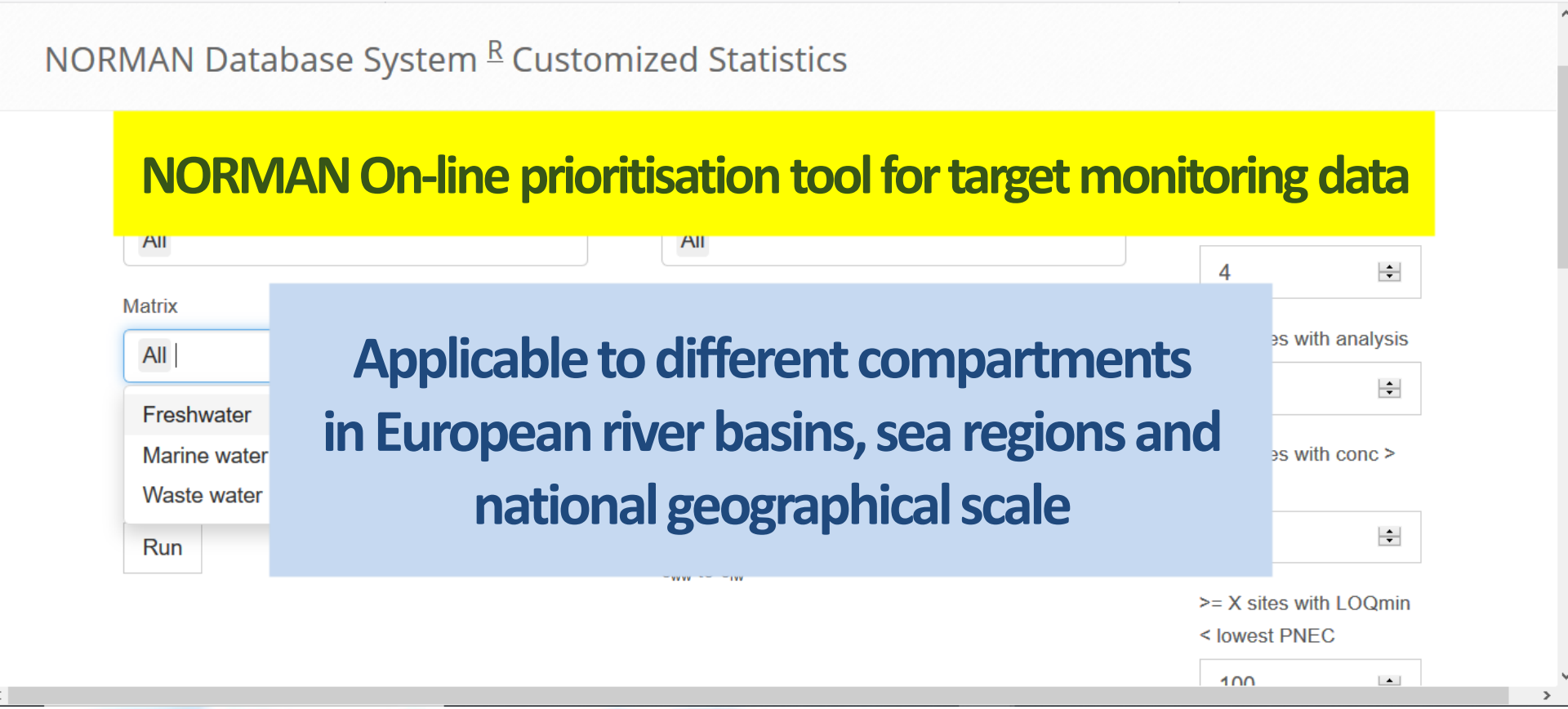
WG-1 “Prioritisation of emerging substances”

Valeria Dulio, Nikiforos Alygizakis, Peter von der Ohe, Jaroslav Slobodnik

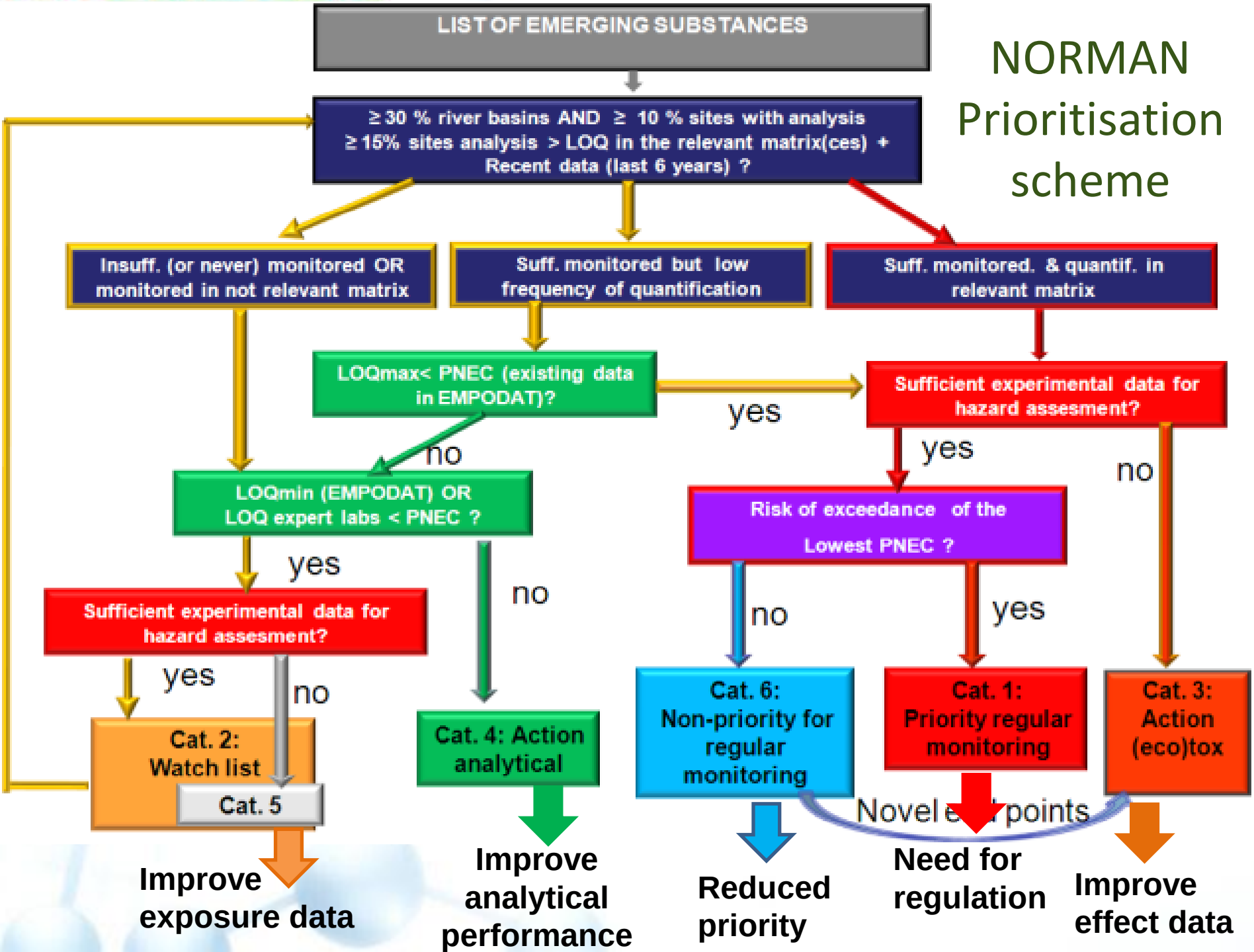
NORMAN General Assembly Meeting
1 – 2 December 2020

Prioritisation tool online

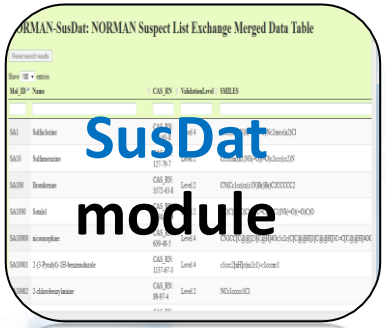
https://norman-data.eu/nds_full/#!/customized

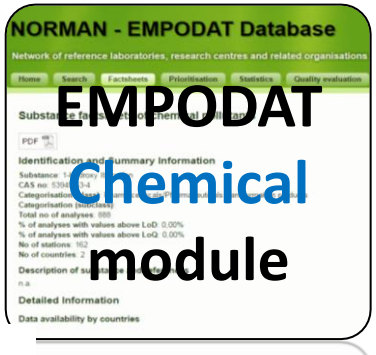


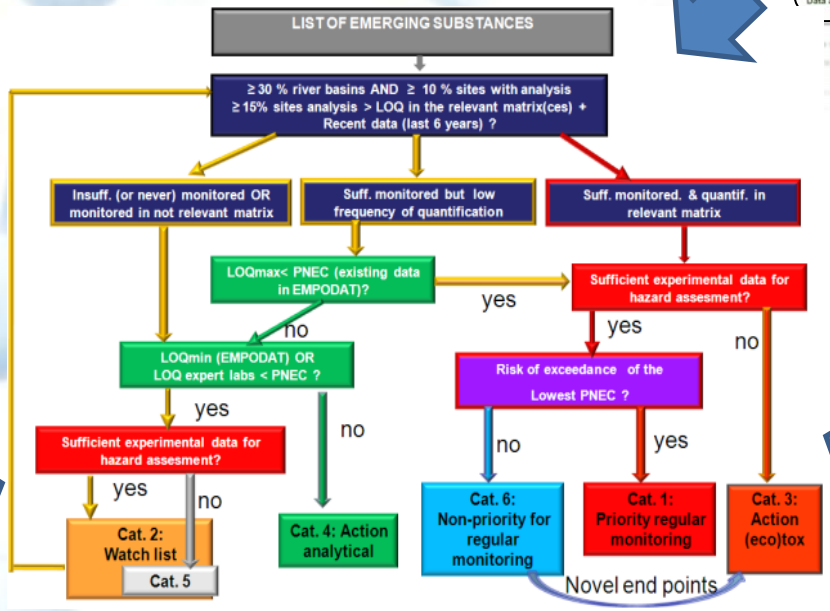
NORMAN Prioritisation scheme

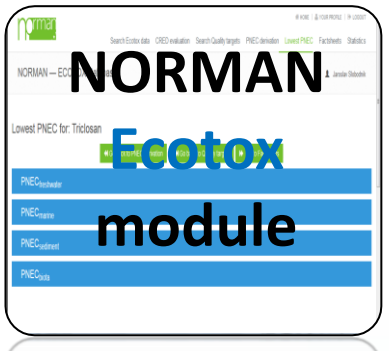


NDS feeds the NORMAN Prioritisation framework



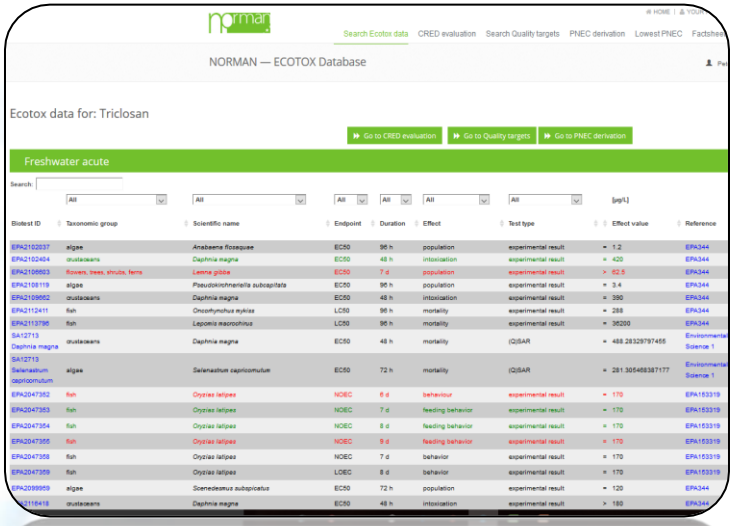






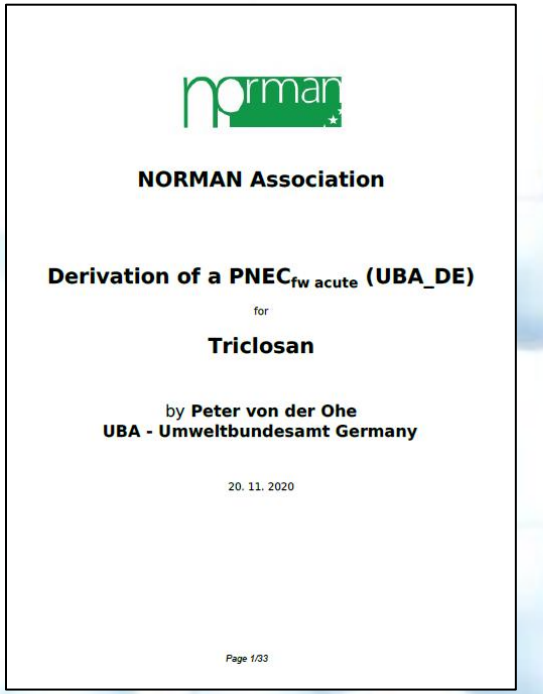
NORMAN ECOTOX database

~ 80,000 revised experimental ecotox data
for about 2,200 compounds (2020)



Revised Module to derive PNEC for prioritisation and other regulatory purposes

Automatic creation of a pdf



NORMAN Association

Derivation of a $PNEC_{fw\ acute}$ (UBA_DE)

for

Triclosan

by Peter von der Ohe
UBA - Umweltbundesamt Germany

20. 11. 2020

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Action JPA 2021:

<u>Postponed:</u> extraction scripts to compile **experimental ecotoxicity data** from **existing ecotox databases**, i.e. REACH portal, UBA ETOX database

<u>Collection</u> of <u>additional</u> existing PNECs:
Compiled from the open literature and authorisation documents

<u>De-bugging</u> and **<u>Final Release of Ecotox module</u>**

NORMAN Ecotox database

Progress in 2020

- New DCT for regulatory EQS values (please contribute)
- Start to systematically compile national EQS values, incl. marine environment (OSPAR, Danish RBSP, etc.)
- Derivation of PNEC_sed + PNEC_biota:
  - "Automatic" conversion of PNEC_freshwater into PNEC_biota and PNEC_sediment
- Proposal to derive PNECs for marine mammals based on empirical rat toxicity (HH-related) data + AF

  ➔ to be discussed at the next WG1 meeting

Final Prioritisation Score

Final score = EXPO + HAZARD + RISK

Implementation of new **PMBT score (Persistence, Mobility, Bioaccumulation, Toxicity)** ☺

CMR and ED classification still missing for majority of SusDat ☹

Environmental Research 151 (2016) 478–492

Contents lists available at ScienceDirect

Environmental Research

journal homepage: www.elsevier.com/locate/envres

Integrated *in silico* strategy for PBT assessment and prioritization under REACH

Fabiola Pizzo [a], Anna Lombardo [*,a], Alberto Manganaro [b], Claudia I. Cappelli [a], Maria I. Petoumenou [a], Federica Albanese [a], Alessandra Roncaglioni [a], Marc Brandt [c], Emilio Benfenati [a]

[a] IRCCS – Istituto di Ricerche Farmacologiche "Mario Negri", Department of Environmental Health Sciences, Laboratory of Environmental Chemistry and Toxicology, Via La Masa 19, 20159 Milan, Italy
[b] Kode s.r.l., Via Nino Pisano 14, 56122 Pisa, Italy
[c] Umweltbundesamt (UBA) – German Federal Environment Agency, Wörlitzer Platz 1, 06844 Dessau-Roßlau, Germany

ARTICLE INFO

ABSTRACT

Janus model for P+ B + T predictions and evaluation of PBMT score for all SusDat:
- PROMETHEUS project; Pizzo et al., Environmental Research, 151 (2016) 478–492)
- VEGA HUB https://www.vegahub.eu/about-vegahub/

KEMI Exposure Index

Available for 94 270 substances in SusDat

Based on 3 components :

1. Quantity used (*ATscore*)
2. Release During Use (*UIscore*)
3. Wide Dispersive Use (*RoUscore*)

$$Exposure\ index = \frac{ATscore + UIscore + RoUscore}{3}$$

Integrated in the NORMAN Prioritisation tool

Questions:

- **How do we want to use this Exposure Index in prioritisation ?**

Testing the new prioritisation framework in case studies

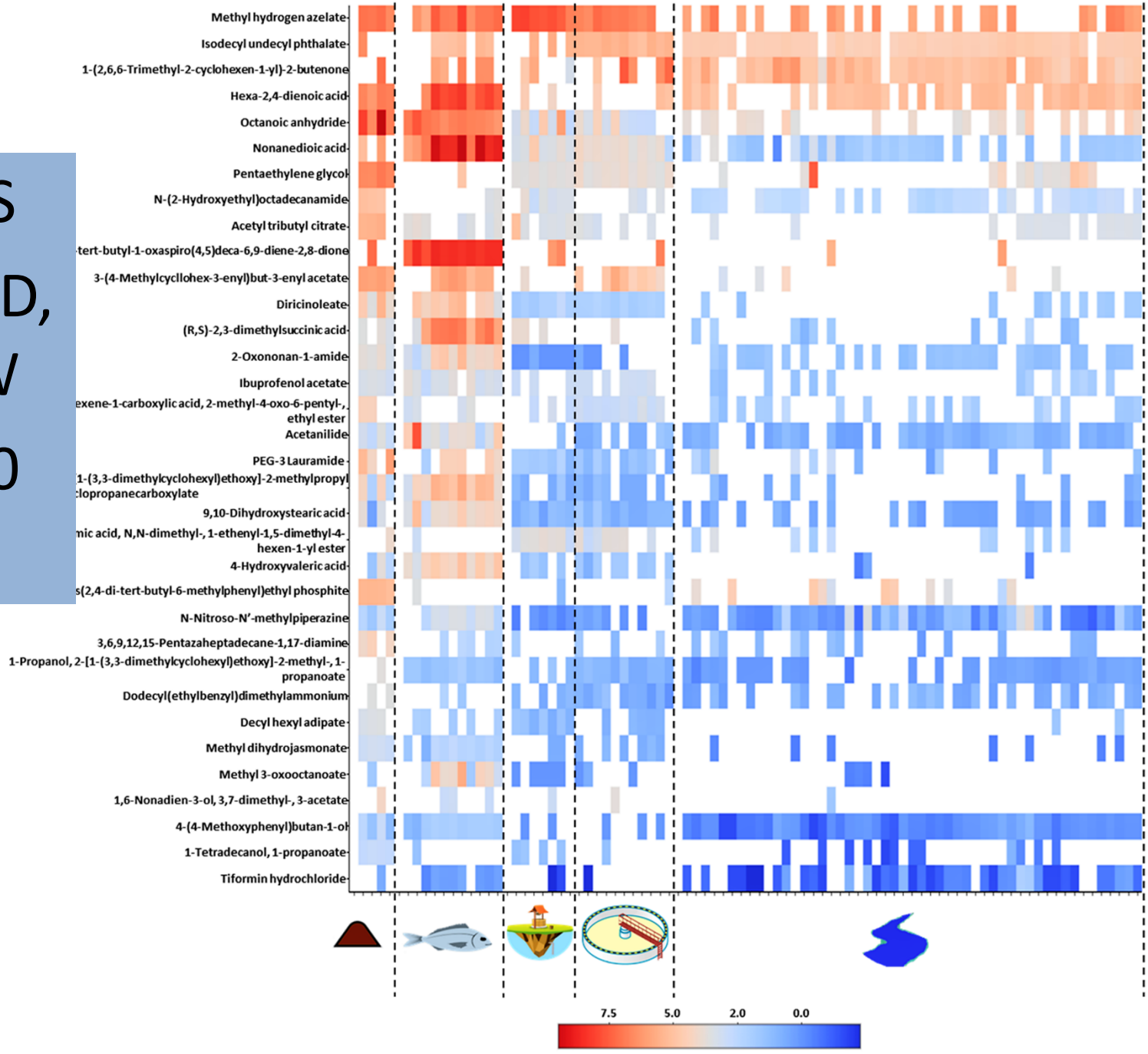
Large monitoring campaigns incl. NTS:

- **Surface, groundwater, biota**
  - **ICPDR JDS4**, http://www.danubesurvey.org/jds4/
- **Wastewater**
  - SOLUTIONS (11 WWTPs), JDS4 (11 WWTPs), UFZ JPA, Germany (33 WWTPs), other European countries
- **Marine environment** - sea water, sediment, biota
  - EU/UNDP EMBLAS project, http://emblasproject.org/
- **Top predators** and their prey
  - LIFE APEX project, https://lifeapex.eu/

JDS4 - NTS

SW, GW, SED, Biota, WW

2019-2020



How to investigate the predominant mixtures in the LIFE APEX Tier 1 samples

LIFE APEX Tier 1 samples (67) – Results of target analyses (116 substances) and wide-scope target screening (2,316 substances) of chemical contaminants in top predators and their prey (in µg/Kg w.w. unless otherwise stated)

Shown only concentrations above LOD

Select contaminants

Illicit Drugs & Transformation Products
Amphetamine (µg/Kg w.w.)
Methamphetamine (µg/Kg w.w.)

Chart type

pie

Top predators

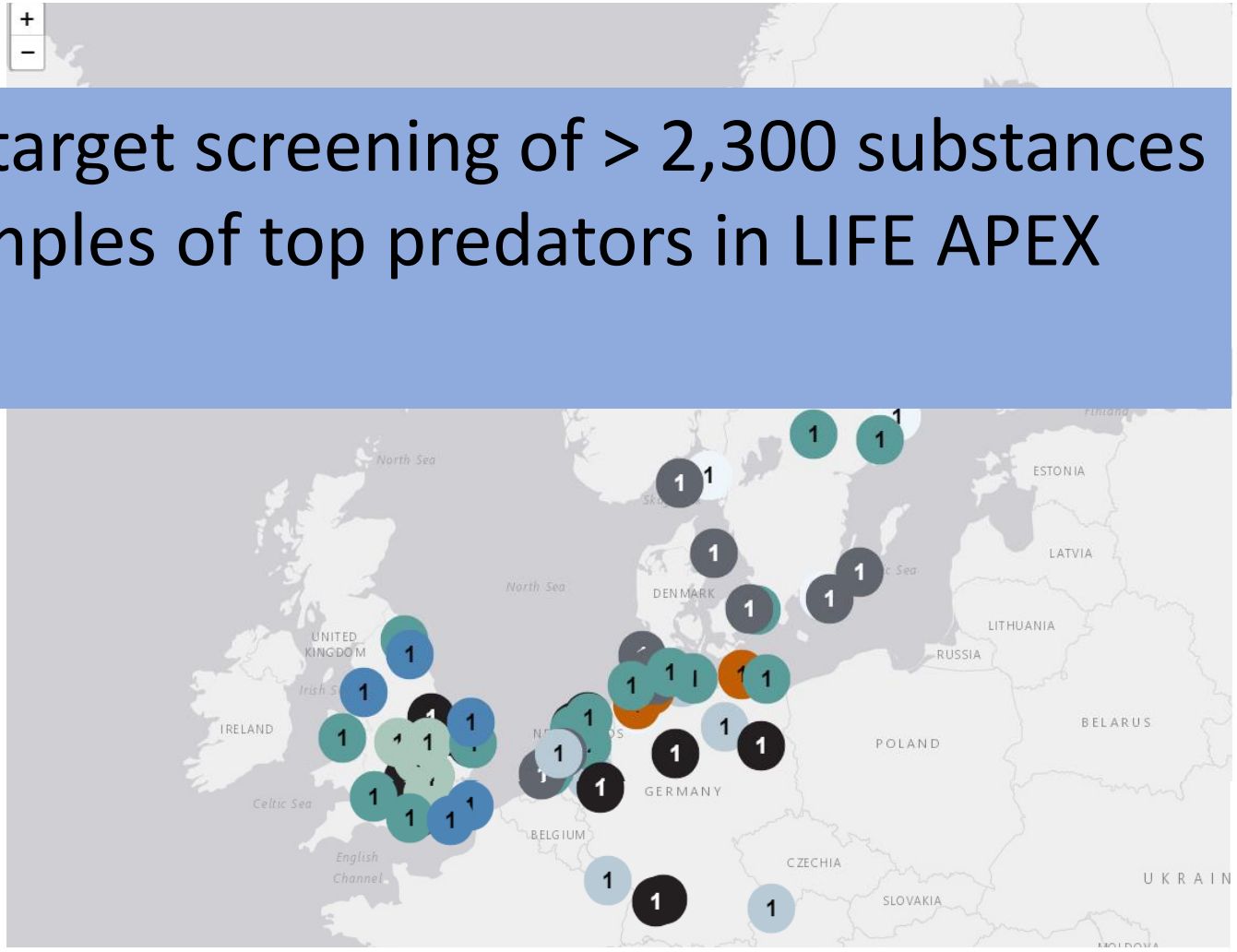
Prey

Muscle

Liver

Egg

Wide-scope target screening of > 2,300 substances in the samples of top predators in LIFE APEX



Outlook 2021 and beyond

- Finalise **prioritisation framework with NTS data** and test it on the 4 case studies:
  - Overlaps of suspect screening results from the different case studies
  - Identifying novel CECs
- Development of a **Mixture Toxicity Indicator**

  ➔ contribution to local risks
- NDS – Introduction of **sum parameters**
  – e.g. PCBs, DDT, HCH, etc.
- NDS - Systematic consideration of experimental and predicted **transformation products**

  ➔ Links between parents and TPs – overlooked risk?

Conclusions / actions

- Who is willing to **share the national EQS** in the Ecotoxicology Database?
- Action on **'Use categories' and 'Chemical Functional Use'** for ALL SusDat compounds
- Who can **provide CMR and ED classification** for ALL (or a part of) SusDat substances?
- Who can provide **experimental BCF values**?
  - Conversion of PNECwater to PNECbiota