




TeleNatura Lab

Proof of Concept

Collective
working on different
ways of bringing
nature to the city



TransSpaces

Create a set of natural spaces
increasing biodiversity in cities
with mutualistic benefits

Letting new species invade the city, providing them a space to grow, while benefiting from their natural abilities to improve our living environment.

An **opportunity to showcase** how in practice the **presence of natural ecosystems is beneficial** to urban areas*.



- Thermal regulation
- Social Cohesion
- Air Quality
- Psychological Health
- Acoustic
- Water Quality
- Biodiversity

Problematic

<https://www.20minutes.fr/societe/2294911-20180624-marseille-plages-ferment-quand-pleut-sortez-eau-archi-polluee>

Marseille

- Cotons-tiges à "Épluchures Beach"

Lorsque tombent les pluies d'orage, le cours de l'Huveaune déborde et emporte tout sur son passage et, à l'instar de 16 plages de Marseille, celle de l'Huveaune, aussi surnommé "Épluchures Beach", est envahie par les germes fécaux. Les interdictions de baignade à répétition permettent d'éviter la plupart des otites, eczéma et diarrhées, rapporte Robin des Bois. Bouteilles, mégots, cotons-tiges : le Vieux-Port et les îles du Frioul sont aussi reconnus comme de "véritables pièges à déchets".



● Water Quality

<https://www.nouvelobs.com/sante/20160504-OBS9852/cartes-la-france-toxique-marseille-ville-la-plus-polluee-amiante-et-radioactivite-a-paris.html>

- Le port de commerce premier coupable

Robin des Bois désigne une cible prioritaire dans la lutte contre la pollution aux particules microscopiques : le port de commerce. Longtemps, les car-ferries de taille moyenne étaient contraints de laisser allumés leurs moteurs diesel auxiliaires à quai ; ils peuvent enfin s'y brancher. En revanche, les méga-navires de croisière (plus de 500 y font escale chaque année) continuent de les faire tourner à pleins tubes pour assurer un confort optimum à leurs milliers de passagers.

Research

“ Runoff from agricultural land (and even our own yards) can carry excess nutrients, such as nitrogen and phosphorus into streams, lakes, and groundwater supplies. These excess nutrients have the potential to degrade water quality.”

“ As it flows over the land surface, stormwater picks up potential pollutants that may include sediment, nutrients (from lawn fertilizers), bacteria (from animal and human waste), pesticides (from lawn and garden chemicals), metals (from rooftops and roadways), and petroleum by-products (from leaking vehicles). Polluted stormwater runoff can be harmful to plants, animals, and people. ”

https://www.usgs.gov/special-topic/water-science-school/science/run-off-surface-and-overland-water-runoff?qt-science_center_objects=0#qt-science_center_objects

“ Surface runoff occurring within forests can supply lakes with high loads of mineral nitrogen and phosphorus leading to [eutrophication](https://en.wikipedia.org/wiki/Surface_runoff#Environmental_effects). ”

https://en.wikipedia.org/wiki/Surface_runoff#Environmental_effects

“ As areas of vegetation are replaced by concrete, [asphalt](https://en.wikipedia.org/wiki/Asphalt), or roofed structures, leading to [impervious surfaces](https://en.wikipedia.org/wiki/Impervious_surfaces), the area loses its ability to absorb rainwater. This rain is instead directed into surface water drainage systems, often overloading them and causing floods.”

https://en.wikipedia.org/wiki/Sustainable_drainage_system

Research

“ The paradigm of SuDS solutions should be that of a system that is easy to manage, requiring little or no energy input (except from environmental sources such as sunlight, etc.), resilient to use, and being environmentally as well as aesthetically attractive. Examples of this type of system are basins (shallow landscape depressions that are dry most of the time when it's not raining), [rain gardens](#) (shallow landscape depressions with shrub or herbaceous planting), [swales](#) (shallow normally-dry, wide-based ditches), filter drains (gravel filled trench drain), bioretention basins (shallow depressions with gravel and/or sand filtration layers beneath the growing medium), reed beds and other [wetland](#) habitats that collect, store, and filter dirty water along with providing a habitat for wildlife.”

https://en.wikipedia.org/wiki/Sustainable_drainage_system

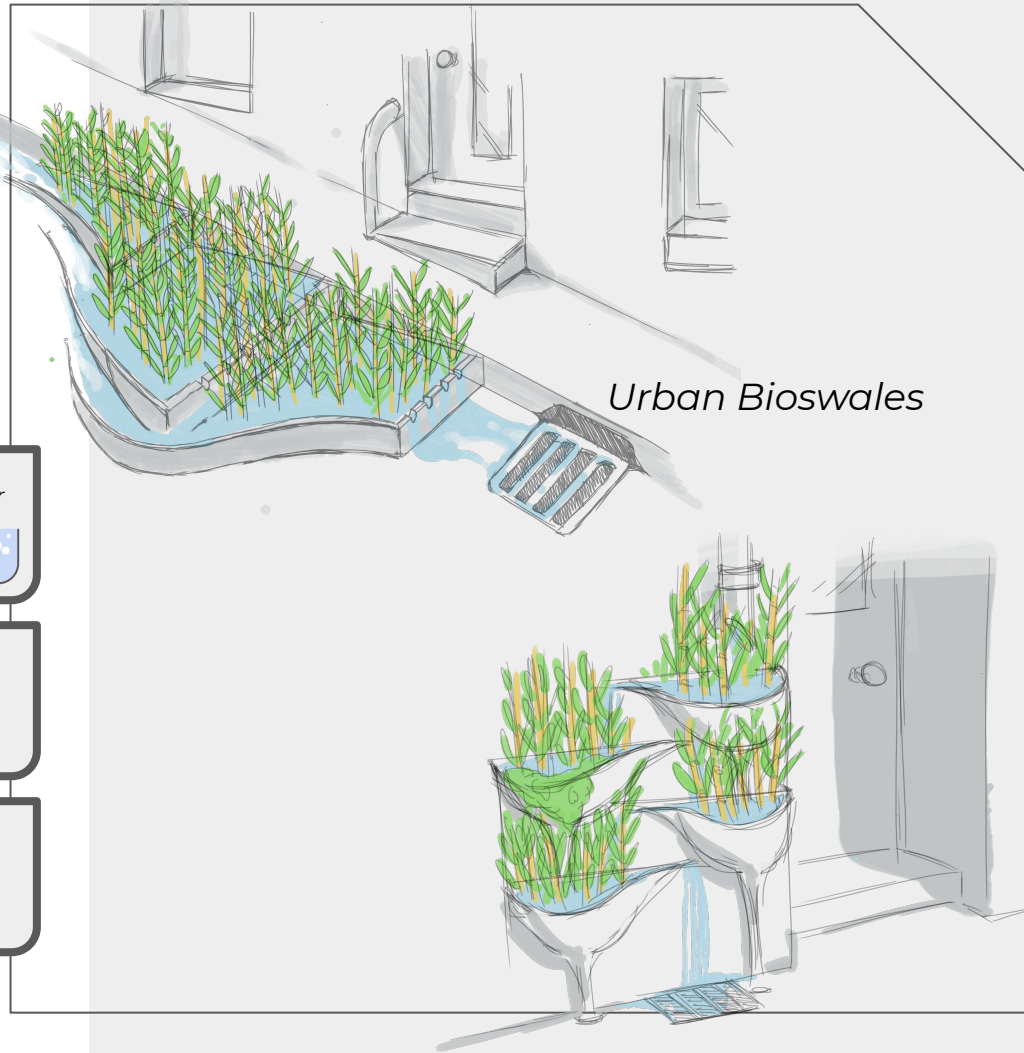
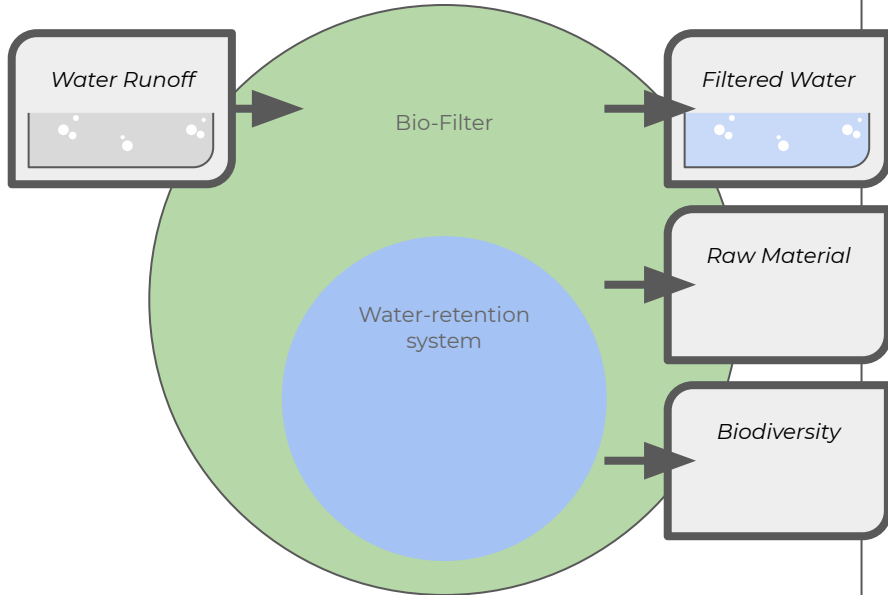
“ **Changing climate demands new stormwater infrastructure**

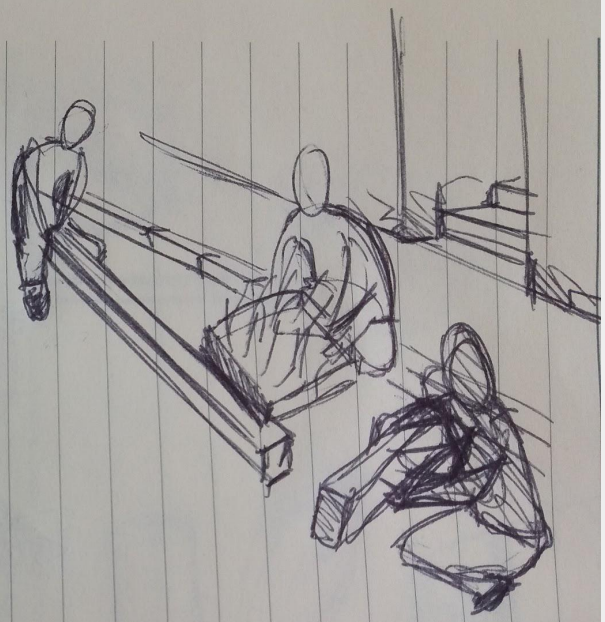
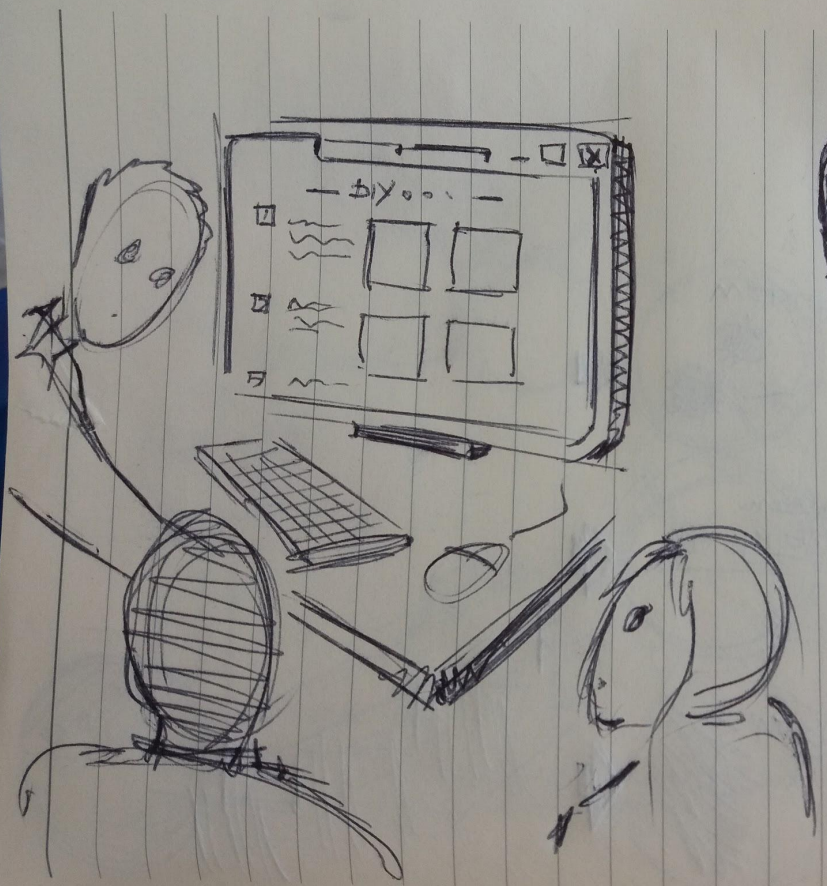
Decentralizing stormwater infrastructure creates the opportunity to build resilience and redundancy into urban planning and design, helping communities better prepare for extreme weather events, such as droughts or deluges. ”

<https://theconversation.com/stormwater-innovations-mean-cities-dont-just-flush-rainwater-down-the-drain-40129>

Solution

A network of small bioswales, storing water (flood control) during heavy rainfall and filtering it prior to reaching the waterways. They can take different shapes.

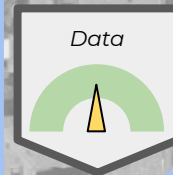
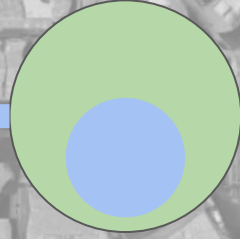
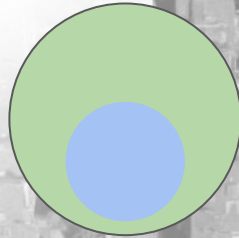
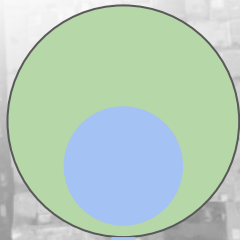
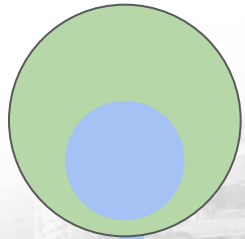


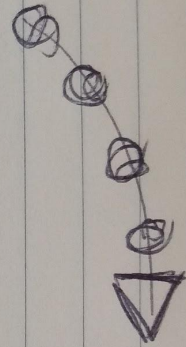
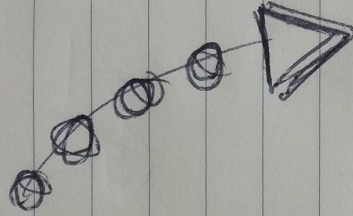
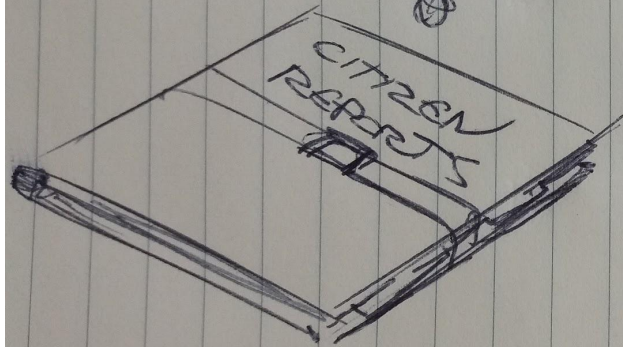


Solution



Water quality is measured a new bioswales are set up over time, and data is generated for locals to measure the impact of their efforts.





Solution

- A first critical step toward more efficient, durable solution to untreated water runoffs.
- Fixing of source of pollution : Better handling of toxic products (cleaning products, oil leaks from cars)
 - Workshop about making natural cleaning products?
Selling these products?
- **Pressure on local councils to develop permanent solutions**

End