

SEGUNDO TALLER DE ESCENARIOS URBANO-AMBIENTALES PARA EL BAJO DELTA DEL PARANÁ

Second Workshop: Urban-Environmental Scenarios for Lower Parana Delta

The workshop was organized by the *Instituto Superior de Urbanismo, Territorio y el Ambiente (ISU)* of the *University of Buenos Aires*, *Fundación Humedales / Wetlands International Argentina* and *Delft University of Technology*. It was also accomplished within the scope of *Delta Alliance International - Argentinean Wing*, the *Argentinean Program of Ecosystem Alliance* and the *Nairobi work Program on impacts, vulnerability and adaptation of the United Nations Framework Convention on Climate Change*, through *Fundación Torcuato Di Tella*.

The applied methodological approach has been developed within the Research Group Urban Deltas of Delft University of Technology, as part of the PhD thesis of Arch. MSc Veronica Zagare, directed by Prof. dr. ir. Han Meyer.

The main aim of the activity was to create an environment for stakeholder participation through scenario development and joint fact finding, in order to improve the level of integration of the already fragmented spatial planning context. The activities were focused on the **continental and insular areas of the Municipalities of Tigre and San Fernando, located in the Lower Parana Delta**, and the scope of participants included Government (National, provincial and Municipal levels), Academia, NGOs, producers, residents and other stakeholders (the full list of participants is explained in the **Appendix I**).

During a single full-day meeting, the stakeholders experienced interactively the spatial implications of the drivers of change in the territory through the visualization and manipulation of digital and printed maps. Thus, they discussed trends for the area and built possible future scenarios considering adaptation measures for increasing the resilience of the Delta.

This strategy was relevant to link climate change risk and developing outlines, thus contributed to the governance of the area since the participants are not used to share spaces in spite of working and making decisions on the same geographical area. This workshop was a pilot experience for the area, since any strategy like this has ever been applied here before. Consequently, and according to the opinion of several participants, it could set a basis to be replicated along the delta or in other coastal areas with similar governance characteristics in developing economies.

Precedent activities

The exercise derived from a previous workshop entitled "*Scenarios for an integral approach to urban and environmental dimensions in the Lower Parana Delta (Argentina)*", carried on during the period 2013-2014 with the support of the Lincoln Institute of Land Policy, the University of Buenos Aires (Argentina), Delft University of Technology (the Netherlands) and Wetlands International

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Argentina. The activity consisted in the construction of a set of storylines for the generation of scenarios for the area in terms of urban development and climate change. The participants of the workshop discussed about positive and negative scenarios according to their hopes and interests. Those scenarios were built through the construction of ideas (storylines) which illustrated the relations (cause and consequence) between different actors and activities. The concept of Delta, the components of the positive and negative scenarios and the set of storylines built in the first workshop were taken as a basis for the conceptual design of the second activity. Furthermore, the identification of the main drivers of change of the area was based on the assessment on the vulnerability and resilience of the Parana Delta (Bucx et al. 2014), developed within the scope of the Argentinean Wing of Delta Alliance in 2014.

The ideas behind the workshop

The workshop was conceived as an **environment for social participation and institutional cooperation** through the **presentation and construction of interactive maps**. Argentina is characterized by a fragmented planning context in which the (horizontal and vertical) cooperation between governments is not satisfactory enough. Thus, this workshop was a way to take advantage of the fragmentation in order to generate opportunities for dialogue, without introducing any change in the already set structures. There are many knowledge-oriented and practice-oriented actors working on the Delta (and making decisions on it) which do not have the opportunity to share their knowledge and experiences. The main aim of this workshop was to overcome differences between the stakeholders and promote an activity to share their views, think about the future and the implications of the main drivers of change and experiment with the manipulation of maps as a way to visualize (and intervene) the impacts of the drivers in the territory. In other words: a fragmented (context) could lead to integrated (experiences) if we redefine the concepts and think about other ways to encourage cooperation and knowledge generation from outside the traditional structures. In that sense, Urbanized Deltas, and in particular the Lower Parana Delta, are fertile contexts to develop integrated initiatives because of their complex nature and the rich number of actors and activities involved.

The Delta is considered a complex adaptive socio-ecological system (Van Leeuwen & Van Buuren 2013) where morphologic and hydrologic dynamics take place in coexistence with a heterogeneous context of actors with interdependent relationships. To this is added a great diversity of economic processes within a regulatory framework. The first challenge of the design of the workshop was to simplify the analysis of the reality of the Delta in order to generate a base of knowledge for all the participants to operate with, beyond their differences in education and training. That base of knowledge excluded the presentation of a definition of the Delta under

study. On the contrary, the participants were asked to present their own visions, which resulted in a wide range of (similar and contrasting) ideas.

The structure of the workshop

The workshop was divided into three parts (see Fig.1). In the first part, after the opening by Veronica Zagare (on behalf of TUDelft, ISU –UBA- and Delta Alliance Argentina)ⁱ, Daniel Blanco (on behalf of Wetlands International, Fundacion Humedales)ⁱⁱ and Fernando Garcia de Garcia (Director of the Integral Plan on the Conservation and Sustainable Development of the Parana Delta – PIECAS-)ⁱⁱⁱ, the facilitator team explained the dynamics of the work and asked the participants to introduce themselves and define the Lower Parana Delta in two words. After that, Veronica Zagare gave a presentation on the methodology of the workshop, including the explanation on the area of study, the main drivers of change and some conceptual remarks on the present situation of the territory. She presented the Layer Approach (van Schaick & Klaasen 2009) as a way to synthesize and analyze the delta within its complexity and explained each layer (substratum, infrastructures and occupation) together with two representative indicators chosen to be mapped in each case. Then, she presented a set of maps illustrating future scenarios of low, medium and high impact, to explain the main ideas behind the projections and the sources of information consulted to estimate the developing trends. Also, the idea of a desirable scenario vs the real scenarios is presented, considering for the area a desirable scenario based on the existing (but not yet fully implemented) Plan on the Conservation and Sustainable Development of the Parana Delta PIECAS.

In a second part, the participants were divided into three groups of around 12 people, who were expected to participate in three work stations in concordance with the presented layers (work station #1: Layer Substratum; work station #2: Layer Infrastructures; work station #3: Layer Occupation). In each work station there was a printed map with the present situation of the layer and the three possible future scenarios for low, medium and high impact of development. There was also a touch screen computer with GIS software in where the maps of the different scenarios were able to be operated and intervened. A facilitator leaded the discussion within each group while a moderator on behalf of the organizers took notes and helped the participants in the manipulation of the digital maps. Each group focused the discussion on the drivers of change of the layer, the availability of information, the validity of the presented data and the viability of the possible scenarios. Also, the groups were able to add new indicators to the analysis or introduce modifications. Following a dynamic of “carrousel”, the participants alternated their participation successively in the three work stations until having interacted in the three layers. Then, the first part of the workshop was considered finished, and the conclusions of each group were documented by the facilitator and the moderator.

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The final section of the workshop was considered the “integration” part. There, each group chose the combination of the low, medium and high intensity scenarios for each layer that is closer to a desirable scenario. That means that the participants saw the real trends and their possible evolution in the territory and discussed about future scenarios from the basis of the reality. After that group phase conclusion, the facilitators share the results of each group in a plenary.

During the plenary, the technical advisor generated a conclusion map for each group applying the combination in each case. Finally, the maps were shared in a plenary and a set of strategies were discussed in order to reach to that “possible” reality.

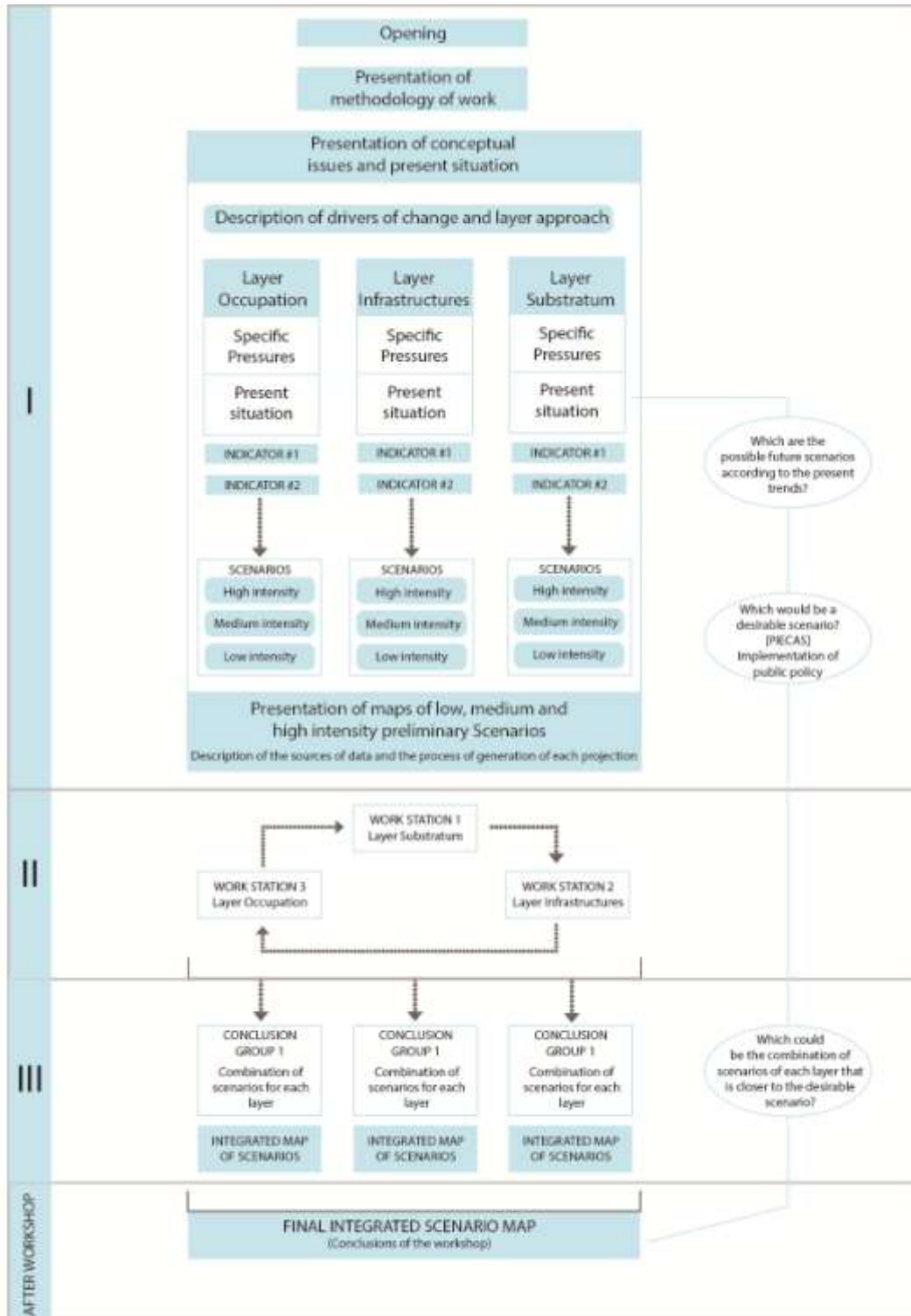
Conclusions of the workshop

After finishing the activity and processing the generated data, a set of conclusions will be uploaded in Wetlands International website and sent to the participants. A first report will be prepared by the facilitator team, regarding the objectives accomplished within their role. A second report will be developed by the technical consultant in relation to his work and the processing and generation of the GIS platform. A third report will be developed by the organization team to present the main ideas behind the activity, the accomplished and pending aims, the results and the final evaluation. That report will also include the maps that were used during the workshop, the partial conclusion maps of each group and the final integrated map, together with a set of recommendations for increasing the resilience of the area.

The results will also be published in the website of the Observatorio Metropolitano (Metropolitan Observatory), depending on the CPAU Consejo Profesional de Arquitectura y Urbanismo (Professional Council of Architecture and Urbanism).



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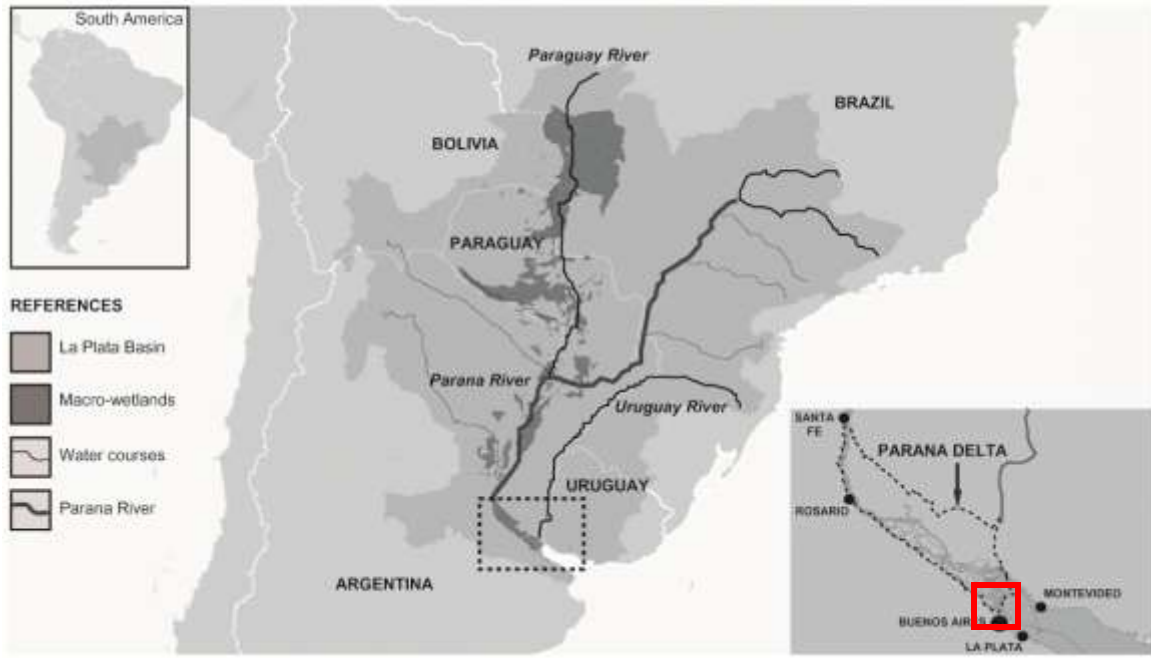
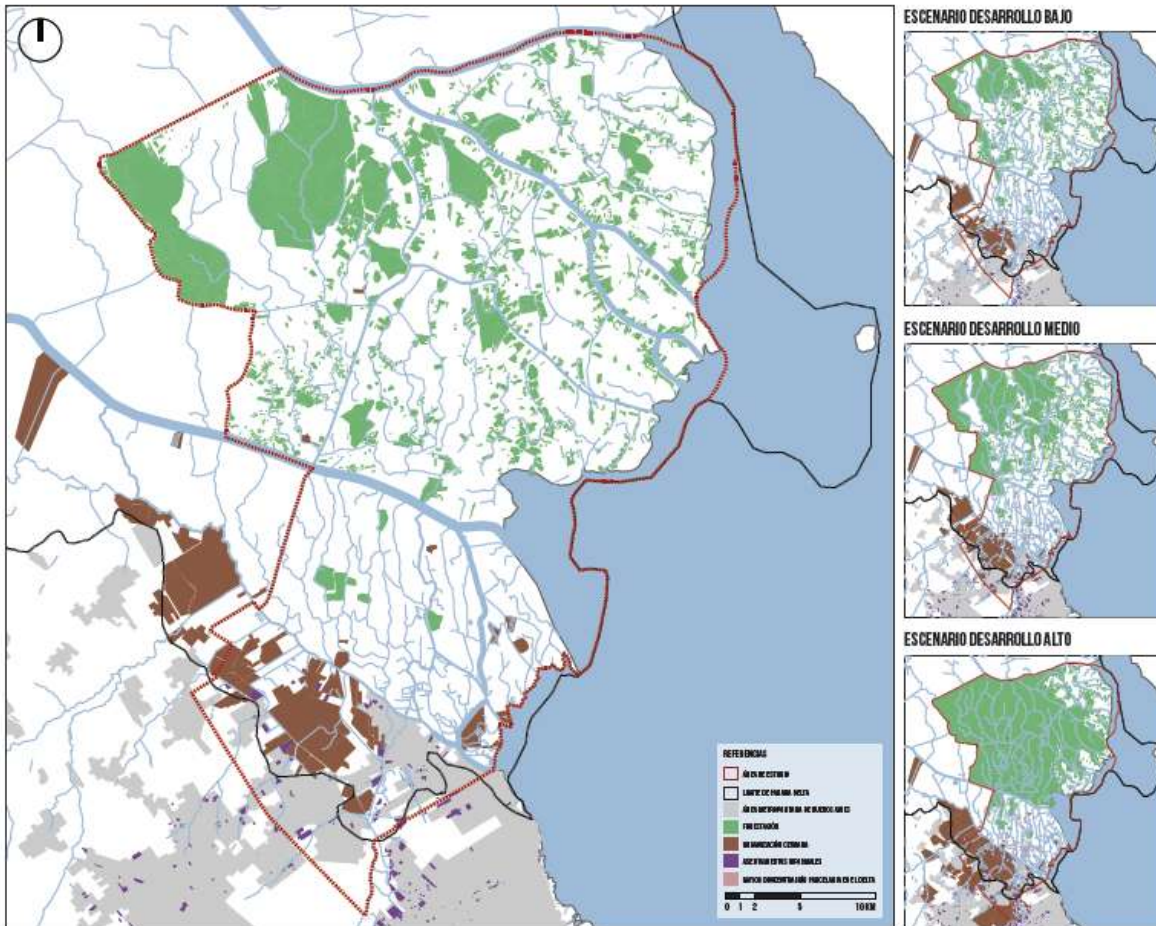


Fig. 2. Area of study

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LAYER OCCUPATION



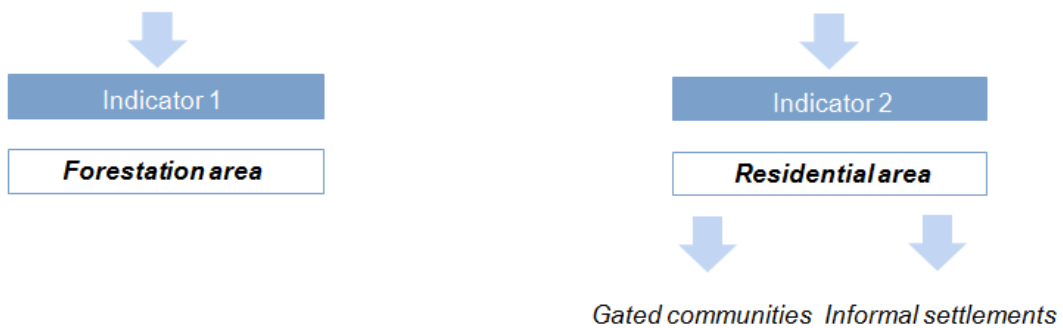
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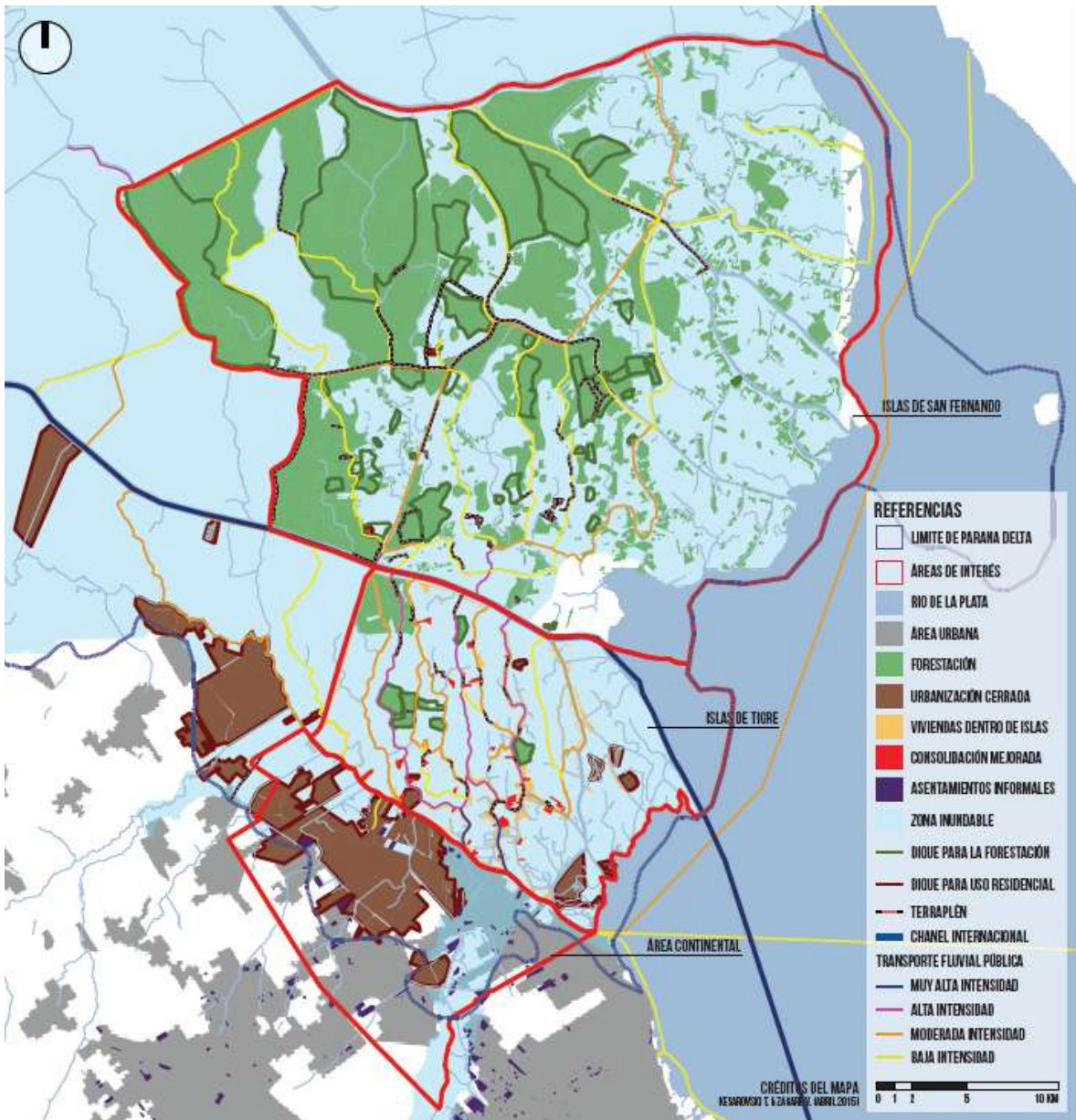
PRESSURES OVER THE OCCUPATION LAYER

The pressures are related to **land use changes** for production and residential purposes (advance of large-scale forestation and the expansion of private urban developments over the floodplain).

Land demand for residential space of the high and low sectors of the population.



CONCLUSION MAPS



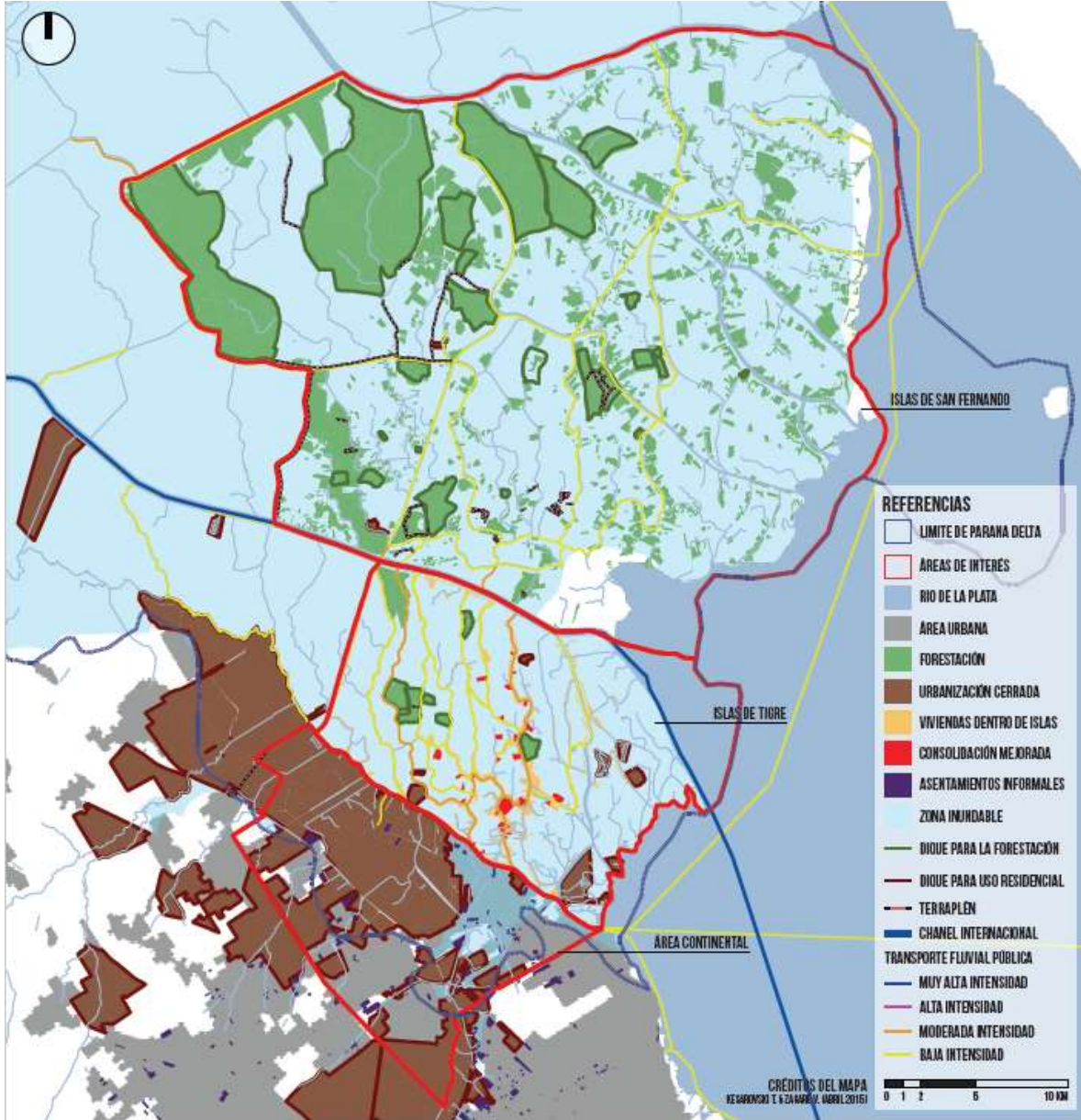
Conclusion Map Desirable (but feasible) Scenario Group #1

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CAPA	INDICADOR	ESCENARIO	ACTUAL			DESEADO		
			T. Continental	T. Insular	S. F. Insular	T. Continental	T. Insular	S. F. Insular
Terreno natural	Pérdida del humedal	Bajo			X			X
		Medio		X	X		X	
		Alto	X					
Infraestructura	Diques, caminos y terraplenes	Bajo					X	X
		Medio						
		Alto	X					
	Transporte fluvial	Bajo					X	X
		Medio						
		Alto	X			X		
Ocupación	Producción forestación	Bajo		X	X			
		Medio						
		Alto						
	Uso residencial	Bajo		X	X			X
		Medio		X		X	X	
		Alto	X					

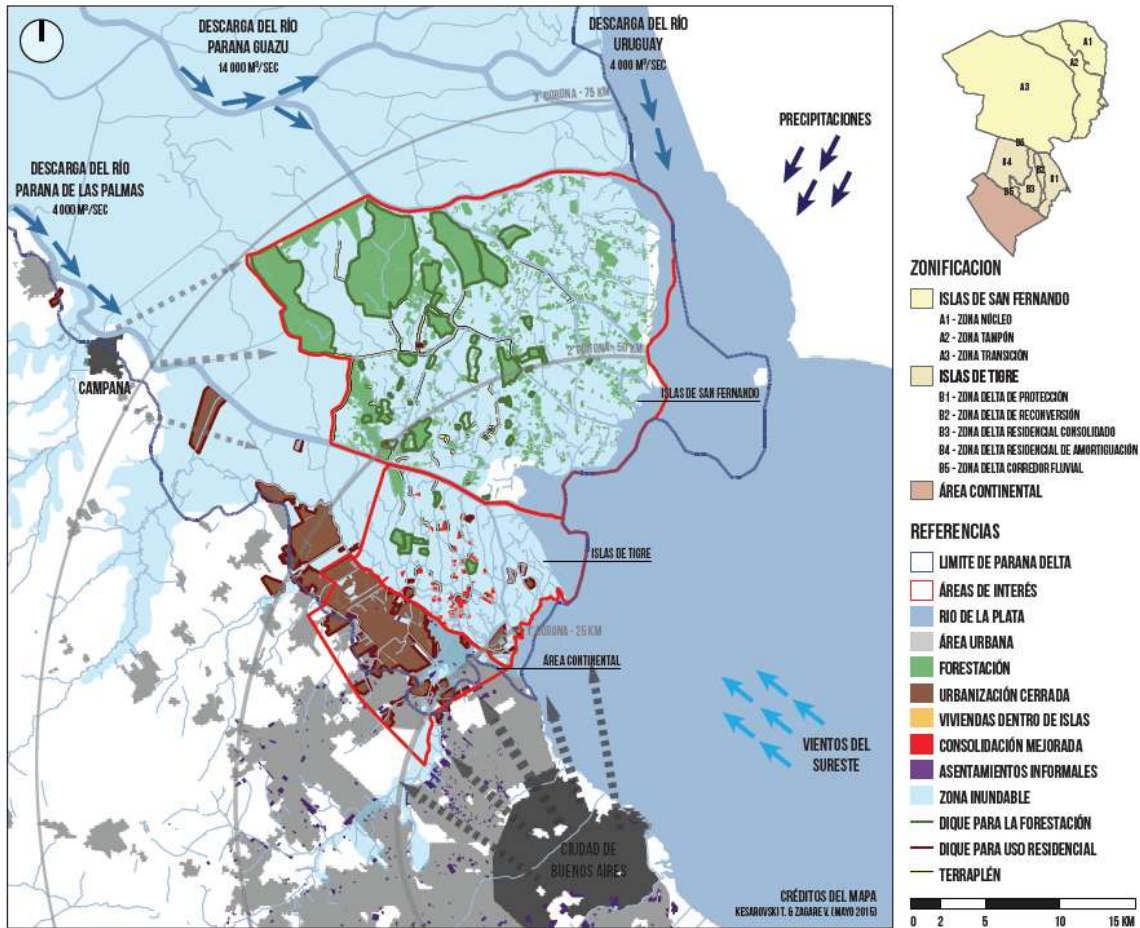
Chart (Group #2 couldn't get into a Map)

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Conclusion Map Desirable (but feasible) Scenario Group #3

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Integrated map (Conclusions of the three Groups)

Images of the Workshop



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References

Bucx, T. et al., 2014. *Comparative assessment of the vulnerability and resilience of deltas -extended version with 14 deltas -synthesis report.*, Delft, Wageningen.

Van Leeuwen, C. & Van Buuren, A., 2013. Connecting time spans in regional water governance: managing projects as stepping-stones to a climate proof delta region. In J. Edelenbos, N. Bressers, & P. Scholten, eds. *Water Governance as Connective Capacity*. Farnham: Ashgate, pp. 191–210.

Van Schaick, J. & Klaasen, I., 2009. *The Dutch layer approach – a turn-of-the-century phenomenon or fundamental approach to urban design and planning tasks ?*, Delft.

APPENDIX I

TEAM

Organization team:

TU Delft, Superior Institute of Urbanism and Delta Alliance Argentina: Verónica Zagare.

Wetlands International Argentina, Fundación Humedales: Daniel Blanco, Natalia Machain.

Facilitation:

Fundación Cambio Democrático: Maria de los Angeles Ortiz, Jimena Psathakis, Augusta Steinberg.

Technical development of scenario maps:

Todor Kesarovski

Assistance and Logistics:

Wetlands International Argentina, Fundación Humedales: Florencia Magdalena Mendez.

Auditing activities and interpreter:

TU Delft: Diego Sepulveda Carmona.

PARTICIPANTS (BY INSTITUTION)

National Government

... Fernando Garcia de Garcia, Director of **PIECAS-DP** (*Integral Plan for the Sustainable Conservation and Development of the Parana Delta*), elaborated within the **DOAT –Dirección de Ordenamiento Ambiental del Territorio** (*Direction of Environmental Planning of the Territory*), depending on the **Subsecretaría de Planificación y Política Ambiental** (*Subsecretariat of Planning and Environmental Policy*).

... Dario Ceballos, Director of **Estación Experimental Delta** (*Delta Experimental Station*), **INTA - Instituto Nacional de Tecnología Agraria-** (*National Institute of Agrarian Technologies*). Member of **Delta Alliance Argentina**.

... Virginia de Franceso, **Area de Medio Ambiente del Defensor del Pueblo de la Nación** (*Environmental Area, National Defence Council*).

... Nadia Boscarol, Work Group on Aquatic resources- **GTRA** (Ramsar focal Point) of the **Secretaría de Ambiente y Desarrollo Sustentable de la Nación** (*National Secretariat of Environment and Sustainable Development*).

Provincial Government

... Clara Peña, **Dirección Provincial de Islas** (*Provincial Direction of Islands*).

... Cristian Massat, **Dirección Provincial de Islas** (*Provincial Direction of Islands*).

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- ... Susana Mulvany, **Organismo Provincial para el Desarrollo Sostenible OPDS** (*Provincial Organism for the Sustainable Development*).
- ... Patricia Pastore, **Organismo Provincial para el Desarrollo Sostenible OPDS** (*Provincial Organism for the Sustainable Development*)
- ... Mariano Perez, **Organismo Provincial para el Desarrollo Sostenible OPDS** (*Provincial Organism for the Sustainable Development*).
- ... Gabriela Teruggi, **Organismo Provincial para el Desarrollo Sostenible OPDS** (*Provincial Organism for the Sustainable Development*).

Municipal Government

- ... Debora Villalba, **Municipalidad de San Fernando**.

ONG

- ... Diego Rodriguez, **MBigua**, Ciudadanía y Justicia Ambiental (Citizenship and Environmental Justice).

Civil Organizations and residents

- ... Juan Manuel Garcia Conde, **AFOA Asociación Forestal Argentina** (*Argentine Forestry Association*).
- ... Ramon Esteban, **Cooperativa de Consumo Forestal y Servicios Publicos del Delta** (*Cooperative of Consumption of Forestry and Public Services of the Delta*).
- ... Martin Nunziata, **resident** of the islands.

Academia

- ... Andrea Behar, **Instituto Superior de Urbanismo, Territorio y el Ambiente ISU** (*Superior Institute of Urbanism*), *University of Buenos Aires*.
- ... Patricia Pintos, **Universidad Nacional de La Plata**.
- ... Tatiana Manotas Romero, **Instituto Superior de Urbanismo, Territorio y el Ambiente ISU** (*Superior Institute of Urbanism*), *University of Buenos Aires*.
- ... Fabio Kalesnik, **University of Buenos Aires** and **CONICET - Consejo Nacional de Investigaciones Científicas y Técnicas** (*National Council of Scientific and Technical Research*).
- ... Roberto Bo, **University of Buenos Aires** and **CONICET - Consejo Nacional de Investigaciones Científicas y Técnicas** (*National Council of Scientific and Technical Research*).

Other Professional Organizations

- ... Margarita Charriere, **Observatorio Metropolitano** (Metropolitan Observatory), **CPAU Consejo Profesional de Arquitectura y Urbanismo** (Professional Council of Architecture and Urbanism).

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ⁱⁱⁱ Director of the DOAT –Direccion de Ordenamiento Ambiental del Territorio (Direction of Environmental Planning of the Territory), depending on the Subsecretaria de Planificacion y Politica Ambiental (Subsecretariat of Planninf and Environmental Policy).