POLYTECHNIC OF TORINO
FACULTY OF ARCHITECTURE 2
Degree in Architecture
Honors theses

"Torino Città d'Acque". Analysis and ecological modellisation of the present situation and of the project interventions

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In recent years the problems concerning landscape management and planning have aroused much interest and the standard town planning approach has been substituted by the new landscape ecology approach aiming to "design with nature" (Mc Harg).

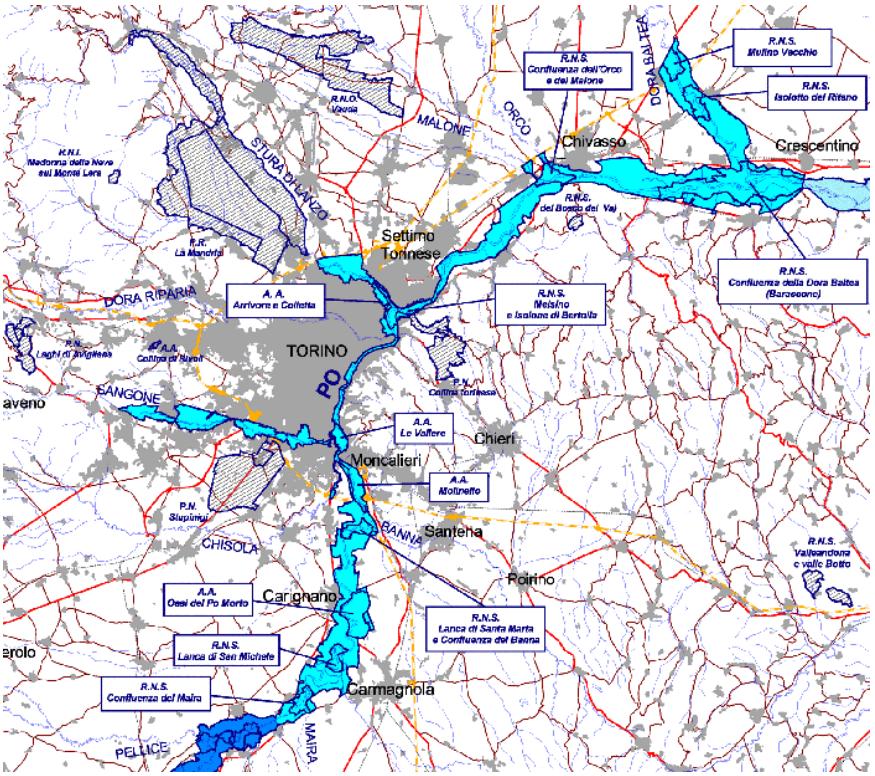
This thesis represents an attempt to apply current landscape theory to the "Torino Città d'Acque" project promoted and realised by the city council of Turin. Such project aims to introduce and pass environmental improvement by-laws for the protection of the hydrographic system passing through the city. This is obviously a very important part of the city, as its ecological balance or imbalance greatly affects the whole urban environmental system of Turin:.

In my dissertation I have developed an analysis and an ecological model both of the present situation and of the project interventions, in order to offer a new point of view about the themes considered by the administration.

The study pointed at overcoming the actual fragmentation of natural habitats and isolation of the protected green areas and parks in the relevant areas, in order to create an ecological net protecting biodiversity and environmental balance.

My work is divided into two levels of analysis and it first defines the actual dynamics of the whole territory and secondly proposes the intervention measures with respect to the four rivers of Turin.

The first four maps illustrate the environmental details of the *provincia* in the greater area; they eventually provide the structure of the ecomosaic, the ecological flows and the suggested ecological net.

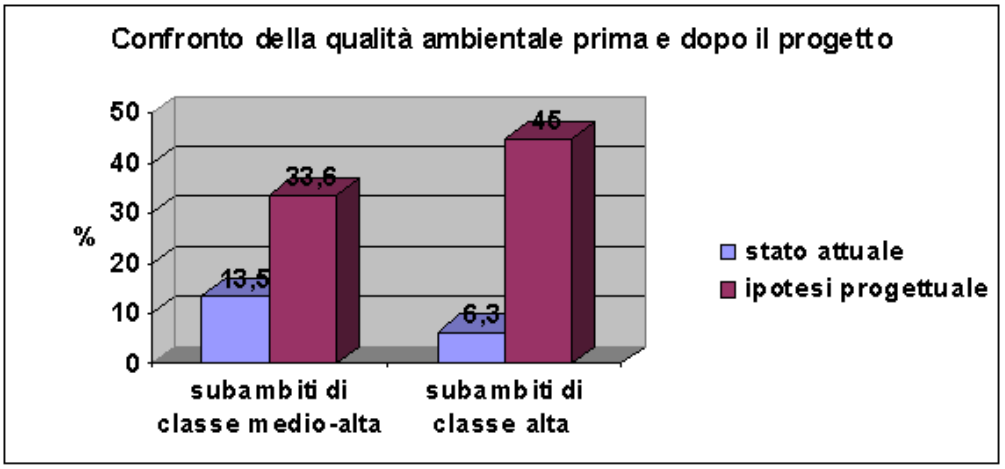


Turin, greater area (including parks)

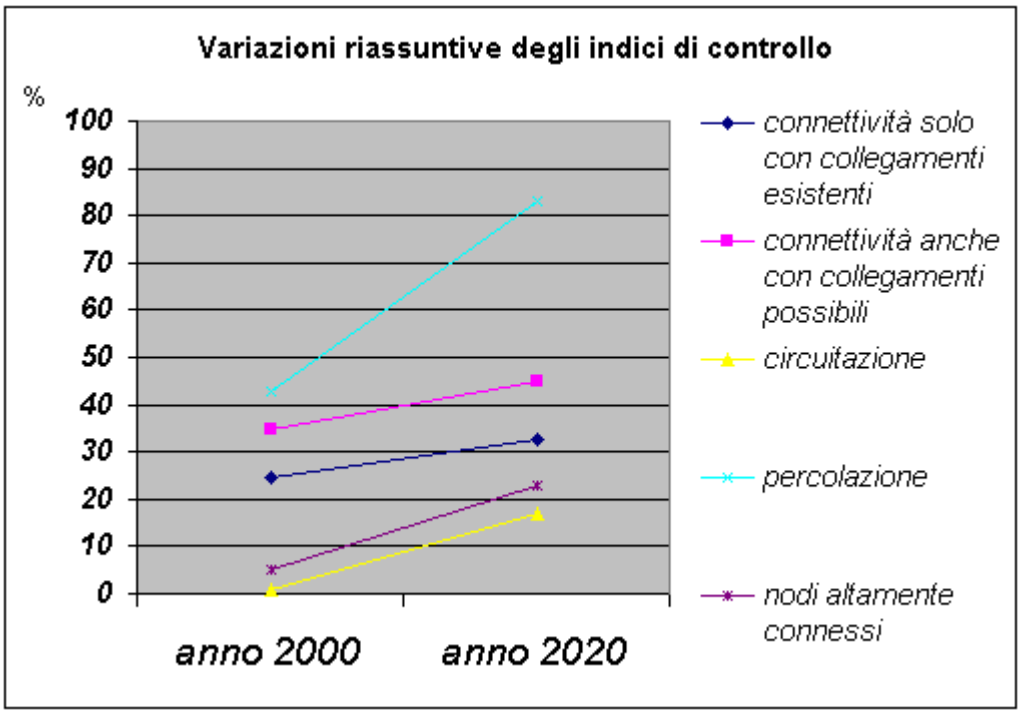
The other maps specifically concentrate on the intervention aspect concerning the areas along the four rivers, the biotic and abiotic components of which were also analysed. This process allowed me to elaborate the ecological modellisation, with a view to explain and quantify the actual and future ecological dynamics and their evolution in case of realisation of the above mentioned project.

In order to summarize and simplify all the modellisation processes, I could define four main phases :

1. I valued the environmental quality of the hydrographic system in order to use all the data and information obtained during the analysis phase. An evaluation criteria framework helped me highlight the most interesting green areas.



2. This process permitted me to define the intrinsic value of the relevant areas. I consequently identified the possible connection degree between the areas.
3. I concurrently provided a graphic analysis and quantified all the processes thanks to specific ecological planning parameters, like the "connectivity index" and the "circuitation index".



4. I finally determined the spatial distribution of interesting area on the basis of the "percolation index"

Previous evaluations regarded both the present situation and the project hypotheses. This allowed me to clarify the development dynamics that such relevant areas may have if the project is carried out. In this way it was possible to provide a tentative comparison between the ecological scenario before and after the project, even though it has not yet been realised.
P.S. : In order to develop this study I employed several maps (1:100000 cm and 1:25000 cm scale).

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