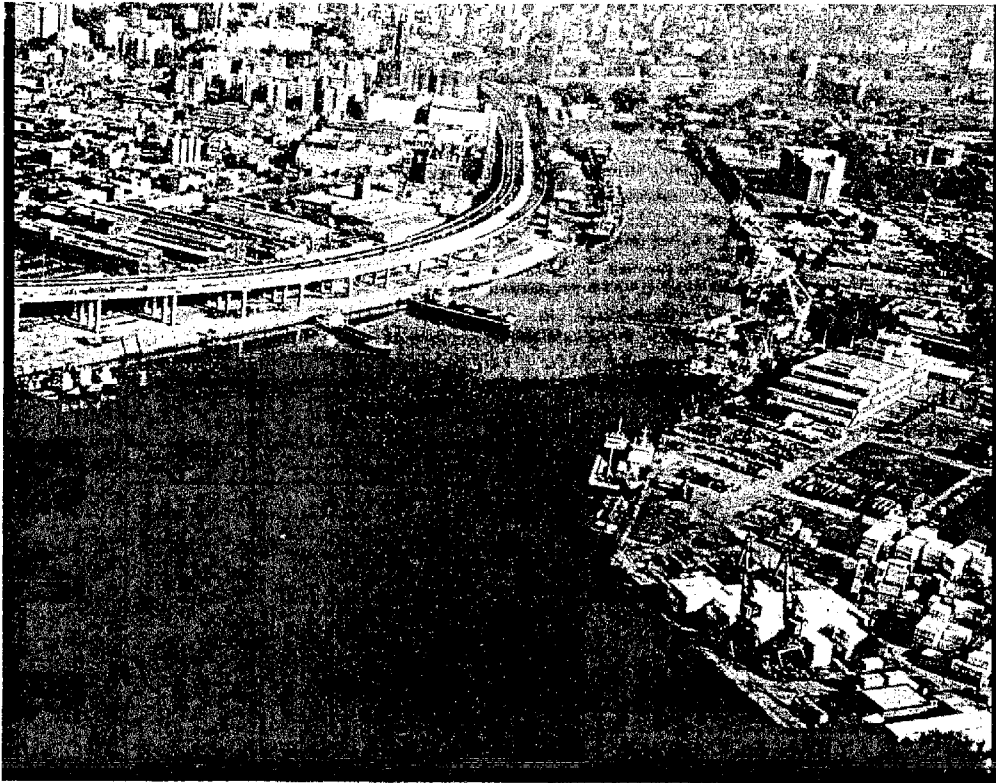


3. マタンサ・リアチュエロ河流域環境管理プロジェクト (英文)



EL RIACHUELO

FOR ALMOST 200 YEARS, THE BASIN OF THE MATANZA RIACHUELO RIVER HAS BEEN SUFFERING, IN SPITE OF OCCASIONAL PERIODS OF RECOVERY, AN INTENSE ENVIRONMENTAL DEGRADATION. THIS PROBLEM AFFECTS THE LIVING STANDARDS OF ALMOST THREE AND A HALF MILLION PEOPLE: MORE THAN TEN PERCENT OF ARGENTINA'S POPULATION.



*Executive Committee for the Environmental
Management Plan of the Matanza-Riachuelo River Basin*

1998 - 2003
FIRST STAGE



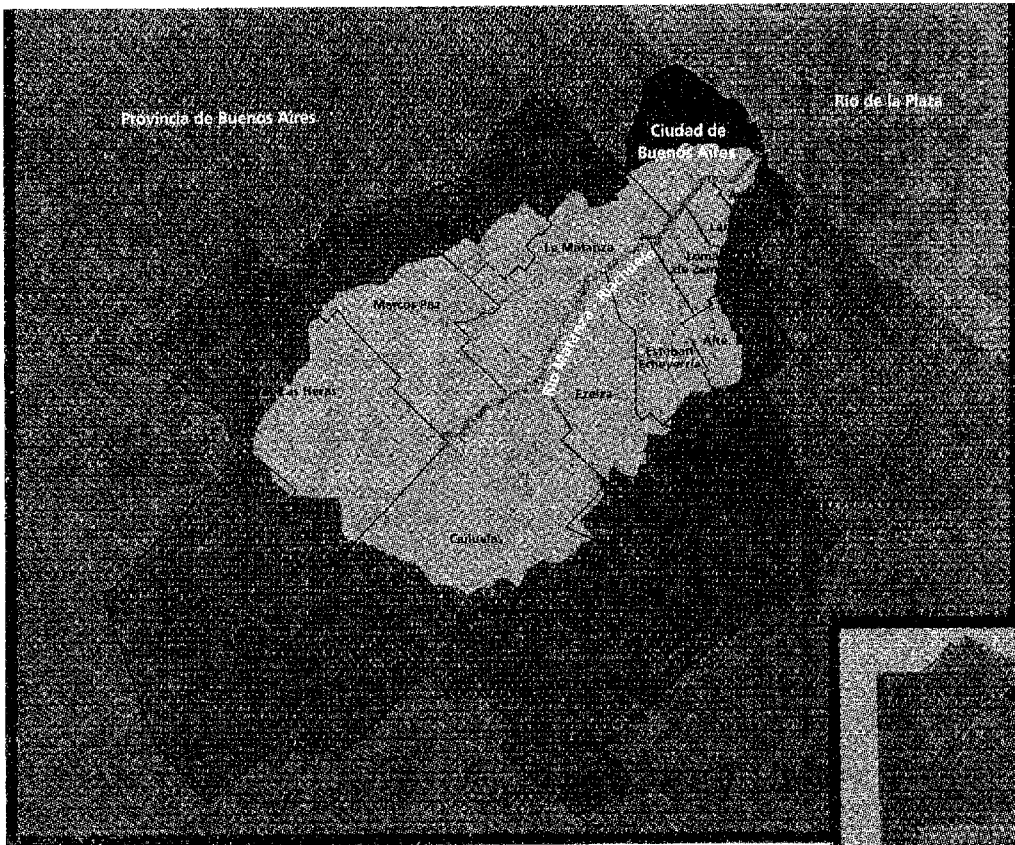
REPUBLICA ARGENTINA



PROVINCIA DE BUENOS AIRES

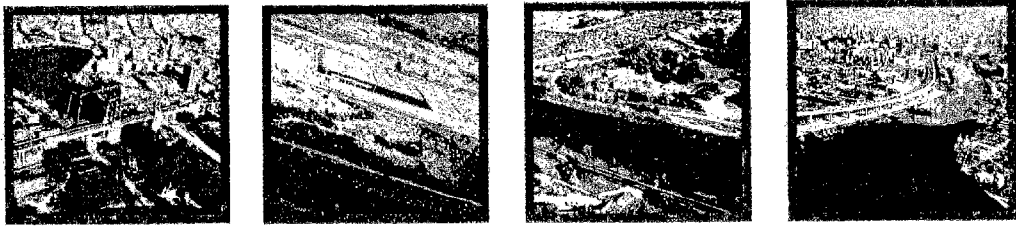


CIUDAD AUTONOMA DE BUENOS AIRES



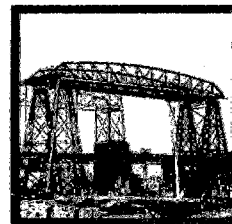
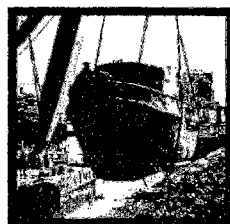
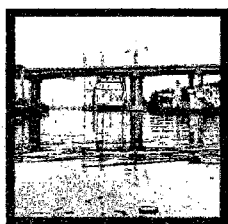
MATANZA-RIACHUELO BASIN

THE ARTICLE 41 OF THE NATIONAL CONSTITUTION GUARANTEES "THE RIGHT TO A HEALTHY, BALANCED ENVIRONMENT, ADEQUATE FOR HUMAN DEVELOPMENT SO THAT THE PRODUCTIVE ACTIVITIES MAY SATISFY THE PRESENT NEEDS WITH NO DAMAGE TO THOSE OF FUTURE GENERATIONS; BEING THEIR DUTY TO PRESERVE IT."



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THE MATANZA-RIACHUELO BASIN ENVIRONMENTAL DIAGNOSIS

MUCH HAS BEEN SAID ABOUT THE PROBLEM OF THE MATANZA-RIACHUELO BASIN AND ITS ENVIRONMENTAL IMPACT UPON THE POPULATION. THE RIVER HAS TWO NAMES: IN THE UPPER BASIN IT IS CALLED "MATANZA", AND IN THE MIDDLE AND LOWER BASIN IT IS KNOWN AS "RIACHUELO".

Few know that three and a half million people live the Basin, which represent 10% of the Argentine population. Or that the Matanza-Riachuelo Basin itself occupies an area of 2.240 km², being approximately 70 km long and 35 km wide.

The Basin runs through fifteen Districts of the Province of Buenos Aires –Almirante Brown, Avellaneda, Cañuelas, Esteban Echeverría, Ezeiza, La Matanza, Lanús, Lomas de Zamora, Marcos Paz, Merlo, Morón, Pte. Juan D. Perón and San Vicente– and the southern part of the City of Buenos Aires, through La Boca and Barracas.

Among the most important economic activities of the area are chemical and food industries. In a lower percentage we find tanneries, cold meat storage plants, paper industries, textiles and metallurgical plants.

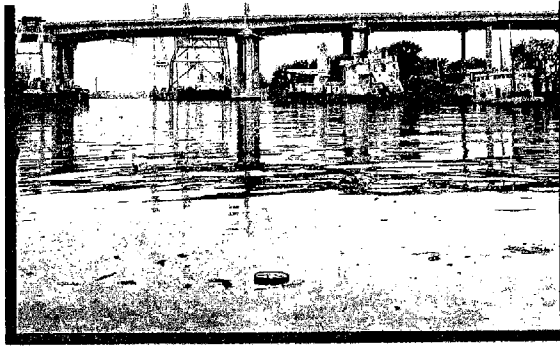
Most of the port activities relate to oil and gas by-products. The environmental situation of the Matanza-Riachuelo is extremely delicate, reaching critical levels along the middle and lower Basin, with serious consequences for the living standards and health of its population.

The environmental damage is not new. This situation has been evolving for almost two hundred years. The 1813 National Assembly decided to address the issue of the Matanza-Riachuelo Basin in view of the pollution produced by cattle slaughterhouses and salting plants which had been installed along the river margins.

Today, at its origin, the Matanza River resembles a rural stream. As from Gonzalez Catán, a borough belonging to La Matanza

District, it suffers the impact of industrial and domestic pollution, which worsens as we approach the river outlet to the Río de la Plata. In the port area, the spilling of petroleum, oil and other by-products increases the damage done. This critical scenario is a consequence of the interaction of four variables: periodic





Usual aspect of the water of the Riachuelo River near its discharge.

floods, high levels of pollution, uncontrolled urban and industrial development and deficient environmental knowledge.



PERIODIC FLOODS

The floods are due both to occasional **heavy rains and strong south east winds**, which push the tide crosscurrent from the Río de la Plata, and preventing its normal flow towards the outlet. The risk of floods is worsened due to the surrounding lowlands, the insufficient and inadequate rain drainage system.

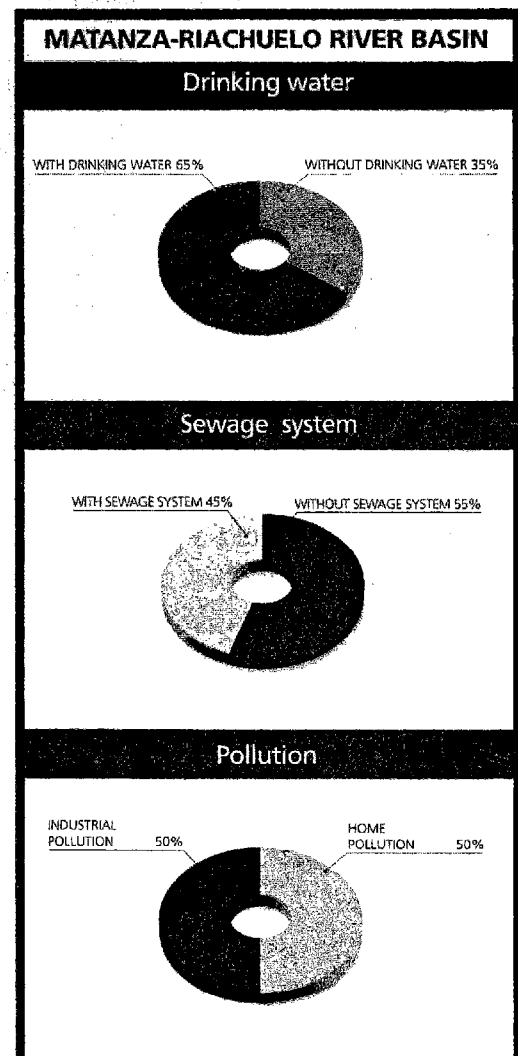
The polluted water floods the homes, streets and vacant plots, endangering the health of the population. The Districts that are mostly exposed to this risk are: Avellaneda, Lanús, Lomas de Zamora, La Matanza and Esteban Echeverría, in the Province of Buenos Aires and La Boca and Barracas in the City of Buenos Aires.

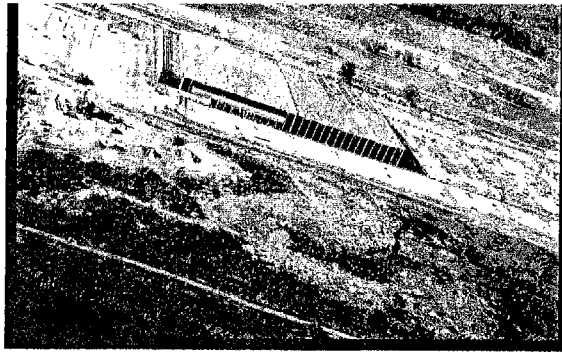


HIGH LEVELS OF POLLUTION

Half of the volume of contamination in the Matanza-Riachuelo River is produced by the local industrial activity, the other half is a consequence of dwelling sewage liquids. Of the 3000 industries found in the Basin, 100 are responsible for 85% of the industrial pollution. Much of the industrial **toxic matter**

discharge is wasted through the **rain drainage system, into the ground or directly into the river**. The discharges of **sewage liquids reach the underground water tables** through the hygienic pits. **There are no waste treatment plants**, or special depots for hazardous industrial materials. Furthermore, there are **exposed and improvised garbage dumps**, and its accumulation in the streets and vacant plots is also usual. The port





*Open garbage heap
More than twenty
rubbish heaps
of this kind have
been found along
the river basin.*

area is characterized by the proliferation of floating garbage that has been pushed by the incipient tide and the bubbling of methane gas.



UNCONTROLLED URBAN AND INDUSTRIAL DEVELOPMENT

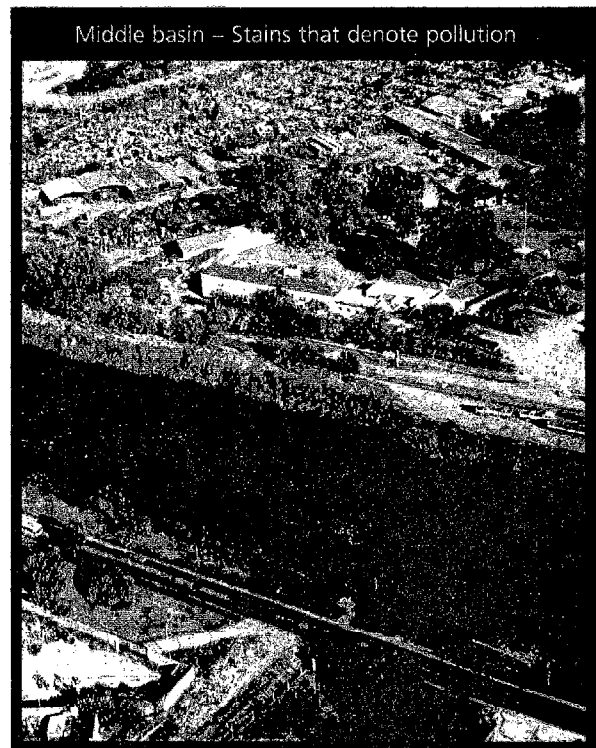
The middle and lower Basin is characterized by a heavy concentration of industries and dwellings that have substantially grown without and orderly development plan, it is also common to see slums improvised on lowlands or dunghills. This chaotic scenario has had a tremendous impact on the environment. Urban infrastructure is deficient, only 65% of the Basin's population have access to drinking water, while the other 35% get theirs by pumping the underground water layers. 45% of the population benefit from a sewage system while the remaining 55% dispose their dwelling waste into hygienic pits with the subsequent risk of contaminating the underground water layer through infiltration. From where they pump the water they drink.



DEFICIENT ENVIRONMENTAL CULTURE

The poor information, education and community participation produce a deficient environmental culture, which makes the problem even more

complex. Two hundred years of neglect, heedlessness and lack of a community sense have turned the river and its area of influences into a vicious circle of deterioration. Under these circumstances, the riverside community has resigned itself to live under enormous levels of pollution and deterioration at the cost of an inadmissible risk.



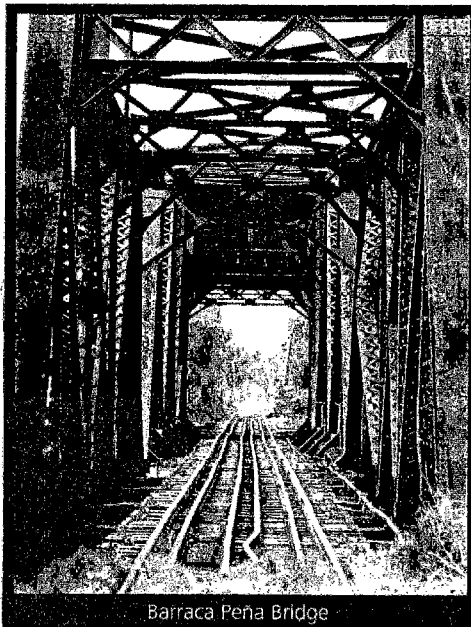
EXECUTIVE COMMITTEE FOR THE ENVIRONMENTAL MANAGEMENT PLAN OF THE MATANZA-RIACHUELO RIVER BASIN

IN THE FACE OF THE ENVIRONMENTAL DIAGNOSIS OF THE MATANZA-RIACHUELO RIVER BASIN, AN ENVIRONMENTAL MANAGEMENT PLAN (EMP) WAS CREATED, THE EMP SHOULD PROVIDE THE SPECIFIC REFERENCE FRAMEWORK AND ASSIGN THE PRIORITIES OF THE DIFFERENT ENVIRONMENTAL RECOVERY ACTIONS.

In order to do this; the 482/95 Presidential Decree created the Executive Committee for the Environmental Management Plan of the Matanza-Riachuelo River Basin (ECMR). The ECMR is made up by the Argentine State (Secretary of Natural Resources and Sustainable Development, in charge of the coordination), the Province of Buenos

Aires (Ministry of Public Services) and by the City of Buenos Aires (Office for Production and Services), all of which grants the ECMR of a inter-jurisdictional body.

The EMP is a connected group of actions that is divided into four programs: Hydraulic Regulation, Dumping Control, Urban and Rural Environmental Recovery, and Community Participation and Environmental Education.



Barraca Peña Bridge

The EMP envisages institutional and legal aspects as well as the follow up and control of its programs and activities.

The 482/95 Decree is inspired on the article 41 of the Argentine Constitution, which guarantees "the right to a healthy, balanced

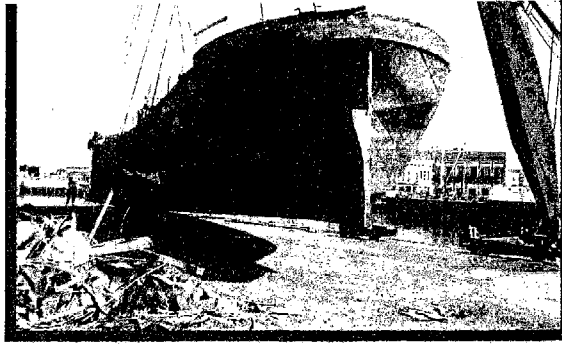
environment, adequate for human development so that their productive activities may satisfy their present needs without risking those of the future generations; being their duty to preserve it. Environmental damage obliges its restoration according to the law.

The authorities should provide the protection of the right to the rational use of natural resources, the preservation of the

natural and cultural heritage, biological biodiversity and environmental education".

The EMP has four programs:

- 1 HYDRAULIC REGULATION**
- 2 DUMPING CONTROL.**
- 3 URBAN AND RURAL ENVIRONMENTAL RECOVERY.**
- 4 COMMUNITY PARTICIPATION, AND ENVIRONMENTAL EDUCATION.**



*Refloating the
Entrans II at the
Vuelta de Rocha.*



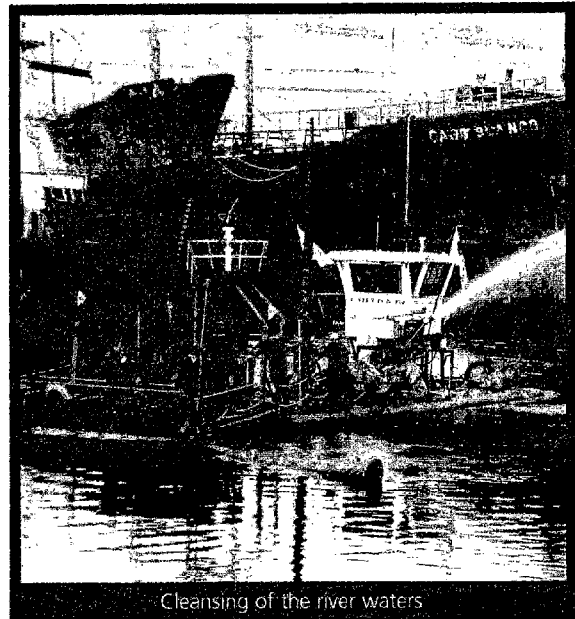
HYDRAULIC REGULATION

The aim of the Hydraulic Regulation Program is to **prevent the periodic flooding** in the River Basin. In order to achieve this, retaining walls will be built along the riverbanks for water contention, as well as pumping stations and the improvement of the rain drainage system, which will send the flooding water back into the river. The Districts mostly affected when these periodic flooding occurs are Avellaneda, Lanús, Lomas de Zamora, La Matanza and Esteban Echeverría in the Province of Buenos Aires; and La Boca and Barracas, in the City of Buenos Aires, where retaining walls and pumping stations have already been built.



DUMPING CONTROL

The Dumping Control Program is aimed at **reducing the pollution** in the River Basin. To achieve this, the Industrial Pollution Control Program (IPCP) has been created to control the industry's compliance with environmental regulation; as well as promoting the reduction, minimization and management of industrial waste. Agreements



Cleansing of the river waters

have been signed with 15 industries through the IPCP, which will amount to 65 by the year 2002. These activities will be complemented by Aguas Argentinas (the country's water supplier) extension of the sewage network system, as well as the construction and management of waste treatment plants. Works have already begun, and access to drinking water for one million families will also be provided. Managing the urban solid waste will be achieved by the dismantling and recovering the located garbage heaps.





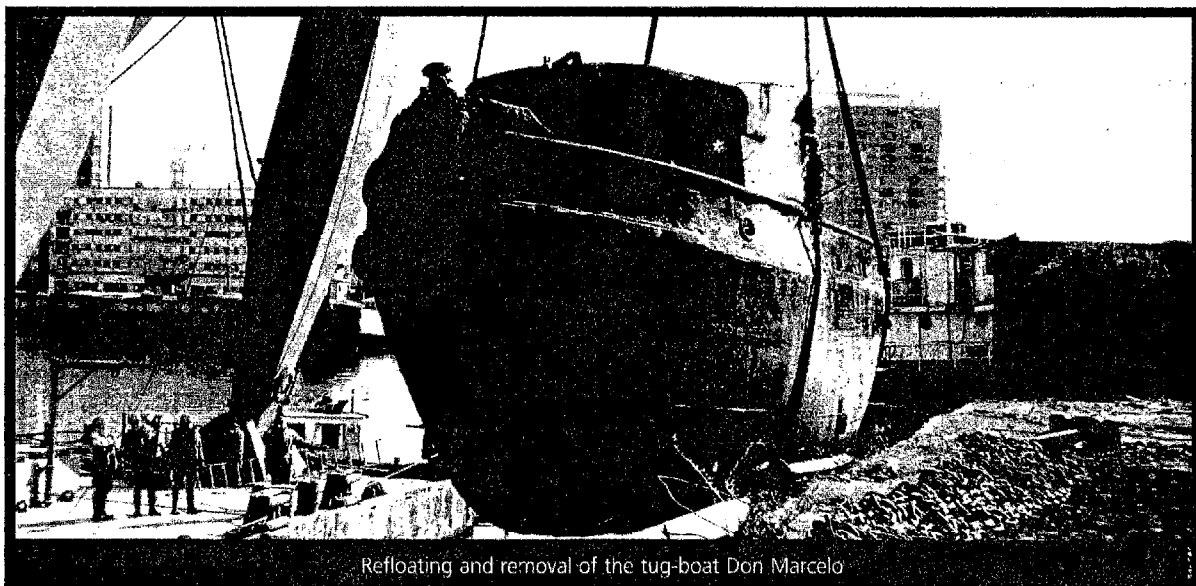
*Refloating
and removal
of the
tug-boat
Lampport*

URBAN AND RURAL ENVIRONMENTAL RECOVERY

The Program's objective is aimed at **the planning and reorganization of the urban and rural development** in the River Basin. It includes the restoration of historic areas and buildings and the recovery of the City's cultural inheritance. The Program also includes the recovery of the river and the reforestation of the riverbanks so as to return the aesthetic value to the area. It also includes the removal of sunken objects and ships out of the River in order to allow its lost navigability. As well research studies on the uses of the soil and the transport problem, aiming at the generation of future urban development projects.

COMMUNITY PARTICIPATION AND ENVIRONMENTAL EDUCATION

This Program is aimed at **increasing the environmental knowledge among the River Basin's community**. The planned activities include communicating the existence of the EMP, its objectives and actions and the benefits this will have for the community. The Program stipulates the future creation of a community based project to develop the awareness and commitment necessary for the preservation, improvement and recovery of the their environment.



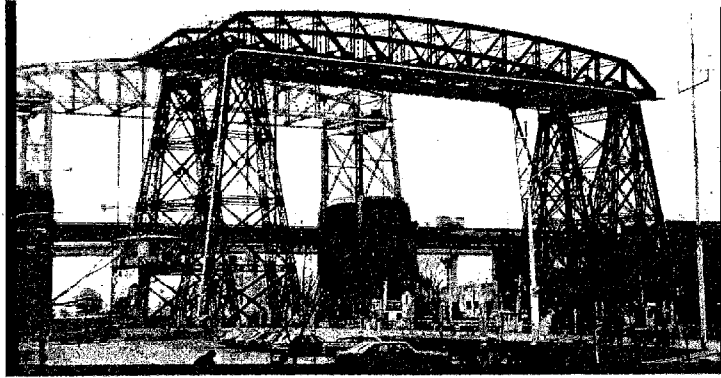
Refloating and removal of the tug-boat Don Marcelo



1998 - 2003 FIRST STAGE FINANCED BY I.A.D.B

The first stage of the PEC (1998-2003) started after the finance agreement between the I.A.D.B. (Inter-American Development Bank) and ECMR. The loan amounts to U\$S 250 million, with a local contribution of the participating jurisdictions (Argentine Nation, Province of Buenos Aires, the Autonomous City of Buenos Aires) which amounts to another U\$S 250 million.

PROGRAMMES	UNDERTAKING	ESTIMATED COST	%
HYDRAULIC REGULATION <ul style="list-style-type: none"> ■ Flood control in the Province of Buenos Aires ■ Urban drainage in the Province of Buenos Aires <i>in the City of Buenos Aires</i>	<ul style="list-style-type: none"> ■ Side banks and Pumping Stations ■ Rain Drainage: La Matanza - Cildáñez Stream (section 1,2 and 3) Lomas de Zamora Unamuno Stream Del Rey Stream ■ Re-establish rain drainage in Lanús ■ Rain Drainage: Boca-Barracas Rest of the south area of the city 	<p>56.612.000</p> <p>151.017.000</p>	<p>22,64</p> <p>60,41</p>
DUMPING CONTROL <ul style="list-style-type: none"> ■ Pollution Control (IPCP) <ul style="list-style-type: none"> ■ Management of Solid Residue 	<ul style="list-style-type: none"> ■ Compliance Control of Environmental Regulation ■ Minimisation and prevention of industrial residue ■ Industrial residue disposal of the Greater City of Buenos Aires ■ Dismantling and cleansing of rubbish heaps: of Cañuelas of General Las Heras District of Mirador, Gral. Las Heras of Marcos Paz of Santa Catalina, Lomas de Zamora ■ Management Study for Solid Residue ■ Study and Research of 19 Integral Rubbish Heaps 	<p>15.961.000</p> <p>6.918.000</p>	<p>6,38</p> <p>2,77</p>
RESTORING URBAN AND RURAL ENVIRONMENT <ul style="list-style-type: none"> ■ Urban re-establishment: in the Province of Buenos Aires <i>in the City of Buenos Aires</i>	<ul style="list-style-type: none"> ■ Study and use of the ground and road organisation ■ Plan and Works, zone: Alsina Bridge La Noria Bridge Villa Diamante Maciel Island Transfer bridge ■ Study and use of the ground and road organisation ■ Plan and Works, zone: Caminito Fish Market 	<p>16.617.000</p>	<p>6,65</p>
COMMUNITY PARTICIPATION AND ENVIRONMENTAL EDUCATION	<ul style="list-style-type: none"> ■ Propagation of the Plan for the Environmental Care ■ Community Undertaking for Environmental Awareness 	<p>2.875.000</p>	<p>1,15</p>



The old Transfer bridge is located in one of the most polluted areas of the Matanza-Riachuelo River Basin

BENEFITS FOR THE COMMUNITY OF THE MATANZA-RIACHUELO BASIN. EMP 1998-2003

- ▶ Flood Prevention
- ▶ Reduction of the pollution levels
- ▶ Disease prevention
- ▶ Navigability of the river
- ▶ Aesthetic value to the riverbanks
- ▶ Restoring the cultural heritage of the Basin
- ▶ Development of urban projects
- ▶ Real estate price revaluation
- ▶ Regaining turistic value to the area
- ▶ Environmental awareness

THE COMMITMENT

There is a direct relationship between environmental damage and the living standards of the population.

The quality of our everyday life and that of the future generations depend on our understanding of the dimensions of the problem we are facing; and the consequences that our actions have upon the environment. **Our individual and community behavior should reflect a serious commitment towards the environment.**

Only the strength of this commitment can ensure a sustainable change, complementing and enhancing the work of the Environmental Management Plan.

Typical Riachuelo River boats

