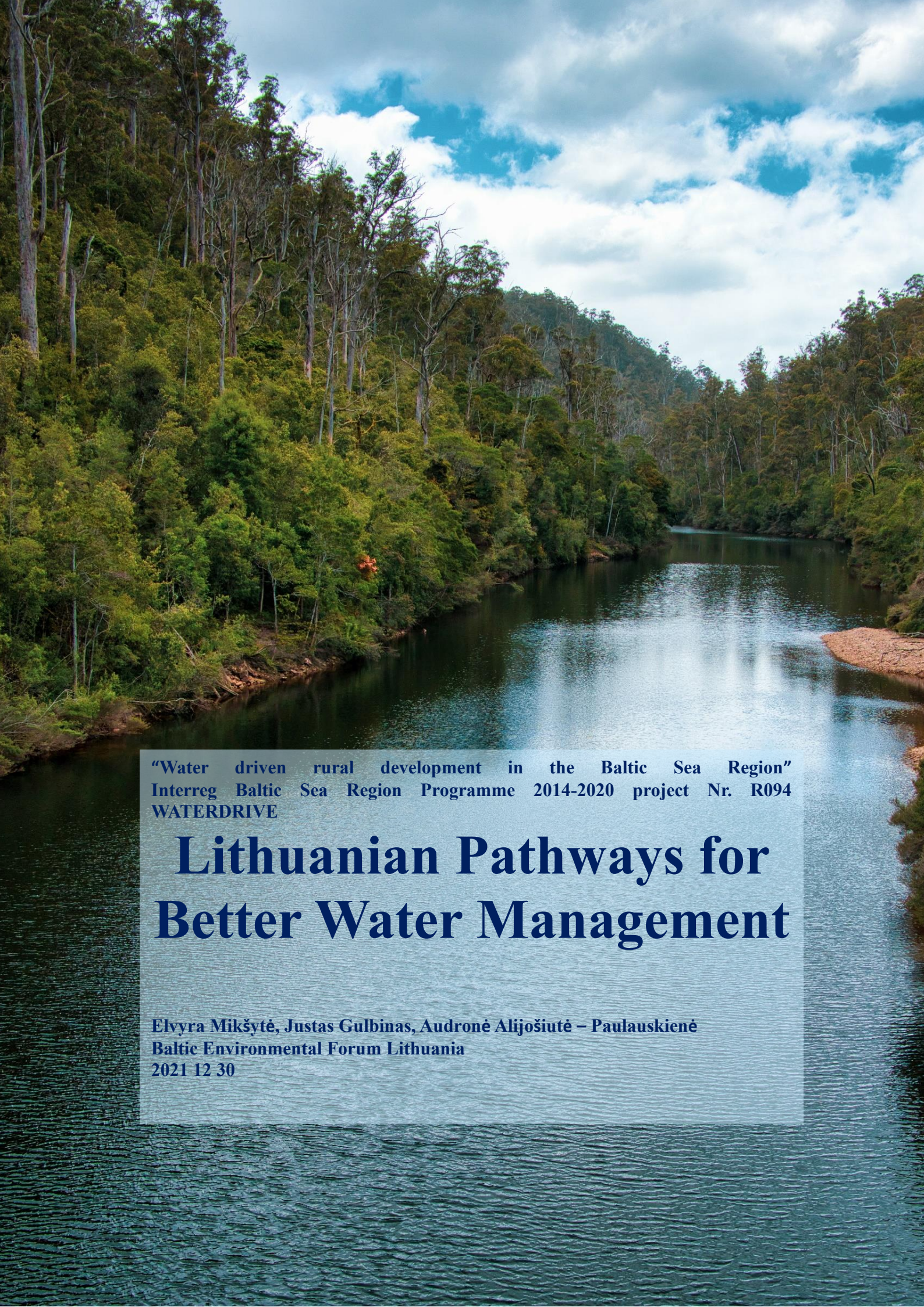

"Water driven rural development in the Baltic Sea Region"
Interreg Baltic Sea Region Programme 2014-2020 project Nr. R094
WATERDRIVE

Lithuanian Pathways for Better Water Management

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1. Introduction

In Lithuania the Waterdrive project activities are focused on water management in Dovinė river catchment (Figure 1). Dovinė catchment is a unique area because within the borders of the catchment lies 2 protected areas – Meteliai Regional Park and Žuvintas Biosphere Reserve. Both protected areas contain Natura 2000 areas for protection of birds and habitats listed in the Birds Directive Annex 1 and the Habitats Directive Annex 1 and 2. (Figure 2).

Figure 1. Location of Dovinė Catchment area. Source: Nature Heritage Fund

Meteliai Regional Park is famous for its conservation efforts of European pond turtles (Emys orbicularis), also there are at least 13 protected habitats and 12 protected species under Birds and Habitats directives.

Žuvintas Biosphere Reserve is one of the most valuable Natura 2000 territories in the country, value of which is recognised internationally. It hosts valuable habitats for biodiversity, breeding and feeding areas for protected species, especially migratory birds. A part of the reserve has been protected by the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat since 1993 and in 2011 the reserve was enlisted into UNESCO's Man and the Biosphere Programme.

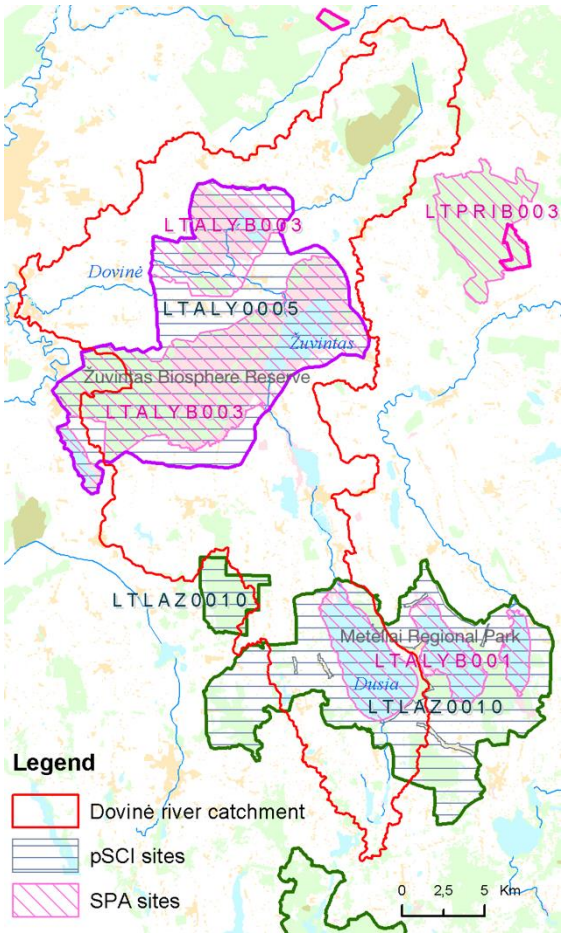


Figure 2. Natura 2000 areas in Dovinė Catchment. Source: Nature Heritage Fund

The water in the Dovinė Catchment flows from other water bodies and catchments through Meteliai Regional Park towards Žuvintas Biosphere Reserve. In between these protected areas there is a state owned Simnas fishery pond company. The national water quality monitoring indicates that there are several sources of pollution in Dovinė catchment. There is some pollution coming from farming, but local wastewater and fishery ponds are one of the most substantial sources of pollution in the catchment. Moreover, the results of Waterdrive project short-term local water monitoring confirm that the fishery ponds impact water quality when the water is discharged. The results also show that due to the fact that water from the ponds is being discharged in bursts it could potentially have an effect on water ecosystems. The results also show that potentially the strongest impacts

of the ponds could be on the hydrological balance in the catchment, because of intensive water use and water losses due to evaporation. This potentially could result in substantial losses of water in the catchment. Moreover, long-term water level data shows that the water flow in the Dovinė catchment is reduced substantially compared to the norms. These could be the most important reasons for faster eutrophication of Žuvintas lake.

However, the extent to which Simnas fishery ponds are affecting water quality and ecosystems of the protected areas is not well-known and is not assessed regularly. The project findings also show that different stakeholders collect different water quality parameters but there is a lack of systemic catchment-level data collection, analysis and interpretation of data to evaluate impacts of the ponds and different other polluters on water quality, water quantity in the catchment and ecosystems of protected areas.

Dovinė catchment case shows that the health of ecosystems in protected areas depends not only on restrictions and protection measures being applied within the protected areas but also can be substantially determined by consequences of economic activity outside the area. As in this case the impacts are pollution and reducing water flow in the catchment that could be determining factors for ecosystem health. Therefore, a more holistic catchment-level management is needed to minimise the impacts on ecosystems of Natura 2000 areas. Drawing on the experience and challenges faced in Dovinė catchment case, one could improve the approach of water management taken on protection of other Natura 2000 areas.

2. Pathway I: Improved water protection in Natura 2000 areas

2.1. Pathway objectives until 2030

The pathway aims to enable catchment-based water management and ensure the comprehensive protection of Natura 2000 areas. The pathway would focus on these objectives:

1. Create adequate and balanced monitoring system for Dovinė catchment that ensures necessary data collection and analysis for protection of Natura 2000 areas.
2. Identify and divide responsibilities for data collection and analysis among the Dovinė catchment stakeholders to establish an efficient system for issue identification.
3. Minimise impacts of economic activities on water and balance interests between fisheries, agriculture and priorities of protected areas in Dovinė catchment.
4. Draw lessons learned from Dovinė catchment pilot and improve monitoring system in Natura 2000 areas in other catchments in the country.

2.2. Pathway SWOT

Strengths	Weaknesses
• Improved understanding on water related issues and challenges in the catchment • Improved water management and pollution control	• Long-term funding needed for improved monitoring • New staff positions may need to be established in protected areas or other authorities and competent and motivated people need to be employed for taking and analysing

• Better data to identify and reason necessary targeted actions and measures • Strengthened implementation of Water Framework and Nitrate directives • Strengthened implementation of Birds and Habitats directives	water samples, collection of additional data, carry out analysis and interpretation of the data, as well as coordinating the different stakeholders
Opportunities	Threats
• Good overview of catchment data enables risk management for pollution impacts, flood and drought • Increased awareness on water issues in the catchment enables opportunities for stakeholder involvement and participation in problem solving and prevention (also, local participation in the preparation of river basin management plans) • Detecting locations where agriculture impacts water quality can support arguments for transitioning certain farming practices into sustainable farming, which would support implementation of Green Deal and Farm to Fork strategies • Regional development through increased competences and sense of ownership • Opportunities for tourism development in thriving protected areas	• Lack of leadership in the region • Lack of continuous resources to support/enable it • Lack of competent staff to undertake continuous monitoring and analysis of data

2.3. Implementation plan and stakeholder responsibilities

2.3.1. Implementation of pathway in Natura 2000 areas

First, to strengthen Natura 2000 area protection, one needs to strengthen water monitoring in the catchment, where protected areas are located. The monitoring should not only cover Natura 2000 areas but the whole catchment (especially upstream) and provide with data allowing to overview the water quality and quantity situation in the whole catchment.

2.3.2. Allocate catchment water monitoring responsibilities in Natura 200 areas

Responsible stakeholders: management of Natura 2000 area directorate, State Protected Area Service, Ministry of Environment (especially collaboration between Nature protection and Pollution prevention Water and subsoil policy groups), Environmental Protection Agency, Municipalities

Ensure that there is competent staff and sufficient time and financial resources available in protected area directorates of a catchment to regularly (at least once a month) collect water samples and carry out additional necessary measurements, such as water level and water flow. If available staff lacks competency, ensure that the training is delivered by experts competent in hydrology and water monitoring. Moreover, if existing staff is occupied with other responsibilities and priorities, establish sufficient staff positions for water monitoring in Natura 2000 area and upstream catchment or ensure financial resources to outsource this task.

2.3.3. Map potential polluters and intensive water users

Responsible stakeholders: employees of Natura 2000 area directorate in collaboration with Environmental Protection Agency

Identify and map locations of potential water pollution sources and potentially affected water bodies within and upstream Natura 2000 areas in a catchment such as:

- Wastewater treatment plants and facilities
- Small towns without wastewater treatment or with households not connected to the wastewater collection treatment system
- Bigger arable fields and big farms
- Drainage systems especially if in bad condition
- Fishery ponds, hydroelectricity dams or other water reservoirs
- Forest logging and peat extraction sites
- Factories and other industrial actors

2.3.4. Carry out catchment-wide monitoring

Responsible stakeholders: employees of Natura 2000 area directorates, Environmental Protection Agency or Municipalities

Identify priority locations to monitor water level and water flow and water chemical composition across the catchment to identify pollution sources or unsustainable water use cases in the catchment. Potential options for comprehensive monitoring:

- Mainstream rivers at the points of entering the catchment, main water bodies and Natura 2000 areas
- Tributaries flowing through mapped areas of higher risk for pollution and unsustainable water use

2.3.5. Ensure continuous analysis and interpretation of collected data

Responsible stakeholders: State Protected Area Service, Environmental Protection Agency, Ministry of Environment

Procure service from a competent hydrology expert to analyse the collected water data quarterly and report the interpretation for pollution levels to Environmental Protection Agency or other responsible institution, sources of pollution and other emerging hydrological issues and suggest necessary improvements for more effective monitoring.

2.3.6. Ensure competent people are assigned to work towards minimising detected impacts

Responsible stakeholders: State Protected Area Service, Ministry of Environment, municipality

Depending on a catchment and if necessary, a person or a team needs to be employed within protected area directorates to work in the catchment by actively reacting to the data collected and reports received from hydrology experts. Depending on emerging issues in the catchment, ideally the person or the team should:

- Facilitate dialogue between relevant stakeholders with the aim to identify and promote necessary solutions to improve water quality and hydrological conditions. That would include dialogue between policy makers and local stakeholders, also, between different economic and environmental organisations to find win-win solutions.
- Collaborate closely with farmers to build connections and raise awareness on water and nature protection. Also, collaborate with agricultural advisors to foster high-quality consultations or trainings on sustainable farming practices and promote use of agri-environmental measures and water protection measures (e.g. constructed wetlands, phosphorous dams, etc.).
- Engage and educate local communities on water protection in the catchment.
- Communicate local knowledge on water issues of the catchment to decision makers and advocate for necessary measures.

2.4. Dovinė catchment pilot case

2.4.1. Allocate catchment water monitoring responsibilities in Natura 200 areas of Dovinė catchment

Responsible stakeholders: management of Natura 2000 area directorate, State Protected Area Service, Ministry of Environment (especially collaboration between Nature protection and Pollution prevention Water and subsoil policy groups), Environmental Protection Agency

Management of Natura 2000 area directorates:
An employee from Meteliai Regional Park or Žuvintas Biosphere Reserve Directorate (one person for the whole catchment to minimise risk for mistakes or discrepancies in results) to collect water samples and measurements, transporting samples to the lab for chemical analysis at least once a month. Ensure competent and trained staff is available for the task.

Ministry of Environment:
Ensure funding is available for staff, trainings and continuous water monitoring activities.

2.4.2. Map potential polluters and intensive water users

Responsible stakeholders: employees of Natura 2000 area directorate in collaboration with Environmental Protection Agency

The national and Waterdrive project monitoring shows that in Dovinė catchment the potential pollution sources may be Simnas wastewater treatment plant, potentially small towns without wastewater treatment, agriculture and Simnas fishery ponds. Simnas fishery ponds are also an intensive water user, activities of which may affect water balance in the catchment and result in lack of water for protected ecosystems in Žuvintas biosphere reserve.

2.4.3. Carry out catchment-wide monitoring

Responsible stakeholders: employees of Natura 2000 area directorates or municipalities

To have an initial overview of catchment water quality, water samples should be collected, and water velocity measured at least once a month in 7 monitoring points:

1. Dusia tributary in Barčiai (agricultural catchment)
2. Spernia river in Metelytė
3. Spernia river in Kalesninkai
4. Spernia river in Simnas
5. Spenia river in Ąžuoliniai
6. Kiaulyčia river in Naujavalakiai
7. Sūrava river in Naujavalakiai

Some additional monitoring points in agricultural catchments would allow a better understanding about agricultural impacts on water quality in the catchment. The locations of these monitoring points could be as follows:

8. Kriaušius river in Giluičiai
9. Zuzupė river in Metelytė
10. Šventupė in Staigūnai
11. Easter tributary of Simnas lake
12. Tributary of Dusia in Zabrėnai
13. Tributary of Dusia in Padusys

Additional water samples shall be collected from precipitation collected in Žuvintas Biosphere Reserve Directorate and if possible other areas across the catchment for hydrochemical analysis to set background level of nutrients in the catchment.

The water quality analysis should cover the parameters below:

- BOD7
- PO4
- Porg.
- Pmin.
- NH4
- NO2
- NO3
- Nmin.
- Norg.
- Water velocity
- Temperature

In order to capture data and analyse catchment water level, automatic water loggers need to be installed across the catchment in the listed locations:

1. Spernia river in Metelytė
2. Spernia river in Kalesninkai
3. Spernia river in Simnas
4. Spenia river in Ąžuoliniai,
5. Dovinė river from Žuvintas lake

Estimated costs:
Indicative cost was calculated for measurements and water level equipment, based on market research for measurements 10 times a year, considering that there might be dry periods when collecting water samples would not be possible. The costs for travel were excluded from estimation.

Water level equipment (renewal needed once every 10 years):

As an example, *Solinst* automatic water level logger costs around 510 €/unit. To cover whole catchment, it would cost around 2550 €. Additionally, one would also need one barologger for the whole catchment that costs around 270 €.

However, 3 level loggers and a barologger are already used for water monitoring during Waterdrive and other projects and can be further used by the catchment stakeholders after the end of the project.

Water quality measurements:

Hydrochemical analysis: approx. 40 €/sample x 14 samples x 10 times = 5600 €

2.4.4. Ensure continuous analysis and interpretation of collected data

Responsible stakeholders: State Protected Area Service, Environmental Protection Agency, Ministry of Environment

State protected area service should regularly (at least annually) procure a study from an expert to analyse the collected monitoring data and provide interpretation on water issues in the catchment and potential sources of pollution.

Estimated costs:
The cost will depend on the level of expertise and how large is the set of monitoring data collected. Based on experience in previous projects such cost of analysis could vary around 4000€.

2.4.5. Ensure competent people are assigned to work towards minimising detected impacts

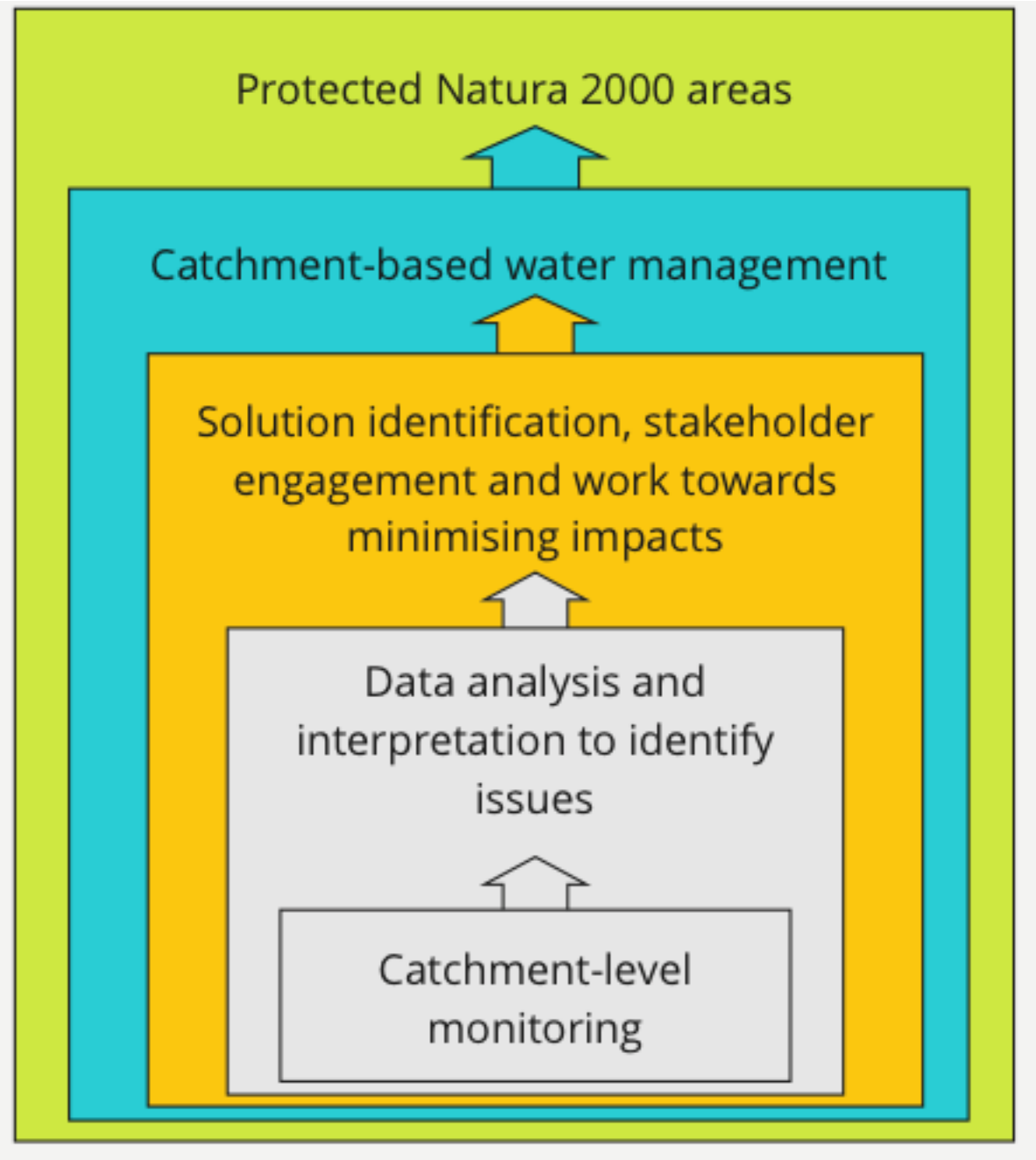
Responsible stakeholders: State Protected Area Service, Ministry of Environment, municipality

A competent person should be employed within protected area directorates, i.e., Žuvintas Biosphere Reserve and Meteliai Regional Park, whose responsibility would be to engage

stakeholders and work towards minimising the identified anthropogenic impacts in the catchment. This would require raising awareness, facilitate the dialogue among stakeholders to find a balance between different interests and needs, identify best solutions and work with implementation of the measures.

Estimated costs:
The costs would relate to at least 1 employee and resources needed for engagement of stakeholders.

2.5. Visualising impact



3. Pathway II: Sub-catchment based water management – Catchment officers

3.1. Pathway objectives until 2030

The pathway aims to define responsibilities and potential actors for catchment officer role in protected area catchment and ensure catchment-based water management

The pathway would focus on these objectives:

1. To set the framework for the establishment of Catchment officers' position in Lithuania.
2. Strengthen local partnerships, teams, or networks on relevant issues between all stakeholders in the area.
3. Identify responsibilities for sub-catchment area water quality improvement.

Catchment officers would provide a crucial link with decision making stakeholders who now lack local level in the decision making. Catchment officers could be a facilitator implementing catchment-based water management.

3.2. Pathway II SWOT

Strengths	Weaknesses
• There are stakeholders in neighbouring territories (in Dovine catchment area) interested in better water management. • National policy aims at initiating local catchment pilot actions within the implementation of River Basin Management plans.	• Low awareness of local stakeholders about the local water quality situation as well as about the overall environmental situation • Lack of information flow from local actors to the decision-making stakeholders and vice versa. • Lack of leadership in the region • Lack of continuous resources to support/enable new management • Weak catchment area based holistic water management planning
Opportunities	**Threats**
• The context of the Green Deal direction provides opportunities to more broadly incentivise and promote water related measures in the agricultural sector • The new structure of CAP direct payments, which presents environmentally oriented eco-scheme subsidies opens new ways and possibilities to engage farmers into environmental topics on a catchment areas level.	• Low farmers' interest in agri-environmental schemes in the previous financing period • Lack of leadership in the region • Lack of continuous resources to support/enable position of Catchment officers' position. • Lack of active dialog on national, regional, and local level on integrated approach in water management.

• Stronger environmental position - joint working group created by ministries of Environment and Agriculture to prepare the proposals for new eco-schemes and agri-environmental measures. It is led by ministry of Environment. • There is an obvious need in high quality and locally related consultancy (advisory) service of water management specialists (catchment officers).	

3.3. Implementation plan and stakeholder responsibilities

The goal of this action is to design and test new types of counseling services.
The responsibility of implementing sub-catchment area measures cannot lay solely on individual stakeholders, but more comprehensive collaboration is needed. Development of novel catchment management principles that address the cause of pollutants damaging water bodies must be based on concrete local situation.
This pathway is much related to the first pathway "Improved water protection in Natura 2000 areas", because without having catchment water monitoring planning the role of Catchment officer would not be sufficient. Therefore, certain preliminary actions should be completed before the Catchment officer position is introduced.
A catchment officer is the person responsible for coordination of the stakeholders and driving the process of planning and implementing agreed actions within the catchment. His/her primary role is one of facilitating others rather than autocratic leadership.

3.3.1. Implementation of pathway using Future Search planning meeting

3.3.1.1. An overview of Sub-catchment area: key issues, problems, trends - sub-catchment management plan

Responsible stakeholders: employees of Natura 2000 area directorate, local authorities' representatives, local NGO's, farmers' unions and associations

This activity might be completed only if polluters and intensive water users will be mapped and collected data interpretation completed. That would perfectly fit after the implementation of the I pathway as it is based on data collected, that would be basis for sub-catchment area water management plan. This kind of information would serve as a basis to start a discussion among catchment officer and farmers.

Estimated costs:
See the I pathway

3.3.1.2. A Future Search process for the establishment of a Catchment officer position

Responsible stakeholders: employees of Natura 2000 area directorate, local authorities' representatives, local NGO's, farmers' advisors, unions and associations, landowners

The need for consultations of farmers is growing, thus the Catchment officer may be a right position that may provide such assistance. According to our current investigation within Waterdrive project the catchment officer position is difficult to establish as there is no defined body where such position might be located and there is lack of funding. However, the detected challenges in Dovine sub-catchment area might be a trigger that instigates the change.
Catchment officers' responsibilities must be defined and discussed with local stakeholders: local authorities, farmers advisors, unions and associations, landowners and, of course, representative s of Natura 2000 area directorates, located in this area.
In addition to water management goals of respected catchment area, the concern of community desires and objectives with respect to development of catchment must be identified and considered.
The Future Search co-creation planning meeting process may be the right method to enable diverse groups of people to plan the local water management.
The process would contribute to better understanding of local area needs and the role of the Catchment officer.

Estimated costs: Future search meeting costs (facilitators and premises – 2000 EUR), engagement of stakeholders.

3.3.1.3. 3. Testing the Catchment officer position

Responsible stakeholders: employees of Natura 2000 area directorate, local authorities' representatives, farmers' advisors

The function of the Catchment officer, defined during the Future Search process need to be tested, thus The Directorates would test and improve the earlier defined functions of the Catchment officer.
Definition of the Catchment officer responsibilities would depend on the status of the development of sub-catchment water management plan. If the Officer position will be placed before such plan is in place, it might be the primary task of the Officer to complete and adopt sub-catchment water management plan.

3.3.1.4. Capacity building and dissemination of the experience

Responsible stakeholders: State Protected Area Service, Ministry of Environment

Current Farmers advisors neither other relevant stakeholders do not have sufficient capacity in integrated water management and funding opportunities therefore training on holistic water management must be offered. The training should be based on best practice analysis and hands-on training in the catchment area. The training should also involve a few stakeholders from other catchment areas so that the best practices would be shared.
A catchment officer is the person responsible for coordination of the stakeholders and driving the process of planning and implementing agreed actions within the catchment. Their primary role is one of facilitating others rather than autocratic leadership.

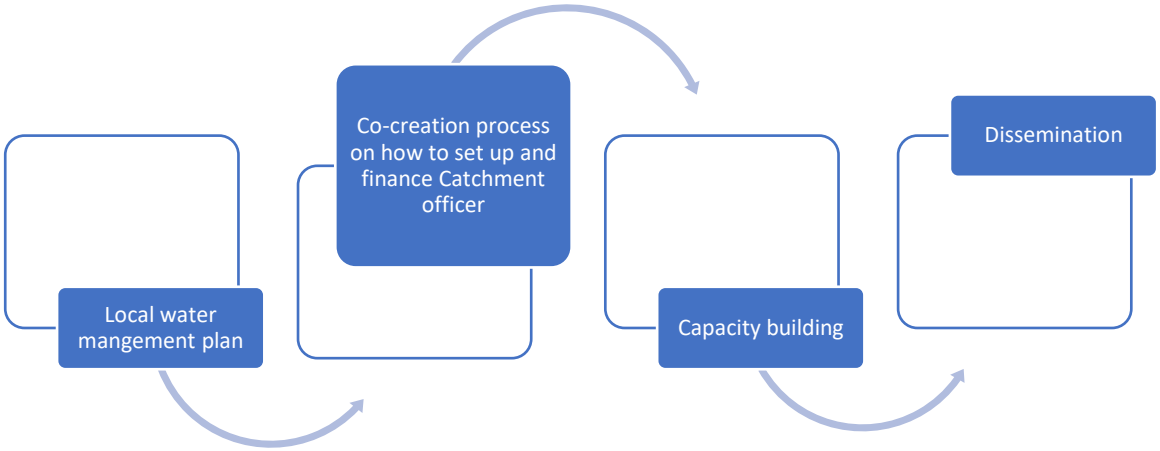
Estimated costs: meeting costs (facilitators and premises – 600 EUR), engagement of stakeholders.

3.3.1.5. Continuous capacity building activities of Catchment Officers

Responsible stakeholders: State Protected Area Service, Ministry of Environment (especially collaboration between Nature protection and Pollution prevention Water and subsoil policy groups), Environmental Protection Agency

Dissemination of the best practices should take place – it should explain the benefits of Catchment officer position and facilitate the long-term funding for such position first in all Natura 2000 areas where water issues are relevant and in other areas where water issues are emerging.

3.3.1.6. Visualising impact



3.3.2. Implementation of Pathway via setting up the position in Natura 2000 directorate

3.3.2.1. An overview of Sub-catchment area: major issues, problems, trends -sub-catchment management plan

Responsible stakeholders: employees of Natura 2000 area directorate, local authorities representatives, local NGO's, farmers' unions and associations

This activity might be completed only if polluters and intensive water users are mapped and collected data interpretation is completed. That would perfectly fit after the implementation of I pathway as based on data collected, that would be basis for sub-catchment area water management plan. This kind of information would serve as a basis to start a discussion among catchment officers and farmers.

Estimated costs:
1. See I pathway

3.3.2.2. Setting up the position of Catchment officer in protected area directorates

Responsible stakeholders: State protected area Service, Ministry of Environment, municipality

The Catchment office xould be employed by Žuvintas Biosphere Reserve and Meteliai Regional Park, whose responsibility would be to engage stakeholders and work towards minimising the identified anthropogenic impacts in the catchment according to the developed water management plan.

This would require raising awareness, facilitate the dialogue among stakeholders to find a balance between different interests and needs, identify best solutions and work with implementation of the measures.

Estimated costs:
The costs would relate to at least 1 employee and resources needed for engagement of stakeholders.

4. Pathway III: More effective financing mechanisms

4.1. Pathway objectives until 2030

The pathway aims to enable better and more targeted water management through channelling the public money in the form of subsidies and investments to the areas where it is most needed and where it would reach maximum results. The pathway would focus on these objectives:

1. Provide input on the water management topic and potential measures in the process of preparing the Lithuanian CAP strategic plan for the new financing period of 2023-2027.
2. Provide input for the water management measures planned in the new River basin management plans of period 2022-2027, which would be financed through the new structural fund programming period 2021-2027.
3. Follow the implementation of the planned measures within the financing programmes and provide feedback for improvement in the process.

4.2. Pathway III SWOT

Strengths	Weaknesses
• Preparation of better targeted and more farmer friendly measures to tackle water quality and usage issues. • Bringing more importance and attention to the topic of water management.	• Low farmer's knowledge on water quality related issues. • Low competency of consultancy institutions on water management topics. • Low farmer's interest in some of the water quality related measures in the previous CAP period.
Opportunities	Threats

• The context of the Green Deal direction provides opportunities to more broadly incentivise and promote water related measures in the agricultural sector. • The new structure of CAP direct payments, which presents environmentally oriented eco-scheme subsidies opens new ways and possibilities to engage farmers into environmental topics on a more numerous reach. • Stronger environmental position - joint working group created by ministries of Environment and Agriculture to prepare the proposals for new eco-schemes and agri-environmental measures. It is led by ministry of Environment.	• Low farmers' interest in agri-environmental schemes in the previous financing period brings doubts that they will heavily engage into the new proposed measure. • Budget accounted for eco-schemes budget is seemingly not ambitious enough. Therefore, there may be lack of funds to finance all the farmers who want to participate in water quality related measures.

4.3. Implementation plan and stakeholder responsibilities

4.3.1. Implementation of pathway via the new Lithuanian CAP strategic plan

The main financing mechanism which affects agricultural practise most directly is the Common Agricultural Policy and its measures. All EU countries, including Lithuania are now actively preparing their CAP strategic plans for the period of 2023-2027. Water quality related measures in the form of agri-environmental schemes were not very popular in the previous programming period in Lithuania. Therefore, the success of achieving good status in water bodies of Lithuania depends on developing goal and area targeted measures which would be attractive to farmers.

4.3.1.1. Prepare a potential list of measures, which would reach its goal, but also be attractive to farmers

Responsible stakeholders: Ministry of Environment (especially collaboration between Nature protection and Pollution prevention Water and subsoil policy groups), Ministry of Agriculture, State Protected Area Service, NGO's, Environmental Protection Agency, research institutions

As for today, the ministries of Environment and Agriculture have signed a memorandum for working together on the preparation of eco-schemes and agri-environmental measures. These topics are now led by the ministry of Environment. It is now key to develop a list of measures which would both reach its goal in improving the quality of water bodies in Lithuania but would also be easily applicable and would be massively used by the farmers. A working group of specialists has been established by the ministries. Consultations with and involvement of experts from environmental NGO's and other institutions is constantly ongoing.

4.3.1.2. Agree on the list of measures with stakeholders

Responsible stakeholders: Ministry of Environment, Ministry of Agriculture, various farmers' unions and associations, State Protected Area Service, NGOs, Environmental Protection Agency, research institutions

The completed list of measures needs to be presented and discussed with a variety of stakeholders, varying from farmer unions and associations to various NGOs. This is planned to be done in summer of 2021.

4.3.1.3. Promotion of measures

Responsible stakeholders: Ministry of Environment, Ministry of Agriculture, various farmers' unions and associations, State Protected Area Service, NGOs.

The previous programming period has showed that farmers are not very keen to apply for voluntary agri-environmental measures. The new type of direct payment schemes – eco-schemes should be more acceptable by farmers. However, this will be a new system, therefore most of the farmers might be cautious about it at the beginning. Therefore, there is a strong need for a broad measure *marketing* campaign, through which farmers would get all the information needed and would be excited to join in to implement the measures. This is key to success and reaching the goal of good status of the water bodies.

4.3.1.4. Empowering the consultancy system

Responsible stakeholders: Lithuanian agricultural advisory service, State Protected Area Service, Environmental Protection Agency, Ministry of Environment, Ministry of Agriculture, NGOs

There is a growing need from farmers to have eye to eye on farm consultations. It will become even more important when farmers will be able to pick several eco-schemes from the list. As the topic of water management is only now becoming more emphasized, the need of professional consultations will rapidly grow. Therefore, it is essential to adapt the current consultancy system to new emerging issues, where water management is one of them.

4.3.1.5. Monitoring, feedbacking and proposing new measures

Responsible stakeholders: Ministry of Environment, Ministry of Agriculture, various farmers' unions and associations, State Protected Area Service, NGOs.

The new adopted measures and their effects should be closely monitored and analysed on a yearly basis. The information gathered should be used to propose new measures or calibrate the existing ones, so they would meet the goal that they are targeted at. Also it is important that the started collaboration between the ministry of Environment and ministry of Agriculture in the form of a memorandum working group would not cease with the preparation of the national CAP strategic plan, but would be established as a permanent working group and continue working together, analysing the feedback received from different stakeholders and presenting solutions how to improve water quality by implementing different measures. It is of utmost importance that this working group starts in advance the preparations and discussion about the future CAP plan after 2023-2027 period involving farmer associations, NGOs and other stakeholders. It is clear that good results can only be achieved if all parties have common

ground on the topics and agree on measures that are economically sound for the farmer and as well ambitious from the environment perspective.

4.3.2. Implementation of pathway via the river basin management plans financed through structural funds

4.3.2.1. Provide comments and input to the project of the new river basin management plan

Responsible stakeholders: State Protected Area Service, National Association of Aquaculture and Fish Product Producers, NGOs, local communities, various farmers' unions and associations, Ministry of Environment, Ministry of Agriculture, municipalities

The project of the plan is now available to the public for commenting and proposals. The deadline for proposals is August of 2021. It is crucial that the plan is revised by as many stakeholders, who would provide further proposals how to improve or enrich the currently proposed measures.

4.3.2.2. Active communication with possible applicants for the measure

Responsible stakeholders: State Protected Area Service, National Association of Aquaculture and Fish Product Producers, NGOs, local communities, various farmers' unions and associations, Ministry of Environment, Ministry of Agriculture, municipalities

It is very important that the proposed measures would be engaged by the applicants. Most of the measures are targeted to municipalities and protected areas administrations, therefore active communication with these stakeholders after the measures are launched is very needed. They should also be consulted on the technical application process for the applications to succeed and be funded.

4.3.2.3. Monitoring of the implemented measures and future proposals

Responsible stakeholders: Environmental Protection Agency, State Protected Area Service, National Association of Aquaculture and Fish Product Producers, NGOs, local communities, various farmers' unions and associations, Ministry of Environment, Ministry of Agriculture, municipalities

It is crucial that the implemented measures are evaluated and monitored to analyse their effectiveness. The monitoring process and coordination should be given to one institution and probably the best one for this task is the Environmental Protection Agency. A monitoring methodology should be created for this purpose. However, stakeholders who have implemented the measures should also be involved in the monitoring process. The gathered data would be used for further development of new measures or updating existing ones.

4.4. Visualising impact