



018530 - SWITCH

Sustainable Water Management in the City of the Future

Integrated Project
Global Change and Ecosystems

Progress report D5.3-13a
DEMO_LODZ_2007_M13-24_Zabieniec Reservoir

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draft

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	X
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

DEMONSTRATION & IMPLEMENTATION**Lodz, M: 13-24****First stage of the construction of the Zabieniec reservoir on the Sokolowka river:
Project documentary**

In the place of a pond in today devastated section of a river valley, the Zabieniec reservoir will be restored within the SWITCH project activities. It will be situated approximately 20 m above Zabieniec street, and will serve fire protection purposes as well as stormwater retention, recreational and aesthetic functions. The reservoir will be well-blended into the surrounding landscape, situated among a natural meadows complex with small islands of vascular plants (Figure 1). Upon the completion, the area around it, will be planted with hydrophiles, becoming a habitat for water birds, enhancing the stormwater self-purification and increasing the water quality in the downstream cascade of the reservoirs and accelerating the ecological succession.



Figure 1: Location of the Zabieniec reservoir.

The Zabieniec reservoir will be a retention reservoir with the stable water level and the following parameters:

- reservoir area 1,15 ha
- average depth 1,10 m (from 1,00 to 1,30 m)

The reservoir bed will be created by separating the river course with the dam on the 5+075 km. The water retention will be achieved through the damming infrastructure – the bottom outlet of 1,00 m in diameter and surface outlet, serving emergency purposes.

The banks will have a sloping of 1:3, in places of 1:5, which will allow the succession of aquatic plants. The banks will be strengthened by geo-grid (geokrata) filled with gravel in the water level fluctuations zone and above the waving zone a mixed grass will be sown. This design will allow the reservoir to serve its ecohydrological functions.

Additionally, a quoin-shaped gabion with a crown of 0,50 m below the water surface will be constructed, and will be situated perpendicularly to the river bed. It will enable ecohydrological control of hydraulic parameters of the reservoir, allowing for some control of water quality parameters.

In 2005 the design of the reservoir started, and the technical documentation will be completed until March 2008. The task has been completed in 90% by now.

A formal decision regarding the location of the reservoir has been made (Figure 1, Figure 2), and the construction work will start in 2008. The approximate total cost of the reservoir is 400 000 euro.



Figure 2: Map of the Sokolowka river with the location of the planned Zabieniec reservoir (no.11)