LIFE Project Number

LIFE10 NAT/SI/142

MIDTERM Report

Covering the project activities from 31/01/2013 to 30/01/2014

Reporting Date

31/01/2014

LIFE+ PROJECT NAME or Acronym

Restoration of the Ljubljanica River corridor and improvement of the river's flow regime

Project Data

Project location	Ljubljana, Slovenia
Project start date:	01/01/2012
Project end date:	31/12/2015
Total Project duration (in months)	48 months
Total budget	1.188.015,00 €
Total eligible budget	1.168.765,00 €
EU contribution:	584.382,00 €
(%) of total costs	49 %
(%) of eligible costs	50 %

Beneficiary Data

Name Beneficiary	University of Ljubljana
Contact person	Mr Mitja Brilly
Postal address	Jamova cesta 2, SI-1000 Ljubljana
Visit address	Hajdrihova 28, SI-1000 Ljubljana
Telephone	+386 1 425-33-24
Fax:	+386 1 2519 897
E-mail	mitja.brilly@fgg.uni-lj.si
Project Website	http://ksh.fgg.uni-lj.si/ljubljanicaconnects

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2 Executive Summary

The project has two main objectives: the restoration of Ljubljanica river corridor biodiversity and the improvement of the ecological functions of heavily degraded section of Ljubljanica river from Ljubljana to the mouth of the Sava river and upstream along the Sava river. This area is an important habitat for fragmented and seriously deprived fish populations which are targeted in this project (Danube Salmon *Hucho hucho*, Danube Roach *Rutilus pigus* and Stribed Chub *Leuciscus souffia*). Once a uniform fish population along the rivers Sava and Ljubljanica will be reunited during this project. Nowadays the water level upstream of the dams on Ljubljanica River is too low and the main channel has no connection to tributaries during the low flows. This represents a major obstacle to habitat connectivity between the river sections.

The study within the project will serve as a basis for the preparation of the management plan and determining the hazards on site. According to study results also the implementation of conservation actions and additional works for the conservation and habitat restoration will be carried out. The restoration and upgrading of facilities on the river will allow free migration of fish species along the entire water body.

2.1 The state of the project

2.1.1 Administrative part

Administrative part of the project mostly deals with organisation of the work and preparation of the reports. After the initial problems with work organisation among the partners now the division of the work seems to function. After the extension of the first phase of the project now the timeline has been caught again and for now we are following without major delays.

2.1.2 Technical part

Project has 9 technical actions and 2 dissemination actions. Four out of nine technical actions should already been completed. There are three of them which are and one which are almost finished but the delays were caused mainly because of the high water flow in November 2013 damaged one of the targeted buildings on the Ljubljanica River. Other actions which should have according to the timetable already started are in progress. The dissemination actions are after slow beginning now implementing very intensive.

2.1.3 General Progress

In a year from the last reporting in January 2013, there were a lot of things done within the project. All key actions specified in the grant agreement have been successfully derived. The dynamics of the implementation is in line with the project timetable.

To perform the planned actions, we have intensively communicated with all partners, and have collected a lot of working material. Some data, collected in the field and from other sources, has been integrated into GIS system. There has been a lot of external communication with national, regional and local institutions, and other stakeholders, relevant for the project implementation, especially fisheries associations and other nongovernmental organizations. This was a key element to assure further smooth implementation of key project activities, and to locate potential problems and challenges to be addressed during the implementation.

Every partner had been delegated specific role in the project. The monitoring visit of the technical desk officer and the financial desk officer in October 2013 helped to clarify some of the issues and provide a better continuation of the project.

Two preparatory actions (A1 and A3) are completed, the sill in Zalog has been successfully reconstructed and the documentation for other two restoration projects is being collected.

So far we evaluate that the cooperation between the partners and the progress of the project are successful.

2.2 Problems encountered

2.2.1 Action C1

The implementation of the action C1 has been connected to significant obstacles that incurred while executing the activities to complete the action. The report on problems encountered during this action was prepared by Purgator.

At the beginning we have faced the fact that even though the sill is existing in the nature for more than 45 years there are still no evidences in the official cadastre that it is a water object. This issue has been discussed with the National Agency for Environment and it was agreed that the obligation to enter the object in the cadastre is not responsibility of the project beneficiaries and will be done by authorized institution.

After initial communication with state institutions responsible for issuing recommendations and permits for reconstruction, and investigation what kind of the documentation is needed for the reconstruction works to begin, initial meetings with a concessionary company Hidrotehnik d.d. have commenced. This company is holding a concession from the state to maintain the water infrastructure and river banks. The agreement with them was to prepare the project documentation and to obtain all permits needed for reconstruction with the intention to make separate contract for reconstruction works. By the end of February 2013 we have received the guidelines and recommendations needed for preparation of detailed technical plan needed to obtain the permit.

The Consent for reconstruction issued by Fisheries' Research institute of Slovenia has defined the time when the reconstruction is allowed. The consent for reconstruction works has defined the reconstruction to take place in September and October 2013. This has changed the planned dynamics for implementation of action C1 and postponed it for 7 months.

After obtaining the technical documentation from Hidrotehnik d.d. the documents have been inspected by Agency for Environment (ARSO), and have received the official approval on July 10th 2013. After receiving the approval we have started the negotiations with Hidrotehnik for implementing the reconstruction works. The company has in-between changed the management and the complete agreement had to be readdressed with new managers. Hidrotehnik has prolonged the negotiations and other discussions, and the summer holidays of persons responsible there have additionally burdened the dynamics of activities. Key problems of discussion have been the offered price for reconstruction and the time limits for it. We were not able to reach an agreement with Hidrotehnik about the price for the planned works. There was an amount provided by the project for which Hidrotehnik was not prepared to carry out the reconstruction. At the beginning of September 2013 it became clear that no agreement will be reached, and because the deadline was approaching really fast we have

started with a search for alternative companies, experienced in the implementation of water reconstruction works. By mid September we have succeeded in making the agreement with alternative company, and their offer has been within the project budget.

When renovation started the problem emerged soon as it became clear that calculations in the technical documentation have underestimated the quantities of material needed to repair the missing parts of the sill. In direct communication and under our control the additional volumes of materials have been agreed upon, and installed into the sill. This additional cost has increased the final reconstruction price but is still within the project budgetary resources. The renovated sill in Zalog now functions as intended, and has normally withstood all high waters during late Fall 2013 with causing no unwanted side effects.

In December 2013 we have been contacted by the Inspection for Environment requesting the clarification of the reconstruction works on the sill. The meeting with the inspectorate is to take place in February 2014. As all relevant documentation has been prepared on time we do not expect any problems but even the fact that we need to follow the needs of the inspectorate is bringing additional burden to the project.

2.2.2 Action C2

Action C2 is about reconstruction of two fish passes at Ambrožev trg and Fužine weir. The documentation was already prepared and the work at the Fužine fish pass were to start after the high water would run away but on 24th November 2013 the high water peak which was followed by heavy rain damaged the fish pass. Because of that more extensive reconstruction will be needed which will probably cause the higher costs. When the flow of the Ljubljanica River will reduce a detailed inspection and inventory of the damage incurred will be carried out. Based on this the new action plan will be prepared but the work will start with delay.

2.2.3 Action E2

Action E2 was planned as continuation of action A1. The main problem we have observed is that one year lasting ichthyologic researches (action A1) is to short period to find out or to determine changes in the fish population in the Ljubljanica River and both disconnected Natura 2000 sites. Because of that the end of action A1 was postponed and the action E2 also started with delay.

Analysing observations from the action A1 we have come to the conclusion that the cooperation with professionals who have already the necessary equipment would be more meaningful than a purchase of equipment. Because of that we would like to use the planned funds from action E2 equipment for action E2 external assistance. A more detailed explanation will be prepared subsequently.

2.2.4 Costs for personnel

There have been already 70 % of planned costs for personnel spent. The funds have been exceeded by Purgator d.o.o. and their explanation is given in annex 9. But the coordinating beneficiary University of Ljubljana is not satisfied with their explanation and because of that we will try to look for a solution of exceeded costs together. The University is not able to resign the costs of the personnel to Purgator but we will try to reach an agreement. The University has offered Purgator additional work on actions to cover the costs incurred but the final agreement was not reached yet.

3 Introduction

Project Life Ljubljanica connects deals with restoration of the Ljubljanica river corridor and improvement of its flow regime. The main objective of the project is reestablishment of the ecological function of the heavily degraded Ljubljanica river corridor in the Ljubljana urban area between two Natura 2000 areas (Ljubljansko Barje and Sava – Medvode – Kresnice).

The part of the Ljubljanica River which flows through the city has been heavily degraded in past and today it is considered as a threat rather than an important part of the natural environment. This part of the Ljubljanica River is an important habitat for the heavily endangered population of Danube Salmon (*Hucho hucho*), Danube Roach (*Rutilus pigus*) and Stribed Chub (*Leuciscus souffia*). All three fish species are on the Red list of Slovenian freshwater fish and cyclostomes in the category E - Endangered species and are also the targeted species of this project.

The goals of this project will be reached using different approaches. Preliminary study of the habitat and estimation of the target fish population has already been carried out. It was based on field trips and fish harvest. Eco hydrological and hydraulic conditions are constantly monitoring using a network of measuring devices which are measuring water temperature, oxygen concentration in the water and water level height, based on which the water flow will later be calculated. With these data analysis the water management plan will be prepared, we will point out the most critical locations in the river corridor and suggest or even performed some of the necessary solutions because in addition to the measurements also some concrete preservation actions will be performed. The fish passes on the Fužine weir and Ambrožev trg will be reconstructed and will be working again, the gates on the Ambrožev trg will be modernize which will allow more precise control of water level and the reconstruction of the sill in Zalog which is already complete will rise upstream water level which is very important especially during low flows.

The implementation of this project will improve the conditions in the urban part of Ljubljanica river corridor in which the target fish population live in. With some concrete preservation actions we will enable to the fish population the possibility of crossing barriers which are the result of human spatial intervention. So the migration of fish population will be enabled not only along the city part of Ljubljanica river but also by its tributaries and on from the estuary into the Sava river. We expect that in long term there will be changes observed in the migration of targeted fish population and which will be reported by the fishermen and by the experts from Slovenia and from other countries downstream the Sava River.

With this project we are trying to set the basis for other river restoration actions. In Slovenia there are a lot of rivers and most of them have been regulated during the time. There are fairy simple engineering processes required to minimize the impact of interventions and regulation buildings on rivers and to enable as much as possible natural habitat for life of water organisms. And that is what we would like to show with this project so that we will contribute to the implementation of such actions in other Slovenian rivers. In addition to the initiatives in the planning and implementation of recovery river corridors, we want to raise awareness of all residents and especially of those who are responsible at different local and national institutions.

4 Administrative part

4.1 Description of the management system

On the project there are three main phases. At the start of the project (set in the Grant agreement) their duration was planned to be different but because of the problems that we had at the beginning (poor communication between partners and problems with their organization, a lot of bureaucratic obstacles for restoration of the targeted buildings) the second phase started with delay. Because of that the new timeline for the phases which is more appropriate was set.

TIMELINE	2012				2013				2014				2015			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
PHASE - start																
PHASE - new																
WORKING METHOD	gatthering informations (meetings, emails, phone), field work, fish harvest						preparation of project documentation, collection of consents, implementation of conservation						analysis of the measured data			
ACTIVITIES	organizing work with partners, preliminary studies, measurement network						reconstruction of sill in Zalog, of fish passes at the weir in Fužine and at Ambrožev trg, imporvement of						conclusions about the results			

Figure 1: Schematic presentation of timeline of the project phases

The first phase that is almost completed is the starting phase. In its context coordination between the partners was carried out, preliminary study of the habitat, hydrological and hydraulic conditions in the Ljubljanica river corridor were performed, measurement network for eco hydrological survey was established and the preparation actions for implementation of concrete preservation actions were done. Working methods were mainly based on gathering informations via telephone conversations, emails and meetings but for preliminary studies and establishment of the measurement network some fieldwork and fish harvest were done too. This phase would have been finished if there wouldn't have been the accident at the fish pass in Fužine (more in chapter 5.1.5).

The second phase which is currently in progress is the phase of concrete conservation actions. There are three of them: reconstruction of the sill in Zalog (already completed), reconstruction of fish passes at the Fužine weir and Ambrožev trg and improvement of Ambrožev trg barrier. For successfully completing each action in this phase at first the preparation of project documentation and the collection of necessary consents are needed. Than the contractor will complete the necessary construction works under the professional supervision.

In the final phase there will be some conclusions made based on the observations of the situation after completing the conservation measures. Using the data from measurement network and from some additional monitoring stations which will be set after completion of every conservation action, the analysis of the new situation will be performed and the results will be explained.

Through all of the phases the actions for rising public awareness and the overall project operation and monitoring are carried out.

Coordinating beneficiary is University of Ljubljana, Faculty of civil and geodetic engineering, Chair of hydrology and hydraulic engineering. It has participated in several European projects in the field of hydrology in recent years. Employees at the department are dealing with hydrology, erosion and sedimentation, water regulation, soil improvement processes, hydro-technical facilities, use of water power and management of natural risks.

There are also two associated beneficiaries, Purgator d.o.o. and Geateh d.o.o. Purgator inženiring d.o.o. first project associate partner is a private company and their main activity is engineering and construction of waste water treatment plants (design, construction, finances and management) as well as other engagements in the field of civil engineering. The company is located in Postojna, and it cooperates with several experts from the field of water engineering. Most of them have international experience. In Geateh the main experts are civil engineers, engineers of chemical-technological disciplines and of environmental protection. They are dealing with areas of environmental protection, hydropower and urban infrastructure as well as project management.

In December 2013 the associate partner Purgator inženiring d.o.o. has merged with the company Purgator d.o.o. The merger will have no influence to the project implementation, as all obligations of the Purgator inženiring d.o.o. will be borne by the merging company.

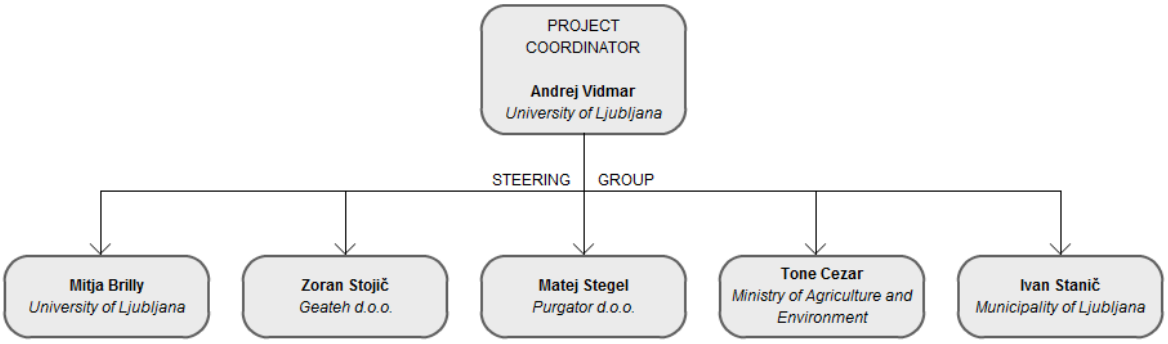

Figure 2: Organigramme of the project steering group

To organise the project and to make sure that it runs smoothly the project coordinator, if necessary called the meeting for the representatives of the partners involved in the project. There are steering group meeting organized at least two times per year. Minor complications were solved with phone calls and by e-mails as soon as they have occurred. In last year this way of coordinating the project turned out to function very well.

4.2 Evaluation of the management system

At the beginning of the project there were some problems among the partners identified. Just before the signing the contract for the project one of the partners has resigned so another one has to be found very quickly. This was Purgator d.o.o. who agreed to cooperate with us on the project. Soon after the project has started it became clear that Purgator had some problems with initial proposal of work division between employees, where it was said that individual contribution would be on a part time basis. At first a much bigger company should be a partner and it would have different options for completing the work on a project than small company like Purgator has.

In order to assure project implementation the budget lines under Direct Personnel Costs for Beneficiary No.3 has been grouped, while the whole amount of allocated funds remained the same. By introducing this change, project partner has assured better implementation of the project, as the personnel allocated to the project have a full concentration on the project, not being burdened with other tasks and assignments. This has caused a delay in the actual start of the project but all problems have now been solved and all the tasks are carried out by the set timeline.

The management of the system is based on the division of the work between the partners which is coordinated by project coordinator. Each of the partners has taken care of one scope of the project. Purgator d.o.o. is taking care of implementation of conservation actions. His job is to make sure the project documentation is prepared, the contractor is chosen and that the works are properly done. Geateh d.o.o. has taken care of fish surveillance and is responsible for being in contact with angling clubs to organize the monitoring by boat and to fish harvest and for marking and tagging the fish. Faculty of civil and geodetic engineering (University of Ljubljana) has taken control over the measurements of water flow, the eco hydrology measurement network and preparation of the models.

Assignments of the partners are of course changing through the project but the basic division of tasks as described above is very important because they are quite different among themselves and they require different approaches and solutions. Because of that working with partners is quite important so every one can do his job and can do it well.

If there are any questions or obscurities, the member of the steering group who has the question will turn for help to monitoring team. Communication with the monitoring team, and in case it is necessary with commission team too, conducts efficiently and without problems.

5 Technical part

5.1 Technical progress, per task

5.1.1 Action A1

Preliminary study of the habitat, hydrological and hydraulic conditions in the Ljubljanica river corridor, estimation of Danube Salmon, Danube Roach and Striped Chub population.

Description (what, how, where and when):

Because the Ljubljanica River has a long history of man interventions, past river channel regulations will be investigated. > completed

The past regulations that were performed in the Ljubljanica River channel were researched and summarized based on the reviewing historical records and existing documents from different archives.

Overview and description of fish population and its habitat as also situation on river morphology due to human impacts from available data basis will be prepared. > completed

With cooperation of few local angling clubs who have provided access to their data basis and with the use of faculty data base (Faculty of Civil and Geodetic Engineering, University of Ljubljana) and other freely accessible data bases the overview of the fish population and its habitats state was prepared.

Habitat conditions in the Ljubljanica River channel will be investigated by field work with electro-fishing fish sampling, fish marking and analysis of the fish population size. > completed within the action A1 and in progress within the action E2

There occurred a mistake when writing the plan for the project. In this action only first part of the sentence should be written: Habitat conditions in the Ljubljanica River channel will be investigated. The actions which are specified in the rest of the sentence were meant to be partially held under action E2 so some fish sampling was already done to complete the action A1 but the rest will be performed within the action E2.

Figure 3: Electrofishing

Figure 4: Marking of the fish

Within the action A1 electrofishing with cooperation of angling clubs Dolomiti and Vrhnika and Croatian ichthyologic society was carried out. Measurements and marking of the caught fish were performed under the supervision of the expert (annex 1).

Secondly, a database on the Ljubljanica River hydrological regime including ground water – surface water relations will be established. > completed

The data collected from the measuring network on the Ljubljanica River were arranged in a data base. Later when there were be even more information and data collected the analysis will be performed.

Overview of the Danube Salmon, Danube Roach and Striped Chub population in fragmented areas will be prepared. > completed

The overview of fish population was prepared based on the Fisheries management plan from 2010, from local fish societies registers and with observations on the field. As a result there were a few maps prepared for example showing spawning and nursery places of targeted fish population (annex 1).

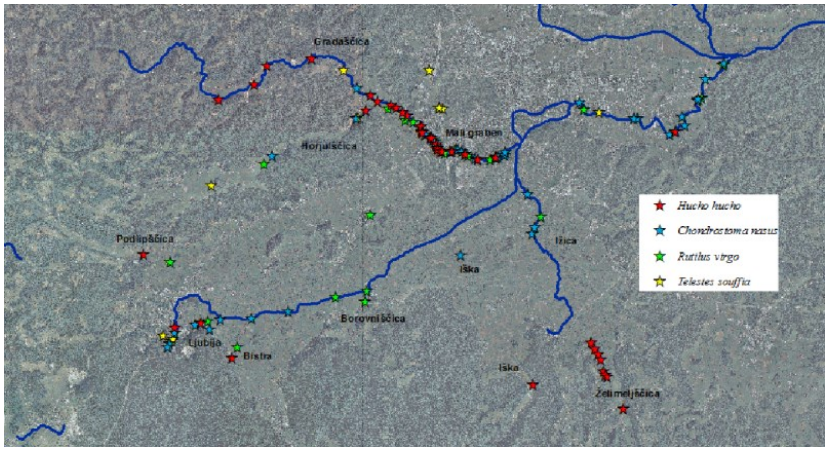

Figure 5: Example of the map with marked spawning and nursery places

Data will be collected from all available published and unpublished reports as also from available literature considering fish fauna in this region, ichthyologic researches, different kind of reports and observations on the field. In this way, analysis of the past and present changes in the ecological, hydrological and hydraulic trends will be possible. > completed

The overview of fish fauna in this region was prepared with help of an expert who had provided us with different reports and literature.

Reasons why this action is necessary:

The data obtained through this preparatory action will serve for the identification of critical eco hydrological issues and threats that will have to be considered while planning concrete conservation actions (actions A2, C1, C2, C3,). Furthermore, knowledge about the habitat condition is crucial for existence and development of Danube Salmon, Danube Roach and Striped Chub population. By implementing this action, stream carrying capacity will be estimated and possibilities for Danube Salmon, Danube Roach and Striped Chub rehabilitation will be assessed in detail.

Beneficiary responsible for implementation:
University of Ljubljana; carried out by Geateh d.o.o.

Expected results (quantitative information when possible):

Based on the results of the preliminary studies, basis for detailed planning of restoration measures for the improvement of the ecological coherency and connectivity between separated Natura 2000 sites will be assured. > achieved

Fish population and habitat conditions will be estimated as well as proposals for minimisation and/or elimination of negative impacts will be prepared. > achieved

Knowledge about the present situation of Danube Salmon, Danube Roach and Striped Chub population in the Ljubljanica River corridor and main tributaries will be obtained, priority list of the streams suitable for spawning places and nursery places will be prepared. > achieved

Action A1 has been completed.

Based on the original timetable this action should be finished by the end of the year 2012. At the beginning there were some difficulties in communication with local fishermen who also have very strict limitations when a man can perform an electrofishing. Because of waiting for a suitable period to do the necessary field work this action was postponed. It was also explained in the Progress report from 31/01/2013. Regardless of the delay the action is now successfully completed.

Annex: report on action A1 (document: annex1_actionA1.pdf)

5.1.2 Action A2

Preparatory actions for implementation of concrete conservation (restoration) actions.

Description (what, how, where and when):

Procedures for obtaining all the necessary permits (e.g. from The Institute of the Republic of Slovenia for Nature Conservation). > completed

The only reconstructed object which lies in the natural environment and is not a part of the building is the sill in Zalog. For its reconstruction the necessary permits from the Institute of the Republic of Slovenia for Nature Conservation, Fisheries Research Institute of Slovenia and Institute for the Protection of Cultural Heritage of Slovenia. Also the nature protection consent was obtained.

For the works on the Ambrožev trg barrier (fish pass and barrier reconstruction) approval for interventions because of the protection of technical heritage are steel needed. Obtaining the documents is in progress.

Obtaining detailed geodesy of the project area. > completed

The necessary geodetic measures were carried out in the area of the planned conservation actions and the terrestrial laser scanning on the fish pass in Fužine was performed.

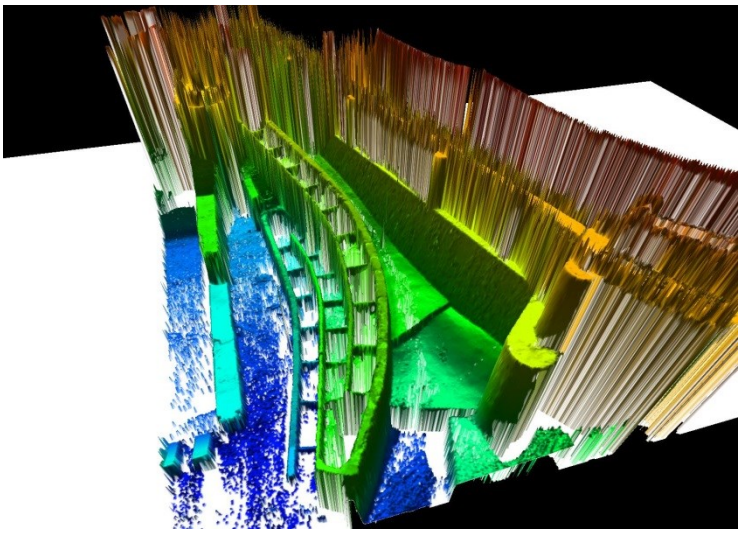

Figure 6: 3D terrestrial scan

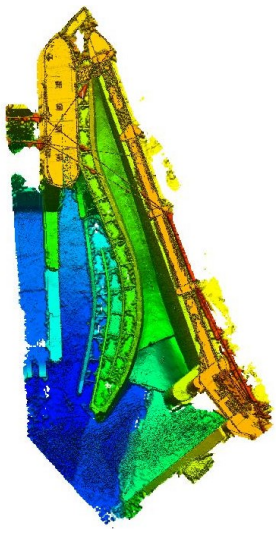

Figure 7: 2D terrestrial scan

Preparation of initial hydraulic model of the project area (based on the data obtained during action A1 implementation). Designing of channel habitat structures (based on the results of the initial hydraulic model). > completed

The initial hydraulic model was prepared using programmes Mike 11 in Mike FLOOD (annex 2). Later during the project when the more data will be gathered this initial model will be upgraded.

Preparation of technical documentation. This documentation will be used for concrete action implementation (actions C1, C2, C3). > in progress

Most of those preparations are connected to implementation of C-actions (C1, C2, C3). All of them which were necessary for the action C1 - reconstruction of sill in Zalog have already been completed. Those which are necessary for C2 action - reconstruction of both fish passes are almost finished. Only a few documents for the C3 action - improvement of the barrier still have to be gained.

In January 2014 the meeting of steering group was organized. The representative from ARSO (Slovenian Environment Agency) has clarified some issues related to the acquisition of documents. Given that we assume that all the necessary documents will be obtained shortly.

Preparation of documentation for public tender contract containing different slots for each concrete action. > completed

Contractors for all planned reconstruction works are selected and now only a few minor terms still have to be discussed and the contracts needs to be signed.

Supervision of the concrete action preparation. > completed

For each action there has been determined what needs to be done and the tasks have been divided among partners.

A set of next preparatory actions will be done for actions C2 and C3: > in progress
- Detailed assessment of the present state of the fish pass at Ambrožev trg barrier and Fužine weir.
- Elaboration of the reconstructed fish passes operation monitoring.

The complex documentation related to the all locations have been investigated, and numbers of issues related to the implementation of the actions have been defined. During the meetings with relevant stakeholders and project beneficiaries, we have collected key information in order to prepare the plan for reconstruction and improvement of both locations.

During the preparation of this report we are still clarifying certain issues but with a clear focus to complete reconstruction of all locations in planned time. We are in the process of clarifying the issues linked to the ownership, evidences, and management protocols. We are completing the research if the intended interventions should require any permits by the state authorities. Additionally we are in the process of evaluating actual conditions of objects targeted by the project, to asses best reconstruction approach.

Reasons why this action is necessary:

Besides legal status, foreseen concrete restoration activities require a very meticulous and thorough planning and design before they can be implemented to ensure their efficiency and relevance of results.

Beneficiary responsible for implementation:
University of Ljubljana

Expected results (quantitative information when possible):

Well designed and organised preparation activities as a basis for successful implementation of restoration activities. > achieved for action C1

Properly constructed fish passes so they could be used for as much as possible by different fish from the list of habitat directive as well as from the list of native fish species which live in the Ljubljanica River. Some fish species especially the Nase (Chondrsotoma nasus) are extremely important for Danube Salmon, Danube Roach and Striped Chub survival. > long term objective

Action A2 is in progress and is almost finished.

Based on the original timetable this action should be finished by the end of September 2013. All preparatory actions for implementation of actions C1 has been finished by then. Also for action C2a (Fish pass at the Fužine weir) the needed informations and documents were gathered but than in November the high water damaged it and the action will have to start again. For the actions C2b and C3 (fish pass and barrier at Ambrožev trg) there were problems with determining the owner and with ensuring the access to the building but we believe this will be solved shortly and also this part of the action A2 will be completed. The end of the whole action A2 depends on the solution of action C2a.

Annex 2: Presentation of hydraulic model (document: annex2_hydraulic_model.pdf)

5.1.3 Action A3

Eco hydrological survey

Description (what, how, where and when):

The eco hydrological survey system will be established for obtaining continuous data about water level in the Ljubljanica River channel and periodic field survey of biological and chemical parameters. > completed

The eco hydrological survey system will include:

1) *Construction of 17 water stations, 3 of these water stations with online connection.* > completed

The positions of the water stations measuring water level (annex 3): (1) Downstream of the sill in Zalog, (2) Upstream of the sill in Zalog, (3) Downstream of the Vevče weir, (4) Upstream of the Vevče weir, (5) Downstream of the Fužine weir, (6) Upstream of the Fužine weir, (7) Downstream of the Ambrožev trg barrier, (8) Upstream of the Ambrožev trg barrier, (9) Grubar channel, (10) Mali graben tributary, (11) Curnovec tributary, (12) Iščica tributary, (13) Iška tributary, (14) Ljubljanica River near Notranje gorice, (15) Borovniščica tributary, (16) Ljubija tributary, (17) Močilnik spring.

Figure 8: A few examples of water stations in the field (from left to right: (6), (7), (2))

Three water stations with online connection have been developed and are now in the phase of testing. In a few months the measured data will be also seen on the web site.

2) *Based on the results of precise water level monitoring, hydrologic and 1-D/2-D hydraulic model will be established. The model will be initially developed to simulate the present state of the Ljubljanica River. Throughout the project advancement, the model will be adapted and calibrated according to the results obtained through the eco hydrological survey management under action E3 and used for the development of the Ambrožev trg barrier operation plan.* > completed

Hydrologic model of Ljubljanica River basin was prepared using the HBV-light programme. Its presentation has been written in a pdf file (annex 4) and is also available at the project internet site.

3) *The monitoring of **water temperature and quality** will provide basis for adapting the continuous manipulation and regulation of the water level in the river channel by improved Ambrožev trg barrier in order to optimize the habitat conditions in the Ljubljanica River for the Danube Salmon, Danube Roach and Striped Chub even during critical conditions in periods of low summer Ljubljanica River flows. >* completed

The water temperature and quality are being measured at the same points where some of the water stations are positioned. There are 17 measuring devices for temperature and 3 for water quality (oxygen concentration). All the data are gathered from the stations frequently.

Reasons why this action is necessary (specify the species / habitat(s) / biodiversity issue(s) targeted):

The activities foreseen in the scope of the eco hydrological survey are necessary for preparing the planning of the concrete actions because presently, the availability of hydrological, hydraulic and water quality data is extremely poor and is far from being suitable for planning of any works in the Ljubljanica River channel. Regarding the establishment of hydraulic model, such model of the Ljubljanica River channel has not been built before and is necessary for successful implementation of the concrete actions inside the Ljubljanica River channel. A combined hydrologic and hydraulic 1-D and 2-D model will serve for continuous manipulation and regulation of the water level in the river channel by barrier in order to optimize the habitat conditions in the Ljubljanica River tributaries. Properly regulated river level is important for the Danube Salmon, Danube Roach and Striped Chub during its migration to the spawning places and after this back to the feeding areas. It is important also for passive migration of fry and fingerlings after hatching period. The water velocity and proper water level are crucial conditions during passive migration of the Danube Salmon, Danube Roach and Striped Chub offspring from the Ljubljanica River to the Sava River.

Beneficiary responsible for implementation:
University of Ljubljana

Expected results (quantitative information when possible):

New data on the low flow regime of the Ljubljanica River will be obtained, detailed technical tuning of the restoration actions will be prepared. > achieved

Action A3 has been completed.

Based on the original timetable this action should be finished by the end of the March 2013. Until this date all of the measuring devices were installed on the field and the measuring network was established. Although the tasks within this action was completed by the scheduled date, the gathering of the data is still necessary approximately once per two months and entering it into the data bases should be done. Based on this increasing data base the hydrological model will later be improved.

Annex 3: Map of positions of water stations
Annex 4: Presentation of the hydrological model (document: annex4_hydrological_model.pdf)

5.1.4 Action C1

Reconstruction of the sill in Zalog

Description (what, how, where and when):

The sill in Zalog which controls the water level in the Ljubljanica River is heavily damaged and needs to be reconstructed. We will make the sill more watertight. The construction works will include installation of quarry stone (size range 50-100 cm); part of the sill will be reconstructed as a chute which will enable migration of juvenile and adult Danube Salmon, Danube Roach and Striped Chub and other fish. Under the sill a pool will be excavated which could serve as a breeding and spawning place. > completed

The project documentation and the technical design for reconstruction of the sill in Zalog were prepared by Hidrotehnik d.d. company. There were a few changes made according to the initial proposes of the project. The main problem was that if the project followed the initial plan and rise of the sill, this could cause the flooding of the Ljubljanica River upstream from the sill. The decision has been made to make relevant repairs in the sill, filling the gaps mid-stream and stabilizing the right side riverbank (annex 5). In September 2013 the company HIP d.o.o. started the implementation of the project and the reconstruction was finished by the end of October 2013.

Figure 9: The sill in Zalog before (left) and after (right) the reconstruction

The reconstruction of the sill will hold the water level in dry season in the Ljubljanica River upstream and also in old river meander Krnica. The sill reconstruction would increase the water abundance in the river channel during low flow conditions. > completed (long term objective)

Shortly after the reconstruction the effect of the sill shows already. The water level have raised during the period of low waters in early November and also during high water levels following a strong rain period in late November and December 2013. However, for the actual assessment of the effectiveness of the action we will need to wait and observe the other events in the future.

Reasons why this action is necessary (specify the species / habitat(s) / biodiversity issue(s) targeted):

Reconstruction of the sill in Zalog will improve habitat conditions in the Ljubljanica River channel especially in the period of low flows when water levels in the channel are too low to assure enough hiding places for aquatic organisms, especially fish species.

Beneficiary responsible for implementation:
Purgator d.o.o.

Expected results (quantitative information when possible):

Reconstructed sill in the Ljubljanica River ... > achieved

... control of the water level in the Ljubljanica River channel during low flow periods and improved habitat conditions. > long term objective

Action C1 has been completed.

Based on the original timetable this action should be finished by the end of the June 2013. Because of the fishermen strict rules about interference in the river during low flow which was present for almost the whole summer the work could not have started according to the determination of the timetable. There were also some problems in choosing the right contractor because not every one has the right equipment to work in such conditions. But at the end both obstacles were defeated and the sill has been finished by the end of October 2013.

Annex 5: Report on implementation of the action C1 (document: annex5_actionC1.pdf) – preliminary report, the final report with all documentation will be prepared in February 2014

5.1.5 Action C2

Reconstruction of fish passes at the Fužine weir (C2a) and Ambrožev trg barrier (C2b)

Description (what, how, where and when):

The fish passes at weir in Fužine (C2a) and at Ambrožev trg barrier (C2b) are hydraulically improperly designed and can not be used by fish during middle and low flows in Ljubljanica River. The inflow and outflow sections passes are positioned too high, therefore fish are not able to enter the passes. The fish passes at weir in Fužine and at Ambrožev trg barrier will be reconstructed by adapting the inflow, outflow sections and regulating the gradients of the passes. The inflow section of the fish passes will be equipped with mobile inflow that could adapt to the water levels in the Ljubljanica River. The gradient of the existing fish passes will be lowered by extending their length by channel and culvert excavation through the river bank. Downstream section of the passes (outflow) will be considerably lowered and prolonged by inserting sheet piles and quarry stones embankment in the Ljubljanica river channel. > in progress

Initially the plan was to start the reconstruction of Fužine weir in January 2014, following the completion of action C1. Renovation plan has already been in the process of completion, but in late November 2013 high waters following the long period of heavy rain have damaged the fish pass severely. The actual situation could only be investigated after the waters have subsided in early December 2013. After the inspection at the site, it was decided by the project team to obtain the report from an engineer, assessing the damage done at the fish pass, and elaborate upon eventual construction failures and other issues that may cause problems for implementing action.

Considering the renovation plan, all further steps will be confirmed after receiving the damage assessment report form the engineer. The report will be completed as soon as the weather allows the engineer to enter fish pass and complete the preparation of damage report. It is estimated that this will be completed by mid February 2014. After receiving the report and after making necessary calculations the reconstruction will commence. The plan is to complete reconstruction by the end of March 2014.

Figure 10: Fish pass on Fužine weir before and after the high flow in November 2013

The location of the action C2b – fish pass at the Ambrožev trg barrier has been investigated on site and by organizing meetings with relevant stakeholders and studying of different documents. Key problems with the current state of affairs have been sorted out and solutions have been developed.

One of the issues hindering the preparation of initial draft was problem with the access inside the fish pass. During the meeting with National water authorities in January 2014, it was agreed what will be the protocol for accessing the inside of the pass, especially relevant for implementation of physical works. The access is restricted and protected by a lock, and the person holding the key has to be notified in advance.

We have prepared the initial draft of key elements that need to be reconstructed, or installed in order to make the fish pass more effective both during the high water periods ad well as during the low water periods, and discussed the draft among project partners. It was agreed that detailed plan will be prepared after completed inspection of the interior of the fish pass, planned to be finalized by mid February 2014. The actual reconstruction works are planned for the period from February to May 2014.

Reasons why this action is necessary (specify the species / habitat(s) / biodiversity issue(s) targeted):

By reconstructing the fish passes at the Fužine weir and Ambrožev trg barrier longitudinal connectivity (river continuum) in the Ljubljanica River corridor will be re-established. Proper operation of both fish passes is crucial for enabling fish species to migrate along the Ljubljanica River corridor.

Beneficiary responsible for implementation:
Purgator d.o.o.

Expected results (quantitative information when possible):

Properly constructed fish pass that will be suitable for migration of as many as possible different fish species.

Action C2 is in progress.

The action C2 was planned to start in October 2013 and finish in June 2014. Due to postponed action C1 also the preparatory works of action C2 started later than planned but as far as we can evaluate at the moment both fish pass reconstructions will be completed by the end of the May 2014. There is still a question of extended works at the Fužine weir fish pass but we believe that also this part of the action C2 will be completed in time.

5.1.6 Action C3

Improvement of Ambrožev trg barrier

The action C3 starts in July 2014.

For the action C3 the preparation of project documentations has already been ordered. The preliminary report of needed implementations on the barrier has been prepared and the work was evaluated for 80.000,00 €. This is less than planned in the grant agreement therefore we would like to transfer the remaining funds to actions C2, E2 and E3 to buy better equipment than planned and to cover the exceeded work.

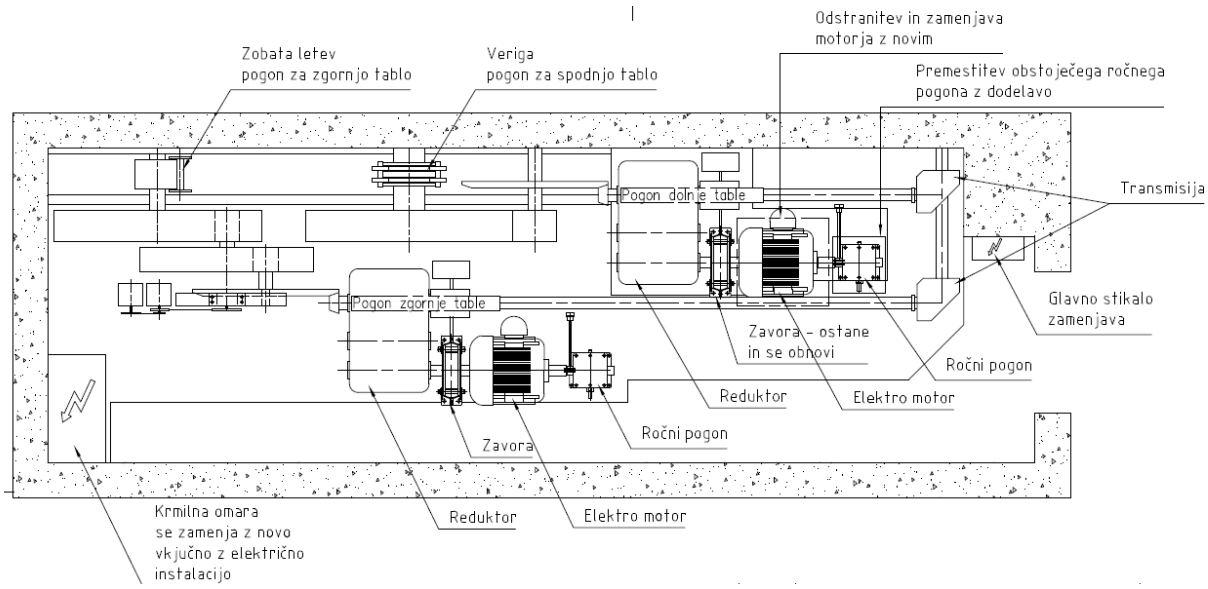

Figure 11: The drawing of the barrier on the Ambrožev trg

5.1.7 Action E1

Coordination and administration of the project by the project coordinator and the project steering group

Description (what, how, where and when):

The overall project management will be managed by full time project coordinator. > organized

As a full time project coordinator has been named Andrej Vidmar, MSc from the University of Ljubljana. He is responsible for handling the communication between the partners, to divide tasks among them and to organize the work.

Members of the steering group will have regular meetings with the project coordinator. At these meetings the members of the steering group will report the project coordinator about the progress (according to the timetable) of implementation of actions which are in competence of individual beneficiaries and coordinate action implementation with other beneficiaries. Regular meetings of the steering group will be held every 6 months. > organized

Meetings of the steering group have been organized frequently. In a last period there have been a few meetings (23/10/2013, 16/1/2014) on which the current problems were presented, the different options were discussed and the solutions were sought.

Figure 12: Meeting of the steering group 16/1/2014

Reasons why this action is necessary (specify the species / habitat(s) / biodiversity issue(s) targeted):

Good coordination is crucial for the effective, standardized implementation of the project that has relatively large number of partners. For the success of the project as whole it is important that the beneficiary coordinates the whole project (project coordinator). For the implementation of the specific actions it is important that each partner has a person in charge coordination (steering group member).

Beneficiary responsible for implementation:
University of Ljubljana

Expected results (quantitative information when possible):

Well coordinated project with good cooperation among all the partners, reached objectives and produced all of the expected results of the project. Yearly project progress reports will be produced. > achieved

Action E1 is in progress.

The duration of action E1 is determined over the entire project. After communicational problems at the beginning the coordination of the work implemented successfully. The results can be observed in concluding actions (A1, A3, C1) and in progress made in tracking the timetable.

5.1.8 Action E2

Monitoring and evaluation of the project restoration achievements

Description (what, how, where and when):

With respect to the objectives of the project, achievements will be evaluated at the end of the project and presented in a report. Special attention will be given to Danube salmon – Hucho hucho, Danube Roach – Rutilus pigus and Striped Chub – Leuciscus souffia population assessment and analysis of reconstructed fish pass functioning. The migration of the fish through fish passes will be monitored; data about the success of migration of different fish species during different life stages will be obtained. > in progress

Migration of fish using the fish passes will be monitored with the use of GoPro cameras which will be positioned under the water surface near the entrance to the fish pass. The cameras were already bought and tested. They will be installed at the fish passes after the restorations will be completed.

We will use tagging and marking technique for study individual Hucho hucho, Rutilus pigus and Leuciscus souffia and for their migration on the research area and through the restored fish passages. Inflatable electrofishing boat will be used for analysing the targeted fish population. The boat will be equipped with two electronic generators, special boxes for fish marking and two engines, one for navigation and a smaller one for site manoeuvring. > in progress

Danube salmon (*Hucho hucho*) and Danube roach (*Rutilus virgo*) were marked during the fishing season by sports fishing, during the whole year using electrofishing methods, during project monitoring and during spawning season on the spawning places. Specimens of striped chub (*Telestes souffia*) were not marked as it is banned to catch this species. For marking we used Visible Implant Elastomer (VIE) tags.

Figure 13: Danube salmon marked on dorsal fin (left) and VIE tag on Danube salmon and Danube roach post ocular tissue (right)

VIE is a silicone based material, injected as a liquid, that soon becomes biocompatible solid. Regarding the location of catch we implanted tags beneath transparent or translucent tissue combining different tag locations (dorsal fin, post ocular tissue) and colours (red and yellow).

Fish monitoring by boat will be provided approximately 2 times per year, altogether 5 times during the action E2 duration. Fish monitoring will be carried out at 6 locations along the Ljubljanica river: upstream and downstream the Ambrožev trg barrier, upstream and downstream of the Fužine weir and upstream and downstream of the sill in Zalog. > in progress

In spring there is fish monitoring by boat planned. It will be implemented in cooperation with Croatian ichthyologic society. The exact date for this task is not set yet because it depend on the height of the water flow and the length of the winter.

Reasons why this action is necessary (specify the species / habitat(s) / biodiversity issue(s) targeted):

In order to summarize the lessons learned in the project and propose recommendations of the best practices, a careful evaluation of the project is essential. Often projects implement actions without such evaluations, leaving the potential follow-up actions without valuable information on effectiveness of the specific methods. This action will contribute to overall evaluation of the projects' concrete conservation action success. Besides equipping the reconstructed fish passes with surveillance cameras which will enable continuous monitoring of the Hucho hucho, Rutilus pigus and Leuciscus souffia migration, action also includes analysis of fish population (intensive field work campaigns, electro-fishing, fish marking, analysis of targeted fish population size) in the Ljubljanica River channel and both Natura 2000 sites in order to estimate the changes in Hucho hucho, Rutilus pigus and Leuciscus souffia population.

Beneficiary responsible for implementation:
Geateh d.o.o.

Expected results (quantitative information when possible):

Report outlining project actions effectiveness with regards to the project objectives. Evidence of successful migration between two previously separated Natura 2000 areas.

Action E2 is in progress.

It is hard to say when did the action E2 exactly started because it is actually the continuation of action A1. It is now in full progress. The marking of the fish has been implementing during the whole fishing season in the year 2013 and the other tasks are prepared to start when the weather will allow.

5.1.9 Action E3

Management of the eco hydrological survey system and hydraulic model

Description (what, how, where and when):

Management of the eco hydrological survey system and hydraulic model will include:

1) *Regular inspections of the water stations operation and data acquisition. The water stations operation will be monitored once a month.* > in progress

All 17 water stations have been positioned on field (annex 3) and are checked once a month, in case of extreme weather conditions (for example heavy rain) the overview of its situation is done more often.

2) *Campaigns of water discharge measurement. Water discharge measurements are necessary for obtaining an insight into the water stage – water discharge relationship and development of hydraulic model. The water stage – discharge relationship is also crucial for maintaining suitable habitat conditions in the Ljubljanica River. The water discharge measurements will be carried out at the locations of water stations approximately every 2 months and more often in the case of extreme hydrological conditions.* > in progress

The water discharge measurements are done with the ADP HydroSurveyor & River Surveyor measurement device. Until now every extreme hydrological situation (very low or very high flow) was measured and there have also been quite a few measures of 'normal' flow carried out.

Figure 14: The ADP measurement device - measuring the high water flow in Ljubljanica River

3) *Field campaigns of water sampling and field measurement using water quality measuring equipment. The monitoring of water temperature and quality will provide basis for adapting the continuous manipulation and regulation of the water level in the river channel by improved Ambrožev trg barrier in order to optimize the habitat conditions in the Ljubljanica River and its tributaries for the Danube Salmon even during critical conditions in periods of low summer Ljubljanica river flows. The campaigns of water sampling and measurements of the water quality will be carried out at the locations of the water stations approximately once a month.* > in progress

The water temperature is measured all the time by 17 measurement devices at the water stations and the oxygen. The oxygen concentration (which describes water quality) is

constantly measured too, there are three measuring devices along the Ljubljanica river corridor to measure it.

Based on the results of precise water level monitoring a 1-D/2-D hydraulic model will be calibrated. > in progress

The basics for hydraulic model have already been prepared (action A2, annex 2) and it was calibrated using some older data. All the measured data of water level on water stations are being collected in a data base which will serve for upgrading and more precise calibration of the existing model.

Reasons why this action is necessary (specify the species / habitat(s) / biodiversity issue(s) targeted):

The activities foreseen in the scope of the eco hydrological survey management are necessary for planning of the concrete actions because presently availability of hydrological, hydraulically and water quality data is extremely poor and is far from being suitable for planning any works in the Ljubljanica River channel. By establishing the Eco hydrological survey effect of concrete restoration actions (C1, C2, C3) on the conservation status of the habitats/species targeted by the project will be evaluated. Properly regulated river levels based on the results of the eco hydrological survey and hydraulic model are important for the Danube Salmon during its migration to the spawning places after this back to the feeding areas. It is important also for passive migration of fry and fingelings after hatching period. The water velocity and proper water level are crucial conditions during passive migration of the Danube Salmon offspring from the Ljubljanica River to the Sava River.

Beneficiary responsible for implementation:
University of Ljubljana

Expected results (quantitative information when possible):

Action E3 will be last almost through entire duration of the project in order to obtain time series data about the Ljubljanica River hydrological, hydraulic and water quality conditions.

According to the hydrological and hydraulic data the 1-D/2-D model will be calibrated. > in progress

Furthermore based on the hydraulic model results an operation plan for the Ambrožev trg barrier (action C3), fine tuning of the reconstructed sill in Zalog (action C1) and both fish passes (action C2) will be prepared. According to this data also evaluation of the project restoration achievements could be accomplished and After LIFE Conservation Plan could be prepared. > the objective for the end of the project

Action E3 is in progress.

Action A3 has started at the beginning of the year 2013 with setting the measuring network and preparing the hydraulic model. The collection of the data and monitoring of the water stations is being performed all the time. The action will last until the end of the project which is enough time to successfully complete it.

5.2 Overall project progress

Actions A1, A3 and C1 have been completed. Action A2 should have already ended but due to the high water peak demolished of fish pass at Fužine weir it has been postponed. Other actions are implemented according to the plan. We estimate that we will achieve the objectives in all actions.

Tasks/ Activities		2012				2013				2014				2015			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Overall project schedule	Proposed	O 1.1.2012		X		X=Progress reports								X			O 31.12.2015
	Actual																
Action A1 completed	Proposed	●	●	●	●												
	Actual	■	■	■	■	■	■										
Action A2	Proposed	●	●	●	●	●	●	●									
	Actual	■	■	■	■	■	■	■	■	■							
Action A3 completed	Proposed	●	●	●	●	●											
	Actual	■	■	■	■	■											
Action C1 completed	Proposed				●	●	●										
	Actual				■	■	■	■	■								
Action C2	Proposed								●	●	●						
	Actual								■	■							
Action C3	Proposed											●	●	●			
	Actual																
Action D1	Proposed		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Actual		■	■	■	■	■	■	■	■							
Action E1	Proposed	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Actual	■	■	■	■	■	■	■	■	■							
Action E2	Proposed						●	●	●	●	●	●	●	●	●	●	●
	Actual						■	■	■	■							
Action E3	Proposed					●	●	●	●	●	●	●	●	●	●	●	●
	Actual					■	■	■	■	■							
Action E4	Proposed				●										●	●	
	Actual						■										
Action E5	Proposed														●	●	●
	Actual																
Action E6	Proposed					●						●					●
	Actual					■											

5.3 Dissemination actions

Dissemination actions of this project are actions D1 and E4.

5.3.1 Objectives

Conservation and restoration measures often require changes in the environment. The lack of knowledge or misbelieves among the people can cause a lot of different questions which are often unanswered. The consequence is negative attitude towards the projects and the organisations which are implementing them. The change in the people's behaviour is required and the best way to achieve this change is to influence the cognitive component of the attitudes (knowledge/beliefs).

Sharing knowledge and experiences can increase people's interest in implementation of the project and often they start to support different actions. Also in such interventions in nature knowledge of locals is very appreciated. If they are willing to share it with the provider of the project it is quite a big success. Effectiveness of the river restoration efforts also depends on cooperation of the people.

The objectives of the dissemination actions are:

- to inform the general public about the preservation actions that are planned so that they won't be surprised when the reconstructions starts,
- to arouse the interest for the project and its goals among the general public,
- to attract people to take part in the project,
- to rise the knowledge and awareness about the problems that we are trying to solve.

5.3.2 Dissemination: overview per activity

Action D1

Public awareness and education campaign about river corridor restoration on national and local levels

Description (what, how, where and when):

The public awareness and education campaign will target general public:

- *Local communities*
- *Stakeholders*
- *Urban public*

Baseline assessment of public attitudes toward water environment and its management will be provided for the targeted educational/informational campaign. Several different tools will be used:

1) *Project web site for promotion of the project, the project and LIFE+ program set up and operational webpage.* > completed

An internet page of the project has been working from the beginning of the project. Its address is: http://ksh.fgg.uni-lj.si/LjubljanicaConnects/ . The page has been continuously updated and contains general information about the project, public awareness material and the reports with photographs on everything that is currently going on.

2) *The brochure about environmental role of the river corridor and the project implementation will be prepared and distributed in the project area.* > completed

The first set of the brochures in a print of 1000 copies should have been issued in June 2013 but due to changes among employees it was actually issued a few months later, in September 2013 (annex 6). It provides an overview of the project and offers to general public to become familiar with what is going on in the Ljubljanica River corridor. In it some basic information about the project structure, actions and objectives are briefly but clearly described.

3) *A poster about project will be designed and produced. It will present the main objectives and actions of the project as well as the results and lessons learned.* > in progress

A first poster as same as the brochure should have been issued in June 2013 but it is not out yet. Also here the first problem was the changes among employees and the second one was that the action C1 has not been finished yet. The idea was that on poster there will be also the course of the action through the photos described and presented but because there were delay in its implementation that was not possible. Because of those two reasons we have decide to wait with issuing the poster. In the moment it is prepared to be printed but we will wait until the end of February when the first, short version of film will be prepared so that poster, brochure and film will be all together distributed among the schools.

4) *Because visual media is one of the most effective ways of communicating information to public, a 30 minutes long popular educational film about river corridor environmental role will be filmed.* > in progress

The deadline for the preparation of film is 1/4/2015 but because it is very effective way to promote the project we have decided to prepare shorter version of 10 minutes length as soon as possible so we can divided among the public institutions especially among the high schools. This short film will be prepared until the end of February 2014.

In the longer version of film we plan to show some recordings of spawning of the Danube Salmon. This is a very rare event and it is difficult to catch it so when this film will be prepared we can not predict but based on the enthusiasm of the film crew we suppose it will be prepared before the end of the year 2014.

5) *Four special lectures will be organised at the Faculty of Civil and Geodetic Engineering, University of Ljubljana, where project progress and project results will be presented to the students. 5 thematic and 2 round tables in different cities in Slovenia will be organized.* > in progress

At the beginning of the project there were not many interesting informations to share so we have started to organise the lectures and other presentations in a year 2013.

Two lectures about the project for students have already been carried out and a few more are planned by the end of this academic year (June 2014). A group of students from International programme Erasmus Mundus Flood Risk Management has participated at water discharge measurements at the Ambrožev trg barrier in January 2014.

Figure 15: International students at the Ambrožev trg barrier

The project will be presented on traditional conference "Goljevščkovi dnevi 2014", 6th March 2014. There is a paper being prepared for releasing in an environmental magazine 'ekolist'. Discussions on the organization of other events are still in progress and are dependent on the implementation of other concrete conservation actions.

6) *Bulletin about the project will be prepared yearly and distributed to the main interest groups and media.* > completed

Until this point of the project there were two bulletins published, one for the year 2012 and another one for the year 2013 (annex 7). In the first one there were the basic informations about the project organisation, objectives, involved locations and targeted populations described. In the second very brief summery of the basic informations about the project was given and in the rest of the bulletin all the important events on actions were described.

Figure 16: The covers of two already published bulletins

7) *Relations with media: We will use the possibility of promoting river corridor restoration and the project through the media.* > completed

Since the project has fully started and the 'interesting' things on a project are being implemented there were quite a few opportunities for the emergence in the media:

- 30/7/2013 clip in the news (POP TV, 24ur) about reconstruction of fish passes
- 25/10/2013 clip in the news (RTV SLO) about the migration of fish on the Ljubljanica River
- 11/1/2014 clip in the news (RTV SLO) about one of the oldest power plants in Fužine castle and its fish pass on the weir

Links to all those clips are on the project website.

Figure 17: Two fragments from an interview with Zoran Stojič (Geateh d.o.o.) and Mitja Brilly (University of Ljubljana) 30/7/2013

Beneficiary responsible for implementation:
University of Ljubljana

Action D1 is in progress.

Action D1 has a lot of different tasks related to informing the public about the project and is performed trough the whole project from its start to the end. At the beginning of the project there were not a lot of thing that the general public would find interesting but with start of the concrete conservation actions there are more thing to report about and there are a lot of different activities for informing the public going on monthly.

Annex 6: Brochure of the project (document: annex6_broschure_2013.pdf)
Annex 7: Bulletin 2013 (document: annex7_bulletin2013.pdf)

Action E4

Networking with other LIFE and/or non-LIFE projects.

Description (what, how, where and when):

In the first year of the project implementation, a workshop will be organised where exchange of experiences and discussion with Slovenian and foreign experts (from Austria, Germany, Croatia, Hungary, Serbia, Bosnia etc.) on the proposed actions in the scope of the project will take place. We anticipate that the project team will visit some of the Life+ good practice sites restored in other projects associated to the Danube Salmon conservation. > completed

From 19th to 22nd September 2012 there was the II International Hucho symposium held in Łopuszna and because of it there was not a lot of interest for our workshop in 2012 so we have postponed it for one year.

On 08/06/2013 there was a Workshop on a theme of the Danube Salmon organised. It has taken place on the Faculty of Civil and Geodetic Engineering. There were 13 participants attending it and there were 8 papers presented (annex 8). In the morning there were lectures with discussion carried out and in the afternoon the trip field was organised.

Figure 18: Participants of the workshop

Figure 19: Workshop in progress

International Conference on fish pass and *Hucho hucho* protection will be held in October 2015. First announcement will be distributed in the spring in year 2014. Establishing of scientific committee of conference is in the progress.

During the last year of the project we will organize an international thematic conference and invite teams from other similar LIFE projects and others experts and managers working in the field of river restoration. > planned for the year 2015

Beneficiary responsible for implementation:
University of Ljubljana

Action E4 is in progress.

Action E4 has two parts – the workshop at the beginning of the project and a conference at the end of it. The work shop was postponed due to the mentioned reason but was successfully

carried out in June 2013. For the conference in 2015 there were already some contacts obtained and the scientific committee will be determined soon.

Short report from a workshop was prepared for a yearly bulletin that was published at the end of the year 2013.

Annex 8: Electronic book of abstracts of the papers from the workshop (document: workshop_book of abstracts.pdf)

5.4 Evaluation of Project Implementation

At the middle of the project there are some methods that have proved to be suitable. The method of work organisation and tasks division has turned out to work quite well because each partner is responsible for one exact and specific field. The methods of work which were including external contractors turned out to be more risky because a lot of discussion and supervision was needed to successfully complete the task (for example action C1). Technical methods that have so far been used to complete the actions (electrofishing, measurement stations) turned out to work well.

The evaluation of conducted actions is hard to be given because of the postponed start of some actions and not enough data collected yet. This will be provided in the later stage of project duration.

According to being on a half of the project the evaluation of the results is not possible yet. Three actions have already been completed; most of their objectives are probably achieved but because they depend on natural processes further observations will be needed to correctly evaluate the objectives.

The project results that will be visible as soon as the action is completed are all the restoration implementations. The changes made on the buildings will be noticeable right after the restoration will be completed. For all the other results some time and very close observations will be needed.

Probably a few amendments on a project will be needed for implementation of actions C2a and C3. But it is too early to evaluate anything because the necessary amendments are not even discussed. First answers from some institutions about heritage protection and the permitted actions will be needed and than we will see if the actions can be carried out according the plan or not.

The dissemination actions effectiveness can not be evaluated yet because it is too soon in the stage of the project. This will be provided in the later stage of project duration.

5.5 Analysis of long-term benefits

The long-term benefits will be properly evaluated at the end of the project. Right now when the way of few action implementations is not final yet it is hard to predict and evaluate anything.

Very general prediction is that the migration of fish along the Ljubljanica River corridor will increase and that the living conditions for the Danube Salmon will be much better which will result in increase of its population in Ljubljanica River as well as in other rivers downstream from Ljubljanica River.

Long-term benefits will be provided in the later stage of project duration.

6 Comments on the financial report

6.1 Summary of Costs Incurred

Table 1: Project costs incurred

	Cost category	Budget according to the grant agreement* *Eligible cost in €*	Costs incurred within the project duration	%**
1.	Personnel	563.621,00 €	396.744,76 €	70,4 %
2.	Travel	20.460,00 €	3.079,22 €	15,0 %
3.	External assistance	176.386,00 €	69.707,19 €	39,5 %
4.	Durables: total non-depreciated cost			
	- *Infrastructure sub-tot.*	0,00 €	0,00 €	0
	- *Equipment sub-tot.*	293.037,00 €	142.546,07 €	48,6 %
	- *Prototypes sub-tot.*	0,00 €	0,00 €	0
5.	Consumables	31.600,00 €	1.683,38 €	5,3 %
6.	Other costs	7.200,00 €	1.821,33 €	25,3 %
7.	Overheads	76.461,00 €	43.090,74 €	56,3 %
	TOTAL	**1.168.765,00 €**	658.672,68 €	56,4 %

Costs that incurred within the project duration are all together little more than the half of the budget set in a grant agreement. That is reasonable because we are in the half of the project. Almost all of the costs categories are near the middle or lower except the personnel costs. It is mainly because of division of the work in Purgator d.o.o. about which the explanation prepared by the Purgator d.o.o. is given in annex 9. Further analysis and explanation of cost distribution is given in chapter 6.5.

6.2 Accounting system

The accounting system that we are currently using is specialised for the use in public institutions and for project monitoring. It assures the monitoring of all accounting categories, including analytical records, according to the accounting standards. Each project – cost holder is uniformly defined by three categories: source of financing, cost centre (organisational unit) and project number. Each income and cost is accounted exactly for a specific project. The data on costs and incomes from the general ledger are directly linked to a WEB application, allowing the project managers to monitor daily the financial situation of the project and compare it to the planned amounts.

The approving of the cost is responsibility of the task coordinator by each beneficiary depending on the action for which the cost is necessary. If the cost is under 5.000,00 €, the purchase order is prepared and send to the supplier who according to it issues an invoice. If the cost exceeds the threshold value the contract is prepared and signed by beneficiary and supplier. Based on this contract the invoice is issued.

The presence at work is recorded in manually fulfilled timesheets by all three beneficiaries. The employees have to fulfil it according to their presence at work and submit it at the end of the month. In accordance with those records the project timesheets are also prepared.

The timesheets are checked by the human resources department. The employee should inform them about planning the vacation or in case of sick leave he should deliver them the confirmation from the doctor. Later the timesheets are processed in accounting to calculate the monthly salary.

In case that the invoices are prepared for smaller purchase at the coordinator's office the administrator marks the invoice with stamp on which the LIFE project number is. Than the so marked invoices are send to the accountant who pay and archived them. If the purchase is performed over the contract there are necessary logos printed on the contract and later on the invoice.

6.3 Partnership arrangements

Financial reporting of each beneficiary is lead by their own accountant. They are taking care of orders and contracts for assistance and equipment needed for implementation of project actions. They are also taking care for paying bills and employees' payment. In each company there is one person responsible for fulfilment of the financial table. In associated beneficiaries this are the accountants but in coordinating beneficiary this is a person helping the coordinator of the project. Twice a year all three tables are combined into one by responsible person of the coordinating beneficiary. They are also reviewed based on the copies of receipts and other documents which are attached to the financial tables.

6.4 Auditor's report/declaration

The auditor for the project was already selected. Auditor's report will be prepared by ABC revizija d.o.o. company and we expect it to be prepared in February.

6.5 Summary of costs per action

The personnel costs provided for the project are 563.621,00 € and 70,4 % of it have already been spend. The exceeded amounts of funds were taken mainly from the C2 and C3 action. Action C2 is organized by Purgator d.o.o. who has already used all of the personal costs provided for it. The action C3 has not even started yet. This action is responsibility of the University of Ljubljana but almost 45 % of its funding was used to pay the employees in Purgator. The explanation is given in annex 9 and was prepared by Purgator d.o.o.

The spend travel costs are only 15 % of the whole amount provided by the grant agreement. Until now the values were not exceeded for any action and as far as it seems the final amount will be lower than expected.

For the external assistance 39,5 % of the final costs were used. There has been smaller expenditure for actions E1 and E4 done for which none of the external assistance costs were predicted but were needed to successfully prepare the reports and to carry out the workshop. Some unexpected costs were also needed for the action A1 to start the project. This value will be covered with funds reserved for other actions external assistance. The costs for the action C1 were exceeded due to increased amount of material required for the reconstruction of the sill. This amount is exceeded for 22.407,45 € which is acceptable by the Common Provisions.

A lot of equipment needed for monitoring was already bought and this represents 48,6 % of provided costs. For actions A3 and E2 the bought equipment was more expensive than expected. For action E2 the exceeding happened because we had to buy additional accessories which will allow the installation of basic measuring device. We plan that these additional costs will be covered from the other actions funds.

The smallest costs category spend are the consumables (5,3 %). The funds were spent for the action A1 for expenses necessary for the operation of the equipment.

Other costs were planned only for the action D1 but will probably be needed for completing almost all of the actions. There are a few expenses that can not be attributed to any other category but they are expected to be low. Because of that they will easily be paid with the sources from other categories that will be redundant.

Table 2: Costs per action

Action no.	Short name of action	1. Personnel	2. Travel	3. External assistance	4.a Infra-structure	4.b Equip-ment	4.c Prototype	5. Purchase or lease of land	6. Consuma-bles	7. Other costs	TOTAL
A1	Preliminary studies	29931,00	690,58	5520,00					1683,38		37824,96
A2	Preparatory actions	28221,29									28221,29
A3	Eco hydrological survey	54238,00				22220,66				10,82	76469,48
C1	Sill in Zalog	48837,00	302,52	61807,45							110946,97
C2	Fužine and Ambr. Trg fish pass	57022,00		1488,92							58510,92
C3	Ambrožev trg barrier	11159,59									8750,59
D1	Public awareness	18632,50								972,00	19604,50
E1	Coordination and administration	127529,88	1572,72	460,26						838,51	130401,37
E2	Monitoring and evaluation	10884,50				120325,41					131209,91
E3	Management of ecohydrological survey	8026,00	513,40								8539,40
E4	Networking	2263,00		430,56							2693,56
E5	After LIFE conservative plan										0,00
E6	Financial audit										2409,00
Over-heads											43090,74
	TOTAL	396744,76	3079,22	69707,19	0,00	142546,07	0,00	0,00	1683,38	1821,33	658672,69

Annexes

Technical annexes

Annex 1: Report on action A1

Annex 2: Presentation of hydraulic model

Annex 3: Map of positions of water stations

Annex 4: Presentation of the hydrological model

Annex 5: Report on implementation of the action C1– preliminary report, the final report with all documentation will be prepared in February 2014

Dissemination annexes

Annex 6: Brochure of the project

Annex 7: Bulletin 2013

Annex 8: Electronic book of abstracts of the papers from the workshop

Administrative annex

Annex 9: Explanation for exceeding the allocated amount by associate partner Purgator inženiring d.o.o.

Annex 10: Answers to the annex of the LIFE10 NAT/SI/000142 Ljubljanica connects - monitoring visit letter

Annexes in electronic form (on CD)

Annex1_actionA1.pdf

Annex2_hydraulic_model.pdf

Annex3_WSLjubljanica.pdf

Annex4_hydrological_model.pdf

Annex5_actionc1.pdf

Annex6_broschure_2013.pdf

Annex7_bulletin2013.pdf

Annex8_workshop_book of abstracts.pdf

Annex9_Purgator explanation.pdf

Annex10_Answers to annex.pdf

C1_podizvajalska pogodba Purgator st. 3290-0.pdf (subcontract for action C1, Purgator)

C1_tehnicna dokumentacija-prag v Zalogu.pdf (technical documentation for the sill in Zalog)

C2_Geodetski nacrt-ribja steza Fuzine.pdf (geodetic plan for the fish pass in Fužine)

D1_pogodba film_AVStudio.pdf (signed contract for the film with AVStudio company)

Financial report and annexes

Standard Payment Request and Beneficiary's Certificate

Beneficiary's Certificate for Nature Projects

Consolidated Cost Statement for the Project

Financial Statement of the Individual Beneficiary

In electronic form (CD) individual transactions:

2012-2013_financial_reporting_Faculty.xls
2012-2013_financial_reporting_Purgator.xls
2012-2013_financial_reporting_Geateh.xls
2012-2013_financial_reporting.xls