

| STAR2CS INTERREG PROJECT |

THE OISE VALLEY :

WHAT FORMS OF RESILIENCE TO ADDRESS FLOODING?

Oise-les-Vallées Urban Planning Agency

November 2019

PART

1

SITE-SPECIFIC RESILIENCE
ANALYSIS

RESILIENCE
GUIDELINES

1

BOATMANS' TOWN
RIVER MOORING FACILITY
AT LONGUEIL-ANNE

[P R E A M B L E]

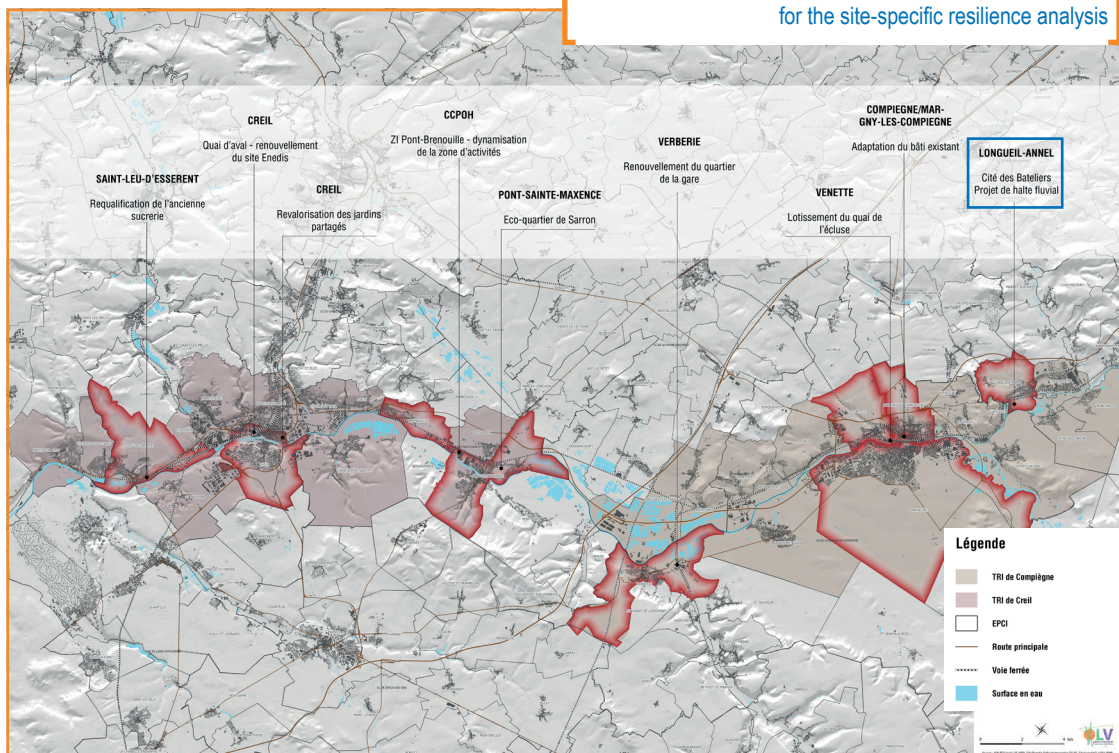
The Oise-les-Vallées Urban Planning Agency began assessing the valley's resilience to flood risk for the European Interreg STAR2Cs Project. The aim of the agency's involvement in this European project is to give further consideration to explore local development and spatial planning opportunities to address flood risk. To achieve this, three steps are currently being researched:

- 1 **Town planning resilience:** How can sites in flood-prone areas, subject to additional restrictions from differing stakeholder opinions, be planned and developed.
- 2 As individual flood resilience plans do not cover that of an entire region, step two focuses on a larger scale, especially **the resilience of roads and utilities** that keep the region up and running.
- 3 Finally, the agency wants to introduce a **methodological decision-making tool designed for various planning stakeholders** (councillors, technicians, developers, private individuals, etc.) to support the regional planning and development process.

With support from Architect, Éric Daniel-Lacombe, the urban planning agency produced nine case studies located along the Oise Valley during the first part of the project.

Using these nine case studies, the aim is to produce an overall development plan for the Oise Valleys area, based on geography, landscapes as well as land-use and economic activity, not forgetting mobility, which is the key topic in this particular area. The development plan is, and will be, adaptable and incremental. It will help foster a collective awareness of the regional resilience process with respect to flooding.

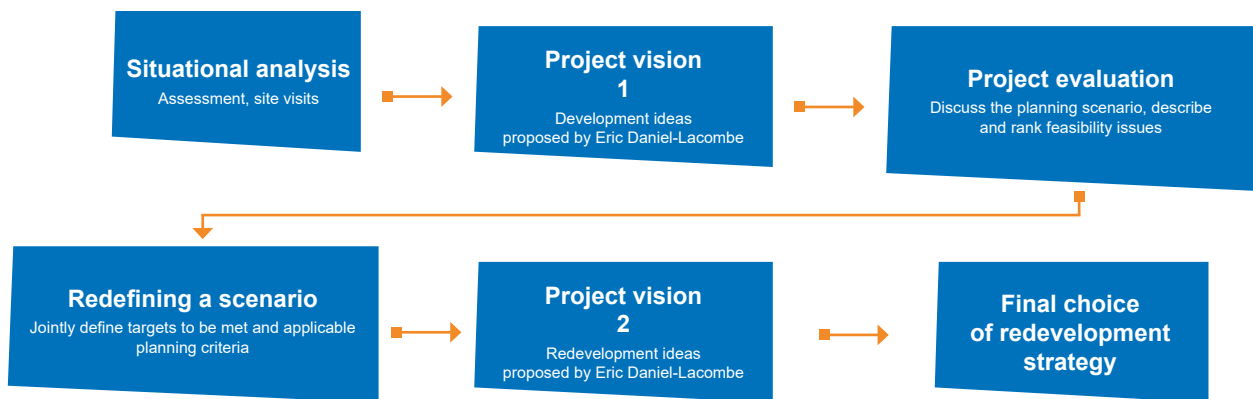
Study site locations for the site-specific resilience analysis



Given the major waterway project to connect the Seine and Escaut rivers with the Seine-Nord Europe Canal and dredging/re-profiling the River Oise to meet European standards (MAGEO), the mid-Oise area has a chance to forge a unique identity for itself to the north of the Ile de France region, while adapting to climate change.

We have devised development scenarios for each of the nine case study situations that provide a fresh, new insight. A series of initial development scenarios for each site was presented to the relevant stakeholder then revised to provide a new version incorporating feedback and analysis (often contradictory). Each scenario is intended to become a potential vision to transform the site in question by seeking to make it less vulnerable to flood risks.

[Adopted approach]



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1

SITE PRESENTATION & CHALLENGES



Presentation of local area



Longueil-Annel has a population of approximately 3,000 people and is located in the North West of the Oise Department. The town is part of the Deux Vallées (CC2V) inter-municipal association.

It sits on the banks of the canalised River Oise and has a long history linked to barges and is known as the "Boatmans' Town". In fact, during the 19th century, it became a very popular stopover and the town attracted many passing boatmen. In 1850, there were up to 32 cafés trading at the same time.

Longueil-Annel is crissed-crossed by a wide range of infrastructure and is well connected to neighbouring urban centres (Compiègne, Noyon, etc.)

Site issues



The study site is an area of land between the River Oise and its side canal. It is a vast open, agricultural space bounded to the north by woods and to the south by low-rise housing. The site and its overall setting offers 2 advantages. Firstly, it lends itself to building around water, with the barging heritage and local community who are familiar with life on the water and already used to floods.

Possible project

Challenges and goals

The site is affected by the CSNE Project as the municipality is awaiting details on the canal's future impacts

Need to retain a flood expansion zone within the site boundary

Site listed in purple zone of draft PPRi (flood risk prevention plan) area

The project comprises 3 stages:

- **Relocate the museum.** After 20 years in ageing canalside buildings, an overall review was undertaken on the museum's future. The museum has become too cramped and may be relocated to the current Post Office, near to the locks.
- **Renovate the current museum** into a boatmaster training centre.
- **Create a mooring facility.**

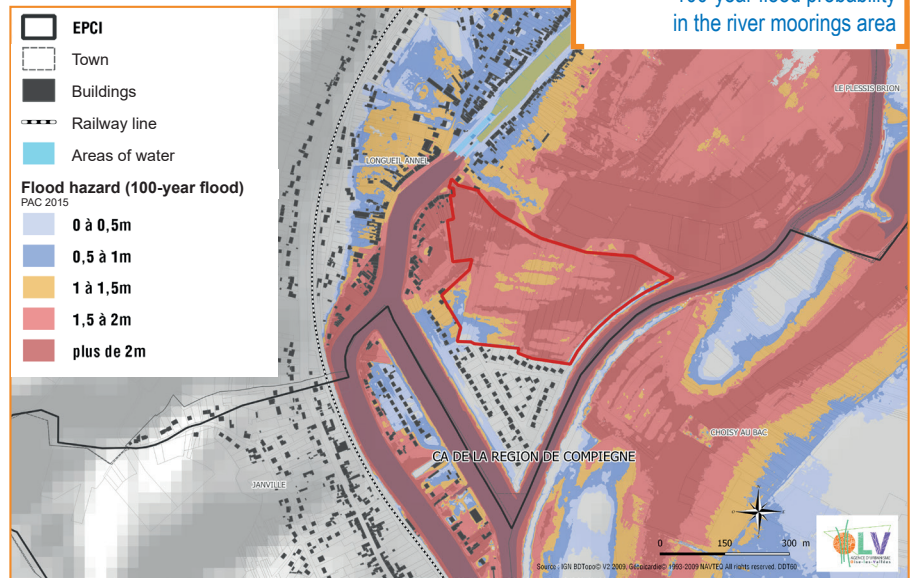


Site location in town of Longueil-Annel



100-year flood probability in the river moorings area

The flood hazard map modelled in 2015 on 100-year flood events shows the entire site to be highly flood-prone (water depths of 1 - 2.5 m). This considerable hazard affects, in particular, buildings situated outside the site boundary, alongside the River Oise's side canal. These buildings must be included in the project analysis.

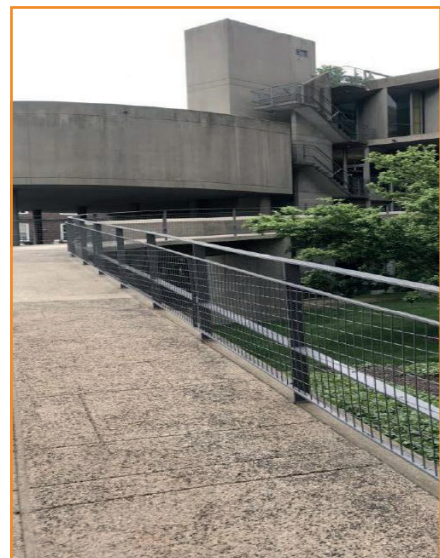
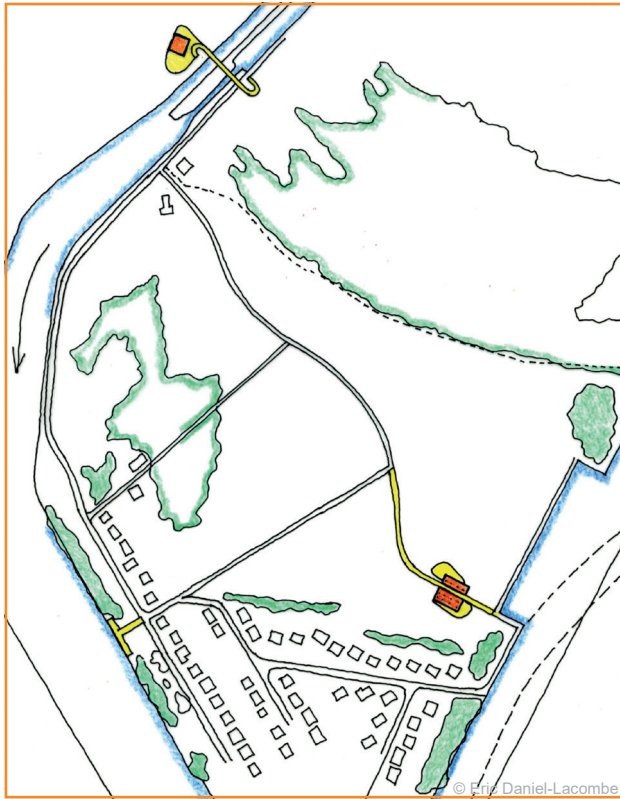


Summary of stakeholder positions



Stakeholder	Local authority	State
Main priority	Create a mooring facility	Protect the population
Priority impact	Urban development and amenities to be built in the area	Area to be listed as a ZEC zone (flood expansion zone)
Priority-related risk	Increased public amenities in the area	Municipality unable to deliver projects
Risk effect	Area becomes more vulnerable with potential loss of life and property	Property assets 'frozen' with no potential planning options

2 DEVELOPMENT PROPOSALS



NB: All images featured on this page are taken from the presentation by Eric Daniel-Lacombe at a workshop on 2 April 2019, entitled *Inventive analysis for Oise-les-Vallées*



THE ARCHITECT'S OPINION

Eric Daniel-Lacombe



© Eric Daniel-Lacombe

Up to now, the valley's architecture has been designed for a predictable world. The boatmen's houses in this first experimental and inventive site are an example of this. However, in the future, with unpredictable climate change, architecture has a role to play in the process of transforming peoples' relationships with nature, if we accept we must reconsider perspectives, aims and practices. Otherwise, any urban growth in flood-prone areas will be very limited. Protecting people from flood risk is not enough. Those exposed to it must master it, so that it becomes part of their own abilities to deal with flood risks, just like the boatmen who battled with the currents of the River Oise. This involves providing people with new conditions to access and interact with nature. Introducing the local community to a more in-depth appreciation of nature and its transformations forms a key challenge in the valley projects. Let's take a closer look at the plans to create a mooring facility here at Longueil-Annél. The edge of the town is bounded by the River Oise, with a magnificent set of locks. This has enabled several shops to open up but they need a bit of a makeover. This applies to the Post Office, which may close due to a drop in business. Yet, the site has numerous advantages. There is a good view

alongside the lock but also cross it via a stunning footbridge. The opposite bank has a more natural feel to it, with a vast plain in the bend of the river. It's this interplay between both banks, protected by the lock, that attracted the boatmen to the town. An ongoing project to regenerate the town centre seeks to:

- cast light on and understand the river's movements, including its floods,
- resurrect the boatmen heritage with a museum to be located in the Post Office, if the latter was to move out,
- accommodate more pleasure boats by creating berths on the banks of the undeveloped plain,
- build mooring facilities with a refuelling station for leisure boats.

The subject of the town's resilience therefore drives better economic development centred on cultural life related to water, which is already rooted in the Oise. The idea of these mooring facilities at this first test site, combines the river and the town as a strong symbol of settlement in this valley.

Architecturally-speaking, the museum can become resilient to water only by locating activities on the ground floor that will not be harmed by flooding, while placing learning facilities on the first floor (out of the water's reach), with terraces that extend out towards the footbridge.

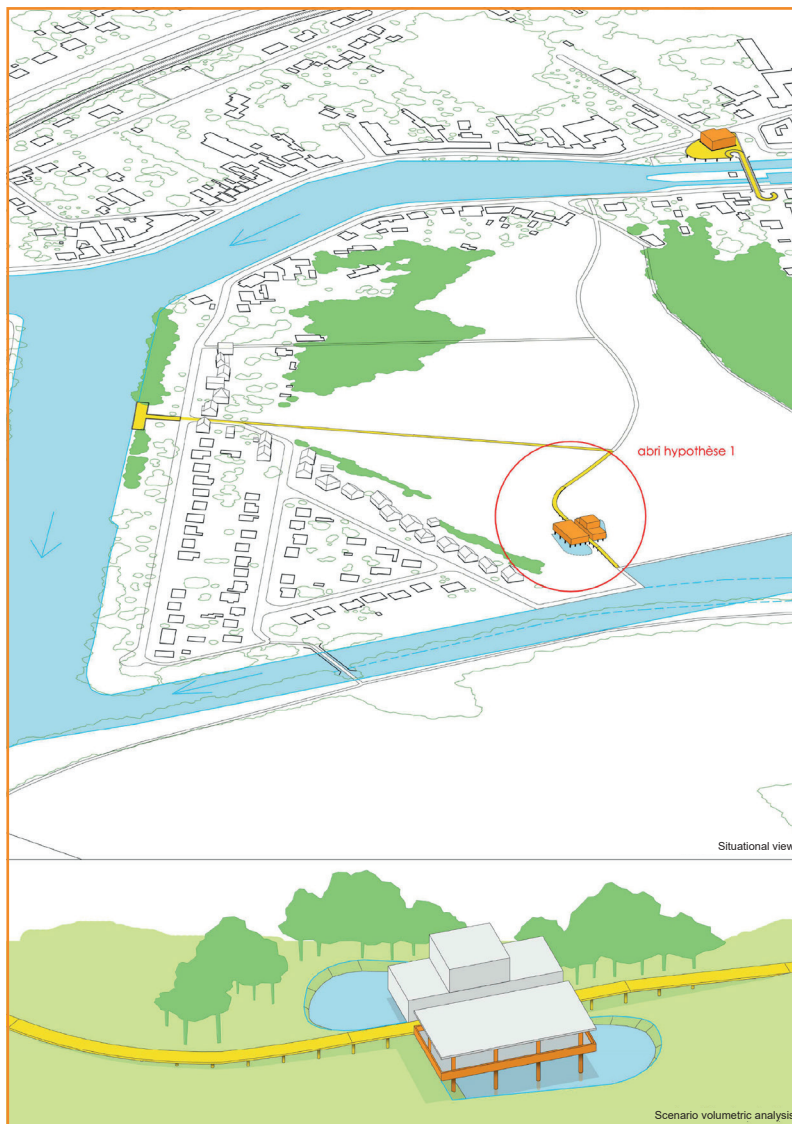
The mooring facilities will be located on the other bank as a symbolic reflection of the museum visible through its windows, to encourage visitors to go there. The programme will be established based on the leisure boat users requirements. It can also be used as a shelter, or watertight refuge, for local residents if ever floodwaters encircled their homes. Clearly, the boardwalks at the mooring facilities will be raised above the highest floodwater levels. This deliberately aesthetic attribute will give it the appearance of a viewpoint accessible by walkways and ramps. The water required to transform the plain into a river basin will be drawn from a small arm of the River Oise if ever the building of the future Sein-Nord Canal alters the river's course.

As such, the landscape, flood shelter for local residents and visitor attractions at these mooring facilities have been designed to be an economic asset able to complement future changes to the environment or infrastructure.

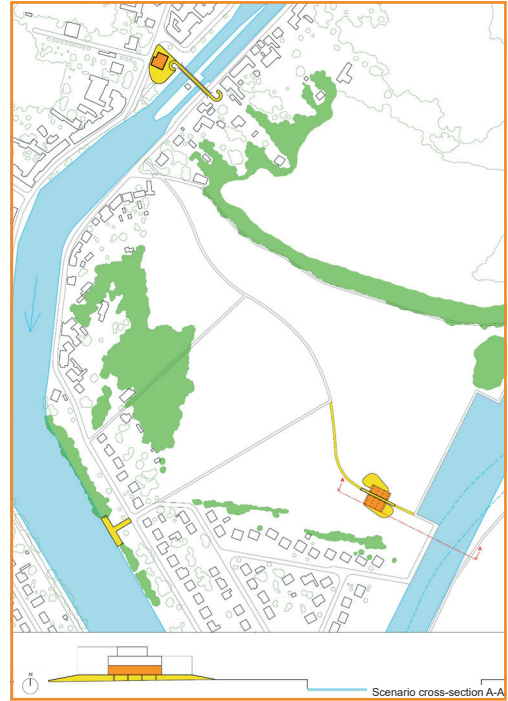
VERSION 1

This first draft outline of the project was presented to councillors and technicians at a bilateral meeting. The aim of the meeting was to refine the proposals and identify obstacles to the project delivery.

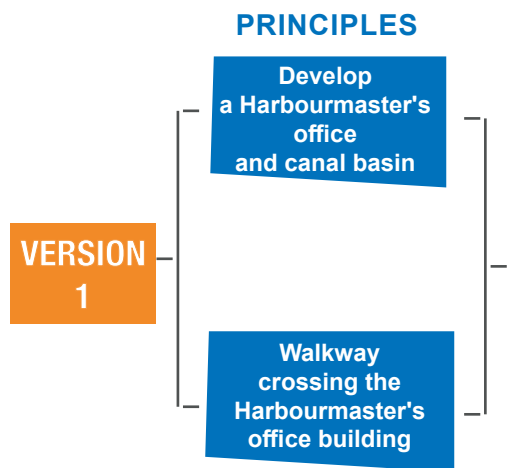
The first designs by Eric Daniel-Lacombe feature the building of a Harbourmaster's office near the Oise and a river basin for leisure boats. The design proposes combining these facilities with a footbridge that would cross by the Harbourmaster's office to link it with the new museum by creating a scenic and cultural promenade along the project area. According to the Architect, the siting of the Harbourmaster's office could also be in a more westerly position, to be as close as possible to the quay.



© Eric Daniel-Lacombe



© Eric Daniel-Lacombe





VERSION 2



Scenario cross-section A-A
© Eric Daniel-Lacombe

After discussions with Longueil-Annee Municipal Services Department, the first two proposals were at odds with councillors' initial desires to create amenities for the most affected areas, i.e. amenities along the River Oise side canal. More specifically, this involved developing part of the site classified as a purple zone in the draft PPRI and its inclusion as a reserved space in the local plan (PLU).

Eric Daniel-Lacombe was subsequently tasked with producing a new site plan placing the Harbourmaster's office to the north of the study site and adding a river basin to it, with access from the Avenue de l'Oise. The Architect considered the scenario plausible but expressed reservations about the feasibility of access. This could present a technical constraint related to the canal retaining walls and the presence of the lock. He suggested access from the River Oise, or at the very least by re-using this arm of the river which could disappear when the Seine-Nord Europe Canal is built.

LIMITATIONS

Development that fails to meet the needs of the most vulnerable areas

Project ignores the Seine-Nord Europe Canal

VERSION 2

Project insufficiently accessible to the local community

The project area does not match that of the local councillors



Situational view

Scenario volumetric analysis

© Eric Daniel-Lacombe



3 PROJECT EVALUATION & FEASIBILITY

Both versions proposed by Éric Daniel-Lacombe seek to avoid a certain number of detrimental effects in the event of a flood. Each of them lessens or eliminates potential damage and is likely to generate benefits for the local area, or even the entire town. In most cases, however, these risk reduction measures are not cheap, in financial, technical or human resource terms.

SWOT analysis

WITHIN THE PROJECT	OUTSIDE THE PROJECT
STRENGTHS Positive aspects justifying project benefits	OPPORTUNITIES Aspects to capitalise on the project environment
<ul style="list-style-type: none"> Planning in the form of buildings crossed by public walkways to negotiate floodwaters and curb flood risk 	<ul style="list-style-type: none"> Benefit from the arrival of the Seine-Nord Europe Canal (CSNE) to regenerate the local area
WEAKNESSES Negative aspects to be improved	THREATS Obstacles that may impede project development
<ul style="list-style-type: none"> Project gives insufficient consideration to plans for the CSNE that will run alongside it The community shelter deserves a more substantive plan 	<ul style="list-style-type: none"> Project highly challenging to implement

The SWOT analysis combines the project's strengths and weaknesses with surrounding opportunities and threats to help define a development strategy.

Advantages / Disadvantages by stakeholder

	Advantages	Disadvantages
Local authority	Revitalise the local area, Introduce a risk-awareness culture	Project feasibility: Highly challenging to implement
State	Reduce the vulnerability of certain buildings, Crisis management included in the development	Buildings in an area that remains highly flood-prone
Users/Residents	Chance to enjoy an area of cultural and landscape interest	-

Methodological details

Resilience indicators

Several aspects must be specified in terms of resilience indicators.

Firstly, it should be noted that the 5 criteria defined to study project resilience were proposed by Oise les Vallées and are the result of its methodological choice alone. We have identified:

1. **An environmental benefit:** The project offers an environmental advantage by respecting nature and preserving biodiversity, etc.
2. **A social benefit:** The project offers a social and human advantage inasmuch as it provides a service to its users and improves the quality of life for the local community
3. **An operational benefit:** The project offers an operational advantage, making buildings technically capable of resisting floods and able to cope with flood hazards, etc.
4. **An economic benefit:** The project offers an economic advantage in its ability to generate income, to attract business and retail while fostering tourism, etc.
5. **Scenic benefits:** The project can slip seamlessly into the local area by considering the specific features of each area and delivering aesthetic benefits, etc.

Explanation of the choice of scoring system

The scenarios were scored on a scale of 1 to 10, with 0 being the lowest score and 10 the highest.

The choice of scoring method is clearly subjective and is in no way definitive. The aim is partly to trigger discussion and reactions.

Score	Category
1-2	Very poor
3-4	Poor
5-6	Fair
7-8	Good
9-10	Very good

The purpose of the scoring system is to compare the three chosen development scenarios:

- The first corresponds to the current position. This refers to the state of the land as it is now, prior to any development taking place.
- The second corresponds to a hypothetical planning scenario where flood risk has not been considered. As such, this refers to development plans that comply with current urban development guidelines but which do not prioritise resilience.
- The third scenario is proposed by Eric Daniel-Lacombe and featured above.

Aspects to consider for resilience

Benefits	environmental	social	operational	economic	scenic
Scenario 1 "Current situation"	2	2	6	2	6
Scenario 2 "Ignoring the risk"	3	4	5	6	6
Scenario 3 "Eric Daniel-Lacombe"	7	8	7	6	8

Level of satisfaction

Private individual	State	Local authority
2	7	2
6	3	7
8	7	7

