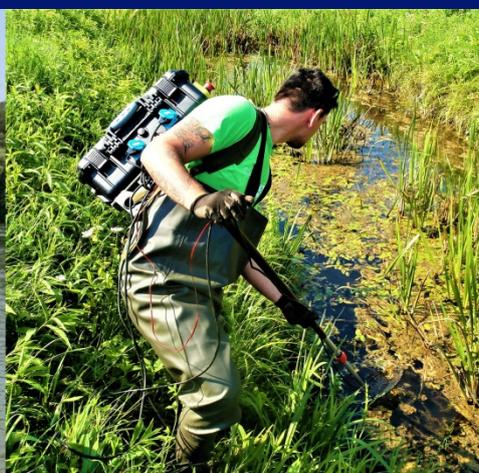


Transboundary

Mura-Drava-Danube Action Plan



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1 Summary

The Transboundary Mura-Drava-Danube Action Plan (TMDD AP) represents output 3.2 of the Interreg Danube project coop MDD (DTP1-259-2.3).

The TMDD AP is the key operational framework for carrying out concrete actions or solutions in the future 5 country Transboundary Biosphere Reserve Mura-Drava-Danube (TBR MDD) that will restore, conserve and improve the MDD ecological corridor. It is an operational document for the implementation of the agreed Guidelines for a dynamic river corridor, and for the further cooperation of the Protected Area Management Institutions within the TBR MDD.

The actions mentioned below are sorted by topic and within the topic by priorities as it resulted from a feedback round with all Project Partners and some Associated Strategic Partners representing Protected Area Administrations.

To facilitate the reading of the document, the future 5-country Biosphere Reserve Mura-Drava-Danube will be referred to as TBR MDD or planned TBR MDD or future 5 country TBR MDD in subsequent chapters.

2 Transboundary Mura-Drava-Danube Action Plan

2.1 Coordination & Communication

Action 1. Establishment of a long term management structure for the TBR MDD on 5 country level

A transboundary management structure that includes representatives from the 5 countries Austria, Slovenia, Hungary, Croatia and Serbia, needs to be set up jointly. This is also requested within the nomination form for Transboundary Biosphere Reserves and therefore a prerequisite for final joining together of the Biosphere Reserves in all five countries.

Some of the main tasks of this management structure are to coordinate transboundary nature protection and sustainable regional development projects within the TBR MDD, coordinate the formulation of joint strategies and positions, and to keep the experience exchange among the Biosphere Reserve Management institutions as well as involved bodies (e.g. Protected Areas, Municipalities) alive. Many of the actions mentioned in this document will be monitored or coordinated by this management structure.

Setting up a long-term management structure can be done in a transboundary project, e.g. financed by the Danube Transnational Programme. The process of setting up this management structure should be done in a participatory way. Therefore, if this action is to be implemented e.g. within a follow-up project to coop MDD with a similar partnership (mostly Protected Areas) then appropriate ways to involve other important stakeholders such as Ministries, Municipalities, local NGOs or sectoral agencies into the process must be found. Within such a project, suitable suggestions can be worked out based on various analyses. The decisions on such a long-term management structure for the future 5-country TBR MDD has to be taken by the Coordination Board, which was set up in 2011 to coordinate the implementation of the 5-country TBR MDD.

The following process is suggested for this action:

Analytical work:

- Analysis of requirements of UNESCO MAB Programme for management of TBRs, and analysis of reports and recommendations on this topic published by UNESCO MAB Programme
- Analysis of existing management structures of national and bilateral Biosphere Reserves in the five countries
- Experience exchange with other transboundary Biosphere Reserves, Protected Areas, and Protected Area networks, to learn from their successes and difficulties
- Research on available formal structures, if such a formal structure (legal body) is an option

Elaborative work:

- Develop several options for management of the 5-country TBR MDD (based on the above analysis), including at least the following factors:

- Core (and possibly extended) management team, which has the power to actually take decisions regarding the 5-country TBR MDD (selection process, duration of mandate, number of people, competencies, meeting frequency, etc.)
- Structures for involvement of additional stakeholders in decision-making and consultation processes (working groups, advisory boards, etc. and their way of working)
- Tasks of the transboundary management structure (incl. task share with national/regional management bodies)
- Financial and staff needs for the transboundary management structure
- Potentially legal form of the management structure
- Explore advantages and disadvantages of each management structure option

Decision-taking:

- The 5-country Coordination Board needs to take a decision based on the analytical and elaborative work done before

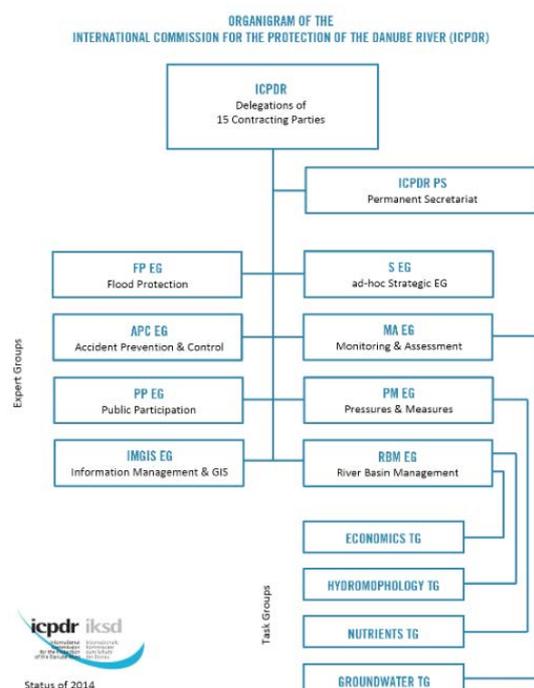
This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, Municipalities, Ministries, NGOs, other stakeholders
Priority:	high

Examples:

The structure of the ICPDR (International Commission for the Protection of the Danube River) can serve as an example. The following picture shows the organigram of the ICPDR.

Source:

https://www.icpdr.org/flowpaper/viewer/default/files/node_s/documents/icpdr-organigram.pdf



Action 2. Development of a visual identity and communication strategy for the TBR MDD

Description:

For the TBR MDD a joint visual identity and communication strategy is developed and agreed. In accordance with UNESCO guidelines it is defined how the visual identity (e.g. logo, slogan, font, colours) should look like. The strategy also describes how existing local branding and communication can be combined with the joint visual identity and communication. The communication strategy that will be established within the recently approved Interreg Project Amazon of Europe Bike Trail can be connected to this action.

A first step would be to define some important baselines. Those need to be developed together with all institutions involved in the management of the TBR MDD, and should be decided only after review of the communication strategies of Protected Areas and regions included in the TBR MDD. Such baseline decisions are:

- Communication objectives
- Target groups
- Key messages
- Communication tools used
- Potentially evaluation measures

Based on those decisions, the joint visual appearance (e.g. logo, slogan, font, colours) can be defined in a joint effort – they then define the framework for all communication tools to be developed. This visual appearance framework also needs to define how the TBR MDD visual identity can be combined with local protected areas /regions visual identity. This visual identity can only be developed when the five-country TBR MDD is officially proclaimed, as a lot will depend on the official name of the future TBR MDD.

A common website for the TBR MDD can be seen as the most basic communication tool available and needed. The description of the TBR MDD, its intention and activities (e.g. international management structure, monitoring programs and research results, invitation to upcoming events, etc.) can be part of the website. There is currently one website (www.amazon-of-europe.com) covering the whole future TBR MDD, however it is a WWF website and currently does not cover any activities implemented by public institutions of the countries that are done without WWF involvement. It could be considered to use this website as a basis and expand it, including the transfer of management to someone agreed on jointly. However, this is just an option; the website could also be set up completely anew.

Another important communication tool – connecting directly face to face with local people - could be the celebration of the TBR MDD Day. A celebration could be organized in all five countries (one or more locations in each country) on the same day. This might be connected with the Big Jump, with the Amazon of Europe Day, or with the proclamation of the 5-country-Biosphere Reserve in the future. The events could be also virtually connected by livestreams, or really connected by connecting travels (e.g. at the 10 year jubilees). Alternatively, such a joint celebration could be held

regularly (once a year, every other year) in a different part of the future TBR MDD, hosted by different partners. Contributions from all five countries and three rivers could be organized (food, music, local producers, exhibition, etc.), and the public could also be invited on an international level.

Setting up the joint visual identity and communication strategy for the TBR MDD could be done in an Interreg Project. After the strategy is set up, continuous implementation will need to be integrated in all future projects and daily work, including basic finances /staff resources.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, NGO's, regional development institutions, all institutions involved in the management of the future TBR MDD (see Action 1)
Priority:	high

Examples:

The brand "Amazon of Europe" can be discussed as an existing brand for the region, though it is currently not a jointly established branding.

The Big Jump is an example awareness-raising event that is implemented at the same date and time, at many different events, but with joint aims and joint promotion. At a specific Sunday in July at 15:00, all over Europe people jump into rivers, to make aware of the need of people for natural rivers and their protection. <http://www.bigjump.org/>

Action 3. Establishment of long-term development partnership TBR MDD – Partnership for future

Description:

The development partnership TBR MDD is a long-term formal interest-based network and cooperation of regions and Municipalities, regional authorities, representatives of networks of local producers, touristic service providers, and other entrepreneurs, NGOs and other stakeholders (e.g. education, social welfare, public transport, etc.) that have interest in and influence on socio-economic development of TBR MDD. To gain a long-term benefit from the biosphere reserve, we need to find and coordinate development goals and implement activities that benefit the nature as well as inhabitants of the area.

Partners agree that in order to ensure comprehensive and successful planning and implementation of development strategies and projects, such projects must be previously harmonized and coordinated on transboundary level, and political support on local and regional level must be provided for them. The Development Partnership prepares projects as a range of connected development activities. They must contribute to improving the quality of life of the local population, be in line with the natural and cultural features of the region and opportunities connected to them and correspond to the relevant development plans.

One of the goals of the MAB program is coordination of development activities in the framework of a single biosphere reserve, which means in the future in the whole 5-country TBR MDD area. For this it is necessary to develop a structure that will enable coordination and collaboration between stakeholders on local and regional level in single Biosphere reserve on national level and on transnational level in the frame of whole TBR MDD. The partnership is formed with the fundamental purpose to close the gap in terms of socio-economic development that exists within the TBR MDD as well as when comparing TBR MDD to other regions in Europe. It will promote the sustainable development of the TBR MDD region through partnership. It is established due to the need for program and project cooperation of the involved partners, and to obtain financial resources for their projects even more successfully. Since cooperation between municipalities in some regions already exists, the transboundary cooperation can build on these experiences. It will also be the aim of the transboundary cooperation to strengthen and support the local/regional networks existing already. Cooperation will be upgraded with the objective to comprehensively and successfully prepare development projects and continue their coordinated implementation. Another objective of partnership is to enhance the cooperation of local producers, exchange of good practices and develop mechanisms for usage of the brand TR MDD to ensure a sustainable development (see also Action 18 – Establish a TBR MDD certification for agriculture, this certification including branding could be extended to other sectors as well).

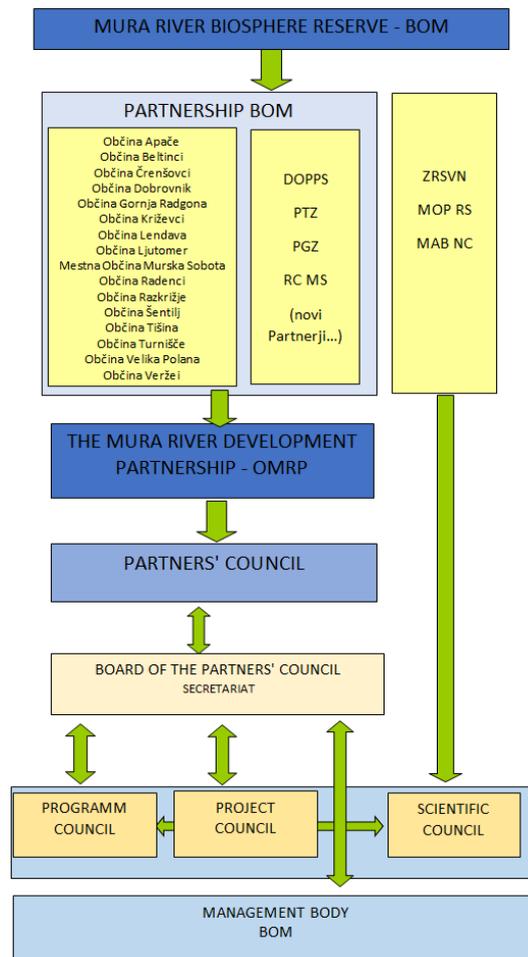
Within the establishment of a long-term management structure of the TBR MDD on 5-country level (see Action 1), the Development Partnership TBR MDD should also be involved: Depending on the management structure to be developed, selected representatives of the Development Partnership could be part of the steering team, or the Development Partnership could take the role of a working group or an advisory board on socio-economic questions.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Municipalities, Local producers, Development agencies, Chamber of commerce and Industry, Tourist association, NGOs, Protected Areas Management Institutions
Priority:	high

Examples:

The Mura Development Partnership in Slovenia connects all municipalities along the river Mura in Slovenia and includes NGOs, Chamber of Commerce, nature protection, Regional tourist association and other stakeholders, It is also still open for new members. That structure allows for the coordination and acceptance of political decisions that in long term influence development and development plans.

The following picture shows the Mura Development Partnership in Slovenia



Action 4. Establish TBR MDD info points in frequently visited sites and main towns of the region

Description:

The information for visitors about the TBR MDD is established and should be further developed. Special importance should be given to catch people where they go anyway and provide some information there, even if those places are sometimes distant from the natural sites.

Therefore, in the bigger towns along the TBR MDD as well as at important touristic centres of the region, info points are built. They should be situated on the main square of the cities or at the entrance area of the touristic attraction, where a lot of people come across. Inhabitants or visitors can gain information about the TBR MDD and are invited to visit the area. The info points describe the TBR MDD including all the protected areas contained in it, but also certain transboundary conservation projects or flagship species. Basis for the information shown on the info boards is the joint visitor management plan (see Action 22). Additionally, each info point should also give information about natural highlights of the region, where the TBR MDD can be easily visited and experienced. The curiosity to visit the TBR MDD should thus be awakened.

To start the implementation of this action it is necessary to define the cities and major touristic sites along the TBR MDD, in which the information points would make sense. The city administrations/mayors are informed about the idea to build info points, showing information about the TBR, in their city. Cities that are interested in this action are then included in the further development of this action. In cooperation with the selected cities and touristic sites, the places where the information points are erected are defined. In parallel the design (size, material, info boards, maps and so on) of the info points is created and finally the info points are produced and installed.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	City administrations/mayors, regional development institutions, all institutions involved in the management of the future TBR MDD (see Action 1)
Priority:	medium

Examples:

The example shows an existing information point, where information about protected areas and nature oriented offers in the region are presented.



Action 5. Found the club “Friends of the TBR MDD”

Description:

The club “Friends of the TBR MDD” should be a chance for local population to get involved in the management of the TBR MDD, and could raise funds to financially support nature protection projects within the TBR MDD. The club could e.g. receive annual membership fees from its members or organize fundraising activities. It could also be discussed to involve companies into this club; conditions for partnership and sponsoring in this case would need to be developed. In consultation with the transboundary management, the club supports local initiatives but also projects for nature conservation that come from the local people.

For setting up the club “Friends of the TBR MDD” the following issues have to be clarified:

- The activities or projects the club supports
- The potential members of the club (companies, private persons, ...)
- The conditions for companies as members or supporters for the club
- Structure (members) and management (finances, funding) of the club

The club “Friends of the TBR MDD” can be founded after the TBR MDD is established in all 5 member states and the long term management structure is set up. As a first step a responsible person or institution that will be able to bring together a group of founding members and to manage the set-up of this club, has to be found or chosen. This choice is in close consultation with the long-term management of the TBR MDD. The group of founding members starts to define the internal structure of the club, what kind of initiatives or projects could be supported by the club, and founds it formally.

Afterwards, promotion activities should be started to gain members and be anchored broadly in the local population of the TBR MDD. In the long run, the club should not need money by itself, but actually raise funds for the TBR MDD. In consultation with the long-term management of the TBR MDD and the management of the club it is ensured that the funds are used for projects supporting at least one (better more) functions of the Biosphere Reserve.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Long term management of the TBR MDD, local NGO's and associations, local businesses, local population
Priority:	low

Examples:

The Austrian National Park Hohe Tauern has such a club “Friends of the National Park Hohe Tauern”. It supports different nature protection projects within the National Park Hohe Tauern (see <http://tauernfreund.at/>).

2.2 Species and habitat protection

Action 6. Implementation of a joint basic monitoring program

Description:

The aim is to set up a joint basic monitoring program, in order to get an overview of the long term development of the TBR MDD. Within the basic monitoring program is defined what (habitat or species), how (methods or technology) and how often (period) is monitored. Also, the data collection of monitoring results needs to be agreed upon (see also Action 21). The monitoring program should be kept simple; it should include few points that each partner is able to fulfil consistently, even if lacking project financing. For the long term implementation of the joint basic monitoring program, research cooperation with universities should be considered.

In the course of developing this action, several strategies to set up a joint monitoring program were discussed, the following three seem useful and realistic (though of course, they can probably not be started all at once, but one after the other):

Joint monitoring for species and habitats targeted in joint protection programmes:

Within Action 7, but also Action 8 and Action 9, certain species or habitats are targeted by transboundary protection programmes. Whenever such a protection action is started, also a joint monitoring should accompany this action, to evaluate the success of the protection measures.

Additionally, some other actions (e.g. in the chapter 2.4 Sustainable Use) might also need monitoring to assess their success. Such species targeted in protection actions will often also be protected under Natura2000; synergies with the next type of monitoring would therefore be possible.

Joint monitoring of selected Natura2000 species:

Nearly all buffer and core zones of the future TBR MDD are also designated as Natura2000 areas (with the exception of Serbia as non-EU member). The FFH-Directive and Birds Directive are therefore one of the key legislative pieces, where all Protected Areas have the same obligations. The following process is suggested to select Natura2000 species where harmonized monitoring on transboundary level makes sense:

- Prepare a list of species from Natura2000 Annexes, for which the various Natura2000 areas are designated
- Analyse which of those species are present in all (or at least the vast majority) of the Natura2000 areas within TBR MDD
- From this reduced list, species which are good indicators for natural dynamic processes (=good indicators for status of core area), or ecological connectivity (=migratory species, species with a large home range), or which are sometimes posing problems in connection with human use of the floodplain (=key species for a main aim of the MAB programme, people living in harmony with nature) are selected.
- Discuss among all Protected Areas, which species from this again reduced list would make sense to be monitored from a practical point of view. For example, they should not be in the

focus of several long-running monitoring programmes in different countries with differing methodology, as the change of methods makes the data incomparable. A better situation would be that either already harmonized monitoring exist, that one area has a functioning monitoring that could be enlarged, or that none has an existing monitoring but all or most have big interest in establishing it.

Joint monitoring of changes in habitat structures and land use:

Within the whole TBR MDD, various habitat protection and restoration projects are being implemented on local /regional level. They are normally also closely monitored during the first years, to assess the success of the measures. What is missing however is a transboundary overview on the changes in the landscape brought about by these single protection and restoration actions. Such a monitoring could bring valuable information about the naturalness of the river system and its changes over time.

The following steps would be necessary for starting up this type of monitoring:

- Analysis of historic maps (e.g. www.mapire.eu) to define a reference situation that can serve as a general orientation for restoration projects and as a comparison for the monitoring
- Analysis of different habitat structure analysis systems and their usefulness for various goals / parts of the TBR
- Collection of information on existing habitat mappings or responsibilities in the five countries (e.g. Annex I map exists in Hungary from Natura2000 management planning, EUNIS map exists in Croatia from the DRAVA LIFE project)
- Selection of appropriate systems (e.g. CORINE land cover for transition area, FFH Annex I or EUNIS maps for core area and buffer zone) based on usefulness per TBR zone and on synergies with existing mappings/monitoring

For these three types of monitoring, the method for the monitoring program, the frequency, the share of responsibilities, and the transboundary data collection and analysis needs to be harmonized and agreed among all stakeholders from the 5 countries. Then, pilot actions to test the agreed method are implemented. If necessary, minor changes and improvements can be implemented, before the monitoring system is fixed and implemented in the long run in all 5 countries.

Any of those monitoring programmes can be set up and implemented initially via an Interreg project. On the long term, it most probably needs to be financed by national funds (basic financing of Protected Areas, national funding instruments, long-term cooperation with Universities and other research institutions, etc.).

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, National administrative authorities responsible for the collection of Natura2000 data (e.g. Ministries), Universities
Priority:	high

Examples:

Examples for such international species monitoring programs are the River Bird Monitoring and the Water Birds winter count.

Since 2005, a yearly monitoring of river birds (Little Tern, Common Tern, Little-ringed Plover, Common Sandpiper, Sand Martin, European Bee-Eater, Kingfisher) is implemented in Croatia. It started out only along the Drava River, while by now it is extended to all Mura, Drava, and Danube sections in Croatia, always including also the other river bank (e.g. in Slovenia, Hungary, Serbia). The monitoring is implemented by Darko Grlica with financial support by WWF.

The International Waterbird Census, coordinated by Wetlands International, is an international monitoring activity supported by many NGO's and public institutions, and has grown into not only a highly valuable international monitoring, but also a tool for integration of the interested public (hobby ornithologists) into nature protection work. Within the planned TBR MDD, it was a coordinated transboundary effort for a couple of years in the mid 2000ers. At the moment, it is not done in a coordinated way in the region, but locally and regionally there are participants who contribute to this international monitoring activity.

Another example of a transboundary regular monitoring programme is the Joint Danube Survey. Its main goal is to produce highly comparable and reliable information on water quality, pollution, and ecological parameters for the entire Danube River (plus partly some tributaries). The Secretariat of the International Commission for the Protection of the Danube River (ICPDR) coordinates the implementation of the Joint Danube Survey.

For more information please see https://www.icpdr.org/jds/files/JDS_FS_Monitoring_EN.pdf.

Action 7. Creation of a coordinated species and habitats protection program for the TBR MDD

Description:

Within a coordinated species protection program, joint flagship species for most important habitats are defined and protected in a transboundary effort. This transboundary species and habitats protection program can grow over the years of cooperation, even if it starts with one species/habitat in the beginning. Therefore, in this action, several options are described.

For the selection of targeted species/habitats, the following criteria will be applied:

- species/habitats that really need a conservation effort (e.g. due to their population status or trends, or due to importance of MDD population on European scale)
- In all five countries, a legal situation exists that allows and/or calls on the relevant institutions to get active regarding the protection of the selected species/habitats
- species/habitats that are not currently targeted on a transboundary level by other institutions (in order not to interfere with existing and successful programmes, but rather add another piece to the conservation mosaic)
- species/habitats that either exist in all five countries or that could exist / have been existing in all five countries (= all five countries have potential for restoration or for re-population if the necessary measures are taken, at least some of the countries still host the species/habitats along Mura-Drava-Danube)

Two of such transboundary conservation actions are described in Action 8 and Action 9, both of them are focused on birds. Therefore, in this action, the focus is on other species and habitats.

In any case, a coordinated species/habitats protection program will involve the following elements:

- a preliminary assessment of the status quo, including analysis of threats to be tackled
- if necessary, innovative pilot actions, to test new methodologies for protection that can in the long run be transferred to other regions along Mura-Drava-Danube
- if necessary, pilot actions for threats specific to a certain region
- a transboundary program of actions, tackling the threats that are common on a transboundary level
- a communication campaign, to raise awareness on the species/habitat in the local population and increase understanding for nature protection measures
- a long-term monitoring program to assess the success of the protection measures

For all such programmes, the first transboundary set-up, mapping, development and pilot implementation of conservation actions, and communication programmes can be financed within an Interreg project. For larger restoration or protection actions, Life projects would need to be acquired. For a long-term work on these species/habitats (e.g. long-term management of oxbows, long-term monitoring of dead wood species and health of trees), national basic financing would need to be acquired.

Suggestions for species /habitats that could be targeted in the next years are:

Amphibian programmes in connection with protection and restoration of oxbow lakes:

Examples for potential target species are *Triturus dobrogicus* (Danube crested newt), *Pelobates fuscus* (Common Spadefoot), *Bufo viridis* (European green toad), or *Bombina variegata* (Yellow-bellied toad)

Targeted species conservation actions could be the closing of forestry roads in times of spawning migration of amphibians, or the building of passages below roads and forestry roads. Habitat conservation actions targeted on amphibians, but also helping other species, could be the restoration and continuous management of oxbows that are completely disconnected from the floodplain (outside the dykes), the improvement of water and sediment situation for oxbow lakes within the floodplain, including the restoration of the river for better connection of the floodplain and thus chance for creation of new oxbow lakes, and the enlargement of floodplains by relocation of dykes. Examples of groups of species that would also benefit from such habitat improvement actions are e.g. *Ordonata* species and *Crustacea* species.

Dead wood species programmes in connection with habitat improvements in forests:

The aim of such a programme would be to raise the amount of dead wood habitats (standing or lying), in order to create suitable habitats for species depending on dead wood (e.g. lichens, fungi, woodpeckers, bats or insects). Typical flagship species to be targeted and monitored could be e.g. *Osmoderma eremita* (hermit beetle) or *Cucujus cinnaberinus*. Raising the amount of dead wood in the forests of TBR MDD can be done either by increasing the percentage of unused forests (see also Action 10, not further treated here), or by increasing the percentage of dead wood left after harvesting or tendering in commercially used forests.

One action could be that for various pilot sites, different percentages of dead wood are defined, that are left in the forest. On those sites, the appearance of dead wood species as well as the health status of commercially used trees is monitored. This should give an indication of how much dead wood is necessary to be left in used forests to achieve a near-natural abundance and diversity of dead wood species. At the same time it gives an indication if these dead wood species actually cause harm to the used forest or not (and if yes, to what extent). Additionally, especially in cases of large monocultures, stripes of natural succession could be introduced at the time of replanting. These stripes could be left unharvested and unmanaged, so that over time, dead wood appears from not only one species, but in its whole species diversity - important also for the diversity of dead wood species.

As a first step without additional financing needs, project partners will raise the topic of dead wood in floodplain forests as an important habitat factor within the DTP Interreg project REFOCuS.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, species experts, NGOs, depending on the habitat/species other stakeholders: water management authority/company, landowners, forestry companies and forest owners, etc.
Priority:	high

Examples:

Within the EUSDR, a working group from all Danube region countries is joining forces for protection of the Danube Sturgeons, with combined efforts in research, restoration, illegal catches and trade, etc.

See also: <http://www.dstf.eu/about-us/>

Within the DANUBEPARKS Network, an Action Plan for White-tailed Eagle along the Danube River was created and finally published within the Bern Convention. It now guides the work for protection of this species in all Danube countries.

See also: http://www.danubeparks.org/files/840_ActionPlanWTEpublbyCoE.pdf

Action 8. Implement joint actions against illegal killing of water birds and birds of prey

Description:

The illegal killing – especially poisoning – of birds of prey and water birds has several root causes, depending on which actions need to be developed:

- Poisoning birds of prey on purpose, mostly using the illegal substance Carbofuran, but sometimes also illegal shooting occurs
- Poisoning jackals on purpose, mostly using the illegal substance Carbofuran, which is also killing birds of prey, although they are not the target
- Poisoning of water birds and birds of prey by legal pesticides against rodents, which are used in agriculture and forestry. Birds of prey eat the dead rodents on the fields, while water birds feed e.g. in fish ponds or melioration channels, to where the pesticides are being washed away.

An action for reducing and ultimately stopping the illegal (and sometimes accidental) poisoning and shooting of birds of prey and water birds should include the following steps:

As a start, the issue needs to be **problematized in the public**, by the public institutions responsible for nature protection, and by NGO's. **Data collection** is highly important for this, so **examinations of dead birds** need to be done on a regular basis, to prove the problem and find out which are the main causes of death and which kind of substances are used in which regions. Experience has shown for example in Serbia, that the purposeful poisoning with the illegal substance Carbofuran was highly underestimated, until regular examinations were done within a Life project. This can be the case for other regions as well. In order to find the dead birds for examination, awareness-raising in the local population is important in order to motivate the locals to report the finding of a dead bird of prey.

Another important aspect is cooperation: In Hungary, through the project PannonEagle, a group of dogs exists which is trained to search and find poisoned birds of prey. They could also be used in other countries, if cooperation is set up. Telemetry monitoring of eagles is another way, providing valuable data on the habitats and life cycles in general, but also highlighting dead birds in general – giving the chance to estimate the proportion of raptors dying from poisoning or hunting as compared to natural causes. BirdLife has many hobby ornithologists as members, who are regularly in the field and who are easy to sensitize for the issue. If the local population should report poisoning cases, an emergency phone number needs to be set up, in case it doesn't exist yet in a certain region/country, including the whole subsequent procedure for examination and raising legal complaints.

As a second step, concrete actions should be taken for each root cause:

In order to **convince hunters that neither birds of prey nor jackals are a danger for their hunting grounds**, and to show them the highly important tasks they fulfil in the ecological network, awareness-raising needs to be done within this important target group. The aim would be that most hunters support the protection of raptors and that they assist in the prosecution in case some of their colleagues break the law. Most important seems to be to correct some "myths" in the public opinion, like the belief that jackals are a serious competitor to hunters. In the case of jackals, this is

maybe even more difficult than with birds of prey, as the jackal has a negative image in the region also within the general local population. Its voice is unpleasant and scary for some people. Some municipalities even give rewards for hunting jackals, and by poisoning them, one can earn a lot of money at once.

For improving the image of the birds of prey and jackals, it is useful to cooperate with universities and research institutions, who are able to provide scientific studies and data e.g. on prey of the various raptors. In the case where rewards for hunting jackals are offered, the municipality leaders (mayors, officials) need to be sensitized for the problems that are being caused by poisoning jackals – and ultimately by the rewards they offer.

Policemen, prosecutors, and judges need to be sensitized and made aware that killing of protected species is not a trivial offence, but a serious crime with important ecological consequences. Apart from trainings organized with them, also filing of legal complaints, following of court cases, and public awareness, including precedence cases for such crimes is important. A special target group within the public security system is also **border officials**: Carbofuran is prohibited in all our countries since several years, and experience from Serbia has shown that most of it comes illegally from/via other countries in South-East Europe.

Regarding the use of rodenticides in agriculture, forestry, but also in private gardens, several potential solutions exist: It could be forbidden to kill rodents at all through the management plans of protected areas, e.g. for the core and buffer zone of the TBR MDD. This is currently the status quo in Kopački rit Nature Park. Another option would be to prescribe certified pesticides for use, which are less harmful for birds. Certified pesticides are used in forestry in Serbia, as a result of FSC certification. Also, awareness needs to be raised with users of rodenticides, that it must never be used at the surface, where birds of prey can reach the dead animals. It should be applied in holes, as this decreases the risk of secondary poisoning of protected species.

The definitely most ecological and cheapest way of fighting rodents especially in agricultural areas (and to be prioritized from the side of nature protection), is to **provide suitable habitat conditions for the natural predators of rodents – which are birds of prey**. Within a project in Serbia, T-shaped sticks were put into large uninterrupted intensive agricultural fields. These serve as lookout perches for birds of prey while hunting, which are otherwise often missing in intensive agriculture (because bushes, single trees or tree lines, and similar natural habitat structures have disappeared).

All such changes in agricultural practices would need to be set up together with farmers (which are in many cases hunters as well) and their representational organizations.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	National or provincial nature protection institutes/agencies, Protected Area Management Institutions, NGOs (especially BirdLife), universities, police, prosecutors, judges, border control, mayors and locals, hunters and hunting associations, farmers and agricultural associations
Priority:	high

Examples:

Two project partners (INCVP and WWF AT) are currently partners in a project led by Birdlife Hungary, that aims to increase the population of Eastern Imperial Eagle (*Aquila heliaca*), by decreasing the non-natural mortality. The project encompasses among others work on awareness-raising of stakeholders, investigation of persecution incidents, or demonstration of game- and eagle-friendly habitat management.

See also: <http://www.imperialeagle.eu/en>

Before that, another Hungarian-only Life project had already been implemented, in which dogs were trained to find carcasses, Eagles were marked and followed by satellite transmitters, and a lot of awareness-raising on illegal killing was done in Hungary.

See also:

http://imperialeagle.hu/sites/imperialeagle.hu/files/PDFs/HELICON_D12_Laymans_report_2016.pdf

Experiences from both projects, in which Serbian, Hungarian and Austrian partners were involved, could be transferred and expanded within the whole TBR MDD, to provide a safe refugium for birds of prey and water birds within the TBR MDD.

Action 9. Action 100 – joint efforts for 100 breeding sites of river birds

Description:

River birds are important indicators of natural dynamic river habitats like steep eroded banks, gravel or sand banks, and islands. Additionally, they are attractive and easy to recognize and to spot also by laymen, making them perfect symbols and "mascots" for dynamic river ecosystems. The river birds in focus of this action correspond to the ones treated within the "Action Plan for River Birds", developed within the project Life DRAVA and published by the Bern Convention: Little-ringed Plover (*Charadrius dubius*), Common Sandpiper (*Actitis hypoleucos*), Little Tern (*Sternula albifrons*), Common Tern (*Sterna hirundo*), Sand Martin (*Riparia riparia*), Common Kingfisher (*Alcedo atthis*), European Bee-Eater (*Merops apiaster*). The goal is to establish or protect 100 breeding sites of river birds with participation of the local population (municipalities, schools, farmers, nature protection clubs, fishermen, rowing /kayaking clubs, etc.).

As a basis, a transboundary mapping of existing breeding sites should be implemented. This could be done either by field work or based on existing data (as collected already for the river bird action plan).

In a second step, local pilot actions for protection or establishment of breeding sites should be developed and implemented by Protected Area administrations or nature protection NGOs together with the local population, e.g. in the framework of volunteering programmes. This could be small river restoration actions (e.g. one farmer becomes the "creator / protector" of a breeding site by removing old embankment or abstaining from demanding new embankment at the river bordering his agricultural land), tendering an artificial steep bank by joint physical action (e.g. cutting of the river slope together with a whole municipality or school, in places where restoration is not possible), artificial breeding platforms (e.g. in artificial water bodies where no restoration is possible or as intermediate solution), protection of breeding sites from disturbances like bathing people or fishermen stepping on gravel banks, or promotion of an existing breeding site within the local community by joint monitoring, ringing and education actions. The aim is to have in total 100 breeding sites where measures are taken. All or the majority of them should include public involvement, where a group of local people actively takes care of it, e.g. by physical action or by monitoring, surveillance and education. However, for actions with public involvement it needs to be taken care that no harm can be done through it to the breeding sites. For example, people will want to visit "their" birds also after the action, so good access without disturbing the breeding birds should be taken into account.

As those actions are taking place with the involvement of local communities, they are in themselves already awareness-raising actions. This should be reinforced by a transboundary communication campaign, making local communities really proud of "their" river bird breeding site. The communication campaign could e.g. include local and international excursions to the breeding sites in breeding season, a contest for the most innovative action or the action involving most people or the site with the largest number of breeding pairs, etc.

To monitor the effects of the protection and restoration actions, a long-term monitoring program should be developed based on the basic mapping, and continuously implemented over the years.

This monitoring should involve local people and also fulfil necessary scientific standards for interpretation of the collected data. Existing monitoring programs of NGO's and Protected Area Administrations should be analysed for this to see if they can be harmonized.

This action can typically be funded by Interreg programmes. In case of larger physical restoration actions, Life projects would need to be implemented. In the long run (e.g. for continuous monitoring, continuous work with communities for protection of "their" breeding site, continuous transboundary communication actions), national basic financing would need to be acquired.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, nature protection NGO's, ornithological experts, municipalities, schools, local associations (fishermen, kayaking, etc.), landowners/users on the riverside (e.g. farmers, tourism stakeholders), local media, anyone interested
Priority:	high

Examples:

Similar actions are already implemented regularly at the Drava (including Stara Drava) in Slovenia and Croatia, led by BirdLife Slovenia, ZEUS, or WWF Adria. Those existing actions could be the foundation of a larger initiative, bringing these efforts on the transboundary level.

Public participation in the tendering/restoration of a steep bank for Sand Martin:

<https://www.youtube.com/watch?v=Mt1itBu6bTw>

Project for protection of Terns in Croatia and Slovenia:

<https://www.keep.eu/keep/project-ext/43479/%C4%8CIGRA>

Action 10. Creating a TBR MDD network of securely protected sites

Description:

The TBR MDD network of securely protected sites, to protect and monitor the ecosystems, consists of low- and non-intervention areas. The disturbance of these areas is kept to a minimum (research, monitoring). They serve as important stepping stones in the 3-river habitat corridor and as reference sites for more disturbed ecosystems monitoring.

As a first step, an analysis of currently existing low/non-intervention areas and a scientific mapping of habitats in a very natural state or with high chances of restoration should be done on transboundary level. The sites could be in any part of the TBR MDD – most suitable would be sites in the core area, but also sites in the buffer zone or transition area should be assessed. As a basis for this definition, all potential sites need to be described:

- General information about the site (size, location, habitat / habitat types, ownership, current use...)
- Possible measures to revalue the site
- Possible human interventions also under low/non-intervention management (hunting, fishing, pasturing, remove invasive species...)

This leads to a map of the existing network of securely protected sites, as well as its enlargement options. Those potential additional low/non-intervention sites are defined in a joint selection based on scientific criteria in all five countries and are drawn in one common map. Such scientific criteria could e.g. be the current natural status of the site, the potential for restoration /conversion, the importance for a habitat corridor, etc.

Meanwhile, conversion management and low/non-intervention management should be discussed on a transboundary level as an input to local management regimes of national low/non-intervention sites. For example, a joint definition of low- and non-intervention management could be developed, and a manual for low-/non-intervention management elaborated, including good practices from similar ecosystems.

These conceptual tasks should all be done on a transboundary level, to ensure coherence in this important network of low/non-intervention areas, so that they can fulfil their tasks as reference sites and as stepping stones in a habitat corridor also on a transboundary level. They could be implemented within an Interreg project.

The ultimate aim is then to put those potential low/non-intervention areas under strict protection according to national legislation. For this, negotiations with landowners and political will on the relevant (provincial or national) level are necessary. For ultimate protection, measures like purchase of land, swapping parcels of land (see Action 26), or compensation for loss of income are necessary, so that landowners will not have disadvantages from this action.

These further steps need to be implemented on regional/national level, however with the support from the whole 5-country partnership. National funds will need to be used, but also Life projects could raise funds for land purchase.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, ministries responsible of environment and nature, landowners, water management authorities, forestry, agriculture, spatial planning, NGOs, ...
Priority:	medium

Examples:

Slovenia started to search for sites with a high potential for nature conservation. In a first step, in agreement with the landowners, 200 ha were secured for the implementation of nature protection measures. As soon as there is the possibility in the next LIFE project, these 200 ha are bought through this project and the planned measures are implemented.

2.3 Research & Education

Action 11. Strengthen and expand the network of RIVER`SCOOOLS

Description:

The main objectives of this action are to strengthen the cooperation between the existing RIVER`SCOOOLS within the TBR MDD, and to expand the network.

The RIVER`SCOOOLS should go into direction of:

- Strengthening the collaboration of the RIVER`SCOOOLS network

The connection between existing RIVER`SCOOOLS should be strengthened in order for them jointly to be stronger and used as one individual programme on the international level.

This can be done e.g. by establishing a collaboration with scouts or similar groups in a way of junior ranger program that is interlinked on the transboundary level. Each RIVER`SCOOOL gives inputs to another focus topic. Junior rangers from different areas visit each other's RIVER`SCOOOLS, learn from each other, jointly implement easy nature protection tasks, and develop their own ideas of how to contribute to nature conservation. After visiting the whole RIVER`SCOOOLS network, the junior rangers should be well trained to be advocates of nature protection and dynamic rivers.

- Raising capacity – trainings for Advisors of the RIVER`SCOOOLS

In the scope of the coop MDD project the RIVER`SCOOOLS network was initiated. However, educational trainings for Advisors should be developed and conducted among all RIVER`SCOOOLS, in order for them to be more sustainable and used by more stakeholders.

- Marketing and promotion of the RIVER`SCOOOLS network

All RIVER`SCOOOLS should elaborate their themes (e.g. Aridae species, benefits from floods, etc.) and cooperate closely, exchange their knowledge and experience. An on-line platform should be established and used to book visits to one or more TBR MDD RIVER`SCOOOL (it could be bookable by a TBR MDD school, or school outside the TBR MDD).

The "RIVER`SCOOOLS passport" could be developed. It should be a motivation to explore the whole TBR MDD and to learn about the region. Visitors of RIVER`SCOOOLS would get a mark into their passport and the goal would be to visit all the RIVER`SCOOOLS and learn about all those interesting topics.

- Expansion of the RIVER`SCOOOLS network

The network should be expanded and interested PAs along the planned TBR MDD should also be able to join this innovative educational network, but to the point that is feasible to manage and be sustainable.

The RIVER`SCOOls will help to promote the TBR MDD as a unique river system of international importance. Children, pupils, students, adults and families can come to the RIVER`SCOOl sites and learn about TBR MDD and nature in a living laboratory.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, schools, kindergartens, universities, scouts, youth groups /initiatives, municipalities
Priority:	high

The Protected Areas in Germany are implementing a joint Junior Ranger Programme. It works along the same standards in all areas, and kids have the chance to visit other areas as well and get to know each other via yearly country-wide meetings. Additionally, they have Junior Ranger Programmes not only for kids living in the region, but also for leisure and holidays – so that really everyone can participate.

See also: www.junior-ranger.de

Action 12. Hosting a TBR MDD symposium

Description:

A TBR MDD symposium is hosted within the TBR MDD on a regular basis. The symposium is used for experience exchange among partners, PA or countries. Experts, scientists or researchers give lectures; groups work on different topics and work out next steps or solutions for currently pressing issues.

Possible focus topics could include the different forms of land use (e.g. motivation of landowners to return to a more traditional form of agricultural use), sharing of information among regions on how to benefit from locally produced high quality products, exchange of research results (concerning nature conservation, protection of species and their habitats as well as all different rural and regional development potentials and projects) or establishing an agricultural development plan for the use of agricultural land in the TBR MDD.

The TBR MDD symposium is an opportunity for all people interacting with the TBR MDD to come together, exchange views and experiences, learn from each other, and develop plans for the future together.

First of all, to establish the TBR MDD symposium a launch symposium is held. To initiate it, responsible person or organisation that organises this launch symposium and the following symposiums has to be found. After the first symposium has been held, the venue of the symposium can change according to a rotation principle, but those responsible for the organization should remain the same.

In the course of preparing each symposium, a pool of potential interest groups and partners from the whole TBR MDD should be identified.

Via a website, the individual lecturers, the agenda, the topics and the content can be presented, thus it is made accessible to the public already beforehand and afterwards, even if people are not able to participate.

The evaluation of the guidelines for a dynamic river corridor (Action 25), results from the joint basic monitoring program (Action 6) or research supported by the research fund (Action 13) can be presented and discussed.

The symposium can proceed in such a way that in plenary sessions, lectures or group works the representatives of the different regions from the TBR MDD start a discussion about the goals of specific topics, bring together expertise of participants, and strengthen their personal collaboration networks.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, forestry, agriculture, spatial planning, NGOs, ...
Priority:	medium

Examples:

The first example is the National Parks Austria conference. Experts from the fields of nature and environmental protection, forestry, tourism and regional development meet and discuss together the importance of the six Austrian National Parks in Europe and their participation in various networks and projects. The conference, with a diverse program with panel discussions, lectures and excursions, lasts for two days. The lectures deal with topics such as the role, the vision or the current status of the Austrian National Parks. Other National Parks outside of Austria also had the opportunity to exchange their experiences via lectures or discussions.

Another example is the EuroMAB conference, where the network of 292 biosphere reserves from 37 countries meets. One of the aims is to exchange experience about specific topics. A topic of the EuroMAB conference from 2017 was to identify which new types of partnerships are necessary for an ecological transition, how to set them up, and how to durably maintain and promote them. (See also: <https://euromab2017.org/en/home/>). The venue and the host of the EuroMAB conference changes at each conference (e.g. 2013 Ontario Canada, 2015 Haapsalu Estonia, 2017 Sarlat France).

Another example is the EUROPARC conference. The theme of the conference in the year 2018 'European Parks: Inspired by the Next Generation' will focus on what Parks can learn from young people and what changes need to be made to manage protected areas for future generations.

Action 13. Establishment of a research fund

Description:

A research fund is established to support scientists and research projects within the TBR MDD. The transboundary management decides which study or topic is relevant to be supported by the research fund and gives financial contribution to the involved researchers and their mentors from the protected areas.

Apart from this financial support for specific studies, experts from the protected areas within the TBR MDD support researchers in their daily work as they share and further develop their knowledge about the area and its ecosystem. The protected areas also provide existing infrastructure and available equipment (microscopes, literature, laboratories, PCs, ...) as an in-kind contribution.

The research fund can be used to develop scientific basics like mapping or monitoring, or developing actions for the implementation of international obligations (e.g. Natura 2000). Research on topics such as nature conservation, native biodiversity, ecosystem services, the contribution of traditional land use to regional income and biodiversity, etc. can contribute to enhancing the knowhow on the different functions of the Transboundary Biosphere Reserve.

Researchers benefit from the support and at the same time get connected to the TBR MDD region, which most probably in the future will lead to further cooperation during their scientific or other career.

The rules for the research fund need to be established within a transboundary effort (e.g. rules of applying for a study support, selection criteria, jury, frequency of funding, focus topics or open calls, etc.), which can be financed within an Interreg project. The continuous running mainly needs staff resources, as well as finances for the funding of specific studies – which could e.g. be gained via the club “friends of the TBR MDD”, via national Ministries, etc.

Researchers will be able to apply for funding for any topics that line up with the strategy of the TBR MDD. A request for funding in line with the rules will need to be sent to the management institution / jury that will be set up (see above).

Another possibility of research financing is a soft cooperation with universities and faculties, which can also be organized via the management institution of the research fund. This soft cooperation can be achieved by establishing contact between universities and protected areas or by supervising master or doctoral theses through protected areas for which probably no payment is required.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, scientific organisations (non governmental), faculties
Priority:	medium

Examples:

In Croatia, the student NGO BIUS (Student Union) is working on a research project investigating whether similar student unions already exist in other countries. A network of these associations should be considered in order to connect the NGOs and the research funds.

The Luxemburg National Research Fund has a similar task like the envisaged TBR MDD research fund, but on a national level and without the focus on a specific region. However, institutions like this can serve as an example to be looked at when establishing the structures and income of the research fund: <https://www.fnr.lu/what-we-do/>

Action 14. Establish a joint guides training program

Description:

The joint training program is aimed at skilled rangers, (freelance) tourist guides, pedagogic staff of Protected Areas, NGO's and education institutions, communication staff of Protected Areas and tourist information, as well as hunters and fishermen that cooperate closely with the Protected Areas for monitoring (see Action 15). The aim is to offer an equally high-quality guiding product within TBR MDD in all relevant institutions, always involving good knowhow about the natural and cultural heritage of the region and a perspective on the international protection of the three rivers.

The first step is to find out which potentially interested parties in the individual regions can be approached. Jointly, those institutions should work out the detailed content of the training and possible focus topics. The guides training could, from a current perspective, have the following content:

- Advanced guiding and pedagogical techniques and approaches
- English language course, possibly accompanied /followed by (locally organized) courses in neighbouring countries languages.
- Basic know-how on the functioning of river and floodplain ecosystems, on most important species and habitats, as well as on right behaviour when visiting the floodplain and rivers
- Basic knowhow on the necessity for transboundary cooperation and ecosystem connectivity, and how this is achieved
- Basic knowhow on the history of the whole 5-country region and the main cultural heritage traits that are somehow connecting the whole area.
- A close transboundary connection among the guides enables an intensive exchange of knowledge and experiences and consequently leads to them learning from each other.

After the focus topics have been defined, a respective training program can be established. By involving the guides to be trained (or selected representatives from the group) in the development and structure of the training program right from the start, a program that serves their needs and that also fits to their seasons of work / structure of life will be developed. In order to give a practical experience in several areas, the training should as much as possible be done outside, in the areas where guided tours take place, with a practical exchange of techniques and getting to know the natural and cultural heritage of the transboundary region. By travelling along the rivers, the unique knowledge of the local guides can thus be included in the training programme.

It could be an option to add up on this international guides training course with local/regional trainings, focusing on the special natural and cultural values of a certain part of the TBR MDD. Still, due to the common international training, the guides can also be employed across borders.

After the training programme, the participants are "certified TBR MDD Guides", and are allowed to guide tours in the name of the TBR MDD, the local Protected Area, or local cultural heritage sites (depending on who participates in the collaboration). It should be decided locally, if an additional regional training as described above is necessary for local guiding or not.

The guides training should also build the basis for continuous experience exchange across borders among the guides. For this, it could be an idea to organize – annually or bi-annually – short further education seminars, where experience exchange is the core element.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	pedagogic or communication staff of Protected Areas, rangers also active in guiding, (freelance) tourist guides, NGO's, education institutions, ...
Priority:	low

Examples:

Course to become an Austrian National Park Ranger:

In 2010, a new course was created for the "Austrian National Park Ranger", where the basic training (17 days) applies equally to all Austrian National Parks. They gain all didactic/guiding skills in this course as well as know-how on the ecology of all six National Parks. Additionally, each National Park offers a specialization course (25 days), where the participants broaden their knowledge about ecology, history, culture of the respective National Park, and have a 10 days practical internship. After both parts of the course have been completed successfully, the participants are "certified Austrian National Park Rangers". The joint training and scheme of education makes it easier for rangers to work in more than one National Park and for the National Parks to keep the same quality of guiding in all six parks.

(See: <https://hohetauern.at/de/forschungs/88-bildung/bildungsprogramme/699-zertifikatslehrgang-zum-oesterreichischen-nationalpark-ranger.html>)

The LENA project organized a "Danube Guides Training", focusing on guiding skills, environmental protection, and natural and cultural heritage along the Danube River. (See: <http://www.interreg-danube.eu/news-and-events/project-news/2079>)

Action 15. Offer a TBR MDD River Ambassador training

Description:

The TBR MDD river ambassador training is especially offered for hunters and fishermen, who are interested in nature conservation issues. It will however also be open for other interested people who fulfil similar basic criteria (e.g. spending a lot of time in the field, having basic species know-how). The training should focus on recognizing and monitoring selected species and how hunters or fishermen influence them (e.g. disturbance, mistaken for hunted species, etc.). The goal is to establish cooperation with “ecological leaders” from the hunting and fishing communities on transboundary level. To involve hunters and fishermen in monitoring and surveillance establishes synergies, as they are out in the field a lot and therefore make numerous and regular observations.

Another emphasis could be the education of different approaches and nature-friendly methods in hunting and fishing. When discussing different methods, both, the importance for animals and their habitats and the benefits for hunters and fishermen themselves should be in focus.

Through the direct transfer of the river ambassadors own experiences in and with the surrounding nature to the visitors, their knowledge will also be carried further away from the river and will also spread in the countryside. River ambassadors are proud representatives of the pristine nature in their region.

The training can be organized locally or country-wise, in order to be implemented in the national language and not impose any language barriers to potential participants. However, the setting up of the course programme, the selection of species to be focused on (at least some of them with transboundary relevance), and the first pilot implementation could be done in a transboundary project (Interreg, Life, Erasmus+). This would also enable the experience exchange and joint improvement of the programme, and possibly an international part of the training as a motivating “add-on” for hunters and fishermen.

After the initial implementation, each Protected Area can repeat the training (with national funds or within projects that fit to it) for their regions whenever there is the need for it.

A yearly meeting, focusing on some additional training and experience exchange among the hunters and fishermen in their role as River Ambassadors would probably be beneficial. This would need to be organized with basic funds of the public institutions / country.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, hunting associations and hunters, fishing associations and fishermen
Priority:	low

Examples:

Medjimurska Priroda does a special programme focusing on a specific stakeholder group every year. In 2017, they focused on hunters. Actions included workshops on species knowledge (e.g. protected species that might be mistaken for a hunted species), setting up a volunteering group among hunters, who use their time in the forest also for monitoring activities and bring valuable knowledge to the nature protection institution, and general awareness-raising on the ecology of the floodplains.

2.4 Sustainable Use

Action 16. Ecological improvements in operation of existing hydropower plants

Description:

Together with hydropower plant operators, solutions for the most pressing ecological issues will be developed. Existing hydropower plants were built decades ago and are in many cases no longer state of the art. Adaptions in operation or technically renewing or updating the sites (e.g. fish ladder) in consultation with experts for nature protection, should improve the ecological situation. Most pressing issues from nature protection perspective today are

- the hydropeaking operation mode in Donja Dubrava HPP
- the low allocation of residual flow in Stara Drava (3 existing power plants in Croatia)
- the sediment flushing regime of Spielfeld HPP leading to siltation of habitats at the border Mura, and
- the sediment deficit downstream the chain of HPP's in general.

Discussions with operators should lead to possible solutions from an ecological but also economic perspective, having in mind to fulfil the FFH-Directive and Water Framework Directive (improving the habitats conservation status, improving the rivers ecological status).

Note: Not only the sediment management along the main rivers Mura, Drava and Danube can be part of this action but also the sediment management of hydropower plants on tributary rivers as their management has direct influence on the TBR MDD.

The following activities will be useful for this process:

Activity 1) Performing studies and collecting data on the ecological impacts of the above-mentioned issues:

As a first step, a collection of existing data should be done. In a second step, concrete field investigations in our rivers could be done either in cooperation with universities and research institutions (e.g. master theses, research project, etc.) or in the framework of Interreg or Life projects done by the Protected Area Administrations.

Activity 2) Collecting good practice examples where operation modes of hydropower plants were changed due to ecological reasons:

All over Europe, mainly due to the implementation of the Water Framework Directive, hydropower plant operation modes were changed due to ecological reasons. Those good practice examples should be collected and contacts established both with the nature protection authorities and with the hydropower plant operators. Examples are e.g. the implementation of larvae windows in hydropeaking in the Dordogne (FR) and the raise of residual flow from 5qm to 50qm in the Bavarian Inn (DE).

Activity 3) Participation in the process for (national and transboundary) River Basin Management Plans, to be developed again until 2021:

Within the national River Basin Management Plans (RBMPs), to be developed based on the Water Framework Directive (WFD), public participation is foreseen as a prerequisite. Protected Area Authorities and other nature protection stakeholders need to raise awareness on the crucial impacts that existing hydropower plants have on the rivers, and on possible solutions for these. The aim would be that in the RBMPs, those issues are adequately addressed and measures proposed for the next cycle within the WFD. This is currently not the case.

Activity 4) Establishing cooperation with the hydropower plant operators:

The hydropower plants impacting the future TBR Mura-Drava-Danube are mostly owned by three companies: Verbund, DEM and HEP. Contacts need to be built up with these companies, to start discussions on possible ecological improvements in their hydropower plants. One possible start could be a joint workshop or conference of nature protection stakeholders and hydropower plant operators, where good practice examples from other countries as well as the ecological impacts (= results or activities 1 and 2) are presented. Based on this knowhow transfer, discussions can be started on how ecological improvements can be implemented in a cooperative way.

The data and good practice collection as well as discussions with the HPP operators can be funded within Interreg or Life projects. Data collection could also be done within research projects implemented by universities and research institutions (e.g. Horizon2020, national funding lines). The participation in the process for establishing the next RBMPs most probably needs to be done within the daily work of the institutions, while for awareness-raising on the problems itself e.g. also existing campaigns of NGOs on similar topics could be used. The actual implementation of measures that have been developed in the cooperation of nature protection stakeholders and hydropower plant operators will then be in the hands of the HPP operators, based on an established agreement.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, research institutions and universities, national environmental institutes, hydropower plant operators, Ministries
Priority:	high

Examples:

In the Dordogne Biosphere Reserve, a cooperation of EDF (hydropower operator) and EPIDOR (the Basin's territorial public organization that brings together the six departments crossed by the Dordogne = the BR's administrative authority) exists. The mission of EPIDOR is to act for the sustainable management of water, rivers and aquatic environments. EPIDOR and EDF have

developed a partnership, which was most active between 2013 and 2015: Dordogne Biosphere Initiative (IBD). The IBD is supporting ecological studies and surveys, actions on water regimes, aquatic environments and restoration of ecological continuity. Through this association, EDF provided a financial contribution to implement an action programme, aimed at reducing the impact of the hydroelectric industry on watercourses in the basin and improve the quality of aquatic environments. EPIDOR, as a territorial public establishment in the basin, is contributing its technical expertise and knowledge of the territory to ensure that the action taken is both interesting and effective. Between 2013 and 2015 the association implemented many operations and restorations on the river. Additionally, a hydropower agreement between EDF, the French government and EPIDOR is in function: “Reduction de l’impact des eclusees sur le basin de la Dordogne”, providing e.g. rules on peak discharge in critical seasons, so that the stranding of larvae is reduced or even eliminated.

Action 17. Establish a TBR MDD certification for agriculture

Description:

The TBR MDD certification for agriculture should unite the sustainable agricultural stakeholders or representatives within the TBR MDD, join their forces, and work as an incentive for more sustainable production in the region. It defines an umbrella certificate for agricultural products from the TBR MDD that are produced in a nature-friendly and sustainable way. All farmers and products within this umbrella brand adhere to standards of sustainable production that are yet to be defined. Examples of such standards are e.g. less or no pesticides/chemical fertilizers, high animal welfare standards, regional production cycles, high employment quality, organic production, small-scale landscape structures and biodiversity-friendly production, etc.

These standards also need to be controlled in one way or the other. In return for their effort for nature, the farmers are supported by the TBR MDD in ecological efforts (e.g. further education and consulting offered by TBR MDD), processing (e.g. support to regional cooperatives sharing the infrastructure for further processing) and sales (e.g. establishment of sales connections with regional gastronomy and trade, access to farmers markets, common web page of the TBR MDD (see Action 2)).

The aim of making agriculture more nature-friendly and the aim to support local livelihoods are equally important in this action.

This TBR MDD certificate for agriculture should be established within a transboundary project, in a joint effort of nature protection and agriculture stakeholders. As the basis differs from region to region, it will be necessary to compare thoroughly the different challenges and problems, in order to find the best certification system. It needs to be ensured that the system on the one hand is trustworthy and fits to the goals of the Biosphere Reserve, and that on the other hand it is motivating and beneficial for farmers. At this step, also the way of control of the criteria needs to be set up, taking into account available and usually restricted resources available for this. Potential synergies with other certificates for sustainable production (e.g. organic production) should be considered. The standard processes of receiving the certification and regular controls need to be established in a joint effort of nature protection and local farmers.

The continuous functioning of the certification itself (standard items like check of new farmers, quality control, yearly further education, maintenance of joint website, etc.) probably need to be self-sustained or need a regular support from national sources. Additionally, support for specific projects (e.g. set-up of regional cooperatives with joint further processing and joint sales point; major change in production methods in some regions, etc.) can be obtained via Cohesion Funds, Interreg projects or Agricultural Funds.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Local farmers, farmers associations, existing certification scheme operators, nature protection stakeholders, municipalities
Priority:	medium

Examples:

In the La Palma Biosphere Reserve in Spain, an agricultural brand (though not a strict certification) was established. Within a project a series of target products were established. A general regulation (covering a broad spectrum: products, goods and services) and specific regulations (for products like wine, honey, etc.) were established. The main requirements are the production in the BR territory and at least integrated products “Zero residues”. Organic production has a bonus in the payment of the annual fee. The contract with farmers for usage of the brand lasts for 3 years. This means that at least every 3 years each producer is visited.

Action 18. Conversion of artificial forests to more natural forests and testing extensive forestry methods

Description:

The goal is to establish a sound and healthy forest ecosystem in the core area and buffer zone of the TBR MDD together with foresters. In some regions the conversion of artificial forests is already done (e.g. poplar plantation conversion plan). The methodology and underlying problems differ from country to country, and change especially from Mura and Upper Drava to the downstream parts of Drava and adjacent Danube sections. In the upstream TBR MDD parts, there are many small forest owners who have e.g. inherited small plots of land (~0.5–2 ha) with non-native species (*Robinia pseudoacacia*, *Fagus sylvatica*, *Picea abies*, ...). Those small landowners may be convinced to change the structure of their forest to more native ones; however they lack the knowhow, the financial and time resources, and the machinery to do so. A funded project could help, especially in the most difficult case of alien species that produce shoots from cut stems (e.g. *Robinia pseudoacacia*). In the downstream parts, non-native species are mostly hybrid poplar in large plantations, producing fast-growing timber and important from an economic perspective. In those areas, alternative species compositions would need to be found that can give an adequate income.

As a first step, an assessment needs to take place where highly artificial forests are situated (plantations of non-native species, plantations of only one tree species, areas of more than 5 ha that have the same age class without vertical structures, forests with strong use of pesticides in close proximity of natural water bodies, etc.). Also, an overview on currently on-going conversions should be done, including methods used and goals envisaged.

In a second step, agreements for implementing a pilot project should be reached with foresters. The pilot project could be about conversion of plantations into natural forests (no commercial use anymore) or into extensively used forestry stands (with commercial use).. Different methods of conversion and of extensive forestry should be tested in locations with comparable conditions. The whole process and its results (ecological and economic) could be monitored, compared, experience exchanged and conclusions drawn for sustainable forestry in floodplain areas. Those results could be negotiated into national and regional forest management plans.

As a third step, partly in parallel to the second one, support structures for further conversion and change of forestry practices should be built up in a joint effort of forestry and nature protection, to support the change of forestry practices on a larger scale. The tools and structures for this need to be negotiated in a cross-sectorial effort, depending on needs found out during pilot actions. They could range from consulting structures to conversion grants or building up specialized forest nurseries for native tree species (including their local/regional adaptations and a diverse gene pool) with high timber value or high ecological value.

Currently, a transboundary project (REFOCuS) is on-going within the TBR MDD (2018-2021) funded by DTP programme, that implements some of the sub-actions described here. Mainly, they focus on the establishment of gene banks and transnational seed transfer zones. However, also transboundary pest and disease management as well as the testing of extensive forestry methods are a part of their project. This project is implemented by forest and forestry research institutions, but they plan to

closely involve nature protection sector and forest owners/users. The coop MDD partnership will try to get involved as much as possible in their stakeholder participation workshops.

Any of the above-described actions should be based on or be set up in close cooperation with the REFOCuS project partnership, in order to use synergies. Potential funding lines for (parts of) this action are Interreg Danube (transboundary assessments, concepts, etc.), cross-border cooperation programmes or Life (for actual conversion actions, setting up tools and structures for long-term support to conversion of forests), and national funds or self-sustaining structures (for the long-term running e.g. of conversion grants or forest nurseries).

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Forest owners, Forestry companies, Forestry authorities and agencies, Forestry research institutions, nature protection authorities/agencies, Protected Areas Management Institutions, nature protection NGO's, forest nursery companies
Priority:	low

Examples:

In the Morava floodplains in Austria, WWF owns a part of the floodplain forest. The management of the used forests (about 10% of the whole area) has been changed into coppiced woodland for nature conservation reasons (e.g. keeping and promoting old oak trees and wild fruit trees). Also, a nearby cooperative of forest owners uses this method, with slightly higher economic returns.

See: <https://www.wwf.at/de/mittelwaelder-im-wwf-auenreservat-marchegg/>

In forest habitats other than floodplain forests, nature-friendly forestry is much more common already. Mostly, there a permanent forest cover in a mix of ages and species is kept. Tendering is kept to a minimum, deer is reduced to an amount where natural rejuvenation is possible, and pesticides or chemical fertilizers are not used at all. By keeping the input (e.g. staff time, pesticides, machine purchase) at a minimum, still a reasonable profit is generated. Examples for this are the forests of Stift Altenburg in the Austrian Kamp valley (see: <https://www.biorama.eu/bio-wald-forstwirtschaft/>) or the City Forests of Lübeck in Germany (see: http://www.luebeck.de/bewohner/umwelt_gesundheit/stadtwald/konzept/grundsaeetze.html).

Action 19. Set up a forestry certification scheme

Description:

Within a joint negotiation process with important forestry stakeholders of all five countries from the TBR MDD, existing forestry certification schemes (e.g. Naturland, ProSilva, FSC, PEFC) are being reviewed and assessed for suitability in the different zones (core area, buffer zone and transition area) of the TBR MDD. Jointly between nature protection and forestry, a standard corresponding to one of the certification schemes is set for each zone. In addition to biodiversity, forest management should in this way preserve or enhance the social and economic well-being of employed forest workers and the local population in the long term. Monitoring through appropriate documentation and evaluation of sustainability in this area is often also a part of forestry certification.

Following this first effort, the use of the certification schemes is promoted by the representatives of the TBR MDD. Together with the forestry stakeholders involved in the first step, as many private and public forest owners as possible from the TBR MDD will be invited to one or more information events. These events have the goal to convince forest owners to change their forestry methods to more nature-friendly ones, using the appropriate certifications.

The support for the certification process should be set up, depending on possibilities and barriers to change of forestry methods in the different countries. Examples are taking over of the costs for the first certification round by a local or transboundary project, know-how support from different certificate holders to those pursuing it, or joint promotion of those forestry companies working according to the jointly set standards (similar to Action 17). The further implementation will need to be done by forest owners.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Private forest owners, public forestry companies, public forest authorities, forestry research institutions, forestry certification organizations, Protected Areas Management Institutions, nature protection NGOs, trade unions
Priority:	low

Examples:

For managing the core zone (if economic use is allowed in the respective country) and buffer zone, programs such as Naturland in Germany could serve as a best practice example. An organically managed forest shall be composed in the long term of trees indigenous to the area. This kind of management produces forests with a high biotope value and optimal conditions of growth, growing stock and quality, at low commercial risk and without having to use a great deal of external energy. Naturland's "Organic Forest Use Standards" regulate all aspects of sustainable and nature-compatible

forest management. They were developed together with environmental associations (Greenpeace, Robin Wood) in order to ensure credible eco-certification of forest enterprises. By signing the producer contract, the producer agrees to the obligation of keeping the Naturland Standards and extending the conversion to all areas of the production.

Pro Silva Austria is the Austrian Association for the Promotion of Natural Forest Management. One of the challenges is to see the forest as a holistic ecosystem and to treat it with respect. The aim is to preserve the forest as a cultural landscape and to create natural habitats and recreational areas. The central ideas focus on promoting sustainable forest management as the basis of life for forest owners and as an important contribution to the development of the human habitat.

In the transition zone, the timber harvesting industry can be continued without any nature protection of the land. There, using the Forest Stewardship Council (FSC) seal of approval might be a good choice. The FSC is an international non-profit organization for the certification of sustainable forestry. The main objective is to ensure sustainable forestry. Certification of forest enterprises is based on ten globally valid standards developed by the FSC. Certification is exclusively carried out by organisations accredited by Accreditation Services International GmbH. Who wants to receive the certification has to pay an annual fee.

Action 20. Support owners of fish ponds in diversification of income sources and improving habitat quality

Description:

Within the whole TBR MDD, fish ponds do exist. Especially large fish ponds with semi-intensive use do exist in Hungary, Croatia and Serbia, in the lower Drava and Danube regions, which were established after the World War II with a similar semi-intensive scheme of production of fish (mainly Carp (*Cyprinus carpio*), Russian Carp (*Ctenopharyngodon idella*) and Bighead Carp (*Hypophthalmichthys nobilis*)). In Austria and Slovenia, mostly gravel and clay ponds that were before used for sand and gravel extraction were converted into fish ponds. All those fish ponds are situated in the (former) floodplain area, and are partly substituting the still water bodies (oxbows) that a natural floodplain would contain as a habitat especially for water birds and migratory birds.

Nowadays, owners of carp fish ponds often have problems reaching their economic goals, among others due to strong competition with very cheap fish from Asian production. Therefore, fish ponds are in the last years often either abandoned or production is intensified, both with negative effects on habitat quality. The aim of this action is therefore to support owners of fish ponds in better sales results and in diversification of their income from the fish ponds, in order to keep the production at semi-intensive production mode and thus also to keep the necessary habitat quality.

What makes semi-intensive fish ponds important as bird habitats is their habitat diversity - a mixture of large open water surfaces with substantial reed beds and a diverse water flora and micro fauna - and the abundance of food available as a result of natural food production combined with some additional feeding. Both macroinvertebrates and fish are abundant and also stable over the year. Additionally in autumn during fish harvest, the water level of harvested ponds is very shallow, creating a perfect feeding habitat. In semi-intensive production, normally no very aggressive measures are taken against fish-eating birds.

In order to motivate and support fish pond owners to keep their production running on semi-intensive ways, the following steps could be taken:

Initially, a small number of fish pond owners open to ecological issues should be found, to develop a set of measures that can help sustain the economic profits and protect and improve the habitat quality. These measures could e.g. include:

- Establishing a TBR MDD label of nature-friendly and local fish production (in connection with Action 17 - Establish a TBR MDD certification for agriculture), which could help to raise the price and thus also profit from the fish production itself
- Developing nature experience offers together with the Protected Areas, e.g. birdwatching tours. The fish ponds are often much easier accessible than the more natural floodplain areas, and are very attractive for birdwatching tourists.
- Developing other additional income options with either a nature experience component or that also have a positive effect on the habitat quality. Examples are reed-cutting and reed-sales (as it needs to be done anyway in order to keep the habitat quality not only for birds but also for the raised fish) or recreational fishing. Protected Areas could support this e.g.

through their international connections and experience exchange with other Protected Areas where these activities play an important role (e.g. Danube Delta Biosphere Reserve or Neusiedler See - Fertő Hanság National Park for reed cutting and sales).

- Education of fish pond owners on methods of deterioration of fish-eating birds (those that can be scared, like Great Cormorant) that are not harmful and hazardous for other fauna.
- Creation of business plans for fish production that is providing habitats for wildlife (e.g. mosaic of dry, wet, muddy, vegetated and less vegetated areas on fish farms).
- Making connection between sectors: fish producers – touristic organizations – local people – touristic providers
- Purchase of already abandoned fish farms by protected areas authorities or interested business organization and maintaining them for fish production and nature conservation.

Together with this small group of interested fish pond owners, the actions could be developed and initiated, some pilot actions implemented. This could be done within an Interreg project, although often the economic activities themselves would need to be done outside of the project and need to be self-sustaining. For such actions, especially if initially bigger investments are necessary, Cohesion or Agricultural Funds, as well as national or regional funds for economic development could be used.

In a second step, the experience with those jointly developed actions could be transferred to a larger group of fish pond owners across the whole TBR MDD. This should motivate a larger group of fish pond owners to keep or change their production methods to extensive or semi-intensive methods, to secure their economic viability with high quality and joint labelling or additional income sources, and to protect their fish ponds also as a secondary still water habitat. In this step, again an Interreg project could be used, or it could be done in cooperation and using the funding opportunities of regional business development agencies.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Fish pond owners, fish sales networks, Protected Areas Management Institutions, touristic companies, local anglers associations, ornithologists, regional business development agencies, etc.
Priority:	low

Examples:

Importance of fish ponds for biodiversity in Croatia: <http://priodahrvatske.com/ribnjaci/>

Fish pond eco-tourism in Bjelovar-Bilogora County: <http://www.zastita-priode-bbz.hr/publikacije/tz-bbz-brosura-promatranje-ptica-2016.pdf>

2.5 Strategic planning

Action 21. Set up a common data platform

Description:

A common data platform with data about the TBR MDD should be set up, in order to allow strategic planning based on at least partly comparable data. The data should be stored centrally where all responsible partners or representatives from the 5 countries have access. Within the data platform GIS Data, documents, pentilateral or regional monitoring results or reports, methodologies, literature, data about the region/area, etc. are stored and provided for all users (e.g. Protected Areas, NGOs, Universities, Ministries, ...).

In a first step, the status quo needs to be assessed: what kind of data is available within the different institutions involved in the management of the TBR MDD, within research institutions, NGOs, or sectoral agencies. All the relevant institutions that might have data about the TBR MDD should be invited into the process of collecting or listing existing data. The list of existing data should be sorted, to see which data is actually useful to be provided on a transboundary level (to other experts or to the public). The (legal) rules for sharing the data with other experts or the public will need to be assessed. Also, it needs to be defined which data are too sensitive to be shared openly and should rather be accessible only to experts or even to them only on request.

It also needs to be agreed

- who can host this online data platform (including payment of IT services)
- which data and which data format will be inserted (so that it is usable for all users)
- if a citizen science tool (to collect data of observations of the public) should be included
- who will insert the initial data
- who will keep the data platform up to date.

Secondly, based on the above analysis, an online data platform can be designed and implemented. The aim is to provide also GIS data to the users (for updates, use/download and analysis), though special protection rules should be implemented for sensitive data (e.g. nesting sites of birds sensitive to disturbance). During the design-phase, it should be assessed if the transboundary data platform can at least partly be connected to national platforms (expert databases or citizen science databases), so that at least some of the updates can be done automatically, without additional staff resources for each update. If possible, such automatic updates should be implemented in the system.

The initial set-up would require a high amount of staff resources, including a GIS expert who can integrate the GIS data from different countries into one system. The initial agreements, design and implementation of the platform could be financed by an Interreg or a Life project.

Afterwards, some staff resources still need to be foreseen on a regular basis by all Protected Areas or other institutions involved in the management of the TBR MDD (also those not hosting the platform) for continuous feeding of new data into the platform. This would probably need to be paid by basic funds coming from national sources.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, NGOs, Universities, sectoral agencies, Ministries
Priority:	high

Examples:

Examples for open data platforms are e.g. from Austria (www.data.gv.at) or the European Data Portal (<https://www.europeandataportal.eu/data/en/dataset>). On these platforms, data for different categories and different data formats are available for everyone. Sometimes special data is only available for registered users.

Another example is the platform of the project ATTRACTIVE DANUBE called CO-TAMP (Common Territorial Attractiveness Monitoring Platform). This is a freely accessible interactive cartographic application for displaying attractiveness indicators about the Danube Region. It provides interactive web map viewer as well as powerful analytical tools for spatial querying. One can create custom statistics and compare data. All data (images, files, charts) can be exported and used for further work (http://cotamp.gis.si/attractive_danube/).

BioOffice is an example for a GIS-based software tool. It is used for documentation of biological collections as well as for archiving and evaluation of project-related data such as cartography of flora and fauna. Results of field surveys can be collected and exchanged via BioOffice and spatial analysis can be generated. (http://www.biooffice.at/index.php/home_page.html)

Ornitho.at is a platform where the public can contribute to the collection of bird data. Data on very sensitive or rare species is not shown to the public (protected view). For common species, users (the general public) can do some calculation and generate distribution maps. It serves as a platform for the public to share their data. Many hobby-ornithologists have data about birds that would never be published without such a platform. (www.ornitho.at/index.php?)

Action 22. Define a joint visitor management plan for the TBR MDD

Description:

The joint visitor management plan contains a spatial concept where visitors and tourists can be steered. Areas that should be left mostly untouched by visitors or areas where certain activities (non-motorized boating, sunbathing, cycling, etc.) can take place are identified. The plan should also provide examples and principles of visitor management (with which tools and methods people can be directed to certain points of interest). The aim of the visitor management plan is to prevent negative impacts on ecologically sensitive areas (especially larger, cross-border ones), to provide visitors with an impressive nature experience, and to foster transboundary cooperation of visitor sites to spread the benefits from tourism evenly in the region or make tourists stay longer.

As a first step the existing visitor management plans, other management plans (e.g. N2000 management plans) where the topic visitor guidance is treated, or ongoing projects that deal with tourism within the TBR MDD, are compared and analysed.

The analysis shows similarities and possible needs for actions on transboundary level. The similarities are evaluated and incorporated in the transboundary visitor guidance plan. The differences between the existing plans are discussed (e.g. workshops or working groups) on transboundary level and the common results are also incorporated in the joint visitor guidance plan.

If there are areas without any visitor management plan or other management plan treating that topic, a detailed analysis of this area's value and current and future tourism needs and pressures needs to be done.

The steps within the development process for the Nature Visitor Guidance Plan within the Drava Life project for Croatian-Hungarian Drava section can serve as an example:

1. Analysis of existing ecological sensitivity
2. Analysis of existing disturbances
3. Identification of conflicts between disturbances and wildlife
4. Identification of existing visitor's hot spots
5. Definition of nature zones and visitor zones based on the previous steps

Within the process, different stakeholders from the region and responsible institutions were brought together at several workshops and given the chance for intensive discussion on the Nature Visitor Guidance plan.

After the joint agreement on the visitor guidance plan, it should be implemented both on local as well as on transboundary level. On local level, the results of the transboundary visitor management plan should be integrated into official and binding documents (e.g. Natura2000 management plans), in order to make them effective and valid for everyone. Local authorities (municipalities, Protected Area managers) will most probably also need to provide some orientation for visitors (e.g. marking of trails, establishing of visitor infrastructure in specific sites, cancelling the use of trails in certain areas, etc.)

On the transboundary level, it should be agreed which activities are to be done in a harmonized way. This could be e.g. the implementation of resting facilities directly at the river (for boating tourists, and in the vicinity of ferries in order to make them accessible from both sides for cycling tourists and local people), the offer of transboundary cycling or walking paths, and the establishment of joint offers regarding organized touristic groups (cooperation with tour-operators).

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Protected Areas Management Institutions, ministries, institutes for nature protection, municipalities, NGO's, touristic service providers from the region, tourism organizations, regional development organizations
Priority:	medium

Examples:

The joint visitor management plan can be based on the results of the visitor management plan of Life Drava (developed for the Croatian side of the Drava river, but with coordination with the Hungarian partners). The Life Drava visitor management plan can be expanded on transboundary level.

Visitor guidance measures are inevitable in the Natura 2000 sites along Drava River, considering the expected increase of visitors, coming to the area. The touristic boom, which is strongly desired and supported by the region, has a big impact on the disturbance of protected areas, especially on breeding birds along the river landscape. Characteristic sensitive birds of the region are the white-tailed Eagle, the black stork and the birds breeding on gravel and sand banks such as the little and the common tern. But also the bird migration along the Drava, which is important on a supra regional level, demands seasonally adapted concepts for using the area. Whereas the Duna-Drava National Park has established certain requirements for visitor management (i.e. canoeing) that take into consideration species sensitivities. There are no restrictions or guidance on the Croatian part of the Drava so far. Thus there is an urgent need for cross-border cooperation and alignment of visitor guidance measures.

The goals of the present LIFE Project`s Nature Visitor Guidance Plan are

- to harmonize existing recreational or touristic uses
- with the needs of nature and nature conservation concepts
- to reduce existing conflicts and
- to create benefits for both visitors and nature conservation.

Action 23. Development of a joint fish management plan for the TBR MDD

Description:

The national or local fish management plans only cover the area of a country or a region and end at the national border. The fishing laws and management along one river differ from country to country (non-fishing zones exist only in some areas/countries; it is unknown if the non-fishing seasons for the various species correspond to each other in the five countries). With a joint management plan this obstacle can be overcome.

The joint fish management plan could be either for all species or only for most threatened and protected ones. It should be developed in cooperation with Protected Areas, Fishermen associations, and NGO's. It should include information about non-fishing zones and seasons that are harmonized across the five countries to be more effective, as well as new spawning areas (e.g. planned restoration sites, non-fishing zones to be established, etc.). General measures on reproduction, conservation and sustainable management of native fish species are included.

As a first step especially in cross-border areas national or local fish management plans need to be compared, and differences assessed. The most important issues (e.g. non-fishing seasons, non-fishing zones, minimum catch dimension) should then be harmonized at least for threatened and/or protected species. This should be done in a joint discussion process among all necessary stakeholders (Protected Areas, fishing associations, NGO's). If necessary data is missing (e.g. natural reproduction success, current population, etc.) it could be collected in a joint (transboundary) project. Certain data might be available also from other projects, e.g. MEASURES project where important habitats for migrating fish species on the Danube and within the confluence areas of bigger tributaries like Drava are mapped.

As the Guidelines for a dynamic river corridor refer to a "self-sustaining" population of native fish species, stocking amounts and procedures in the five countries and different regions could be compared as well. Within a discussion among all stakeholders, measures should be defined to raise natural reproduction of native species, in order to decrease the need for artificial breeding and restocking.

This process should not lead to a downgrading of existing fish management plans. If there are stricter regulations in one country, they will stay valid even if a harmonized regulation cannot be reached.

After a certain period of time the measures defined in the joint fish management plan are evaluated. This evaluation can be supplemented by the results of the joint monitoring program (See Action 6).

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Fishermen Associations, Protected Areas Management Institutions, regional/national nature protection institutions, NGO's
Priority:	medium

Examples:

An example for a Fish management Plan in a Natura2000 area with the aim to protect and restore natural fish population, as well as to allow fishery, concerns the LIFE-project „Auenverbund Obere Drau“ (Uiblein, Friedl & Prochinig, 2002) within the Natura 2000 area at the upper Drava (see http://www.kis.ktn.gv.at/163725_DE--a_168_oberedrau).

An example for changes in national legislation due to pressure from nature protection side is the agreement regarding sturgeons in the Danube in Romania/Bulgaria: Romania started a 10-year-moratorium on catching wild sturgeon in 2006 - however, at the same time in Bulgaria it was still allowed. Only in 2011, Bulgaria followed with a similar, but annual ban, extending the ban in 2012 for a further four years, so that on both sides of the Danube River the catch of Danube sturgeon was forbidden. Both bans have been extended for another 5 years until the end of 2020.

Action 24. Development of a joint river restoration plan for the TBR MDD

Description:

The river restoration plan covers the area of the TBR MDD on a large scale. It should lay down basic principles for all restoration measures. (e.g. to give priority to re-establishing natural dynamic processes as far as possible, over restoration measures that result in long-term management needs). The plan defines river sections that have high potential for river restoration actions like removing embankments, re-connecting side branches, or reduction of embankment and river training structures where it is not possible to remove them completely. The river restoration plan should have the ambition to solve pressing ecological threats such as riverbed deepening and loss of natural dynamic habitats, and include synergies with other aims like ecological flood protection. The river restoration plan could also include good practices as well as the possibility for joint implementation of river restoration projects.

The river restoration plan could be developed based on a joint review of the river restoration potential study from Ulrich Schwarz (in which proposals of potential restoration areas and measures based on analysis of existing projects and background data from the TBR MDD region are listed, see [link to the study](#) p. 27 ff) and local/regional/national restoration potential studies. Additionally, flood protection plans of all countries are reviewed jointly as well, to find the actions with best synergies between ecological restoration and flood protection, together with the water management authorities. During this review process, good practice sites for river restoration in the TBR MDD countries and beyond should be visited, in order to learn about solutions to potential challenges that have been found elsewhere.

Priority sites for restoration are defined jointly, taking into account synergies between different goals, land use and habitats on both sides of flood dikes, flood protection of existing settlements and infrastructure, current nature protection status, the suitability of certain areas for flood retention and lateral channel shift development as well as main river section types.

After the general approach and priority sites for restoration were defined, possibilities or necessities for cross-border or transboundary cooperation in the implementation, for joint establishment of five country cooperation with/of water management authorities are identified.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Water management authorities, Protected Areas Management Institutions, nature protection institutions, spatial planning institutions, forest owners, farmers, NGO's, municipalities
Priority:	medium

Examples:

As a first example the river restoration concept for the Upper Drava, between Koprivnica and Virovitica, which was developed in the year 2013, can be mentioned. For the Upper Drava the current situation for the topics like river engineering, river morphology, bed load and sediment situation, hydrology, river ecology, terrestrial ecology and land use was described. In a next step deficits and threats were pointed out. In the last step common guidelines and 12 measures were elaborated and ranked by their priority.

Another example is the SEE River Toolkit for facilitating cross-sectoral management of river corridors. This toolkit is a tripartite collection of booklets, with a Roadmap to Cross-Sectoral Management of River Corridors, a Practical Applications on the Drava River and Practical Applications on the Bodrog, Neretva, Prut, Soča, Vjosa and Kolubara Rivers. The booklets cover theoretical and practical issues of cross-sectoral management of river corridors.

Sava White Book. The River Sava: Threats and Restoration Potential. Schwarz, U. (2016) Radolfzell/Wien: EuroNatur/Riverwatch.

Action 25. Evaluation of the guidelines for a dynamic river corridor and creation of the TBR MDD report

Description:

The TBR MDD report describes the condition and the development of the TBR MDD and is published every 10 years. In a first step the objectives of the TBR MDD guidelines are evaluated; the actual state and the target state are compared. The report gives a statement about the fulfilment of the objectives and necessary measures or actions. The partners or institutions that gave their input or developed the documents within the Interreg project coop MDD are involved in the evaluation process. As a result the guidelines for a dynamic river corridor can be adapted or rephrased. Based on the rephrased guidelines, new actions for reaching the objectives can be defined or existing actions can be adapted or sharpened. Actions implemented during the reporting period of the 10 years will be highlighted and described separately in the report.

In order to assess the current status with the target status of the TBR MDD, the available monitoring data are reviewed. The responsible organizations, who implement monitoring programs in the area, are closely involved in this process. The joint monitoring programs (see Action 6) and the individual monitoring programs of single Protected Areas (potentially already shared in a common data platform, see Action 21) should provide a basis for evaluation. It is checked if the transboundary and local measures that were set to protect certain species or habitats have achieved the intended goals or have to be adapted and/or prolonged.

The evaluation of the guidelines and the monitoring program can be done via data analysis by external experts, workshops, discussions or questionnaires. The assessment should also be used as an opportunity to re-assess the goals that were once set, and to again agree on working in one joint direction, reconfirming the joint commitment.

Final result of this process is the TBR MDD report which draws a conclusion from the last 10 years of TBR MDD development. The reporting process can be similar to the MAB reporting process or even done together if the timing is more or less overlapping.

The TBR reporting can be initiated and implemented by the international management structure of the TBR MDD (see Action 1).

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Biosphere reserve management bodies, Protected Areas Management Institutions, coop MDD partners and associated partners
Priority:	low

Examples:

The reporting foreseen by the MAB programme for (Transboundary) Biosphere Reserves can serve as an example or even the evaluation of guidelines and state of the TBR MDD can be done together with the TBR MDD report within the MAB review process, if timing more or less overlaps. The report structure for the MAB review process is available here: <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/periodic-review-process/>

Action 26. Develop a system of land purchase or land exchange

Description:

The availability of land is an important issue concerning the realisation of nature protection measures. Usually it is easier to plan and implement measures of nature protection on state owned land or on land which is owned by NGOs dedicated to nature protection.

Therefore each country develops a system of land purchase or land exchange, based on the possibilities of the national legislation. The development could be done in a transboundary project, encompassing the following steps:

- Analysis of existing land purchase or land exchange practices in TBR MDD countries
- Review of legislation regarding land purchase and land exchange in TBR MDD countries
- Research and comparison of good practice examples for land purchase and land exchange systems /funds in other countries
- Formulation of recommendations towards policy stakeholders

If such a suggested system is then adopted in a certain country, local work on implementation starts:

The land purchase and land exchange system/funds should be presented as a new opportunity to implement nature protection measures to the relevant public institutions. In addition, events for private land owners are organized or folders are sent out, to inform them about the new system of land purchase or land exchange. This information is also given to landowners outside the floodplain, because it is also possible to purchase land there and to exchange it with land inside the floodplain, where nature conservation measures could be implemented. These events are used to collect a list of private land owners that are willing to offer their land for sale or exchange.

After these measures, the new system starts working and the county administration or public institution buys privately owned land.

The bought land is then used for nature protection measures directly or exchanged with other (privately owned) land, on which measures can be realised.

Within the TBR MDD spatial plan (see Action 27), areas where land is needed for nature protection issues could be outlined. These parcels can be exchanged with parcels bought via the established fund or directly bought with money from the fund.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Ministries for Environment, water management authorities, Protected Areas Management Institutions, NGO's
Priority:	low

Examples:

The Salzburg Provincial Government has a fund for nature protection, which – among other purposes of nature protection – is used to buy and to save this land for nature protection and measures.

(See

<https://www.salzburg.gv.at/themen/natur/naturschutzfoerderung/projektfoerderung/salzbuerger-naturschutzfond>)

Another example is the NABU-foundation or the Bund Naturschutz in Germany, which buys land of a high nature conservation value and saves it for a natural development.

(See <https://naturerbe.nabu.de/wir-ueber-uns/naturschutz-durch-landkauf/index.html> and <https://weilheim-schongau.bund-naturschutz.de/projekte/flaechenkauf-pacht.html>)

Action 27. Develop a TBR MDD spatial plan

Description:

The TBR MDD spatial plan should combine the different local spatial plans on a transboundary level on a generalized scale with a low grade of detail but with a joint standard. This needs to be done by the institutions responsible for spatial planning together with representatives of nature protection in each of the five countries.

In order to get an overview of the whole picture, the existing spatial plans within the TBR MDD need to be joined together. Based on that information, institutions for spatial planning and representatives of nature protection could discuss major determinants of spatial planning on five-country level, from regional development and from ecological perspective. The following issues could for example be discussed:

- Distance of buildings and economic areas to the river, differentiated per country and a list of changes that could be done in each country.
- Harmonisation of strategies regarding guaranteeing of retention areas for flood protection in all five countries.
- Definition of the most important ecological corridors, leading from the 3-river-corridor to the surrounding valuable /natural habitats. Developing a common strategy for saving these ecological corridors.
- Create a concept to preserve the 3-river-corridor itself for the future.
- Harmonise and list the major infrastructure developments affecting the TBR MDD that are planned in any of the five countries (according to TEN-T map¹, no major crossings by rail or road planned to be built new, most plans are upgrading of existing railway lines; hydropower developments planned in Slovenia and Croatia).

Finally, it should be discussed if this transboundary perspective should have any impacts on the national/local spatial planning. If yes, a joint agreement of the spatial planning institutions could be set up.

This action can be led on transboundary level by:	
The following stakeholders or partners are relevant for the implementation:	Spatial planning institutions on regional and national level, municipalities, Protected Areas Management Institutions, ...
Priority:	low

¹ <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html>

Examples:

Within the NATREG project, the province of Styria developed “Guidelines for regional, interregional and cross-border development strategies creating ecological corridors” (www.southeast-europe.net/document.cmt?id=262). Within the project, they also created a GIS model with ecological corridors, green areas for recreation, and transport /industry / housing areas for the whole province.

Within the TRANSGREEN project, nature conservation institutions and transport sector work together to allow development of transport corridors in the Carpathians, while respecting and preserving ecological corridors.

See <http://www.interreg-danube.eu/approved-projects/transgreen>.