

This project has received funding from the European Union's LIFE programme under the grant agreement
LIFE17 ENV/SK/000355

LIFE APEX

Systematic use of contaminant data from apex predators and their prey in chemicals management



**Indicators for assessing the quality of samples and their suitability
for environmental monitoring studies**

The following indicators are proposed to assess the quality and appropriateness of samples for an environmental monitoring of chemicals in the context of the LIFE Apex project but also for other analytical studies.

It is intended that the different items are provided by the donating organisations. The provided data should be kept with the samples and considered for all further work/evaluations.

Minimum information on archived specimens (individuals):

- Unique sample code /designation
- Species (with information whether it is a sedentary or migrant species, if known)
- Date of sampling/finding
- Sampling approach: e.g., opportunistic or systematic sampling
- Location where sampled/found (geo-coordinates, if available)
- Description of the state of the sample (for opportunistic samples, e.g., state of autolysis and, if possible, estimated time of death under consideration of actual environmental conditions)
- Biometric data: e.g., weight, size/length, sex, age (juvenile/adult), cause of death
- Information whether an individual was euthanised or received medical treatment
(if possible with information on the applied chemicals; may be relevant if a sample was received, e.g., from a wildlife rehabilitation centre)

Minimum information on processing:

- Description of handling procedures (e.g., examination, dissection of organs)
- Date of each processing step
- Preparation of composite samples of several individuals (if applicable; information on, e.g., number of individuals, tissue, amount of each individual used, age and sampling region should be provided)
- Homogenisation of tissues (if applicable; description of procedure)

Minimum information on archiving:

- Date of freezing
- Temperature of storage, e.g., -20°C (maximum-15°C), -80°C (-70°C), -150°C (-135°C)
- Description whether the whole organism or only certain organs are stored
- Amount of sample available
- Material of sample packaging (e.g., glass bottles, aluminium foil)

Additional (optional) information:

- Information whether the sample is a biological hazard
- Information on any materials that were in direct contact with the sample material/specimens during sampling or processing (field packaging material, working benches/plates, gloves etc.)
- Availability of field-blank samples (or of samples from less anthropogenic influenced/near-natural sites which can be analysed in comparison to samples that are expected to have higher burdens)
- Fat content of tissue
- Water content of tissue
- Trophic position (e.g., as determined by stable isotope analysis)
- Data from previous analyses