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Local and global initiatives: how science supports management actions on diadromous fish
5-8 July, 2022
Bordeaux

Using environmental DNA (eDNA) detection to monitor diadromous species in rivers and estuaries

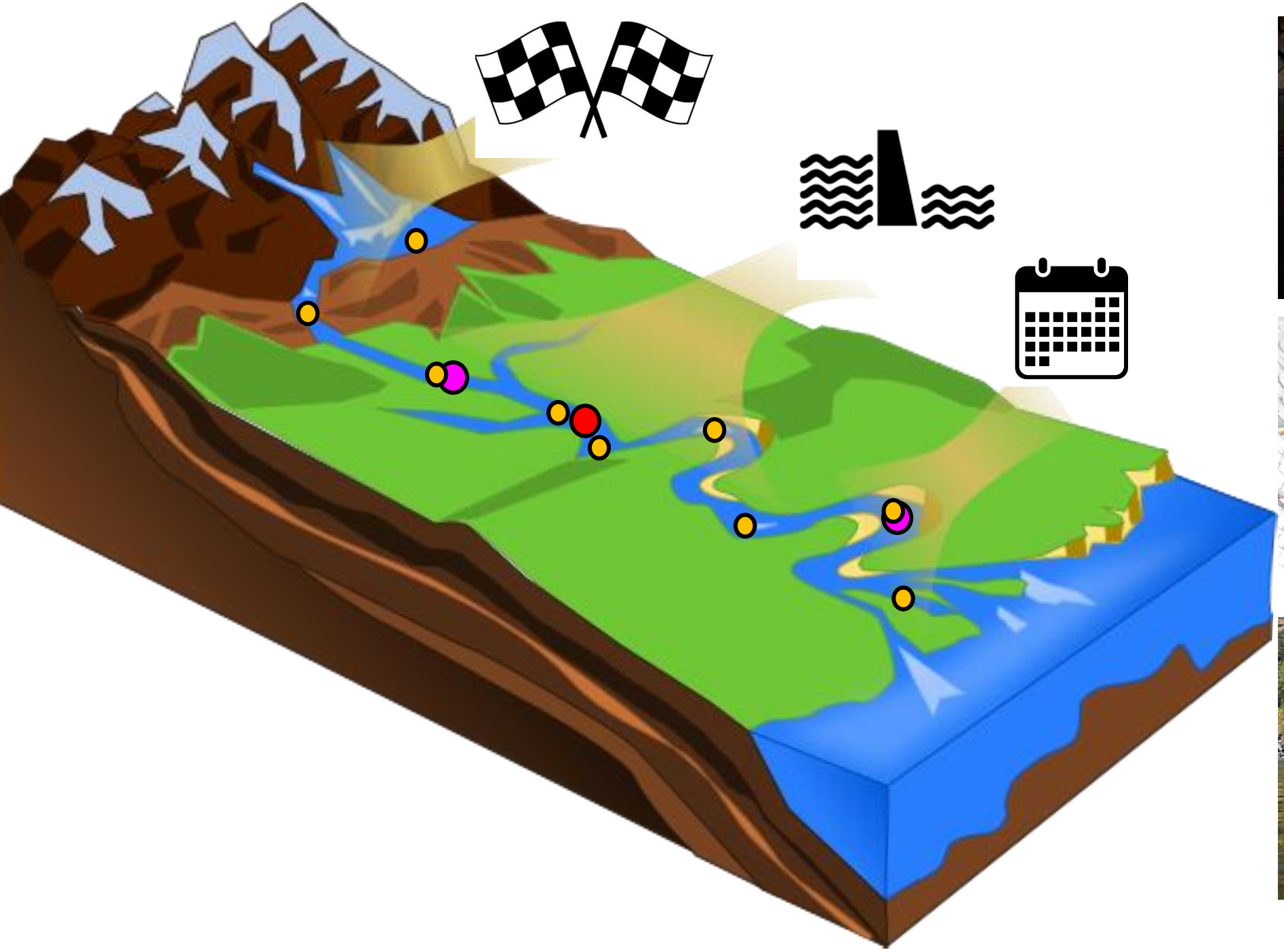
Naiara Rodriguez-Ezpeleta


MONITORING
DIADROMOUS
SPECIES

HOW FAR DO THEY REACH?

CAN THEY CROSS EXISTING BARRIERS?

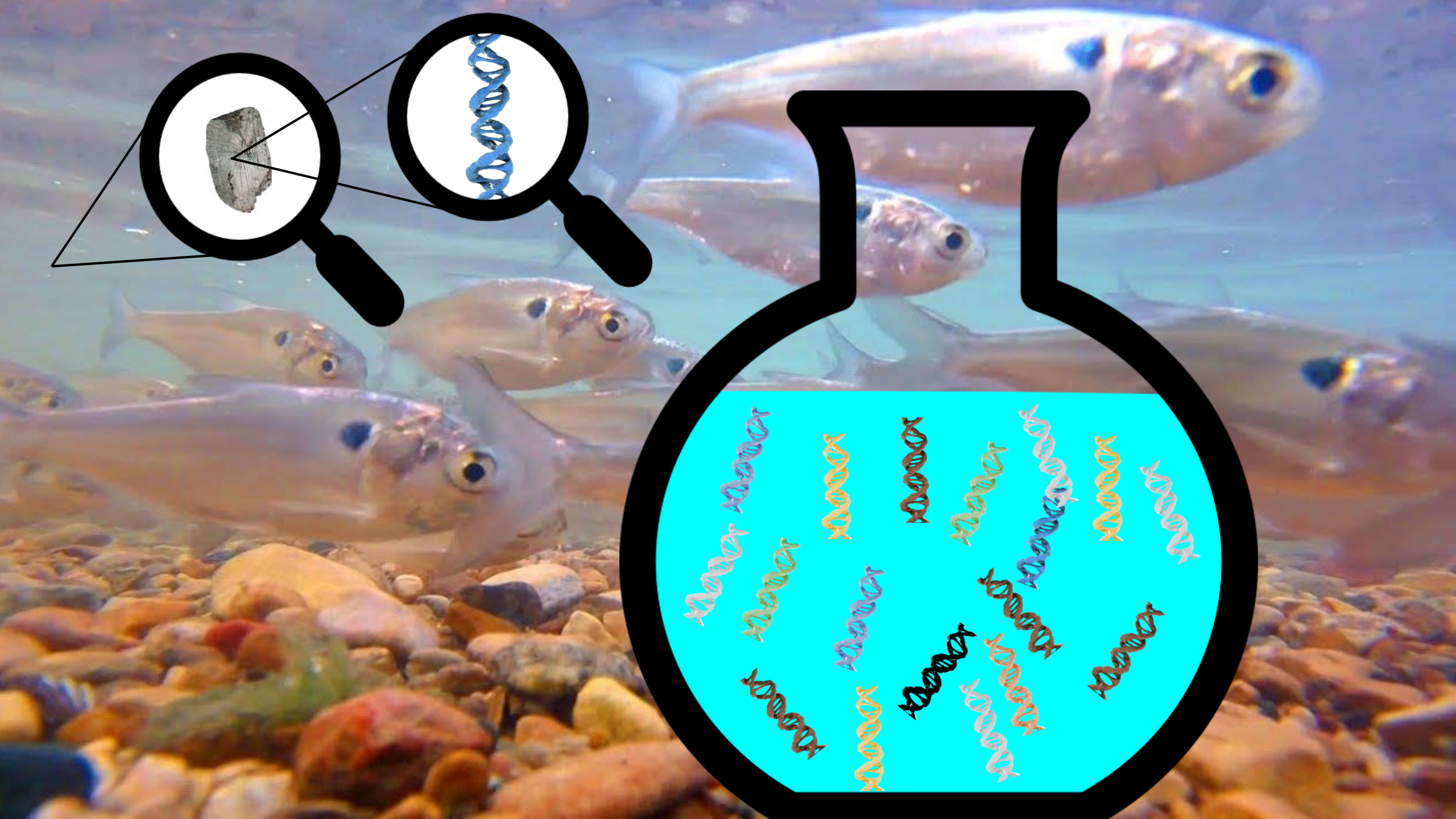
WHAT ARE THEIR SEASONAL MOUVEMENTS?



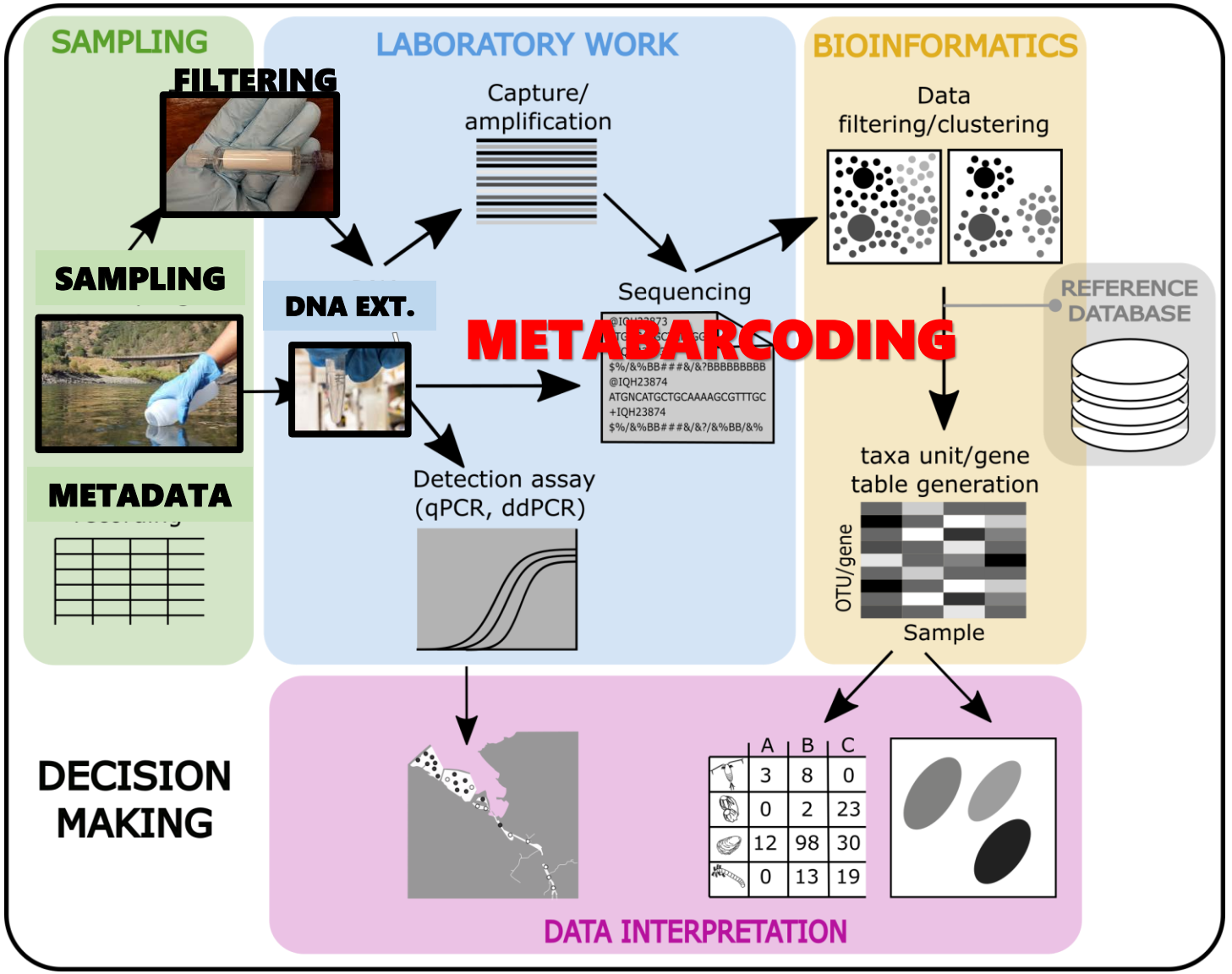

eletrofishing

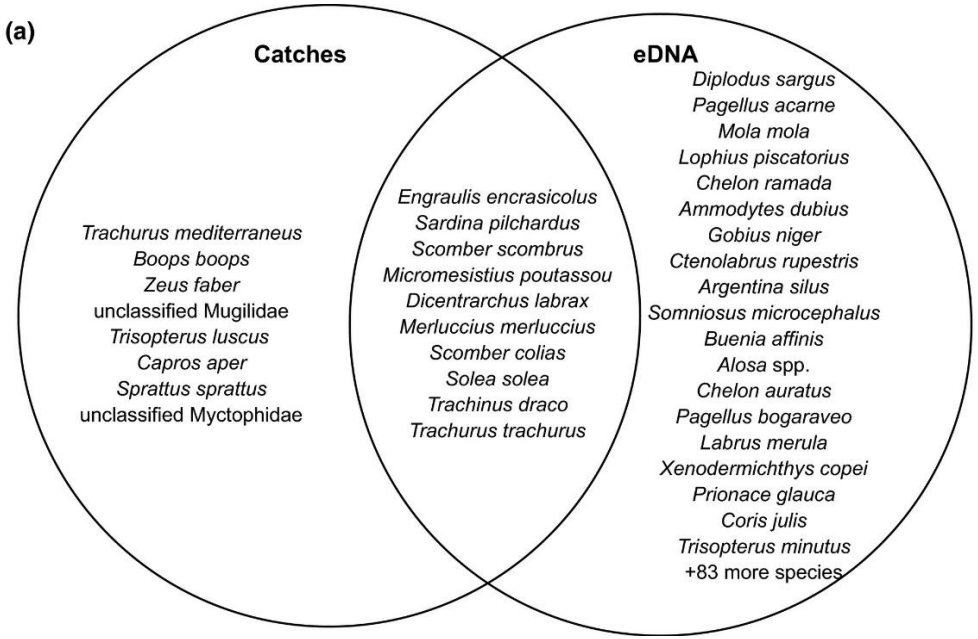

trap

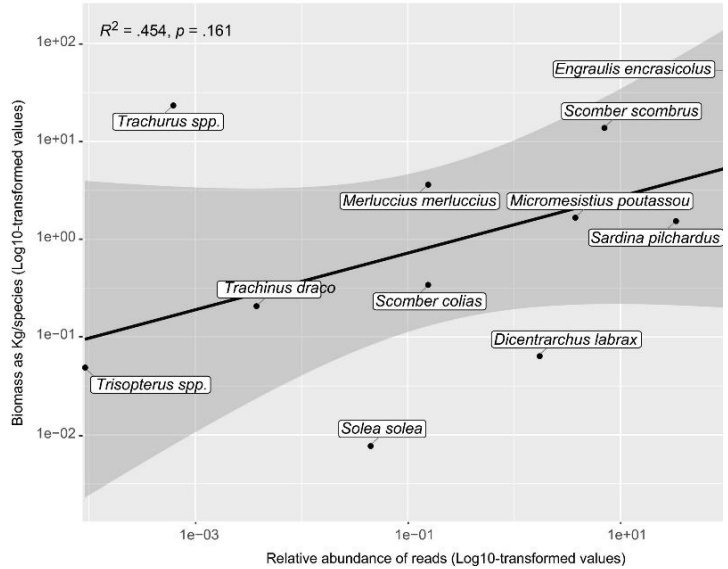

eDNA



STEPS INVOLVED IN THE PROCESS OF USING ENVIRONMENTAL DNA FOR BIOMONITORING



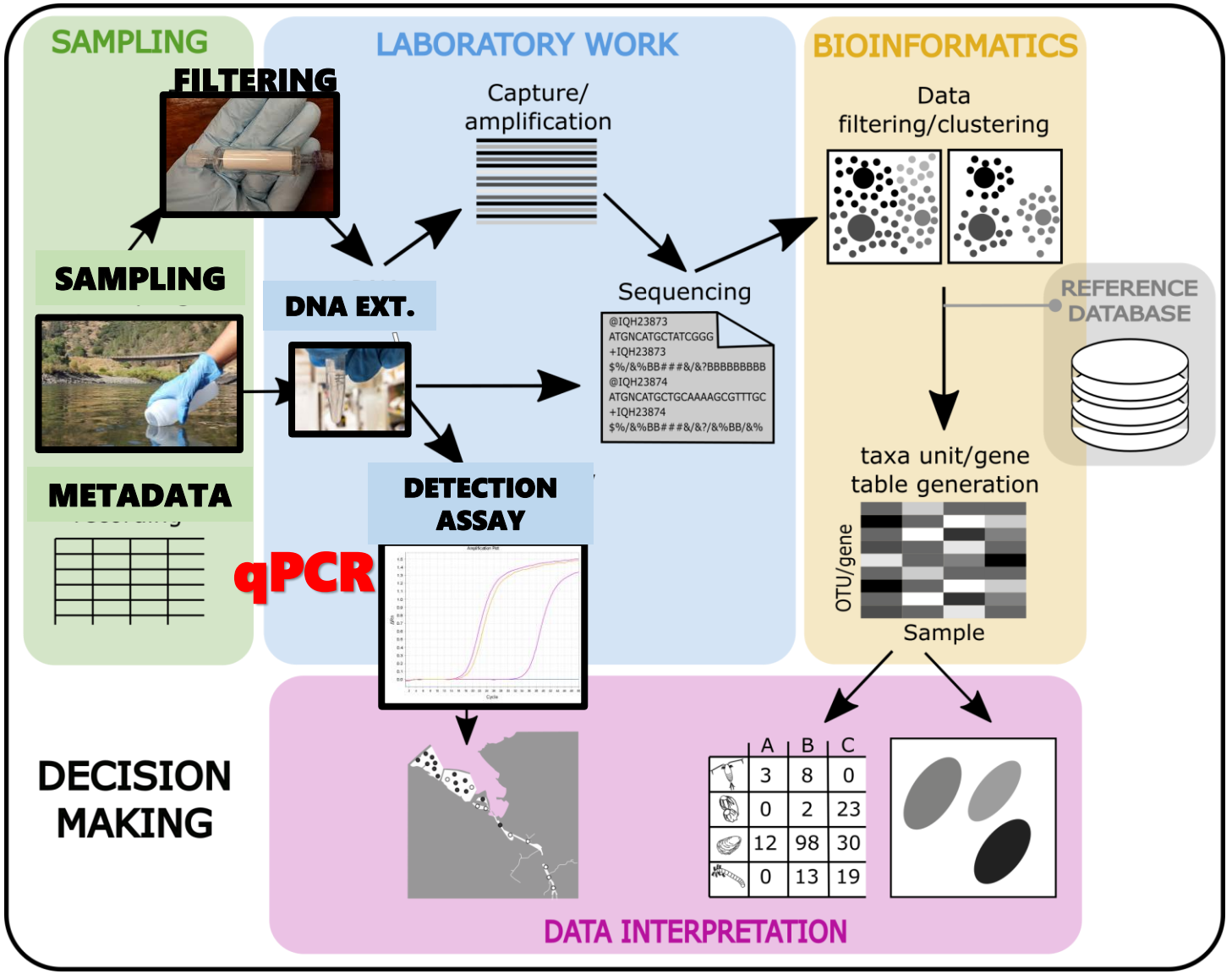




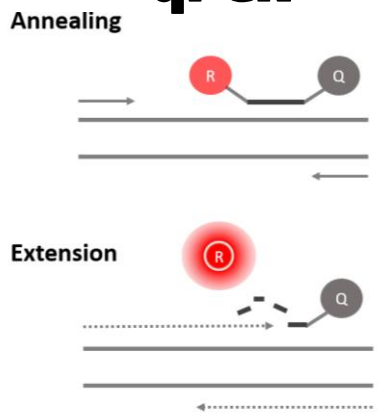
Rodriguez-Ezpeleta *et al.* (2021) Mol. Ecol. Res

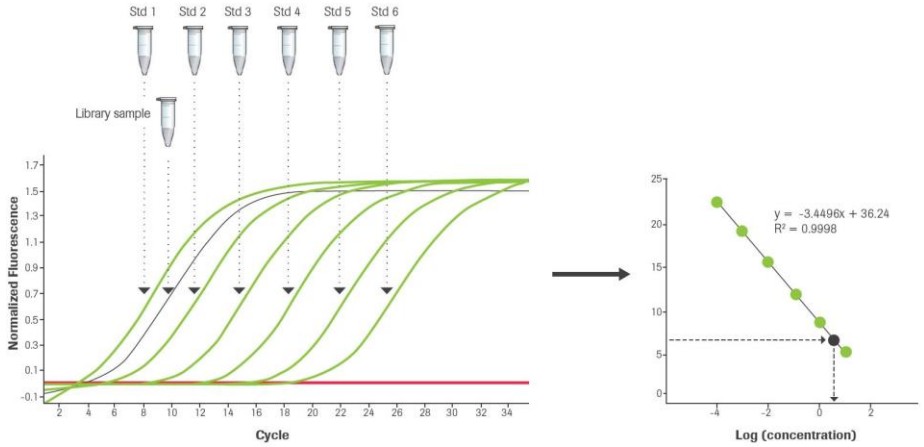
Fraija-Fernandez et al. (2020) Ecol. Evol

STEPS INVOLVED IN THE PROCESS OF USING ENVIRONMENTAL DNA FOR BIOMONITORING



qPCR





Rodriguez-Ezpeleta *et al.* (2021) Mol. Ecol. Res

From: https://support.illumina.com/bulletins/2020/11/best-practices-for-library-quantification.html
From: https://onelab.andrewalliance.com/library/kapa-dna-library-quantification-WbwZkM1L

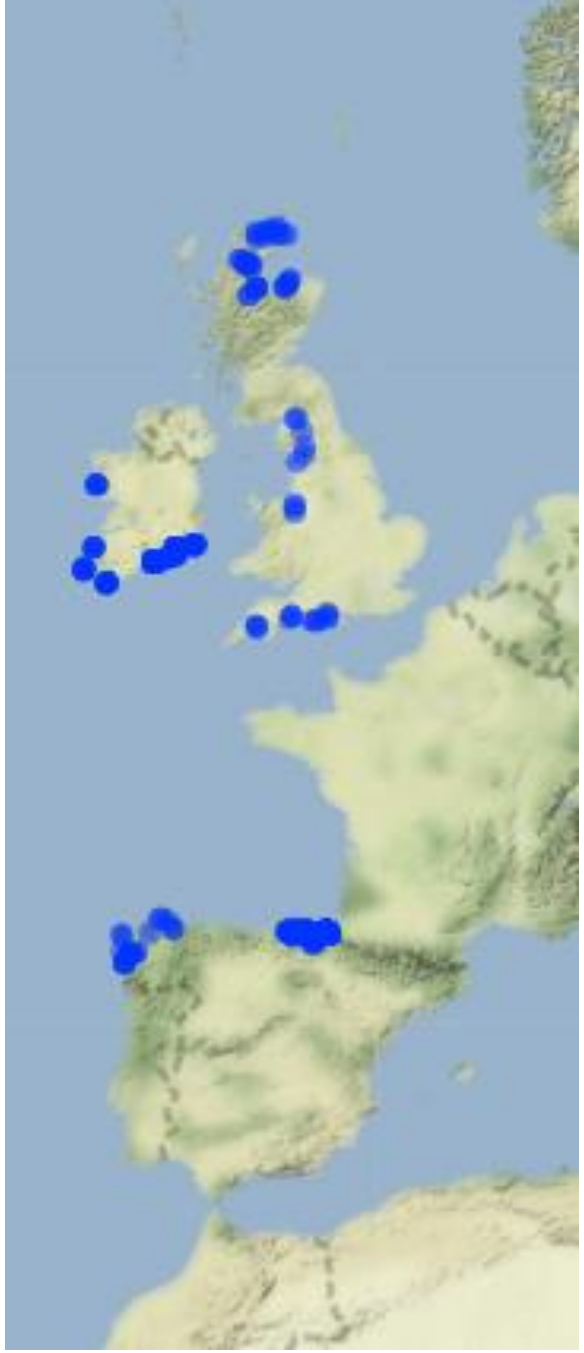
JOURNAL OF FISH BIOLOGY fsbi

BRIEF COMMUNICATION

An eDNA assay for Irish *Petromyzon marinus* and *Salmo trutta* and field validation in running water

M. S. Gustavson, P. C. Collins, J. A. Finarelli, D. Egan, R. Ó. Conchúir, G. D. Wightman, J. J. King, D. T. Gauthier, K. Whelan, J. E. L. Carlsson, J. Carlsson

First published: 17 September 2015 | https://doi.org/10.1111/jfb.12781 | Citations: 30



AQUATIC CONSERVATION
Marine and Freshwater Ecosystems

SHORT COMMUNICATION

Environmental DNA as a non-invasive sampling tool to detect the spawning distribution of European anadromous shads (*Alosa* spp.)

Caterina Maria Antognazza, J. Robert Britton, Caitlin Potter, Elizabeth Franklin, Emilie A. Hardouin, Catherine Gutmann Roberts, Miran Aprahamian, Demetra Andreou

First published: 25 January 2019 | https://doi.org/10.1002/aqc.3010 | Citations: 14

WORK IN PROGRESS


Sampling in the Urumea (EKOLUR)


Sampling in the Bidasoa (EKOLUR)

TOWARDS eDNA FOR DIADROMOUS SPECIES MONITORING

Causes of no/under detection:

- Low amount of DNA
- Low sensibility of method
- Sampling time
- Behaviour of the Species (e.x. lamprey larvae)

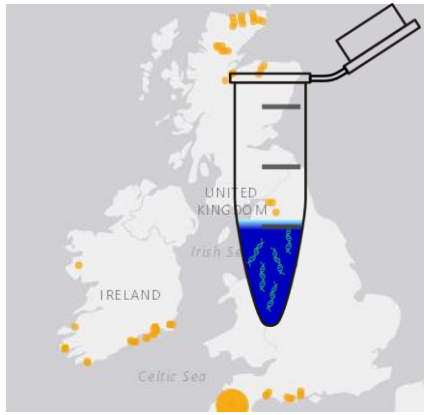
Causes of overdetection:

- Contamination
- Recolonization

Abundance calibration

WHAT IS NEXT?

MORE DNA



MORE SITES

MORE SENSITIVE METHOD (& ABUNDANCE)

MORE IFORMATION

I. Mendibil

M. Parasram

C. Claver

N. Fraija-Fdez

E. Díaz

DiadES

EDAMAME

Environmental DNA based approaches for marine and aquatic monitoring and evaluation

GENGES

D. Nachon

T. Basic

P. Davison

C. O´Leary

W. Roche

I. Azpiroz

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Diputación Foral de Gipuzkoa

Iascach Intíre Éireann
Inland Fisheries Ireland

Nafarroako Gobernua
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