



**SOUTH EAST
EUROPE**

Transnational Cooperation Programme



**CLIMATE CHANGE
AND IMPACTS ON
WATER SUPPLY**

CC-WaterS

**THEMATIC WORKSHOP TW7.1
30.-31.05.2011
MINUTES**

Jointly for our common future

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1 Introduction

All presentations can be found under:

http://www.ccwaters.eu/index.php?option=com_docman&task=cat_view&gid=41&Itemid=95

Folder: TW71

Marina Mader opens the workshop with an introduction round and presents the agenda for the TW44 workshop.

2 WP 7 activities

Marina Mader presents the actual status of WP7 activities and the WP 7 contacts.

Contact changes:

PP06: Agnes Tahy instead of József Ányos

IPA 1 partner: Dejan Dimkic also in addition, mention all involved colleagues for WP 7 contacts.

Proposal from last meeting in Ljubljana:

There are only two WP 7 meetings planned, a proposal is made to make an additional WP 7 meeting, together maybe with another meeting or organise it additionally.

Remarks

Soupilas: Make an additional meeting.

Bogardi: The last meeting should be after the last WP6 meeting.

Kuschnig: Time between first and second WS is too long, maybe already in October.

2.1 Activities

Presentation on activities and structure of WP 7 activities is given by Barbara Cencur-Curk. Five activities were promised in the application form.

Act. 7.1. Proposal of strategy planning in spatial planning: best practices in land use (info from WP5; proposal of additional surveys and methods for exploration of potential aquifers (e.g. remote sensing); Has to be finished in July 2011.

Act. 7.2 Promotion of (new) legislative rules and guidelines: guidelines for legal issues on water protection; mitigation measures; probability of implementation of mitigation measures and time frame

Act. 7.3 (most important activity): Adaption of water supply management system

- Parameter uncertainties affecting measure definition processes
- Integration of uncertainties for water supply management systems
- Mitigation measures

Methodology will be presented by Istvan Bogardi.

- Water supply management systems under different climate conditions: management options to be considered: land use, legislation, managing the demand, managing water allocation, alternative supplies
- Main outcome: Handbook for water suppliers, this can be discussed in the SAB, because there will be already the monograph and it is not necessary to have another book.

Act. 7.4 feedback cycle:

An expert opinion can be done and recommendations made for implementation of the system, this will be the results.

The WP 7 outputs are presented:

1st report should be done in period 5 – July 2011 – can be done

2nd report should be done in period 5

3rd report, also period 5 – today presentations regarding this, then synthesis possible

4th report, in period 6 – most important output

5th report, in period 6

The SAB recommendations from November 2010 are presented once again.

Remarks

Nachtnebel: Handbook: It is not clear, what is the content of the handbook, as the WSMS are very diverse. Guidelines for that should be on a national basis.

Cencur-Curk: It is the mission of the project to do general guidelines; there will be guidelines for the content.

Kuschnig: There seems no difference between the recommendations and the handbook, feedback cycle and handbook is the same.

Kuschnig: it is necessary to explain to target group very detailed and clearly in the report what is meant: scenario, prognosis, prediction. Second, the ranking of criteria, this should be done by the decision makers.

Köck: The outcomes of WP 5 should be more detailed in period 6 for WP 7.

Tahy: Water suppliers: how can they influence the land use, what can they do and what is the good practice, as found in WP 5.

Cencur-Curk: How to organise this best practice and how to implement?

Soupilas: Who will be addressed by this, end users, governmental institutions?

Bogardi: It is for water suppliers as end users.

Kuschnig: Concerning the report on best practices of land use: in the first report (consolidated) there can be examples given, and in the 2nd report there could be measures given how to do this.

Köck: The first phase should be just common views, and then details.

2.2 WP7 methodology

WP 7 methodology presentation is given by Istvan Bogardi. WP 7 is very much related to WP 6 because in WP 6 it has to be arrived at risk estimation in regard to climate change.

WP 6

- WP 6 outcomes: there should be some climate change projection on water demand and shortage (scenarios), and also consequences
- If we consider risk, we have to consider shortage too
- The product is either an economic value or physical value
- Relevant quantities (water supply, water demand and Risk) are uncertain in our project
- It is not possible to calculate it numerically (Examples can be found in the presentation), therefore a non-probability method has to be found.

Remarks

Kuschnig: The risk must not be in EUR per year.

Bogardi: This is correct.

WP 7 methodology:

Risk management is necessary whenever the water supply risk is obtained in WP6.

Main parts of the methodology:

1. Formulation of alternative management actions (collect mgmt actions and categorize them, give examples, very much dependent on the actual situation)

Remarks

Nachtnebel: Almost all water suppliers supply mostly water for drinking water demands (not for irrigations or industry), there might only be competition by the source not by the water suppliers.

Kuschnig: Allocation changes might be important as a topic.

Cencur-Curk: in Ljubljana field competition at the source is very important.

2. Definition of the structure of ranking criteria (management actions can be evaluated according to several criteria); examples of the software are given.

It is maybe most important to find criteria and the relevant measurement actions to discuss with waterworks.

3. Estimation of ranking criteria values for each management actions; units of water supply (quantity) risk may include e.g. number of unsupplied people; habitat loss; as described in WP 6
 - try to use realistic numbers
 - Base criteria values for elements of water supply risk should be uncertain /fuzzy numbers from the results of WP 6
 - Criteria values for realization can be either directly estimated (e.g. cost of realization) or
 - Measured qualitatively on a scale

4. Ranking of the management actions according to the ranking criteria

- Tool: Fuzzy Composite Programming
- Ideal Point: no risk and perfect realization; Ideal point is unfeasible
- Select the best action as the closest to the ideal point (or furthest from the worst)
- -> Min. Distance to the ideal point is the best scenario

Conclusion for Fuzzy Decimaker

1. The present case: there is one waterworks facing unacceptable base water supply risk that is to be improved/managed. Given a number of alternative management actions the software will rank the alternatives according to the defined structure of criteria.

2. A number of waterworks is considered in a region, which can be represented by the same structure of indicators. Then, a ranking of these waterworks in terms of base water supply risk can be obtained with the help of the software.

Remarks

Kuschnig: Some decisions are clearly political decisions; this is done by the decision makers. They should see what the alternatives are.

Bogardi: you can show in the software, but this is maybe beyond the project task.

Nachtnebel: We should give criteria we can justify, concerning the ranking it should be some "grouping", not show figures or distance to decision makers.

Tahy: Put consumer happiness in these criteria, because HU has an example on bad tasting water in Miskolc.

Kuschnig: OECD is now doing the study on consumer happiness; there will be more information on that in the report to be published by the end of the year and also on the willingness to change by people themselves.

Bogardi: Happiness here is seen then as water quality criteria.

Nachtnebel: Almost all the people usually use mineral water for drinking and this is often below water quality indicators.

Dimnic: The security regarding this groundwater is much better than surface water. The quality criterion has to be respected.

Kuschnig: The decision makers/politics have other criteria; e.g. in Vienna it is easier to provide karstic water than ground water, people want this water (it has to be from the mountains).

Tahy: Porous aquifer water has different taste, quality is ok.

Cencur-Curk: It is also a question of willingness to pay to have other water.

Soupilas: The input is to collect complaints also, this is very local problem and depends on special needs (e.g. farmers have other needs than taste of water).

Coffee break

2.3 Discussion on WP6 partner activities in relation to WP 7

Conclusions of discussion:

- Also expert judgement, which is not from WP 6, will be considered.
- Not all partners, also not in WP 6 will do statistical calculations, some do other methods
- Apply method to the test beds where data is available.
- Previously at TW62 agreed on 2 approaches for WP 6, story line and statistical approach (risk map and vulnerability). For the partners who are not engaged in WP6, even the storyline is some effort.
- Countries which are involved in WP 6 and not in WP 7 shall be asked to contribute to WP 7; this refers to Serbia, Bulgaria, Romania (only one partner involved)

2.4 Partner presentations – legislation issues

Partners involved in this WP were asked to present the legislative basis in their country.

2.4.1 Slovenia – PP04

Presentation is given by Barbara Cencur-Curk.

- **Most important for Slovenia: EU WFD; on water quality; on pollution prevention and control**
- Monitoring of water used for abstraction of drinking water
- Groundwater Directive: protection of groundwater against pollution
- Drinking Water Directive: quality of water for human consumption (quality standards at the tap)
- White Paper: Adaption to climate change ('Blueprint on European Waters')
- Flood Risks Directive (assessment and management of flood risks)
- Urban Wastewater Treatment Directive: concerning urban waste-water treatment
- IPPC Directive: concerning integrated pollution prevention and control: concerning big industry, minimizing pollution from industrial sources
- Nitrates directive: concerning protection against agricultural pollution
- **Slovene Water Act (regarding WFD), which is compulsory law:**
 - Decree on groundwater status
 - Decree on the quality of underground water
 - Rules on GW monitoring
 - Rules on the operational monitoring of underground water pollutions
- **SI Rules on criteria for designation of a water protection zone** (wider – core – narrowest area); long tradition in Slovenia in this, in former time each community issued their own act, which is a problem if a well is not in the same community.

Remarks:

Bogardi: How do you determine the capture area, hydraulic model?

Cencur-Curk: It is 50 meter around the spring, only by space.

- SI Rules on construction in water protection zones
- Rules on drinking water refer to Drinking Water Directive

Remarks

Kuschnig: EU legislation is a common issue to all partners. This could be a contribution to the handbook on the common activities.

Tahy: EU Legislation: is also for surface drinking water rule on the quality. Common implementation: climate change there is another one this on the protection of groundwater, according to article 7.

Stevanovic: If all sources are applied to the drinking water law, why it is not done on all protection zones?

Cencur-Curk: It is done by the state, that it is why it is slow. It is done according to priorities. A lot of them have still the old rules, which are quite similar, but the old decrees have different restrictions.

Bogardi: Relevance of this set of legislation for the project: is it a project activity to think about proposals to change the legislation, to modify and so on?

Cencur-Curk: Yes, to propose what could be done in better way.

Kuschnig: We should start with management alternatives, and then see who can do these alternatives, water works or other institutional level.

Bogardi: It is not necessary to consider untouchable management options.

Nachtnebel: The project tasks are also constraints, for us we have to evaluate existing guidelines.

Cencur-Curk: Local legislation can be changed, not EU directives.

Soupilkas: Most countries have installed EU law, so it would be huge work to change this. In his opinion only climate change should be considered.

Kuschnig: We have examples in Vienna, just being local law. It is not even easy to change the local law. But it can be considered what could be changed.

Nachtnebel: What is the outcome of this activity?

Cencur-Curk: An overview on relevant EU legislation and summary of national implementations, a compilation.

Bogardi: Review should be only done on the given test areas.

Nachtnebel: for each case study, critical points could be identified and then what could be done to achieve the standard.

2.4.2 Austria – LP

Presentation is given by Gerhard Kuschnig.

- EU-Legislation (WFWD, DWD,...)
- National legislation (Austrian Water Act; Protection Area Decrees)
- Regional legislation (Viennese Water Law)
- Internal regulations (guidelines regarding the management of spring protection areas; internal working paper between waterworks and forest department on forest and game management, tourism and mountain pasture)

- Vienna policy is based to have cooperation with the involved parties, also to have a voluntary cooperation, if this doesn't work; there is still the possibility to go the financial way. E.g. owners of mountain huts get financial support by the City of Vienna for waste management or similar. Any of this subsidising is cheaper than building new pipelines in the city and so on.

Remarks

Tahy: How much money of the water prices goes to those environmental issues?

Kuschnig: Very small figures, about 7 % go to forest management.

2.4.3 Austria – PP01, PP02

Presentation for legislation in the test area for Waidhofen/Ybbs is given by Roland Köck.

- PP02 is in the midst of an existing water protections zone
- Here water protection zone decrees is applied, with special restrictions
- Further legislation: Austrian foods and customer protection law
- Lower Austrian Municipal Water Conduit Law
- Decrees of City of Waidhofen (Water Conduit Regularity): here is the possibility for the municipality to state if additional issues have to be considered in the future.

Remarks

Cencur-Curk: The three zones are different concerning regulations?

Köck: No, for each spring in this zones have own regulation to be obeyed – which is very old law; this is the difference to existing laws.

Siegel: The Ministry of Environment supports all the waterworks to support water related forest management, there is also a subsidy line opened. The political work is very important in this area, it is not good to counteract against local law. We have a shift in society, 1 third of forest land is owned by 180.000 owner, those have to be convinced to use the forest adequately. One conflict is the discrepancy between federal state and regions, as many laws are regional only (e.g. hunting, etc) and another constraint is the many owners.

Soupilas: The sources are owned by whom?

Kuschnig: In Austria, the source is connected to the area/ground; the water also belongs to you. But if you want to use the water you need a permission to use. This is regulated by the Austrian water law authority. In our area, there are two owners, City of Vienna and Austrian Federal Forests, so conflicts are not too big.

In GR and SL the source is owned by the state.

2.4.4 Hungary – PP06

Presentation is given by Agnes Tahy. Relevant legislation for Hungary is presented.

- Law LVII in 1995 on water management
- Government Decree 201/2011(X25) on drinking water quality and monitoring
- Council Directive on quality of water intended for human consumption
- Ministerial Decree 21/2001 (IV 25) on the operation of public water utilities
- Government Decrees 123/1997
- Protection of vulnerable drinking water resources:
 - National Environmental act in 1991

- Protection programme of perspective drinking water sources started 1993
- Programme on protection of operating sources started 1995

- Most water supply in HU comes from porous aquifers
- Process of the protection of the source: examination phase, intervention phase (protection zone), maintenance and monitoring phase (every 6 years check on water quality change)
- Delineation of zones by travel times
- Nyirseg: 8 delineation protection zones
- Bükk: 8 delineated protection zones
- New legislation article in 201/2011 (x25) Government Decree: Water Safety Plan, if water supply capacity exceeds 1000m³/day or 500 consumers; based on the WHO handbook
- So far, 3 waterworks have this water safety plans until now
- New management investigations in Bükk area (monitoring system, review of protection zones)

Remarks

Nachtnebel: You have surface water bodies with protection zones, how you delineate these zones.

Tahy: We don't have this, only for reservoirs for the catchment area.

Bogardi: What is the relevance of WSP in respect to the project?

Tahy: We look at it in climate change issues and take it for the project.

Cencur-Curk: Safety plans are done because of CC-WaterS?

Tahy: No, they wanted it to do anyways.

2.4.5 Italy – PP07

Presentation is given by Emma Petrella.

- 3 main laws on national level in Italy:
 - Protection of surface water, GW, sea water
 - Prevision and Prevention of disasters
 - Planning of surface and GW protection: Protection zones - 3 zones around the tapping area
- Regional level for Regione Molise:
 - Pollution Prevention and water quality control
 - Planning and Management of Water Supply
- In the test area, the application of the actual legislation is not completely efficient

Remarks

Kuschnig: Do you intend also some water plans for single water works?

Petrella: This will be a topic for the next day, for implementation.

2.4.6 Greece – PP12 – water management practices

Presentation is given by Athanasios Soupilas.

An overview on the current water management practices of EYATH is given.

- Minimize water losses – water sources safety – new water sources (treated effluents reuse; artificial recharge efforts) – membrane-microfiltration pilot practices
- Expectation of End Users:
 - Decision Support System, to face climate change
 - Tools/Strategies to satisfy consumer needs
 - Water efficiency practices/ energy strategies
 - Safeguard water resources (Blueprint action in EU)
 - Water conservation for Carbon footprint in sustainable cities
- What to deal with in WP 7:
 - Water conservation measures (methods, metering, water losses, costing & pricing, ...)
 - Legislation (description of existing legislation; WFD and other EU directives, government and water suppliers' implementation level)
 - Strategy change in spatial planning

Remarks

Dimnic: Do you have plans for drinking water?

Soupilas: No only for treated water

Kuschnig: What means information of public, but no involvement?

Soupilas: E.g. new plant, there is no involvement unless the government tells so, but public should be involved.

Kuschnig: Target groups: the main is the water works, but also governmental institutions regulating water issues and support them.

Soupilas: Same opinion. We have to work for both target groups.

Kuschnig: Your role as waterworks is also to promote this project.

Soupilas: Yes, because one of the priorities of waterworks is also climate change.

2.4.7 Serbia IPA 2 PP

Presentation is given by Dejan Dimnic.

- Responsible ministries for certain aspects of water management: Health; Environment/Spatial Planning
- Basic water problems: gap between financial demand and actual investment
- In some regions problems with water quality and in some with water quantity
- Price of water is too low in regard to costs

Remarks

Soupilas: Why you expect bigger industrial development, because of private or government investments?

Dimnic: Because now it is twice less than in the late 80ies, both therefore.

Nachtnebel: Does it mean you have to supply or do they have their own wells?

Dimnic: This depends on the system and on the part of the country where it is located.

Nachtnebel: Do you expect the water price to rise in the future?

Dimnic: Yes, because it is below economic levels.

2.4.8 Serbia IPA 1 PP

Presentation is given by Petar Dokmanovic.

- For the ICPDR report, 102 groundwater bodies have been identified and delineated
- 16 sources are at risk to fail concerning chemical status, 11 sources are at risk of failing in quantity
- Limits and problems in water mgmt practices:
 - Legislation not harmonized
 - Lack of funding
 - Low prices of public water
 - Excessive water consumption, etc
- Water legislation: Water Masterplan of Serbia – integrative WMS for whole Serbia
- Law of waters of Serbia: new definitions according to WFD, definition and content for water management plans
- National Act on groundwater reserves assessment: should be applied on all new sources and existing sources for drinking water resources
- National Act on water protection zones: 3 zones should be delineated
- Regulation of hygienic accuracy of water
- Objectives of current national GW projects:
 - Assessing GW resources
 - Assessing GW Quality
 - Aquifer vulnerability assessment
 - Introducing GW control solutions
 - Establishing monitoring for all aquifer types
 - Ensuring adequate source sanitary protection

Remarks

Cencur-Curk: Slovenia has the same problem regarding cooperation with ministries, different responsibility of ministries.

Markovic: Same problem in Croatia.

Tahy: HU - Health ministry for drinking water, for GW it is environment.

Vafeiadis: In former time in GR it was even 5 ministries. Now it is 6, including the ministry of environment.

Nachtnebel: Are GW vulnerability map are designed for whole Serbia, same standards applied?

Milanovic: For whole Serbia, where data is available, regional maps, with 5 different maps with layers.

Soupilas: This masterplan was produced by whom? We have faced problems when passing information from end users to ministries or water works.

Dokmanovic: Ministry for Water Management; will be adapted to WFD

Nachtnebel: Is there a whole river management plan for the whole Danube basin available?

Dimnic: There is difference between master plan for Serbia and other master plans. It is necessary to make special reservation for places for water reservoirs planned, because no one can say what will happen in the future.

Marina Mader closes the first day of TW 71. Tamara Markovic presents organizational issues of the field trip and hydrologic characteristics of Blato Polje test area.

Day 2

Marina Mader opens the second day of TW71 workshop.

2.4.9 Croatia – 10% PP01

Tamara Markovic presents legislative issues of Croatia.

- In natural reservoirs there are special restrictions, and special protection zones (3 zones)
- On the Croatian test sites, protection started very early - 1954 (e.g. Vransko lake, main road was changed then)
- Sanitary protection zones were determined for Bokanjansko Blato
- CC-WaterS results shall support the delineation of these sanitary protection zones
- Sanitary protection zones at Blato test area according to new regulation of 2002

2.5 Partner presentations - Management practices

2.5.1 Austria – LP

Presentation is given by Gerhard Kuschnig.

- Internal strategy of Vienna Waterworks:
 - 25% losses in the pipe network in the 1970s, programme started
 - Today it is about 10% (2% internal use)
 - Current problems today due to the load of heavy trucks on the streets, new methods have to be found.
 - Checking of pipes after water meter, commitment to repair leakages
 - Cost covering prices for drinking water and waste water (waste water prices are higher than for drinking water); opportunity costs
 - Ban of water wasting devices for cooling
 - Additional sources are hard to find for Vienna, so existing sources have to be exploited more efficiently

Remarks

Cencur-Curk: In SL, the state doesn't allow to rise water costs, what about Austria?

Kuschnig: Acc. to WFD it should be cost covering, the law states you should not have more than 105 % covering the costs, and only if investments are planned it can be raised. The Vienna City Council decides on the water price, 17% of the price is the overhead of the city administration

Terzic: HR even more than 25% losses and big problems with shortage, e.g. on Vis.

Bogardi: What about measures and management option going beyond waterworks?

Kuschnig: External strategies would be on a legal basis. We have to apply the legal framework anyway.

2.5.2 Austria - LP

Presentation is given by Roland Köck.

- Water works and forest department of Vienna have elaborated guidelines for silvicultural measures
- Clear cuts are strictly forbidden
- Only special harvesting techniques have to be applied
- No use of pesticides or fertilizers
- Remigration of wolves welcome, damage on forest is less due to change of game behaviour
- Still gaps in the existing guidelines
- Transition of homogenous spruce to mixed forest stands is still in the starting phase
- Information of involved staff is ongoing
- New challenges:
 - Climate change will alter the tree growing conditions
 - Transition of forest ecosystems
 - Management plans

2.5.3 Austria - PP01, PP02

Presentation is given by Roland Köck.

- Owner of the water protection zone Waidhofen is Austrian Federal Forests (ÖBf) and others, not the municipality itself
- Management guidelines on silvicultural measures should be demonstrated to the forest owners
- Elaboration of forest hydrotope model for this test area, also with regard to climate change
- Monetary compensation of additional expenses compared with timber yield focused forestry
- WSMS guidelines have to be defined and communicated to the owners

Remarks

Bogardi: Forest Hydrotope Model, as a result of WP 6 we will calculate the water supply risk, how can these FoHyMo rank alternate strategies?

Köck: For Vienna we can do that; for Waidhofen you can have e.g. for a clear cut system, so water protection functionality can be provided. It is forestry based.

Kuschnig: Important for protection of spring water: soil and vegetation, which should be ideal for the relevant site. This is what should be achieved in each point of the grid.

Bogardi: This is then related to water quality.

2.5.4 Slovenia – PP05

Presentation is given by Branka Zeleznik.

- In the protection zones for Ljubljana, there are many restrictions; money was paid to farmer not to use manure or pesticides in 2009 for the first time
- GW is monitored as source for drinking water

2.5.5 Italy – PP07

Presentation is given by Emma Petrella.

- WSMS: actual protection against pollution
- Problem: actual legislation is not coherent with actual pollution problem
- Future management measures: future grazing should be preserved
- Temporal changes have to be observed, which might cause microbial contamination

Remarks

Soupilas: Why you have microbial contamination

Petrella: Main land use is pasture that is why, water is not treated.

2.5.6 Serbia

Oral presentation is given by Dimnic:

- Main activities is to decrease the leakages and other parts of factored water
- In future, obtain an economic price
- Different situation within test areas, Belgrade will have enough alluvial resources even under climate change, water quality might be a risk
- Regarding Nis/Veliko Gradiste; there will be climate change problem due to e.g. increasing population

2.5.7 Greece

Marios Vafeiadis presents summary on main conclusions for WP7.

Factor for WSMS:

- Water availability
- Water consumption (Needs, regulations)
- Water distribution (infrastructure/Management, Development; governmental decisions)
- Regional development policy (Land uses, Network extensions; can be covered only by scenarios)
- Society evolution (can be regulated?; today media influences too)
- State and interregional regulations/laws (beyond our project, driven by international regulations)
- Our task is to produce to give some steps and guidelines based on the presented points.

2.6 Discussion on WP7 activities

The aims of the activities and the deadlines are presented and discussed.

2.6.1 General conclusions

- Results from other WPs are considered in management options
- Not only economic point of view for water works (number of shut down days, reduced income) has to be considered, but also human needs or ecosystems
- If the A1B model on climate change scenarios is used, you can incorporate all the options in this system presented by Istvan Bogardi
- Criteria for management options is still needed

2.6.2 Act. 7.1

- best practices in land use – safeguarding recharge areas of water resources for existing and potential water exploitation
 - WP5
 - WFD good water quality status by 2015 to be achieved
- proposal of additional surveys and methods for exploration of potential aquifers
 - Additional surveys and methods for aquifer exploration
- For AT partner, it is not important to detect additional aquifers, but to exploit the existing one more efficiently

2.6.3 Act. 7.2

- Partner should make short overview on legislative basis
- An “umbrella” –legislation (EU), and national legislation; analysis and explanation of EU-legislation, analysis of economic measures as stated in the WFD.
- Identification of problems, recommendations for new legislation

2.6.4 Act. 7.3

- parameter uncertainties affecting measure definition processes
- integration of uncertainties for water supply management measures
- mitigation measures for SEE and risk assessment to adapt water supply to CC and land use activities considering socio-economic aspects
- **water supply management system (WSMS)**
 - Add allocation management (managing water allocation) to act. 7.3
 - alternative supplies: also include water reuse; managing the yield of a source
 - consider land use change in the recharge are
 - delineation of water protection zones

2.6.5 Act. 7.4

- check and re-evaluation of measures applicability and socio-economic consequences with regard to implementation costs and public feasibility
- application of determined measures in test areas
- evaluation of effectiveness of actual adaptation measures and identification of deficiencies
- identification and integration of amendments for measures and WSMS improvements
- **recommendations for implementation of the system**
- **Act. 7.4 topic will be discussed at the TW 7.2 workshop**

2.6.6 Deadlines, dates

What	When
Act. 7.1	End of Aug. 2011
Act. 7.2	End of August 2011
Act. 7.3; 1 st step	30.10.2011
Act. 7.3; 2 nd step: ranking criteria (depends on output Act. 6.3)	30.10.2011
Act. 7.3; 3 rd step, evaluation of mgmt options with ranking criteria	15.01.2012
Act. 7.4	29.02.2012





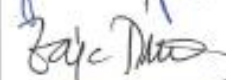

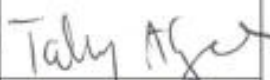



2.6.7 Additional workshops

- **Additional workshop for WP 7: TW72 will be in addition to SC5 and SB3 meeting in November 2011; 1,5 day duration is fine for TW 72, date is 14.-17.11.2011.**
- **Last TW 7.3 workshops will take place along PW3 meeting in January, which will take in place in Thessaloniki instead of Vienna, date will be from 23.-25.01.2012, TW73 workshop will last 2 days.**


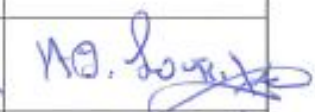



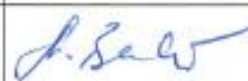



Meeting code	Date	Place	Hosted by (instead of)
SC5, SB3	14.-16.11.2011	Vienna, AT	PP1
TW72	16.-17.11.2011	Vienna, AT	LP (PP14)
PW3	23.-25.01.2012	Thessaloniki, GR	PP14 (LP)
TW73	25.-26.01.2012	Thessaloniki, GR	PP14

TW73 workshop is closed by Marina Mader.





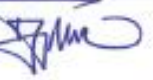
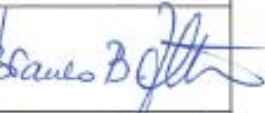
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