



Transboundary freshwater security governance train

Interactive Online Session:
Ecosystems, international law and
transboundary cooperation

16 February 2021



Event Moderator



Dr. Yumiko Yasuda

Senior Network and Transboundary Water Cooperation Specialist, GWP

- Yumiko leads GWP's thematic work on transboundary water, and is the lead faculty of the MOOC on Transboundary Freshwater Security, designed and directed the production of the course.
- Her area of expertise lies in the analysis of water and environmental governance, water diplomacy, political economy analysis surrounding natural resources management, with a focus on transboundary rivers and non-state actors' engagements in natural resources management.
- Dr. Yasuda obtained her PhD degree from the Centre for Water Law, Policy and Science at the University of Dundee, MA in environmental policy from the Tufts University, and MSc in environmental science from Tsukuba University. Her research on the Mekong has culminated in the publication of a book entitled "Rules, Norms and NGO Advocacy Strategies: Hydropower Development on the Mekong River" by Routledge in 2015.

Fun fact! Yumiko performed stand-up comedy in Scotland.



**The biggest achievement in life:
Still working on it!**



Event Chairs



Professor Alistair Rieu-Clarke
School of Law, Northumbria
University, Newcastle



Professor Otto Spijkers
Founding Staff Member,
International Water Law
Academy, Wuhan University



School of Law, Northumbria University, Newcastle

- 20+ years experience in research, teaching and consultancy related to international law and transboundary waters;
- Alistair graduated with an LLB (Hons.) in Law from University of Dundee Law School, a Masters (with Distinction) in Natural Resources Law and Policy and PhD from University of Dundee, Centre for Energy, Petroleum and Mineral Law and Policy;
- Prior to joining Northumbria University, Alistair worked at the Centre for Water Law, Policy & Science, University of Dundee, and also spent 15 months (2017-18) with Water Convention Secretariat in Geneva, working on the SDGs and reporting under the Convention. His research primarily focuses on developing knowledge and understanding of how transboundary watercourse treaties can work better.

“ **Fun fact! Alistair lives near St Andrews ('the Home of Golf'), and plays off a 5 handicap.**

**The biggest achievement in life:
Family, for sure!**



Professor Alistair Rieu-Clarke



Founding Staff Member of the International Water Law Academy (IWLA), Professor at the China Institute of Boundary and Ocean Studies (CIBOS) and at the Research Institute of Environmental Law (RIEL) of Wuhan University

- Otto Spijkers studied international law at the University of Amsterdam, New York University School of Law, and the Hague Academy of International Law. He studied philosophy at the University of Amsterdam and the University of Malta. He obtained a Diplôme approfondi de langue française.
- Prior to joining the IWLA of CIBOS, Professor Spijkers was Lecturer of Public International Law at Utrecht University, and researcher at the Utrecht Centre for Water, Oceans and Sustainability Law.
- He also was a visiting lecturer at the Grotius Centre for International Legal Studies of Leiden University, Xiamen University's China International Water Law Programme, the Università degli Studi di Salerno (Italy), and the Association pour la promotion des droits de l'homme en Afrique centrale (APDHAC) of the Université Catholique d'Afrique Centrale (Yaoundé, Cameroon).

“**Fun fact! Otto recently got a Chinese name, 高海平. His name is inspired by his height – Otto is very tall – and the fact that he was born near the ocean.**

Biggest achievement in life: finding a home in lots of different countries.



Professor Otto Spijkers



Speakers

- **Yang Liu**, PhD in Public International Law, University of Ghent
- **Owen McIntyre**, Professor of Environmental Law, University College Cork
- **Dimitris Faloutsos**, Deputy Regional Coordinator, GWP-Mediterranean
- **Jackie King**, Founder, Water Matters, South Africa





Yang Liu

PhD, Public International Law, University of Ghent

- Ms. Yang Liu obtained her LLB and LLM degrees from Northwest University of Politics & Law in 2012 and Xiamen University in 2015 respectively, and PhD from Ghent University in December 2020.
- In 2014, she joined the China International Water Law team at Xiamen University. Her Master thesis analyzed "Transboundary Water Cooperation of Riparian States of Yarlung Zangbo/Brahmaputra River".
- In 2015, she worked as an intern in the International Tribunal for the Law of the Sea for three months.
- Previously in 2013, she was an assistant editor working for the South China Sea Institute at Xiamen University for one year.
- Her research focuses on the protection and preservation of ecosystems of international watercourses under international environmental law.

Fun fact: Quarantine: Twenty-two Days' Journey Home from Ghent. ”

**The biggest achievement in life:
Defended her PhD in 2020!**



Professor of Environmental Law, School of Law, University College Cork (Ireland)

- Prof. McIntyre's research focuses in particular on International Water Law. He serves on the editorial boards of a number of international journals and has served as the inaugural Chair of the IUCN World Commission on Environmental Law's Specialist Group on Water and Wetlands, as well as a member of Global Faculty at the UNESCO Centre for Water Law, Policy & Science.
- He has been a member of the Project Complaints Mechanism of the European Bank for Reconstruction and Development (EBRD) and has served on the Scientific Committee of the European Environment Agency as an expert on European and International Environmental Law.
- Prof McIntyre holds visiting academic positions at the University of Dundee, Charles University Prague, Xiamen University and Wuhan University.

“ Fun fact! Owen has been trying to learn Mandarin in recent years, with very limited success!

**The biggest achievement in life:
My happy and healthy family and my wonderful
circle of friends!**



Professor Owen McIntyre



Deputy Regional Coordinator, GWP Mediterranean



Dimitris Faloutsos

- Dimitris Faloutsos is the Deputy Regional Coordinator of Global Water Partnership Mediterranean leading the work of the organization in the fields of Transboundary Water Resources Management, Source to Sea and, Water-Food-Energy-Ecosystems Nexus.
- Dimitris has a Bachelor's degree on Environmental Management and a Master's degree in Oceanography. He has over sixteen years of both coordination and hands-on experience in multi-stakeholders policy dialogues and technical work for sustainable natural resources management across the source-to-sea continuum.
- His work has led among others to the development of management plans and enhancement of transboundary waters management also through the preparation and signing of relevant legal arrangements.

Fun fact: Dimitris has not managed to get a black belt in karate yet, although he has been practicing for more than a decade. ”

The biggest achievement in life: A beautiful daughter and being able to positively affect the lives of people through my work.



Founder, Water Matters, Cape Town, South Africa

- Dr Jackie King has a BSc (1973) in Zoology and Botany, and a PhD (1982) in Freshwater Ecology, both from the University of Cape Town. Jackie continued as a researcher in UCT's Freshwater Research Unit for 26 years, focusing on ecosystem-based approaches to river basin planning, and environmental flows (EFlows).
- Her early research on EFlows influenced South Africa's 1998 National Water Act, which recognises the country's inland waters as having a right to a share of their water in order to sustain the ecosystem services they provide.
- Since 2008 she has worked in her own consulting business Water Matters, advising on river basin management in more than 20 countries across Africa and Asia, including for the Mekong, Okavango, Zambezi and Indus systems.
- She is an Honorary Professor at the University of the Western Cape and has received the National Women in Water Award (2003), the Silver Medal (1990) and Gold Medal (2003) of the Southern African Society of Aquatic Scientists, WWF-SA's Living Planet Award (2016), election as an International Member of the American Academy of Arts and Sciences (2018) and the Stockholm Water Prize (2019).

“ **Fun fact! Jackie walks on Table Mountain every day after work, with her two dogs. Together they have walked more than 10,000 km over the mountain.**

Biggest achievement in life: her two children and their families.



Dr. Jackie King



Art. 20 of UNWLC: what does ‘the protection and preservation of the ecosystems of international watercourses’ mean?

1. Protect

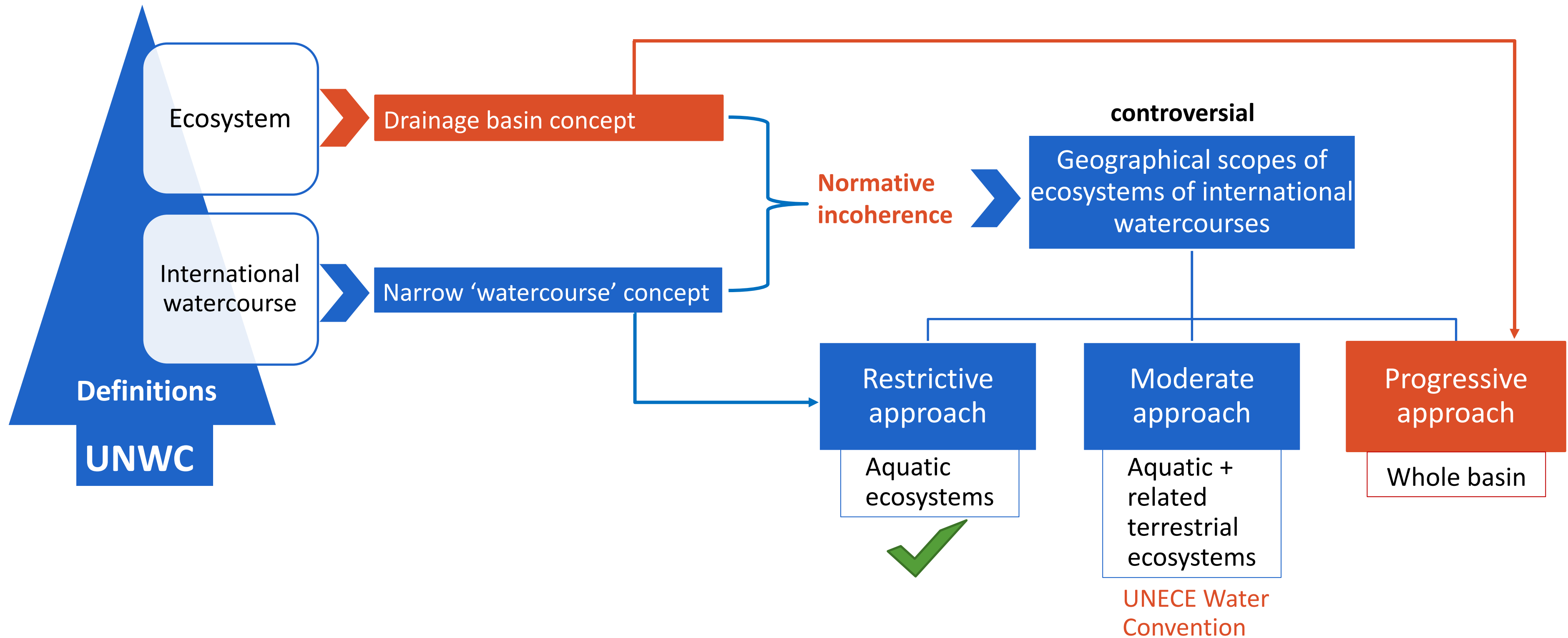
Protect watercourse ecosystems from harm & significant threat of harm

2. Preserve

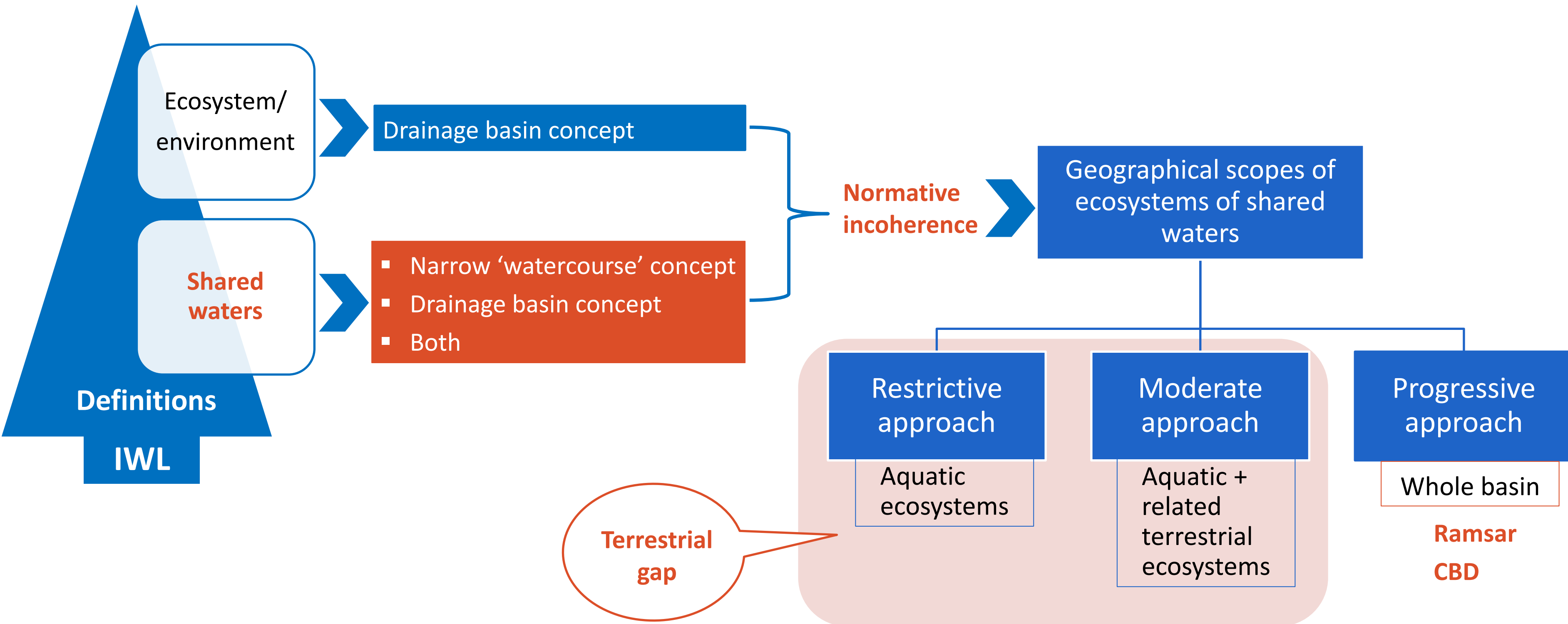
- Maintain watercourse ecosystems in a natural state
- Improve the condition of watercourse ecosystems

3. Ecosystems of international watercourses?

UNWC: Ecosystems of international watercourses?



Other International Water Agreements



Definitions of shared waters	Global and basin-level water agreements (25)	Geographical scope of ecosystem protection and preservation	Observations
Narrow ‘watercourse’ concept	<ul style="list-style-type: none"> • UNWC • Revised SADC Protocol • Limpopo Watercourse Agreement • Cuvelai Watercourse Agreement • China-Mongolia Transboundary Waters Agreement • China–Kazakhstan Transboundary Rivers Agreement • China–Russia Transboundary Waters Agreement 	Restrictive approach	<ul style="list-style-type: none"> ■ A narrow definition of shared waters is necessary to differentiate water from land areas. ■ The use of a narrow definition alone often leads to an incomplete protection of aquatic ecosystems (terrestrial gap). ■ The introduction of a drainage basin concept can expand the applicable scope of ecosystems protection and preservation to achieve the normative coherence required.
Drainage basin concept	<ul style="list-style-type: none"> • Danube River Protection Convention • Sava River Basin Agreement 	Restrictive approach	
	<ul style="list-style-type: none"> • Oder Convention 	Moderate approach	
	<ul style="list-style-type: none"> • Prespa Park Agreement • Lake Ohrid Agreement 	Progressive approach	
Narrow ‘watercourse’ concept & drainage basin concept	<ul style="list-style-type: none"> • UNECE Water Convention • Zambezi Watercourse Agreement • Incomati and Maputo Watercourses • Volta River Convention • Lake Tanganyika Convention • Convention on the Protection of Rhine • International Agreement on the River Meuse • International Agreement on the River Scheldt • Spanish–Portuguese Hydrographic Basins Agreement 	Moderate approach	
	<ul style="list-style-type: none"> • Lake Victoria Basin Protocol • Nile River Basin Agreement • Niger Basin Water Charter • Water Charter for the Lake Chad Basin 	Progressive approach	

Ecosystems in IWL

- **UNECE Water Convention, Arts. 2 & 3:**
 - Danube, Meuse & Scheldt, Rhine Conventions
- **UN Watercourses Convention, Arts. 20, 6(1), 21-3**
- **ILC DAs Transboundary Aquifers, Arts 10 & 5(1)**
- **Regional Water Resources Agreements:**
 - 1995 SADC Protocol on Shared Watercourses, Art 2
- **River Basin Agreements:**
 - Rio Plata, Senegal, Uruguay, Amazon, Great Lakes, Niger, Zambezi, Elbe, Mekong, *etc.*
- **Declarative Practice:**
 - 1992 Dublin Statement; Agenda 21, Chapter 18; *etc.*
- **Non-Water Conventions:**
 - 1992 CBD; 1971 Ramsar Convention;



Judicial Support

- ICJ - *Gabčíkovo Nagymaros* case [1997]:
 - Precaution: ‘vigilance & prevention’ re irreversible damage
- ICJ - *Pulp Mills* case [2010]:
 - Customary duty re EIA
- PCA - *Kishenganga Arbitration* [2013]:
 - Maintenance of environmental flows
- ICJ – *San Juan River* cases [2015]:
 - Wetland ecosystem ‘inseparable’; maintenance of environmental flows; liability re loss of ecosystem services; *etc.*



Ecosystem Approach

- **Technical & Normative Elaboration:**
 - UNECE *Guidelines on Ecosystem Approach in Water Mgt.*
 - Ramsar Handbook on 'Wise Use of Wetlands'
 - Ecosystem Services
 - CBD, *Ecosystem Services & Water Allocation* (2008)
 - Ramsar Secretariat, *TEEB for Water & Wetlands* (2013)
 - World Res Inst, *Methodologies re Impact Assessment* (2011)
 - Payment for Ecosystem Services: IUCN (2006); UNECE (2009)
 - Environmental Flows
 - Brisbane Declaration (2007)
 - Ramsar & CBD, *Flows re Healthy Estuarine Ecosystems* (2012)
 - UNESCO, *Basin Water Allocation Planning* (2013)
 - IUCN, Water & Nature Initiative (WANI) FLOW Toolkit



Sharing Benefits

- **Game-Changing Role of Ecosystem Services:**
 - Methodology for economic and social valuation of benefits
 - Including non-market benefits;
 - Derived from functioning ecosystems.
 - Methodology for reconciling economic and ecological demands for water.
 - Potential to enhance intl. water co-operation:
 - Equitable & reasonable utilisation – optimising benefits;
 - Upstream / downstream co-operation (PES);
 - Benefit-sharing arrangements.



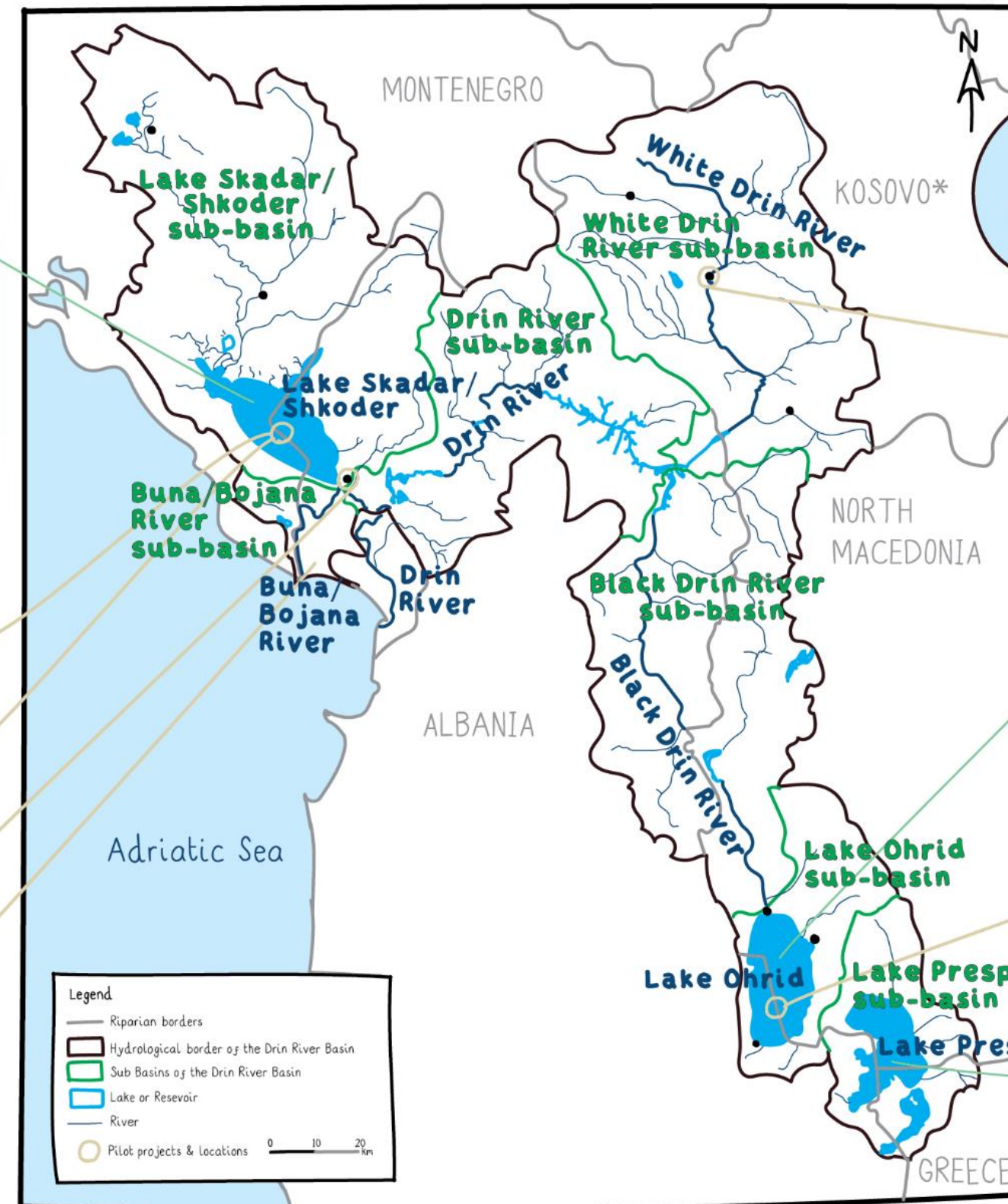
Extended Drin River Basin Map

- 5 sub-basins
- 5 Drin Riparians
- 2 transboundary rivers
- 20,361 km²
- 3 transboundary lakes
- 1.6 million people

- 280 species
- 50 species
- 930 types of algae
- Largest lake in Southern Europe
- 25 rare and endangered species

Important because of complex ecosystems, unique biotopes and indigenous species = **biodiversity hotspot**

Important from a European AND international perspective; sustains coastal, marine & freshwater ecosystems



* References to Kosovo shall be understood to be in the context of the Security Council Resolution 1244 (1999)

South East Europe

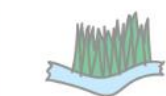


Europe's oldest lake and very deep!
200+ endemic species

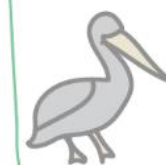
UNESCO World Heritage Site



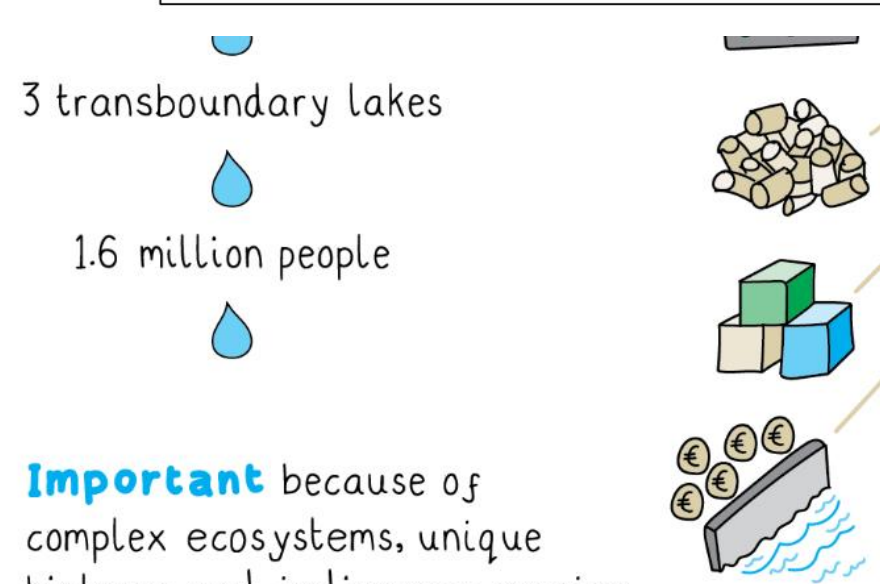
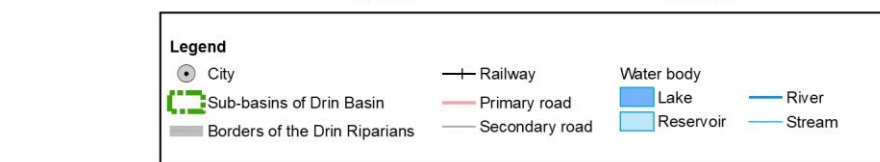
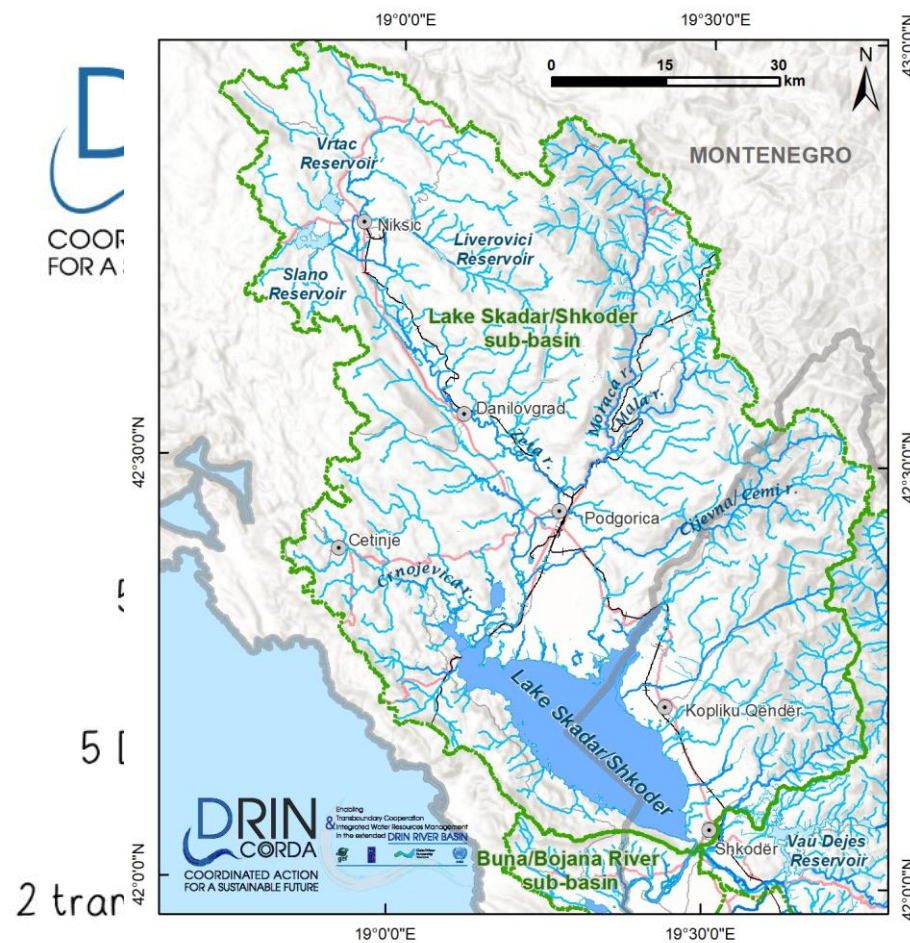
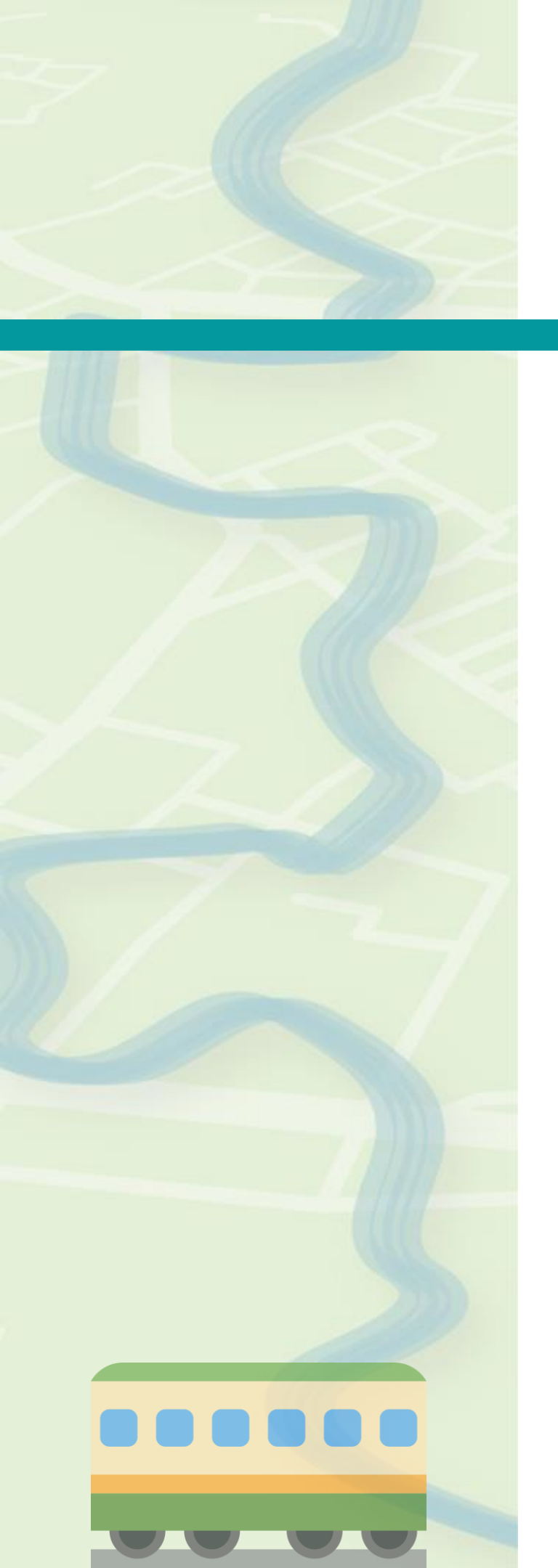
Prespa Trout



Wet meadows

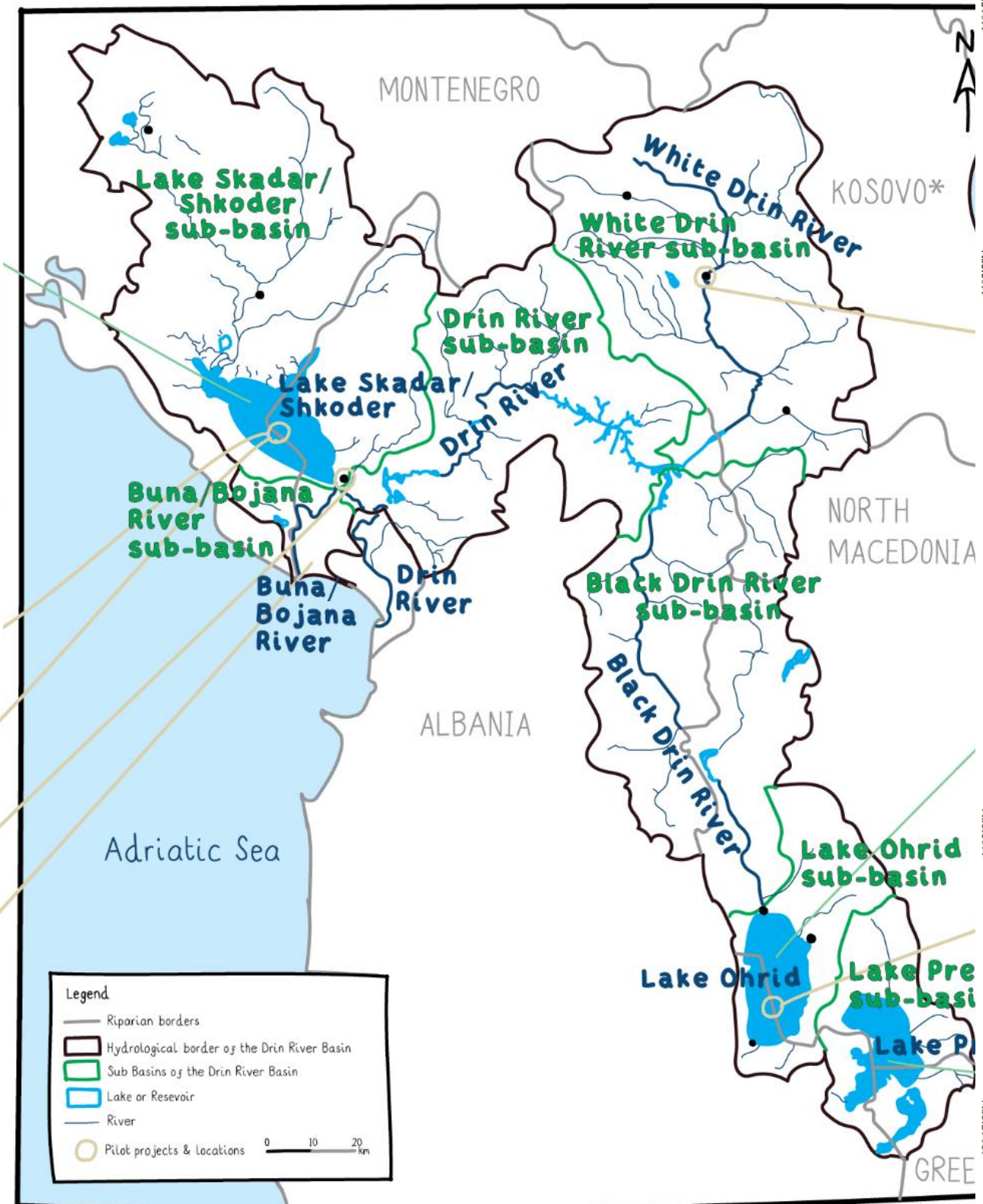


Dalmatian Pelican,
1200+ pairs,
largest population
in the world

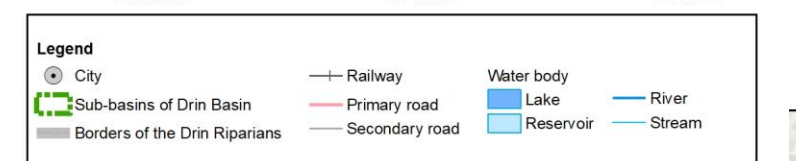
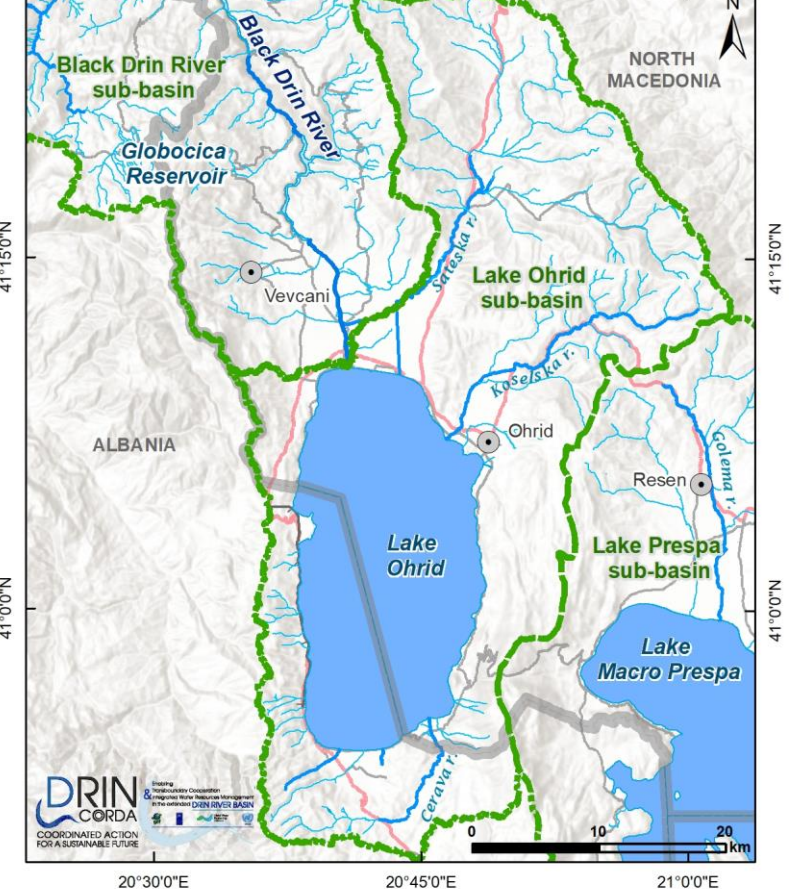


Important from a European AND international perspective; sustains coastal, marine & freshwater ecosystems

Extended Drin River Basin Ma



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Benefits for
the society
and the
economy



Ecosystem
protection /
preservation
/ restoration





Global Water Partnership



國際水法中心
INTERNATIONAL WATER LAW ACADEMY



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EU Water Framework Directive:
introduces a requirement for
*ecological protection, and a general
minimum chemical standard,*
covering all surface waters.

“Good ecological status” and “Good
chemical status”

National level



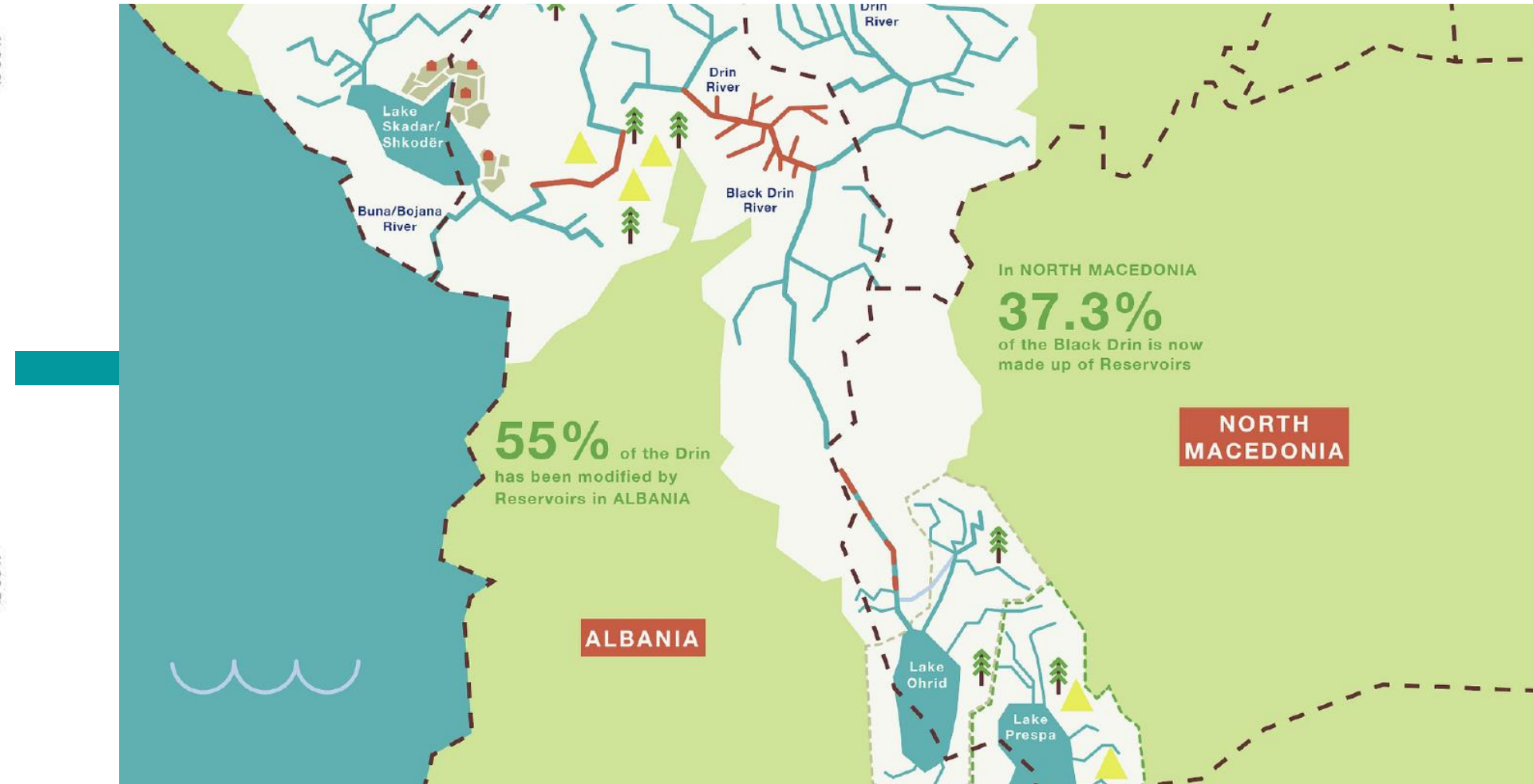
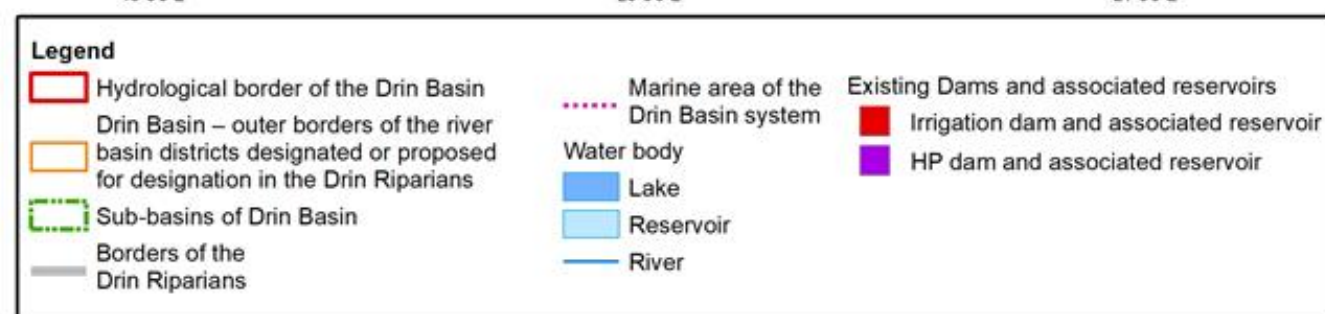
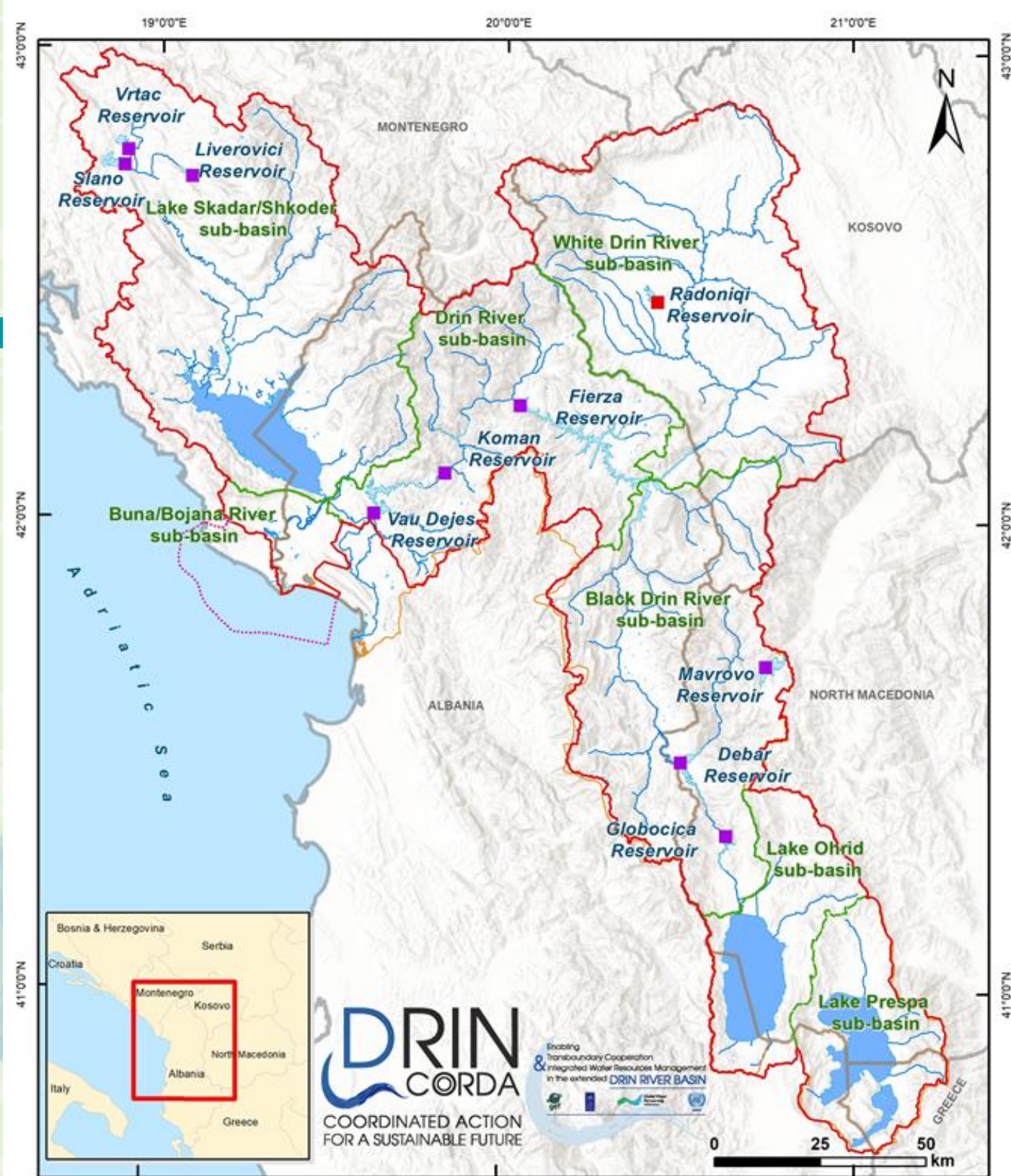
Global Water
Partnership

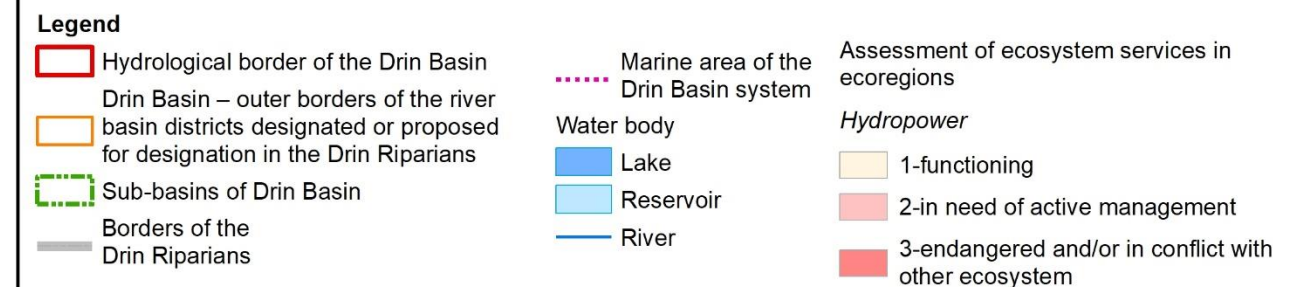
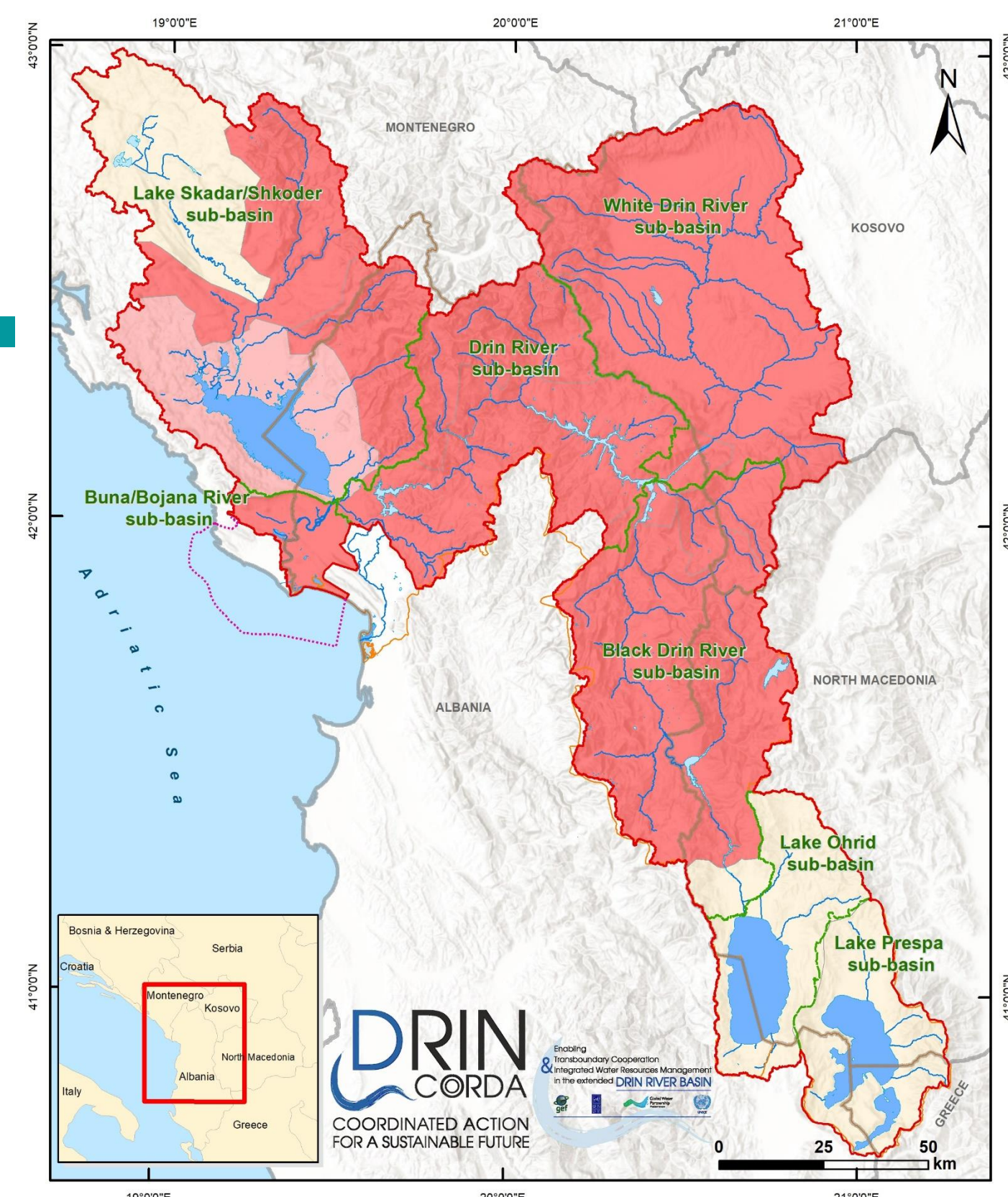
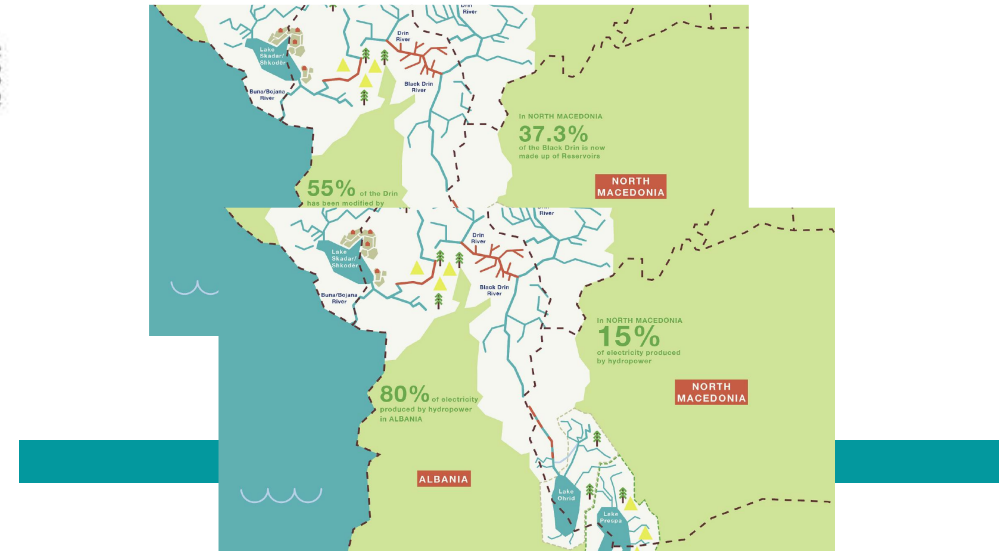
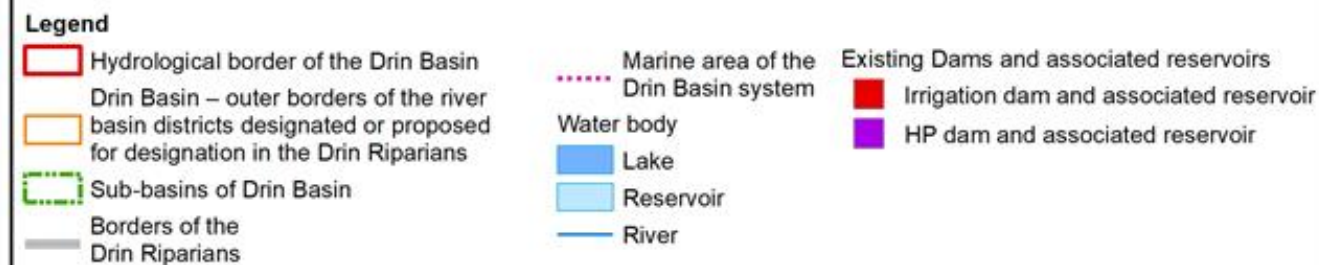
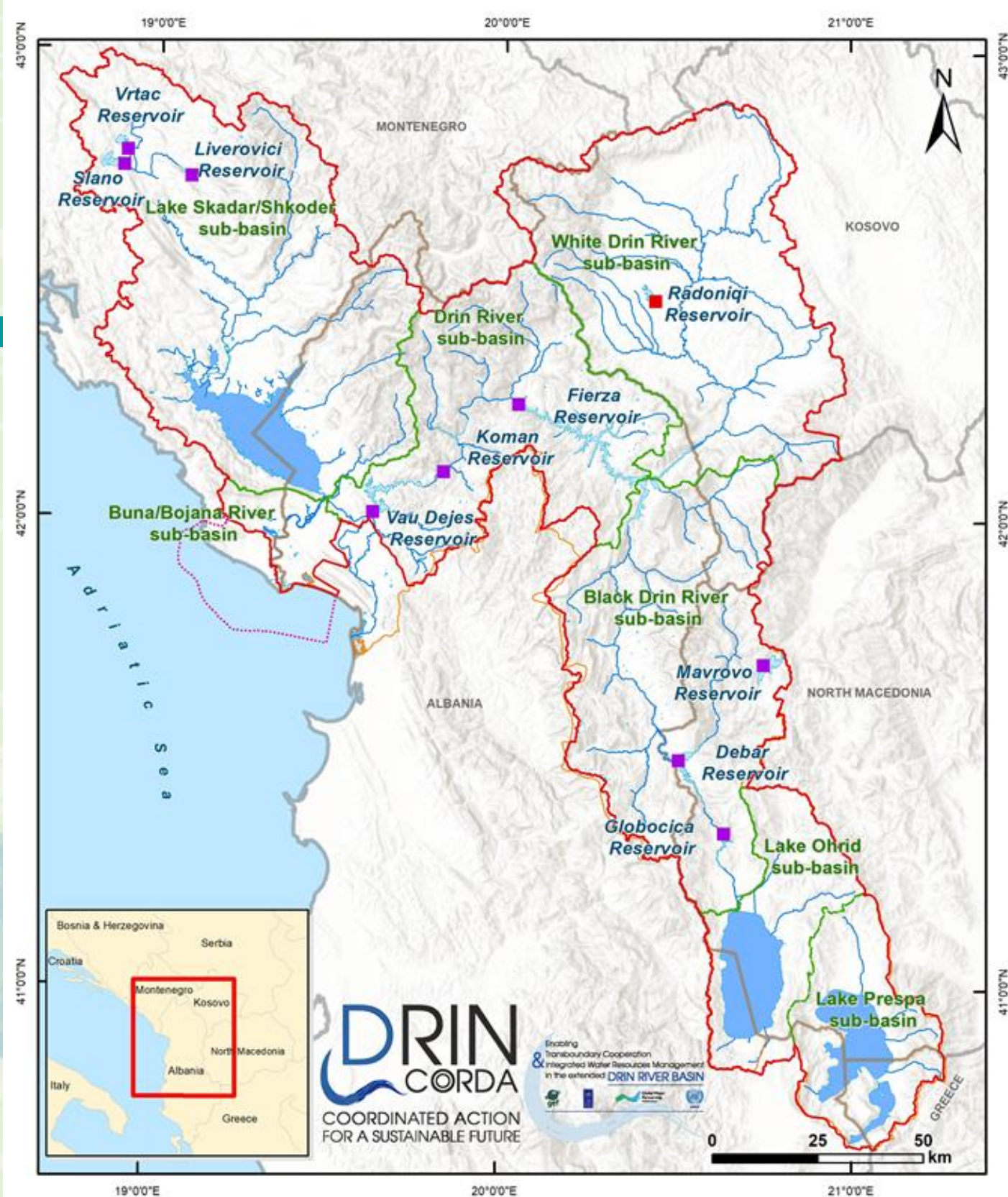


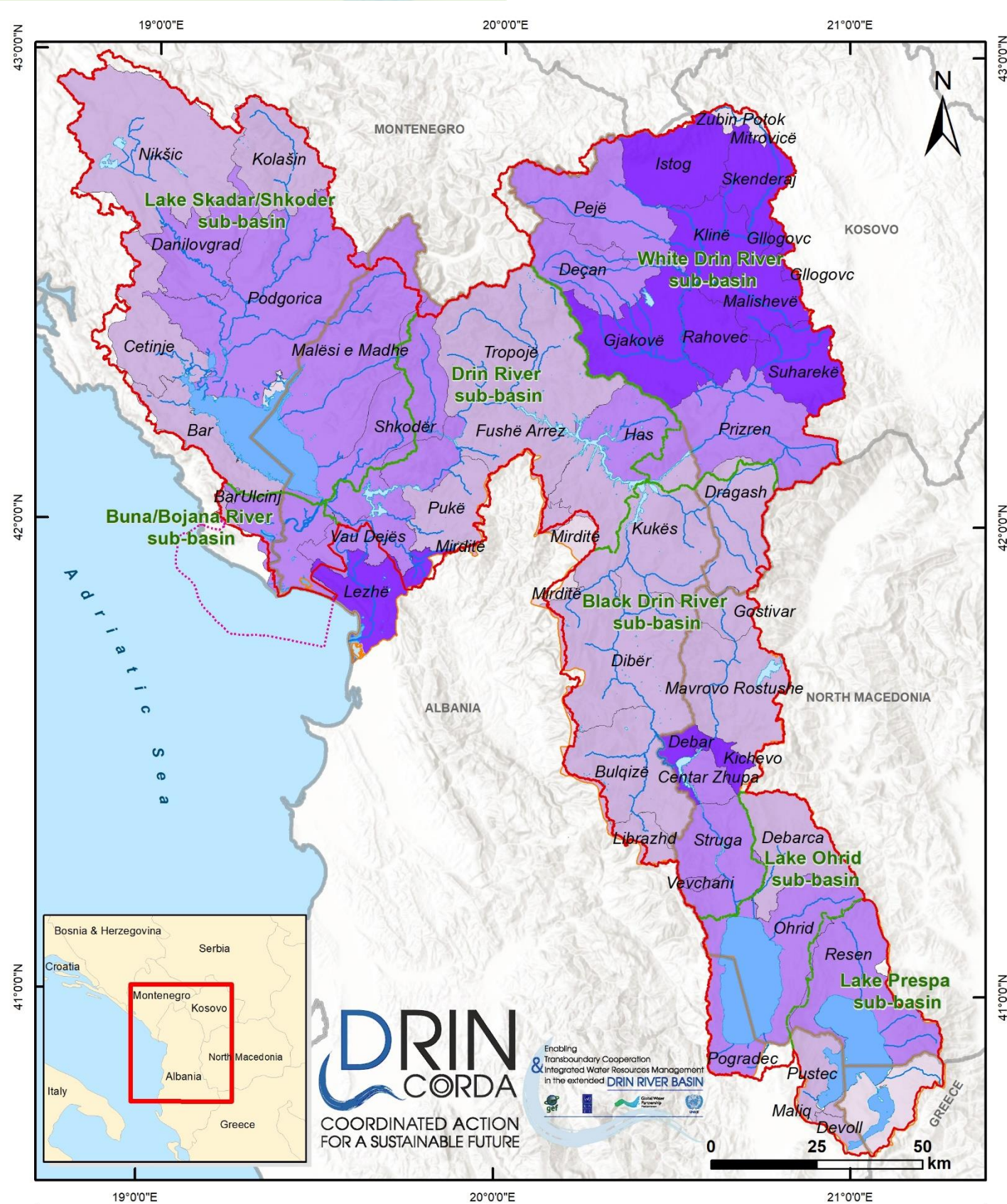
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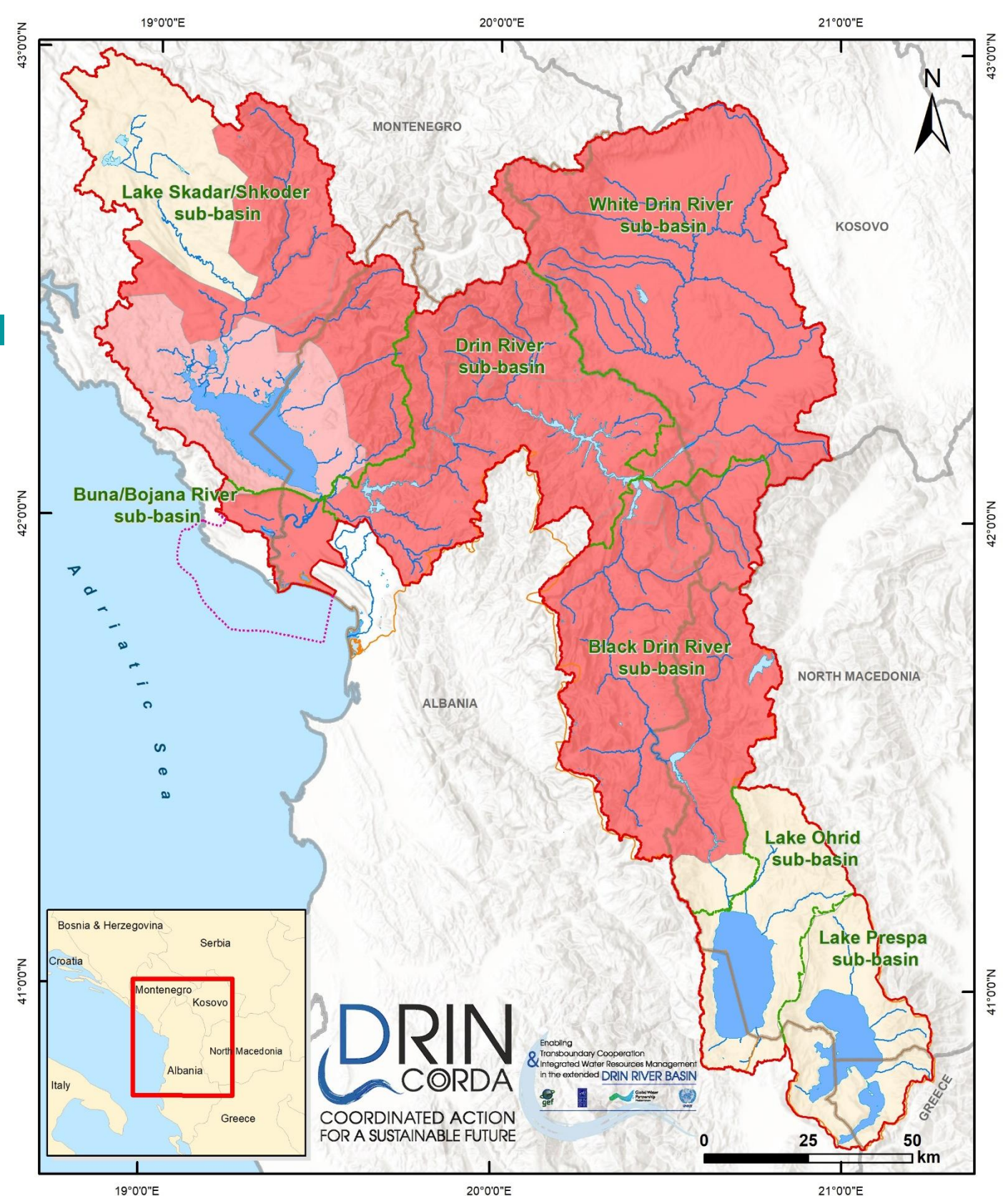


Legend

- Hydrological border of the Drin Basin
- Drin Basin – outer borders of the river basin districts designated or proposed for designation in the Drin Riparians
- Sub-basins of Drin Basin
- Borders of the Drin Riparians

- Marine area of the Drin Basin system
- Water body
- Lake
- Reservoir
- River

- TN + TP (kg/ha/year)
(per municipality)
- 0.00 - 0.27
 - 0.27 - 2.05
 - 2.05 - 3.71
 - 3.71 - 6.36

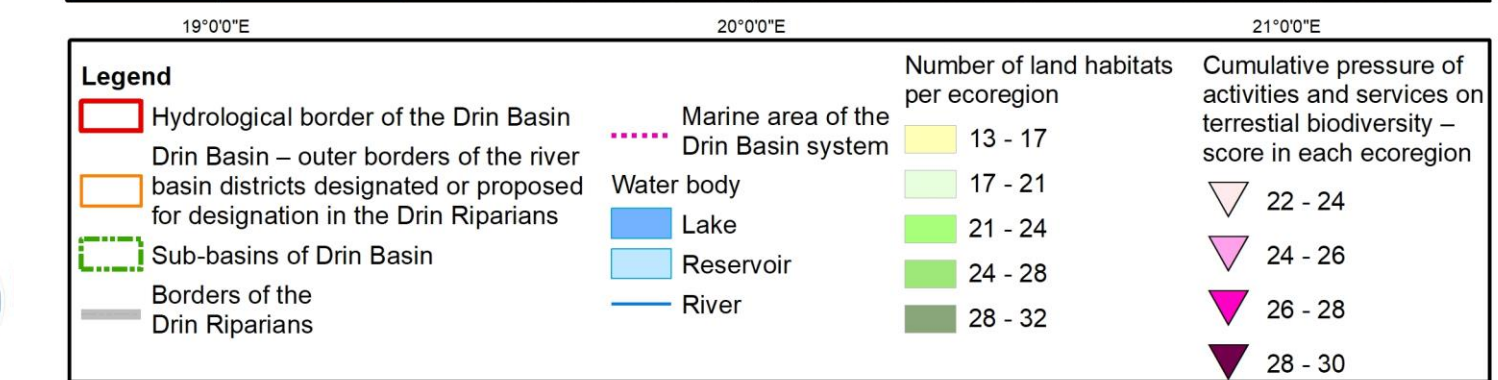
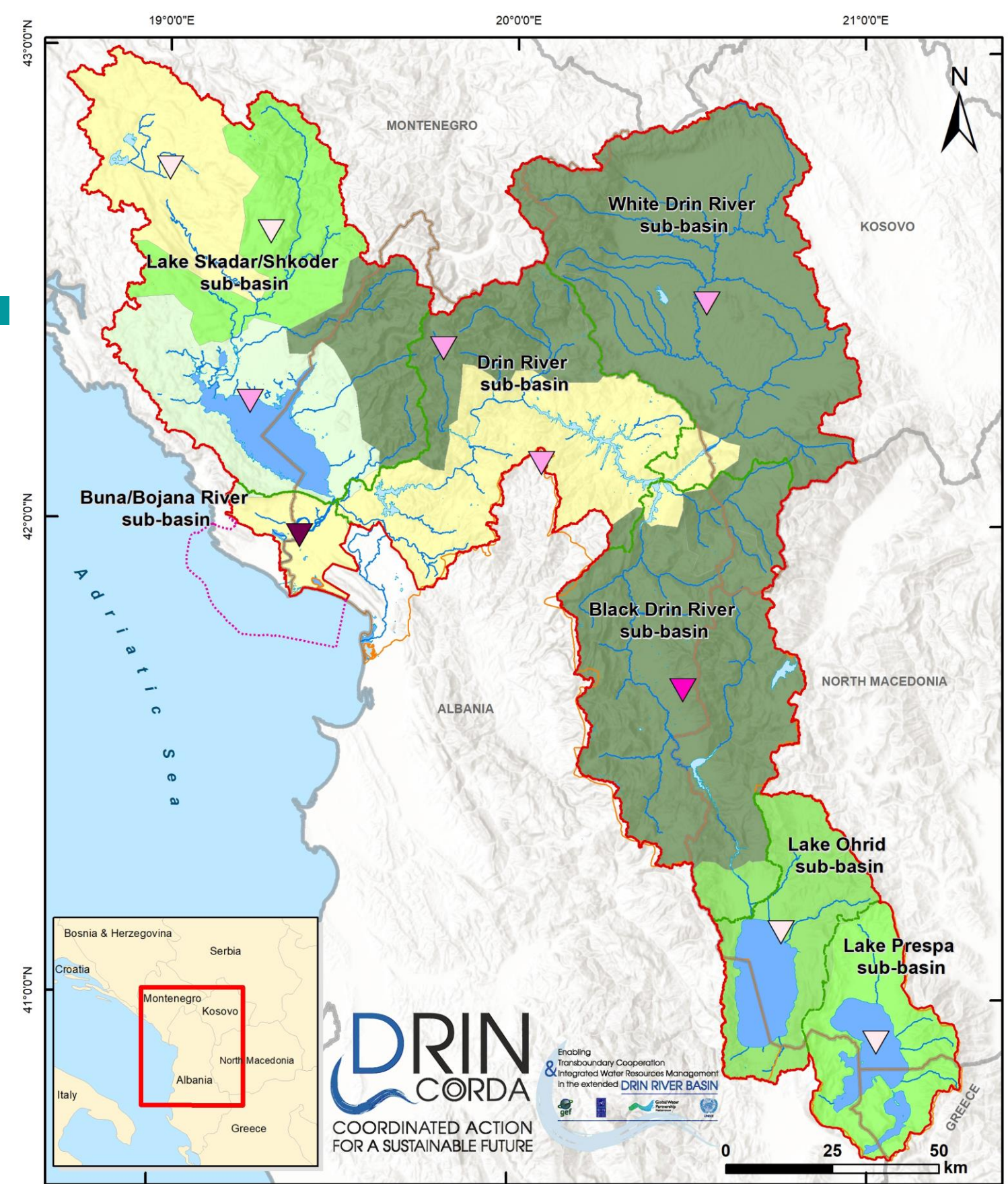
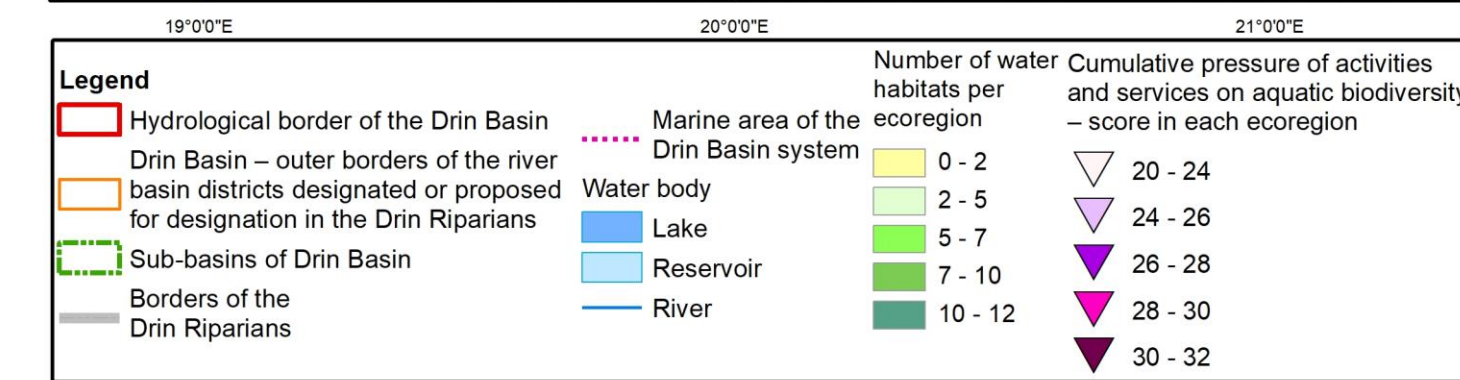
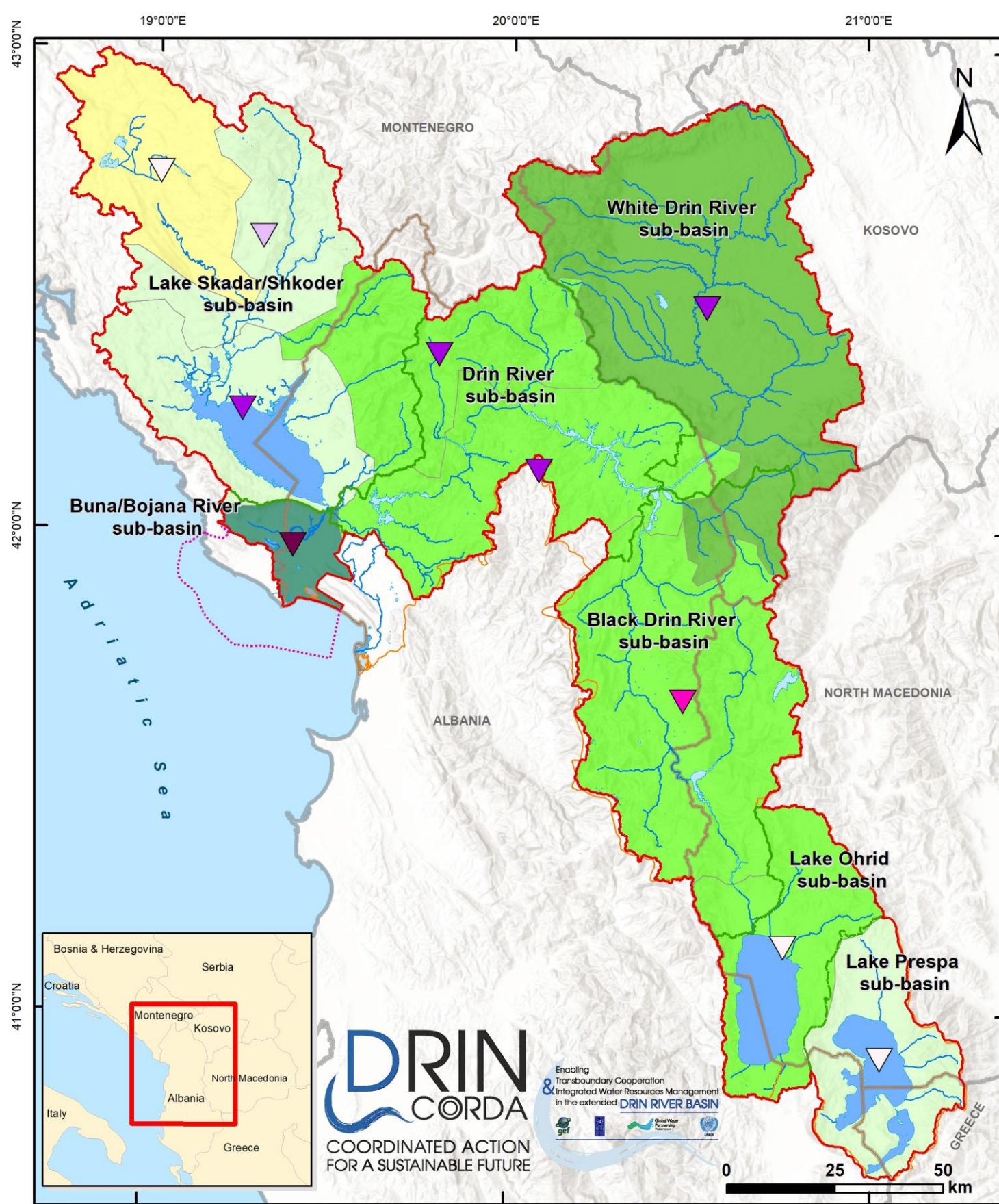
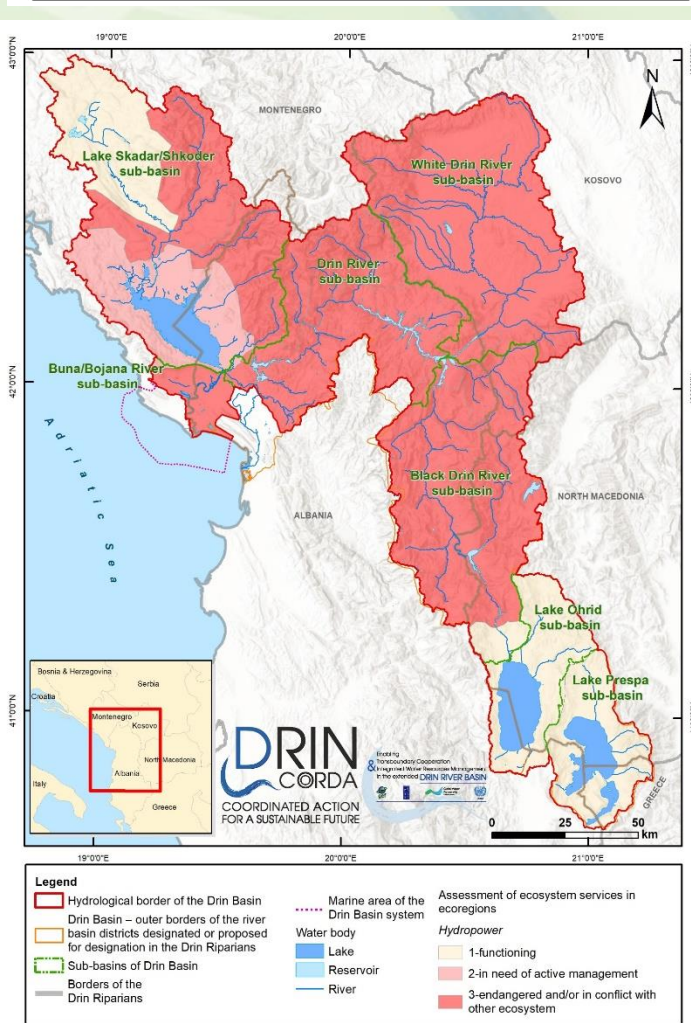
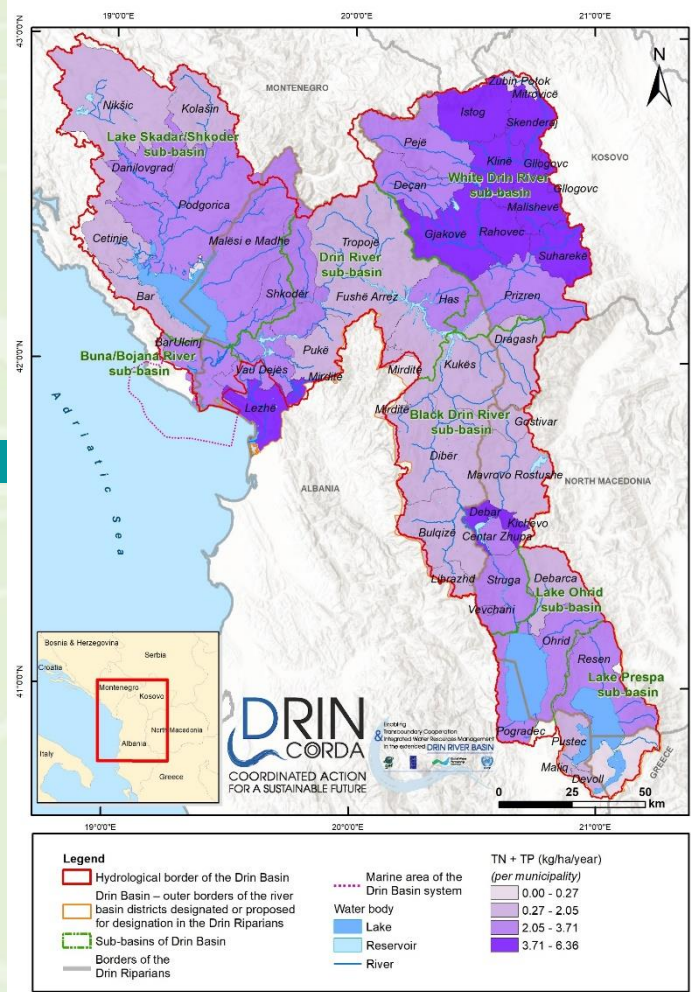


Legend

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- Marine area of the Drin Basin system
- Water body
- Lake
- Reservoir
- River

- Assessment of ecosystem services in ecoregions
- Hydropower**
- 1-functioning
 - 2-in need of active management
 - 3-endangered and/or in conflict with other ecosystem

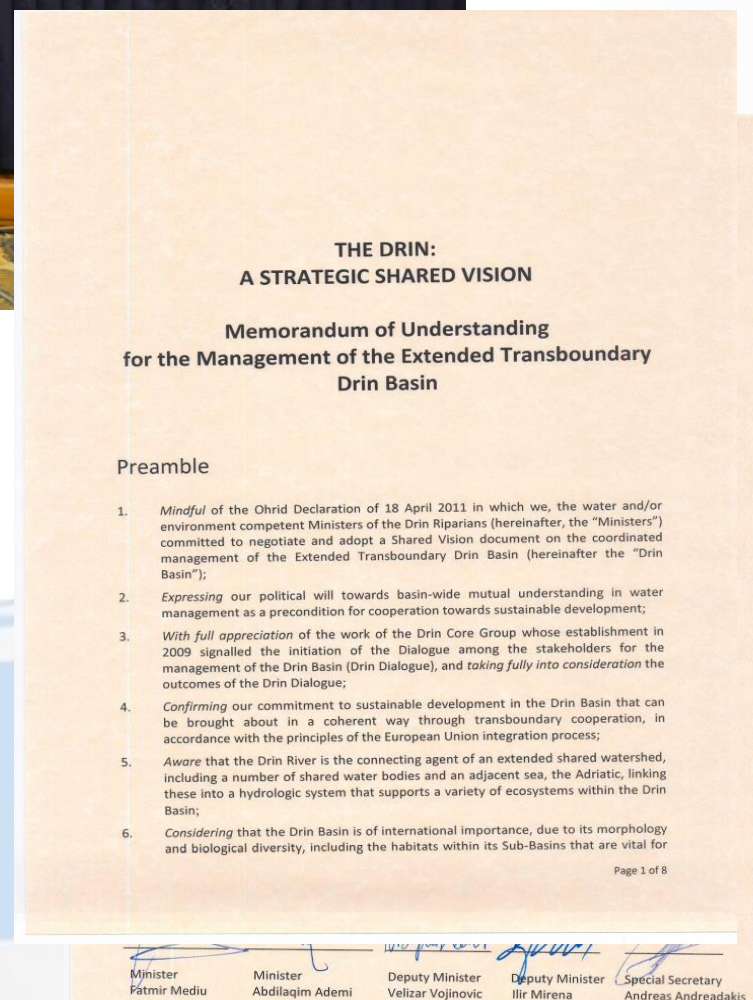


Memorandum of Understanding for the Management of the Extended Drin Basin (Tirana, 25 November 2011)



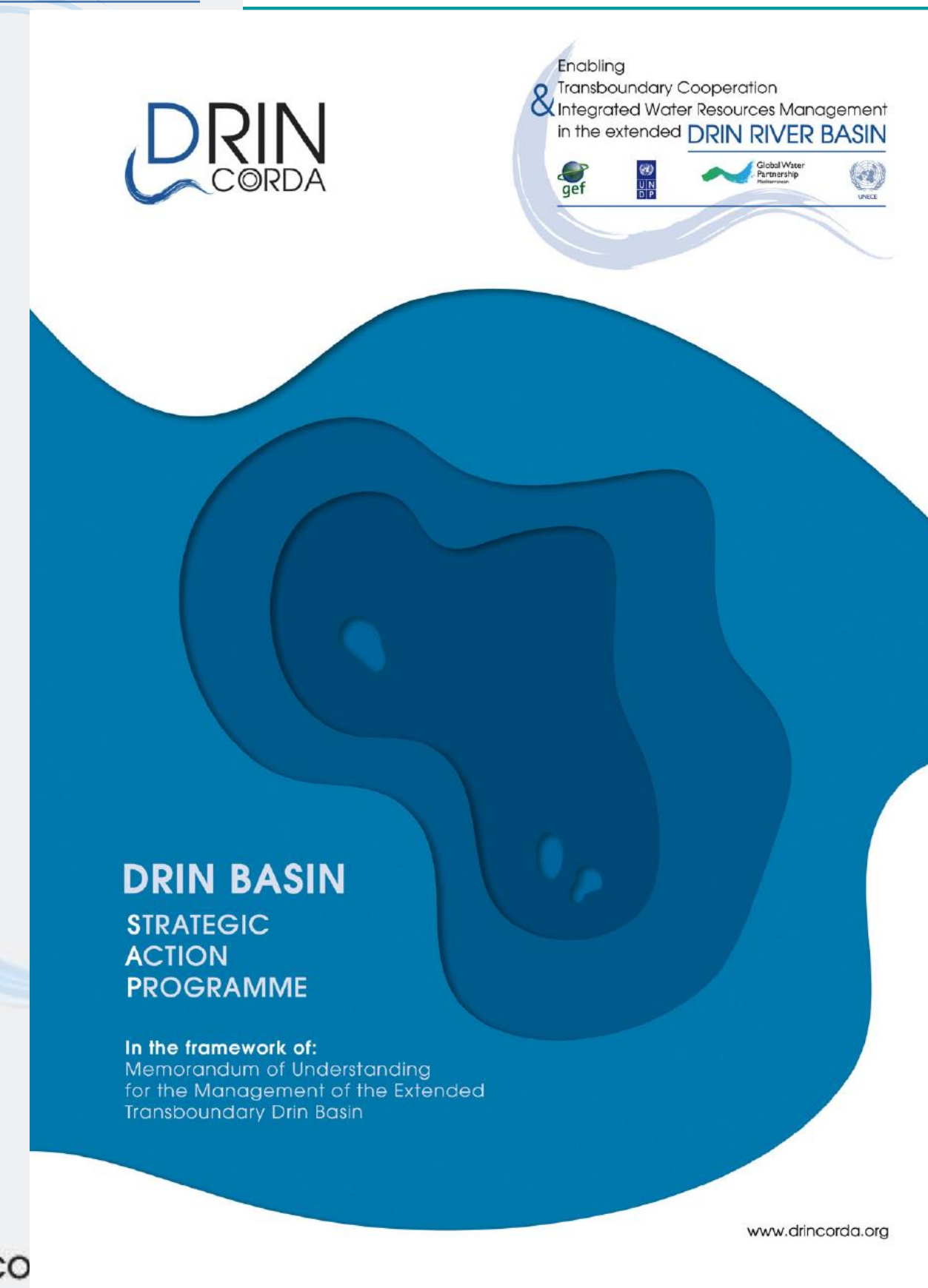
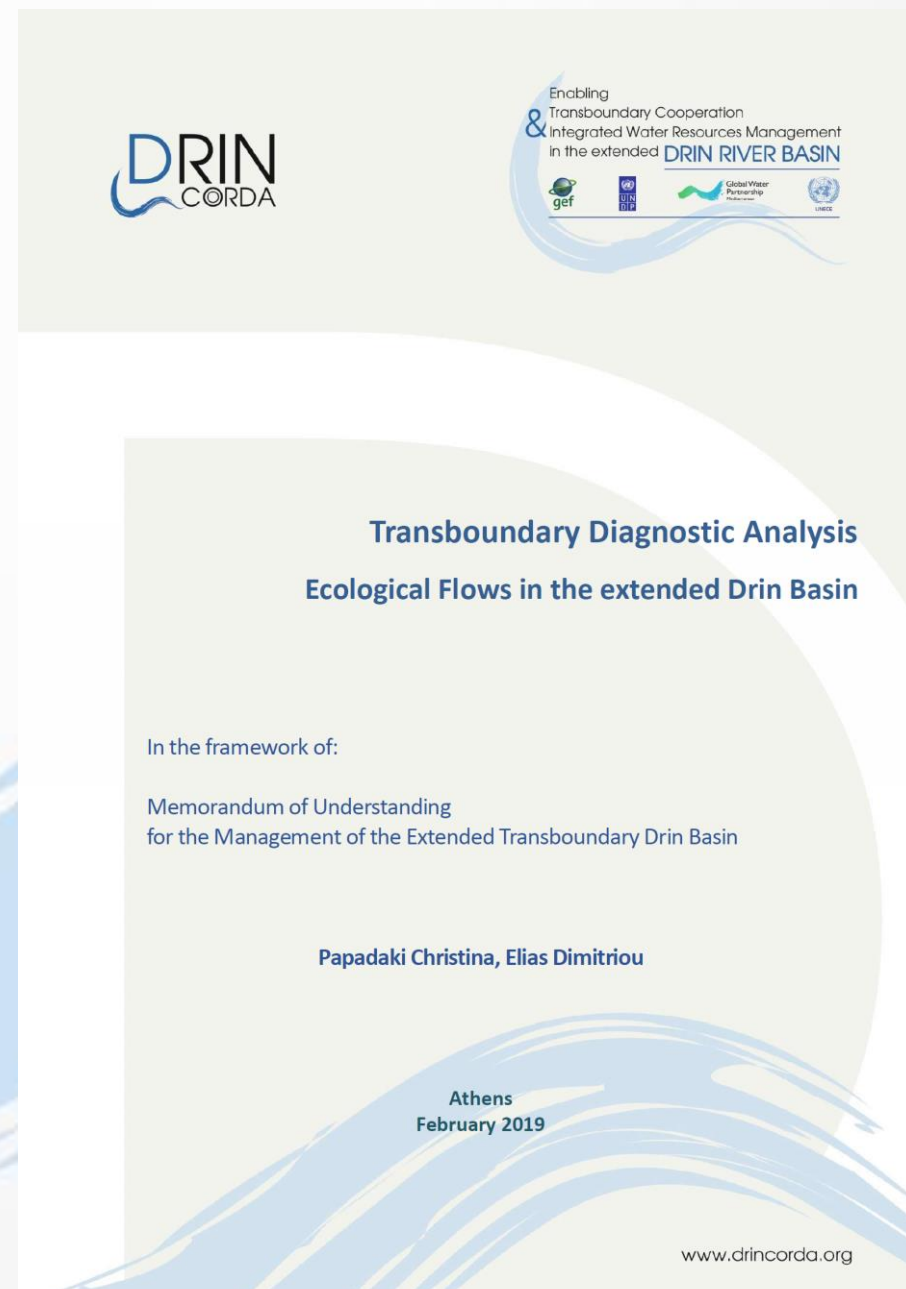
Objective of the Drin MoU:

“To promote joint action for the coordinated integrated management of the shared water resources in the Drin Basin, as a means to safeguard and restore to the extent possible the ecosystems and the services they provide, and to promote sustainable development across the Drin Basin”.



Transboundary Diagnostic Analysis

- Deterioration of **Water Quality**
- Variability of **Hydrological Regime**
- **Biodiversity** Degradation
- Variability of **Sediment Transport Regime**
- **Climate Variability and Change**
– cross-cutting issue that impacts all above



National level

Benefits for
the society
and the
economy



Ecosystem
protection /
preservation
/ restoration



Rule of law
– EU Water
Framework
Directive

Necessity /
imposed by
reality

?



Transboundary Level

- Social / Economical / Political conditions and reasons
- Green Economy
- Realization that ecosystems are natural infrastructure

**Necessity /
imposed by
reality**

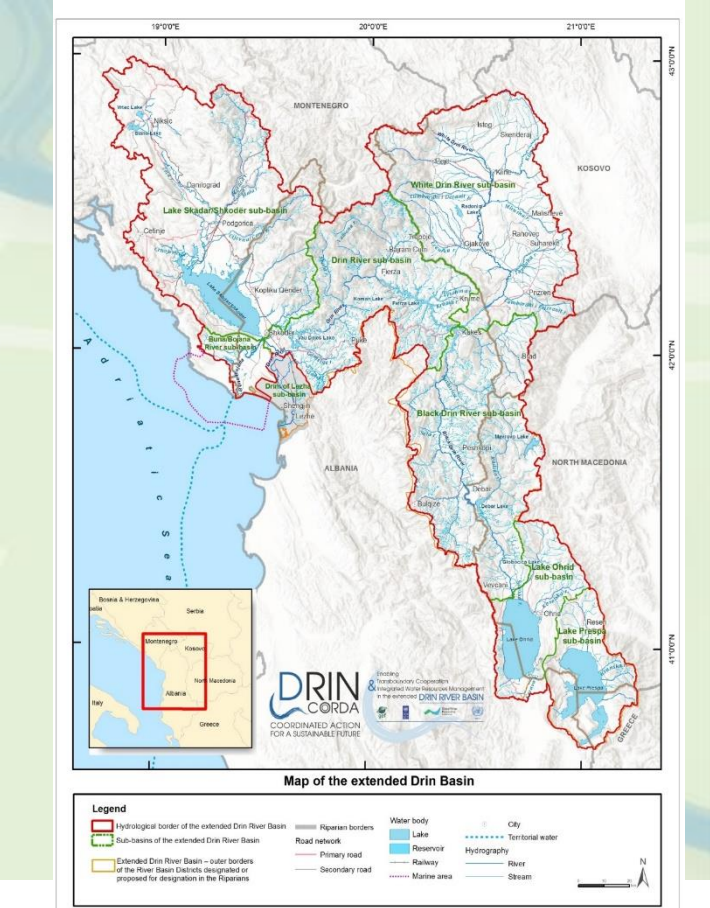
**Benefits for
the society
and the
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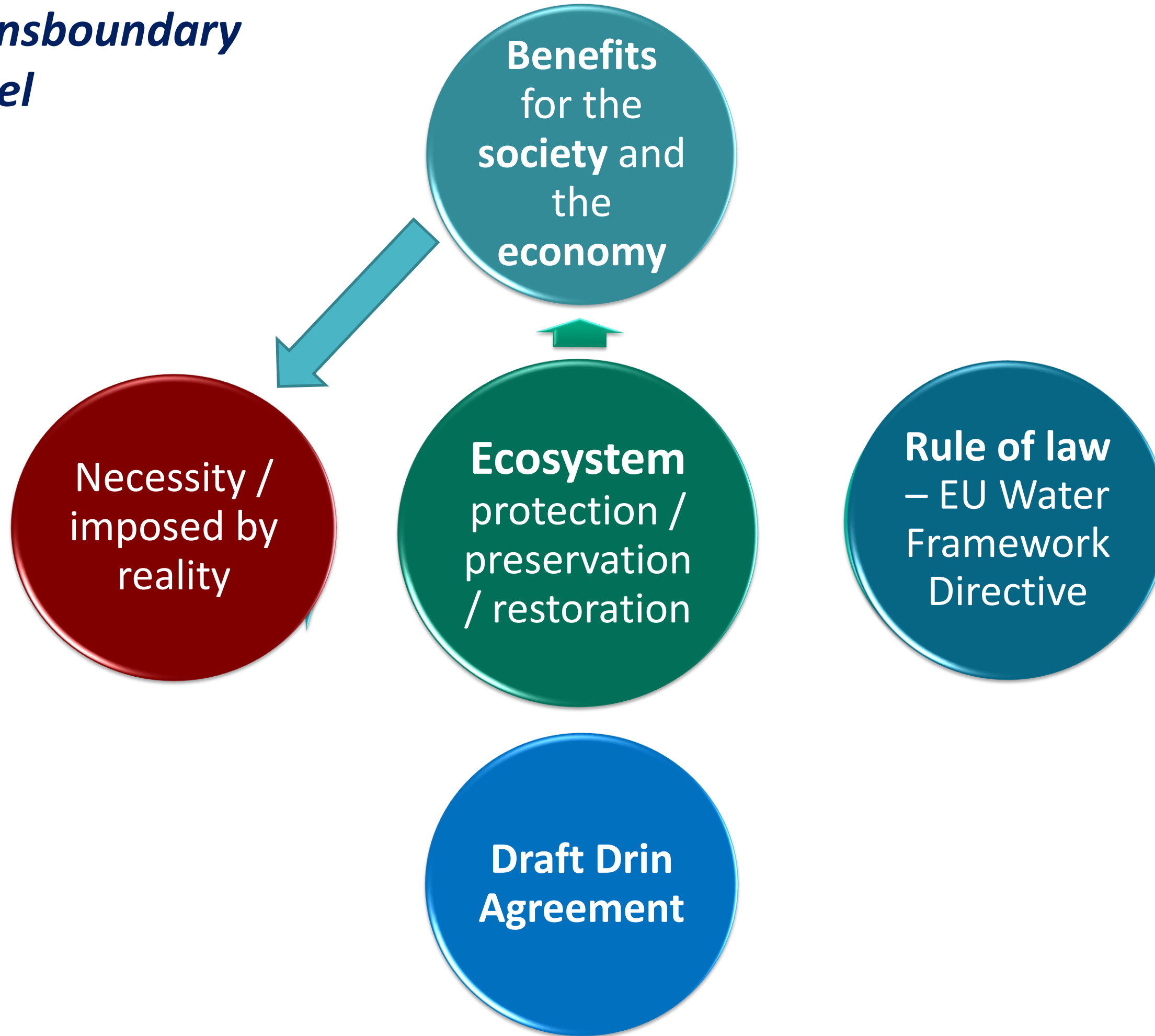
**Ecosystem
protection /
preservation
/ restoration**

**Rule of law
– EU Water
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Transboundary Level



Global Water
Partnership

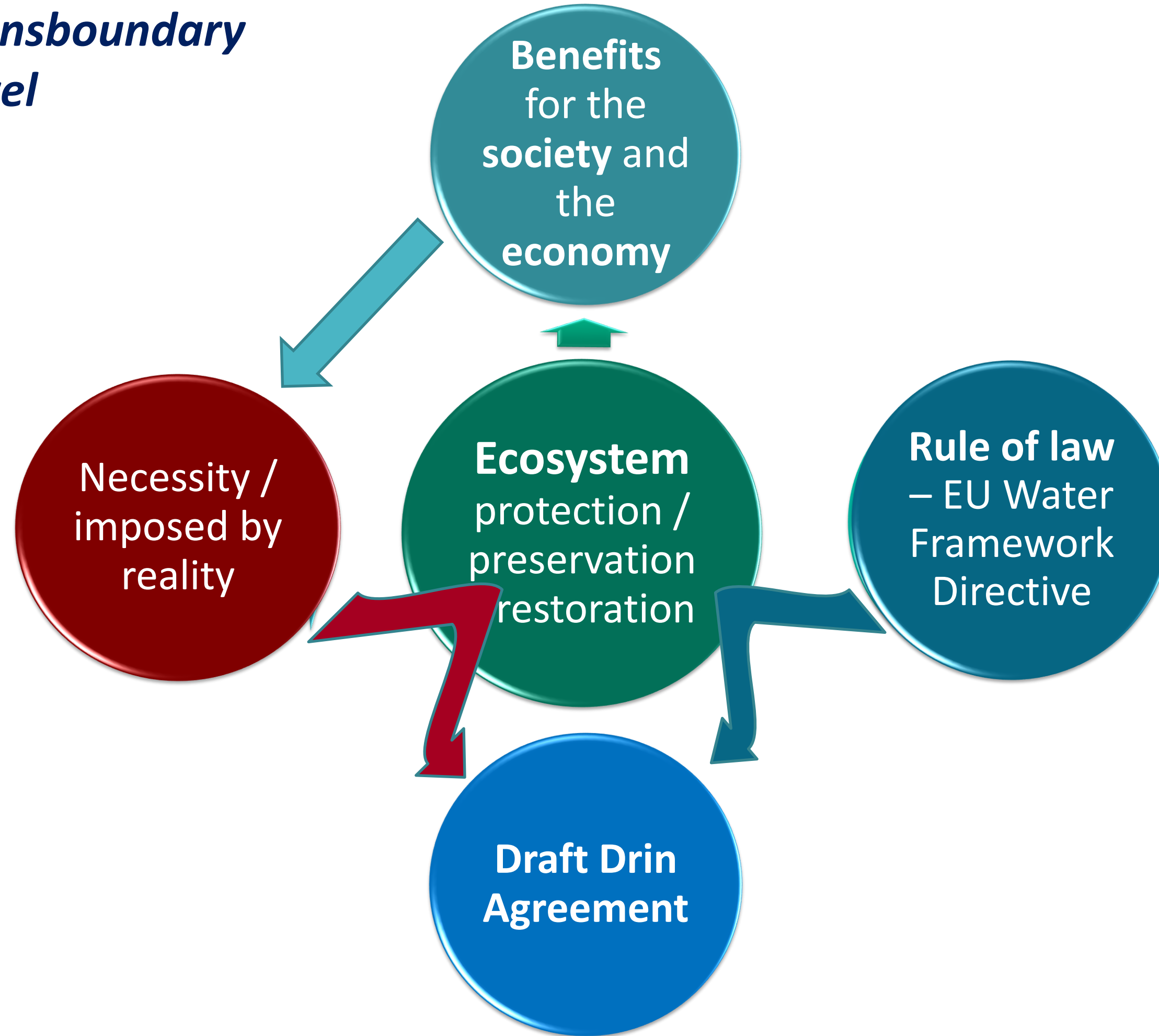


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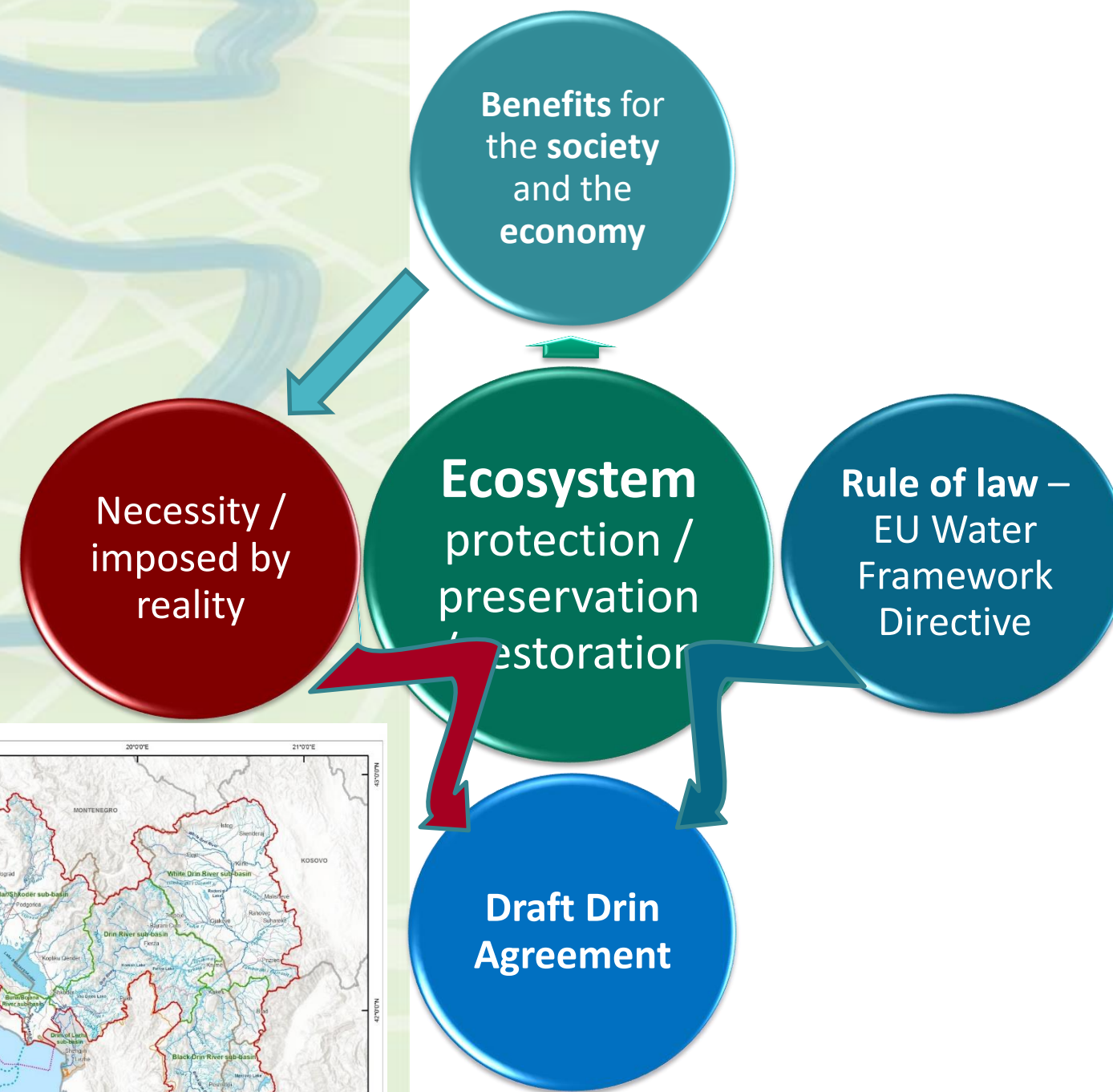


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Transboundary Level



Transboundary Level



- Ecosystem protection / preservation/ restoration in TB agreement:
 - central element / Necessity
 - aligned national legislations: assists
 - MEAs (Barcelona Convention): also assists

- Science has a role in establishing cooperation hence in the design of legal instruments

- Tools to be used for implementation of TB legal instruments
 - Transboundary Diagnostic Analysis / Strategic Action Programme
 - River Basin Management Plan

Thank you for your
attention

Dimitris Faloutsos

GWP-Med Deputy Regional Coordinator

GWP Thematic co-lead on Transboundary Waters

Global Water Partnership - Mediterranean (GWP-Med)

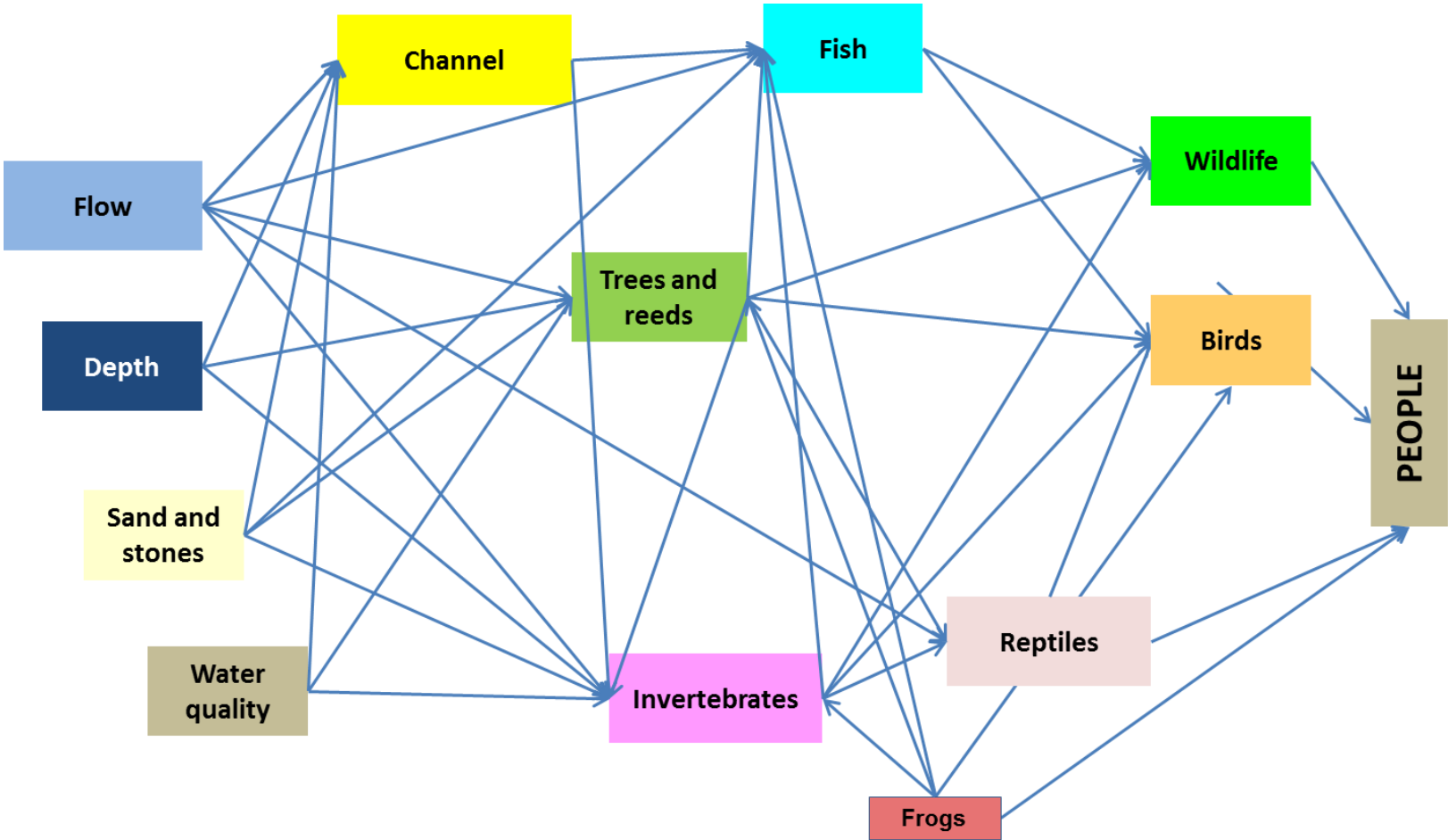
E-mail: dimitris@gwpmed.org

Web: www.gwpmed.org

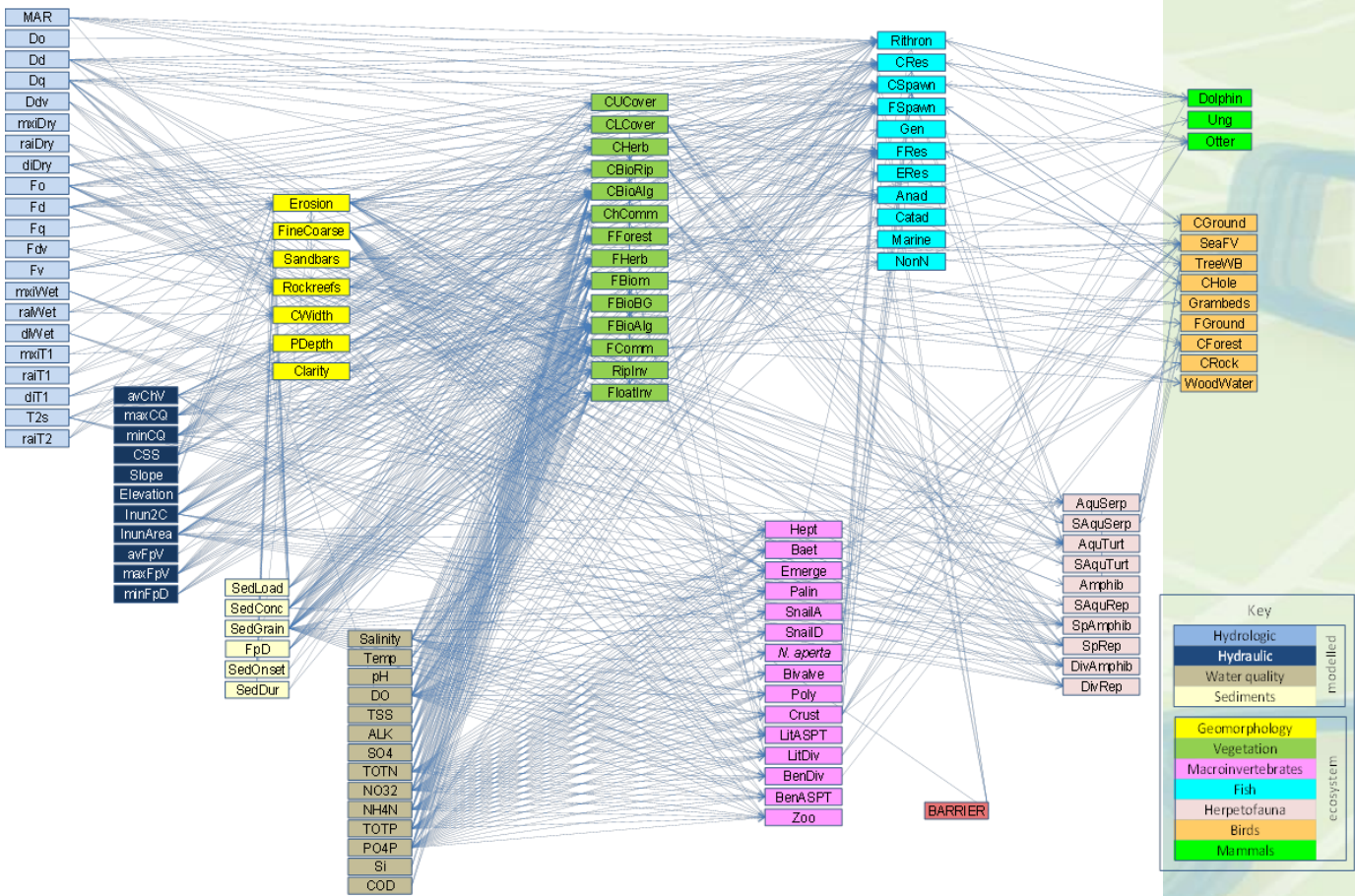


Human interventions change river ecosystems and affect people

Changing flow and sediments changes everything



Over last 20 years, ecosystem models built to predict that change



DRIFT model: uses many indicators to predict the changes (scenarios - possible futures)

IWL 2012 Pakistan v India: Kishenganga Dam

Permanent Court of Arbitration



Neelum River, Kashmir



Peace Palace, The Hague



Court asked for a full picture of the sensitivity of the river system to flow changes

DRIFT ecosystem model predicted the downstream impacts of Kishenganga Dam

Environmental Flows inserted into Indus Waters Treaty

Court: DRIFT is an appropriate tool for use in issue of magnitude and importance of that under consideration



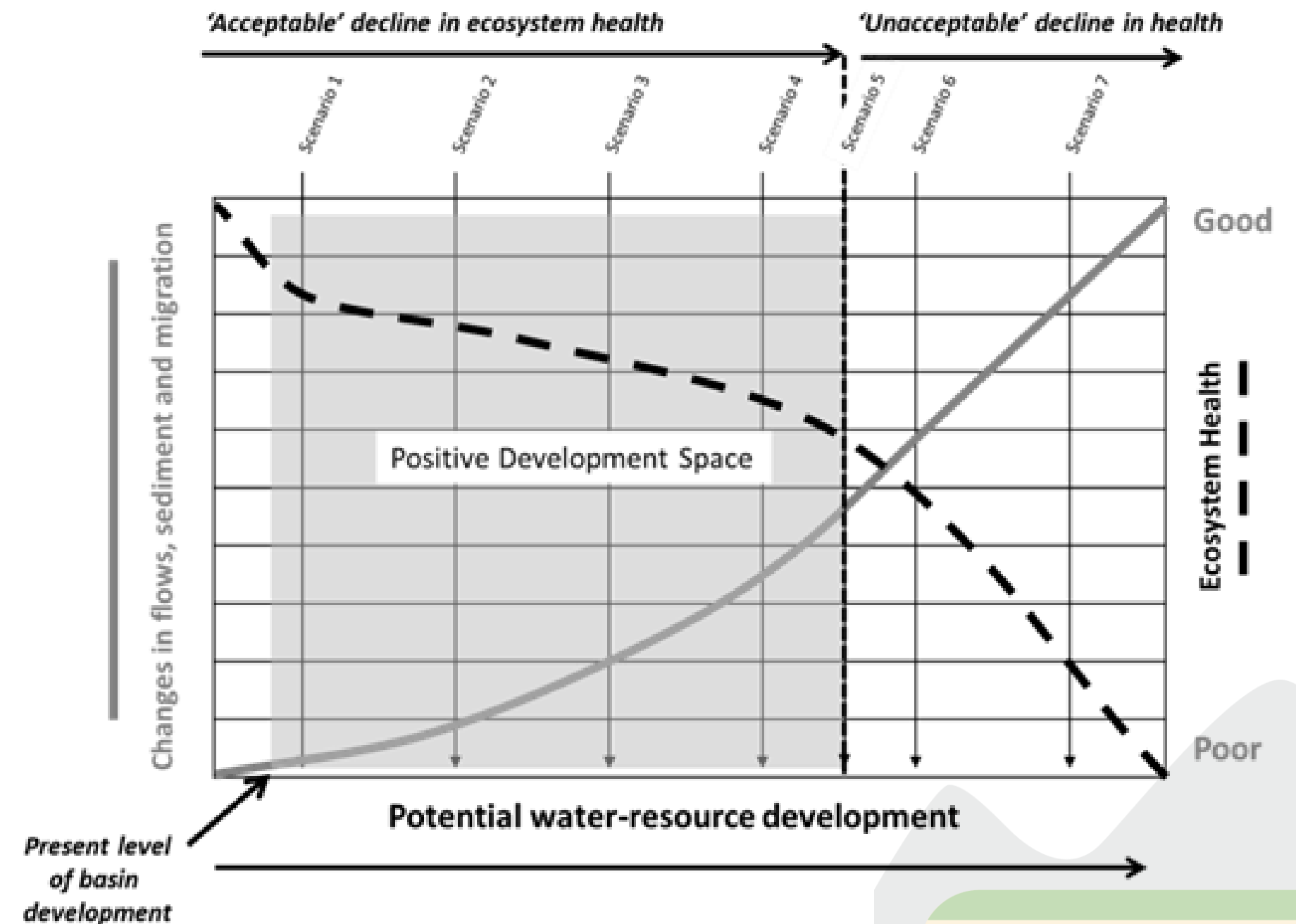
Ecosystem models guide sustainable use – the Development Space Concept

Development Space: the difference between current conditions in the basin and the furthest level of development found acceptable to stakeholders

Beyond this point, costs outweigh the benefits of development

DRIFT scenarios describe points along the development-degradation pathway, to help identify the point of unacceptable change

This reveals how much development potential remains in the basin





Thanks to all the
speakers
& participants!

Interactive Online Session:
Ecosystems, international law and
transboundary cooperation

16 February 2021



Sign up for the MOOC!



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FRESHWATER SECURITY**
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#WaterCooperation
#TransboundaryLearn

Modules

1. Introduction to transboundary water cooperation and water security
2. Water diplomacy and negotiation skills
3. International water law
4. Institutions
5. Management tools and mechanisms
6. Finance for transboundary water security

Sign up at:

- <https://www.edx.org/course/governance-for-transboundary-freshwater-security>

More information from:

- <https://www.gwp.org/en/learn/capacity-building/governance-for-transboundary-freshwater-security--a-massive-open-online-course-mooc/>





SAVE THE DATE

See you next time!

Interactive Online Session:
IWL, Transboundary Water Cooperation and
the Role of Institutions:

16th March 2021

What are the different ways in which River Basin Organisations
(RBOs) support countries to implement their treaty commitments?

