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A.S.A.P.

Actions for Systemic Aquifer Protection

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Action Priority Ranking Report

*ASAP - Actions for Systemic Aquifer Protection -
Implementation*

(Rev. 1c)

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Provincia di Pisa



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(i) Thanks

This report is the result of the work of the Team of the ASAP project.

We thank Acque Spa which supported the work and contributed to the creation of the final document.

Thanks finally to all those who have offered their support in the difficult task of analysing each issue and patiently discussed them so as to clarify the links between their activities and the ASAP project

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(ii) Summary

1 ==> Actions Priority Ranking Report.....	4
1.1 ==> Objectives.....	4
1.2 ==> Context.....	4
1.3 ==> Execution and Responsibility.....	4
2 ==> Methods and criteria for the identification of action groups.....	5
2.1 ==> Action group.....	5
2.2 ==> II action GRoup	5
2.3 ==> III action GRoup.....	5
2.4 ==> IV action GRoup.....	5
3 ==> Type of actions envisaged within the priority groups identified.....	7

(iii) Aim of the document

The aim of this document is to have reference elements for deciding which areas of the ASAP Project require priority action so as to make possible a rapid reduction in the extraction from the threatened Bientina aquifer.

(iv) Warnings

1. . Always check the latest version on the portal of the ASAP project at the address you will find on the inside cover page.

1 ==> ACTIONS PRIORITY RANKING REPORT

This report is one of the deliverables envisaged by the ASAP Project concerning the Bientina aquifer (Pisa, IT) In particular the Priority Action Report relates to *Task 2.- Acquisition of knowledge of the system – Activity T2.3 – Executive plan.*

1.1 ==> OBJECTIVES

The objective of this report is to collect further useful data for the definition of the areas of priority action on which the project will act and to support the executive plan of the subsequent activities. Some data have already been collected and divulged in the *Reference report on non invoiced water (D.2.2)*

1.2 ==> CONTEXT

The relevant zone to which the present Report refers coincides with the ASAP area covered by the project and includes the water district of Pontedera (Pisa, IT) and the Municipalities of Santa Maria a Monte, Calcinaia, San Miniato, Pontedera (excluding the metropolitan areas), Castelfranco, Bientina, Vicopisano, Santa Croce sull'Arno (excluding the metropolitan areas), Cascina.

The objective of the task is therefore to acquire the necessary knowledge of the characteristics of the system of extraction and distribution in order to develop credible scenarios, establish priorities and set up practicable solutions.

1.3 ==> EXECUTION AND RESPONSIBILITY

Acque Ingegneria (ACQING) is responsible for the drafting of the report and the analysis.

2 ==> METHODS AND CRITERIA FOR THE IDENTIFICATION OF ACTION GROUPS

The methods adopted for the identification of the criteria for the definition of the priority action areas is based on previous experience and on data existing before the project.

The criteria identified for the identification of the priority area to be acted on were therefore of two orders:

- immediate availability of the data
- ease of measurement of the data

Such criteria made it possible to subdivide the Municipalities of the area as follows

2.1 ==> ACTION GROUP

The first action group is characterized by those sectors about which there is no kind of information regarding instantaneous consumption and where the objective is to carry out preliminary measurements in order to have an initial picture of consumption.

The following Municipalities belong to the first group:

- Calcinaia,
- Santa Croce
- San Miniato
- Bientina

2.2 ==> II ACTION GROUP

The second action group is represented by those Municipalities for which there are already data measured during zoning actions that were independent of the ASAP project.

The following Municipalities belong to the second group:

- Pontedera
- Santa Maria a Monte

2.3 ==> III ACTION GROUP

The third action group is represented by those Municipalities where, given that there are no inspection wells sufficiently accessible or metal linking pipes unsuitable for measurement with ultrasound instruments, specific structural actions are necessary (measurement wells, improvement of linking pipes in stainless steel, etc.).









The following Municipalities belong to the third group:

- Castelfranco
- Vicopisano

2.4 ==> IV ACTION GROUP

The fourth group is represented by the Municipality of Cascina. The actions in the area in part carried out by Acque s.p.a. in the period immediately preceding the

start of ASAP make it possible to have available a sufficiently developed initial plant.

Action area	Municipalities	Data available	Ease of measurement	Level of priority
I Group	Calcinaia, Santa Croce, San Miniato, Bientina			1
II Group	Pontedera, Santa Maria a Monte			3
III Group	Castelfranco, Vicopisano			2
IV Group	Cascina			4

Tab. 1: Action areas, present Status, Level of priority (from 1-maximum priority to 4-minimum priority)

The choice on which the executive plan is centred is to give priority to the I Group of Municipalities, before proceeding with the III Group which requires structural actions, giving less priority to groups II and IV.

The objective is to act promptly to reduce extraction from the stratum.

3 ==> TYPE OF ACTIONS ENVISAGED WITHIN THE PRIORITY GROUPS IDENTIFIED

Within the action groups identified, the types of actions envisaged can be grouped as follows:

- The reduction of hidden leakage losses
The action will be carried out in the distribution network in order to reduce the volumes entering the network (which coincide with those extracted from the stratum) through the identification of breaks and subsequent repair
- The monitoring of the sector consumption
The check on the benefit of the actions carried out in the network is quantified numerically in terms of smaller volumes entering the network. The result of the actions will consequently highlight the reduced extraction from the stratum.
- The monitoring of the pressure
The effect of all the actions will make it possible to contain both in external and internal terms, the factors that can generate situations of risk.
By external is meant factors linked to the total demand of the network (anomalous consumption, increases in capacity relative to climate patterns, reduction in volumes for limited periods); by internal is meant the reduction of the volumes of hidden leakage loss by virtue of repairs envisaged by the ASAP project.

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