

# CASE STUDY

## PUERTO MONTT (CL) – PIRAEUS (GR)

IURC - LA



JUNE 2023

**Thematic Networks:** Ecological Transition – Green Deal / Urban & Regional Renewal

**Thematic Cluster:** Nature-based Solutions (NbS) & Water Management / Urban Agenda/Planning

**Cross-cutting challenge:** Nature-based Solutions & Blue Economy Initiatives

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## IURC – CASE STUDY

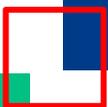
*Good practices of both cities are materializing in a set of recommendations that promote the know-how on Nature-Based Solutions (NBS) projects through efficient participatory planning processes. Puerto Montt wishes to apply in the short-term these learnings on concepts of co-creation and green solutions, in the urban park "La Paloma" which possesses wetlands and native forests.*



## EXECUTIVE SUMMARY

Puerto Montt and Piraeus are collaborating on Nature-based Solutions (NBS) involving efficient participatory planning processes. Both cities are exchanging knowledge and good practices on the implementation of innovative strategies of social engagement, the study of existing sociocultural capital, recognize and use traditional knowledge of citizens, as well as involve population who has been historically absent in urban planning in *co-creation* processes of new green spaces.

In order to apply the lessons learned in local policies and future NBS projects, cities decided to materialize the key participatory aspects in a **simplified set of recommendations** to complement the development of a green project or infrastructure. In this line, Puerto Montt decided to go one step further in this initiative and proposed to apply these learnings in a park within the urban system which has a wetland, forest areas and different internal zones in a status of degradation, but with a big social and natural potential. What is sought is to reverse this process of decline and begin a process of co-design with users, considering innovative techniques of NBS and social engagement that provides together, public health **(PH)** and well-being **(WB)**.



# MAIN CHALLENGE AND SOLUTION

Puerto Montt is a port city located in the region of Los Lagos, in southern Chile. Its strategic location, providing a connection between continental Chile and the Austral zone, makes it a gateway city into the Chiloe Archipelago and Chilean Patagonia, considered as one of the most impressive touristic places in the world. In the last few years, the city has experienced rapid demographic growth and sprawl, resulting in challenges such as inefficient urban mobility and public transportation, environmental pollution, and growing pressure over the use of natural resources. Nevertheless, Puerto Montt thus considers these challenges as an opportunity to prioritize an urban development pattern that is compact, friendly with natural resources, socially equitable and approved by all social groups. **The main challenge for the municipality is to continue incorporating natural heritage into urban planning as an essential criteria or guideline, considering innovative and efficient social participation techniques.**

Piraeus is historically one of the most important maritime, industrial, and commercial centers of Greece and one of the biggest ports of the East Mediterranean coast. The municipality has a population of 163,688 inhabitants and it is one of the most densely populated in Europe. However, population has declined nearly 20% in the last three decades due to economic slowdown and de-industrialization processes. In addition, recent urbanization dynamics have resulted in the environmental degradation of the city, the absence of social groups in participatory planning processes and a reduction of public green spaces. **The challenge is to successfully integrate different voices and points of views into planning of NBS projects, especially of vulnerable and marginalized groups that tend to be excluded from decision-making forums.** Building a bottom-up and inclusive participatory planning process is nevertheless not a straightforward task. Participatory planning allows to articulate multiple perspectives through different methodologies, by transforming public spaces into *living labs* promoting the integration of different target groups, including trainees, researchers, children, and adults.



Although both cities have very different histories, government administrative contexts, and geographical latitudes, they have discovered that their challenges are very similar and are facing them with innovative techniques, involving the participation of all social groups, considering their opinions and perspectives, as well as valuing their traditional knowledge regarding the sustainable management of natural resources. To materialize both local experiences, a simplified set of recommendations was produced that cities believe are of great support and can be shared and implemented by other cities.

This proposal also includes the lessons learned from the activities developed during both study visits and webinar on [Participatory Planning](#) organized by IURC LA.

You can know more about the study visits in Puerto Montt [HERE](#) & [HERE](#) and Piraeus [HERE](#).

In practice, European cities, such as Piraeus, are facing major social challenges that highlight the responsibility of urban areas to support **Public Health (PH)** and **Wellbeing (WB)**. Mainstream urban planning approaches lack methods to integrate PH, WB, economic development, and social aspects. Local communities' needs tend to be ignored or neglected; therefore, cities plan for costly investments that do not respond to actual needs, are rejected by citizens, and do not empower them in their decision-making rights.

## “Solutions implemented with a profit-making approach and disregarding citizens' needs lack sustainability”

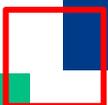
- **Anastasia Zerva**, External Consultant in Municipality of Piraeus

As result of this diagnosis, Piraeus is currently introducing a systemic PH-WB-related criteria for project approval into its urban planning system. The [euPOLIS](#) project -where Piraeus is a Front-Runner City- translated this new approach with a series of participatory techniques that promote a creative engagement of “next generations” of citizens for the co-design, development, and evaluation of integrated NBS.

To achieve this, the Project considers the use of Information Communication Technology (ICT) tools, considering devices such as digital platforms, digital apps to collect information from people, but it is also working techniques that can **monitor the emotions of citizens through wearable devices**. The bracelet “Feel” -supported by Sentio Labs- measure the heartbeat of the participants and with the use of advanced machine learning algorithms return the measure of well-being in real time.



According with the euPOLIS [project](#), users can activate the location tracking feature any time they visit the project's demo-sites, and they can also respond to related questionnaires, which are available through a mobile app. The app can be used as a **health tool and for data collection to investigate the potential improvement of citizens' Well-Being in areas with NBS**. The effective use of this information can **materialize in making the necessary configurations to the design proposals, so they generate the greatest positive impact on citizens**. It is important to mention that the collection of personal information is handled under strict confidentiality protocols.



Naturally, **these techniques must be accompanied by traditional face-to-face activities**, such as workshops, meetings, interviews. Social participation should not be limited to the collection of a diversity of opinions. They must open a dialogue between different groups of stakeholders, leading to decision-making processes that guarantee interventions' integral sustainability. Taken together, public participation is seen as an opportunity to build not only NBS that match the diverse needs of local communities, but also to build social capital and, consequently, increase social cohesion.

On the other hand, Puerto Montt in Latin America is facing unplanned sprawl, inducing challenges linked to the invasion of natural areas, the lack of services and basic infrastructure in peripheral areas, and territorialized inequalities. Likewise, the knowledge that citizens possess about the environment had also been ignored, **mainly the indigenous people who have lived thousands of years ago and have a lot of traditional knowledge using and managing natural resources sustainably**.

## **“It is essential to fully engage indigenous communities in promoting NBS and a Nature-based existence model through a participatory-oriented approach to planning”**

- **Daniel Reyes**, Urban Planning Advisor – Secretary of Urban Planning of Municipality of Puerto Montt.



In response, Puerto Montt identified the importance of integrating indigenous peoples as key stakeholders who carry ancestral knowledge, directly connected to natural cycles and sustainable interrelationships and, since then, has implemented a series of very fruitful participatory strategies that have culminated in the validation of initiatives from these communities. So far, Puerto Montt introduced participatory methodologies at the core of its [Land Use Plan](#), which led to the participation of around 12,000 people since 2018. The diversity of urban planning tools has allowed a constant adaptation of the techniques used and, more importantly, adequate possibilities of participation for each stakeholder. The use of Geographic Information Systems (GIS) has proven to be essential, **since it allows to distribute throughout the urban territory of Puerto Montt participation events within walking distance of anyone**, thus achieving the objective of achieving universal participation.



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# RESULTS AND IMPACT

After an in-depth process of reflection and exchange of local experiences, the cities identified the main elements of social engagement and participation that should be considered during the implementation of an NBS project and simplified them into a set of recommendations so that it becomes a reference to complement the know-how of other cities with similar challenges. The recommendations to follow were grouped into four major themes:

## A. Local Site Analysis.

It is the first initial step, needed to study which are the natural resources that have special value, what are their essential functions in the urban-natural system and investigate if there is a direct relationship with any specific social group or with the worldview of indigenous communities that may influence the NBS intervention. It is also important to carry out an exhaustive mapping of the stakeholders, ensuring no one is excluded and leaving the door open for those who want to join the process through its phases.

## B. Stakeholder Engagement Plan.

To activate a creative process of social engagement, it is necessary to advertise the events on social media, so they have greater reach, through explanatory videos or creative explanatory schemes that lead to an efficient involvement of the population, either using usable ICT devices or without them.

## C. Planning and Preparation

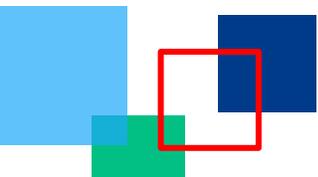
Activities must be rigorously planned and prepared to guarantee success. Some of the key activities at this stage are:

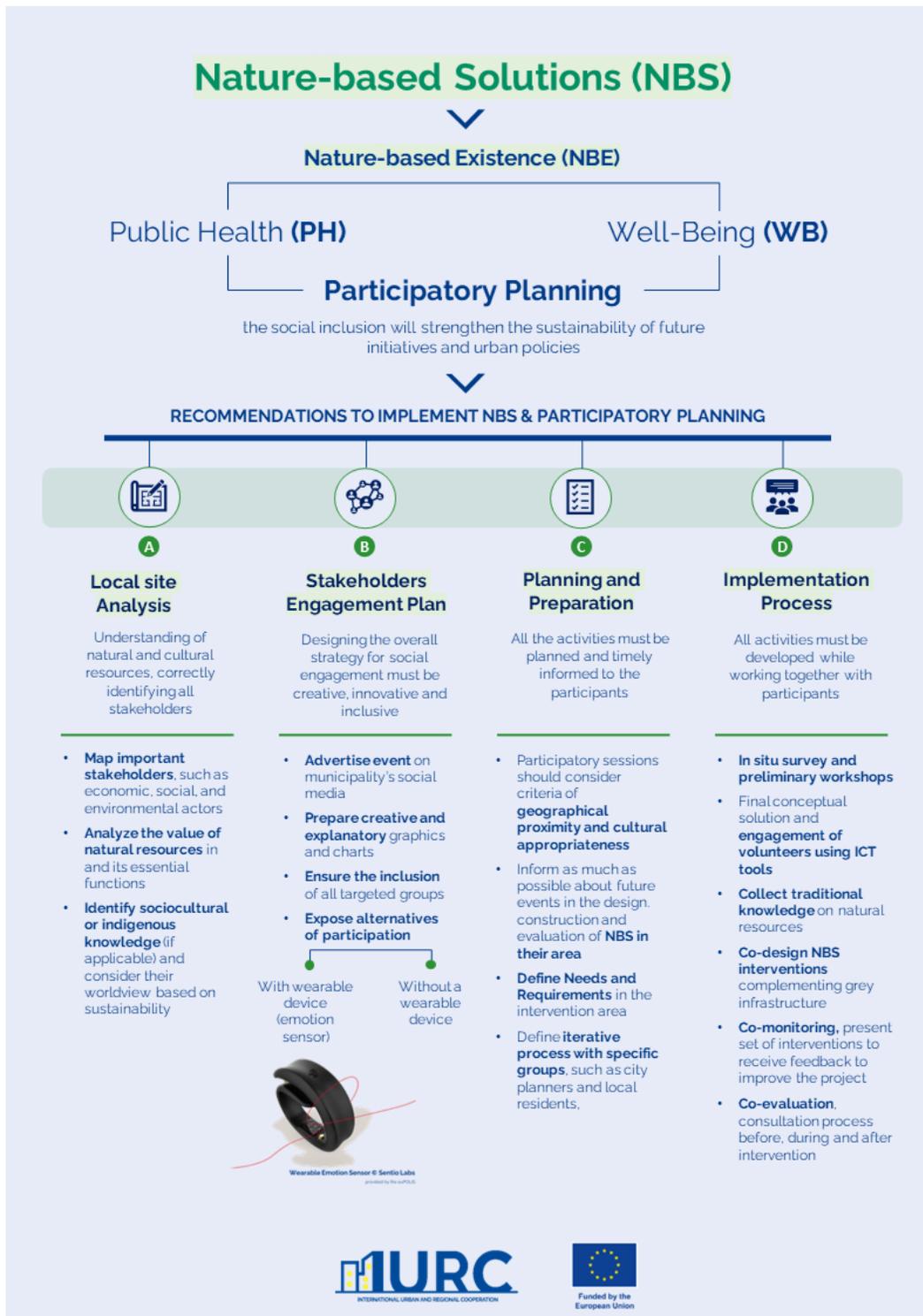
- **Consider the proximity between the event venue and neighborhoods.** Through GIS tools, it is important to analyze which is the ideal place to do the workshop and thus ensure the participation of all in equal conditions.
- **Inform as many related parties as possible,** regarding the future events on designing, building, and evaluating a set of NBS in their areas.
- **Needs identification and requirements definition.** This step involves anyone related to the intervention areas, including but not limited to locals, working personnel, and city authorities.
- **Initial set of interventions to be implemented.** This is an iterative process, in which each event emphasizes on a smaller set of participants from a specific category, such as shop owners, city planners or residents.

## D. Implementation Process

In this last stage, the design of the NBS intervention is consolidated and a general presentation is made, considering all the information collected from the volunteers who used ICT devices or from information recorded with more traditional participation activities. All planned activities should be developed, returning progress information to those involved and subsequently, establishing activities to co-monitor and co-evaluate the initiatives.

You can find the complete Factsheet about NBS and participatory planning [HERE](#).

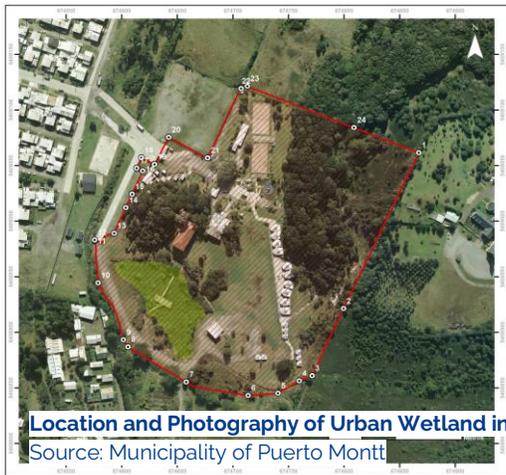




NBS are key to promote a sustainable urban future, through their key functions for water efficiency, soil protection, biodiversity, and risk reduction, among others. For Puerto Montt, **there is a great opportunity to make an effective, responsible, and intelligent use of green infrastructure, specifically in the wetland system that articulates the urban system and its surroundings.** Wetlands offer eco-systemic values by providing freshwater reservoirs, absorbing CO2, preventing surface runoff, and protecting biodiversity. They also have important educational, scientific, cultural, and economic functions. Wetlands are therefore aligned with sustainable urban development objectives, promoting the densification of central areas and protect natural areas while limiting sprawl. In dense urban settings, NBS can be

integrated with grey infrastructure to improve their functioning. For example, the installation of grey infrastructure in connection with wetlands can participate to restore their natural capacity to retain water.

In this sense, **Puerto Montt wishes to apply the set of recommendations in La Paloma Park**, which incorporates the learnings obtained from the innovative techniques implemented by Piraeus, in addition to improving its own techniques that capture the traditional knowledge of indigenous communities. Within this municipal park, a small urban wetland is inserted in a depression that allows the accumulation of water and, therefore, the development of hydrophilic vegetation surrounded by native vegetation in its surroundings.



There are several experiences around the world, even the euPOLIS project incorporates it, **reintroducing the water into the cities**, referring to creating NBS projects where CO<sub>2</sub> is retained, collecting rainwater from around urban areas.

**“This type of NBS intervention supports the health and well-being of residents through daily contact with natural elements beneficial for the psychological well-being of residents”**

– Aliaga, et al. 2020, Re-introducing the Power of Nature into the Cities, NBS Technologies, [euPOLIS Project](#)



In addition, the condition of La Paloma Park in general terms is in decline, where activities are carried out mainly during the summer. The park has equipment for sports and facilities for occasional use, but they are old and in poor condition. In addition, the wetland and the native forest is abundant, however, there is no management plan that allows visitors to enjoy and know the existing species, nor it offers quality infrastructure that provides comfort, safety, and recreation services.

## KEY FIGURES : La Paloma Park

**59,700 m<sup>2</sup>**

in total has La Paloma Park, divided into two lots that manage the municipality.

**3,200 m<sup>2</sup>**

is the surface of the urban wetland core

**72%**

of the surface fulfills its natural function

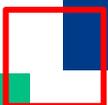


Reference target to apply in the wetland of La Paloma Park (preliminary idea)  
Source: Municipality of Puerto Montt



In summary, the city of Puerto Montt is convinced that, by applying all the knowledge, lessons learned, and good practices exchanged with Piraeus, **Public Health (PH) and Well-Being (WB) can be achieved in citizens**. This project would consider innovative techniques of citizen participation, implementing complementary methodologies: traditional social engagement activities and the use of ICT devices. Finally, some other important learnings include:

- According to the experience of Puerto Montt, in this sector there is a high social validation of the neighbours for intervening in urban wetlands and generating recreational public spaces.
- The park is part of a wetland route of indigenous people, in which natural resources abound for their uses and traditions, such as ancestral medicine, which is directly related to social Well-Being.
- It would be the first intervention to be performed considering NBS concepts and would be compared with other interventions (leaning more towards grey infrastructure) to measure and compare benefits.
- These spaces would be recovered so that they fulfill two functions: the natural and the social.
- It would be a great opportunity to deepen the relationship between Puerto Montt and Piraeus, because the project would involve knowledge, collaborative instances, and good practices among these two friendly cities.



# LESSONS LEARNED

To achieve a strong participatory process, a continuous dialogue is necessary. It is crucial to follow up with participants by developing a short activity or by having local institutions keep in touch with them at the local level.

The use of technologies in participatory processes is friendly to the environment and opens the possibility of creating green public spaces that generate Public Health (PH) and Well-being (WB).

Piraeus learned from Puerto Montt that it is necessary understanding the cultural elements of its citizens and, from there, improve or maintain their well-being. For example, indigenous peoples carry out a Nature-Based Existence that is adapted to the evolution of seasons and the environment through ancestral knowledge. They developed a worldview based on sustainability, that is essential for their economic and cultural wellbeing. It is thus important to fully include them into environmental decision-making processes. These types of approaches can be applied to other social groups, they do not need to be part of an indigenous community.

Piraeus recommend to cities that understanding the person-user and building empathy between participants is crucial during the entire design process. Furthermore, both the expert and the person-user are regarded as equal partners in group design, and whose shared experiences imply an interdependence of collective work.

# THE IURC PROGRAMME

The International Urban and Regional Cooperation (IURC) programme enables cities in different global regions to link up and share solutions to common problems. It is part of a long-term strategy by the European Union to foster sustainable urban development in cooperation with the public and private sectors, as well as representatives of research and innovation, community groups and citizens. Through engaging in IURC, cities will have the chance to share and exchange knowledge with their international counterparts, building a greener, more prosperous future.

The IURC programme is an opportunity for local governments to learn from each other, set ambitious targets, forge lasting partnerships, test new solutions, and boost their city's international profile. Its activities will support the achievement of policy objectives as well as major international agreements on urban development and climate change, such as the EU Urban Agenda, the UN Sustainable Development Goals, and the Paris Agreement.

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## Links to related outputs:

**Puerto Montt's community participation takeaway:** [https://www.iurc.eu/wp-content/uploads/2023/05/PM\\_Takeaway-NBS-PP.pdf](https://www.iurc.eu/wp-content/uploads/2023/05/PM_Takeaway-NBS-PP.pdf)

**Piraeus' NBS participatory planning through euPOLIS:** [https://www.iurc.eu/wp-content/uploads/2023/05/Piraeus\\_Takeaway-NBS-PP.pdf](https://www.iurc.eu/wp-content/uploads/2023/05/Piraeus_Takeaway-NBS-PP.pdf)

**Factsheet about NBS and participatory planning:** <https://www.iurc.eu/library/set-of-recommendations-to-implement-nbs-participatory-planning-experiences-from-puerto-montt-piraeus/>

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