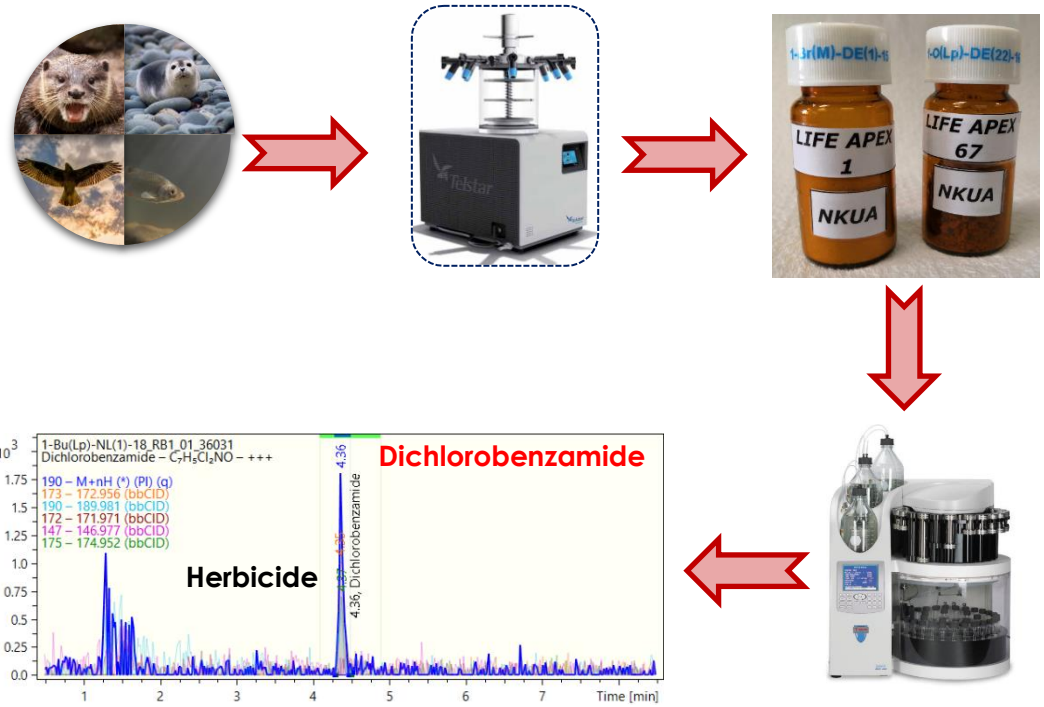
NEWSLETTER LIFE APEX

ISSUE NO. 3 | SEPTEMBER 2019

FIRST RESULTS OF TIER 1



TOPIC 01

- Presentation of first analytical results and Life APEX online tools

TOPIC 02

Conferences:

- SETAC Europe
- ESB conference
- ICCE 2019
- CEST 2019

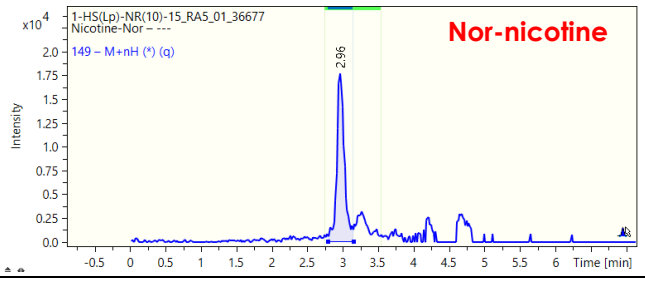
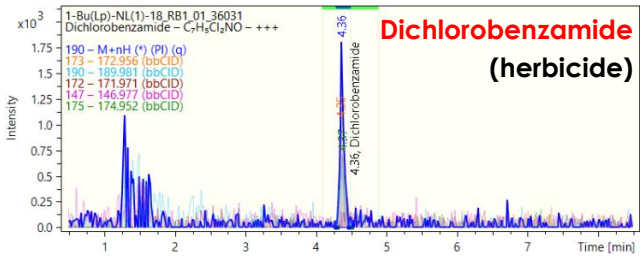
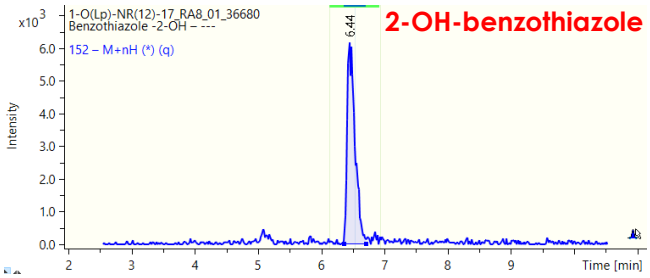
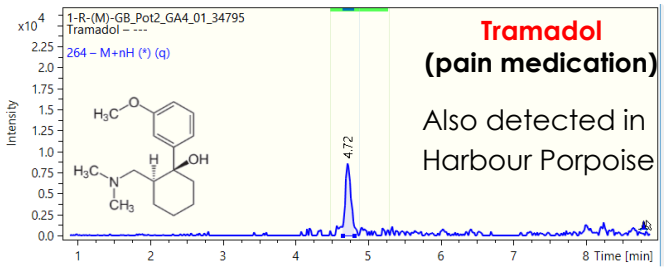
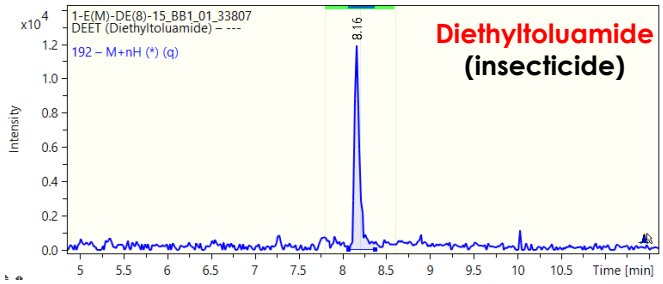
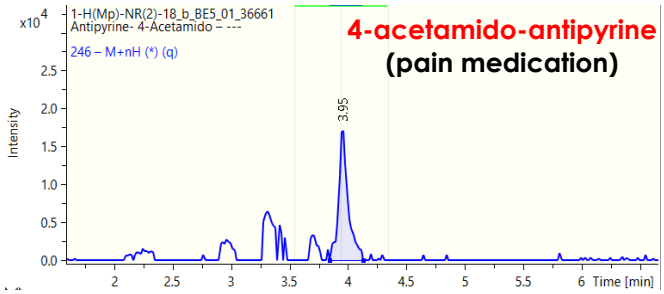
TOPIC 03

- Results of questionnaires on:
  - Existing quality assurance
- - Use of chemical monitoring data in chemical regulations
- Life APEX Dissemination

Telegram

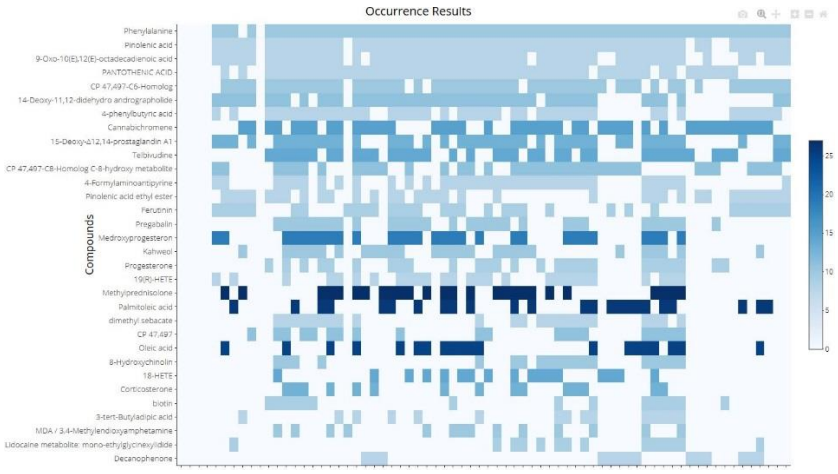
- The first LIFE APEX results demonstrate the presence of environmental pollutants such as plant protection products, pain medication and industrial chemicals in apex predator & prey (AP&P) samples. Some of the chemicals were detected in species of direct trophic relation, which indicates bioaccumulation within the respective food webs
- As a next step we will create a List of TOP 100 APEX target substances, TOP 100 APEX NTS identified and TOP 100 APEX NTS tentatively identified, which we will use for further PBT-screening and ranking
- Guidance has been established for sample contribution for Tier 2 and 3 since a questionnaire on existing quality assurance for sampling, processing and archiving of biota revealed great differences between Environmental Specimen Banks, Research Collections and Natural History Museums
- A questionnaire issued to institutions involved in chemicals regulations revealed a great interest in chemical monitoring data from apex predators

01: WIDE-SCOPE TARGET SCREENING OF 65 SAMPLES

Predator (liver) • Harbour seal	 	
• Common buzzard	 	
• Eurasian otter	 	
Prey (filet): • Roach	 	
• Eelpout	 	
• Herring	 	

01: ACCESS OF REPLICATION AND TRANSFER (R&T) PARTNERS

- Online access to Life APEX results for R&T Partners
- Selection of fragment number
- Modification of graph appearance
- Possibility of direct export



02: PRESENTATION OF LIFE APEX AT INTERNATIONAL CONFERENCES

SETAC Europe 29th Annual Meeting, Helsinki, 26-30 May 2019

- Presentation of LifeAPEX approaches with focus on the use of chemical monitoring data from apex predators for chemicals management

Jaroslav Slobodnik

5th International Conference on Environmental Specimen Banks (ESB), Stockholm, 3-5 June 2019

- Presentation of first Life APEX results with focus on the use of archived samples for chemical monitoring

Jan Koschorreck

17th International Conference on Chemistry and the Environment (ICCE), Thessaloniki, 16-20 June 2019

- Presentation of Life APEX results with focus on the chemical analysis

BEST POSTER AWARD

This is to certify that

Gkotsis Georgios

has received a Best Poster Award
in the 17th International Conference on Chemistry and the Environment
June 16-20, 2019,
with the manuscript entitled

"Determination of emerging contaminants in apex predators and their prey from European Specimen Banks and Natural History Museums by High Resolution Mass Spectrometry Techniques"

Ioannis Katsoyiannis

Chair of ICCE 2019

Maria-Christina Nika, Varvara Nikolopoulou, Georgios Gkotsis

16th International Conference on Environmental Science and Technology (CEST), Rhodes; 04-07.09.2019

- Presentation on the determination of > 2,400 emerging contaminants in apex predators and their prey by novel and complementary high resolution mass spectrometry techniques

Georgios Gkotsis

03: LIFE APEX DISSEMINATION

The LIFE APEX Twitter account is online and provides information on:

- project updates
- selected analytical results
- methods and approaches
- apex predators
- publications
- and upcoming events

03: ISSUED QUESTIONNAIRES

3.1 Questionnaire on existing quality assurance for sampling, processing and archiving of biota samples

Issued by Fraunhofer IME to environmental specimen banks (ESBs), research collections (RCs) and natural history museums (NHMs)

ESBs:

- Guidance documents on sampling/-processing
- Long-term experience in sample handling/trained experts for chemical monitoring
- Samples maintained in cold-chains

RCs:

- No guidance documents for sampling(opportunistic sampling)
- Partly guidance documents on sample processing
- Mostly experienced staff involved in sample processing for chemical monitoring

NHMs:

- No guidance documents for sampling/processing (opportunistic sampling)
- Less aware of potential contamination during sampling and processing

Derived indicators and minimum requirements for sample contribution:

- ➔ Background information (date, location, age class, autolysis)
- ➔ Information on archiving (cold-chain transport)
- ➔ Description of sample processing

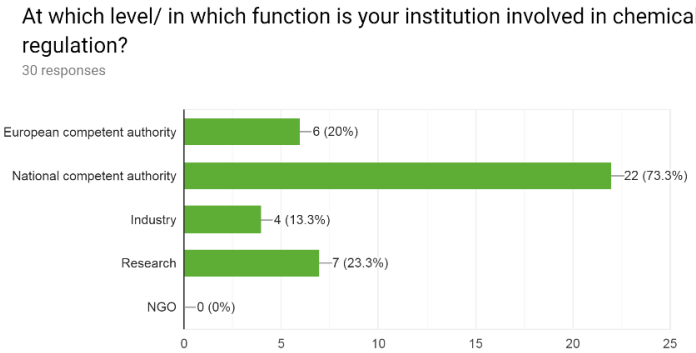
Are you interested in contributing samples for Tier 3?

- ➔ Please ask for the **Life APEX sample guidance document**.

3.2 Questionnaire on the use of chemical monitoring data in support of chemicals regulation

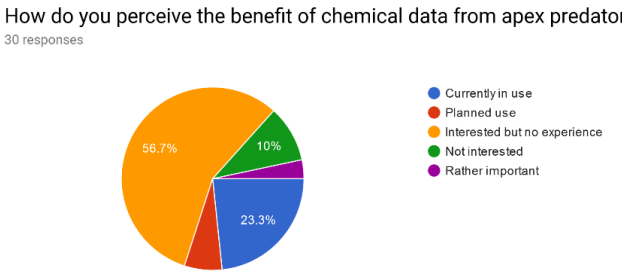
Issued by the German Environment Agency to institutions involved in chemicals regulations

- Most of the participating institutions were European national competent authorities
  - Chemical monitoring programs are often conducted on a national or state basis
- Other participants were part of research institutions, European competent authorities or industry



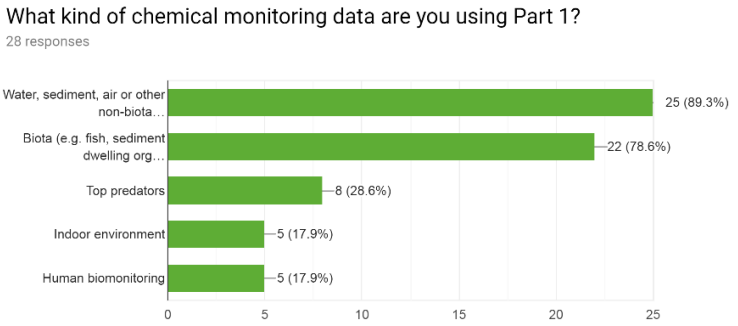
- 90% of the respondents are interested in using chemical monitoring data from apex predators
- However, more than half of the respondents are lacking experiences

→ This is where Life APEX will provide guidance



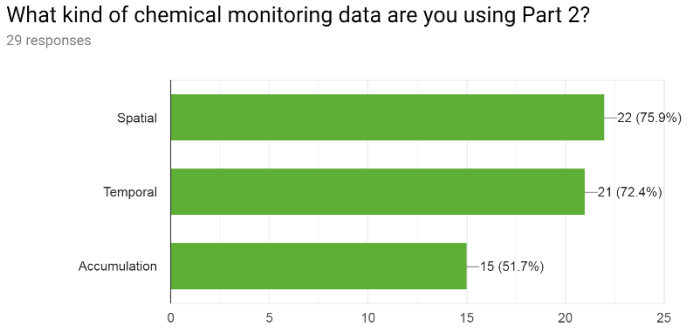
- Less than 1/3 of the respondents are currently using data from top predators
- Most chemical monitoring data comes from abiotic compartments or lower trophic level biota

➔ Life APEX will demonstrate that samples are already available in Europe's ESBs, RCs and NHMs



- Main purpose of chemical monitoring data are spatiotemporal assessments
- Less than 1/3 are using data from top-predators but more than half of the respondents are using chemical monitoring data for accumulation studies

➔ Indicates a lack of standardized use of chemical monitoring data from top predators for accumulation studies



03: REGULATORY ADIVISORY BOARD (RAB) MEETING, JUNE 2019

Content of the Meeting:

- Presentation of the Life APEX objectives, actions, expected outcomes & timeline
- Presentation and discussion of project status, first results and data bases
- Discussion on the regulatory background & networking with key regulators

RAB Members:

- Assured their support during the course of the project
- Great interest in data bases and the fast visibility of data on the Life APEX webpage and the connection to other data bases such as IPCHEM

Future outline:

- Next meeting in Januar 2020
- Conference organised by UBA in 2020 for RAB Members and other regulators

Organisation of Life Apex

Project Partners

Environmental Institute	German Environment Agency	Naturalis Biodiversity Center	National and Kapodistrian University of Athens
Fraunhofer Institute for Molecular Biology and Applied Ecology IME	Natural Environment Research Council		Università degli Studi di Firenze

IMPRINT

Project Coordinator

Jaroslav Slobodnik is the director of Environmental Institute. Among his specialisations are environmental science-to-policy interactions, development of monitoring strategies and environmental analytical chemistry. He is frequently responsible for the design of environmental information and data management systems

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Project Manager

Natalia Glowacka is the project manager of LIFE APEX. She got her PhD degree in environmental management. She has more than five years of experience in the field of administration and management of national and international environmental projects in Environmental Institute.

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Newsletter Editor

Alexander Badry is an early career researcher in the field of environmental toxicology. He is working as research assistant at the German Environment Agency and is doing his Doctorate at the Leibniz Institute for Zoo and Wildlife Research on contaminants in birds of prey.

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