



# Interreg



EUROPEAN UNION

## Danube Transnational Programme

### **CAMARO-D**

## **Output T2.3 – Dialogues and workshops with relevant stakeholders**

Version 01

## **Contents**

**AGENDA / INVITATION**

**MINUTES**

**PARTICIPANT LIST**

## CLUSTER 1 - TRAINING SESSION

### Target-oriented land use and vegetation cover considering the protection of groundwater resources

Stadtsaal

Stelzhamerstraße 2a, 4400 Steyr

**13.11.2018**

The project CAMARO-D (Cooperating towards Advanced Management routines for land use impacts on the water regime in the Danube river basin) (<http://www.interreg-danube.eu/camaro-d>), financially supported by European Union funds (ERDF, IPA) within the Danube Transnational Programme 2014-2020, develops - within a two and a half year project duration – comprehensive recommendations towards a strategic policy for the implementation of an innovative transnational catchment-based “Land Use Development Plan” for the Danube River Basin.

By means of a new transnational guidance with a tailored, application-oriented tool-kit for relevant stakeholders and decision-makers a sustainable protection of water resources and improved flood risk prevention shall be provided.

Newly developed best practices in function-oriented sustainable land use management – considering also climate change issues – will be tested and documented within various Pilot Actions clustered according to the different interdependences between land use/vegetation cover and different water -types. The **pilot area “Groundwater field Steyr”** in Upper Austria is assigned to Cluster 1 dealing with target-oriented land use and vegetation cover according to the protection of groundwater resources.

By means of this **cluster and pilot specific training session for stakeholders/practitioners** the initiation of the practical tool-kit implementation will be conducted.

In the morning session short **presentations** about target-oriented silviculture, grassland management and agriculture towards sustainable groundwater protection and impacts of climate change on water supply will be held by Austrian and Slovenian project partners followed by **discussions**. In the afternoon during an **excursion** (going by an organized bus) to the pilot area “Drinking-water protection area Dietacher Holz” best practices in the field of silviculture and agriculture and their potential implementation respectively challenges will be discussed.

All presentations and discussions will be simultaneously translated into English.

## AGENDA

9:00 - 9:15	Registration	
9:15 - 9:45	<p>Welcome by Host and Lead Partner</p> <p>Short introduction of the project <b>CAMARO-D</b></p>	<p>Hubert Siegel (BMNT)</p>
<b>SESSION 1: Presentation of Cluster-Manuals and moderated discussions</b>		
9:45 - 10:15	<p>Groundwater protection through targeted silviculture</p> <p>Discussion</p>	<p>Roland Koeck (BOKU)</p> <p>Stefan Kollarits (PRISMA)</p>
10:15 - 10:45	<p>Mountain grassland management towards groundwater protection</p> <p>Discussion</p>	<p>Gerhard Kuschnig (MA31, Vienna Water)</p> <p>Stefan Kollarits</p>
<b>10:45 - 11:15</b>	<b>Coffee break</b>	
11:15 - 11:45	<p>Measures for agricultural activities in drinking water protection areas</p> <p>Discussion</p>	<p>Branka Bračič Železnik (Public Water Utility JP VO_KA, Ljubljana)</p> <p>Stefan Kollarits</p>
11:45 - 12:15	<p>Climate change and impact on water supply</p> <p>Discussion</p>	<p>Barbara Čenčur Curk (University of Ljubljana)</p> <p>Stefan Kollarits</p>

12:15 - 13:45	Lunch	
SESSION 2: FIELD-TRIP AND TESTING		
13:45 - 17:00	<p>Going by bus to the pilot area “Drinking-water protection area Dietacher Holz” and discussing:</p> <p>Groundwater protection and tailored silviculture</p> <p>Agriculture and drinking water protection</p>	<p>Roland Koeck (BOKU)</p> <p>Matthias Gaissberger (Chamber of Agriculture, Upper Austria)</p>

## ORGANISATIONAL ISSUES

**Registration:** please send an e-mail with your contact data to **Elisabeth Gerhardt** ([elisabeth.gerhardt@bfw.gv.at](mailto:elisabeth.gerhardt@bfw.gv.at)) until **05.10.2018**

### Accommodation:

Gasthof Mayr \*\*\* <https://www.landgasthof-mayr.at/>, Pfarrplatz 3, A-4400 St. Ulrich bei Steyr (5 min. by car to venue)

Gasthof Wirt im Feld\*\*\* <https://www.wirtimfeld.at>, Ennsenstr. 99, A-4407 Steyr-Dietachdorf (10-15 min. by car to venue)



# Interreg



## Danube Transnational Programme

### **CAMARO-D**

**Cluster & pilot specific  
training-session**

**Cluster 1- Minutes**

**Output OT2.3**

Version 01 – February 2019

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## 1. Summary of the presentations and discussions

After a short **introduction of the project CAMARO-D by Hubert SIEGEL** the main results of different Cluster-Manuals were presented:

### 1.1. Groundwater protection through targeted silviculture/Roland Koeck

Important for the drinking water protection is

- Filtering-function of the forest soil (better than within agricultural areas)  
Example Tschernobyl: Caesium can be still determined as it is stored in the forest area (in contrast to agricultural areas)
- Cooling of the soil horizons by shading through trees
- Avoidance of clear cutting of more than 3.000 - 4.000 m<sup>2</sup>
- Fostering of the Natural Forest Society
- Stable, layered and uneven-aged forests (are also more stable to wind)
- Avoidance of forest roads
- Forest-ecologically sustainable wild ungulate stocks

DWPZ Dietacher Holz: actually spruce plantations are widespread – this is contrary to the natural forest society, therefore these stands are very instable (bark-beetle infestations, windthrow...)

**Recommendation:** application of the Forest-Hydrotop-Model (map was already developed)

- ➔ oak and hornbeam forests = natural forest society  
Possible tree species for this area: oak, hornbeam, Norway maple, field maple, bird cherry, lime, beech, birch, trembling poplar, fir

25-100 cm thick soils (with clay content) - suitable for forests, growing locations possible (also e.g. oak)

Oak, hornbeam, Norway maple have already been planted by the town of Steyr (according to Forest-Hydrotop-model)

Groundwater recharge by river Enns, nevertheless the vegetation with forest is best there

#### Discussion:

Bark beetle control without chemicals (e.g. debarking)

Cutting-age between maple and spruce is hardly different



Groundwater recharge: quite no difference between coniferous and deciduous tree species

Guidelines for forest management exist in the Decree of the DWPZ

Upper Austria: incentives for afforestation measures only if approx. 40% of the wood is deciduous

Increasing understanding among forest owners (due to calamities) in the last years

## **1.2. Mountain grassland management towards groundwater protection/Franz Bergler**

Problem especially this year too little water for the cattle on the mountain pasture, 80% of the alpine pastures in Austria have a satisfactory water supply

Spring tapping on the slope must be protected from cattle influence (large-scaled fencing important)

Mountain mowing is the only alternative to pasture, but too expensive (compared to the valley)

Soil of alpine pasture is much shallower (A-horizon) than forest soil

Problem: Nitrate-entry about slurry (by cows) - application plan (with slurry pits)

Sewage: Landowners are usually not the alpine pasture owners → best control, because landowners pay attention if something does not fit

Important: registration-book of sewage (for control purposes) - competence lies within the district authorities

plant-based purification system is also possible in high altitudes

Max. 4 months long cultivation on the mountain pasture → investments (e.g. storage capacity of fertilizer, waste water systems) only very small

In the valley portion pasture, within mountain pastures not so widespread → problems with overgrazing: trampling damages, fertilizer concentrations

Solution: paddock pastures (with fences) which are alternated temporarily

### Discussion:

Very important is the information to the farmers (e.g. Bergler has given lectures), importance is not seen by the farmers (due to traditions, mainly within old farmers - do not really see the

importance of water, only explanation which is successful in those cases: higher yield and fencing of dolines to avoid livestock losses)

Problem: part-time farmers, without compensatory payments alpine pasture management would no longer be possible

Weed control ecologically oriented (by hand or machine), followed by sowing of site-specific seed

### **1.3. Best practice restrictions for drinking water quality in agricultural land/Branka Bračić Železnik**

In Slovenia Nitrate pollution is very high

17% of the territory is DWPZ

The biggest pollution through: Atrazine, plant protection products

DWPZ in Ljubljana:

- Inner DWPZ
- Middle DWPZ (400 days residence time)
- Outer DWPZ

Within these areas certain prohibitions and restrictions due to Advisory Code of Good Agricultural Practice (farmers get financial compensation, which is included in the price of water)

Problem: Agriculture around most of the DWPZ (still Atrazine from earlier years in 100m depth)

Due to climate change agrarian farming must change!

Discussion:

There is no way to estimate the Atrazine content and its resistance.

### **1.4. Climate change and impact on drinking water supply/Barbara Čenčur Curk**

8-9 % lower water recharge in the future

More floods and droughts in the last 10 years

Important: Development of Water Safety Plan (in terms of Quantity + Quality)

Example Ljubljana Field Aquifer: Transdisciplinary team (experts,...) etc. - all considering climate change

Law in Slovenia: each water supplier should have a reserve in case of quantity problems

#### Discussion:

Water Safety Plan is not yet so widespread (mostly only concerning quality)

In Poland they prepare it, problem: climate change has not been considered so far

MA31: Security plan was started last year, there are no empirical values

Problem: difficult for smaller water suppliers due to budget constraints

Water supplier usually have no influence on land use in the area (they are interviewed, but no one has to follow their recommendations)

Best Practice example in Austria: good collaboration between water suppliers and forestry, should be part of the Water Safety Plan

Problem in Slovenia: only very slow changes are possible, but regarding quality it is a Best Practice (regulations, incentives)

## 2. Excursion

Visit of the area where **afforestation** due to the Forest-Hydrotop-Model was partially already finalised respectively is ongoing (initiated by the water works of Steyr)

“Dietacher Holz” is a relictic alluvial forest (with gravel layer and clay soil)

Problems with bark-beetle infestations (since 2012) and windthrows (1990: 20 ha were destroyed), but as the groundwater recharge takes place by the river Enns there occurred no problems concerning drinking water protection

To avoid damages through especially roe deer and rabbits the afforestation areas have to be fenced

Within the last year a tendency occurred to plant Douglasie instead of spruce, but due to the lime content it is not suitable, fir would be better there; also larch is not suitable

In general according to drinking water protection it is better to leave the actual forest stands even if they do not fit to the Natural Forest Society, because the disturbances through forest measures would be too risky.

Visit of an **agricultural field** and discussion of the respective issues:

Since 2013 the departments of “soil” and “water” were merged within the Agricultural Chamber of Upper Austria as the interdependences between these two topics are very high. Problems with Nitrate occur within the “Traun-Enns-Platte” – therefore 2001 an association was founded by the Upper Austrian Federal State government with several working groups (with about 2.000 farmers), each district has a supervisor.

These actions were conducted in strong correlation with the Austrian Agro-Environmental Programme (ÖPUL), which is a voluntary option (→ higher motivation for farmers) for sustainable agriculture:

Preventive groundwater protection on arable land (limits for fertilization and plant protection, intensive intercropping – very important also regarding climate change as the humus content has to be maintained and intercropping stores nutrients, whereas fallow land is not suitable in terms of drinking water protection as humus content and pore volume are lower!)

Maps for soil estimation (type and form) were developed: in this area the soil is shallow.

In spring good yields, otherwise not so good (high fluctuations due to precipitation).

Biodiversity-fields on shallow soils are fostered (by ÖPUL).

Nitrogen balance is over the year quite balanced.

Discussion about “Organic farming” and its influence concerning drinking water protection:

Nitrogen-entry is relatively high due to yield losses and organic fertilizer.

## 3. Photos

### 3.1. Presentations:












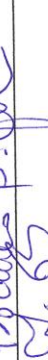








### 3.2. Excursion:







**TRAININGSWORKSHOP CLUSTER 1**  
**Steyr, 13.11.2018**

NACHNAME	VORNAME	INSTITUTION	UNTERSCHRIFT
Ambrus	Magdolna	General Directorate of Water Management (OVF)	
Arbeitshuber	Franz	Magistrat Steyr, Abt. Bauwirtschaft und Sachverständigendienst	
Baniček	Ivona	Croatian Geological Survey (HGI-CGS)	
Bergler	Franz	Agrarbezirksbehörde Steiermark	
Bittnar	Daniel	Technische Universität München	
Blaimauer	Klemens	Magistrat Steyr BA Steyr-LAND	
Bračić Zeleznik	Branka	JP VO-KA Ljubljana	
Breyer	Josef	Stadtbetriebe Steyr	
Čenčur Curk	Barbara	University of Ljubljana	
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Ferstl	Michael	Stmk. Landesreg., Abt. Wasserwirtschaft	
Gebhardt	Karl-Alexander	Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg, Abt. Boden und Umwelt (FVA_BW)	
Gerhardt	Elisabeth	BFW	
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Griebinger Magdalena Dobra. Wasser-Schule Dorating, 4400



Hauser	Wilhelm	Vizebürgermeister Stadt Steyr		<i>Hans Oley</i>
Hauser-	Wilhelm	IMA31		
Hegyi	Robert	General Directorate of Water Management (OVF)		<i>Robert</i>
Hochgatterer	Peter	Stadtbetriebe Steyr		
Jasser <i>F. G. G. G.</i>	Christoph <i>H. G. G.</i>	Bezirkshauptmannschaft Steyr-Land LTD OÜ		<i>Christoph</i>
Jazwinski	Norbert	Natural Water Management Authority (KZGW)		<i>Norbert</i>
Józsa	Orsolya	Herman Otto Institute (HOI-LTD)		<i>Orsolya</i>
Kaufmann	Reinhard	Stadtrat		<i>Reinhard</i>
Köck	Roland	BOKU		<i>Roland</i>
Kollarits	Stefan	PRISMA solutions		<i>Stefan</i>
Koplányi	Nóra	Herman Otto Institute (HOI-LTD)		<i>Nóra</i>
Kromp	Harald	<del>Bezirkshauptmannschaft Steyr-Land</del> MA 31 Wiener Wasser		<i>Harald</i>
Mayer	Renate	HBLFA Raumberg-Gumpenstein		<i>Mayer</i>
Patekar	Matko	Croatian Geological Survey (HGI-CGS)		<i>Matko</i>
Plank	Claudia	HBLFA Raumberg-Gumpenstein		<i>Plank</i>
Pomucz	Boglárka	Herman Otto Institute (HOI-LTD)		<i>Pomucz</i>
Resch	Johannes	Magistrat Steyr		<i>Resch</i>
Rianna	Guido	Euro-Mediterranean Centre on Climate Change Foundation		<i>Guido</i>

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