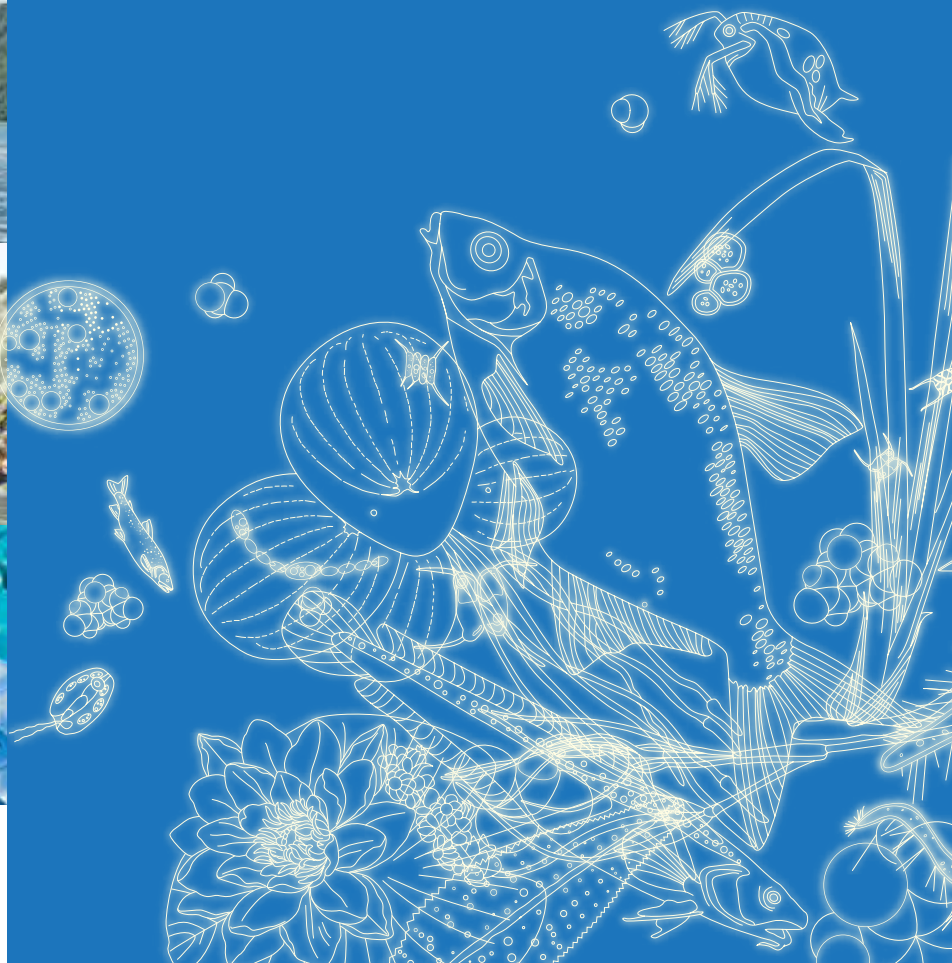
www.danubesurvey.org

JOINT DANUBE SURVEY 4

DISCOVER DANUBE

ONE OF THE MOST COMPREHENSIVE INVESTIGATIVE SURFACE-WATER MONITORING EFFORTS IN THE WORLD



ICPDR IKSD

International Commission for the Protection of the Danube River

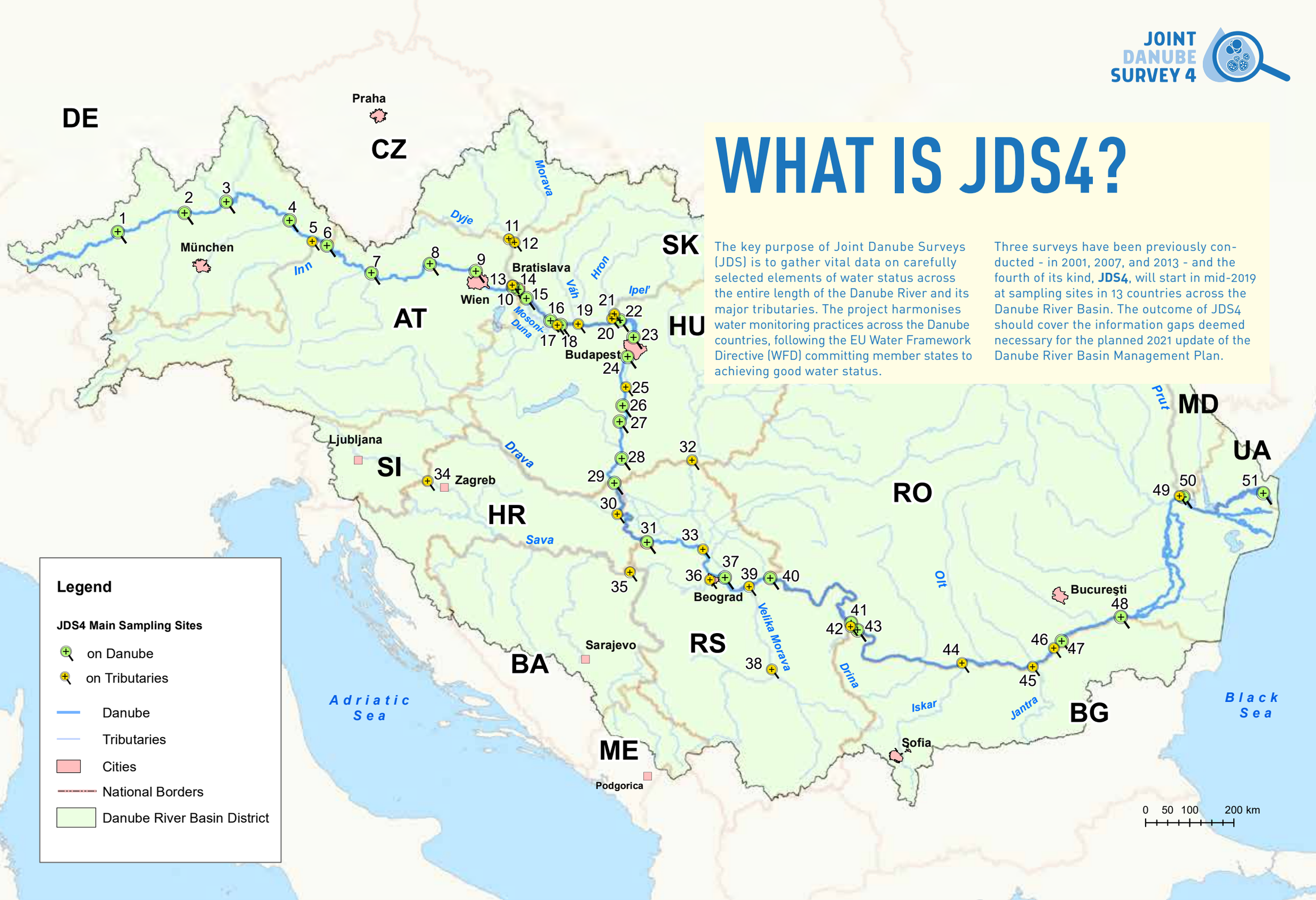
Internationale Kommission zum Schutz der Donau

JOINT DANUBE SURVEY 4

WHAT IS JDS4?

The key purpose of Joint Danube Surveys (JDS) is to gather vital data on carefully selected elements of water status across the entire length of the Danube River and its major tributaries. The project harmonises water monitoring practices across the Danube countries, following the EU Water Framework Directive (WFD) committing member states to achieving good water status.

Three surveys have been previously conducted - in 2001, 2007, and 2013 - and the fourth of its kind, **JDS4**, will start in mid-2019 at sampling sites in 13 countries across the Danube River Basin. The outcome of JDS4 should cover the information gaps deemed necessary for the planned 2021 update of the Danube River Basin Management Plan.



JOINT DANUBE SURVEY 4

(RE)DISCOVERING THE DANUBE

The Danube River is over 2,700 km long, and its wider catchment area covers more than 800,000 km2 - that's 10% of continental Europe! The Danube River Basin is home to a population of over 80 million people, in territory stretching through 19 countries. That makes it the most international river basin *in the world*.

THE DANUBE RIVER IS DIVIDED INTO THREE 'REACHES':

- The Upper Danube stretches from its source in Germany to the 'Porta Hungarica' east of Vienna.
- The Middle Danube then flows until the Iron Gate dam in Romania.
- The Lower Danube then runs into the Black Sea.

WHAT DO WE WANT TO DO?

JDS4 and its 13 participating countries have a large number of varied aims - but we know that we definitely want to achieve these four things:

TO COLLECT DATA ON SPECIAL PARAMETERS NOT NORMALLY ANALYSED

All kinds of data get measured every day across the Danube, but JDS is about getting information on all those little things that might go unnoticed, and putting them into a wider context.

TO COLLECT ALL OF THIS DATA IN A WAY THAT IS READILY COMPARABLE ACROSS THE REGION'S COUNTRIES

Making sure we gather our data in a way that can be compared is essential - this way we can work out what happens on the Danube's journey from Bratislava to Belgrade for example, and usefully measure changes and shifts in water status and chemical makeup.

TO RAISE AWARENESS OF THE DANUBE'S WATER QUALITY AND ONGOING PROTECTION EFFORTS

Getting the millions of people who live within the Danube River Basin on board with the project is vital. We need them to know why the river matters, and we want them to feel welcome to get involved in JDS however they can.

TO FILL THE GAPS IN WFD IMPLEMENTATION

The EU's Water Framework Directive (WFD) is stimulating higher standards of water quality across the continent. JDS can work to focus on the Danube region specifically though, filling in all the gaps the broader WFD implementation might miss.

LET'S WATCH OUR DANU BE TOGETHER

A NEW APPROACH TO RIVER MONITORING

Previous Joint Danube Surveys were carried out by a small team of leading experts. That team of experts travelled throughout the Danube region taking samples and, in the case of biology, microbiology and hydromorphology, were responsible for analysing the samples collected. Teams of local experts participated only in their respective countries, mostly just as observers. For the fourth JDS however, we're using a brand new concept...

This time there will be a more active role for national authorities to carry out monitoring. This enables participating countries to further engage with the project, adopting new, innovative, and tailor-made approaches that work best for them. It is expected that this approach will lead to a more flexible and effective process and, most importantly, to better results. We want to foster more coordination and even more improvements for JDS, helping countries to share their experiences, exchange ideas, and harmonise their processes.

There will also be a special monitoring team tasked with conducting ad-hoc and less conventional technical tests. Three particularly interesting aspects that require special monitoring include:

- ***Effect-based monitoring/non-target screening (chemistry):*** These new techniques are an excellent tool for analysis of hundreds of hazardous substances in water. The aim of JDS4 is to compare them with the classical target chemical analysis to explore their potential for investigation of overall contamination.
- ***Environmental DNA (eDNA) testing:*** is a method to detect DNA that is released from an organism into the environment to discover the fauna living in the river. The ambition of JDS4 is to compare this method with the currently used standard biological assessment tools.
- ***Microplastics:*** results from studies on European rivers show that plastics are ubiquitous in freshwater systems. As such data has not yet been gathered for the Danube, it is expected that JDS4 could produce the first information baseline on the occurrence of plastic particles for the Danube and some of its tributaries.

WHAT WE LEARNED LAST TIME

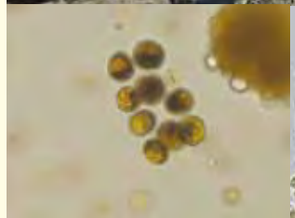
JDS3 reconfirmed that the Danube's biodiversity remains at a desirable level, including a high diversity of fish, with over 139,000 individual fish and 67 species sampled.

However, due to pressures such as hydropower, poaching and fishing, about 50% to 90% of the sites did not meet the ecological requirements of the WFD for fish.

Invasive alien species continue to have a constant impact on native wildlife, such as alien fish depleting the habitat of native Danube fish.

77% of sites could be classified according to the most widely used *Saprobic Index of Macrozoobenthos* as good or high however some hot-spots indicating significant organic pollution were detected along the whole Danube.

Most of the EU WFD Priority Substances analysed, were found to be below the European environmental quality standards (EQS). Concentrations of the pollutant PFOS exceeded EQS at 94% of the sampling sites.



GETTING THE PUBLIC INVOLVED

In addition to our scientific and technical goals of monitoring water quality during JDS4, another key goal is to increase public awareness of these water protection and conservation issues throughout the Danube River Basin. Our experience with local, national and international outreach is informed by our three previous surveys over the last 18 years. During that time, news of the JDS has been featured in many of the most widely distributed newspapers, listened to radio programs, and watched TV stations in the Danube countries.

In 2019, our outreach goals are significantly greater as a result of new processes JDS activities are engaged in at the national level, increasing responsibility to those who best know the local regions, cultures, and opportunities. This year, more people than ever could discover the importance of the Danube, about the national and international protection efforts... and generally come out for a good time on the Danube this summer!

The JDS website (www.danubesurvey.org) is continuing its commitment to sharing the results online, along with various stories and pictures, updated for the more international, more locally-sensitive, and more educational style we're adopting in 2019.

JOINT DANUBE SURVEY 4

GET IN TOUCH!

Get connected with JDS and get updates plus detailed online information at www.danubesurvey.org. Here's some contact details for the National Communication Coordinators in each of our individual member states too, for those of you eager to get involved out there across the Danube Basin...

ICPDR Secretariat
Hélène Masliah-Gilkarov
jds4@icpdr.org
Tel: +43 1 26060 4373

Germany
Thore Gauda
thore.gauda@stmuv.bayern.de

Austria
Susanne Brandstetter
susanne.brandstetter@bmnt.gv.at

Czech Republic
Veronika Matuszná
veronika.matuszna@mzp.cz

Slovakia
Tomas Hajdin
hajdin@vuvh.sk

Hungary
Ida Nagyné Sós
ida.sos.nagyne@bm.gov.hu

Slovenia
Andrej Vuga
andrej.vuga@gov.si

Croatia
Lidija Baras
lidija.baras@voda.hr

Serbia
Uros Suberic
uros.suberic@minpolj.gov.rs

Romania
Simona Marcusohn
simona.marcusohn@map.gov.ro

Bulgaria
Vesela Komarevska
vkomarevska@bddr.org

Ukraine
Olena Marushevska
bluerivers.ukraine@gmail.com

Moldova
Dumitru Drumea
ddrumea559@gmail.com

Montenegro
Milica Maras
milica.vukcevic@mpr.gov.me

www.danubesurvey.org

Find us on social media

#JDS4
#discoverDanube
#ICPDR

Photos: © André Künzelmann (UFZ), Illustration: Büro X, www.buerox.at,
Design: Tobias Held, www.thisisteam.com, © ICPDR 2019, www.icpdr.org