

Introduction

The Sustainable InterGral Management Approach (SIGMA) is now running for two years. All ten partners have finalized the master plans for developing their wetland or lake areas. Project activities are contributing to achieving the objective of raising awareness of the link between the regions and the preparation of regional wetlands and lakes. A template of the action and funding plan is ready for the next phase, the implementation of the master plans. This will help the partners to work more effective on their regional planning resulting in an integral approach with all stakeholder in the region, environmental and political issues and encourage good practices to work on. A dynamic database is set up to get actual information and stimulate the exchange between the partners. This has helped them to define the core qualities of the regions and has stimulate bilateral transfer of experts between partners. This helps for sharing good practices and the start on jointly developed new approaches. In this brochure you will find the overview of the master plans. The next step in the master planning procedure is discussed, the action and funding plans. Key principles of the funding plans is discussed at the biannual meeting, resulting in identifying the factors to underpin the funding plans and sharing experience between the partners. For more information see www.sigmaforwater.org

Hans Konst,
vice governor province of Fryslân



newsletter

Lakes

The Netherlands Municipality of Smallerland

Oudega on the waterfront

What is the project about?

Both the province and municipality consider an area development near the Frisian village Oudega in order to:

1. make a stronger connection between main city of Drachten and de Frisian lakes;
2. meet the requirements and wishes of sustainable water management;
3. strengthen the natural environment of the national park and diverting the recreational pressure away from the nearby National Park Alde Feanen;
4. utilize the changes of tourism for employment and vitality in the countryside.

Project Description

The area development will form an important link within the regional structure with regards to water sports facilities and connections. The development especially increases the recreational opportunities and water sports prospects near the city of Drachten and will make a stronger connection tot the Frisian lake area. Additionally, it can contribute to a reduction in growing recreational pressure on the neighbouring National Park Alde Feanen (Natura2000 Reserve). The lake also contributes to two other aims: the increase of the Frisian 'boezem' (main water storage system in the province of Fryslân) and the strengthening of existing and developing of new natural environments. New activities will lead tot employment and vitality of the countryside. Tourism and recreation is one of the more potentially successful economic sectors in Fryslân. The sector generates employment and vitality in the countryside.

The development will create a pattern of wetlands and new water with environmentally friendly shores and a number of recreational facilities such as a new waterway, a small beach with a parking from where you start walking and cycling routes, mooring places and have opportunities for angling.



Problem

Accept for finding the financial back-up and political support, there is no urgent problem. The main goal of the development is to make the area future proof and keep it liveable for the long-term by connecting Drachten to the Frisian Lakes. A secondary goal is to relieve National Park (Natura2000 area) from growing recreational pressure and to use the natural gradient in the landscape between the higher national landscape and the lower wetlands of the national park.

Goal

For funding Smallerland aims for an integral approach; 'linking opportunities'. The project tries to combine several small scale projects together. We want to combine measures which need to be implemented from the European Water Framework Directive, water retention, bringing clean water in to the National Park and activities for tourism.

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provinsje fryslân
provincie fryslân



Germany Merseburg Innovation & Technology Centre

Lake Geiseltal

What is the project about?

Development of a new lake in a former open cast mining area and integrate this development in the existing water (eco)system.

Project Description

The region, where the Geiseltal Lake is located, was former one of the largest coal mining fields in Germany and a feed-stock for the chemical industry. The flooding of the lake was finished April 2011. And now it is the largest artificial lake in Germany, with app. 18,7 square kilometres lake surface. The lake has a massive tourism potential, but also high potential for use of Renewable Energies. In August 2012 the Geiseltal Lake gains a partial approval for use.

Present projects in planning and implementation:

1. Marina Muecheln and Braunsbedra;
2. geological and archaeological exhibition-park around the lake;
3. wine agriculture;

4. Pilgrim route (St Jacobs);
5. recreation possibilities: beaches, camp sites, walking and cycling routes;
6. apartments/ flats for residence and vacancies.

Problem

- quality of water, final level of water;
- bank stability;
- ammunition depot, pig fattening factory;
- complexity of different planning dimensions and responsibilities;
- coordination of different interest and stakeholders and single activities;
- insufficient communication and coordination;
- decreasing financial support after 2013;
- Nachterstedt catastrophe in 2009: LMBV operator, 90 km distance from the Geiseltal Lake, reason unclear, insecurity for development of other lakes

Goal

Sustainable touristic development; lake access and partial use after ensuring safety (bank stability)

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Poland Mineral and Energy Economy Research Institute of Polish Academy of Science

Gorka Quarry and Balaton reservoir

What is the project about?

Development of the proposal for reclamation the Gorka

quarry to protect nearby areas from water pollution and to elaborate the plan for Balaton reservoir as a touristic area.

Project Description

Gorka quarry is situated on waste disposal site (the area of 7,1 ha). It contains approximately 1 million tons of waste:

- from the alumina industry (red mud),
- from construction industry (rubble),
- refractory material and sludge from wastewater treatment plant.

A pond of an area of roughly 3 ha, in 2003 contained more than 500 000 m³ of polluted water of high alkalinity (pH 12-15) and slurries on the lagoon bottom amounted about 57 000 m³. Since 2005 the contaminated water has been pumped out (till 2010 about 600 000 m³). However, the reservoir is supplied with ground water at a rate of about 130 m³/ day, which is polluted by the disposed waste. It has a negative impact on the environment, especially on water in reservoir Balaton sited at a distance of about 1 km southwards. The postulated rehabilitation of the Górka quarry is scheduled in two stages:

- having the quarry dried off and preventing the effluents from re-lifting,
- rehabilitation of the quarry and elimination of the source of emission of pollution by having solid wastes either removed from the quarry or stabilized them on the spot.

Problem

Rehabilitation the quarry and elimination the source of pollution - remove of the disposed waste. However, the entities which generated and landfilled waste (about 40 years ago) do not exist any longer, which create legal problems.

Goal

The goal of the project is to sustainable manage of the area both in Górka quarry and Balaton reservoir and to create the recreation area for tourism and regional development.

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Greece Thessaly Region/University of Thessaly

Karla Lake

What is the project about?

Restoration of Karla Lake (the ancient Lake Viviis) in the Region of Thessaly which was fully drained in 1964 with dramatic effects on the environment.

Project Description

The area of the new reservoir will be about 38 km². The basic tasks the Karla Lake Restoration Project is willing to achieve are:

- Sustainable Lake development through strict minimum water level restrictions;
- Sustainable irrigation conditions based on a max annual water withdraw of 60 million m³;

- Sustainable water supply to the city of Volos;
- Development of an Info-Center and a Museum regarding the environment;
- Environmental education/promotion activities (public awareness)
- Planting trees project (along the perimeter and the embankments of the Lake)
- Development of Islets for birds and animals inside a healthy Wetland
- Recreation facilities;
- Eco-tourism and recreation infrastructures/facilities (horse riding, cycling, walking paths, site-view, information kiosks, picnics, camping, observation posts, recreation/athletic sites, parking, rowing site development).

Problem

The draining of the Karla Lake is acknowledged today as the greatest environmental crime in Greece that took place in the 20th century. There were many negative impacts. Regarding those referred to the natural environment, are:

- decrease of the humidity level affecting the area's micro-climate;
- desertification and frost;
- lowering of the aquifers' water tables;
- land cracks (of more than 300m deep);
- springs drained;
- water shortage conditions;
- water quality problems in the city of Volos;
- degradation of the Pagasitikos Gulf ecosystem; and
- exhaustion to the limits of extinction of fish species, flora and fauna.

Goal

The goal of the project is to re-create the Karla Lake to undo the damage that has been done to flora, fauna and with that also to the local people.

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Wetlands

Germany Mecklenburg lake district administration

Obere Peene

What is the project about?

Renaturation projects were implemented in the main river valleys for larger fen areas, but there are many smaller fen areas outside those valleys also with a demand for measures. Most of these areas are cultivated and used as grassland.

Project Description

The Mecklenburg Lake District is a growing tourist attraction between Baltic Sea and the great lakes of Mecklenburg. It covers an area of 1,921 km², 79 % of which is agriculturally used as farmland and 14% is used for forestry. The 70 km river Peene cuts through the area, 19% of which is covered with wetlands. The pilot area is located in the Southern part of the district of Demmin and includes the area of the Kittendorfer Peene. The area is hydrologically operated by the



water and land community Obere Peene. The aims of regional development will be considered (agriculture, tourism, nature protection). Planned short term actions are the analysis of the damming facilities situation, the optimization of these facilities and the development of the master plan and action plan.

Problem

It is difficult to treat the smaller wetland areas because numerous facilities from the sixties to the eighties are out of function.

Goal

The expected outputs and results of the project are:

- Inventory of existing drainage and damming facilities in the pilot area;
- Check of functioning and necessity of drainage and damming facilities;
- Investigation of water balance in the pilot area;
- Determination of the ownership situation and the operation responsibility of drainage and damming facilities (privilege to dam);
- Assessment of further treatment of the drainage and damming facilities
- Distinction by further development of the areas (Areas for further agricultural use; Areas for fen restoration, water storage; Areas for recreation and tourism);
- Distinction by treatment of the facilities: (Removal; Reconstruction; New installation);
- Assignment of responsibility and ownership;
- Optimization of the facilities;
- Master plan as a tool for later actions in different wetland areas with the aim of sustainable water management for agriculture as well as for natural development in the fen areas.

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Scotland UK IRR1

Seven Lochs Wetlands park

What is the project about?

The Gartloch Gartcosh Green Network Strategy provides a framework for the development of sustainable local communities in a large urban fringe area in north-west Glasgow. The aim is to utilize existing assets to create a new wetland park of national significance, with links to a wider network of green spaces. This will enhance the area's biodiversity, generate new opportunities for leisure, recreation and tourism and establish the area as an attractive place to live and do business.

Project Description

The Green Network will strive to improve connections between areas of wetland, woodland and grassland. Environmental projects, such as the enhancement of wetland features,

will also bring about improvements to the landscape which will help limit the visual impact of the new built environment. To ensure the success of the area as a local and regional amenity, accessibility is vital. Improvements to pathways and cycle routes, supported by a programme of activities, better signs and improved visitor facilities, will encourage recreational use within and beyond the area.

Problem

Much of the area is on the urban fringe - and is surrounded by build development. Some housing around the site is of poor quality and many areas suffer from multiple deprivation. Although important habitats and species are present the landscape is degraded and often of poor quality. The area's existing green space resources will come under further pressure in the coming years due to regeneration initiatives and the potential creation of up to 4,300 new homes in the period to 2025.

Goal

The aim is to set out and define the actions required to deliver the vision of a high quality regional Wetland Park for Gartloch Gartcosh, which will protect and enhance the area's natural environment while promoting it as a national visitor attraction. Management of the Wetland Park and associated infrastructure will also create opportunities for training, volunteering and business development. The Green Network will also seek opportunities to encourage the growth of social enterprises.

Visitor facilities will be developed to promote the area's ecological and cultural heritage and to provide information on fu-

ture development plans. Education programmes will be designed to encourage schools and other groups to visit the area.

There will be two major outputs by the end of 2012:

- A final vision and master plan for the Seven Lochs Wetland Park;
- A communication and community engagement plan for the new Wetland Park

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Romania Buzau Ialomita Water Basin Administration

Calmatui river

What is the project about?

By improving the water management system in the region we will contribute to implementation of EU Water Framework Directive (WFD) and Wetland restoration – measure to achieve good potential for heavily modified waterbody (corpul de apa Dunare-Chiciu - Isaccea).

Project Description

The pilot area situated in the south-eastern of Romania, has approx. 200 hectares and it is under the jurisdiction of the Bertestii de Jos village – Braila county. The wetland proposed to be restored is located in the flood plain of the lower part of Calmatui watercourse, at the confluence with Danube river.

Problem

Wetlands habitats have been drastically affected in the last years due to the straightening of river course and changing of wetlands into agricultural lands. In the area essential changes of biotical and abiotical parameters were registered owing to hydro ameliorative constructions and atropical pressure (damming, replacement of the plain, special vegetation with uniform plantation of hybrid poplars, agricultural cultures and grazing).

Goal

Our project goals are:

- Strengthening the ecological values in this area;
- Restoring the wetlands and the natural processes;

- Improving the level of life of the locals due to the tourism development and the participation of those in new activities;
- A better understanding of perturbing factors and the possibility of reducing the negative aspects of the climate in the area;
- Entering in the wetland field of major importance.

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Italy Development Agency Gal Genovese

Lavagna river - Coreglia Plain

What is the project about?

The master plan is focused on the creation of a blue corridor along the Lavagna River by the development of leisure and sportive infrastructures such as paths, cycle tracks, riding paths

Project Description



The pilot area is the Lavagna River Plain and particularly the Coreglia Plain, where the stream Lavagna flows. The area is part of the wider river basin Entella, located in the Province of Genoa in Liguria. This basin so far total 376 km². Coreglia Plain is inside the Municipality of Coreglia Ligure which since 2007 has obtained the certification for the environment UNI EN ISO 14001 and which participates to the Vivi Viridis Project for the development of environmental sustainability actions and promotion of the territory.

Problem

The main problem is to combine the various souls and therefore different scenarios of development of the Valley. In fact, after a past that saw a strong industrial development, in particular related to the extraction and processing of slate (now in crisis), handicraft development (mainly furniture) and agricultural. Nowadays these sectors are experiencing a period of crisis with considerable repercussions and impacts on the environment. It is possible to see a future development and expansion tied to tourism thanks to its proximity to the coast, in the presence of many second homes of Genoese, patterns of interest related to nature, sport and local products. The main problem is to mitigate the impacts on the environment and water.

Goal

It was found necessary to retrieve the item 'River' as an element of union among all the municipalities of the Valley and not as something that should be exploited (for water collection and discharge) but as a resource. The creation and management of a green-blue natural corridor will be an opportunity both for tourist and inhabitants, improving environment and life quality, and creating new opportunities for training, sport and business development. The aim is to utilize existing assets to create a wetland park of national significance with links to a wider network of green spaces. This will enhance the area's biodiversity, generate new opportunities for leisure, recreation and tourism and establish the area as an attractive place to live and do business. The aim is to create a green and blue corridor which could enhance the area's biodiversity, generate new opportunities for leisure, recreation and tourism and establish the area as an attractive place to live and do work.

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Hungary University of Debrecen Center for Environmental management & Policy

Hortobagy Wetland

The pilot study focuses on spatial reconstruction of wetlands in the area. Wetland restoration has started earlier (already in the 70's) in the area poor in water. Significant individual developments were made but without an overall conception. Building in earlier individual developments, a plan is under formulation underlying the conceptual wetland reconstruction developments and making them more efficient.

Project description

Works started in the 70's (Fekete-rét) still have been going on. Major wetland reconstruction works were done (Egyek-Pusztakócs, Pentezug) and abandoned rice fields also were eliminated. As the Hortobágy region is an area of water shortage, the reconstruction of the historical, large earlier wet-

lands needs artificial water supply. The study analyses the spatial development opportunities based on the two potential water sources targeting the possible restoration of original water conditions. River Hortobágy and Eastern Main Canal mean the two possible water sources. In case of the former one there are two types of solution: water withdrawal and transport (by canals) to the wetland reconstruction sites and



through the modification of the river's water level the original riverside wetlands, notches can be reconstructed. In the latter case the surface water flowing on grasslands also can be reconstructed. Eastern Main Canal provides significant water flow for new developments through a new water transport network supporting wetland reconstruction objectives. The pilot project integrates irrigation water demands, fish pond needs (there are fish ponds of more than 4000 ha in the area), recreational needs and supports the wetland development of the Hortobágy area.

Problem

A significant part of the Hortobágy area was wetland about

150 years ago. Following the drainage works required by flood constructions and agriculture Hortobágy is one of the driest parts of the country. The individual sometimes ad hoc reconstruction of the disappeared but partly visible wetlands started and partly is in process. A spatial wetland restoration development study is essential for the future wetland restoration works.

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Hungary South-Transdanubian Water Management Directorate

Szaporca Oxbow

What is the project about?

The project would initiate developments concerning oxbow on the target area. Due the great attention has drawn to the value oxbow represent in the national economy and in the range of economic opportunities it is high time to work out a master plan for the oxbows alongside the Dráva River. The project is also intended to help explore the ways the region could be developed – to seek out innovation opportunities within the less developed region. Overall, the interventions would further contribute to the achievement of sustainable life on the target area.

Project Description

First of all we plan to complete a baseline study for the whole project area. This will support the exact determination of the action plans and will include the zoological, botanical and other studies as well. Having this completed comes the search for the water replenishment opportunities. Therefore it is necessary to make an investigation concerning the hydrology, geodesy and the water budget of the project area. Beside that we collected almost every available records, maps and data of the area in order to take them also into consideration, use them and learn out of them. Based on all of these studies and plans we believe that we will be able to take stock of the situation of the project area and determine the possible best available solutions or even more alternatives.

Problem

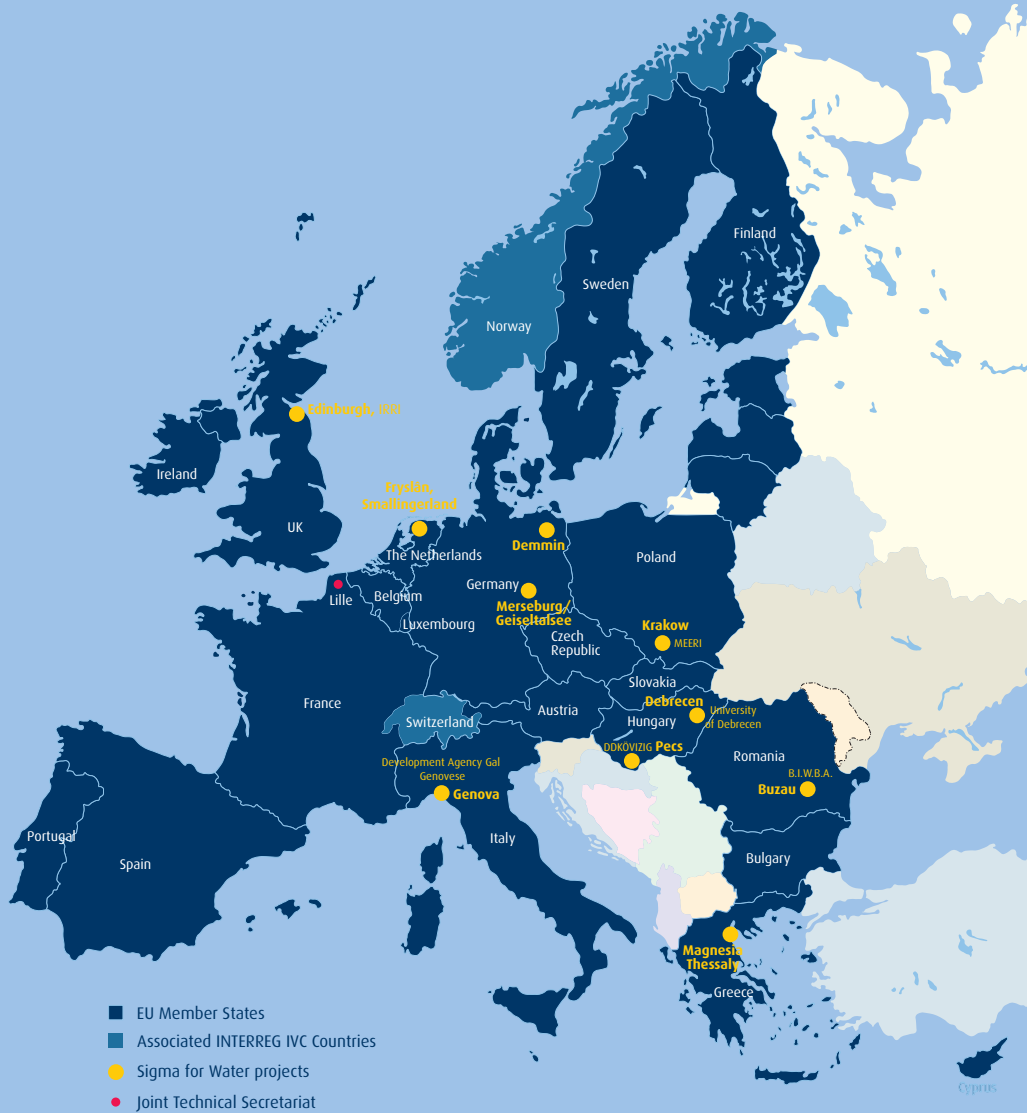
Because of the not so efficient river management the water replacement of this area became worse and consequently due to lack of water replenishment the sedimentation has far-gone in these oxbow lakes mostly all of them have silted up and are therefore non-utilizable during the last 150 years. The project will be implemented on the Szaporca Ancient-Dráva Oxbow consisting of 4 smaller lakes. All of the lakes will be investigated for utilization since the degradation and the sedimentation is significant.

Goal

The implementation of this project would ameliorate the bad status of the area and could be a good example for best practice of the utilization of silted up oxbows. The utilization of oxbow would allow improvement in the general livelihood of local citizens (indirect beneficiaries). Furthermore, it would help contractors, local government, civil community and tourists benefit directly from the project. Both the eco-tourism and dispersing near-natural agricultural production play an enormous role in the development of Hungarian villages along the Dráva River – as it may be considered as a single opportunity to improve the standard of living of the locals. The project would allow for providing new opportunities for the locals, yet, it would be ensured that all developments are in harmony with nature. The implementation of developments (building small canals, some dikes and a small dam) can contribute to the near-natural land use and the flood-protection of the area and it can also be a quality water source of other activities (e.g. eco-tourism, recreation, and fishing) or functions (e.g. agricultural functions). Because of these features the results of the project will be sustainable

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