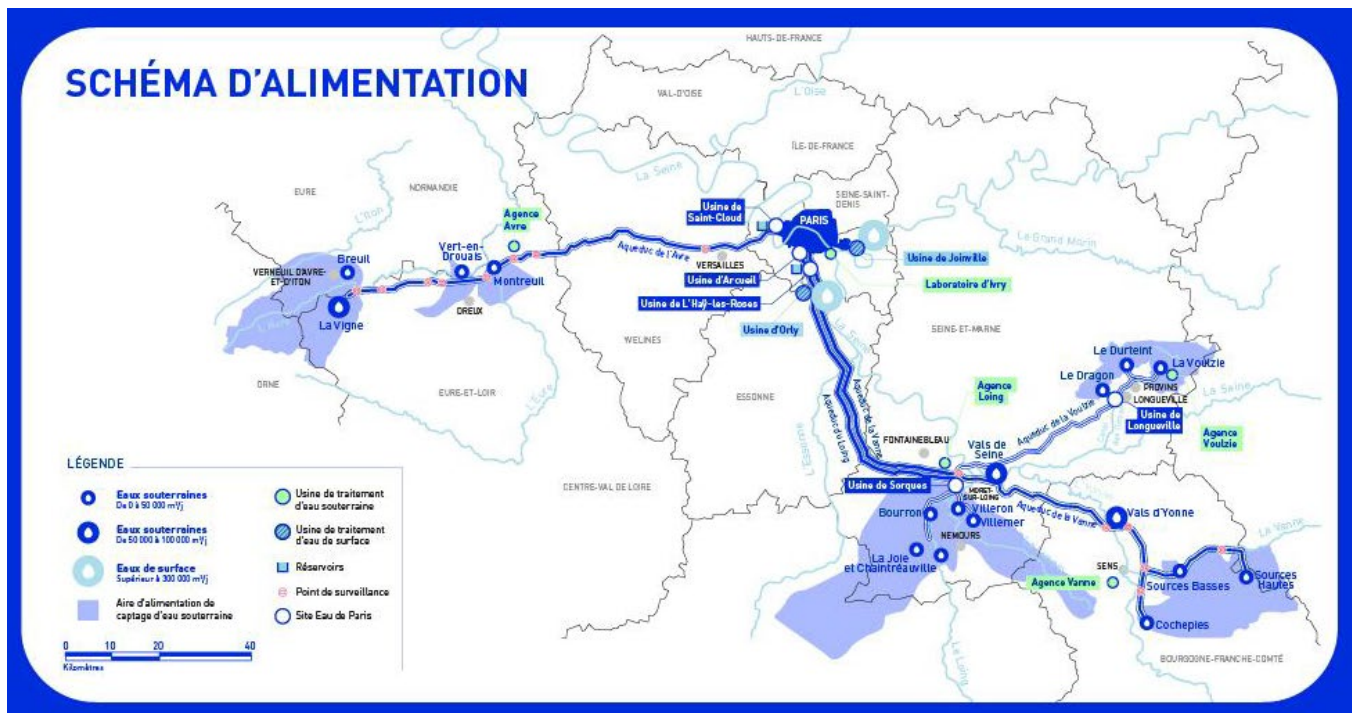
In addition to this political structure, there are numerous technical operators whose areas of operation do not necessarily coincide with administrative boundaries. The Seine-Normandie Water Agency operates at the catchment level; Eau de Paris and SEDIF supply drinking water; the Interdepartmental Syndicate for Sanitation in the Paris Metropolitan Area (SIAAP) is responsible for wastewater treatment across a large part of the conurbation; Seine Grands Lacs manages the main regulation structures located upstream; HAROPA Port and Voies navigables de France, for their part, integrate the Seine into a port and logistics system extending as far as the estuary. This institutional organisation reflects territorial interdependencies where the locations of decision-making, resource production, infrastructure deployment and exposure to vulnerabilities do not overlap. The management of water and living environments thus relies on cooperation, but also on trade-offs and conflicts between stakeholders and territories.

Paris's drinking water supply provides a concrete example of these links. Around half of the water supplied to the capital comes from the Seine and the Marne, drawn upstream of Paris; the other half comes from groundwater abstracted in Île-de-France,

Burgundy and Normandy. The most distant sources are located some 156 kilometres from the capital and are connected to Paris via the Vanne, Loing, Voulzie and Avre aqueducts⁵. Their catchment areas cover around 240,000 hectares, within which soil quality and agricultural practices directly influence the quality of the water consumed by the people of Paris.

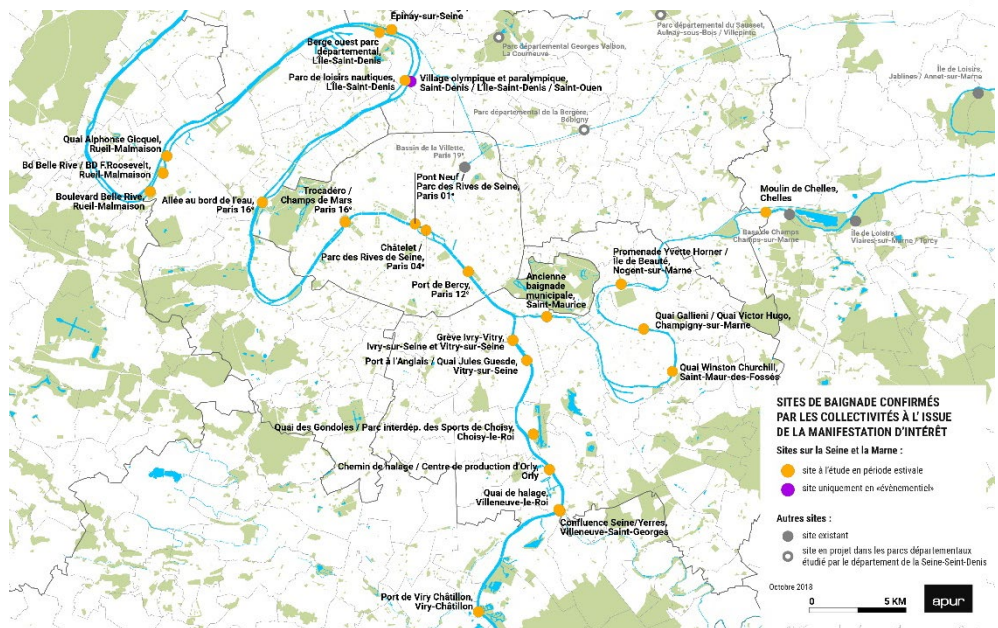
The security of the urban water supply therefore depends not only on areas situated well beyond the densely populated city centre, but also on cooperation with local authorities, residents and farmers who live and work in the catchment areas. This dependence does not apply solely to the supply of drinking water. The city's water management system relies on a network of infrastructure spanning the entire catchment area: aqueducts, distribution networks, wastewater treatment plants, reservoir dams and flood retention areas. Wastewater produced by several million residents is thus collected by an extensive sewerage network before being treated, notably by the SIAAP, whose Seine Aval treatment works in Achères is one of the largest in Europe. Upstream, the reservoir dams managed by Seine Grands Lacs help to limit winter flooding whilst maintaining the flow of the Seine during low-water periods. Here too, the services provided to the capital region rely on infrastructure and areas largely situated outside its urban centre.

⁵ <https://www.eaudeparis.fr/ou-se-trouvent-les-eaux-souterraines-qui-nous-alimentent-en-eau-paris>



12 Drinking Water Supply System for the Paris Metropolitan Area. Source: Eau de Paris
(Dark blue circles: groundwater abstractions (5,000–50,000 m³/day); Large dark blue circles: groundwater abstractions (>50,000 m³/day); Light blue circles: surface water abstractions (>300,000 m³/day); Light blue shaded areas: groundwater catchment protection areas; Green circles: groundwater treatment plants; Blue hatched circles: surface water treatment plants; Blue squares: reservoirs; Red dots: water quality monitoring stations; Blue outlined circles: Eau de Paris facilities.)

These interdependencies are, however, neither symmetrical nor devoid of power dynamics. Agricultural, industrial, port and working-class areas contribute to the functioning of the capital region by providing resources and hosting essential infrastructure, whilst bearing a significant share of the constraints these generate (easements, nuisances, risks or land take). The benefits and costs of the metropolitan system thus remain unevenly distributed. Making these relationships visible raises questions about the forms of recognition, compensation and solidarity between the territories that make up the metropolitan catchment area.



11 Confirmed Bathing Sites in the Seine and Marne Rivers Following the 2024 Olympic and Paralympic Games. Source: APUR
(Orange dots: legacy bathing sites; Purple dots: event-only bathing sites; Grey dots: existing bathing sites; Light grey dots: planned bathing sites in Seine-Saint-Denis departmental parks; Blue lines: rivers and waterways.)

Access to water itself is also a social and political issue. The return of swimming in the Seine and the Marne in 2025, following the opening of three sites in Paris and several sites in the inner suburbs, reflects a significant improvement in the quality of the

river and a transformation in its uses.⁶ The Parisian sites at Bras Marie, Bercy and Grenelle welcomed around 100,000 bathers during their first season. Beyond their recreational value, these sites highlight the importance of access to the river and to cool, open spaces as key components of metropolitan liveability. Their development invites reflection on the conditions for more equitable access to the riverbanks and bathing sites, particularly in areas where accessible spaces offering respite from the heat remain limited. Bathing thus reveals the river not only as an ecological infrastructure or a landscape, but also as a public space where access can become a matter of territorial justice.



13 Swimming spot on the Bercy waterfront in Paris. Source: Guillaume Bontemps, Ville de Paris

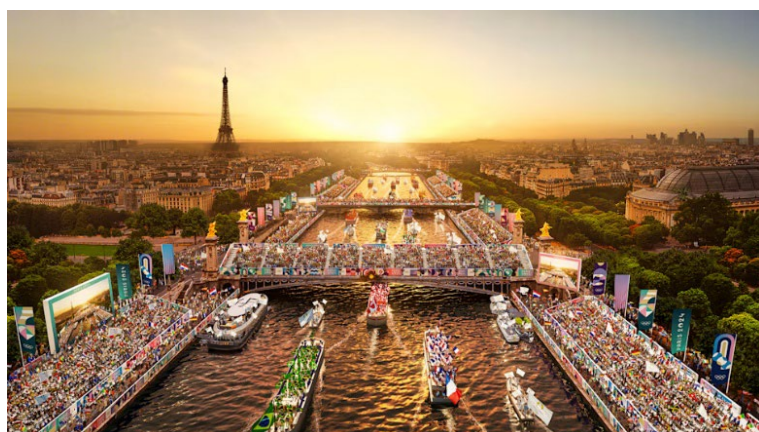
Viewing the metropolis through the lens of water and living organisms therefore leads us to move beyond a representation centred solely on its urban and administrative centres. Behind its administrative boundaries lies a system of interdependencies linking urban spaces, agricultural areas, technical infrastructure and natural environments across the Seine basin. These relationships make the capital region habitable, but they

also distribute resources, risks and capacities for action unevenly. Understanding the Seine metropolitan area therefore requires making these interdependencies – and the issues of territorial justice they raise – visible.

c. The Visibility and Invisibility of Water in the Metropolis

The Paris metropolitan area is shaped by a multitude of water features, some of which occupy a central place in the landscape, in everyday uses and in collective representations, whilst others remain largely invisible despite their essential role in the area's functioning. The Seine, 777 kilometres long, flows through the conurbation from east to west and is one of the metropolitan area's main spatial landmarks. Concentrated around it are public spaces, cultural facilities, port infrastructure and iconic landscapes that contribute significantly to the identity of the capital region.

This symbolic dimension was particularly highlighted during the opening ceremony of the Paris 2024 Olympic and Paralympic Games. For the first time in the history of the modern Games, the ceremony took place outside a stadium: the delegations travelled six kilometres along the Seine, from the Pont d'Austerlitz to the Trocadéro, transforming the river into the central stage of a narrative



14. Opening ceremony of the 2024 Olympics, Source: Olympics.com

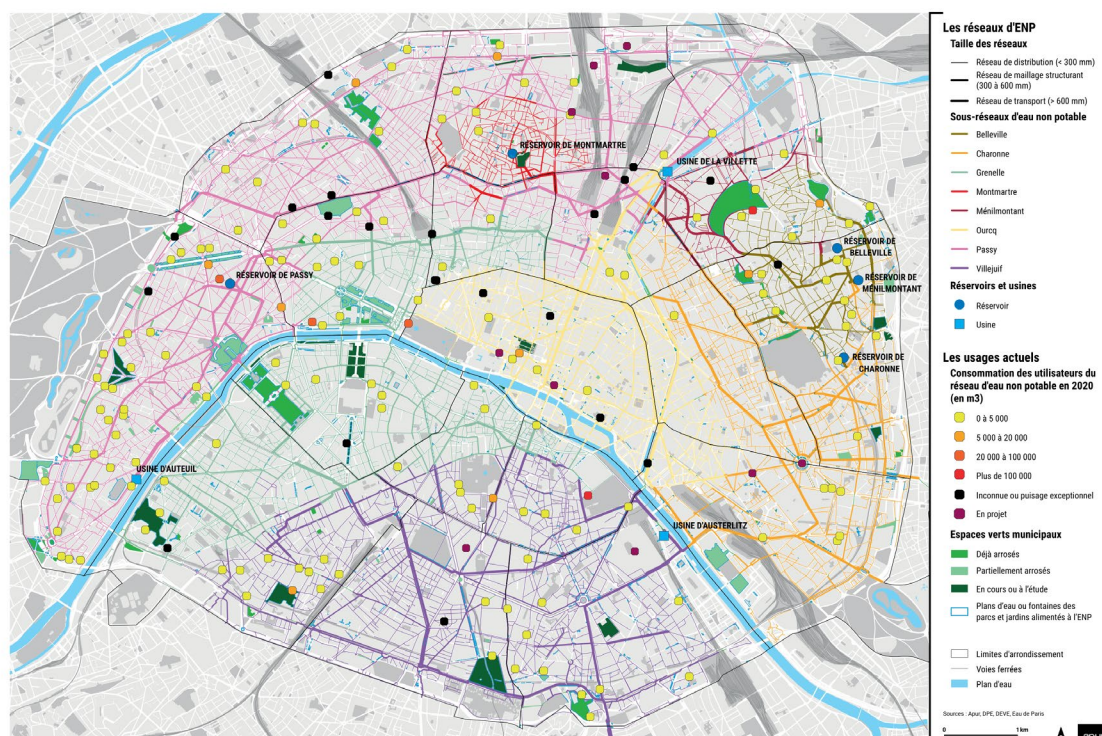
⁶ <https://www.apur.org/fr/mobilites-espace-public/seine-rivieres-canaux/frequentations-publics-sites-baignade-seine>

celebrating heritage, the city's openness and the relationship between Paris and its river. This choice illustrates the return of the Seine as a defining feature of the city's international image and as a shared public space, far beyond its mere functions of transport or water regulation. The Saint-Denis, Ourcq and Saint-Martin canals also play a defining role in the north-eastern areas of Paris. Long regarded as transport and supply infrastructure, they now accommodate new recreational, cultural and residential uses, whilst retaining their logistical and hydraulic functions.

Conversely, much of the metropolitan waterways remain largely hidden from view. Several minor rivers, such as the Bièvre, as well as certain historic branches of the Seine, were gradually covered over, diverted or filled in during the 19th and 20th centuries to accommodate urbanisation and address the public health concerns of the time. In Argenteuil, for example, the branch of the Seine that once separated Île Héloïse from the town centre was gradually filled in during the early 19th century, giving rise to the present-day Boulevard Héloïse and connecting the former island to the rest of the

town. Yet this vanished watercourse continues to shape the topography and history of the area. Beneath the streets also run groundwater aquifers, aqueducts, drinking water networks, sewers and sanitation infrastructure that ensure the metropolis functions on a daily basis. Yet this hidden geography continues to influence water quality, flood risks, ground movements and even the city's cooling capacity. The visibility of water therefore does not necessarily reflect its importance to the functioning of the metropolitan area.

As the previous section has shown, the day-to-day functioning of the metropolitan area relies on a vast hydraulic system spanning the entire Seine catchment area. Yet this system is far from being equally visible. Much of the infrastructure that makes the metropolitan area habitable lies outside the realm of everyday experience: aqueducts run discreetly through Burgundy, Seine-et-Marne and the Eure before supplying Paris; the Seine Aval treatment works at Achères treats a significant proportion of the Île-de-France region's wastewater; the dams and reservoirs at Lac d'Orient, Der-Chantecoq and Pannecière regulate the river's flow several

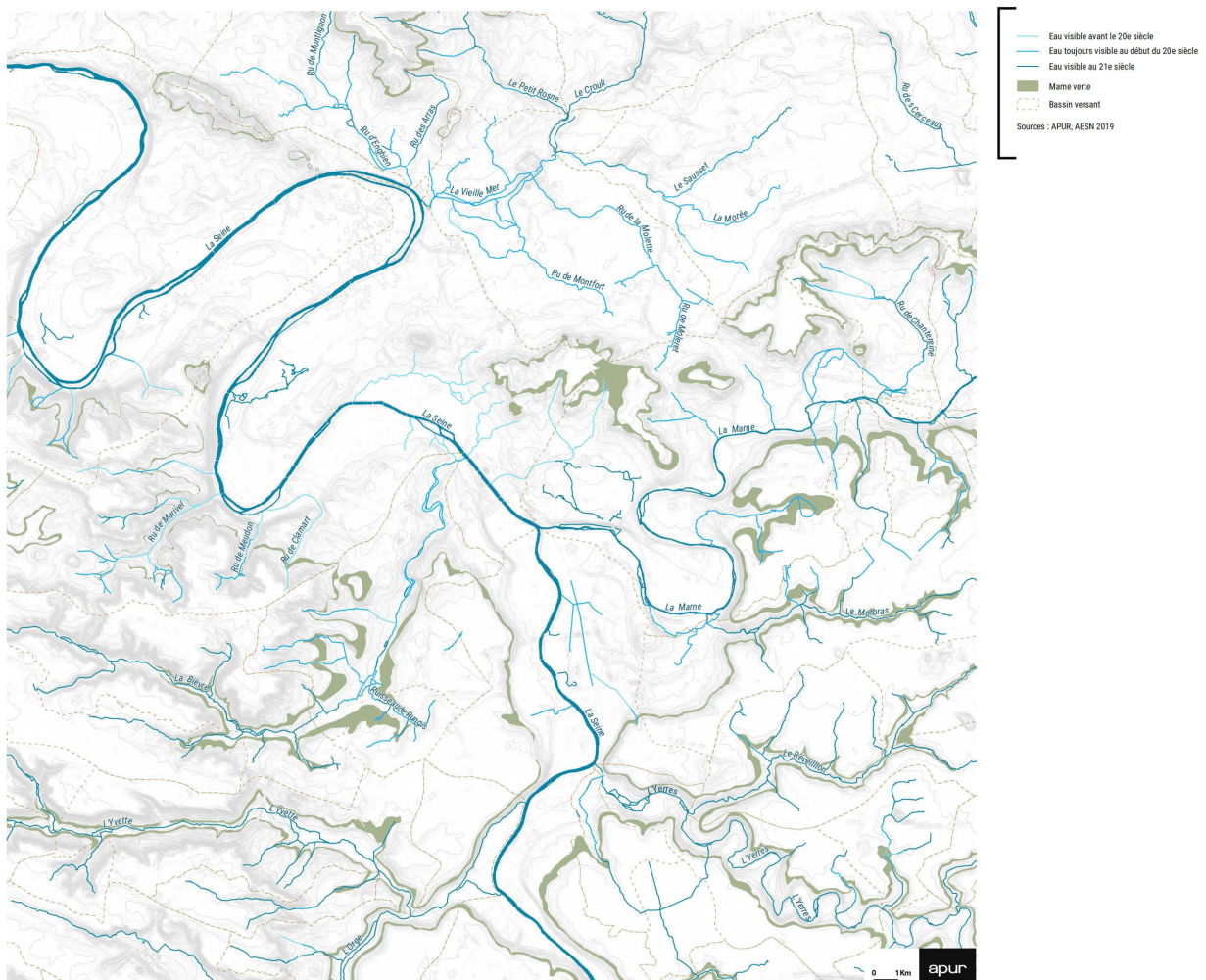


15 Paris non-drinkable water distribution network. Source: APUR

(Coloured lines: non-potable water distribution sub-networks; Black and grey lines: primary, secondary, and local distribution mains; Blue squares: reservoirs; Cyan squares: treatment plants; Coloured circles: current non-potable water consumers; Green areas: municipal green spaces; Light blue outlines: fountains and ornamental ponds supplied by the network; Grey lines: arrondissement boundaries; White lines: railway tracks; Blue areas: water bodies.)

This geography of visibility is the result of historical choices. For a long time, public policy focused primarily on controlling water flows, mitigating the risk of flooding and supporting urbanisation. Buried rivers, underground networks and hydraulic structures were thus conceived first and

LES RIVIÈRES EXISTANTES ET DISPARUES



15

Over the past thirty years or so, urban policies have accorded water an increasingly prominent role in development projects. This shift is not merely a response to a desire to make rivers and watercourses more visible: it reflects a growing recognition of their role in the ecological functioning of the metropolis and in its adaptation to climate change. Water is no longer seen merely as a constraint to be channelled or a resource to be distributed, but as an element with which we must work to limit the risk of flooding, cool urban spaces, restore ecological connectivity and improve living conditions. The project to restore the banks of the River Yerres, which has been underway since the early 2010s in Villeneuve-Saint-Georges, just upstream of its confluence with the River Seine, illustrates this development particularly well⁷. Accelerated following the floods of 2016 and 2018, the project is gradually transforming a neighbourhood highly vulnerable to flooding by giving more space back to the river. Land acquisitions, the first demolitions and the work already carried out are gradually enabling the restoration of a vast floodplain, the reconnection of wetlands and the re-establishment of ecological corridors in the

Yerres valley. Ultimately, the project aims to create a large natural space accessible to local residents, balancing flood risk reduction, biodiversity restoration, adaptation to climate change and improvements to the quality of life. The value of this project lies precisely in this integration of ecological, hydraulic and social objectives, which were long considered in isolation.

This process of bringing water back into the spotlight is not merely about transforming urban landscapes or creating new leisure spaces. By highlighting the role of water in climate adaptation, biodiversity and everyday life, these projects make the interdependencies linking the metropolitan area to the Seine basin more apparent. The aim is not to make all the infrastructure that ensures the city's functioning visible, but to better understand the relationships it enables between different territories. Interpreting the metropolis through the lens of water thus leads to the recognition that its liveability rests on a system of living environments, engineering structures and collaborative arrangements that extends far beyond the boundaries of the densely populated city.



17. Renaturation of the banks of the Yerres river. Source: Grand Paris Aménagement

⁷<https://www.grandparisamenagement.fr/post/renaturation-des-berges-de-lyerres>

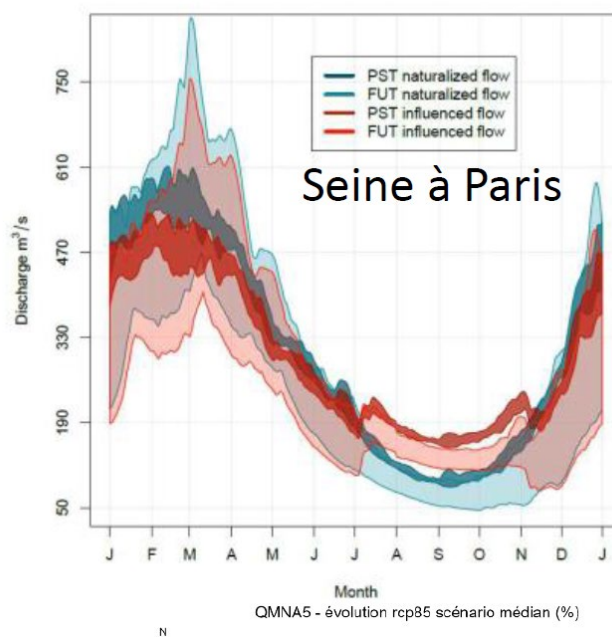
d. A metropolis under strain

Climate change is gradually putting the hydrological balances upon which the Parisian metropolis was built to the test. Long considered primarily in terms of flood risk, water management must now contend with a combination of phenomena: summer droughts, reduced river flows, intense rainfall events, heatwaves and floods. According to Météo-France, average temperatures in Île-de-France could rise by 2 to 4 °C by the end of the century, exacerbating heat islands in the most urbanised areas. Conversely, a flood comparable to that of 1910 would today cause long-term disruption to transport, energy networks, sanitation and the water supply for several million residents. Designed in the 20th century with a focus on flood control and water supply, these infrastructures must now respond to a wider range of situations: mitigating the effects of flooding, securing water supplies during periods of drought, managing more intense rainfall events, and helping to cool the metropolitan area.

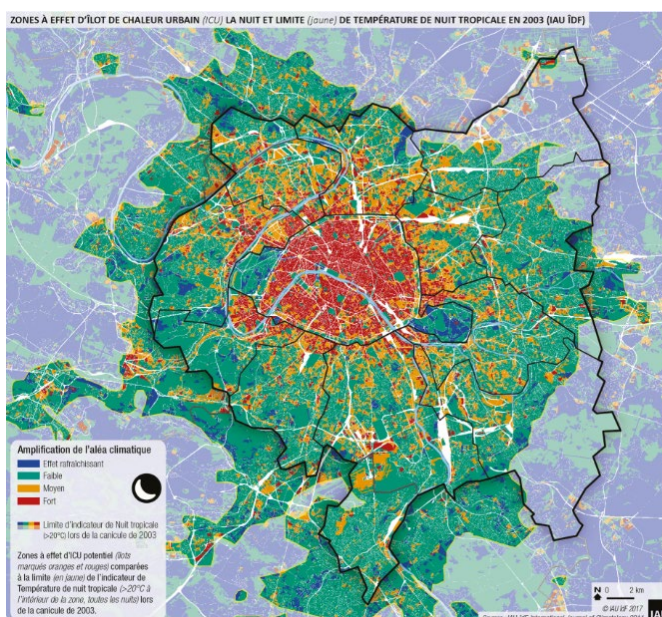
These developments bring into sharper focus the trade-offs already present in the metropolitan fabric, particularly in the valleys of the Seine and the Marne. Historically shaped by the river, these valleys now concentrate transport infrastructure, economic activities, residential neighbourhoods, natural spaces and major technical facilities. They simultaneously fulfil logistical, ecological, hydraulic and recreational functions, making the same spaces the focus of multiple public policies. This overlap of functions is reinforced by the Zero Net Land Take (ZAN) target, introduced by the 2021 Climate and Resilience Act. By aiming to halve the consumption of natural, agricultural and forested areas between 2021 and 2031, followed by a target of zero net land take by 2050, this reform increases the strategic importance of already urbanised areas. Brownfield sites, railway

corridors, port areas and riverbanks are thus becoming places where issues relating to housing, mobility, economic development, climate adaptation and environmental conservation intersect.

The Gennevilliers area illustrates this convergence of issues. As the leading inland



18 Evolution of the Seine's flow rate in Paris across seasons. The red curve shows current averages, the blue curve shows projections for 2100. The summer period shows a low-water level (minimum flow) that is at or below the vigilance threshold. Source: PIREN-Seine



19. Areas of the metropolis amplifying heat during the 2003 heatwave (the "heat island" effect), Institut Paris Région

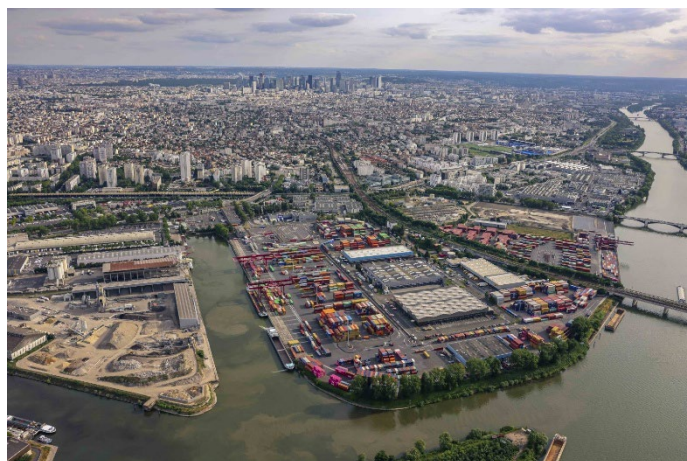
port in Île-de-France, with nearly 20 million tonnes of goods passing through each year, it is a vital link in the region's supply chain and in shifting freight from road to waterways⁸. However, the area surrounding the port terminals serves a much wider range of functions. To the west, the Chanteraines Departmental Park, developed on former industrial wasteland and managed by the Hauts-de-Seine Department, offers a vast expanse of meadows, wetlands and bodies of water that contribute to local biodiversity whilst providing an important recreational space for local residents. To the south, the Grésillons neighbourhood – a former industrial area undergoing regeneration – is gradually seeing the development of new housing, offices, schools and public facilities as part of projects led, in particular, by the City of Gennevilliers and the Boucle Nord de Seine regional public authority. The banks of the Seine are also the focus of projects aimed at making them more accessible, for example through the creation of promenades, cycle paths and new public spaces linked to the 'La Seine à Vélo' route – a cycle route stretching nearly 500 kilometres that connects Paris to the sea by following the river. At the same time, HAROPA PORT is modernising its port terminals to develop inland waterway freight transport and is carrying out ecological

restoration work on certain parts of its site. Over a stretch of just a few hundred metres, industrial quays, natural areas, new residential neighbourhoods and transport facilities thus coexist. The banks of the Seine are home to numerous metropolitan functions and projects led by a wide variety of stakeholders. The modernisation of port infrastructure, urban regeneration, ecological restoration, the development of transport systems and improvements to access to the river are all taking place simultaneously. Implementing these initiatives requires the coordination of institutional responsibilities, timetables and objectives that do not always align. The resulting trade-offs lie at the heart of how these areas are shaped and regularly give rise to debates and tensions over planning priorities.

The reopening of bathing sites on the Seine and the Marne highlights another type of trade-off. The sites at Bras Marie, Bercy and Grenelle, which will open in Paris following the 2024 Olympic Games, respond to a growing demand for cool, refreshing spaces against a backdrop of global warming. However, their opening is inextricably linked to a vast programme of investment in sanitation, of which the Austerlitz storage basin (50,000 m³) is one of the flagship



20. Parc des Chanteraines. Source : Conseil Départemental des Hauts-de-Seine



21. Port of Gennevilliers. Source : HAROPA

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<https://www.haropaport.com/fr/actualites/trafics->

[records-et-report-modal-en-croissance-en-2025-sur-laxe-seine](#)



22. Bras Marie bathing site, Paris, July 2025. Credits: Ibex7

projects⁹. Despite these developments, episodes of heavy rain can still cause sewage to be discharged into the Seine via combined sewer systems, leading to temporary closures of the sites. Swimming therefore depends as much on the ecological quality of the river as on the functioning of largely invisible infrastructure, stormwater management, navigation and health monitoring systems.

These examples show that water is not simply one additional use amongst many others. It links together functions that take place in the same spaces but at different times: producing, living, travelling, protecting, cooling or restoring environments. The trade-offs that arise from this are not solely a matter of climate change; they reflect the need to manage limited land resources, legacy infrastructure and constantly evolving social expectations.

2. A geohistory of the metropolis and its waters

The relationship between the city and its waterways has undergone profound changes as urbanisation has progressed. Rivers, streams and wetlands have successively served as settings for housing, productive activities and leisure, before being largely channelled, developed or, in some cases, covered over to accommodate urban growth. Today's infrastructure, landscapes and land uses still bear the marks of these transformations, even as new policies seek to restore a greater role to water and living environments. This geohistory helps us understand how this legacy continues to shape the opportunities and constraints with which the city must contend today.

⁹ <https://www.paris.fr/pages/assainissement-de-la-seine-les-travaux-du-tunnelier-d-austerlitz-vont-bientot-demarrer-21535>

a. Living along the river: water as a territorial structure and the basis of life

Long before it became a political and economic capital, Paris developed as a river city within a vast hydrographic system. The Seine and its tributaries shaped the earliest human settlements through considerations of navigation, defence, supply and the cultivation of the fertile alluvial valley soils. The Île de la Cité, situated at the crossroads of trade routes and navigable waterways that were relatively easy to traverse, constituted one of the region's first major urban centres. For centuries, economic, food-related and craft-based activities remained directly linked to the river and its rhythms: fishing, the transport of goods, the extraction of materials, mills, laundries, market gardening and wetland farming made up a large part of the urban and peri-urban economy. The river was thus at once a transport infrastructure, a productive resource, a space for social interaction and an everyday landscape that shaped the ways in which the area was inhabited.

This closeness is also evident in the direct uses of the water. As early as the 17th century, archives mention bathing in the Seine, practised for washing, learning to swim or cooling off during hot weather. In the 19th century, with the growth of the city and popular leisure activities, this practice developed around floating baths, swimming schools and beaches set up on the banks of the Seine or the Marne. Swimming thus reflected an everyday relationship with the river, whose waters formed an extension of urban public spaces. Living in the metropolis also meant living alongside its waterways, which were fully integrated into leisure, work and transport practices.

Until the 18th century, this relationship remained largely visible in the urban landscape. The secondary branches of the Seine still flowed through several neighbourhoods, the valleys were sparsely built-up, and the boundaries between the city, agricultural land and aquatic environments remained relatively porous. Floods were part of the territory's normal functioning. Human settlements, agricultural

activities and infrastructure were organised around areas regularly subject to flooding, whilst the local population developed practices adapted to seasonal variations in water levels, rather than seeking to systematically control the river. River ports organised the city's supply of goods, whilst villages on the outskirts developed along the navigable valleys. Water was omnipresent in the landscapes, economic activities and daily



23. *Bathing in the Seine or La Grenouillère*, painting by Pierre-Auguste Renoir, 1869. *La Grenouillère* was a fashionable leisure spot (boating, bathing, dancing) located in Croissy-sur-Seine.



24. *Bateau-Lavoir near the Pont-Neuf, Paris, as the Seine's quays were progressively raised. Johan Barthold Jongkind, 1850*

practices, even though it remained associated with the uncertainty of floods and seasonal variations.

From the late 18th century onwards, Paris's growth gradually transformed its relationship with the river. The quays were reinforced, the riverbanks redeveloped and some secondary branches were removed to facilitate navigation, trade and urban traffic. In the early 19th century, Napoleon Bonaparte commissioned the construction of the Ourcq Canal (1802), soon followed by the Saint-Denis Canal (1821) and the Saint-Martin Canal (1825). These projects served a dual purpose: to secure the capital's water supply and to develop the transport of goods by river. In the second half of the 19th century, the major works carried out under the Second Empire by Prefect Haussmann and engineer Eugène Belgrand continued this transformation with the modernisation of the drinking water and sewerage networks. The river remained at the heart of metropolitan development, but it gradually became a technical infrastructure whose uses were increasingly specialised, developed and regulated by the public authorities.

This transformation was accompanied by a change in the ways in which people interacted with the river. Industrialisation, rapid urbanisation and the gradual deterioration in water quality made direct use

of the river increasingly difficult. The development of combined sewer systems, combined with the intensification of shipping and industrial activities, gradually led to the abandonment of swimming, which was officially banned in Paris in 1923. For nearly a century, the Seine remained at the heart of the metropolis, but more as a transport infrastructure, a basis for urban development or part of the urban landscape than as a space for direct contact with the water. Urban policies at the time prioritised controlling the river, improving traffic flow and protecting against risks, whilst recreational uses of the water gradually disappeared.

For several decades now, this relationship has been undergoing a new evolution. The return of swimming is not solely due to the Paris 2024 Olympic Games. As early as the 1990s, local authorities, associations and citizens' groups were campaigning to regain direct access to the river. Swimming events organised by the Ourcq Polaires in the Ourcq Canal¹⁰, the experiments on the Marne, and the development of Paris Plages all bear witness to a gradual reclaiming of riverside spaces. The Olympic Games acted as a catalyst by mobilising significant investment in sanitation and water quality, enabling the opening of the Bras Marie, Bercy and Grenelle sites. More than a return to a long-standing tradition, this reopening reflects the emergence of new ways of engaging with the river. Swimming today meets expectations that go beyond mere leisure: it contributes to the search for cool spaces in the context of global warming, reinforces the role of the riverbanks as public spaces, and raises questions about the conditions of access to these new uses. The river is thus once again becoming a living space, where heritage, quality of life, public health, leisure and climate adaptation intersect.

¹⁰ <https://www.ina.fr/ina-eclaire-actu/inattendu-baignades-urbaines>

b. Sanitising, channelling and controlling: the hygienist and industrial metropolis

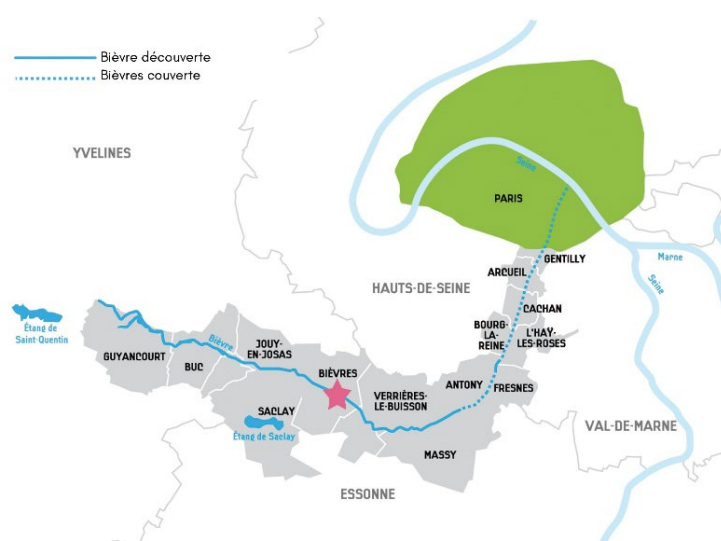
During the 19th century, the demographic and industrial boom profoundly transformed the relationship between the metropolis and its waterways. Paris's population grew from around 550,000 at the start of the century to over 2.7 million on the eve of the First World War, whilst industrial suburbs developed rapidly along the Seine, the Bièvre and the canals. The river simultaneously became a transport route, a source of water supply, a means of supporting industrial activities and an outlet for wastewater. Against this backdrop, water came to be viewed less as a living environment and more as a series of flows that needed to be organised, separated and controlled in order to support urban growth.

The course of the Bièvre illustrates this evolution particularly well. For centuries, this river, a tributary of the Seine, shaped the development of southern Paris. Its flow powered mills from the Middle Ages onwards, then gradually attracted water-intensive industries such as dye works, tanneries, leather-working workshops and laundries, established in particular in what are now the 5th and 13th arrondissements. However, over the course of the 19th century, the intensification of these activities, combined with population growth, transformed the river into a heavily polluted watercourse, receiving both industrial effluent and domestic sewage. The associated health hazards and foul odours fuelled the hygienist discourse that was gaining ground across Europe. The cholera epidemics of 1832 and then 1849 reinforced this determination to take action on urban waterways. Although the role of bacteria was not yet understood, hygienist theories linked stagnant water, unsanitary neighbourhoods and 'foul odours' to the spread of disease. Sanitation

thus became a major objective of public policy.

During the Second Empire (1852–1870), Napoleon III entrusted the engineer Eugène Belgrand with the modernisation of Paris's water supply system. The Vanne, Dhuis and Avre aqueducts made it possible to supply higher-quality drinking water from distant catchment areas, whilst the sewerage network was considerably expanded. The quays were rebuilt in stone to stabilise the riverbanks and facilitate the movement of people and goods. Certain secondary branches of the Seine, such as those surrounding the Île aux Cygnes (a former island situated between the present-day Pont Royal and the Pont de l'Alma) or several small channels around the Parisian islands, were gradually filled in or incorporated into the quay developments. At the same time, secondary watercourses such as the Bièvre were gradually channelled and then covered over, whilst numerous streams and ditches disappeared as a result of urbanisation. Water thus flowed increasingly through underground structures or man-made canals, rather than in the open.

The Bièvre was part of this transformation. After being straightened and channelled in



25. Course of the Bièvre from its source to the Seine (36 km), showing the covered and uncovered sections. Source: Mairie de Bièvres.



26. A parchment workshop on the banks of the Bièvre in Paris, 1904. Photo: Georges Remy, Musée Carnavalet

the 1820s–1840s, it was gradually covered over between 1877 and 1935. Its water was diverted into the sewerage system designed by Belgrand, whilst its valley was backfilled to allow for the construction of new streets, facilities and neighbourhoods. The disappearance of the river reflects a profound shift in perspective: a watercourse long regarded as a productive resource and a source of activity now became an obstacle to urban development, one that needed to be made invisible. This process did not affect the Bièvre alone: numerous streams, ditches and wetlands in the Paris Basin disappeared during this period as a result of urbanisation and major construction projects. Floods themselves were increasingly viewed as disruptions that needed to be contained through engineering works, a mindset further reinforced after the great flood of 1910, which had a lasting impact on management policies for the Seine basin.

These transformations were also accompanied by a shift in governance models. Rather than marking a radical break, the 19th century saw the consolidation of a more centralised, professionalised approach to water management, underpinned by engineering expertise. Water infrastructure became an essential tool of metropolitan governance, and decisions were gradually conceived at the level of the conurbation, and subsequently at the level of the catchment area. This technical and administrative



27. Works covering over the Bièvre, 1905. Photo: Henri-Cimarosa Godefroy, Musée Carnavalet

model, based on major engineering works, the control of water flows and the rationalisation of networks, was part of a broader movement that also spread to the cities of the French colonial empire, where water infrastructure played a role in public health policies, urban planning and territorial control.

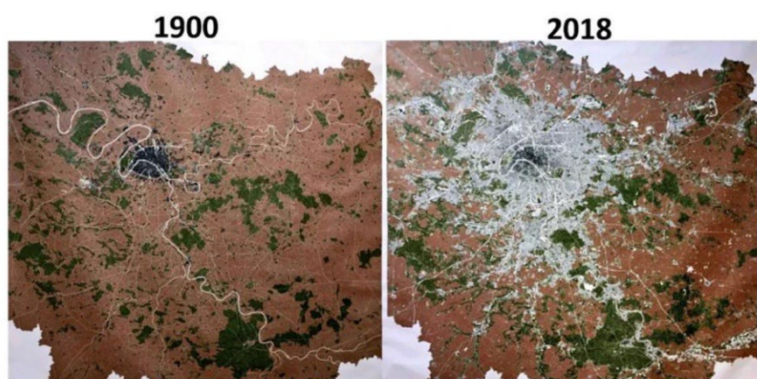
Since the end of the 20th century, the Bièvre has taken a new course. Several sections have been restored to an open channel in Fresnes (2003), followed by Arcueil and Gentilly (2022), whilst Paris is considering the reopening of certain sections, notably around Kellermann Park. These projects do not seek to restore the river to its former state, but reflect a new way of viewing urban watercourses: they are now regarded as sources of biodiversity, cooling, ecological connectivity and public spaces. Their reopening, however, continues to face significant technical and land-use constraints inherited from over a century of dense urbanisation. The Bièvre thus illustrates the evolution of the relationship between the city and its waterways: initially a productive resource and living space, then infrastructure to be controlled and concealed, it is now becoming an element that we are seeking, at least in part, to reintegrate into urban landscapes and projects.

c. Developing the metropolitan area: major networks, planning and urban expansion

From the 1950s onwards, the Paris region experienced unprecedented expansion. Post-war reconstruction, followed by the Trente Glorieuses (1945–1975), accelerated urban sprawl far beyond the historic boundaries of Paris. The valleys of the Seine, the Marne and the Oise provided available space to accommodate part of this growth. New residential neighbourhoods sprang up, notably in the new towns of Cergy-Pontoise (1969) and Marne-la-Vallée (1972), whilst industrial activities and major infrastructure facilities gradually moved to the outskirts. Water is no longer regarded merely as a resource to be protected or purified: it has become an essential pillar of the organisation and development of the metropolitan area.

This expansion was largely guided by national spatial planning policies. In 1963, the State established the Delegation for Spatial Planning and Regional Action (DATAR) to coordinate the development of France's major metropolitan areas. Two years later, the Master Plan for Regional Development and Urban Planning for the Paris Region (SDAURP, 1965), drawn up under the leadership of Paul Delouvrier, proposed a polycentric organisation of the region centred on new towns, the future RER network, new employment hubs and major transport corridors. The valleys were no longer merely inhabited or productive areas: they became strategic territories where the main infrastructure necessary for the functioning of the capital region was organised.

This new way of thinking about the territory profoundly transformed the role assigned to the Seine. The river no longer merely structured the city of Paris: it became the backbone of a vast system linking the industrial, energy and logistics areas of the entire valley as far as the ports of Rouen and

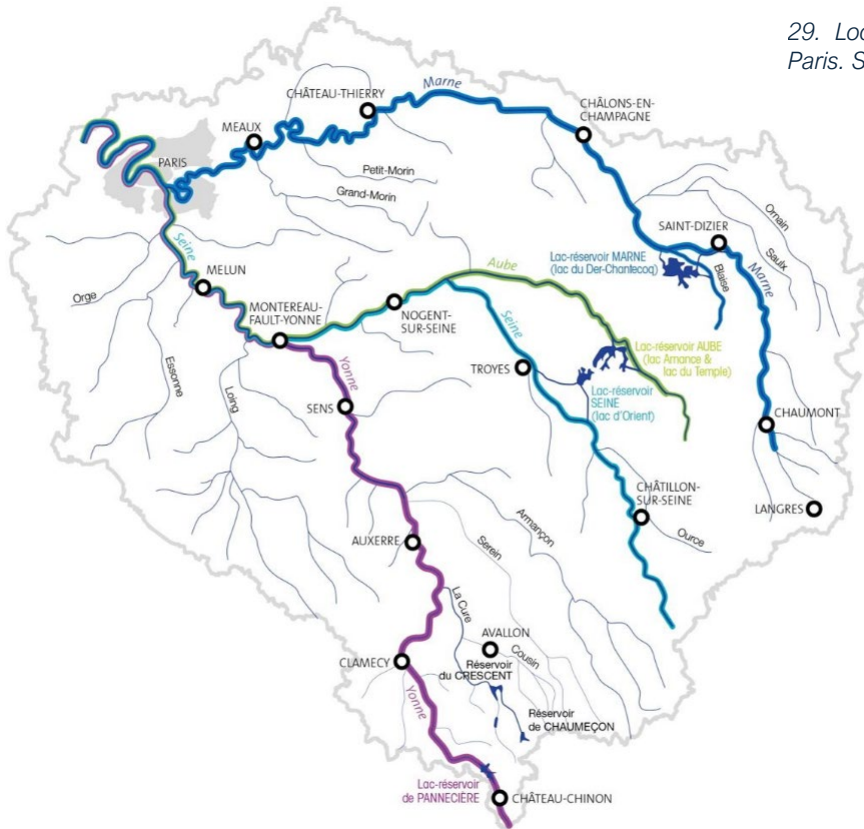


28. Evolution of urbanization in Île-de-France from 1900 to 2018, IAU-IDF

Le Havre. The development of the port of Gennevilliers, opened in 1932 and then significantly expanded after the Second World War, illustrates this evolution. The infrastructure essential to the metropolis's day-to-day functioning gradually became concentrated around the river: the Seine Aval wastewater treatment plant at Achères, commissioned in 1940 and subsequently continually expanded; multimodal hubs combining river, rail and road transport, power stations; quarries supplying the construction sector; as well as major transport routes such as the A86 (from 1968), A4 and A15 motorways (1970s), which largely follow the valleys to connect the new urban and economic centres. The Seine has established itself as the backbone of the metropolitan system, enabling the capital to be supplied, the city to be built, energy to be generated, wastewater to be treated and the movement of goods to be organised between Paris and its hinterland, all the way to the seaports.

This approach to infrastructure development extended to the entire catchment area. Between 1949 and 1990, four major reservoir lakes were built upstream of Paris: Pannecière (1949), Lac d'Orient (1966), Lac du Der-Chantecoq (1974) and the Amance and Temple lakes (1990). Now managed by Seine Grands Lacs, these structures enable some of the water to be stored during periods of heavy rainfall in order to limit flooding of the Seine, whilst releasing water during low-flow periods to maintain the river's flow rates. For

29. Location of the reservoir lakes upstream of Paris. Source: EPTB Seine Grands Lacs



the first time, water management is being planned on the scale of the entire catchment area, extending well beyond the administrative boundaries of the Paris region. This approach supports the metropolis's economic development, but it is also accompanied by significant land development and the specialisation of territories. The valleys are home to a significant proportion of the infrastructure essential to the functioning of the capital region, but they also concentrate some of its environmental impacts and vulnerabilities. Around Gennevilliers, the Upper Seine and the Chanteloup loop, ports, motorways, warehouses, industrial facilities and residential neighbourhoods thus coexist in areas characterised by issues of pollution, ecological fragmentation and environmental inequalities.

Since the 2000s, this arrangement has been gradually redefined through the Axe Seine project, which views the Seine Valley as a strategic corridor linking Paris, Rouen and Le Havre. Supported in particular by the State,

the Île-de-France and Normandy regions, HAROPA PORT, local authorities such as the Rouen Normandy Metropolis, Le Havre Seine Metropolis and the Greater Paris Metropolis, as well as numerous economic stakeholders (river shipping companies, logistics providers, manufacturers and transport firms), this project aims to strengthen synergies between the territories along the river corridor. It seeks to develop freight transport

by water, improve connections between river, rail ' and road networks, coordinate development policies and enhance the economic attractiveness of this metropolitan area. The port of Gennevilliers, now managed by HAROPA PORT, is one of the main logistics hubs in this network, acting as the interface between the Paris metropolitan area and the seaports of Rouen and Le Havre. Modal shift policies thus encourage the transfer of some freight transport from road to river or rail in order to reduce greenhouse gas emissions, road congestion and energy consumption. This strategy illustrates a shift in planning priorities: infrastructure inherited from the 20th century is now being utilised not only as a driver of economic development, but also as a tool capable of contributing to the ecological transition. However, it remains subject to numerous tensions, particularly between economic competitiveness, the preservation of aquatic environments, residents' quality of life and limiting land sealing.

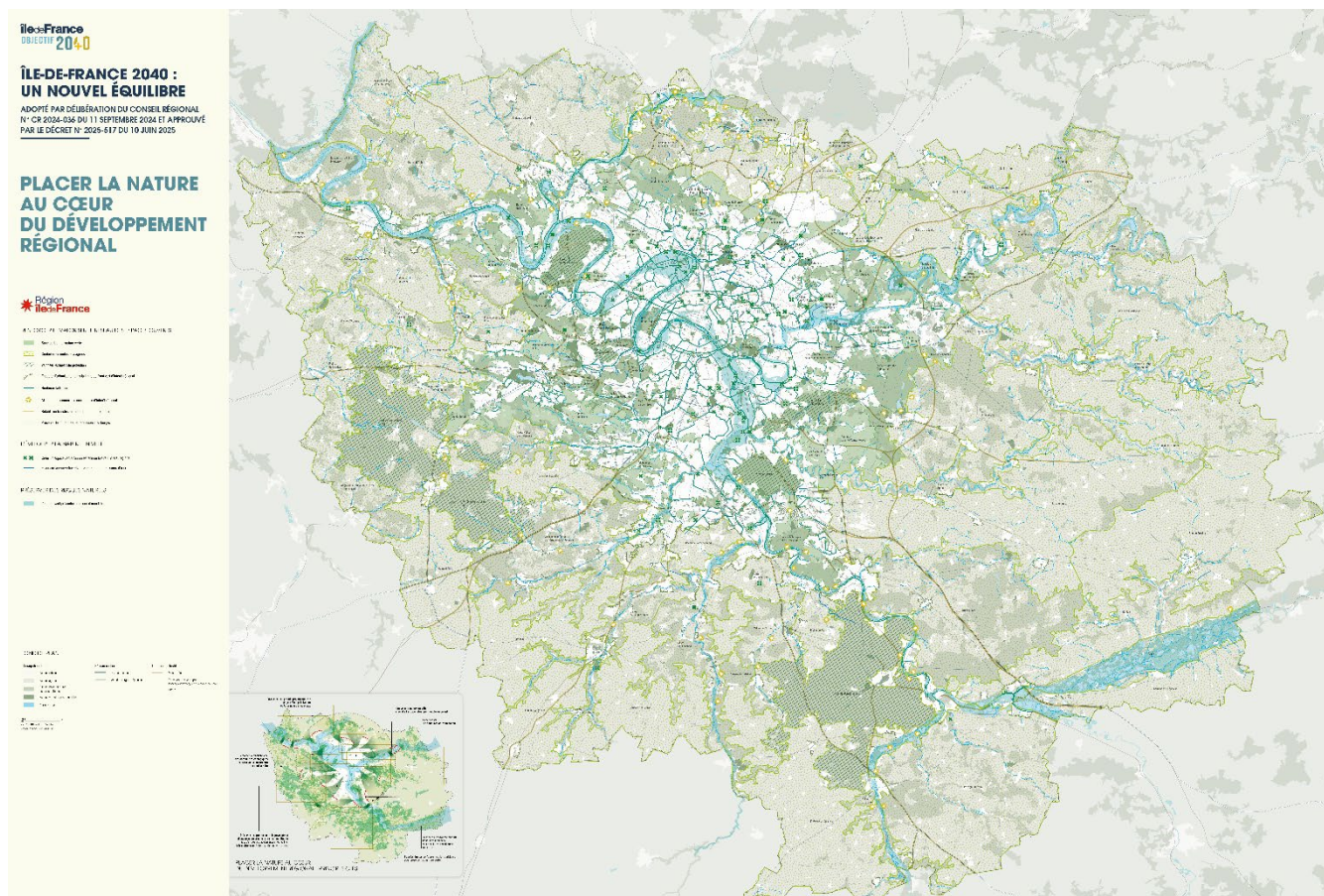
d. Reopening, restoring, renaturalising: the return of water and wildlife to the metropolitan area

From the 1970s onwards, water and urban planning policies underwent a gradual evolution that profoundly transformed the way aquatic environments were conceived within the Paris metropolitan area. Whilst the preceding decades had mainly focused on channelling and treating water whilst supporting urban development, new concerns emerged regarding the quality of these environments, pollution and the protection of nature. This shift forms part of a broader context of growing environmental challenges. In France, the 1964 Water Act established the river basin financial agencies (which later became the water agencies) and organised management at the river basin level. The creation, in 1971, of the first Ministry for Nature Conservation and the Environment also reflected the growing

recognition of environmental issues in public policy. This trend was reinforced by the 1992 Water Act, which states that ‘water forms part of the nation’s common heritage’, and subsequently by the 2000 European Water Framework Directive, which sets the objective of achieving good ecological status for bodies of water. Green and blue infrastructure policies, developed following the Grenelle Environment Forum (2007–2010), build on this trend by seeking to preserve or restore ecological connectivity between terrestrial and aquatic habitats. Gradually, water and living environments are no longer regarded merely as resources to be exploited or technical constraints to be managed, but as shared heritage whose ecological functioning has become a fully-fledged objective of spatial planning policies.

Green and blue infrastructure reflects this shift in environmental policy. Introduced by the Grenelle Environment Forum (2007–

30. One of the three main binding maps of the SDRIF-E 2040, Île-de-France Region



2010), then incorporated into the Regional Ecological Coherence Plans (SRCE) before being included in the SDRIF and local planning documents, they are based on a simple idea: biodiversity depends as much on the connections between habitats as on the protection of each one individually. This approach leads us to view spaces that have long been regarded as secondary within the urban fabric in a new light. Brownfield sites, railway embankments, riverbanks, derelict land and small wetlands are no longer seen as land reserves or plots awaiting development; they become essential links in ecological corridors. The metropolitan area is thus gradually being mapped as a network of biodiversity hotspots and ecological corridors linking valleys, large woodlands, parks and the more ordinary spaces of the urban fabric. In Île-de-France, this work draws on new analytical tools, such as the MOS and ECOMOS databases developed by the Institut Paris Région, which enable a more detailed identification of ecological corridors within a highly fragmented landscape.

This development is also transforming the way we understand urban biodiversity. Surveys carried out since the 2000s show that Paris is home to more than 1,200 species of wild plants and nearly 1,300 animal species, including several wild orchids, protected ferns and species that are gradually recolonising the banks of the Seine, such as the kingfisher. These observations help to challenge the notion that nature is confined to large protected areas and draw greater attention to more discreet forms of biodiversity found in derelict land, on walls, in cemeteries and on former industrial sites. They are also leading to changes in the way public spaces are managed: certain plants known as 'weeds', which were long eradicated because they were seen as a sign of poor maintenance, are gradually being

recognised for their role in attracting pollinators, promoting soil fertility and combating certain forms of pollution. Spontaneous nature is thus becoming as much a subject of management as it is of debate, as it sometimes comes into conflict with residents' expectations regarding cleanliness, safety or aesthetics.

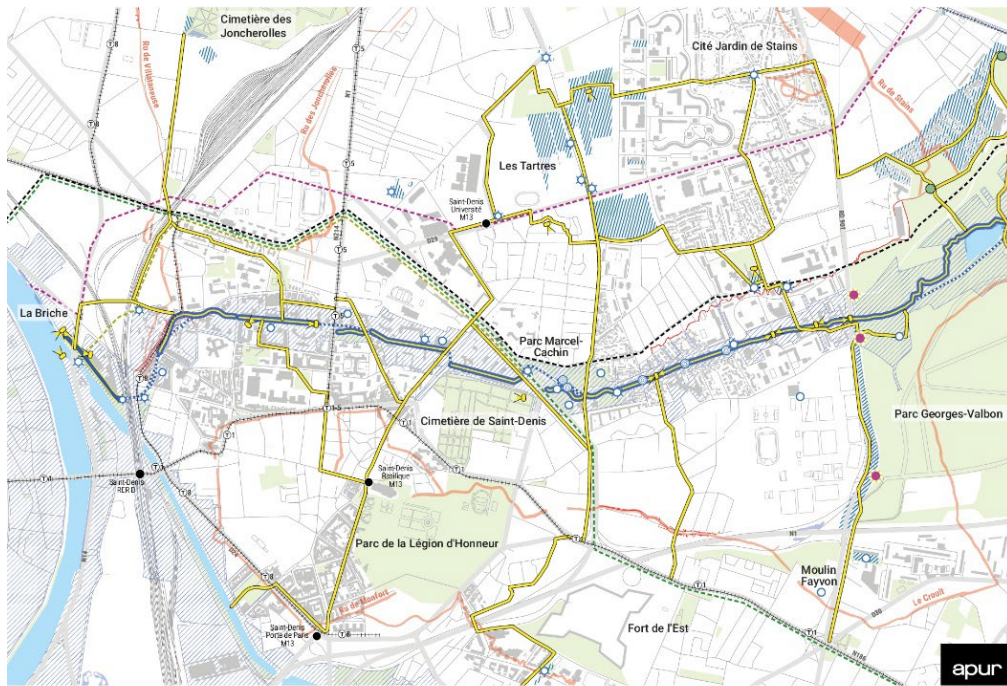
The transformations underway around the Vieille Mer, in Seine-Saint-Denis, illustrate how these new principles are gradually being implemented in urban development projects. Formerly a tributary of the Seine, the Vieille Mer was gradually straightened, channelled and then incorporated into the sewerage network as Plaine Commune underwent urbanisation and industrialisation¹¹. From the 2010s onwards, Plaine Commune, in collaboration with the Department of Seine-Saint-Denis, the Seine-Normandie Water Agency, the Greater Paris Metropolis and several local authorities, launched a vast programme to restore its catchment area. The ambition goes beyond simply restoring water flow to certain sections: the aim is to restore the ecological functioning of the catchment by recreating wetlands, removing impervious surfaces from public spaces, promoting rainwater infiltration and



31. The confluence of the Vieille Mer and the Seine, at Saint-Denis. Source: APUR

¹¹https://www.apur.org/sites/default/files/vieille_mer_synthese.pdf?openfile_analytics=4429

SÉQUENCE AVAL : LA TRAVERSÉE DE SAINT-DENIS
VALORISATION DE L'EAU VISIBLE ET DU PATRIMOINE HYDRAULIQUE



Valoriser la présence de l'eau visible

Existant

- Plans d'eau
- Zones humides identifiées (SAGE)
- Zones humides potentielles (SAGE)
- Cours d'eau visible/souterrain
- Gestion de l'eau à ciel ouvert
- Plan de zonage pluvial trame bleue* (PLUI Plaine Commune)
- Collecteur EU Bonneuil-La-Briche
- Dérivation de la Vieille-Mer
- Garges-Épinay
- Pantin La Briche
- Traces des rivières disparues
- Traces du parcellaire lié à l'eau

À l'étude ou en cours

- Cours d'eau visible projeté de la Vieille-Mer

Proposé

- Valoriser le patrimoine hydraulique technique, ludique, historique

Valoriser les liaisons et les paysages

Existant

- Voies
- Voies structurantes principales
- Ponts
- Entrées dans le parc Georges-Valbon

À l'étude ou en cours

- Entrées du parc à requalifier

Proposé

- Parcours découverte de l'eau
- Belvédères, points de vue liés à l'eau

Sources : DRIEE, CD93, Plaine Commune, Apur
 *abattement total des pluies décennales recherché et plantation des ouvrages de gestion des eaux pluviales en lien avec la trame bleue

32. Proposal for opening up and enhancing the Vieille Mer in its downstream stretch. Source: Apur 2020

reconnecting habitats that have long been fragmented by infrastructure and urbanisation. The Vieille Mer thus serves as the framework for an integrated approach, in which water management, the restoration of ecological connectivity, adaptation to climate change and the improvement of the living environment are considered together. Through this type of project, ecological corridors cease to be merely a planning category and become areas for action, where development involves both restoring ecological processes and re-establishing the relationships between infrastructure, public spaces and living environments.

These projects reflect the growing complexity of water policies in the metropolitan area. Restoring a catchment

area or ecological connectivity involves simultaneous action across public spaces, sewerage infrastructure, land, urban regeneration schemes and natural areas, which fall under the remit of different institutions, funding sources and timeframes. The implementation of these projects therefore involves a wide range of stakeholders – local authorities, water agencies, planners, technical services, nature conservation organisations and residents – whose actions must be coordinated at the catchment level whilst also forming part of local urban

projects. This development is gradually leading to the integration of ecological connectivity into standard planning tools, from planning documents through to urban regeneration schemes. It also reflects a shift in the way the metropolitan area is viewed: rivers, wetlands, brownfield sites, railway embankments, and urban soils are increasingly regarded as living environments whose functioning determines the flow of water and species, as well as numerous ecological processes. Planning policies thus seek to better integrate the dynamics of living systems with other metropolitan functions – housing, transport, public spaces and risk management – at various scales, from the neighbourhood to the catchment area.

3. Transforming the metropolis through water and nature

The relationships between the metropolis, water and living organisms are currently undergoing profound changes. New approaches to urban planning seek to give greater prominence to hydrological and ecological dynamics in areas largely shaped by urbanisation and the technical management of the environment. These approaches are taking shape within an already built-up metropolis, where transforming relationships with water and living organisms involves both coming to terms with existing legacies and practices, as well as influencing processes that connect territories far beyond their administrative boundaries.

This chapter sets out to explore the current challenges of this transformation through three main dimensions, observed across various areas of the Seine Valley metropolitan area. The first concerns the forms of governance and the knowledge required to manage water and living systems, given that their flows and effects link spaces falling under the remit of different institutions and jurisdictions. The second focuses on the coexistence and trade-offs between the many uses of metropolitan territories, particularly along watercourses, where productive and logistical functions, mobility, leisure, public spaces and living environments intersect. The third examines land and land use, the ways in which these are utilised and transformed determining the potential for infiltration, renaturation, ecological continuity or production. These situations thus encourage us to consider several scales simultaneously – from the plot of land, the street or the riverbank up to the catchment area – and to trace the relationships that develop between them,

rather than stopping at administrative boundaries. They demonstrate how highly localised interventions can contribute to broader metropolitan processes, whilst decisions taken at the level of a catchment, a network or an inter-municipal body take shape in specific locations. Through these three issues, the chapter thus seeks to account for the contemporary transformations of the Seine Valley metropolis and the concrete conditions under which new relationships with water and living organisms can be forged there.

a. Governing water: scales, knowledge and capacity for action

The ecological transformation of the Parisian metropolis is re-establishing links between elements that urbanisation has gradually organised into specialised systems: rainwater drainage, the functioning of watercourses, soil quality, floodplains, living environments and urban uses. From the 19th century onwards, aqueducts, sewers, wastewater treatment plants, canals, embankments and, later, reservoir dams made it possible to supply water to and provide sanitation for an increasingly dense conurbation, and they still largely shape its functioning. Their development has been accompanied by soil sealing, the artificialisation of riverbanks, the drainage of wetlands and the covering over of numerous small watercourses.

Contemporary projects directly intervene in this physical heritage. In Villeneuve-Saint-Georges, the redevelopment of Belleplace-Blandin involves freeing up built-up land to restore part of the Yerres' floodplain¹²; in Plaine Commune, the Vieille-Mer – which had long been channelled and incorporated into the sewerage system – is now the focus of a

¹²<https://www.grandparisamenagement.fr/operations/renaturation-et-restauration-des-berges-de-lyerres>

project to restore it to its former state, which involves, in particular, recreating an open watercourse in Georges-Valbon Park¹³. Other interventions are scattered throughout the existing urban fabric: removing impervious surfaces from a school playground increases the amount of water retained on site; planting vegetation and redesigning a street to allow rainwater to infiltrate alters both surface runoff, soil moisture and thermal comfort; preserving a wetland maintains a space where water can temporarily accumulate.

These measures therefore simultaneously affect the path and speed of water, soil properties and the conditions provided for living environments. The Bièvre provides a yardstick for measuring the extent of these transformations. Straightened and channelled in the 19th century, then gradually covered over between the late 19th and early 20th centuries, it was diverted into the sewerage system whilst its valley was backfilled to make way for streets, facilities and buildings. The river re-openings carried out since 2003 in Fresnes, and then in 2022 in Arcueil and Gentilly¹⁴, must now contend with underground networks, densely developed land and a profoundly remodelled valley profile: restoring aquatic habitats and ecological connectivity, revitalising the urban environment or creating a promenade therefore depends on the cumulative changes that took place during the period when the river had disappeared from the surface.

Monitoring the effects of such interventions leads us to consider the spaces linked by the flow of water. A catchment area is the territory from which water flows into a single watercourse, its boundaries following the watershed lines: it therefore enables us to establish connections between runoff on the slopes, infiltration into groundwater,

tributaries, wetlands and downstream flows. In the Seine catchment, these relationships link the densely urbanised heart of the conurbation to agricultural plateaus, groundwater aquifers, urban valleys and major hydraulic structures extending well beyond the administrative boundaries of Greater Paris. The Seine metropolitan area can be understood in terms of these interdependencies: the liveability of the Paris conurbation relies in part on resources, environments and infrastructure distributed throughout the entire Seine river system.



2 The Seine Bassée flood retention basin in Seine-et-Marne, a 360-hectare embanked area designed to protect against major flooding of the River Seine. Source: Seine Grands Lacs



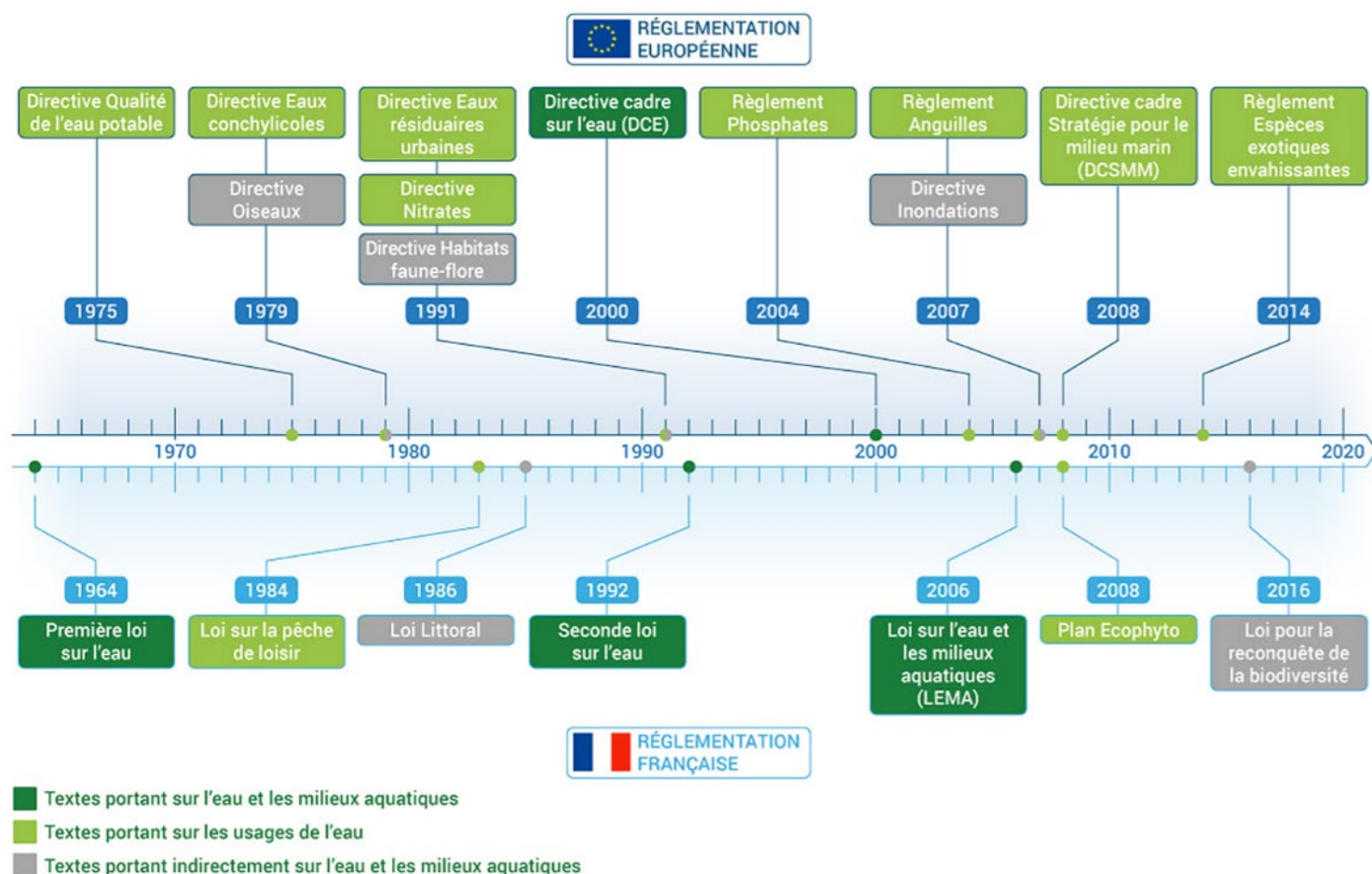
3 A rain garden at the Cité Universitaire de Paris in the 14th arrondissement. Photo: Antoine Meysonnier Source: La Cité Universitaire de Paris

¹³https://www.apur.org/sites/default/files/vieille_mer_synthese.pdf?openfile_analytics=4429

¹⁴<https://www.iledefrance.fr/toutes-les-actualites/apres-avoir-ete-enfouie-la-bievre-refait-surface-arcueil-et-gentilly>

However, these hydrological relationships span areas governed by different rules and managed by different authorities. Town planning schemes such as the Local Urban Development Plan (PLU) and the Inter-municipal Local Urban Development Plan (PLUi) determine, at municipal or inter-municipal level, the possibilities for building, preserving open land or protecting certain areas; sewage services organise the collection of wastewater and rainwater; other bodies maintain watercourses or take action against flooding; agricultural practices and landowners' decisions alter infiltration, drainage and land use. An intervention carried out upstream can thus have effects several kilometres further downstream, even though the land concerned falls under the jurisdiction of different local authorities, landowners and areas of responsibility.

The catchment scale makes it possible to track these material relationships as their transformation depends on an institutional framework that distributes planning, regulation, funding and the implementation of interventions amongst several stakeholders. This organisation has developed gradually. The 1964 Water Act structures French policy around six major river basins and establishes a water agency and a basin committee for each one. The 1992 Act introduced two complementary instruments: the SDAGE – the Master Plan for Water Development and Management – sets out the broad guidelines at the level of a major basin, whilst the SAGE – Water Development and Management Plans – can specify these in more detail for certain sub-basins. Since 2000, the European Water Framework Directive (WFD) has introduced common objectives for the 'good' ecological and chemical status of water bodies.

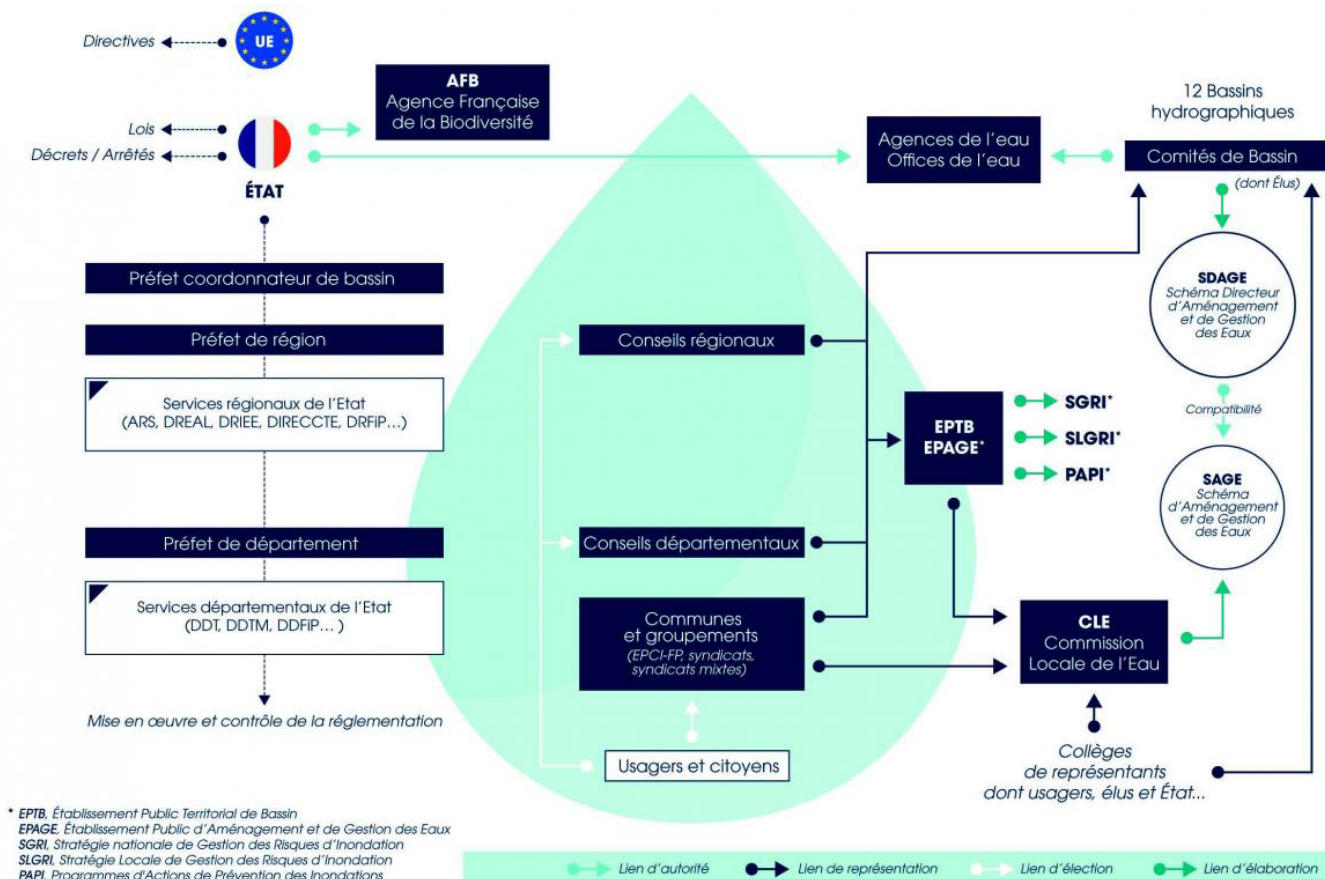


4. Key milestones in water regulation in France and the EU. Source: Wikipedia (Key: European regulations are shown above the timeline and French legislation below. Dark green indicates legislation concerning water and aquatic environments; light green, legislation concerning water uses; and grey, legislation indirectly concerning water and aquatic environments. Key milestones include the French Water Laws of 1964 and 1992, the EU Water Framework Directive (WFD) of 2000, and the French Water and Aquatic Environments Law (LEMA) of 2006.)

As these developments have unfolded, water policy in the region has come to address, in a coordinated manner, the quality of rivers and groundwater, pollution, the availability of water resources, aquatic and wetland habitats, the continuity of watercourses and adaptation to climate change.

Île-de-France forms part of the Seine-Normandy river basin, which encompasses the entire Seine basin as far as its estuary, as well as several coastal rivers in Normandy. The Seine-Normandy SDAGE 2022–2027, adopted by the Basin Committee, provides the common framework for water policy for the next six years: in particular, it sets out objectives for the restoration of rivers and wetlands, the reduction of pollution, the protection of water abstraction points, water resource management and adaptation to climate change; its programme of measures identifies the actions to be undertaken in the various hydrographic units to achieve these objectives. The River Basin Committee brings together local authorities, water users,

associations and government representatives, whilst the Seine-Normandy Water Agency funds and supports initiatives, drawing in particular on charges linked to water use and the pressures placed on water resources. The SAGE plans can then translate this framework into the specific characteristics and rules for a particular sub-basin. The implementation of these measures also draws on other areas of expertise. Since 2018, public inter-municipal cooperation bodies with their own tax-raising powers have been required to carry out GEMAPI – Management of Aquatic Environments and Flood Prevention – which covers, in particular, river basin management, the maintenance of watercourses, flood protection and the restoration of aquatic environments. They may transfer or delegate these tasks to associations whose remit is more closely aligned with watercourses, notably EPAGEs (Public Water Development and Management Bodies) or EPTBs (Public Territorial Basin Bodies).



5. The France Eau Publique manifesto for sustainable water. Source: Office International de l'Eau. (French water governance combines administrative and river-basin institutions. Water Agencies and Basin Committees operate across 12 hydrographic basins, while EPTBs and EPAGEs coordinate at basin and sub-basin scales. The SDAGE sets objectives for each major basin; SAGEs adapt them locally and are developed by Local Water Commissions (CLEs) bringing together local authorities, users and the State. Arrows show authority, representation, election and plan development.)

In addition to this structure, there are major operators organised around specific technical functions. In the Paris metropolitan area, the SIAAP (Interdepartmental Syndicate for Sanitation in the Paris Metropolitan Area) transports and treats domestic and industrial wastewater, as well as some of the rainwater from around nine million residents of the Île-de-France region, before discharging it into the Seine and the Marne. Voies navigables de France is responsible for navigation and the infrastructure of the navigable waterway network, whilst HAROPA PORT manages the major port areas along the Seine corridor; meanwhile, local authorities and their operators provide, depending on the area, drinking water, local sanitation, road networks and riverbank development. The main links within the institutional system thus stem less from a hierarchy of levels than from the convergence, across the same waters and spaces, of river basin instruments, territorial responsibilities and major technical networks.

This institutional framework has developed alongside the physical transformations of the catchment. The expansion of Paris has gradually extended the systems required for its water supply and waste disposal: waterways to transport materials and goods, aqueducts drawing water from distant sources, sewers and, later, large wastewater treatment works discharging treated water downstream. Retrospective research by PIREN-Seine demonstrates how these infrastructures have reorganised, at the basin level, the flows of water and materials necessary for the functioning of the metropolitan area and have permanently transformed the environments that receive them¹⁵. PIREN-Seine draws on the concept of 'socio-technical structures' to analyse this

legacy: an infrastructure operates in conjunction with the institutions that manage it, the standards that define its objectives, professional expertise, accumulated investment and the practices that generate the flows to which it responds¹⁶. A sewerage network is thus not merely a matter of its pipes and treatment works: its transformation also involves the organisations that operate it, the rules governing collection and treatment, and decades of investment that have shaped urban organisation. The programme's current research specifically examines the significance of these structures and biogeochemical legacies in the basin's possible future trajectories. This historical depth sheds light on contemporary transformations: retaining rainwater on plots alters the volumes sent to a sewerage system designed to collect them, whilst recreating a floodplain sometimes requires the gradual release of urbanised land. Modifying water flows therefore amounts to simultaneously transforming spaces, infrastructure and the organisation of responsibilities that has developed around them.

The large reservoir lakes situated upstream of the Île-de-France region allow us to observe this organisation over different distances and timeframes. The EPTB Seine Grands Lacs manages four major complexes – Pannecière, Der-Chantecoq, Orient and Amance-Temple – situated on or near the Yonne, the Marne, the Seine and the Aube. By storing part of the water when flows are high and then releasing it during low-water periods, these structures mean that certain hydrological conditions in the metropolitan area depend on decisions taken more than a hundred kilometres upstream. However, the volume available to mitigate a flood or support low water levels depends on the state of the reservoir at the time the event

¹⁵https://piren-seine.fr/sites/default/files/piren_documents/les_archives/17_analyse_retrospective_du_fonctionnement_du_systeme_seine.pdf

¹⁶ <https://www.piren-seine.fr/piren-seine/phase-8-du-programme/axe-1-trajectoires-du-bassin-de-ses-tissus-agricoles-et-urbains-et>

The Yerres: incorporating the functioning of a river basin into planning decisions

The Yerres catchment area covers approximately 1,041 km², stretching from the Brie agricultural plateau to its confluence with the Seine at Villeneuve-Saint-Georges. Upstream, agricultural drainage networks accelerate water runoff and can facilitate the transfer of nitrates and plant protection products into watercourses and the Champigny limestone aquifer; downstream, urbanisation and soil sealing concentrate surface runoff, whilst the wetlands in the valley floors retain local storage capacity and aquatic habitats. The current functioning of the catchment is thus shaped by drainage, urbanisation, the filling in of wetlands and the alteration of watercourses.

The Yerres SAGE, approved in 2011 and revised in 2025 by the Local Water Commission (CLE), reflects some of these relationships in its planning decisions. In particular, it regulates new agricultural drainage schemes, protects identified wetlands and restricts certain forms of surface sealing within floodplain areas. Plots of land are thus also considered for their functions of infiltration, temporary storage or overflow. This approach also guides the restoration projects led by the SyAGE, such as on Panchout Island in Yerres, where the reconfiguration of the riverbed and the wetland area extends the lowering of the Céravennes dam carried out in 2021.

Further downstream, Belleplace-Blandin illustrates the urban and social implications of this management approach. This neighbourhood of Villeneuve-Saint-Georges, developed on the floodplain between the Yerres, the Seine and the railway line, still had a population of around 1,300 when work began on a project that now covers 10.5 hectares. The project combines land acquisition, rehousing and demolition to restore a floodplain to the River Yerres and rehabilitate the riverbanks and the wetland. EPA ORSA/Grand Paris Aménagement is primarily responsible for land acquisition and demolition, whilst SyAGE is leading the restoration work under the GEMAPI scheme. The sewerage network itself must be relocated outside the future floodplain: restoring the river's hydraulic function therefore simultaneously transforms the watercourse, land, housing and infrastructure.

At the catchment level, regulating upstream drainage, preserving a wetland or restoring a floodplain affects water that flows into the same river system. The hydraulic and ecological benefits can spread downstream, whilst restrictions, changes in practices, land acquisitions or resettlements remain localised where the intervention takes place. Basin-level management thus directly raises the question of the territorial distribution of constraints, responsibilities and benefits.

Source: The Yerres SAGE, flood prevention in Villeneuve-St-Georges and the renaturation of the Blandin neighbourhood.

occurs: reservoirs fill gradually according to their management schedule and the conditions in the catchment; capacity must be reserved for certain flood events, whilst summer releases support low flow rates. A decision on water storage therefore simultaneously takes into account the weather forecasts for the coming days, the progression of a hydrological event, the seasonal cycle of filling and emptying, the needs likely to arise during the summer and, increasingly, changes in the flow regime of the Seine due to climate change¹⁷.

The rhythms of water emerge here as a very tangible aspect of governance: a single piece of infrastructure must coordinate events lasting a few days, seasonal variations, management rules established over several years and longer-term climatic changes, whilst the decisions taken at any given moment alter the room for manoeuvre available for the next. These trade-offs also have a territorial dimension: reservoirs occupy vast areas in the Aube, Marne, Nièvre and Haute-Marne departments, where their construction has transformed landscapes, environments and land uses, whilst a significant proportion of their hydraulic functions concern the territories located downstream, extending as far as the Paris conurbation. They thus give a particular material form to decisions whose areas of intervention, beneficiaries and timeframes do not necessarily overlap.

Water, soil, vegetation and heat do not directly become objects of planning: their consideration relies on measurements and representations that make it possible to identify certain

¹⁷https://www.seinegrandslacs.fr/sites/default/files/media/downloads/seinegrandslacs_bilan_etiaqe2022.pdf

properties of the territory and to link them to the areas where intervention is possible. A temperature can be measured or modelled; vegetation described in terms of its area, height or tree cover; soils distinguished according to their impermeability or infiltration capacity; and flood risk represented using water levels corresponding to different scenarios. This information does not describe exactly the same phenomena or at the same scales, but linking them together makes it possible to clarify situations that a general category such as 'lack of nature' or 'climate vulnerability'

would make difficult to address in practical terms.

The Plaine Commune Greening and Regeneration Plan, drawn up in collaboration with Apur, demonstrates how this research can be directly linked to the transformation of an area. The nine municipalities of Plaine Commune are characterised by a high degree of urbanisation, but this takes very different forms across the dense urban fabric of Saint-Denis and Aubervilliers, the large housing estates, business parks, railway and motorway corridors, and large green spaces such as Georges-Valbon Park. Differences in

temperature and access to coolness therefore do not simply correlate with the total amount of vegetation: they also depend on its location, the layout of streets and buildings, the available shade, and the spaces that are actually accessible along daily routes.



Ecoquartier fluvial - L'Île-Saint-Denis



Rue de la Justice - Épinay-sur-Seine



Jardin Fatima-Bedar - Saint-Denis



Rue Michelet - Stains



Avenue Victor-Hugo - Villetaneuse



Rue de la Ferme et de l'avenue Romain Rolland - Saint-Denis



Av. Lénine, centre nautique, cimetière - Saint-Denis

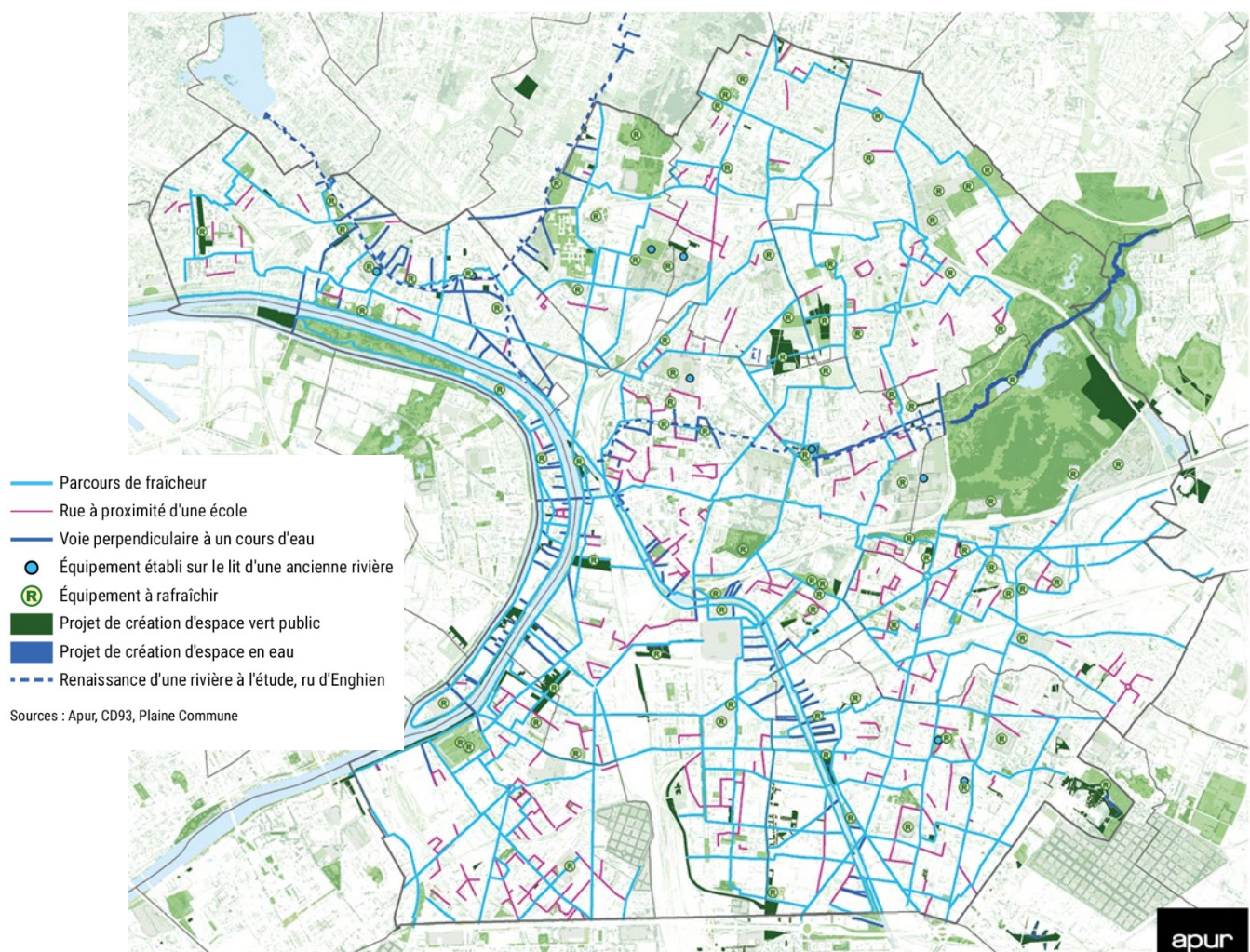


Confluence entre le canal St-Denis et la Seine, Saint-Denis

6 A collage of photographs showing the sparse and uneven vegetation cover across the Plaine Commune area. Source: Apur, Plaine Commune

For this reason, the assessment combines several types of information. Existing vegetation is mapped right down to private plots and categorised, in particular, according to the presence of different vegetation layers; temperature data and heat island effects help to identify areas particularly vulnerable during heatwaves; the location of parks, squares and other cool spaces provides information on their accessibility; finally, streets, facilities and public spaces make it possible to link these environmental conditions to frequently visited locations and areas where local authorities have the scope to take action. The map therefore does not produce a single ranking of neighbourhoods: it reveals different configurations in which heat, vegetation, land uses and scope for action combine in varying ways. Cross-referencing this information thus

makes it possible to determine what can be transformed and to what end, depending on the specific situations encountered. A street with a high proportion of hard surfaces, situated on a daily route to a school, does not pose exactly the same problem as a neighbourhood with a significant amount of private vegetation but few accessible green spaces, or as a large, green public space separated from residential areas by infrastructure. Planting more vegetation may be a solution in the first case; elsewhere, the challenge may concern access to an existing space, the conservation of mature trees, the removal of impervious surfaces, or the possibility of extending vegetation cover across several plots. Cross-referencing the maps thus serves less to identify a solution than to distinguish the conditions to which an intervention must respond.



7 Overview map of green spaces and vegetation corridors in Plaine Commune. Source: Apur, Plaine Commune Greening Plan (2022). (Key: Light blue: cooling routes; pink: streets near schools; dark blue: routes perpendicular to waterways; blue dots: facilities located on former riverbeds; green circles: facilities to be cooled; dark green: planned public green spaces; blue areas: planned water features; dashed blue: proposed reopening of a buried river (ru d'Enghien))

Cross-referencing several indicators, however, requires clarifying what each one actually helps to characterise. Viewed at the scale of Plaine Commune, vegetation forms a mosaic combining large parks, infrastructure embankments, cemeteries, private gardens, tree-lined streets and residual spaces. At the scale of a block or a street, the relevant characteristics become more specific: the width of a pavement, the presence of underground utilities, the depth of the topsoil, the orientation of building façades, the age of trees, or a fence separating two green spaces. An apparent continuity at the territorial level may thus encounter a very local obstacle; conversely, a small strip of land may take on particular significance when it extends a green area or serves a heavily frequented facility. Moving from the map to the ground therefore involves clarifying the identified relationship rather than simply confirming what the map has already established.

This interpretation also requires distinguishing what is actually depicted. A surface temperature map provides information on the heating of materials but does not, on its own, reflect the thermal comfort of a person on the street, which also depends on shade, wind, humidity and exposure to solar radiation. A vegetation map provides information on the presence and sometimes the structure of the vegetation cover but is not sufficient to characterise the ecological quality of each environment or its accessibility. The choice of an indicator and its scale therefore highlights certain properties of the area with great precision whilst leaving others out of the picture. Understanding the indicator, the scale and the criteria selected thus enables us to determine what a map actually reveals before comparing it with the uses and characteristics of the location.



Extrait du plan d'ensoleillement cumulé du 21 juin à Plaine Commune (à proximité de l'Église-Saint-Denis-de-l'Estrée à Saint-Denis)



Rue Ambroise-Croisat, Saint-Ouen-sur-Seine



Rue Charles-Schmidt, Saint-Ouen-sur-Seine

8 Changing scale to understand solar exposure. Mapping helps to identify variations in sunlight levels across the region; street views allow us to observe the actual urban layouts. Source: Apur, Plaine Commune Greening Plan (2022)

This distinction is all the more important given that certain representations become directly operational in planning: the zoning of a PPRI (Flood Risk Prevention Plan) governs building permissions, whilst the combination of heat, lack of vegetation and footfall can, as in Plaine Commune, help to identify and prioritise cooling measures.

Across the Seine metropolitan area, water and living organisms connect spaces that extend beyond the usual boundaries of urban planning. Their functioning depends both on water flows at the catchment level and on the highly local configuration of soils, environments and the infrastructure that alters them. Governance therefore organises interventions in this system based on

ParisPluie: making every project a space for rainwater management

In Paris, most rainwater flows into a combined sewer system, where it mixes with wastewater. During heavy rainfall, the rapid inflow of water from impermeable roofs, streets and courtyards can overwhelm this system and lead to discharges into the Seine. The ParisPluie Plan takes a proactive approach: its rainwater zoning scheme, which has been legally enforceable since 2018 and will be revised in 2025, requires public and private projects to manage a portion of the rainwater directly within their own footprint. It applies equally to new construction and to the redevelopment of a street, a park or a school playground.

The unique feature of the scheme is that it translates this objective into a specific volume of rainwater to be managed locally, rather than imposing a technical solution. Since January 2026, projects within the city limits of Paris must, as a minimum, manage on-site rainfall of up to 10 mm without discharging it into the sewerage system; additional requirements apply in areas where the sewerage system is particularly vulnerable to heavy rainfall and in the Bois de Vincennes and Bois de Boulogne. Depending on the location, the water can then be allowed to infiltrate into permeable soils, retained in a swale or a rain garden, utilised by vegetation, or collected for specific purposes. A subsoil sensitivity map accompanies the zoning scheme to ensure these solutions are tailored to local possibilities and constraints.

The 'Oasis' playgrounds provide a practical example of this approach. During their refurbishment, part of the tarmac in the school playgrounds is replaced with permeable surfaces and green spaces, which allow rainwater to be retained and used locally rather than being channelled directly into the sewers. At the Amiral-Roussin school, in the 15th arrondissement, the refurbishment of the playground thus combined permeable surfaces, planting and rainwater harvesting, whilst reorganising the play and rest areas. Across Paris, 46,000 m² of surface area has been made permeable in the 'Oasis' playgrounds between 2018 and 2024, preventing around 23,400 m³ of rainwater from entering the sewers each year.

The ParisPluie Plan thus integrates water management into very ordinary design choices: which surfaces to keep permeable, where to plant, how much space to allocate to a rain garden, or how to disconnect a roof from the sewer system. The same rule can therefore result in different developments depending on the depth and permeability of the soil, the presence of basements and utility networks, the available space or the site's intended uses. Between 2018 and 2024, the City estimates that the de-impermeabilisation and disconnection works carried out under this scheme have prevented around 950,000 m³ of rainwater per year from entering the sewers.

different territories and areas of focus: the catchment area for the SDAGE or SAGE plans, local authorities' remit for town planning and the GEMAPI scheme, the networks for sewerage, and the individual plot for certain rainwater management

regulations. These boundaries distribute, across different territories, the means to influence processes that are nevertheless linked by water: preserving a floodplain, limiting soil sealing or managing an upstream structure imposes localised constraints and costs, whilst their hydraulic or ecological effects may benefit other sectors of the catchment.

Measurement and mapping make some of these relationships tangible for planning purposes. Identifying a floodplain, measuring vegetation cover or pinpointing areas where heat, mineral content and high footfall

Sources: The [Paris Rain Plan](#) and the City of Paris's [Rainwater Zoning 2025](#).

converge makes it possible to transform diffuse processes into specific areas requiring protection, regulation or investment. The transition from knowledge to action thus relies on translating complex phenomena into spatial categories to which priorities, protective measures or rules can be attached. The scale, indicators and thresholds selected determine not only the relationships that the map captures at the territorial level, but also the level of detail that must be verified on the ground to understand what they mean at a particular site. These relationships are also shaped by trajectories whose rhythms intersect within planning decisions. The winter filling of a reservoir lake determines the volumes that can be released during a summer low-water period; a few hours' rain seeps through soils and drainage networks shaped by over a century of urbanisation; a tree planted today will only gradually provide the desired shade, whilst an area set aside for flood expansion may remain dry for years before receiving water again. The management of reservoir lakes itself balances seasonal objectives for filling and release with adjustments to observed hydrological conditions, and droughts can lead to planned releases being brought forward, as in 2022.¹⁸ These timeframes are not independent layers: they intersect in the current state of a piece of land, a network, an environment or a structure, and in the possibilities that today's choices maintain, transform or close off for the future.

Working with water and living systems on a Seine scale thus requires viewing a local intervention both from the perspective of the place where it takes shape and from the broader relationships in which it is embedded. An unsealed courtyard, a preserved wetland in the Yerres, a restored riverbank or maintained storage capacity in Champagne do not share the same function

or the same stakeholders; yet they all operate within a catchment where water supply, environmental quality, floods, low water levels and metropolitan uses depend on changes distributed between upstream and downstream areas. Current research by PIREN-Seine specifically calls for the catchment to be viewed as a mosaic of interacting urban, agricultural, semi-natural and hydrological systems, whose future trajectories remain heavily influenced by existing physical and institutional legacies. Metropolitan solidarity regarding water is therefore also reflected in the way in which the space allocated to the river, storage and infiltration capacities, restrictions imposed on certain uses, investments and the expected benefits of these transformations are distributed amongst the various territories within the catchment.

b. Reconciling competing uses: tensions and trade-offs

The tensions over land use that run through the Paris metropolitan area stem in part from the overlapping of functions whose geographical scope, timeframes and beneficiaries do not necessarily coincide. Contemporary changes are making some of these interdependencies more visible and sometimes giving them regulatory expression, without eliminating the rights, activities and uses that have shaped these spaces. Trade-offs therefore concern as much the recognised functions of a place as the way in which their benefits and constraints are distributed across space and time. Conflicts of use thus arise when several possible trajectories for the same territory must be negotiated, with effects that often extend beyond the immediate area where the trade-off is made.

¹⁸https://www.seinegrandslacs.fr/sites/default/files/media/downloads/seinegrandslacs_bilan_etiaqe2022.pdf

Water-related spaces make these trade-offs particularly visible. The diversification of expectations regarding rivers, canals and riverbanks leads to attempts to accommodate an increasing number of functions simultaneously. The Seine remains a transport infrastructure and a hub for economic activity, whilst its banks are home to a wider range of public uses and their ecological role is given greater consideration. Canals still fulfil hydraulic and navigational functions whilst becoming spaces for walking, sport or, in certain areas, swimming. This proliferation of uses creates complementarities, but also situations in which the conditions necessary for one use to function alter those under which others can take place.

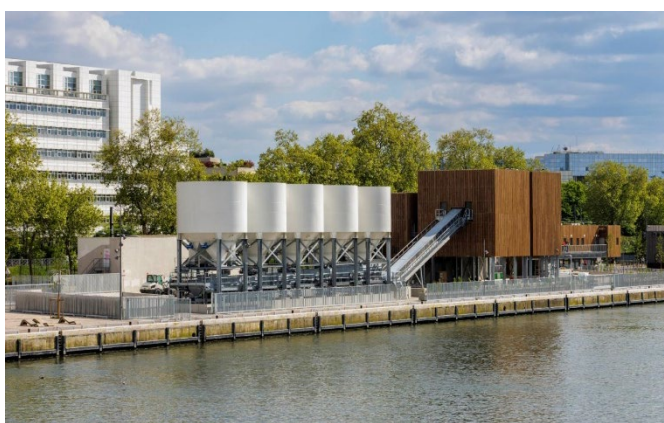
The canals of Paris provide a very concrete example of these adjustments. The growth of leisure activities and swimming adds new uses to canals that retain their hydraulic and navigational functions, whilst water quality and the maintenance of ecological continuity are becoming increasingly important in their management. These functions impose different requirements in terms of traffic flow, health standards, riverbank development and the tranquillity of the environment. Their coexistence therefore depends on spatial and temporal adjustments: for example, swimming is concentrated in designated areas and at specific times, so as to



¹⁹<https://www.haropaport.com/fr/reamenagement-du-port-de-javel-bas>

accommodate navigation and the operation of locks, whilst other sections of the banks may be subject to restoration or ecological continuity objectives.

The port of Javel-bas, in the 15th arrondissement, takes this coexistence a step further by making the preservation of industrial functions an integral part of the waterfront development project. Its regeneration, which began in 2017 and was completed in 2024, has preserved and modernised industrial and port activities whilst creating a promenade stretching over 500 metres, green spaces and new public squares¹⁹. At the same time, the transshipment quay was reinforced to develop river transport, and around 30 per cent of the port's area was reallocated for public use²⁰.



9 Collage of photos of the redevelopment of the Javel-bas harbour for different uses (mobility, leisure and industry). Photos: Laurent Guichardon. Source: Haropa Port

²⁰<https://www.haropaport.com/fr/actualites/la-renovation-du-port-de-javel-obtient-une-mention-speciale-du-jury-aivp>

This development forms part of a wider challenge facing Paris: several port sites in the 12th, 13th, 15th and 16th arrondissements still host production, storage or transshipment activities for materials; their location on the banks of the Seine enables construction sites in the heart of the metropolitan area to be supplied without having to divert all these goods onto the roads. This multifunctionality is based on specific arrangements: for example, certain quays may be open to walkers outside operating hours and then resume their logistical function when a transshipment operation is scheduled. HAROPA PORT applies this principle more broadly to its 'shared-use quays'²¹, whose use can alternate between goods handling, passenger transport and leisure activities.

At Javel, this temporal organisation is accompanied by a more nuanced differentiation of spaces: the retention of industrial facilities, continuous pedestrian access along the quayside, greenery and small open spaces, and technical access points. A Charter of Uses, signed in 2023 for the ports in the 15th and 16th arrondissements by HAROPA PORT, the City, the relevant local councils, businesses, associations and representatives of local residents, also provides a framework for this coexistence. Conflicts over land use thus become a permanent feature of the site's management: the aim is to adjust the s of the activities that remain in place, rather than systematically eliminating one in favour of the other.

In addition to this layering of uses, different qualities are attributed to the same spaces. At Javel, the project was required to preserve the views towards the Mirabeau Bridge, a listed historic monument, enhance the greenery and open up the riverbank further to the public, whilst maintaining the facilities necessary for transshipment and productive

activities. More broadly, in central Paris, the inclusion of the Banks of the Seine on the World Heritage List since 1991 – with its boundaries extended in 2024 – protects a landscape shaped by the interplay between the river, the quays, the bridges and the monuments. However, these quays are also part of a productive and logistical system: certain sites still house concrete plants, material storage facilities and transshipment centres, whose waterfront location enables heavy goods to be transported by river and production capacity to be maintained close to Parisian construction sites.

The riverside landscape thus results from the coexistence of port and industrial structures, tree-lined avenues, monuments, navigation infrastructure and public spaces, whose operational, safety and heritage protection constraints each shape the possibilities for transformation in different ways. Everyday practices add another dimension to this coexistence. Along the Seine and the canals, pathways are used for travelling on foot or by bicycle as much as for strolling; the quays are the setting for sporting activities, relaxation, socialising and sometimes swimming, alongside spaces whose rhythms remain dictated by deliveries, transshipment or production. With the increase in heatwaves, water, shade and vegetation are also giving these routes and recreational areas an increasingly important role in providing relief from the heat. However, their accessibility and conditions of use vary greatly depending on the section: a port area may interrupt a continuous route whilst requiring precisely this access to the river in order to function; elsewhere, a quay that is accessible at all times may remain very stark or offer little shade and few opportunities to stop. Opening up the riverbanks is therefore not simply a matter of freeing up more linear space for public use: it involves developing forms of access, opening hours, routes and

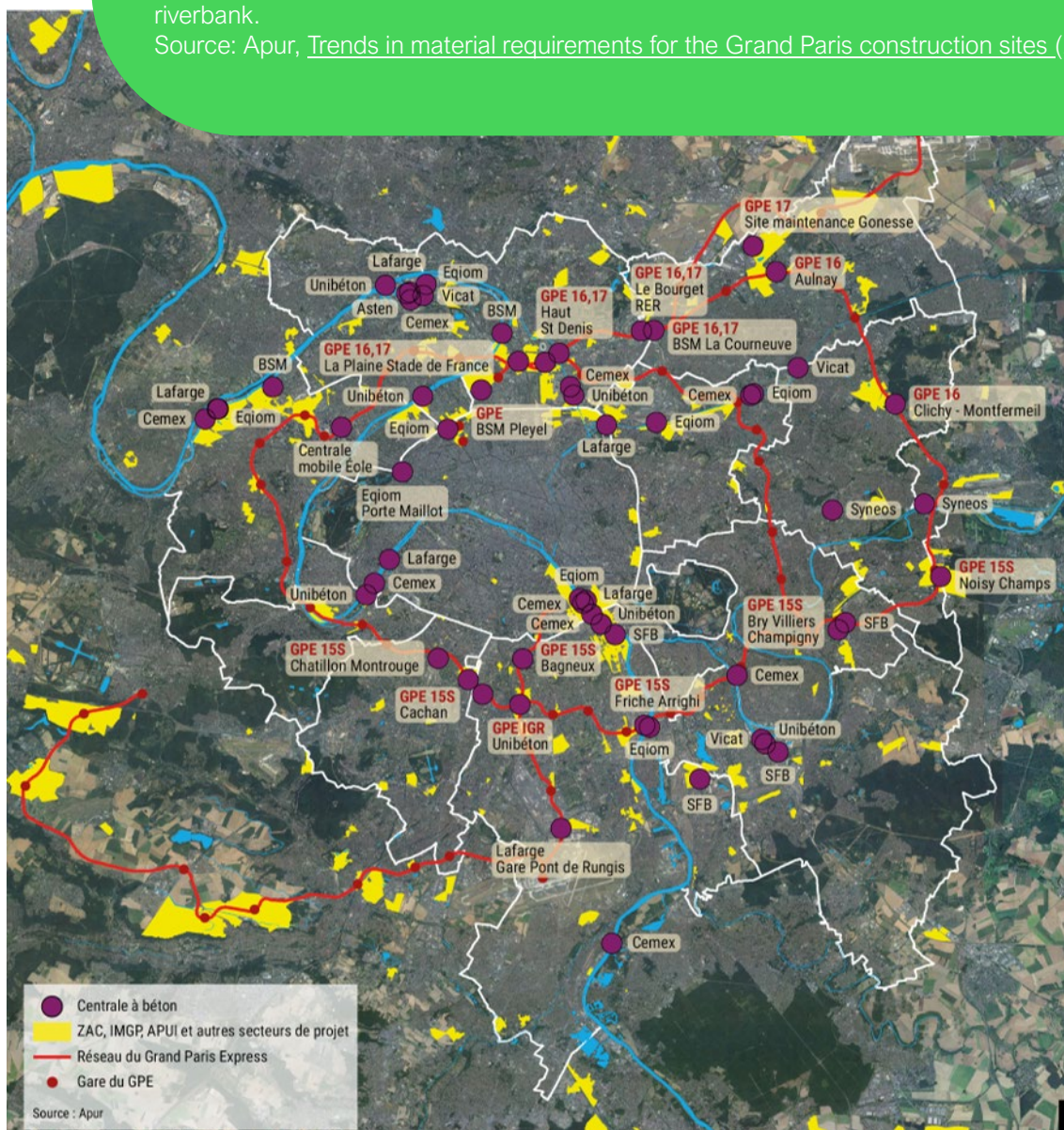
²¹<https://rapport-annuel.haropaport.com/fr/quais-usage-partage>

Producing concrete on the banks of the Seine: an activity to be maintained and transformed

Maintaining concrete plants on the banks of the Seine in Paris may seem at odds with opening them up to the public and transforming the landscape. Yet their location is dictated by the very nature of metropolitan construction. Ready-mixed concrete must be produced relatively close to construction sites and requires large quantities of heavy materials, particularly aggregates and sand, which account for over 75 per cent of its composition. In its 2021 study, Apur identified 39 fixed plants in the Greater Paris Metropolis, 33 of which are situated alongside a waterway: the concrete production network is thus closely linked to the Seine, the Marne and the canals.

This proximity makes it possible to link construction sites in the metropolitan centre to quarries and distribution centres located further afield within the basin. Apur cites, for example, the transport of aggregates and sand from Montereau-Fault-Yonne, in Seine-et-Marne, to Parisian plants: according to data from Ports de Paris used in the study, river transport emitted 76 per cent less CO₂ than the equivalent road transport. Even with the increased use of timber and other materials, the scenarios analysed by APUR still indicated significant demand for concrete linked to construction, infrastructure and renovation projects in Greater Paris. Removing concrete plants from the metropolitan centre may therefore simply shift production and increase the distances materials have to travel, rather than eliminating this demand. The challenge therefore lies as much in transforming these industrial sites as in retaining them. The APUR study highlights the need to improve their integration into the landscape and their compatibility with other urban uses, but also to adapt them to changes in the industry: the growing use of aggregates from demolition waste, the production of concrete incorporating recycled materials, and links with new reuse platforms. An industrial site on the riverbank can thus retain its productive function whilst changing the materials it processes, its logistics flows, its relationship with public space and its integration into the riverbank.

Source: Apur, *Trends in material requirements for the Grand Paris construction sites* (2021)



10 Concrete batching plants and the Greater Paris development projects. Source: Apur (2021).

Key: Purple dots: concrete batching plants; yellow areas: major development and urban innovation project areas (ZAC, IMGP, APUI and others); red lines: Grand Paris Express network; red dots: Grand Paris Express stations.

that may be permanent, alternating or shared.

At Javel, the shared-use quays give spatial and temporal expression to this quest for compatibility: certain areas may be open to walkers outside operating hours and then revert to a logistics function when a transshipment is scheduled. The Charter of Uses, signed in 2023 for the ports in the **15th** and **16th** arrondissements, brings together HAROPA PORT, the City and the relevant local councils, businesses, associations and representatives of local residents to provide a framework for this coexistence. The conflict therefore does not merely concern access to a limited stretch of riverbank, but rather the value attributed to functions that have effects at different scales: a power station or a quay generates local noise, dust, traffic and industrial footprint, whilst its proximity to construction sites and its river access contribute to a logistics system that can reduce road traffic at the metropolitan level. The transformation of the port therefore involves addressing the practical conditions of this coexistence – the organisation of traffic flows, timetables, the sharing of quays, the integration of facilities and the continuity of routes – without erasing the productive function that partly justifies its location on the riverbank.

The transformation of the riverbanks thus affects the conditions of living in the metropolis far beyond mere accessibility. Being able to reach the Seine from one's neighbourhood, move along it, find shade or a place to linger, and access the water all contribute to the day-to-day quality of life; at the same time, certain sections of the riverbank host productive and logistical activities on which the city's supply and transformation depend. These functions do not generate the same amenities or the same constraints, and their distribution along the river contributes to inequalities between

riverside areas: some are subject to a higher concentration of nuisances, industrial sites or the infrastructure necessary for the city's functioning, whilst others enjoy more continuous access to green and recreational riverbanks. Transforming these spaces therefore also involves addressing this distribution, by improving the conditions for coexistence and access to the river without systematically relocating the most restrictive functions to other areas. The continuation of productive activities can itself contribute to this transformation when accompanied by changes to their processes, their flows, their integration into the urban fabric and the ways in which the riverbank is shared. Living alongside the river thus relates to the way in which a metropolis spatially organises the functions on which it depends and distributes among its territories the resources, amenities and constraints associated with their presence.

In Bezons, the redevelopment of the Bords-de-Seine raises the question of how to coherently shape a riverside area that has long been shaped by industrial activities and infrastructure, but which is now more closely integrated into the town's urban life. Situated on the right bank of the Seine, opposite Colombes and Nanterre, Bezons occupies a gateway position between the Val-d'Oise and the densely populated part of the conurbation. It is notably around the Bezons bridge and the terminus of the T2 tram line that the Bords-de-Seine ZAC (Joint Development Zone) has developed, developed by Séquano across 17 hectares between 2008 and 2025. The development comprises 39,300 m² of housing, 67,000 m² of commercial and service sector space, retail outlets and amenities, as well as a major reorganisation of public spaces including 25,000 m² of green spaces²².

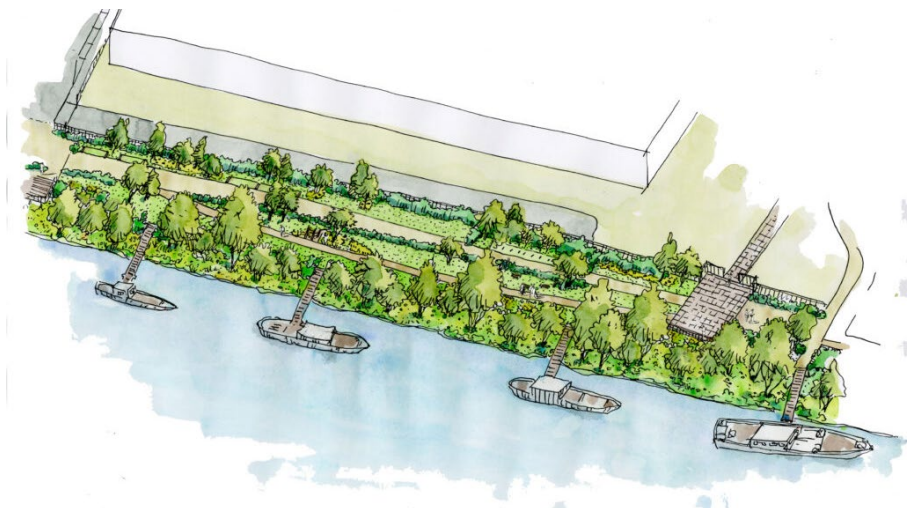
²² <https://www.sequano.fr/operations/bezons-zac-des-bords-de-seine/>



12 Urban development project for the 'Des Bords de Seine' ZAC in Bezons by Agence Patrick Chavannes (2018). Source: AAUPC, Chavannes et Associés

The transformation of the neighbourhood around the tramway is thus part of a wider development of the riverfront, where residential and everyday uses are moving closer to areas long dominated by industrial and infrastructural functions. This development is now particularly evident in the redevelopment of the riverbanks themselves.

In June 2025, the Saint Germain Boucles de Seine Urban Community completed a two-kilometre greenway between Carrières-sur-Seine and the Bezons Bridge, partly following the old towpath²³.



11 Development of a greenway in Bezons (2025). Source: Communauté d'agglomération Saint Germain Boucles de Seine

The development extends connections that reach well beyond the municipality's boundaries: it crosses the Eole footbridge and is set to link up with Houilles–Carrières-sur-Seine station as well as the Vélo Île-de-France cycle network. The aim is to create a continuous route and a riverine landscape, without imposing uniformity on the forms or uses of the riverbank. For example, near Carrières-sur-Seine, the route bypasses existing wetlands, and features designed for bats and birds accompany a section more focused on environmental

conservation; whereas, as it approaches the Bezons bridge, the riverbanks become more urbanised and the routes are integrated into a much more built-up environment.

²³<https://www.saintgermainbouclesdeseine.fr/inauguration-de-la-voie-verte-de-bezons-une-nouvelle-liaison-cyclable-sur-les-bords-de-seine/>

The Seine Flood Risk Management Plan (PPRI) for Argenteuil and Bezons introduces another form of continuity, this time based on the river's behaviour during flood events. Its regulations cover both municipalities jointly and aim to reduce the exposure of people and property, whilst also preventing obstacles to water flow and minimising floodplains.²⁴ This geographical context is particularly interesting here: the continuity of landscape and land use sought along the riverbanks intersects with a hydraulic continuity that does not treat all spaces in the same way. An accessible riverbank, a wetland, a plot of land suitable for building, or an open space also derive their meaning from the role they play in the valley's functioning during a flood.

Furthermore, the boundaries of the PPRI reveal an interesting discrepancy with current urban planning. It treats Argenteuil and Bezons as a single unit, as it is based on a shared area exposed to flooding from the Seine. However, the two municipalities now belong to different inter-municipal bodies: Bezons belongs to the Saint Germain Boucles de Seine Urban Community, which is responsible for the new greenway, whilst Argenteuil belongs to Boucle Nord de Seine and is governed by its PLUi. The PPRI nevertheless remains a common obligation for both territories. The river's dynamics, transport links and town planning documents thus give rise to geographies that intersect without sharing the same boundaries.

In Bezons, the quest for coherence along the Bords-de-Seine is thus built upon functions that do not all produce the same landscape. The greenway seeks to ensure continuity of movement between several municipalities whilst adapting its design to the more natural or more urbanised sections of the riverbank; the regeneration of the Bords-de-Seine brings housing and public spaces closer to the river; the PPRI, meanwhile, maintains requirements relating to water flow and flood expansion. This coexistence therefore does not entail either freezing the riverbanks in their current state or applying the same development model everywhere: it is based on creating a continuity that is coherent enough to link territories and land uses, yet sufficiently differentiated to take account of the environments and of the hydraulic of each section.



13 View of the Seine in Bezons. Source: Ville de Bezons

²⁴https://data.geopf.fr/annexes/gpu/documents/DU_95063/a779ed6bf26daafcee910bcda39ba298/95063_PPRI_cartographies_20151209.pdf

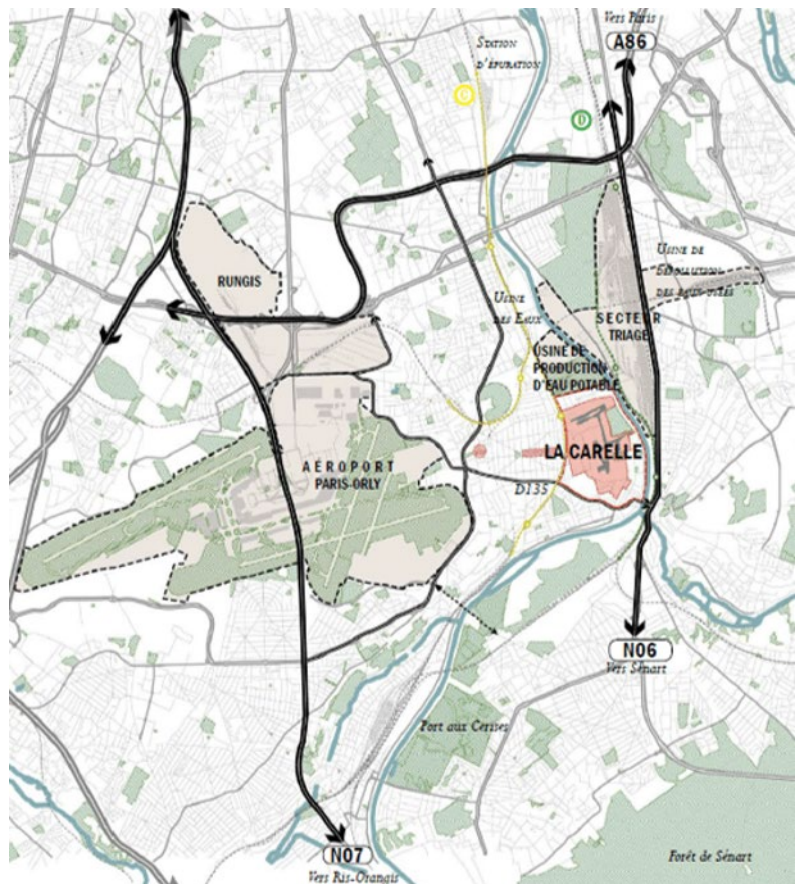


15 The neighbourhood of the Carelle in Villeneuve-le-Roi. Source: Grand Orly Seine Bièvre

In Villeneuve-le-Roi, the question of coexistence arises within a landscape along the Seine where industrial and logistical functions remain a prominent feature. Some fifteen kilometres south of Paris, La Carelle covers more than 130 hectares between the railway line and the river, centred around several docks created by material extraction and directly connected to the Seine. The area is now home to more than 330 businesses and nearly 3,000 jobs. Its location alongside the waterway, as well as the A86 motorway, the N6 and N7 roads, the RER and Orly Airport, explains the development of industrial and logistics activities and continues to make this site a strategic area for the southern Île-de-France region²⁵. However, the future of this area has been the subject of various proposals regarding how to balance these functions.

An urban study commissioned by the EPA Orly Rungis-Seine Amont (ORSA) in 2019–2020 envisaged a relatively extensive redevelopment of the Carelle and the Bord-de-l'Eau areas. It sought to maintain the capacity for economic activities to continue whilst exploring the introduction of housing, services and facilities, and the enhancement of the landscape and ecological systems around the docks. The area had

already been identified as facing significant constraints: poor internal accessibility, heavy traffic, flood and technological risks, soil and groundwater pollution, as well as pressure on land use linked to housing needs. The EPA ORSA's initial considerations thus considered the Seine as a means of fostering urban and landscape continuity capable of combining economic activities and recreational uses,



16 Urban planning study for the regeneration of the Carelle and Bord-de-l'Eau areas, Villeneuve-le-Roi. Source: Altostep.eu

²⁵ <https://www.grandorlyseinebievre.fr/la-carelle-villeneuve-le-roi>

whilst preserving the industrial character of the heart of the Carelle.

These trade-offs have since evolved. In the draft Local Urban Development Plan (PLU) examined in 2022, a sectoral OAP still envisaged the redevelopment of part of the Carelle. The Regional Environmental Authority (MRAe) notably emphasised the need to take better account of aquatic environments and ecological connectivity, soil pollution, as well as exposure to nuisances and risks²⁶. In the version finally approved in 2024, the sectoral OAP for La Carelle was removed and the area in question was placed within a holding area pending a comprehensive development plan, whilst a thematic OAP dedicated to the Green and Blue Infrastructure Network was retained. This, in particular, incorporates the River Seine and the docks into the municipal hydrographic network. Taking environmental qualities into account therefore did not simply involve adding a few requirements to an already defined project: it helped to delay and reformulate the conditions for the transformation of part of the sector.²⁷

At the same time, the inter-municipal level clearly reaffirms its productive and river-based vocation. Grand-Orly Seine Bièvre now identifies La Carelle as one of the sites in its 'green reindustrialisation of the Seine'



17 Green and blue infrastructure and ecological connections across Grand-Orly Seine Bièvre (2025). Source: PLUi Grand-Orly Seine Bièvre

strategy.²⁸ The docks, which are sometimes underused, are becoming a resource for developing boat repair and manufacturing and enabling more businesses to make use of river transport. Bringing them back into use itself requires significant physical changes, notably dredging and refurbishment, as well as consideration of the relocation of facilities linked to hydrocarbons. La Carelle thus demonstrates that the transformation of the banks of the Seine does not necessarily involve replacing productive functions. The inland waterway industry contributes here to the transition objectives,

²⁶https://www.mrae.developpement-durable.gouv.fr/IMG/pdf/2022-05-19_villeneuve-le-roi_94_elaboration_plu_delibere.pdf

²⁷https://www.villeneuve-le-roi.fr/app/uploads/2024/08/VILLENEUVE_Reunion-publique-08.02.24.pdf

²⁸<https://www.grandorlyseinebievre.fr/reindustrialisation-verte-de-la-seine>

notably through the development of waterborne transport, whilst having to reconcile these aims with the ecological continuity and everyday uses of the area. The coherence of the river landscape is thus achieved not so much through the homogenisation of the riverbanks as through the articulation of sequences whose functions and conditions of transformation remain distinct.

These situations demonstrate that the proliferation of functions assigned to metropolitan spaces does not automatically ensure their compatibility. Coexistence is shaped by the project, through the way in which uses are distributed across space and time, the way in which certain continuities are prioritised, and the way in which the specific characteristics of each sequence are preserved. A riverbank can thus contribute to metropolitan continuity without being accessible, developed or used in the same way everywhere. The examples of Bezons and Villeneuve-le-Roi also show that this composition involves relationships between territories: certain sections of the valley host productive activities or hydraulic functions whose utility extends far beyond their boundaries, whilst access to the river and associated amenities is organised on a much more local scale.

The liveability of the metropolis is also at stake in these relationships. It does not consist of applying a single model of green, accessible and recreational riverbanks across the board, but rather of determining how the Seine's various functions can be maintained and transformed without certain areas being permanently relegated to bearing the burden of metropolitan constraints, whilst others are concentrated with its amenities. Solidarity thus takes on a very concrete spatial dimension: it concerns

the way in which the contributions of different areas to the functioning of the valley are recognised and linked, but also the scope they have to improve their own living conditions. Metropolitan coherence therefore does not lie in erasing the differences along the Seine, but in the ability to articulate them without freezing the existing distribution of functions, constraints and potential uses.

c. Making room for life: soils, renaturation and land use

The growing prominence of renaturation in planning policies is part of a broader shift in how land is viewed. The UN identifies land sealing as one of the major threats contributing to land degradation – often in ways that are difficult to reverse – by converting agricultural, forested or natural areas to heavily human-influenced uses. In urban areas, this transformation is particularly linked to soil sealing: nearly 70 per cent of artificial surfaces are covered by impermeable buildings or infrastructure²⁹. Asphalt, concrete and soil compaction therefore limit interactions with water, the atmosphere and living organisms. Infiltration decreases, whilst runoff increases and the conditions necessary for the development of vegetation and soil life are profoundly altered.

The Land Use Transition Chair³⁰, established in 2023 at Gustave Eiffel University, brings together researchers and practitioners to address issues relating to land and living soils. It brings together researchers, public sector stakeholders and planning professionals to address the transformations involved in land-use restraint, viewing soil as a physical, chemical and biological matrix whose properties play a key role in the circulation and storage of water and carbon,

²⁹ Delorme, M. et Diab, Y. (dir.) (2024). *Restaurer les fonctions des sols ? Approches scientifiques et perspectives interdisciplinaires*. Cahier n° 1 de

la Chaire Transition foncière, Paris, Institut de la Transition Foncière, 108 p.

³⁰<https://paris-est.archi.fr/la-recherche/chaire-transition-fonciere>

as well as in the conditions necessary for biodiversity. Two areas classified as urbanised may thus function very differently depending on their degree of sealing, the depth and quality of their soils, or their connections with the surrounding environments. This broadens the scope of the land issue: alongside property rights, values and building potential, there is the question of what land-use changes physically do to the soil and the functions that the soil can retain or regain.

The ‘Zero Net Land Sealing’ (ZAN) objective helps to make this dimension clearer by linking the reduction of land sealing to the possibility of restoring certain functions of land that has already been sealed. However, the term ‘renaturation’ is still relatively new in the field of spatial planning and does not refer to a single, unambiguous intervention. As used within the ZAN framework, it refers to actions aimed at restoring or improving a soil’s functionalities, thereby transforming an artificialised soil into one considered non-artificialised. In project practice and ecological sciences, the terminology is more diverse³¹.

As shown in the table, ecological restoration, rehabilitation, remediation or reallocation do not describe either the same objective or the same degree of transformation. Restoring a degraded ecosystem by using a previous state of functioning as a benchmark differs, for example, from the re-establishment of certain ecological functions without seeking to return to a pre-existing state. The functional restoration of soil is more specifically aimed at recovering ecological functions, whilst remediation addresses certain forms of degradation, particularly pollution. Reallocation, on the other hand, may give a site a new use without this necessarily constituting ecological restoration. This diversity is particularly important in a metropolitan area where environments have often undergone several successive transformations. A river that has been channelled and then buried, a former industrial site, an asphalted courtyard or a railway embankment do not share the same baseline condition or the same potential for transformation.

Activity	Description
Renaturation	Actions to restore or improve soil functionality, with the aim of transforming an artificial soil into a non-artificial soil.
Ecological restoration	Assistance in the recovery of an ecosystem that has been degraded, damaged or destroyed, with the aim of restoring indigenous ecosystems and the integrity of the ecosystem.
Ecological rehabilitation	The re-establishment or improvement of the functioning and level of biodiversity of an ecosystem, without returning to the state of a pre-existing ecosystem.
Soil functional restoration	The recovery of the ecological functions of a soil.
Remediation	The elimination of negative environmental and social impacts, such as pollution or the unsustainable exploitation of a resource.
Reaffectation	The attribution of a new use, which may or may not be functionally or structurally connected to the pre-existing ecosystem, to a heavily degraded site.

18 Different terms used in the context of renaturation and restoration. Source: translated into English from the Cahier n°1 de la Chaire Transition foncière

³¹ [Delorme, M. et Diab, Y. \(dir.\) \(2024\). Restaurer les fonctions des sols ? Approches scientifiques et perspectives interdisciplinaires. Cahier n° 1 de](#)

[la Chaire Transition foncière, Paris, Institut de la Transition Foncière, 108 p.](#)

Speaking indiscriminately of a 'return to nature' therefore obscures much of the work required to determine what can actually be restored. In ecology, an intervention does not automatically restore a habitat to its previous state: certain changes to soils and ecosystems are partly irreversible. Renaturation therefore sets the habitat on a new trajectory, determined by its current state, the changes it has undergone, and the ecological functions that the intervention seeks to restore. Making room for living organisms therefore involves working with this legacy to define the functions that can be restored and the physical conditions required for their recovery.

The small rivers of northern Île-de-France provide a concrete example of how restoration can be achieved in areas that have already been profoundly transformed. The PIREN-Seine project is studying, in particular, the Croult and the Petit Rosne in the Val-d'Oise, focusing on their 'hydrosocial connectivity'³²: the assessment combines the form and visibility of the watercourse with the right of way it occupies, land use, access to the banks and potential uses. This reveals, along the same river, a succession of buried sections, heavily constrained by urbanisation, and stretches where the water flows through wider public or green spaces.

The Petit Rosne in Sarcelles allows this variation to be observed on a very local scale. Following the floods of 1992, an initial section, restored to an open channel over approximately 1.5 km, retains a straight, mineralised channel, designed primarily to meet hydraulic objectives. Further downstream, a second section was restored in 2015

Living soils beneath the city

In urban planning, soil is often viewed as a surface to be built on or developed, and then as a material whose geotechnical properties dictate the nature of the works. Even green spaces frequently rest on imported substrates. This approach partly overlooks the existing soil as a living environment and a resource. In the pedological sense, soil is an organised layer at the interface between the subsoil, the atmosphere, water and living organisms. Its structure and composition play a key role in water circulation and storage, vegetation growth and material cycles. Formed slowly and difficult to replenish on a human timescale, this 'skin' of the Earth is particularly heterogeneous in urban areas: just a few metres may separate preserved soil from land that is compacted, backfilled, polluted or deeply altered.

This richness remains largely invisible and is still poorly understood. Soils are thought to harbour between 25 and 60 per cent of terrestrial species: a single square metre can be home to dozens of species of worms, nematodes or springtails, hundreds of bacteria and thousands of species of fungi. Yet only around 1 per cent of soil studies focus on urban soils. Long focused on contamination, assessments of urban soils are gradually incorporating their physical and biological aspects; in particular, ADEME has helped to validate bio-indicators of their biological quality.

This understanding of soil also changes our view of renaturation. Removing a surface layer is not necessarily enough to restore soil: compaction, excavation or pollution may have altered its functions at a deeper level. De-sealing therefore depends on the soil's condition and its connections with neighbouring soils. At a regional level, these connections can form a 'brown infrastructure', complementing green and blue infrastructure, and facilitating the movement of organisms and underground ecological connectivity.

Sources : [Delorme, M. et Diab, Y. \(dir.\) \(2024\). Restaurer les fonctions des sols ? Approches scientifiques et perspectives interdisciplinaires. Cahier n° 1 de la Chaire Transition foncière, Paris, Institut de la Transition Foncière, 108 p.](#)

[Maréchal, J., Marié, X., Cluzeau, D., Lénack, É. et Desrousseaux, M. \(2025\). TRAM'BIOSOL. Intégration de la Trame Brune et de la biodiversité lombricienne des sols dans les programmes d'aménagement urbain. Paris : Plan Urbanisme Construction Architecture \(PUCA\), 118 p.](#)

³²https://www.piren-seine.fr/sites/default/files/piren_documents/fascicules/Collection_AESN_PIREN-Seine_11_-_Les_petites_rivieres_urbaines.pdf

[ules/Collection_AESN_PIREN-Seine_11_-_Les_petites_rivieres_urbaines.pdf](#)

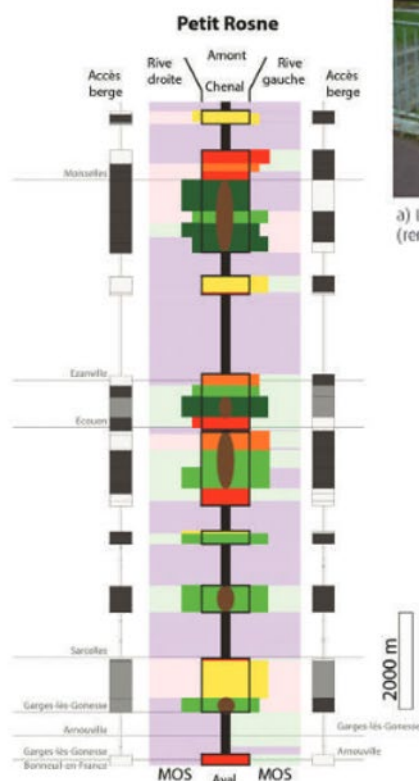
with a more meandering channel and vegetated banks: this restoration thus combines ecological function more closely with landscaping and the river's opening up to the park. The map shows, however, that these restored sections remain part of a discontinuous river: within a few hundred metres, the Petit Rosne may run alongside gardens, cross a retention basin open to the public, become difficult to access or disappear underground. The restoration therefore transforms certain sections and the ways in which people can engage with the river without homogenising its entire course.

The Croult in Gonesse presents a different configuration. The Vignois project, inaugurated in 2019, replaced approximately 800 metres of concrete canal with a meandering riverbed featuring vegetated banks; further downstream, it extends into a wetland area that also serves to provide flood storage. The project thus combines ecological restoration, water management and the creation of an accessible space, but this section is also flanked by stretches that are far more constrained or marginalised. Across the two rivers, the PIREN-Seine project thus demonstrates renaturation in stages, the form of which depends as much

19 The Petit Rosne in Sarcelles – different forms of relationship between river and city. The hydrosocial connectivity typology distinguishes river sections according to the configuration of the watercourse and its surroundings, their accessibility, and their integration into urban spaces and uses.

Key: Land use: urban areas in purple, agricultural land in pink, forests/parks in green, retention basins in brown; Access to riverbanks; impossible in white, difficult in grey or easy in black; Spatial configuration: channel, public strip or wider open space; River types: integrative in light green, technician in green, mineral in yellow, marginalised in orange, privatised in red or buried in black.

Source: adapted from Lespez & Germaine (eds.), 2024, PIREN-Seine. Map: E. Temple-Boyer and M.A Germaine.



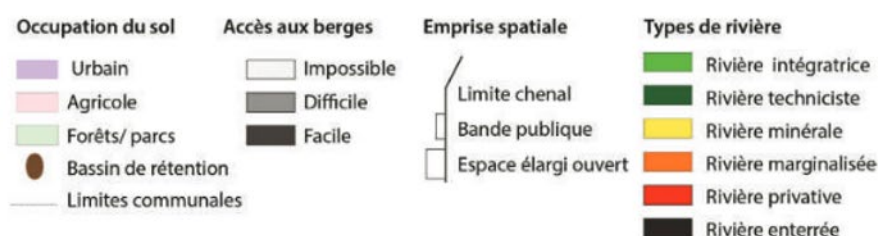
a) Le petit Rosne à Sarcelles (remise à ciel ouvert minérale réalisée en 2014)



b) Le petit Rosne à Sarcelles (remise à ciel ouvert végétale réalisée en 2014)



c) Le Haut du Roy sur le Petit Rosne (Sarcelles)

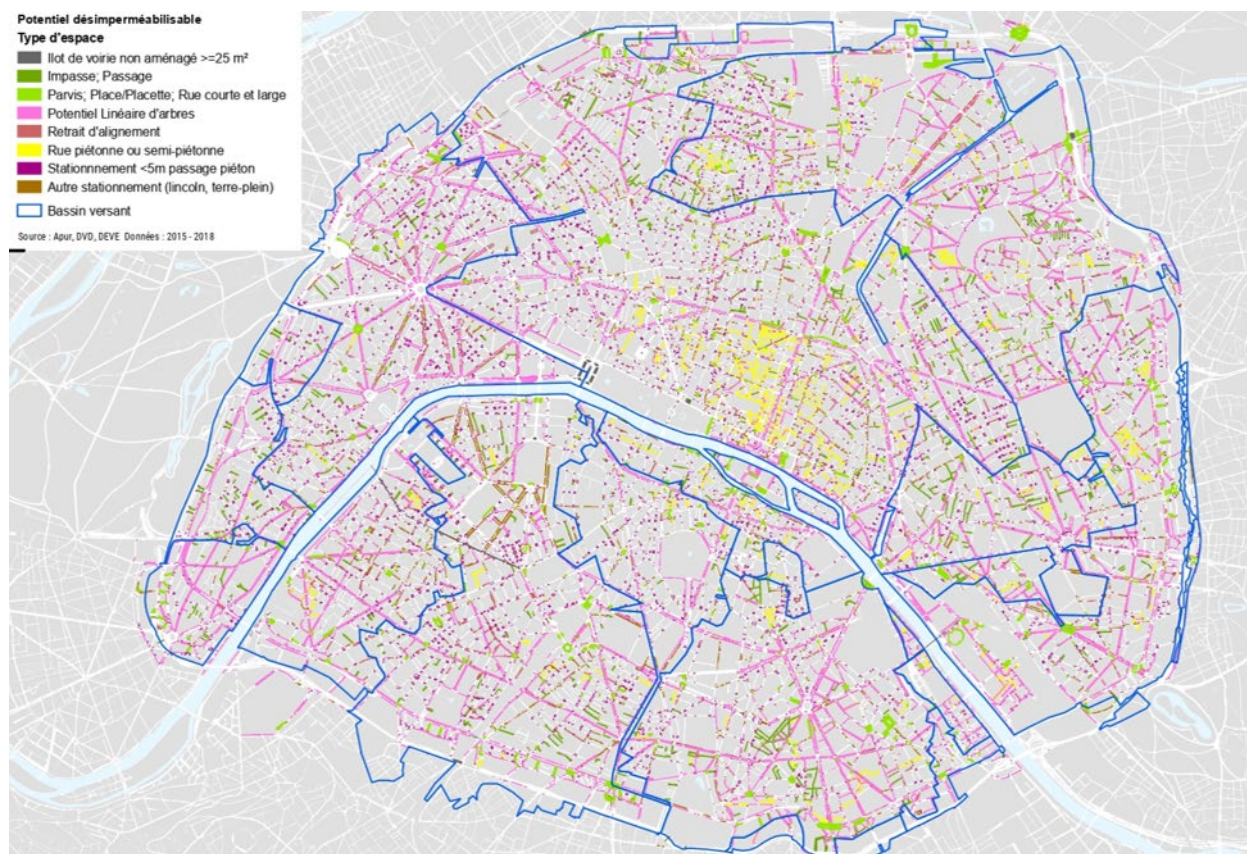


on the condition of the watercourse as on the available space and the existing relationships between the river, urban development and land uses.

Stormwater management extends this transformation to the scale of the built environment. In Paris, where nearly three-quarters of the land area is impervious, rainwater has long been managed primarily through the sewerage system: water runs off impervious surfaces and enters a network which, in much of the capital, also carries wastewater. The ParisPluie Plan³³ seeks to alter this flow by making rainwater management a standard component of urban planning. Both public and private projects must now retain a portion of the water they receive on site, through infiltration,

greening, storage or reuse. The objective goes beyond preventing overflows: reducing the volume of water sent to the sewers also reduces the volume likely to be discharged into the Seine and makes it possible to harness this resource for the soil and vegetation.

The ParisPluie Plan thus links the gradual transformation of plots of land and public spaces to the functioning of the drainage system and the quality of the river. This policy relies specifically on the accumulation of scattered interventions in a city where large available areas are scarce. The Apur has mapped Paris by catchment area to identify where rain falls, which surfaces are already permeable, and which could be disconnected from the sewers³⁴. In



20 Opportunities for de-impermeabilisation in public spaces. Source: Apur (2022).

Key: Dark grey: undeveloped traffic island $\geq 25 \text{ m}^2$; dark green: cul-de-sac/passage; bright green: forecourt, square/small square, short and wide street; pink: potential for continuous tree planting; pale pink: building setback; yellow: pedestrian or semi-pedestrian street; dark magenta: parking space within 5 m of a pedestrian crossing; brown: other parking space (Lincoln-type parking, central reservation); blue outline: catchment basin.

³³ <https://www.paris.fr/pages/le-plan-parispluie-5618>

³⁴ <https://www.apur.org/fr/climat-environnement/sol-eau/referentiel-une-gestion-source-eaux-pluviales-metropole>

particular, it shows that opportunities for action are not confined solely to the road network: a significant proportion lies within public and private plots. A courtyard, a block garden or a locally transformed open space thus forms part of a much broader geographical context, as the proliferation of such interventions gradually alters the volume and flow rate of water entering the sewers. This catchment-based approach allows us to understand Paris through the flow of water rather than solely through the boundaries of urban development projects.

The Paul-Bourget ZAC (Joint Development Zone) in the 13th arrondissement provides a concrete example of this change ³⁵. Situated at the Porte d'Italie, between the ring road and Avenue de la Porte-d'Italie, the project is transforming a social housing estate built in the 1950s and its surrounding areas. The redevelopment of the neighbourhood therefore involves redesigning streets and public spaces at the same time as buildings are being demolished, rebuilt or constructed. It is within this framework that rainwater management can be integrated into the very design of the new urban space rather than added as an afterthought. One solution under consideration involves creating vegetated swales along the roads: water falling onto the carriageway is channelled towards these planted areas, where it can be temporarily retained and partly absorbed by the soil and vegetation, rather than being immediately collected by the sewers.

The significance of the Paul-Bourget project also lies in the way this solution was assessed. The City compared the installation of these swales with a solution in which the water would have continued to be collected and then managed further downstream. The calculation considers the costs associated with each option, as well as certain effects

produced by the vegetation, particularly in terms of cooling³⁶. A decision that appears to be very local – concerning the layout of a single street – thus has implications for several aspects of the neighbourhood and the city: the space allocated to the ground and to vegetation also determines part of the water's future path. As this principle is replicated in other projects, the effects accumulate at the level of catchment areas and across the Parisian network.

This cumulative dimension is important for understanding the scope of the ParisPluie Plan. Simulations carried out during its development show that continued sealing of surfaces as part of urban regeneration would increase the volumes of water sent to the network, whilst managing these volumes progressively as close as possible to their point of fall reduces this pressure. This same logic extends beyond Paris: work carried out at metropolitan level combines local rainwater management with policies aimed at improving the water quality of the Seine and the Marne, and has involved, alongside Paris, the departments, the SIAAP and other water and sewerage operators. The restoration of more local water flows is therefore achieved through a multitude of site-specific transformations, the effects of which depend on how they interconnect with hydraulic systems that extend far beyond the sites where they are carried out. Finally, this line of thinking extends to water already present within the operation of metropolitan infrastructure, such as mine drainage water.

The role that soil, water and living organisms can once again play in the metropolis depends directly on land-use dynamics. Every plot of land has a specific ownership regime, a value and potential for transformation that shape its future. These characteristics overlap with those of the soil

³⁵<http://www.urbanwater.fr/projects/pariszac-paul-bourget/>

³⁶ A. Nezeys, S. Reboul, O. Saison, M. Baillet. Le Plan pluie à Paris : La nécessaire dimension

environnementale. Novatech 2016 - 9ème Conférence internationale sur les techniques et stratégies pour la gestion durable de l'Eau dans la Ville.

Mine drainage water: redistributing a resource already present in the city

The Paris Metro has to continuously pump out groundwater that seeps into its structures. The RATP thus collects an average of 9.75 million m³ of drainage water per year, of which around 6.7 million is discharged into the sewers, even though a large proportion does not require wastewater treatment. Reusing this water is therefore one of the approaches being explored as part of Paris's water conservation policies. APUR and the RATP have mapped this water to link each pumping point with the surrounding networks and uses. Depending on its quality, volume and location, it can be discharged directly into an aquatic environment, fed into the Parisian non-potable water network, or used locally, particularly for watering and cleaning. In Balard (15th arrondissement), water pumped from the metro is fed into the non-potable water network, thereby reducing the amount of water that needs to be drawn to supply it; drainage water is also used to water part of the greened platform of the T3 tram line.

These scenarios outline several possible pathways for the same water. Their suitability depends on the proximity between where the water emerges and where it can be used: connecting a pumping station to the non-potable water network, supplying a nearby use, or returning the water to the environment results in different flows. This example thus illustrates how a resource derived from the operation of an existing infrastructure can be reintegrated into urban cycles by locally reconfiguring its path.

Source : [Les eaux d'exhaure du métro, connaissance et potentiel](#), Apur (2024).

itself and the functions it performs. However, these two geographies do not align perfectly: land value is primarily determined by location and building rights, whilst a soil's capacity to infiltrate water, support organisms or contribute to ecological connectivity remains

largely unaccounted for in its valuation. The work of the Land Transition Chair thus highlights the challenge of linking knowledge of land more closely with land-use policy, to the extent of considering how its functionalities might influence the definition of development potential.

This integration becomes particularly challenging when the desired outcome extends beyond the boundaries of a single plot. Restoring a small river may require widening its bed across several properties; ecological connectivity depends on a succession of open spaces; and water infiltration must be considered at the scale of the catchment area. However, the rights to carry out such interventions remain divided



21 Discharge of mine drainage water into Lake CUR, Noisy-le-Grand-Mont-d'Est RER station. Source: Apur (2024)

between landowners and managers. Research into watercourse restoration thus highlights the importance of land monitoring and negotiation: project operators can take advantage of a sale to acquire a strategic plot, enter into an agreement with a landowner, or secure certain rights of way where the long-term viability of a development so requires. The land tenure structure therefore helps to determine how far restoration can extend, which connections can be re-established, and how these can be maintained over time.

This issue takes on particular importance in a region where the reduction in land

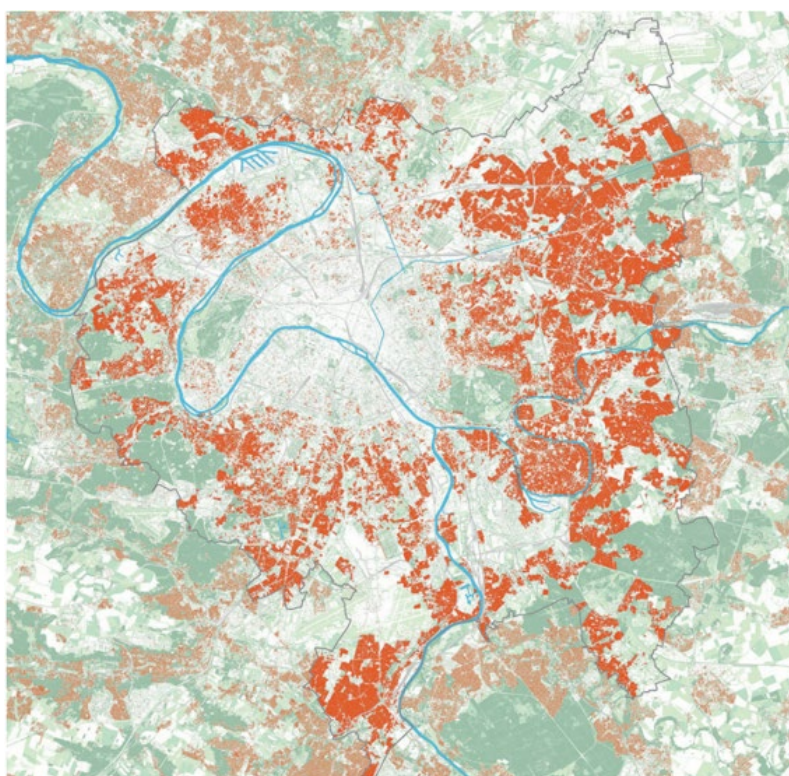
consumption is gradually shifting part of the development process towards already urbanised areas. The SDRIF-E thus combines land-use restraint with a green framework that identifies areas to be preserved and those where ecological connectivity needs to be strengthened. Preserving land that is still functional, restoring open land in areas where it is lacking, or reopening certain watercourses are becoming complementary aspects of the organisation of metropolitan development. Initiatives such as REGREEN, led by the Île-de-France Regional Biodiversity Agency, seek to clarify this geography by comparing the potential for renaturation with the current condition and ownership of the land ³⁷. Land use thus becomes a form of environmental information in its own right.

The suburban fabric of Greater Paris makes the land-use challenges of renaturation particularly evident. The Apur has identified around 416,500 gardens there, covering 10,700 hectares, of which nearly 7,000 hectares are vegetated, representing approximately one-fifth of the metropolitan area's vegetation. However, this resource is fragmented across several hundred thousand properties and varies greatly in quality. Around 3,700 hectares of gardens are not planted with vegetation, leaving significant potential for reducing impervious surfaces and enhancing vegetation ³⁸.

At the same time, these areas are changing under the pressure of land development and the densification of the suburban landscape. The subdivision of plots and the extension of buildings may meet housing demand and align with owners' strategies, whilst gradually reducing

the footprint of gardens. The cumulative effect of these changes ultimately transforms permeable soils and vegetation cover on a scale far greater than that of any individual development. The preservation of these spaces is thus directly caught up in the trade-offs concerning how to provide housing within the existing city. The Apur proposes viewing this mosaic as a 'Greater Paris suburban park': the term allows us to collectively recognise spaces that remain legally and in everyday life separate, such as neighbouring gardens that can form a continuous vegetation cover, contribute to rainwater infiltration or extend ecological corridors across several neighbourhoods.

Certain transformations thus gain in scope when coordinated across several plots. A metropolitan ecological infrastructure can therefore be built up from a multitude of private spaces, without erasing their domestic character or their property boundaries. This configuration gives land use



*22 Pavilion developments in Greater Paris.
Source: Apur (2026)*

³⁷<https://www.arb-idf.fr/ou-renaturer-en-ile-de-france/>

³⁸https://www.apur.org/sites/default/files/2025-12/vers_parc_pavillonnaire_grand_paris.pdf?openfile_analytics=19340

a directly metropolitan and solidarity-based dimension. Decisions are still largely taken at the plot level, whilst some of their effects extend beyond it: the preservation of tree cover, ecological connectivity or changes to surface runoff. Local Urban Development Plans (PLUs), support for property owners and coordinated initiatives at neighbourhood level can influence this interplay. The challenge, therefore, lies in organising and supporting functions whose benefits extend beyond the land on which they are situated, even though maintaining them involves private landowners and may limit certain opportunities for land value appreciation.

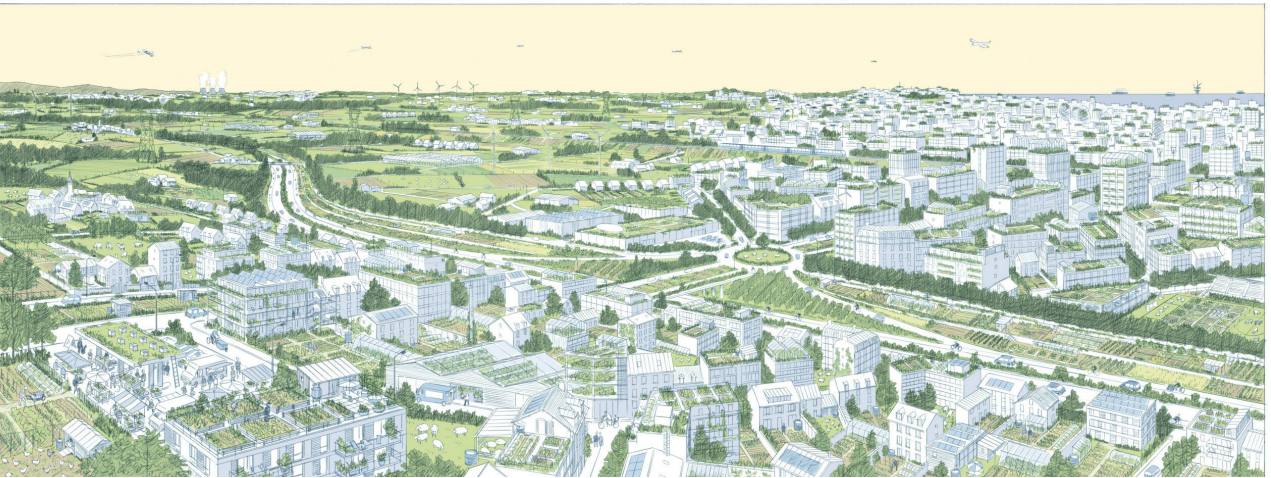
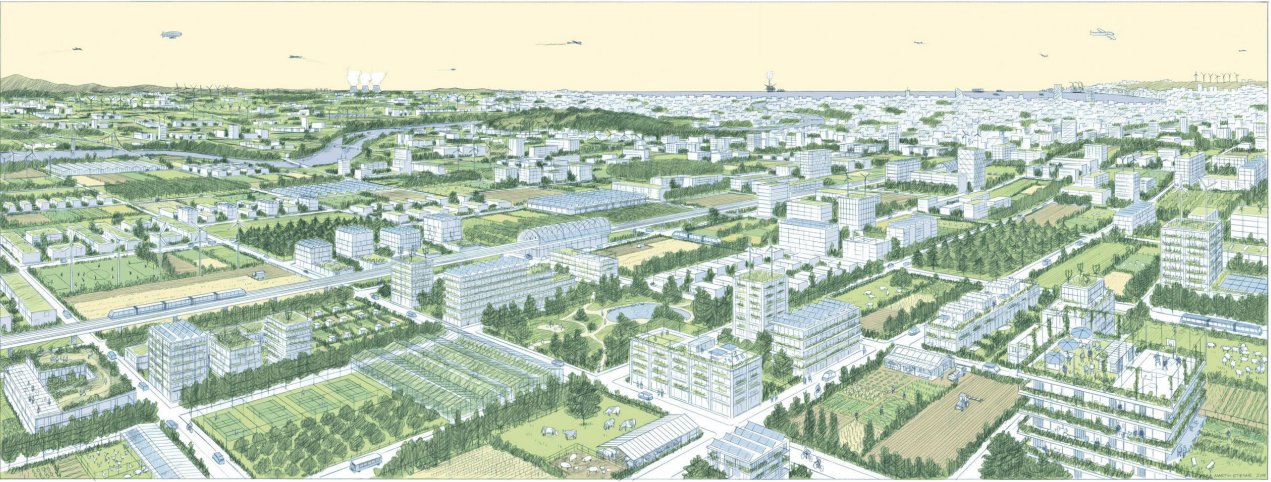
This perspective ultimately leads us to view the open spaces of the Île-de-France region in a different light. Farmland, valleys, wetlands and wooded areas are directly involved in the functioning of the metropolitan area, particularly through food supply, water and ecological connectivity. These functions unfold within territories that are themselves inhabited and utilised, where they intersect with existing land uses, land values and development projects. Taking them into account thus highlights the material and territorial interdependencies that link densely urbanised areas to their peripheries and transcend the distinction between town and country.

The four scenarios in the exhibition *Head for the countryside*, proposed by Martin Étienne, allow us to explore the extent to which these relationships might be reconfigured³⁹. They highlight four possible ways of organising the relationships between urbanisation, agriculture and living environments. 'Incorporation' extends metropolitan concentration into a dense, technologically advanced city, combined with vast, more isolated protected areas. 'Negotiation' organises their interaction through forms such as agricultural parks and agro-neighbourhoods. 'Infiltration' gradually

introduces production and the commons into the interstices of the existing city, from brownfield sites to rooftops. 'Secession' takes the redistribution of housing and activities a step further by envisaging territories organised around greater local autonomy. These scenarios thus give different spatial forms to the same question: at what scales and according to what relationships should the functions currently distributed between the city, agricultural spaces and living environments be organised? Their value also lies in demonstrating that renaturation engages with the spatial organisation of the metropolis itself. Restoring soil or a river, preserving the mosaic of suburban gardens or maintaining agricultural land alters the possibilities for use and transformation associated with certain spaces. These choices also determine where functions can be carried out whose effects extend far beyond their immediate footprint: water infiltration, ecological connectivity, food production or cooling.

Restoring metropolitan environments thus amounts to intervening in the relationships that constitute them. The initiatives discussed in this section - the reopening of a watercourse, local rainwater management, soil restoration or the preservation of gardens - take on their full significance when viewed within the systems of which they form part. The scenarios in *Head for the countryside* enable this logic to be extended to the metropolitan scale: they highlight various ways of distributing ecological capacities, uses and possibilities for transformation across the landscape, and thus various ways of building the solidarity necessary for their maintenance.

³⁹ <https://martinetienne.com/prendre-la-cle-des-champs/>



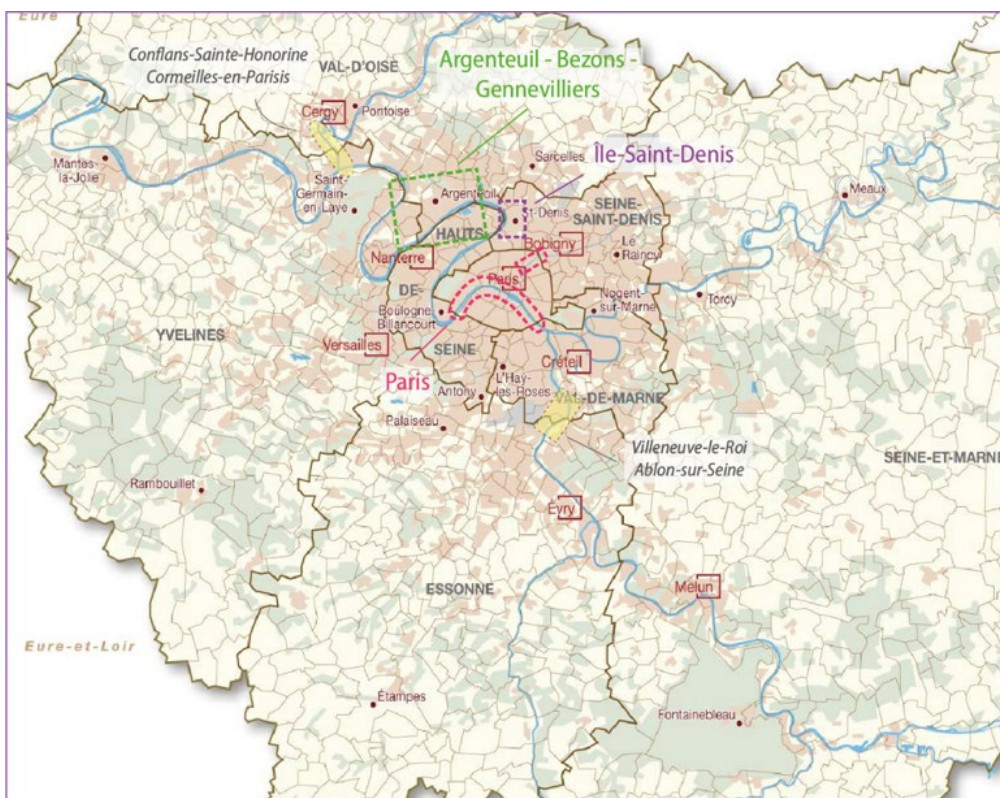
23 Four scenarios of organising the relationships between urbanisation, agriculture and living environments. From top to bottom: Incorporation, Negotiation, Infiltration and Secession. Source: Martin Etienne.

4. A close examination of two territories

Following an analysis at the scale of the Seine metropolitan area, this final section narrows its focus to Argenteuil and L'Île-Saint-Denis, two territories whose urbanisation has been closely intertwined with the River Seine, its productive activities and metropolitan infrastructure. Here, the river forms part of wider landscapes and environments, whilst remaining unevenly accessible and perceptible depending on the neighbourhoods, the shape of the riverbanks and the uses that have become established there. These relationships, however, take on specific forms in each area. In Argenteuil, the Seine is set within a topography that rises from the valley towards the hillsides and passes through urban fabrics fragmented by major infrastructure and industrial sites; the projects studied focus in particular on landscape and ecological continuity, crossings and the relationships between different parts of the town. In L'Île-Saint-Denis, the island's elongated shape creates multiple points of contact with the river, but also highlights the differences between its two branches, the heights and profiles of the riverbanks, and the urban sequences shaped

by residential, industrial and logistics developments. Recent projects allow us to examine, in particular, the relationships between the transformation of the riverbanks, access to and uses of the water, habitat restoration, cultural programming and the evolution of the island's identity.

Each focus section begins by examining the formation and main structures of the area, followed by the stakeholders, planning documents and guidelines that currently shape its transformation. It then explores certain issues in greater depth through projects that have already been completed or are underway, selected to demonstrate how they are taking concrete form in the development process. These projects do not constitute the sites on which the teams will be working during the workshop: they summarise part of the urban planning documentation, help to pinpoint what is already planned or undergoing transformation, and provide an initial overview of the issues facing local stakeholders. They thus provide a context for the site visits, from which on-site observation will enable the identification of further situations and opportunities for transformation.



24 Exploring the Seine metropolitan area through the workshop's territories.

Main territories covered by the workshop: green: Argenteuil, Bezons and Gennevilliers; purple: L'Île-Saint-Denis; red: Paris. Secondary areas: light yellow: Conflans-Sainte-Honorine and Cormeilles-en-Parisis; Villeneuve-le-Roi and Ablon-sur-Seine.

Source: created by the author using an IAU Île-de-France cartographic background.

a. Argenteuil: a stretch of the Seine between the valley, the hillsides and major infrastructure

Argenteuil occupies a distinctive position in the north-west of the Paris conurbation. The town stretches along the right bank of the Seine, opposite Gennevilliers, at the point where the valley widens before the terrain rises towards the Parisis hills. Its proximity to Paris is very clearly reflected in its layout: railway lines connect its two stations to Saint-Lazare, the A15 motorway crosses the town before crossing the Seine towards Gennevilliers, and the Argenteuil and Aquitaine bridges link it to the areas on the opposite bank. These infrastructure networks provide access to the major employment centres of the metropolitan core and serve the businesses established in the valley, but they also occupy a significant place in the town's landscape and internal structure. Argenteuil's integration into the metropolitan area is thus embodied in the very same networks that define some of its urban divisions.



25 View from the Orgemont Hill, Argenteuil. Source: France Nature Environnement IDF

This layout is set against a particularly distinct topography. From the alluvial plain and the historic centre, the terrain rises towards Orgemont and Les Coteaux, then towards the Parisis hills. The higher ground offers views over the Seine valley, the port of

Gennevilliers, La Défense and Paris; from the plain, the Parisis hills in turn form a vegetated horizon that provides a visual boundary to the town. The former Local Urban Development Plan (PLU) thus describes the Parisis hills as an 'open balcony overlooking the Seine valley and western Paris'⁴⁰ and as a major element of Argenteuil's landscape identity. This topography allows us to perceive as a unified whole spaces that are today very different in form and use, ranging from the urbanised riverbanks to the open spaces on the higher ground. The slopes also bear the traces of an agricultural landscape that long shaped Argenteuil. Vineyards, market gardens and fruit orchards occupied a large part of the hillsides before their gradual urbanisation. This history remains inscribed in the very form of the neighbourhood: according to the introductory report for the former Local Urban Development Plan (PLU), 'the agricultural structure still leaves a strong mark on Les Coteaux. The road network corresponds to the former rural tracks' and 'the rural plot layout, which has changed little, results in narrow, deep plots'. The paths and plot boundaries therefore constitute the physical legacy of the former cultivated land, now integrated into a landscape dominated by detached houses. Their continued presence also helps to explain certain contemporary features of the neighbourhood, notably the large central courtyards and deep plots onto which new forms of development have subsequently been built.

The present-day town is the result of several phases of urban development, traces of which are still visible in its neighbourhoods. The old town centre retains some traces of the medieval settlement that developed around Notre-Dame Abbey, notably the Romanesque crypt, Saint-Jean Chapel and

⁴⁰https://www.argenteuil.fr/sites/default/files/media/downloads/01_rapport_de_presentation.pdf

the tithe cellar. Its relationship with the River Seine was different back then: until the early 19th century, a secondary branch of the river separated Île Héloïse from the town; its filling-in gave rise to Boulevard Héloïse, integrating a former riverine space into the present-day urban fabric.



26 Overview of the city centre of Argenteuil. Source: Ville d'Argenteuil

From the 19th century onwards, industrialisation brought about significant changes to the Val Notre-Dame, between the Seine and the railway line. Factories, workers' housing and suburban housing estates gradually intermingled there; the Prunet, Marais and Lorraine-Dietrich housing estates, followed by the Castors developments after the Second World War, still bear witness to this history. In contrast, the Coteaux retained an agricultural structure for longer, with some of the old paths and deep plots still discernible despite their gradual urbanisation. After the war, urbanisation took on a new scale with the construction of large housing estates, particularly in the Val d'Argent Nord and Sud in the 1960s and 1970s, whilst the town centre underwent several waves of regeneration. The clearance of substandard housing notably reshaped large blocks around the Salvador-Allende esplanade; in the 1980s, by contrast, the Basilique ZAC sought to re-establish streets and blocks with clearer boundaries. The development of detached housing in Les Coteaux continued

into the late 20th century, and the opening of Côté Seine shopping centre in 2002 marked a further transformation of the town centre.

These developments have produced urban fabrics that vary greatly in terms of plot size, street layout, housing types and their relationship with public spaces. The infrastructure running through Argenteuil connects these areas as much as it fragments them. On a landscape scale, the Parisian hills help to situate this mosaic within the geography of the valley: the terrain slopes down from Les Coteaux towards the alluvial plain and the Seine, before opening out, on the opposite bank, towards Gennevilliers and the heart of the Paris conurbation.

27 Salvador Allende esplanade, Argenteuil (2016). Source: Wikipedia Commons, photo by Thomon.



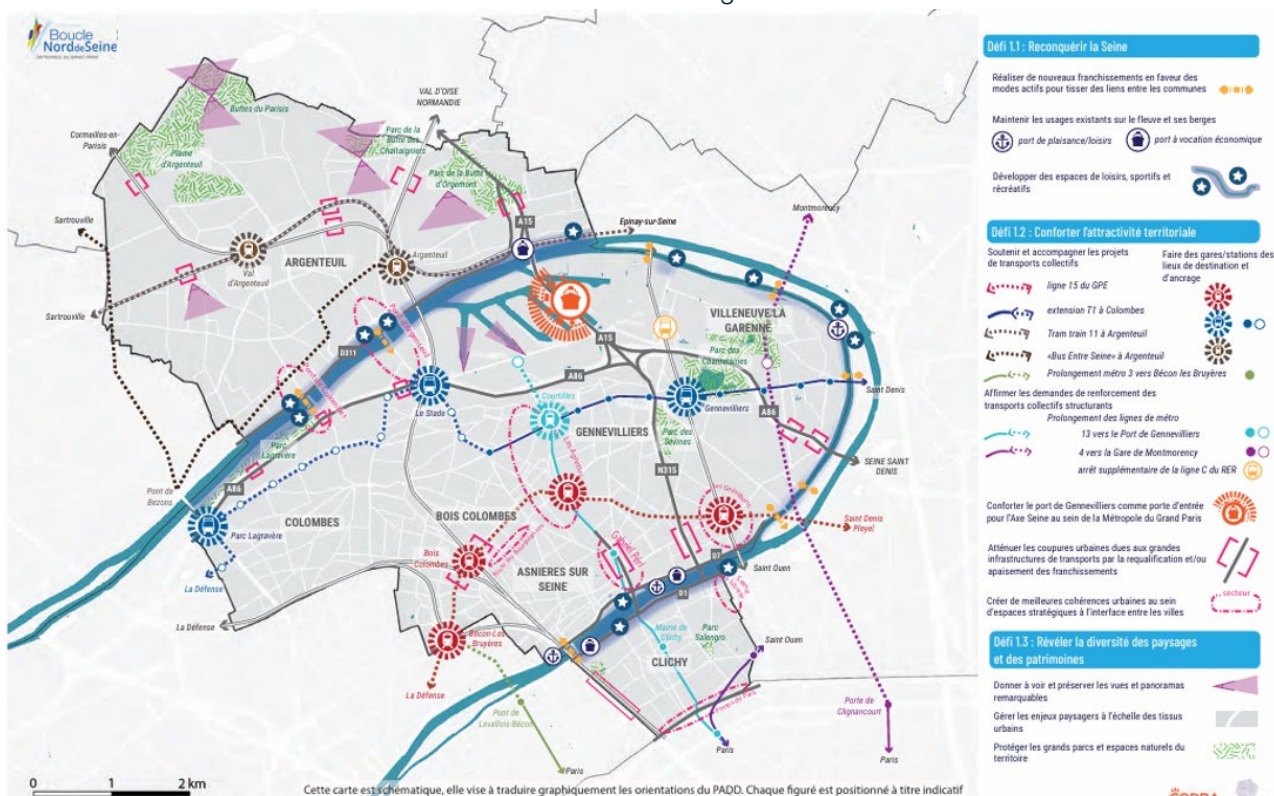
28 Restoration of the Argenteuil waterway towpath (2024). Photo: Nicolas Laverroux. Source: Ville d'Argenteuil.

Argenteuil in the Boucle Nord de Seine: an urban project that is now inter-municipal

Since 2016, Argenteuil has been part of the 'Boucle Nord de Seine' Public Territorial Authority (EPT), alongside Asnières-sur-Seine, Bois-Colombes, Clichy-la-Garenne, Colombes, Gennevilliers and Villeneuve-la-Garenne. The EPT is responsible, in particular, for urban planning. Its Inter-municipal Local Urban Development Plan (PLUi), approved on 26 June 2025, now sets out a common framework for land use and development across the seven municipalities. The local authority retains an important role in its local implementation, notably through its own projects, the management of numerous public spaces and the issuing of planning permissions. The transformation of Argenteuil is thus part of a local authority project whose rules and some of its guidelines are now defined at the level of the Boucle Nord de Seine.

The PLUi brings together several levels of planning. Its Sustainable Development and Land-Use Plan (PADD) sets out the territorial vision for the next fifteen years or so; the regulations translate this into rules applicable to land and buildings; and the Planning and Programming Guidelines (OAP) specify how these principles should guide projects. Some OAPs relate to a specific area – such as the 'Croissant ferré' or 'Porte Saint-Germain' in Argenteuil – whilst thematic OAPs apply across the whole territory and to the developments carried out there. They thus enable the transformation of a plot of land or a neighbourhood to be linked to issues that extend beyond its boundaries.

The Boucle Nord de Seine PADD organises the territorial project around four main themes, which are in turn broken down into challenges and guiding principles. These themes then form the framework for the regulations and OAPs of the PLUi.



29 A region characterised by balance and rich in diversity. Source: PADD Boucle Nord de Seine (2025).

Key: dark teal line: Seine river corridor; orange diamonds: new river crossings for active mobility connecting municipalities; dark blue anchor: leisure/marina port to be maintained; purple anchor: economically oriented port to be maintained; dark blue circles with stars: leisure, sports and recreational areas along the Seine; bright pink dashed line: Grand Paris Express Line 15; dark blue dashed line: extension of Tram T1 to Colombes; brown dotted line: extension of Tram T11 to Argenteuil; black dotted line: Bus Entre Seine to Argenteuil; light green dotted line: extension of Metro Line 3 to Bécon-les-Bruyères; turquoise line: Metro Line 13 connection towards Port de Gennevilliers; purple line: Metro Line 4 connection towards Gare de Montmorency; orange circle: additional RER C stop; orange-red radial circle: strengthen the Port of Gennevilliers as a gateway for the Seine corridor and Greater Paris; pink brackets: reduce urban barriers created by major transport infrastructure and improve crossings; pink dashed brackets: improve urban connections at strategic interfaces between municipalities; purple triangles: preserve major views and remarkable panoramas; light green hatching: manage and enhance urban hillsides; green hatching: protect major parks and natural areas.

· *Axis 1 – A territory characterised by balance and rich in diversity.* It encompasses three main challenges: reclaiming the Seine, enhancing the territory's appeal, and showcasing the diversity of its landscapes and heritage. For Argenteuil, this directly concerns the relationship with the river, the divisions created by major infrastructure, the enhancement of the Coteaux, and the clarity of the urbanised plain. In particular, the PADD calls for 'making the slope a distinctive feature' in Argenteuil's residential hillside areas and for strengthening the landscape structure of the plain.

· *Axis 2 – A region committed to an ambitious environmental transition.* It aims to enhance nature within the city and improve our relationship with the natural world, to become a region that is sustainable and resource-efficient, and to strengthen the 'healthy city'. Here, the PADD links the renaturation of riverbanks, integrated stormwater management, open ground, biodiversity and adaptation to heat islands and risks. In Argenteuil, the Buttes du Parisis and the lower slopes have been identified as biodiversity hotspots to be safeguarded and linked to finer-grained corridors within the neighbourhoods.

· *Axis 3 – A region of 'living together'.* This focuses on developing a region suited to all ages, promoting calm mobility and strengthening local connections in everyday life. The network of public spaces, access to facilities, the quality of routes and the reduction of the fragmenting effects of infrastructure take centre stage here.

· *Axis 4 – An active, productive and innovative area.* This seeks to bolster employment and productive activities, support the transformation of business parks and highlight the area's unique port identity. The Port of Gennevilliers and the logistics functions of the Axe Seine are presented as key structuring elements, whilst the PADD also plans to preserve land for economic use and to develop sectors of activity in line with the environmental transition.

These priorities do not correspond to four separate areas. A single area may fall under several of the PADD's priorities simultaneously. The Seine, for example, is at once a landscape to be reclaimed, an ecological network, a means of transport, and a productive and logistical space. The PADD therefore calls for strengthening access routes and connections to the river, preserving or renaturalising certain stretches of the riverbanks, and maintaining port activities and river traffic.

However, this inter-municipal framework does not, on its own, cover all the geographical areas involved in Argenteuil's transformation. The Argenteuil-Bezons Flood Risk Management Plan (PPRI), for example, addresses flood risk across two municipalities that currently belong to different inter-municipal bodies; the management of the Seine, rail infrastructure and ecological corridors involve yet further areas and stakeholders. Depending on the issue at hand, a single plot of land may therefore fall under a project led by the City, the rules of the PLUi, a sectoral OAP, guidelines defined at the level of the seven municipalities, and constraints linked to the operation of a rail network, a river basin or a wider ecological environment. These areas thus provide a means of addressing the various relationships between a site and the territories on which its transformation depends.

Working with infrastructure: connecting fragmented territories

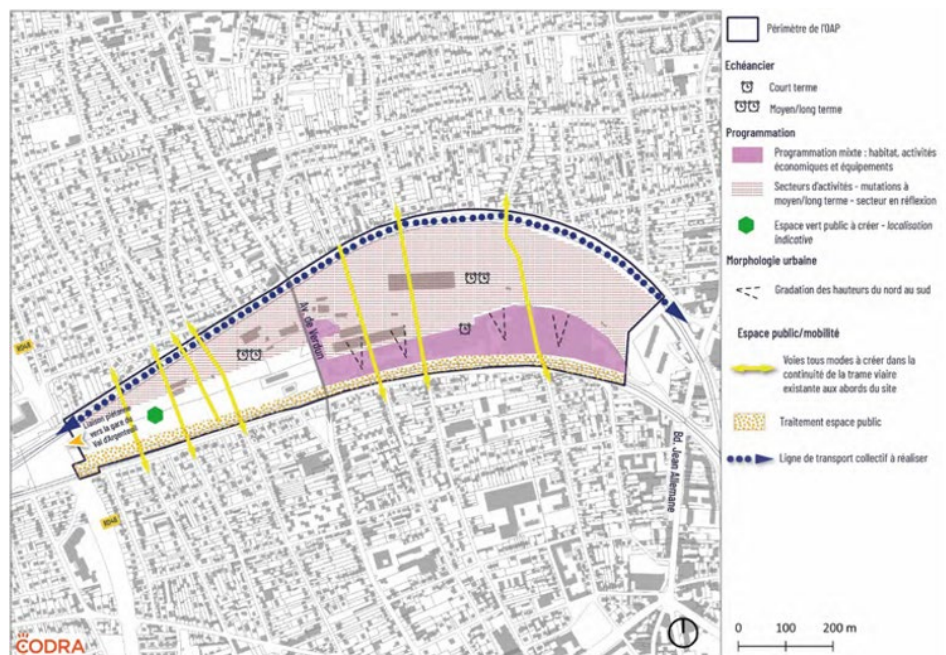
Major infrastructure forms one of the strongest frameworks of the Argenteuil area. The railway lines linking the valley to Paris-Saint-Lazare, the A15 motorway and the major departmental roads integrate the town into networks that extend far beyond its boundaries, but their right-of-ways also profoundly shape the relationships between its neighbourhoods. In particular, they separate the centre from Les Coteaux around the 'Croissant ferré', partially isolate Orgemont behind the A15, and contribute, on the plain, to the succession of road, rail and economic corridors between certain neighbourhoods and the Seine. Contemporary projects therefore seek to address these divisions, which continue to fulfil essential transport functions. Depending on the area, this involves building new crossings, reorganising traffic flows, or utilising public spaces and the landscape to re-establish continuity across existing infrastructure.

- The 'Croissant ferré': reimagining the city around a railway hub

Between the city centre and Les Coteaux, the 'Croissant ferré' forms an enclave of around 10 hectares, sandwiched between the tracks of the Paris-Saint-Lazare-Mantes-la-Jolie line to the south and the railway right-of-way to the north, which is home to freight operations and the future extension of the T11 Express to Sartrouville. The area, occupied by railway facilities, commercial activities and a few residential properties, has few links to the surrounding neighbourhoods; Avenue de Verdun is its main north-south thoroughfare. Plans for its transformation have been under consideration since the 2000s:

the former Local Urban Development Plan (PLU) had already identified the concentration of railway rights-of-way as an opportunity to free up land to create a mixed-use neighbourhood as an extension of the town centre and to contribute to 'reweaving the urban fabric'. However, the project depends on the reorganisation of railway infrastructure that is still in operation, the release of the land it occupies, and the involvement of several landowners and operators, compounded by existing activities and pollution on certain plots.

The Boucle Nord de Seine Local Urban Development Plan (PLUi) upholds this ambition through a sector-specific Development Plan (OAP) dedicated to the 'Croissant ferré'. The project is based on a reorganisation of the railway network: the three lines – the Transilien Saint-Lazare, the freight line and the future Northern Bypass (T11) – are to be concentrated as far as possible in the northern part of the area. A freight zone will be retained there, whilst the land to the south is to be developed, as an extension of the town centre, into a new mixed-use neighbourhood combining



30 Spatial planning framework for the Croissant Ferré area in Argenteuil. Source: PLUi Boucle Nord de Seine (2025).

Key: dark blue outline: OAP perimeter; clock symbols: short / medium-long term; purple: mixed-use development; pink hatching: economic areas to be transformed or further studied; green hexagon: new public space; black dashed arrows: decreasing building heights north to south; yellow arrows: new active-mobility routes; orange dots: public-space improvements; dark blue dotted line: planned public transport line.

housing, non-disruptive economic activities, amenities and green spaces. This layout is also intended to minimise the future neighbourhood's exposure to rail-related disturbances. The scale of the buildings must take into account their location at the foot of the Coteaux, whilst the former SNCF warehouses at 4 Boulevard Vercingétorix – now converted into housing and artists' studios – are identified as an architectural feature to be preserved.

Reducing the urban divide also involves transforming travel patterns through and around the site. The OAP provides for a new east-west link between the RD48 (Route de Corneilles) and the RD909 (Boulevard Jean-Allemane) to redistribute traffic across the city, alongside the removal of the level crossing on Avenue de Verdun. The road network of the future neighbourhood must itself be landscaped and contribute to reducing impervious surfaces. The OAP thus assigns it a role in ensuring ecological continuity between the 'Croissant ferré', the neighbouring residential estates and Les Coteaux. The project therefore encompasses several scales: the reorganisation of a metropolitan rail infrastructure, changes to traffic flows across Argenteuil, the extension of the town centre, and more local connections with the residential fabric and the topography of Les Coteaux.

The 're-stitching' sought for several decades is thus taking on a fairly precise form: concentrating rail functions in the north to open up possibilities for transformation in the south, extending the town centre into these new rights-of-way, and using the structure of public spaces to re-establish connections across the area. Its realisation, however, remains closely linked to changes in the rail system and the gradual availability of its rights-of-way. The 'Croissant ferré' thus illustrates why a long-standing divide can remain a permanent feature of the city: its transformation depends on initiatives that fall simultaneously within the remit of the local

urban development project, the transport network, and its land-use and technical stakeholders.

- Porte Saint-Germain / Berges de Seine: rebuilding the relationship with the river in a productive area

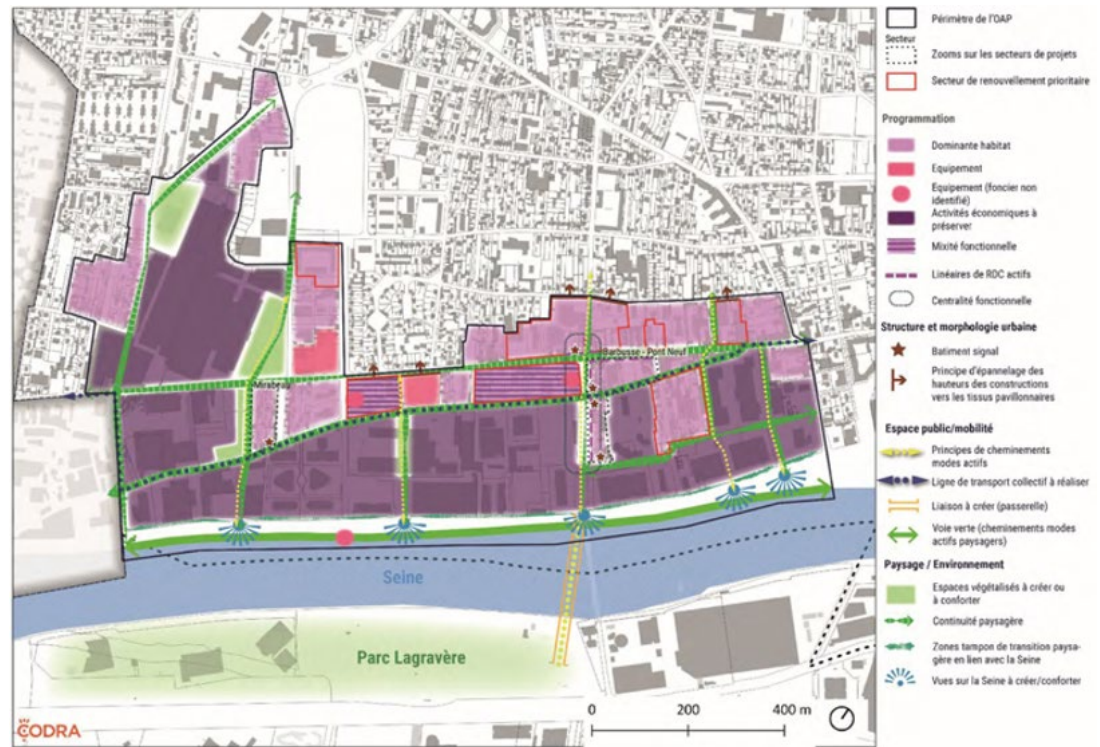
To the south-west of Argenteuil, Porte Saint-Germain – Berges de Seine covers approximately 75 hectares of the Val Notre-Dame, between the town centre and Bezons. The area extends as far as the Seine, but its layout is strongly shaped by the plain's industrial heritage: industrial activities occupy a significant portion of the spaces close to the river, whilst residential development is situated further inland. The RD311 runs along the riverbanks and helps to separate the neighbourhoods from the Seine. Several brownfield sites and plots marked by former industrial uses also sit alongside businesses that are still in operation; the business park is the municipality's second-largest employment hub. The transformation of the area therefore concerns a territory that is both residential and productive, where access to the river depends on the gradual reorganisation of the spaces that lie between the neighbourhoods and the riverbanks.

This transformation has been underway for several years. The area was included in Argenteuil's Contract of National Interest as early as 2016, before becoming the subject, from 2020, of a Partnership Development Project (PPA) involving, in particular, the City, Boucle Nord de Seine and the State. Across these 75 hectares, the aim is to coordinate the regeneration of brownfield sites, the construction of housing and the redevelopment of public spaces, through projects managed by different land management bodies and project owners. The OAP frames these transformations within the 'park-city' principle: the landscape forms a common framework linking the various developments and connecting them to the River Seine. This framework combines the vegetation along the riverbanks with

landscaped avenues facing the river and crossings running parallel to it, and is then extended into the local streets and public spaces. It thus enables the neighbourhood's transformation to be organised progressively around a shared geographical framework, despite differing timetables and developers⁴¹.

This landscape framework supports a neighbourhood that must retain its mix of housing and commercial activities, whilst accommodating new housing and facilities. Its relationship with the Seine is centred in particular on the RD311: the OAP plans to reduce the space allocated to motor traffic along this road in order to widen and green the riverbanks and enhance pedestrian and cycle routes. Further into the neighbourhood, the arrival of the 'Bus Entre Seine' via Rue Michel-Carré is to be accompanied by a redevelopment of the areas it passes through and will help to establish ' ' links with the rest of the city. Finally, the project leaves open the possibility of a pedestrian and cycle footbridge to the Pierre-Lagravère departmental park in Colombes, on the opposite bank. The 'park-city' thus creates connections in several directions: from the neighbourhoods to the Seine, along its banks and, potentially, between the two banks.

The Croissant Ferré and Porte Saint-Germain demonstrate that Argenteuil's major divides cannot be addressed solely at the points where they are visible. At the Croissant ferré,



31 Spatial planning framework for the Porte Saint Germain / Berges de Seine area in Argenteuil. Source: PLUi Boucle Nord de Seine (2025).

Key: black outline: OAP perimeter; dotted outline: project-area focus; red outline: priority renewal area; light purple: predominantly residential; pink: facilities; pink dot: planned facility; dark purple: economic activities to preserve; purple hatching: mixed-use development; purple dashed line: active ground-floor uses; grey outline: local functional hub; brown star: landmark building; brown arrow: gradual transition in building heights; yellow arrows: active-mobility routes; dark blue dotted line: planned public transport line; orange line: new connection/footbridge; green arrows: green routes for walking and cycling; light green areas: green spaces to create or strengthen; green dotted line: landscape continuity; green arrows/dots: landscape transition areas linked to the Seine; blue symbols: views towards the Seine to create or strengthen.

improving links between the town centre and the Coteaux neighbourhoods requires the reorganisation of a railway corridor whose passenger and freight functions must be maintained, whilst the new RD48–RD909 link forms part of a traffic management scheme affecting the whole town. At Porte Saint-Germain, access to the riverbanks depends on the redevelopment of the RD311 and a productive fabric that retains its economic function; the proposed footbridge to Pierre-Lagravère Park would, for its part, anchor the project within the relationship between the two banks. Changing scale therefore does

⁴¹ OBRAS / Emma Blanc Paysage / Arcadis / L'Effet Urbain / Atelier d'Écologie Urbaine

not merely involve broadening the scope of observation: it reveals the systems on which every transformation depends and the functions that the local project must continue to facilitate.

This approach underlies the Boucle Nord de Seine Local Urban Development Plan (PLUi) more broadly. Here, the Seine constitutes at once an ecological environment, a transport corridor and one of the major landscapes shared by the seven municipalities; Argenteuil's economic sectors form part of a productive fabric that extends towards Bezons, Colombes and, above all, the port of Gennevilliers; the Coteaux and the Parisis hills form a landscape and ecological whole whose scope also extends beyond the municipality. The PLUi thus seeks to bring together geographies that do not overlap: that of transport follows transport networks; that of water follows the valley and the catchment area; that of living organisms depends on the quality and connectivity of habitats; whilst urban transformations remain organised by plot boundaries, land ownership and operational perimeters.

The projects thus offer a number of starting points from which continuities can gradually be built within a fragmented area. A tree-lined street between Les Coteaux and Le Croissant Ferré, an extended route towards the Seine, or the redevelopment of the riverbanks at Porte Saint-Germain can locally connect spaces that are currently separated. When linked together, these interventions create continuities that cut across different urban fabrics, land uses and landscapes. This is also what gives the landscape a special place in Argenteuil's projects. It can link spaces that do not share the same use or the same management system, without requiring them to be standardised. The views from the Coteaux towards the valley, the paths leading down to the Seine, the vegetation along the railway corridors or the transformation of the riverbanks can reveal

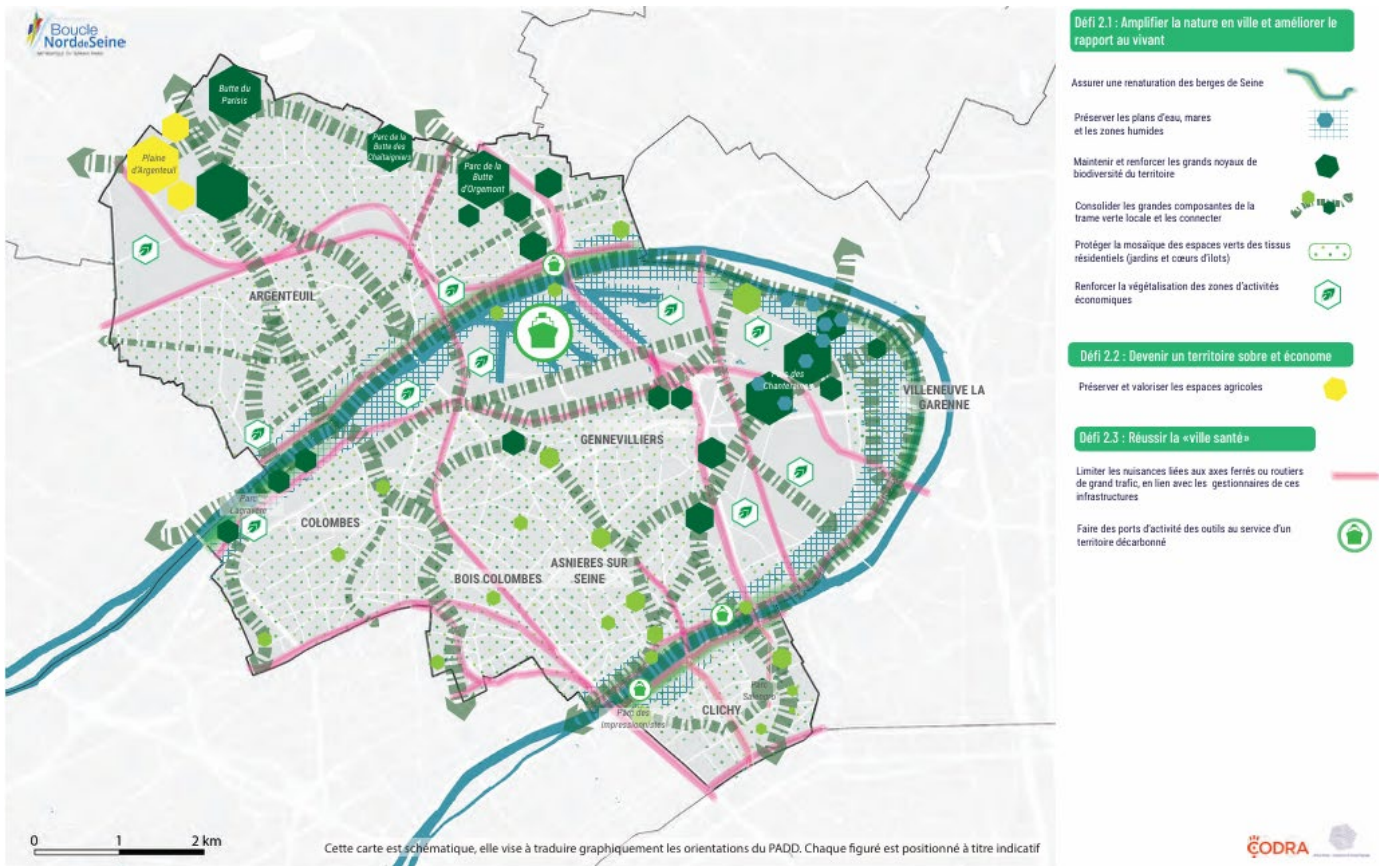
connections between parts of the town with different histories.

At the scale of the Boucle Nord de Seine, this issue ties in with that of a territory in which some of the interdependencies – with the river, infrastructure, productive spaces or living environment – are organised by systems that constantly cross municipal boundaries. Landscape coherence may therefore lie in the ability to make these relationships legible and workable, whilst preserving the diversity of functions and forms that make up the area.

From the Seine to the Coteaux: linking landscapes and environments across the city

Argenteuil's geography is structured between the Seine valley, the urbanised plain and the Coteaux, which rise towards the Buttes du Parisis. The topography maintains a perceptible connection between these areas, particularly through the slopes and views towards the valley, whilst their ecological relationships depend on a much more fragmented mosaic. The Buttes du Parisis and the lower slopes of the hills constitute important hubs of biodiversity; between them and the Seine, private gardens, parks, rows of trees, brownfield sites and open land form intermediate spaces within densely urbanised areas criss-crossed by major infrastructure. The PLUi incorporates this geography into its green, blue and brown networks: their functioning thus depends both on large-scale landscape features and on the quality of the more ordinary spaces that punctuate the city.

This structure takes on different forms depending on projects that vary greatly in scale, project ownership and the areas they cover. In the densely built-up city centre, the Canopée Gabriel-Péri utilises the redevelopment of a road and shopping precinct to extend a tree-lined corridor from the banks of the Seine right into the heart of the city, reallocating an already heavily used



32 Strengthening ecological and landscape connections across Boucle Nord de Seine Source: PADD de Boucle Nord de Seine (2025).

Key: dark teal line: Seine riverbanks to be renatured; blue grid: water bodies, ponds and wetlands to preserve; dark green polygons: major biodiversity areas to maintain and strengthen; green connected shapes: local green infrastructure to consolidate and connect; pale green dotted areas: green spaces within residential areas to protect; green hexagons: vegetation within economic areas to strengthen; yellow areas: agricultural land to preserve and enhance; pink bands: major road and rail infrastructure where nuisances should be reduced; green circular symbols: activity ports supporting a low-carbon territory.

public space. At Butte Vachon, the redevelopment of a 2.5-hectare plot bordering Orgemont creates new open-ground areas and green spaces at the point where the Buttes du Parisis extend furthest towards the valley. These two examples illustrate how the geography of the Seine at Les Coteaux takes shape through highly localised interventions: the profile of an avenue, the planting of trees, the preservation of open ground, the siting of buildings or the treatment of a forest edge all determine how a site contributes to landscape, hydrological and ecological systems that extend far beyond its boundaries.

- Gabriel-Péri: bringing the landscape of the Seine into the heart of the town

Avenue Gabriel-Péri occupies a pivotal position between the heart of Argenteuil and

the Seine. A major shopping thoroughfare, it links the Town Hall area to Boulevard Héloïse and the Argenteuil Bridge, whilst providing access to the town centre and channelling some of the traffic towards the towns on the opposite bank. This combination of functions has long resulted in a public space organised largely around motor traffic. The Canopée Gabriel-Péri project, designed by Michel Desvigne Paysagiste, intervenes within this same right-of-way to reorganise traffic flows, enhance pedestrian use and introduce a green structure linking the town centre more directly to the valley's landscapes. The City is therefore presents the project around three interlinked objectives: enhancing the presence of nature, mitigating heat islands and strengthening the connection with the Seine.

The transformation is based on a redistribution of the avenue's space. Vehicular traffic is reduced to two single lanes, whilst pavements, cycle routes and public spaces take up more room. Small open spaces and a succession of planted areas will punctuate the route. The term 'canopy' here refers to the gradual creation of a tree canopy: rows of trees, copses and planted areas are intended to provide shade and cooling, whilst also giving a shared landscape structure to the avenue's various sections. The project thus simultaneously addresses the climatic conditions of the public space, mobility and the functioning of a high street, which requires balancing the needs for service access, deliveries, parking and access to shops. These various uses were discussed in particular during the consultation process prior to the project.



33 The Canopy: seeking a balance between greenery and the vitality of the avenue. Source: Agence Michel Desvigne Paysagiste

Gabriel-Péri's location, in particular, allows these interventions to be situated within a broader geographical context. To the south, the avenue joins Boulevard Héloïse and the large open spaces near the river; to the north, it enters a much denser urban fabric, leading to the city's administrative and commercial heart. The greening of the avenue thus extends towards the centre a landscape structure of which the Seine and its banks are one of the main components. This relationship is also evident in the planning of the 'Cœur de ville': during the drafting of the PLUi, the extension of the landscape framework from the Plataneraie towards Gabriel-Péri was explicitly incorporated into the considerations for this sector. The landscape thus serves to link spaces that are the subject of separate developments – the riverbanks and Boulevard Héloïse, the 'Cœur de ville', and Avenue Gabriel-Péri – without assuming that they form a homogeneous corridor.

This connection is built upon an existing axis whose metropolitan and local functions must be maintained. The planting takes place along a street that continues to facilitate traffic flow, access to shops and links to the city centre; the new pathways extend towards the Seine, linking routes that pass through spaces with very different uses and forms. The project itself is being carried out in stages, with several phases of work between 2025 and 2027, progressing from sections of the avenue to the forecourt of the Town Hall and its junction with the Argenteuil Bridge. A



Photo existant



Image projet

34 View of Boulevard Gabriel Péri at the Paul-Vaillant-Couturier intersection: existing conditions and proposed design. Photo: Ville Ouverte. Proposed design: Agence Michel Desvigne Paysagiste

landscape connection between the river and the city centre is thus being forged through the successive transformation of ordinary public spaces, by integrating greenery, transport, commercial activity and everyday uses.

- Butte Vachon: integrating a changing site into the landscape of the Buttes and the valley

At the eastern end of Argenteuil, Butte Vachon occupies a unique position between the Orgemont neighbourhood, the A15 motorway and the Seine valley. This 2.5-hectare plot, currently occupied mainly by a car-related business, forms an enclave within a predominantly suburban environment. Its isolation stems partly from its transport links, which are concentrated on three local access points, but above all from the A15, which separates Orgemont from the rest of the town. The site, however, forms part of a geographical context that extends far beyond this enclave-like situation: it constitutes the final outcrop of the Buttes du Parisis range before the terrain slopes down towards the Seine Valley.

From Impasse Vachon, this position translates very tangibly into a viewpoint overlooking the valley. Near the motorway, a spontaneously developed micro-forest also forms a visual and acoustic barrier and a space for biodiversity.

Butte Vachon occupies a particular position within the green infrastructure

identified by the PLUi, between the Buttes du Parisis and the Seine valley. Within the urban fabric of Orgemont, where gardens, parks, tree-lined streets and residual green spaces form a patchwork fragmented by infrastructure, particularly the A15 motorway, it is one of the intermediate spaces between these two major landscape areas. The project builds on this position to give soils and landscape a structuring role in the development of the future neighbourhood.

The programme, which is primarily residential and limited to 150 homes, sets aside more than 5,000 m² for a green corridor running through the site. This is intended to open up the heart of the development towards the wider landscape and form part of the 'green corridor linking the Buttes du Parisis and its parks to the banks of the Seine', as set out in the PLUi. It also plays a local role: accessible from the neighbourhood, it is intended to provide a new green space for Orgemont. The public and communal open-ground spaces extend this structure within the development, whilst its edges are designed to respond to the surrounding context – the detached housing area, existing vegetation



35 Spatial planning framework for the Butte Vachon zone. Source: PLUi Boucle Nord de Seine (2025).

Key: dark blue outline: OAP perimeter; purple: housing; purple hatching: preferred location for shops/services; yellow arrows: active-mobility routes; yellow lines: new streets; light green: green spaces to create or strengthen; light green arrows: landscape connections; dark green hatching: landscape transition/buffer areas.

and the motorway. The change of use of a plot currently largely devoted to automotive activities thus provides an opportunity to add a new element to an ecological network conceived on a much larger scale.

The topography dictates how this ambition can be realised on the ground. Situated on the final outcrop of the Buttes du Parisis towards the valley, the site faces the Seine and is set on a slope that naturally channels surface runoff towards it. This configuration explains the emphasis placed on open ground and vegetation: these contribute not only to the landscape quality of the future neighbourhood, but also to water management and the extension of the green spaces surrounding Orgemont. However, the project's design must consider several constraints resulting from the area's urbanisation.

To the west, the immediate proximity of the A15 motorway requires that future homes be protected from its nuisance, in particular by preserving and reinforcing a vegetated boundary; beneath part of the site, the Trapi oil pipeline restricts the possibilities for construction and underground works. Finally, the proximity of the Allée Couverte des Déserts, a protected megalithic monument, subjects the project to heritage regulations. The design of the future neighbourhood therefore stems from the interplay between these landscapes and constraints: the location of buildings, the preservation of permeable surfaces, water flow paths, green spaces and views of the landscape are all conceived on the basis of the site's specific characteristics.

The project also draws on Orgemont's urban history. The proposed building forms reinterpret certain principles of the neighbouring garden city: diversity of housing types, the importance of open spaces, and the interplay between detached and multi-occupancy dwellings. This reference allows for densification to be integrated into the neighbourhood's

character whilst evolving the site's use. The transformation of a single plot of land thus becomes a meeting point between several layers of the territory: the geomorphological landscape of the Buttes and the valley, the garden city and the suburban fabric, the motorway infrastructure, and contemporary objectives regarding open ground and biodiversity.

Gabriel-Péri and Butte Vachon offer two very different interpretations of the relationship between the Seine, the urbanised city and the Buttes du Parisis. At Gabriel-Péri, the framework already exists: a busy shopping street is being redeveloped to accommodate greater tree cover and extend the green landscape of the Seine's banks towards the city centre. The transformation therefore centres on the sharing of a constrained public right-of-way, where the space allocated to trees, pedestrians and cyclists must coexist with traffic, shops and their access routes. At Butte Vachon, the redevelopment of a 2.5-hectare plot of land makes it possible to preserve open ground, create a green space of over 5,000 m² and develop the final stretch of the Buttes du Parisis towards the valley. The two projects thus contribute to the same territorial framework, starting from very different physical, land-use and urban contexts.

These transformations also depend on how the land is transformed over time. The Canopy project can be implemented in a relatively coordinated manner because it mainly involves the public space of the avenue; at Butte Vachon, the creation of a new neighbourhood allows the balance between buildings, open ground and communal spaces to be established right from the planning stage. In the suburban neighbourhoods that make up a large part of Les Coteaux, however, the same objectives depend instead on a multitude of gardens and decisions taken on a plot-by-plot basis. Between the Seine and the Buttes, the

ecological network thus traverses land tenure regimes and urban forms that very concretely determine the resources available to strengthen it. This interpretation situates major projects within a system where ordinary spaces (gardens, streets, embankments, undeveloped land or the edges of infrastructure) can be just as important for certain ecological functions as the most visible developments.

Finally, the landscape provides a common expression for relationships that do not necessarily coincide on the ground. Gabriel-Péri's tree cover can make the presence of the valley more perceptible right into the centre; the open space at Butte Vachon maintains views that situate Orgemont within the landscape of the Buttes and the Seine. These visual and functional relationships can enhance the legibility of a territory whose ecological processes remain sometimes fragmented by the A15 motorway, the built environment or soil quality. 'From the Seine to the Coteaux' thus appears less as a corridor to be created than as a framework to be interpreted according to what each space can actually accommodate, connect or preserve.

wider network, connecting Paris and the upper reaches of the Seine and Marne valleys to the port of Gennevilliers, and then to Rouen and Le Havre further downstream. This insularity thus combines very close physical proximity to the surrounding areas with a distinctive organisation of access routes and traffic flows.

The shape of the island itself bears the marks of these transformations. The present-day municipality was formed in the 19th century through the merging of several islands and islets, notably by filling in secondary branches of the Seine. The inhabited area is therefore already partly the result of alterations to the riverbed. An economy long tied to fishing, river transport and local traffic was subsequently overlaid by different forms of urbanisation depending on the area. The north, around the old village and the upstream tip, retained a residential and recreational character for a long time, associated in particular with holidaying and swimming until the mid-20th century.

b. Île-Saint-Denis: living alongside the Seine

Île-Saint-Denis stretches for around seven kilometres across the middle of the Seine, with a width often limited to a few hundred metres. Of the approximately 20 km of Seine riverbanks in Plaine Commune, around 13 km lie within its boundaries. The river therefore borders almost the entire municipality and directly shapes its relations with neighbouring areas: the narrow arm separates it from Villeneuve-la-Garenne and Gennevilliers to the west; the wider, main arm separates it from Saint-Denis and Saint-Ouen-sur-Seine to the east. Land links are concentrated on a few bridges, whilst the waterway integrates the island into a much

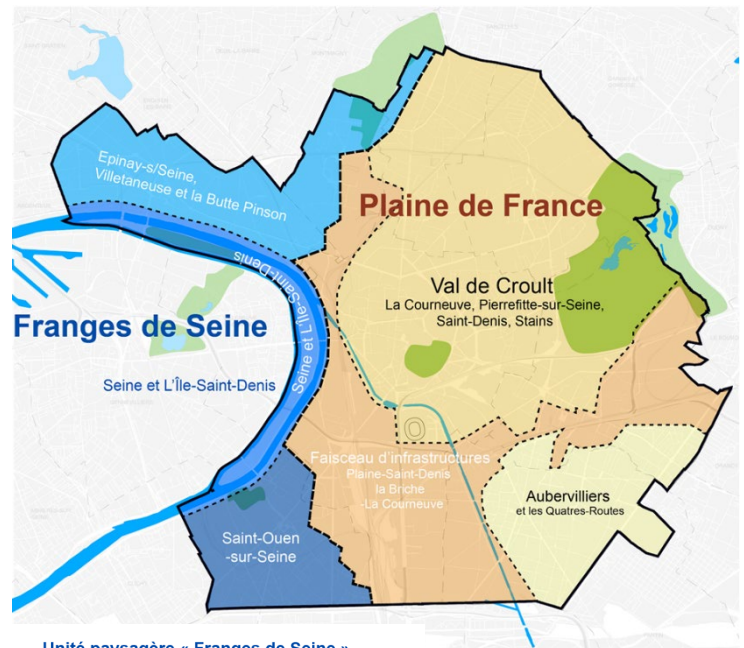


36 View on l'Île-Saint-Denis.
Photo: Ph. Guinard. Source: Ville de l'Île-Saint-Denis.

PLUi Plaine Commune (2025). Further south and in the centre, the availability of large plots directly accessible from the Seine encouraged the establishment of industrial and logistics activities. The Printemps and Galeries Lafayette warehouses, built in the 1950s and 1960s, alone occupied 13 of the 22 hectares of the business park. Their closure – in 1991 for Printemps and in 2007 for Galeries Lafayette – left the centre of the island with a succession of large disused sites stretching over 1,500 metres, situated between the northern and southern neighbourhoods. These differences are part of a riverine geography that extends beyond the municipality.

The Plaine Commune Local Urban Development Plan (PLUi) groups together, under the name ‘Franges de Seine’ (Fringes of the Seine), the areas situated to the west of the Butte Pinson and the major infrastructure cluster of Plaine-Saint-Denis and La Briche, whose landscapes and urban development have been strongly shaped by the proximity of the river⁴². This unit notably comprises L’Île-Saint-Denis, Épinay-sur-Seine and Saint-Ouen-sur-Seine, each with distinct characteristics: an island territory characterised by river-based activities in Île-Saint-Denis; urbanised hillsides overlooking the valley in Épinay; and large industrial sites and former docks in Saint-Ouen. The Seine has thus fostered cross-cutting links between areas now separated by municipal boundaries, whilst hosting metropolitan functions – transport, industry, logistics – which have profoundly shaped their banks.

In L’Île-Saint-Denis, this legacy is directly evident in the shape of the riverbanks and the built environments lining them. The formerly industrial areas in the centre and south have accommodated large, self-contained plots, warehouses and spaces required for the storage and movement of goods; their land



Unité paysagère « Franges de Seine »

Sous-unités

- Epinay-sur-Seine, Villetaneuse et la Butte Pinson
- La Seine et L'Île-Saint-Denis
- Saint-Ouen-sur-Seine

Unité paysagère « Plaine de France »

Sous-unités

- Val de Croult : La Courneuve, Pierrefitte-sur-Seine, Stains, Saint-Denis
- Faisceau d'infrastructures : Briche, Plaine-Saint-Denis, La Courneuve
- Aubervilliers et les Quatre-Routes

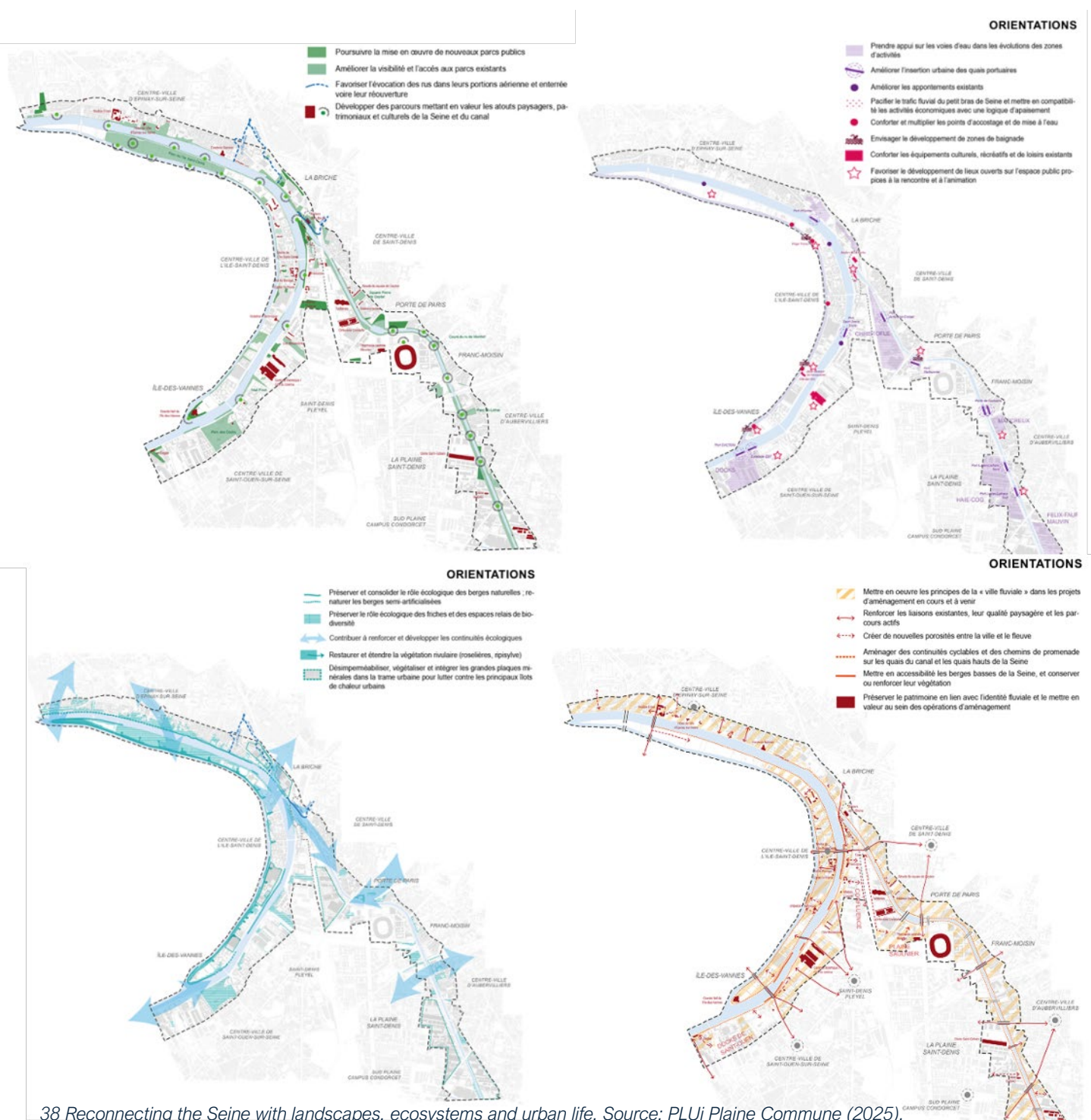
37 The "Franges de Seine" within Plaine Commune's landscape structure. Source: PLUi Plaine Commune (2025).

Key: blue shades: "Seine Fringes" landscape unit : light blue: Épinay-sur-Seine, Villetaneuse and Butte Pinson; medium blue: Seine and L'Île-Saint-Denis; dark blue: Saint-Ouen-sur-Seine; yellow and orange shades: "Plaine de France" landscape unit ; pale yellow: Val de Croult; orange: major infrastructure corridor; light yellow: Aubervilliers and Quatre-Routes.

and certain sections of the riverbank have been extensively developed for these purposes. Elsewhere, particularly in the north, the departmental park and residential areas form a greener relationship with the river.

Connections with other municipalities also reflect a particular organisation: bridges provide a few east-west links between the island and the two banks, whilst the municipality's very elongated shape means that much of local travel follows a north-south axis.

⁴²[https://plainecommune.fr/fileadmin/user_upload/Portail Plaine Commune/LA DOC/PROJET D E TERRITOIRE/PLUI/PLUi Exutoire/TOME 3-](https://plainecommune.fr/fileadmin/user_upload/Portail_Plaire_Commune/LA_DOC/PROJET_D_E_TERRITOIRE/PLUI/PLUi_Exutoire/TOME_3-)



38 Reconnecting the Seine with landscapes, ecosystems and urban life. Source: PLUi Plaine Commune (2025).

Key: Top left — Landscape and public spaces: dark green areas: new public parks; light green areas: improved visibility and access to existing parks; blue dashed lines: reopening of buried rivers, either open-air or underground; red/green symbols: routes highlighting landscape, heritage and cultural features linked to the Seine and canal.

Top right — Uses and activities: pale purple areas: development of activity areas in relation to waterways; purple hatched circles: improved integration of existing urban ports; purple dots: improved existing river access points; pink dotted line: improved riverfront treatment compatible with economic activities; dark pink dots: enhanced public access to the water; pink hatched areas: potential bathing areas; solid pink areas: strengthened cultural, recreational and leisure facilities; pink stars: new public spaces encouraging interaction with water.

Bottom left — Ecological connections and riverbanks: turquoise lines: preserve and strengthen the ecological role of natural riverbanks and renature semi-artificial banks; turquoise hatched areas: preserve the ecological role of wastelands and biodiversity stepping stones; light blue arrows: strengthen and extend ecological connections; dark turquoise arrows: restore and expand riparian vegetation; turquoise dotted areas: de-seal and green large mineral surfaces along waterways, prioritising cooler areas.

Bottom right — Riverfront connections and accessibility: orange hatching: apply "river city" principles to current and future development projects; red arrows: strengthen existing connections and routes towards waterways; red dotted arrows: create new links between the city and the river; orange dotted lines: develop continuous cycling and walking routes along the Seine and canal; orange lines: improve access to the lower Seine riverbanks while preserving or strengthening vegetation; dark red areas: preserve and highlight heritage associated with the territory's river identity.

The island's various sections thus result from the interplay between a highly constrained riverine landscape and successive developments that have produced very different plots, public spaces and relationships with the riverbanks. From the 2000s onwards, the closure of major logistics sites created new opportunities to transform the centre of the island. The ÉcoQuartier fluvial ZAC, established in 2009 on the former Printemps and Galeries Lafayette sites, initiated the redevelopment of this previously fragmented area through a mix of new housing, activities, public spaces and restored riverbanks. This transformation was subsequently accelerated by developments associated with the 2024 Olympic and Paralympic Games.

Today's Île-Saint-Denis therefore bears the traces of several successive ways of utilising an island on the Seine: the historic reshaping of the riverbed; a village and recreational uses in the north; industrialisation and logistics in the centre and south; and, since the 2000s, the redevelopment of large industrial sites. These layers explain the differences we see today within a span of just a few kilometres and form the physical framework within which future transformations must operate.

An island within Plaine Commune: governing and planning across multiple scales

Since 2016, L'Île-Saint-Denis has been part of Plaine Commune, a Public Territorial Body (EPT) within the Greater Paris Metropolis. It now comprises eight municipalities in the north of Seine-Saint-Denis: Aubervilliers, Épinay-sur-Seine, L'Île-Saint-Denis, La Courneuve, Saint-Denis, Saint-Ouen-sur-Seine, Stains and Villetaneuse. Plaine Commune is responsible, in particular, for urban planning: its Inter-municipal Local Urban Development Plan (PLUi) sets out, across the entire territory, the broad development guidelines and land-use

regulations which then apply to planning projects and permissions. The first PLUi was approved in 2020; its comprehensive review, which began in 2023, was approved on 16 December 2025.

This inter-municipal scale is particularly important for a municipality whose main territorial systems extend immediately beyond its boundaries. To the east, the main branch of the Seine links L'Île-Saint-Denis with Saint-Denis and Saint-Ouen-sur-Seine, which are also members of Plaine Commune; to the west, the smaller branch separates it from Villeneuve-la-Garenne and Gennevilliers, which belong to another EPT, Boucle Nord de Seine, and to the Hauts-de-Seine department. A single stretch of river can therefore bring together several municipalities, two EPTs and two departments.

In addition to local authorities, several bodies are responsible for navigation, wastewater treatment, flood prevention, infrastructure and major metropolitan projects. Their responsibilities intersect around the river: water quality depends on wastewater networks extending beyond municipal boundaries; swimming and water sports must comply with navigation rules; bridges connect both banks; and ecological corridors follow the river across administrative boundaries. Conversely, local development can affect access to the Seine, soils, land uses and landscape continuity beyond the site itself. The PLUi provides a common framework for some of these transformations, alongside the Local Mobility Plan, Local Housing Programme (PLH) and Territorial Climate, Air and Energy Plan (PCAET). Its political core, the PADD, structures the territorial project around ten guiding principles grouped into three strategic priorities.

west is given a more recreational and educational role, linked to water sports, leisure activities and the calming of river traffic.

· *Axis 3 – ‘Towards economic development in the public interest’.* The PADD seeks to reorient the economy towards the needs of the region and its inhabitants, prioritising local jobs, the social and solidarity economy, culture, the circular economy and services, whilst limiting certain activities that consume large amounts of land or generate few jobs, such as long-term storage. The river, however, remains a major economic infrastructure: Plaine Commune plans to preserve its eleven logistics ports and to encourage a modal shift towards waterways. This approach directly informs the transformation of L’Île-Saint-Denis, where the former large logistics sites are being repurposed whilst the Seine’s economic functions remain present at the regional level. On the island, these three themes overlap significantly. The Seine is at once an ecological environment and a resource for adaptation, a landscape, a public space and a venue for leisure activities, and an economic infrastructure. Decisions regarding the development of the riverbanks, public spaces or new neighbourhoods therefore involve several functions simultaneously, with different balances depending on the sector and the branch of the river in question.

Living alongside the river: from the riverbanks to water-based activities



41 Southern part of L’Île-Saint-Denis. Source: Explore Paris.

In L’Île-Saint-Denis, living near the Seine encompasses a wide variety of situations. The island’s narrow width means that almost all neighbourhoods are situated

within a few hundred metres of the water, but the relationship between the town and the river depends on the configuration of the banks: their height and slope, the available width between the buildings and the water, vegetation, access, the uses of the quays and even navigation. These characteristics vary along the length of the island and between its two branches. They result both from the river’s morphology and from the successive transformations of the banks, ranging from recreational and industrial uses to contemporary urban development projects.



40 Lil’Ô, an eco-friendly and community-focused hub in the Natura 2000 area at L’Île-Saint-Denis. Source: Tourisme93.com

The PLUi reflects this diversity by assigning partly different functions to the two branches. The smaller branch, between L’Île-Saint-Denis, Villeneuve-la-Garenne and Gennevilliers, is envisaged as a space for more tranquil navigation, conducive to water-based leisure activities and ecological processes. The Île-Saint-Denis departmental park forms part of the ‘Sites de Seine-Saint-Denis’ Natura 2000 site, and the sections of natural riverbanks are intended, in particular, to form the basis of an ‘open-air museum of biodiversity’. On the main branch of the river, towards Saint-Denis and Saint-Ouen-sur-Seine, economic and port-related functions remain more prominent and must coexist with the new uses of the riverbanks.



42 Thorez beach during the water festival in 2023. Source: Ville de l'île-Saint-Denis

The regional project also aims to develop opportunities for swimming, launching and mooring points, and recreational and cultural facilities. However, this division does not result in two specialised and homogeneous riverbanks. The practical possibilities depend on the specific local conditions. Two areas illustrate the implications: Jaurès–19 March 1962, where the transformation is taking place within an existing urban fabric between the two branches of the river, and the ÉcoQuartier fluvial, where the release of large logistics sites has enabled the neighbourhood and riverbanks to be redeveloped simultaneously.

- Jaurès–19 March 1962: transforming a concrete block within an island city

The Jaurès–19 March 1962 area covers approximately 0.6 hectares in the centre of L'île-Saint-Denis, between Avenue Jean-Jaurès and Rue du 19-Mars-1962, near Rue Méchin. It is set within an existing urban fabric, where housing, shops, amenities and former industrial sites coexist. Avenue Jean-Jaurès forms one of the town's main north-south thoroughfares: it follows the elongated shape of the island and connects its various neighbourhoods, whilst serving as a hub for commercial activity and daily commutes. Set back from this thoroughfare, the block has a more enclosed layout. Homes, former

warehouses and business premises occupy a large part of a long stretch of land, with few open spaces within it and few opportunities to cross from one street to another. This layout bears the mark of the coexistence – characteristic of the island – between residential areas and economic activities embedded at the heart of the neighbourhoods.

This high density of land use also has physical consequences: the entire block is now almost sealed – buildings, courtyards and hard surfaces leave little open ground and little space for vegetation capable of creating cool, shaded areas. Furthermore, previous activities mean that the condition of the soil and any potential contamination must be considered during its redevelopment. To the south, the proximity of the RD986 adds exposure to noise and air pollution from a major road. The project therefore takes place in an environment where the possibility of building new housing and commercial premises also depends on how the existing soil conditions and interfaces with neighbouring infrastructure are managed.

This prevalence of sealed surfaces takes on particular significance within the island's organisation. The area is close to the River Seine and lies within a region highly prone to flooding; when it rains, its waterproof surfaces offer little capacity to retain water on site. The water runs off into the streets and drainage systems before reaching the river, potentially carrying with it some of the pollutants accumulated on urban surfaces. The transformation of the block thus requires a coordinated approach to what will be built, what will remain open, and what these spaces will be able to absorb, accommodate or allow to flow through.



43 Spatial planning framework for the zone Jaurès - 19 mars 1962. Source: PLUi Plaine Commune (2025)

The project utilises the reorganisation of the plot layout to address these various dimensions. A mixed-use development with a focus on commercial activities, with business premises primarily located on the ground floor, must maintain a productive function within the town centre. The existing long building frontage must be divided by a new road and supplemented by pedestrian crossings: gaps and openings must provide views into the interior of the plots and foster connections between the streets, the buildings and the new block centres. The greened block centres are integrated into this new structure, recreating surfaces capable of supporting trees and vegetation, retaining some rainwater and reducing the heating of inhabited spaces. The reorganisation of the plot layout thus also serves as a means of redistributing, across just 0.6 hectares, the respective proportions of built-up areas, circulation routes, activities, vegetation and water.

The Jean Jaurès sector thus allows the relationship with the Seine to be situated

upstream of the waterfront. From the streets of the centre, the river may be close by without being directly present in everyday life; yet its influence is evident in the risk of flooding and in the destination of water running off urban surfaces.

Conversely, the way in which these surfaces are redeveloped determines what they retain before the water reaches the drainage networks and the Seine, as well as the space they can provide for vegetation within a dense town centre. The effects of a 0.6-hectare green space remain localised, but their proliferation and integration with streets, public spaces and riverbanks give very concrete substance to the policies of reducing impervious surfaces, managing stormwater and strengthening the green and blue infrastructure promoted at the Plaine Commune level.

- The River EcoQuartier: reimagining a section of the island around the water

A few hundred metres south of the historic centre, the River ecological neighbourhoods occupies the former logistics sites of Printemps and Galeries Lafayette. Established in the 20th century in the central and southern parts of the island, their large warehouses took up a significant portion of its width, between the two arms of the Seine. Following their closure, these sites formed a vast wasteland separating the historic centre from the neighbourhoods further to the south. The ZAC (Joint Development Zone), established in 2009, therefore sets in motion the transformation of an area that had been organised for storage and logistics into a neighbourhood combining housing,

businesses, facilities and public spaces. Above all, the size of the vacated sites allows for a rare opportunity to intervene on an island that is already largely urbanised: it becomes possible to reorganise the plot layout, transport links, land use and connections with both banks within a single project.

This availability of land does not, however, eliminate the constraints inherited from the site. The A86 motorway crosses the island from east to west in the southern part of the development, successively spanning the two arms of the Seine; it serves both as a metropolitan link and as a significant source of noise and pollution for the residential areas surrounding it. High-voltage power lines also used to run through the area before being buried, whilst former industrial and logistics activities have left behind contaminated soil. Added to these legacies is the site's location in a flood-prone area: the neighbourhood is built on a strip of land surrounded by the River Seine, the water levels of which can vary significantly during floods. Building here therefore involves determining at what elevations to situate buildings, streets and facilities, which spaces can temporarily accommodate the presence of water, and

how to transition from the protected levels of the neighbourhood to the much lower level of the river.

From the outset, the project has placed great emphasis on open spaces. Around 50 per cent of the site area is dedicated to public spaces, largely reserved for pedestrians, whilst car traffic and parking are strictly limited within the neighbourhood. Two mobility hubs bring together parking and transport-related services (car-sharing, electric vehicle charging, bicycles and deliveries) in order to free up the streets and inner courtyards from some of the functions usually occupied by cars.

The project also considers the shapes and orientations of the buildings in relation to sunlight, summer comfort and wind conditions. Timber plays a significant role in the construction: 16 of the 22 buildings involved utilise a timber-framed structure and/or walls, and around 45 per cent of the building materials are timber. This layout also makes more room for water: rain gardens, swales and retention features temporarily collect rainfall, whilst the topography guides the flow towards slightly sunken, green areas. On this former industrial wasteland, however, infiltration requires a precise understanding



44 Aerial view of the Île-Saint-Denis River EcoQuartier. Source: Plaine Commune (2026)

of the soil to avoid mobilising any pollutants present in the ground. The redevelopment thus combines decontamination, rainwater management, greening and the design of public spaces within a single material transformation of the site.

This relationship is particularly evident on the banks of the small arm, to the west of the island. The former logistics embankments, which were largely man-made, created a clear separation between the land and the River Seine. The project is restoring approximately 300 metres of this area, using the topography to create a variety of features: elevated areas remain accessible during normal river fluctuations, whilst footpaths, riverbanks and green spaces slope gradually down towards the water and may be temporarily flooded. Viewpoints, jetties and access points thus allow visitors, depending on the location, to observe the river, descend towards it or reach the water directly.

This succession of levels makes it possible to accommodate the height of the banks. A high bank offers greater protection for urban spaces from normal fluctuations, but makes access to the water more difficult and requires sufficient length to provide an accessible slope, or more localised access points. A low bank brings activities closer to the water and promotes wetland vegetation, but is more frequently affected by fluctuations in the Seine's level. The project therefore combines several levels: areas close to the river can withstand temporary flooding, whilst pathways and facilities that must remain accessible are situated higher up.

This topography also creates different ecological habitats. Instead of a vertical quay, the lower sections are home to riparian vegetation subject to the river's fluctuations, extending upwards into planted areas that are flooded less frequently. Within the neighbourhood, the park covering approximately 1.5 hectares, the rain gardens and the open-ground areas continue this network. The 300 metres of renaturalised

riverbank thus form part of a continuous green corridor stretching from the aquatic environment to the residential areas, providing a local expression of the green and blue infrastructure identified at the Plaine Commune level.

Finally, the island's narrow width allows for development from one arm of the Seine to the other, thanks to cross-river routes and views towards the river. The two riverfronts, however, remain distinct. The narrower arm, towards Villeneuve-la-Garenne and Gennevilliers, maintains a more intimate relationship with the water here and is in line with the ecological and recreational focus that the PLUi seeks to reinforce. The larger branch, towards Saint-Denis and Saint-Ouen, is wider and more characterised by river traffic and infrastructure. The project thus draws on the island's unique character without standardising the two banks: crossing the neighbourhood allows one to move between stretches of the river with different forms, uses and atmospheres

When Paris was awarded the right to host the 2024 Games, the ÉcoQuartier project was already underway: the ZAC (Joint Development Zone) has been in existence since 2009 and its first phase is currently under way. The Athletes' Village, developed mainly in Saint-Denis and Saint-Ouen-sur-Seine, is being extended to L'Île-Saint-Denis as part of the project's subsequent phases. The area will accommodate around 2,700 beds during the Games, in buildings designed to be subsequently converted into housing, student accommodation, offices, shops and facilities. The Olympic event is thus accelerating a pre-existing urban development project whilst reinforcing certain environmental ambitions: the buildings aim for a reduction of around 30 per cent in carbon emissions compared with a conventional benchmark, thanks in particular to the use of timber, low-carbon materials and bioclimatic design.

The River Seine itself is playing a part in the construction work: within the Village, more than 500,000 tonnes of excavated material are being removed by river, the equivalent, according to reports, of around 25,000 lorry journeys, whilst prefabricated timber modules intended for the island's student accommodation are being transported by barge. The river therefore plays a role even in the logistics of the neighbourhood's construction, in addition to its hydraulic, ecological and recreational functions.

Above all, the Games are accelerating several infrastructure projects whose scope extends beyond the ÉcoQuartier: the burying of high-voltage power lines, the construction of a noise barrier along the A86 and the creation of a new footbridge over the main branch of the Seine. Reserved for pedestrians, cyclists and buses, this footbridge connects L'Île-Saint-Denis directly to the Village district in Saint-Denis and adds a new crossing to the few bridges that currently handle traffic between the island and neighbouring areas. The access routes to the riverbanks associated with this development also link this cross-town connection with a path down to the river. From the redevelopment of former logistics

sites to the footbridge and the river-based logistics for the construction sites, the ÉcoQuartier thus links transformations carried out at the level of the ground, the neighbourhood, the riverbanks and the metropolitan networks.

However, this project does not constitute a riverside model that can be replicated across the entire island. It benefits from large tracts of land that have been freed up and exceptional investment, making it possible to redevelop several tens of metres between the buildings and the river. In older areas, streets and buildings may run much closer to a high riverbank, leaving little space to accommodate the difference in level with a gentle slope; elsewhere, a low riverbank facilitates access to the water but requires greater adaptation to flood risks and existing environments. Beyond the ÉcoQuartier, the challenge is therefore to work with this diversity of levels and widths, whilst maintaining the hydraulic and ecological functions of the riverbanks and, depending on the available space, developing different ways of viewing, walking alongside or accessing the Seine.

45 After the 2024 Games: 10 examples of iconic transformations. Illustration: Sandrine Martin. Source: Plaine Commune



- The Maison Fleuve and Place de la Batellerie: turning insularity into a lived identity

In L'Île-Saint-Denis, the Seine is always close by, but relationships with the river vary considerably along the island. Dense urban fabric, green spaces, low or high riverbanks, former logistics sites and infrastructure create different forms of access, visibility and use, reflecting successive histories of leisure, industry and urbanisation. Contemporary projects are reshaping these relationships through the redevelopment of former industrial sites, renewed access to and vegetation along the riverbanks, and new crossings to neighbouring areas. Insularity thus shapes a territory whose uses and meanings continue to evolve as the island transforms.

Place de la Batellerie is situated in the ÉcoQuartier fluvial, to the south of the old town centre and immediately to the north of the A86. It occupies the site of former logistics facilities that have been converted into a residential neighbourhood and lies just a few hundred metres from each of the two branches of the Seine. To the west, the smaller branch separates it from Villeneuve-la-Garenne and features, in this part of the

island, the low, gradually renaturalised riverbanks described in the previous section. To the east, the main branch – which is wider and more heavily used by boats – separates it from Saint-Denis. It is over this branch that the new footbridge, built as part of the Athletes' Village, now directly links the ÉcoQuartier to the neighbourhoods of Saint-Denis on the opposite bank.

The square therefore occupies an intermediate position between several geographical areas. It thus becomes one of the points where the island's internal routes, access to the river and a new metropolitan crossing converge. This role is reinforced by its mix of uses: housing and student accommodation sit alongside shops, leisure facilities, a hotel, cultural venues and a water sports centre. The name 'Place de la Batellerie' also anchors this new centrality within a longer history of river life. The reference to river transport thus preserves, within this transformed landscape, a trace of a period when the river served directly as an infrastructure for production and transport. It coexists with other aspects of the Seine's history – swimming, leisure, floods, ecological habitats – which the cultural programme can in turn ensure are present in

contemporary spaces.

Maison Fleuve, originally planned as the Cité des Arts Urbains, forms part of this new centrality. Designed by the Farid Azib architectural practice, the approximately 1,470 m² building was planned for the ÉcoQuartier before the Olympic programme, then integrated into the Athletes' Village and designed for post-Games



46 Place de la Batellerie and the new facilities connecting the ÉcoQuartier to the Seine. Source: Plaine Commune, ÉcoQuartier fluvial newsletter (2020).

conversion.⁴³ It is now becoming Maison Fleuve, a contemporary art centre and cultural hub intended to bring together artistic, cultural and research activities. Its relationship with the Seine stems partly from its location. Place de la Batellerie occupies an elevated urban level, suited to buildings, terraces and events, while public spaces descend towards the promenades, jetties and vegetated banks of the smaller branch. This sequence connects cultural activities around Maison Fleuve with water-based activities requiring direct river access. The square, streets, thresholds and promenades can therefore extend activities towards the riverbanks while bringing river users back towards this central hub.

Across the island, water-related activities need to respond to the different conditions of the two branches of the Seine. The smaller western branch, with its more vegetated banks and recreational spaces, offers different possibilities from the main eastern branch, where navigation, currents and higher quays play a greater role. Swimming makes these differences particularly visible. Improvements in water quality across the Paris conurbation, reflected in the bathing sites opened in Paris since summer 2025, broaden the potential uses of the Seine, but their feasibility still depends on local conditions of access, safety, currents and navigation. These conditions also vary over time: heavy rainfall can rapidly degrade water quality, while changing river levels affect access to the banks.

This diversity supports a differentiated programme along the island: water sports where access is suitable, cultural activities where the river can serve as a setting, and quieter uses along more vegetated stretches, with some spaces able to accommodate seasonal flooding while others remain accessible. A comparable principle can be



47 *The Maison du Fleuve*. Source: Plaine Commune, newsletter ÉcoQuartier fluvial (2020).

seen along the Vieille-Mer in Saint-Denis⁴⁴: in Georges-Valbon Park, reopened sections combine leisure areas with wetlands and observation, while further downstream, where dense urban fabric prevents physical reopening, the river can be evoked through public spaces, routes or artistic interventions. In L'Île-Saint-Denis, the challenge is instead to connect the different ways in which the Seine is already experienced - through water sports, riverbank habitats and fluctuations, the memory of economic activities, or cultural interpretation. The programme can thus bring coherence to these experiences without standardising the places that host them.

⁴³[https://plainecommune.fr/fileadmin/user_upload/Portail Plaine Commune/2 Projets/Grands projets/JournalEcoquartier Janvier20.pdf](https://plainecommune.fr/fileadmin/user_upload/Portail_Plaire_Commune/2_Projets/Grands_projets/JournalEcoquartier_Janvier20.pdf)

⁴⁴<https://www.apur.org/fr/climat-environnement/nature/redecouverte-une-riviere-urbaine-vieille-mer-parc-georges-valbon>

At L'Île-Saint-Denis, urban regeneration is also reshaping the foundations of island identity. In the ÉcoQuartier, new public spaces and facilities occupy former logistics sites, while the footbridge strengthens connections with the opposite bank. Rather than producing a uniform relationship with the Seine, these transformations can connect different experiences of the river - living near it, navigating, swimming, observing its habitats, crossing it or spending time along its banks - with the histories and neighbourhoods of the island. These local experiences also reveal wider interdependencies: water quality depends on sanitation and discharges upstream, floods belong to valley-wide hydraulic dynamics, and river ecosystems extend beyond municipal boundaries.

The Seine can therefore contribute to a shared metropolitan identity grounded in relationships with the same river rather than in uniformity. On L'Île-Saint-Denis, the concentration of landscapes, practices, water fluctuations and river traffic within a narrow territory makes these connections particularly tangible. Island identity can thus emerge not simply from the singularity of being an island, but from living with the river and making its wider interdependencies perceptible.

