

Recolonisation d'un bassin versant par les migrateurs
amphihalins après restauration des continuités écologiques

Le cas des grands barrages de la Sélune

Soissons Laura

Chevé Manuel

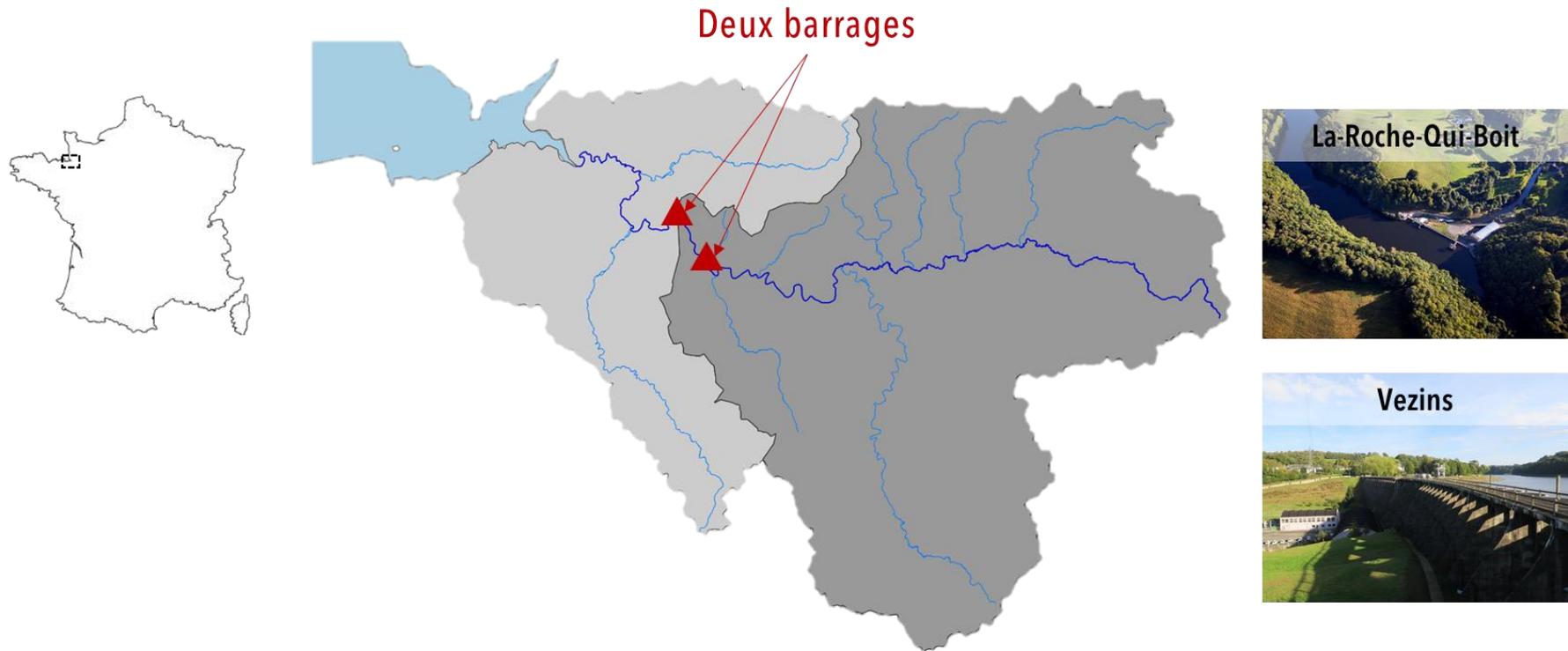
Lasne Emilien

Martignac François

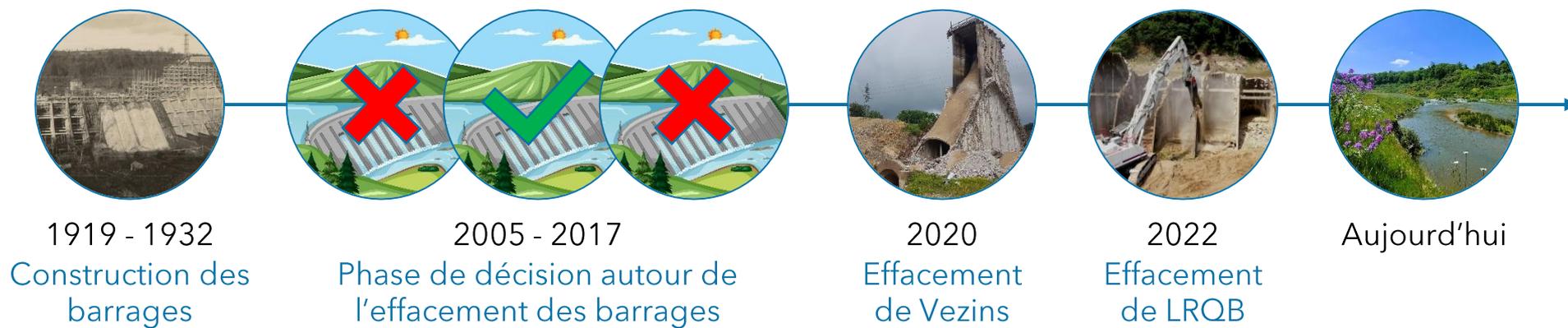
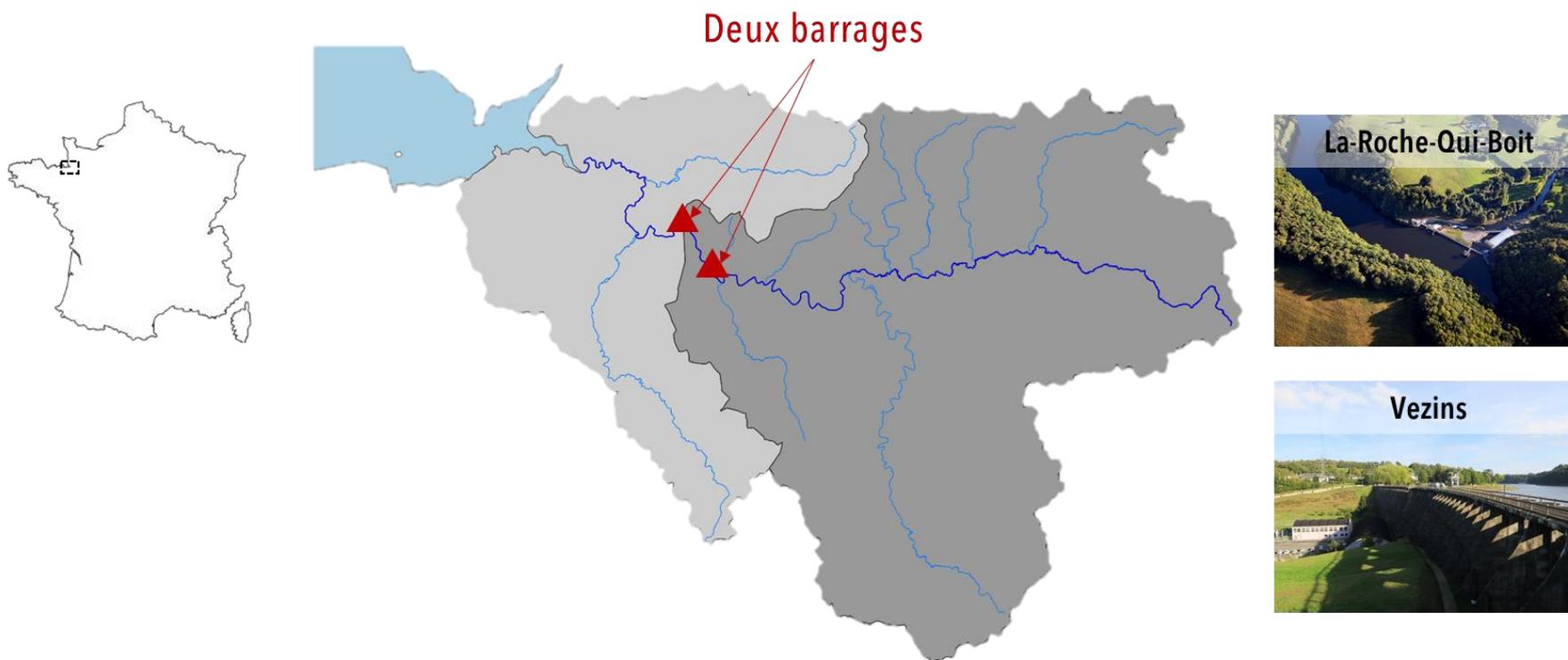
Roussel Jean-Marc

et al.

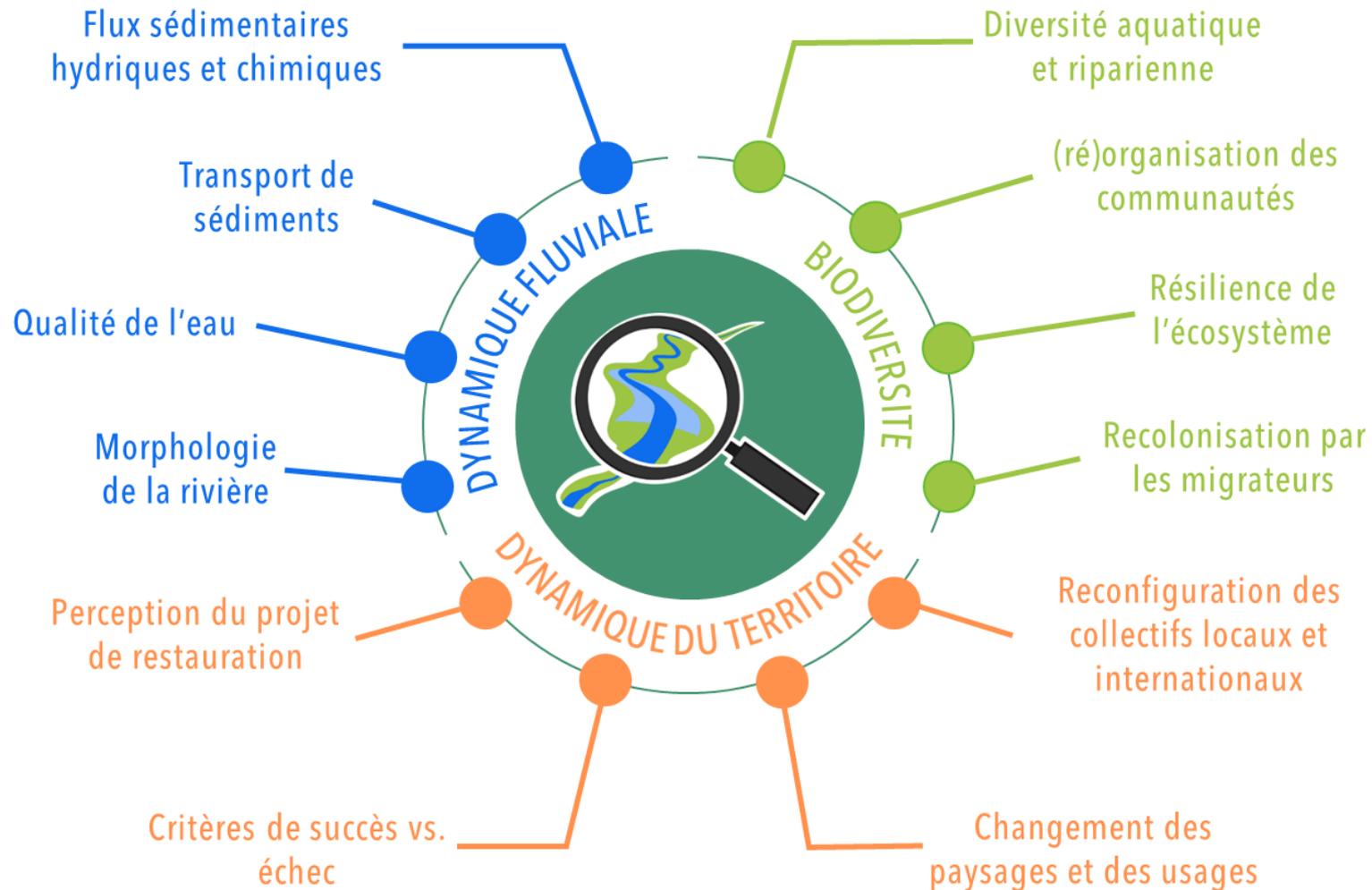
L'effacement des barrages de la Sélune



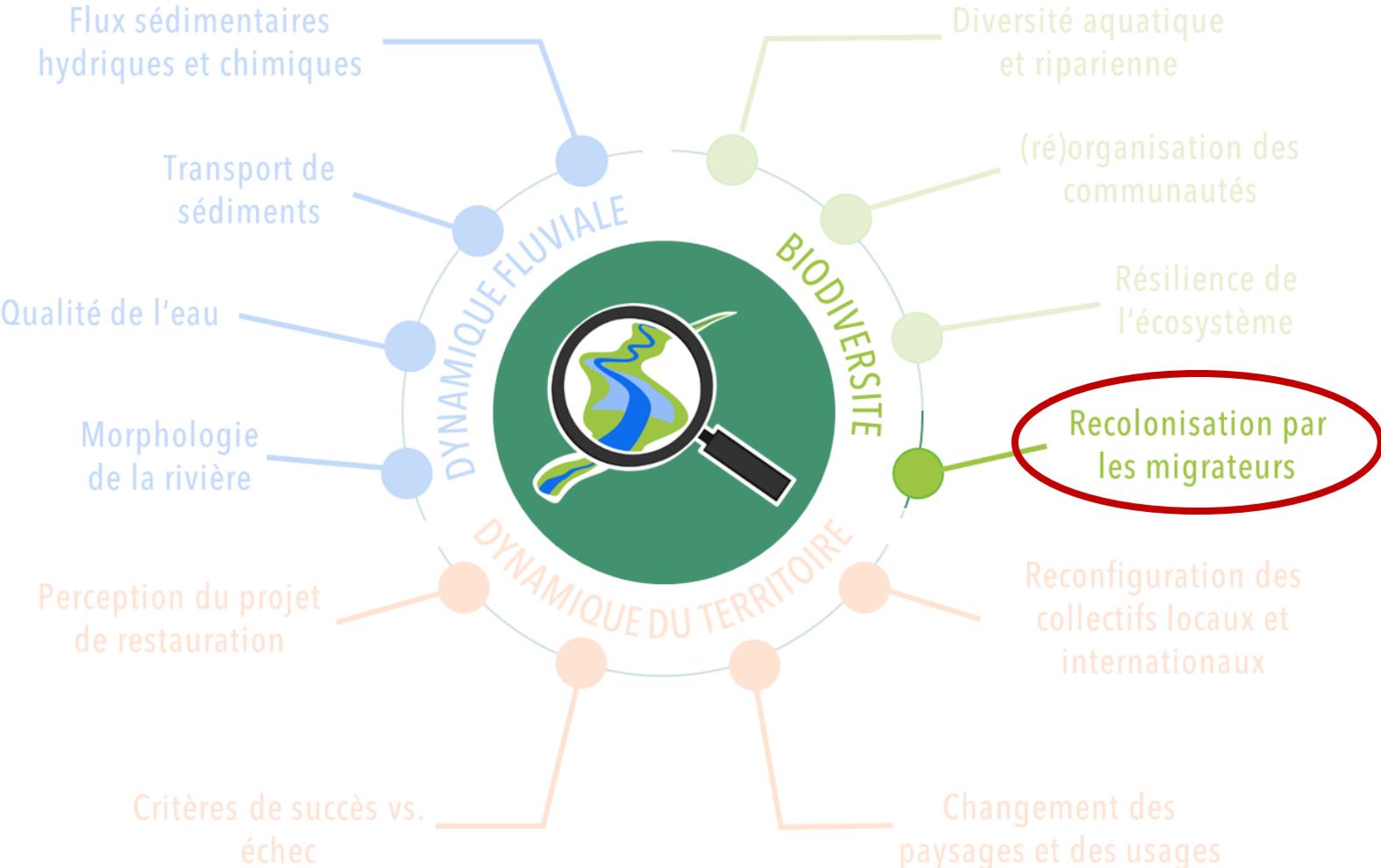
L'effacement des barrages de la Sélune



Le programme scientifique Sélune (2012-2027)



Le programme scientifique Sélune (2012-2027)



Les poissons migrateurs de la Sélune



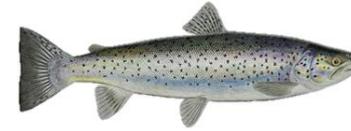
Lamproie marine
(*Petromyzon marinus*)



Lamproie fluviatile
(*Lampetra fluviatilis*)



Saumon Atlantique
(*Salmo salar*)



Truite de mer
(*Salmo trutta*)



Anguille Européenne
(*Anguilla anguilla*)



Mulet porc
(*Chelon ramada*)



Grande alose
(*Alosa alosa*)



Flet commun
(*Platichthys flesus*)

Les poissons migrateurs de la Sélune



Lamproie marine
(*Petromyzon marinus*)



Lamproie fluviatile
(*Lampetra fluviatilis*)



Saumon Atlantique
(*Salmo salar*)



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(*Salmo trutta*)



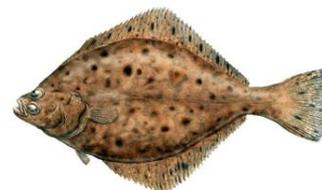
Anguille Européenne
(*Anguilla anguilla*)



Mulet porc
(*Chelon ramada*)



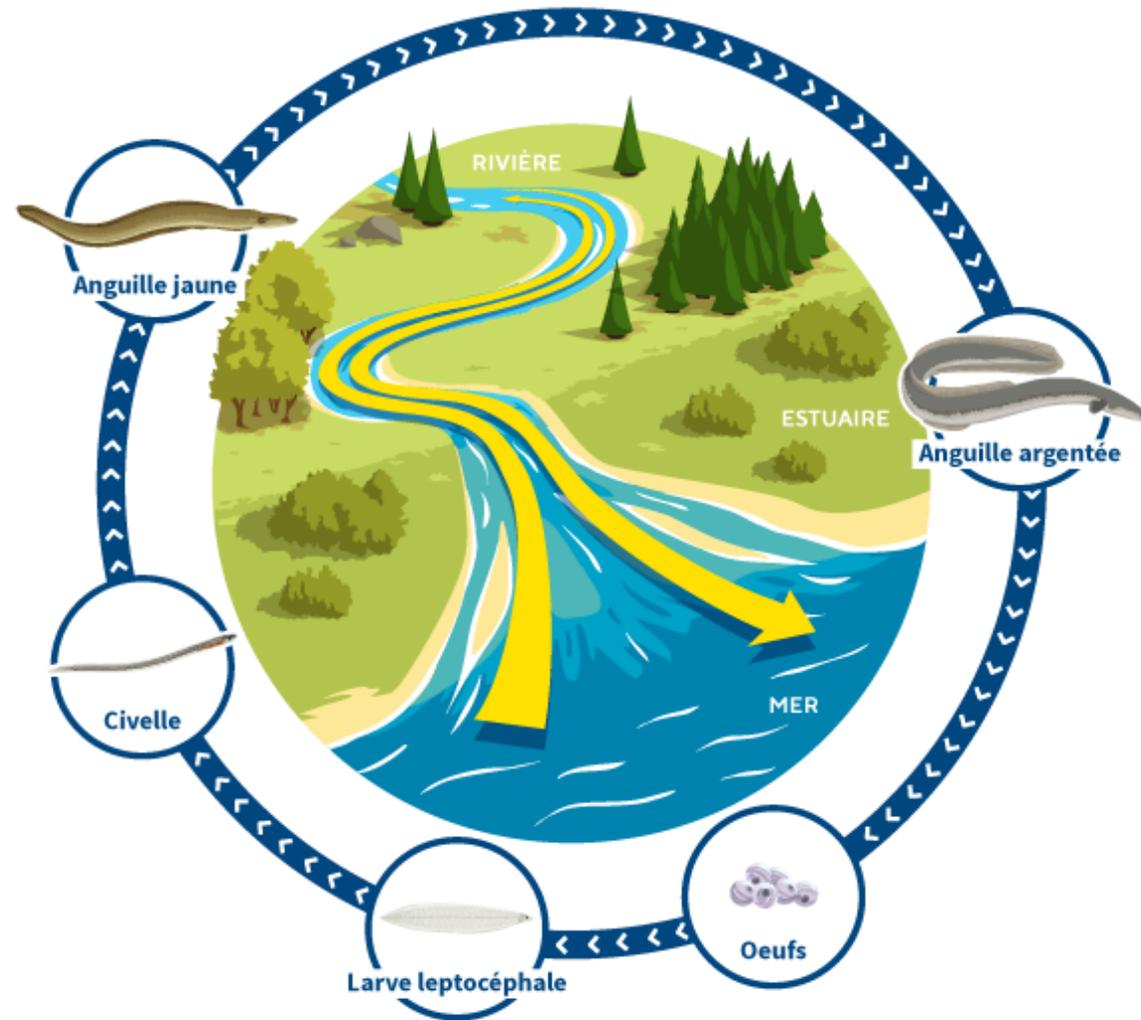
Grande alose
(*Alosa alosa*)



Flet commun
(*Platichthys flesus*)

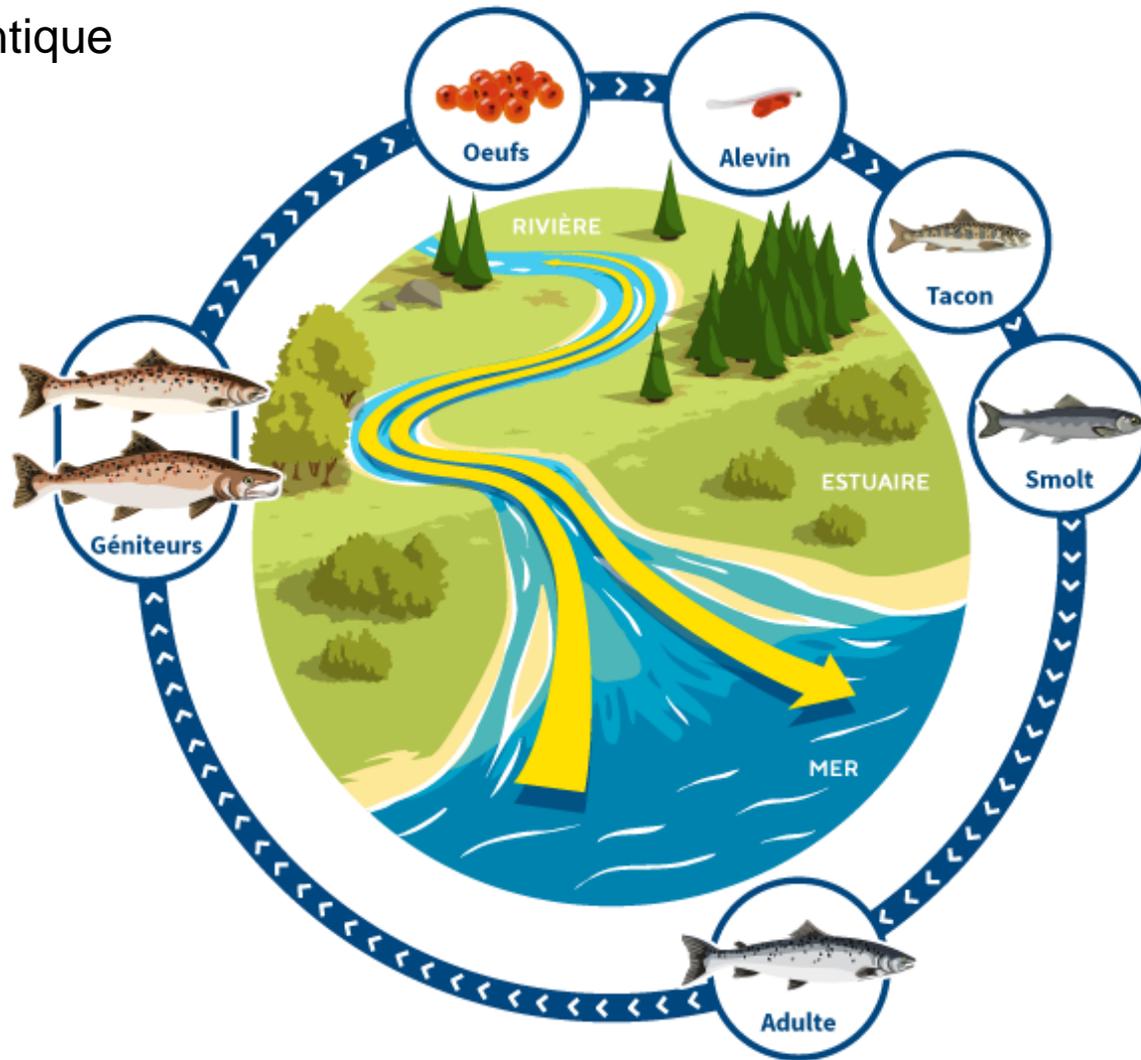
Les poissons migrateurs de la Sélune

Anguille européenne



Les poissons migrateurs de la Sélune

Saumon atlantique



Les poissons migrateurs de la Sélune

Lamproie marine

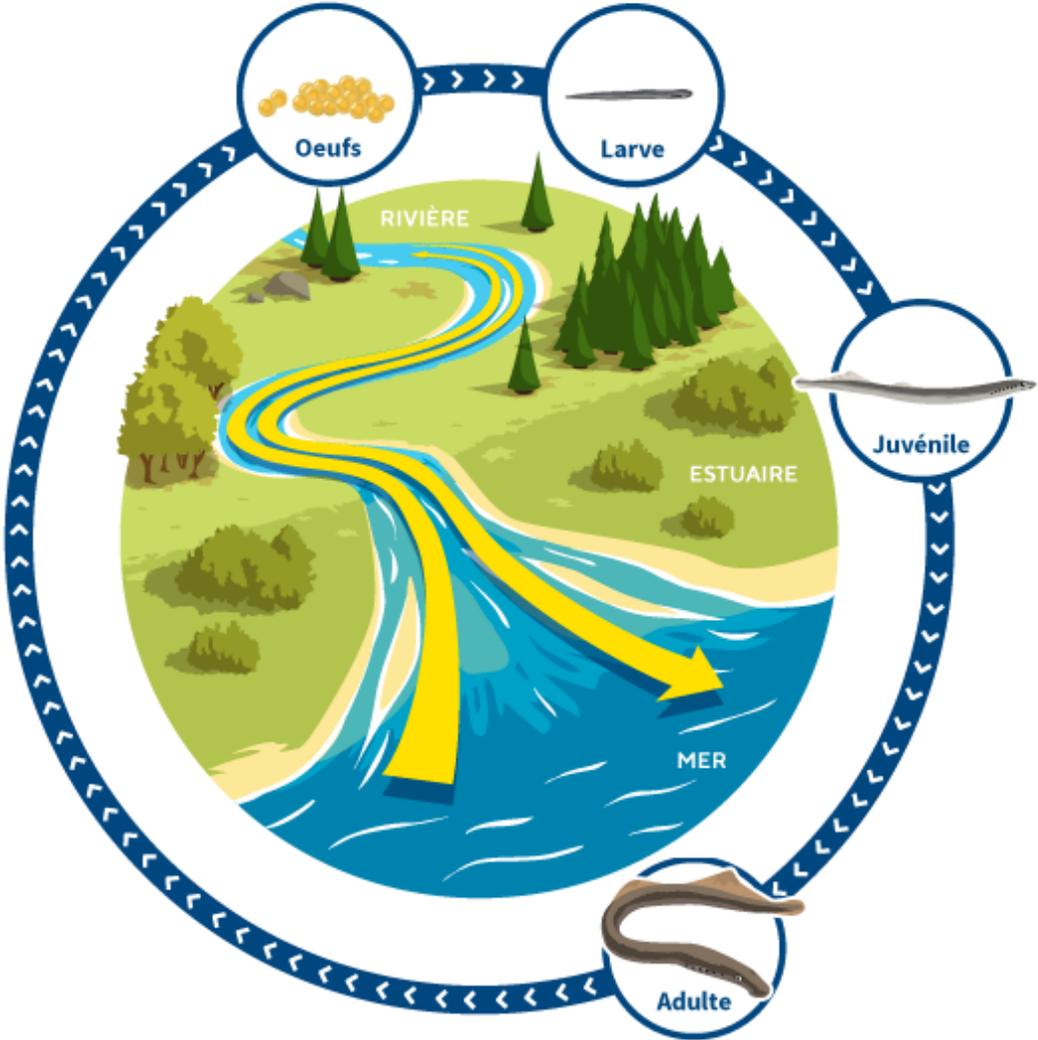
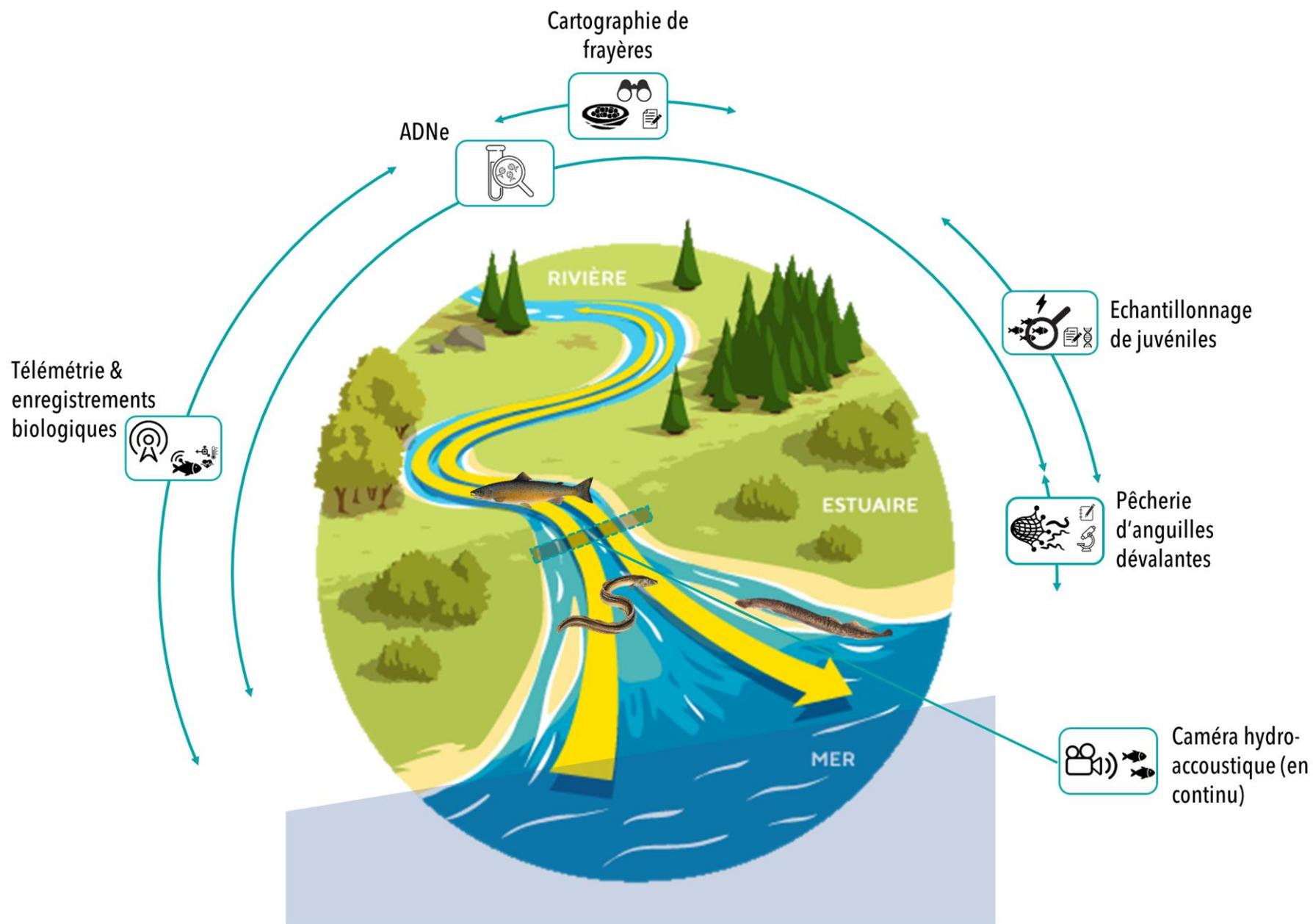
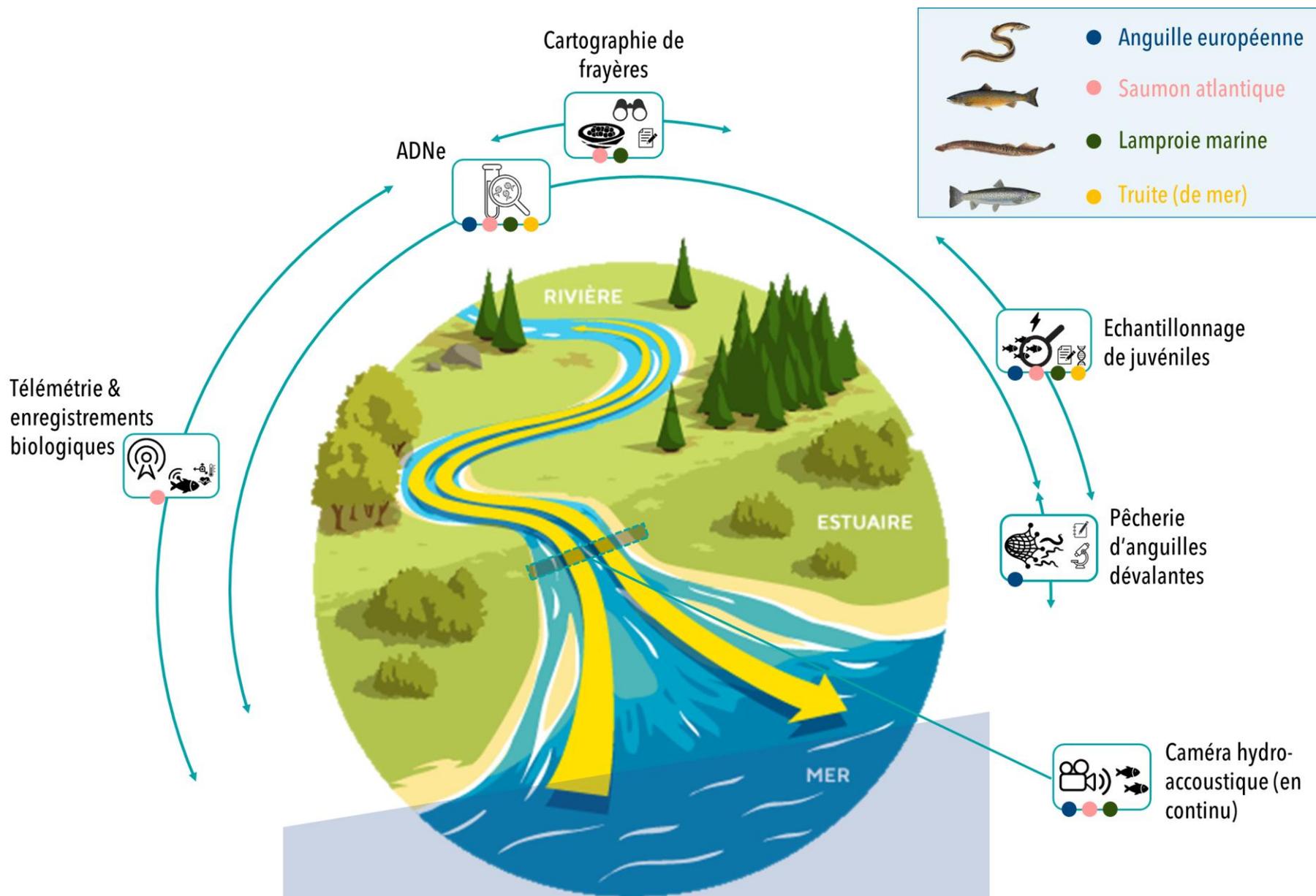


Figure from mnivresse.com/OFB

Suivi des migrateurs : la boîte à outils Sé lune



Suivi des migrateurs : la boîte à outils Sélune



Suivi des migrateurs : la boîte à outils Sélune

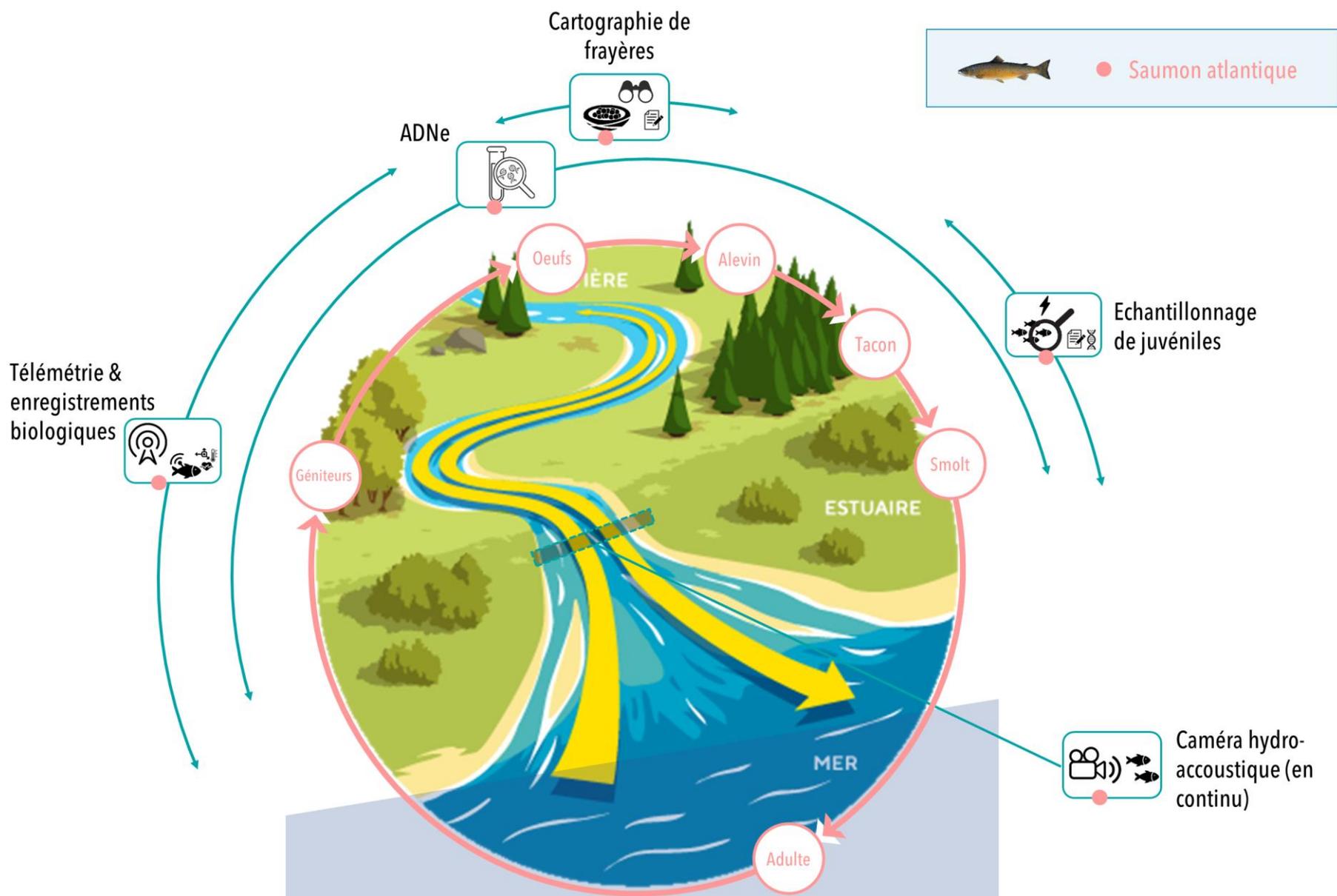
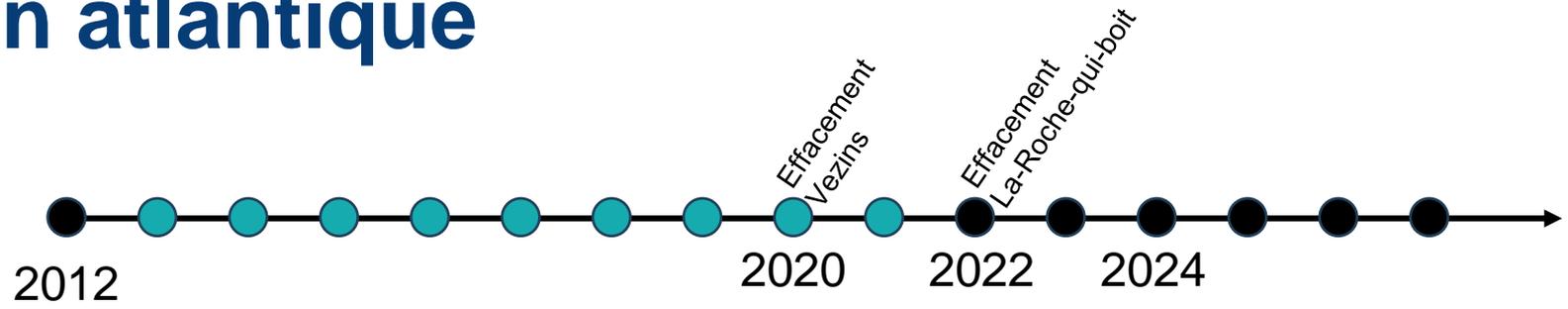


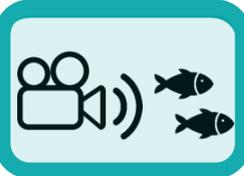
Figure adapted from mnivisse.com/OFB

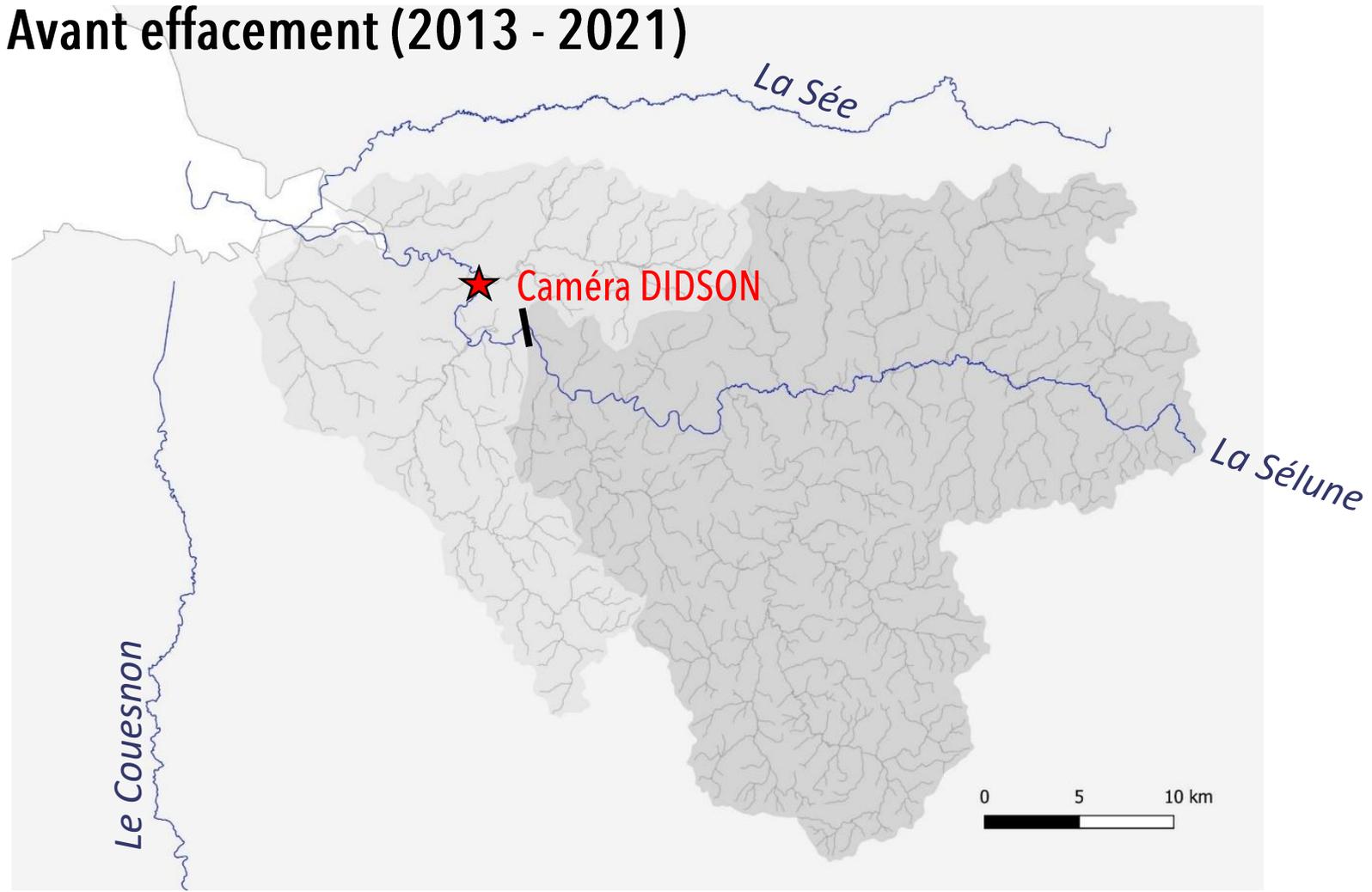
Le saumon atlantique



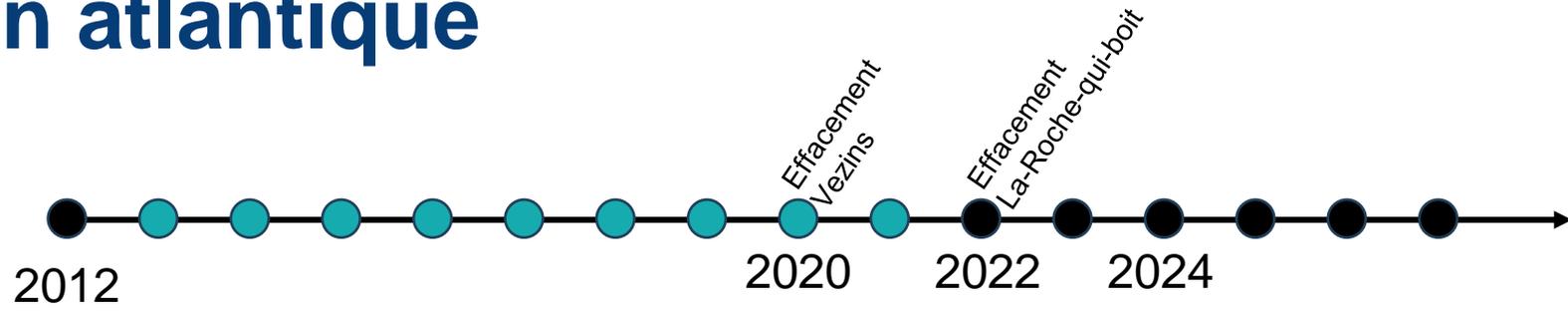
Avant effacement (2013 - 2021)

DIDSON

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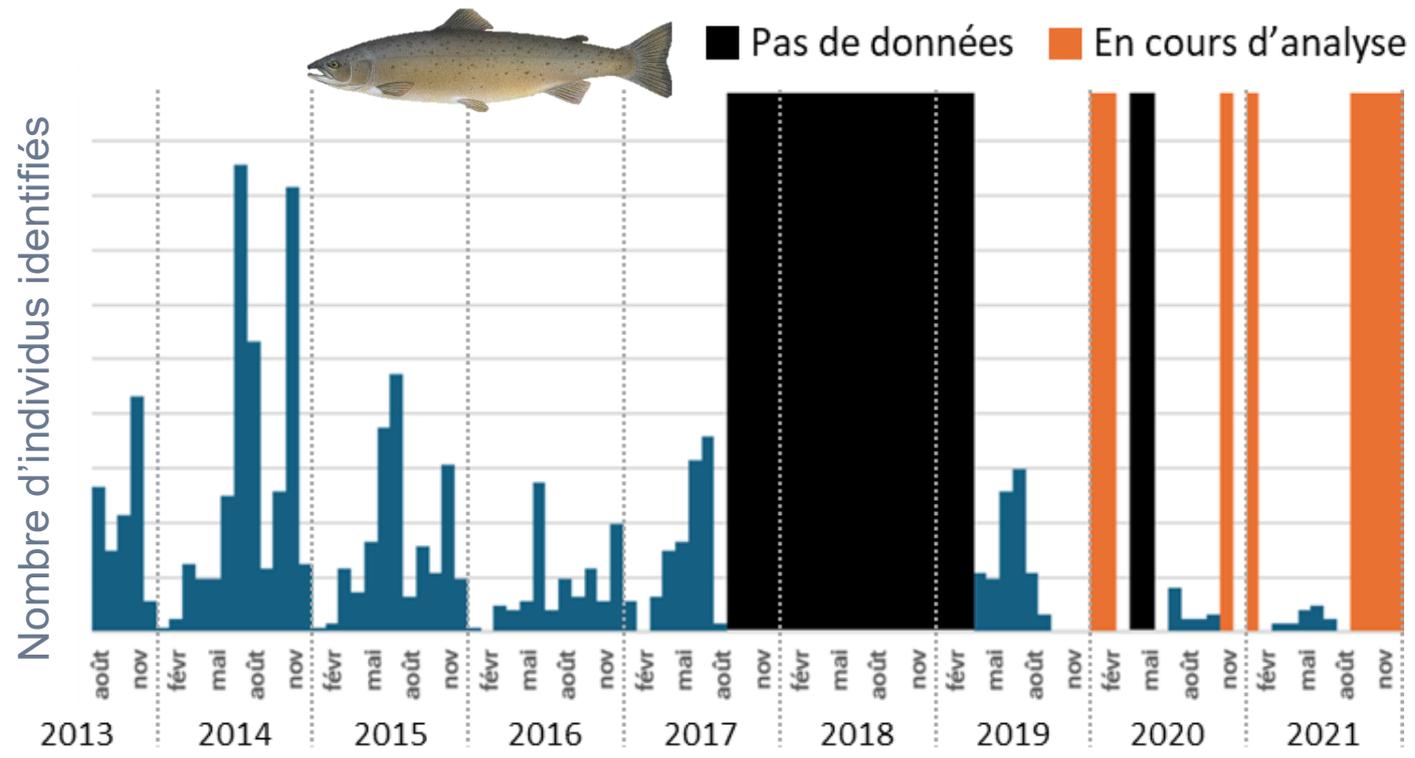


Le saumon atlantique



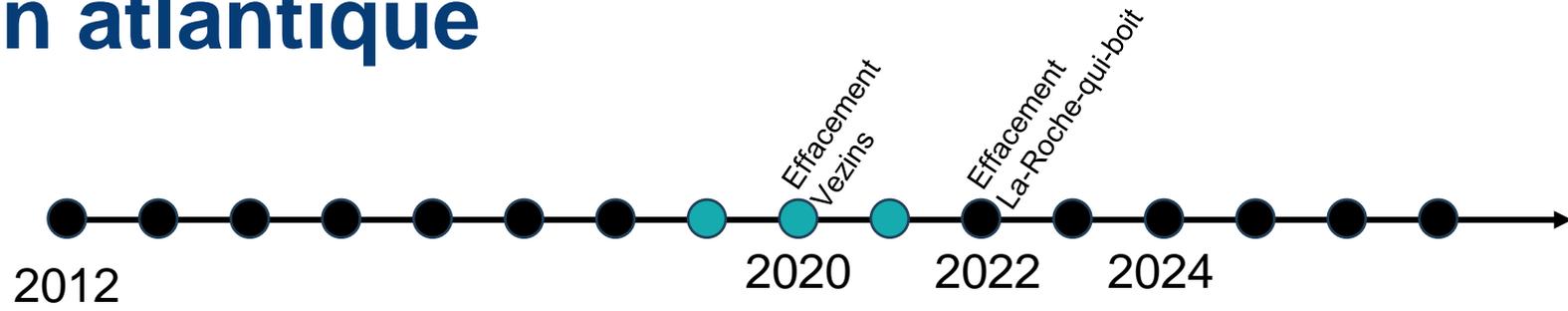
DIDSON

- Icon 1: Video camera and fish (Recording)
- Icon 2: Signal waves and fish (Signal reception)
- Icon 3: Magnifying glass over DNA (Analysis)
- Icon 4: Binoculars and fish (Observation)
- Icon 5: Magnifying glass over DNA and fish (Genetic analysis)

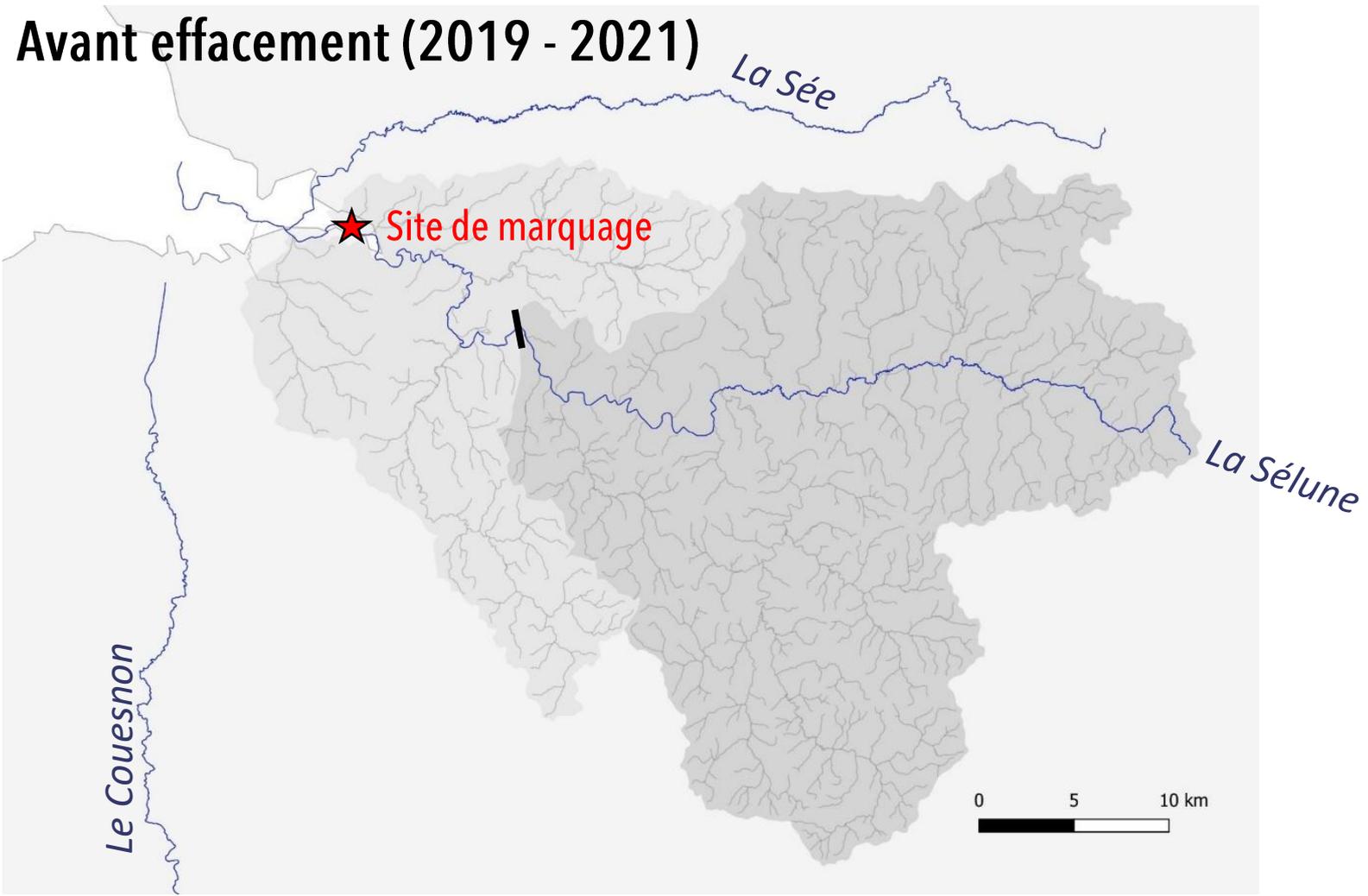


Le nombre d'individus varie chaque année : entre 100 et 400 passages de saumons adultes sous les barrages

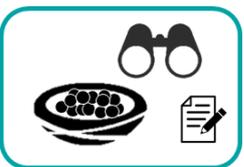
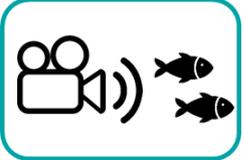
Le saumon atlantique



Avant effacement (2019 - 2021)

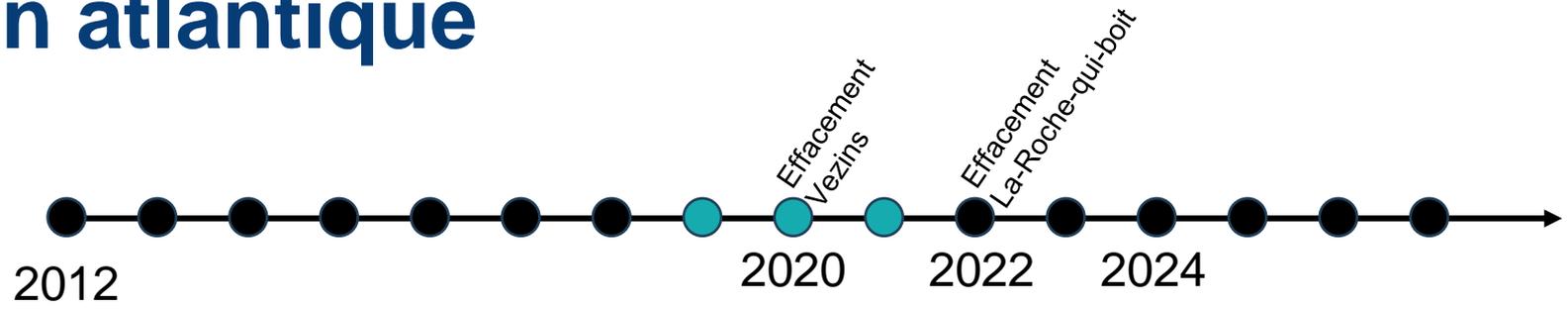


Télémetrie

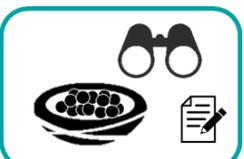
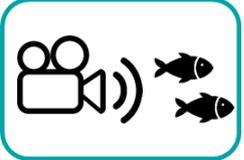


Entre 18 à 34 individus marqués chaque année

Le saumon atlantique



Télémétrie



1. Marquage



2. Tracking par antennes fixes



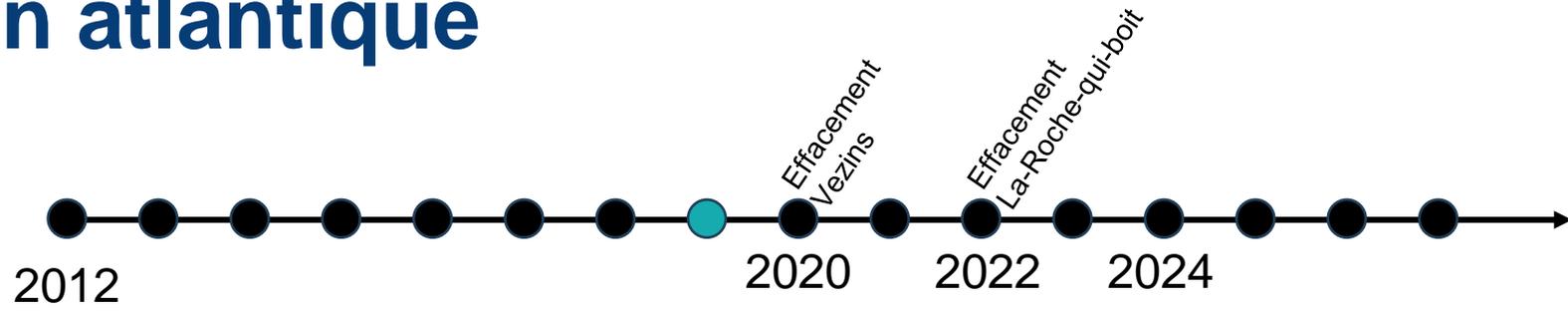
3. Tracking mobile



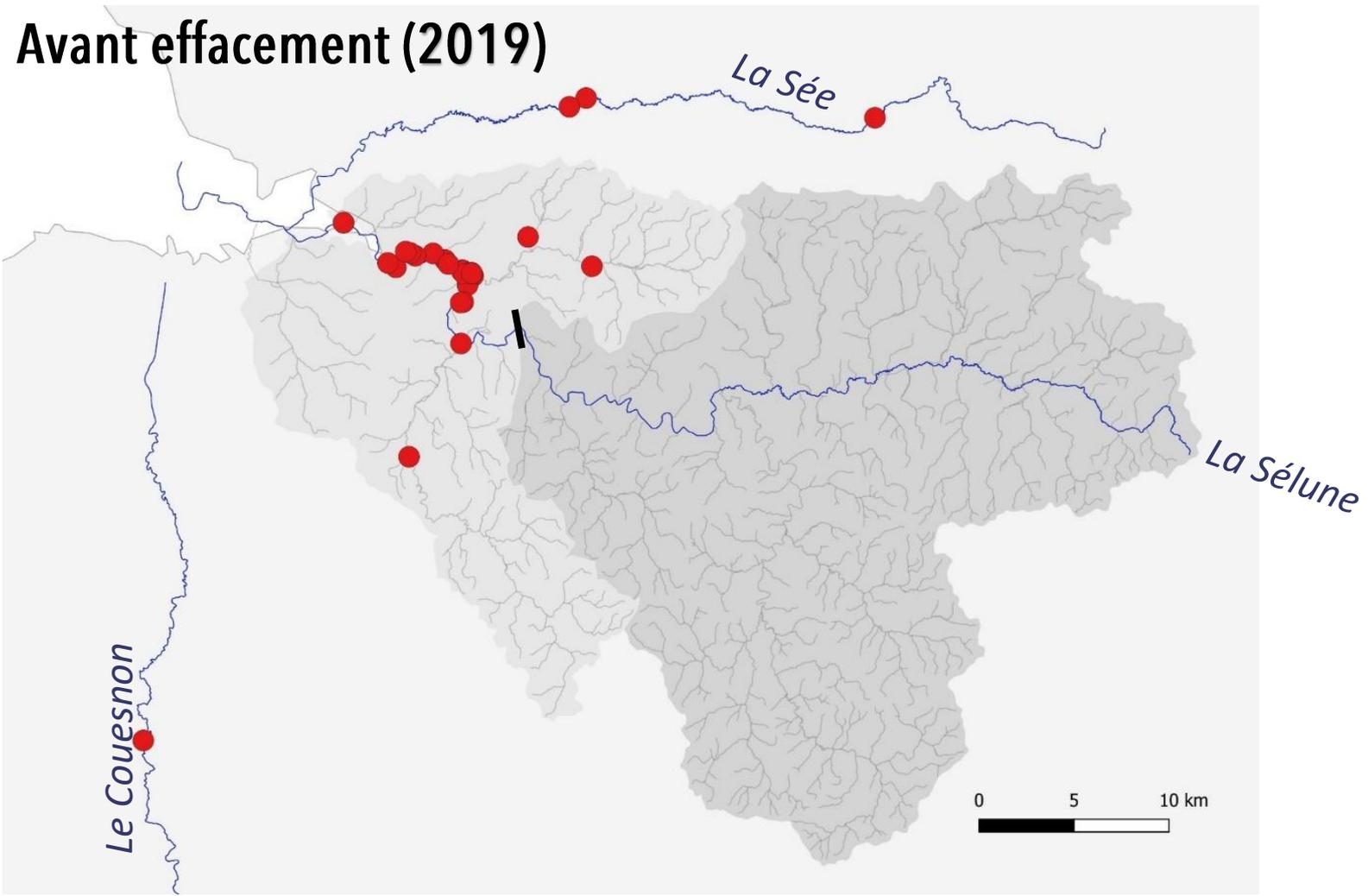
4. Récupération des capteurs



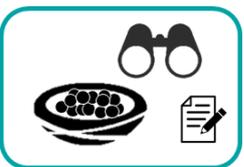
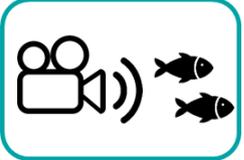
Le saumon atlantique



Avant effacement (2019)

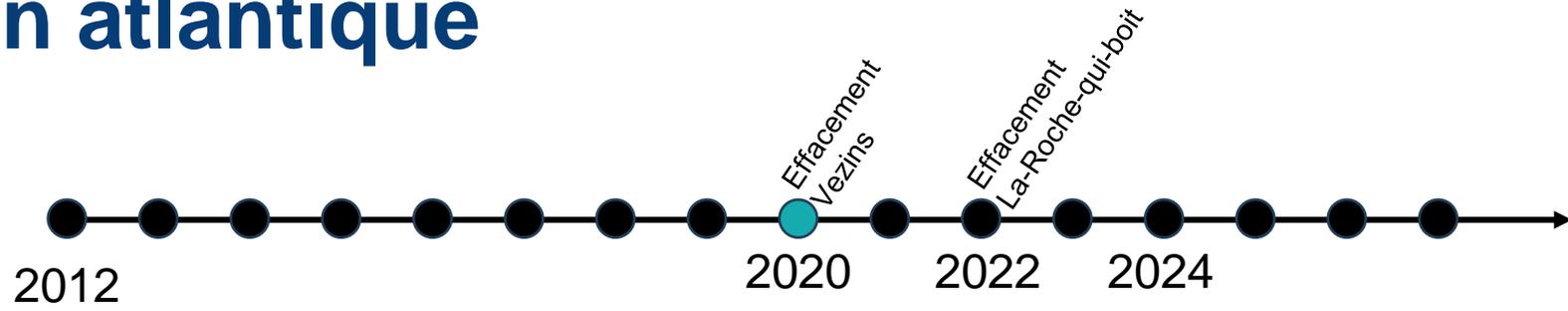


Télémetrie

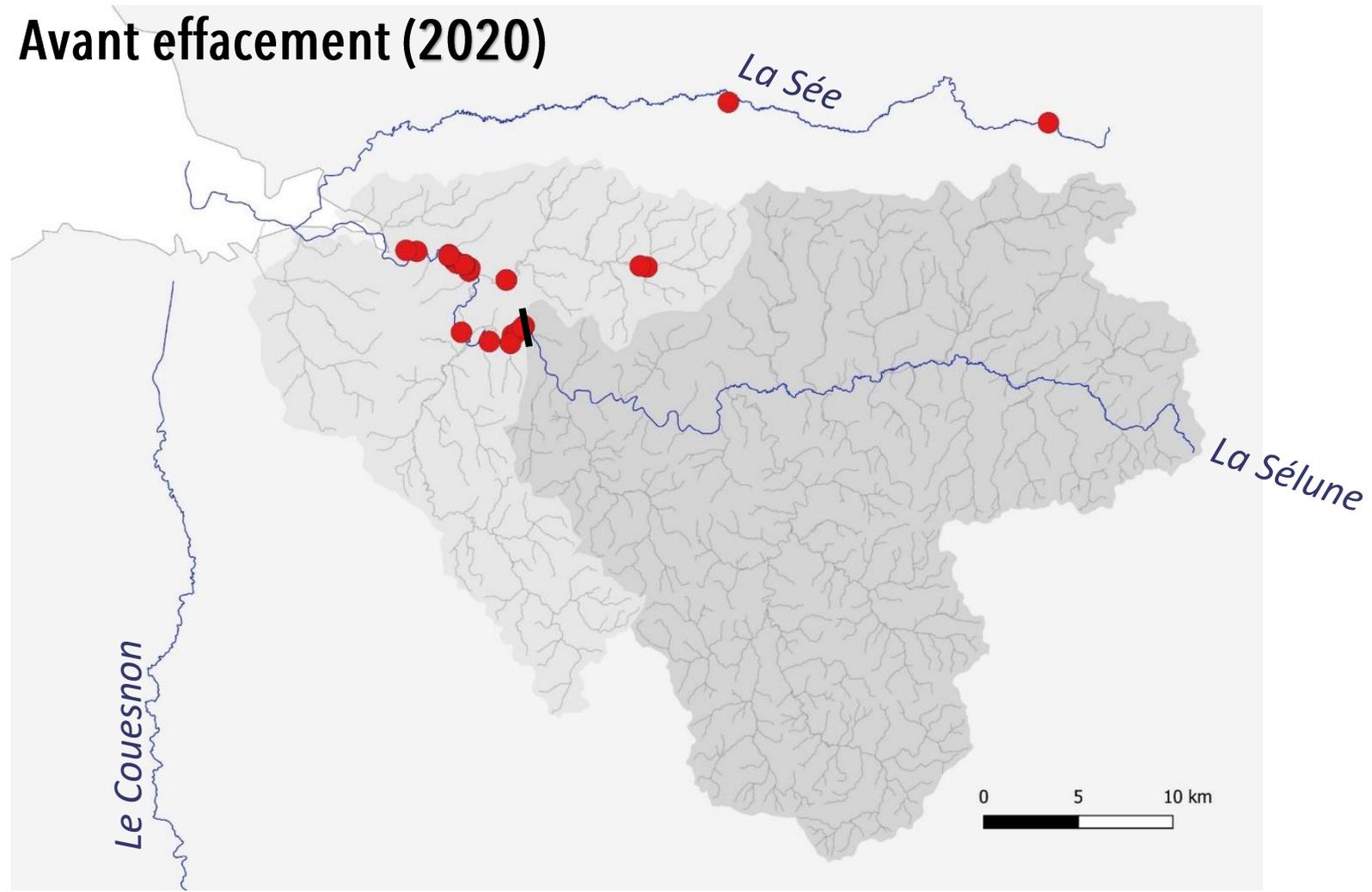


● Position finale des poissons (morts ou sur zone de fraie)

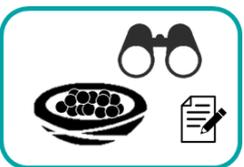
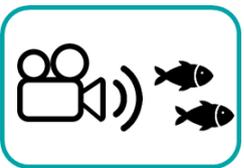
Le saumon atlantique



Avant effacement (2020)

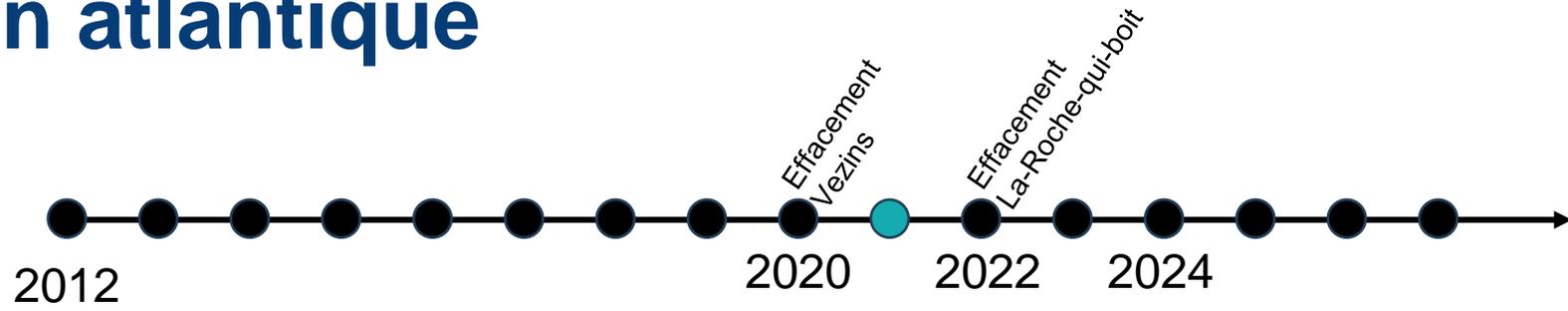


Télémetrie



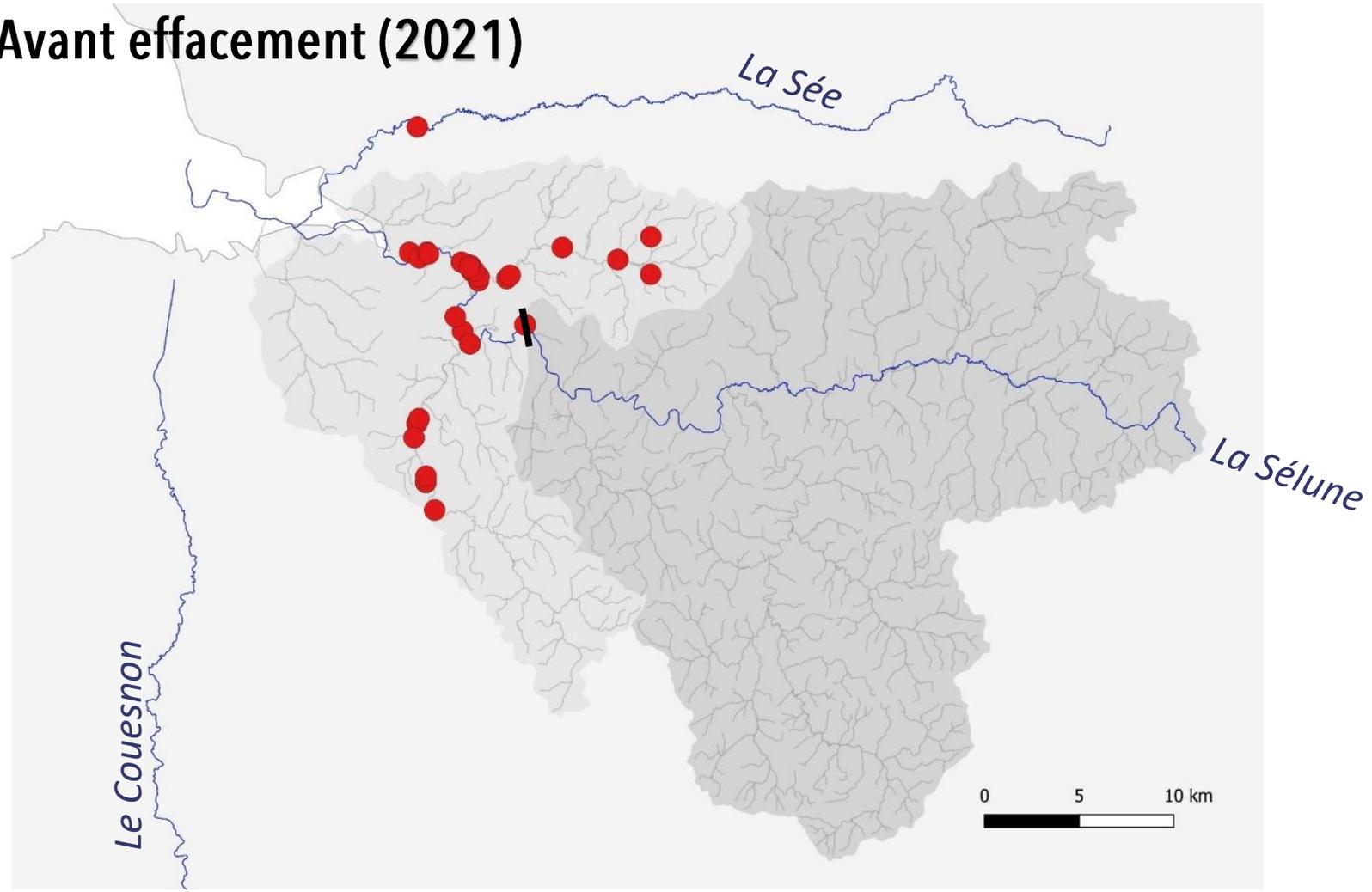
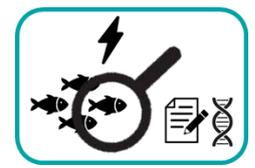
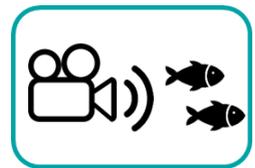
● Position finale des poissons (morts ou sur zone de fraie)

Le saumon atlantique



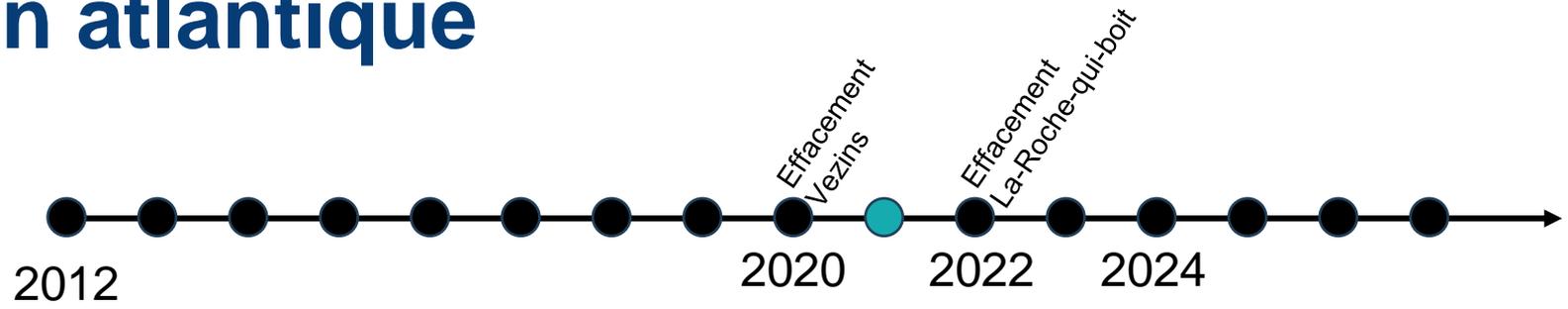
Avant effacement (2021)

Télémetrie



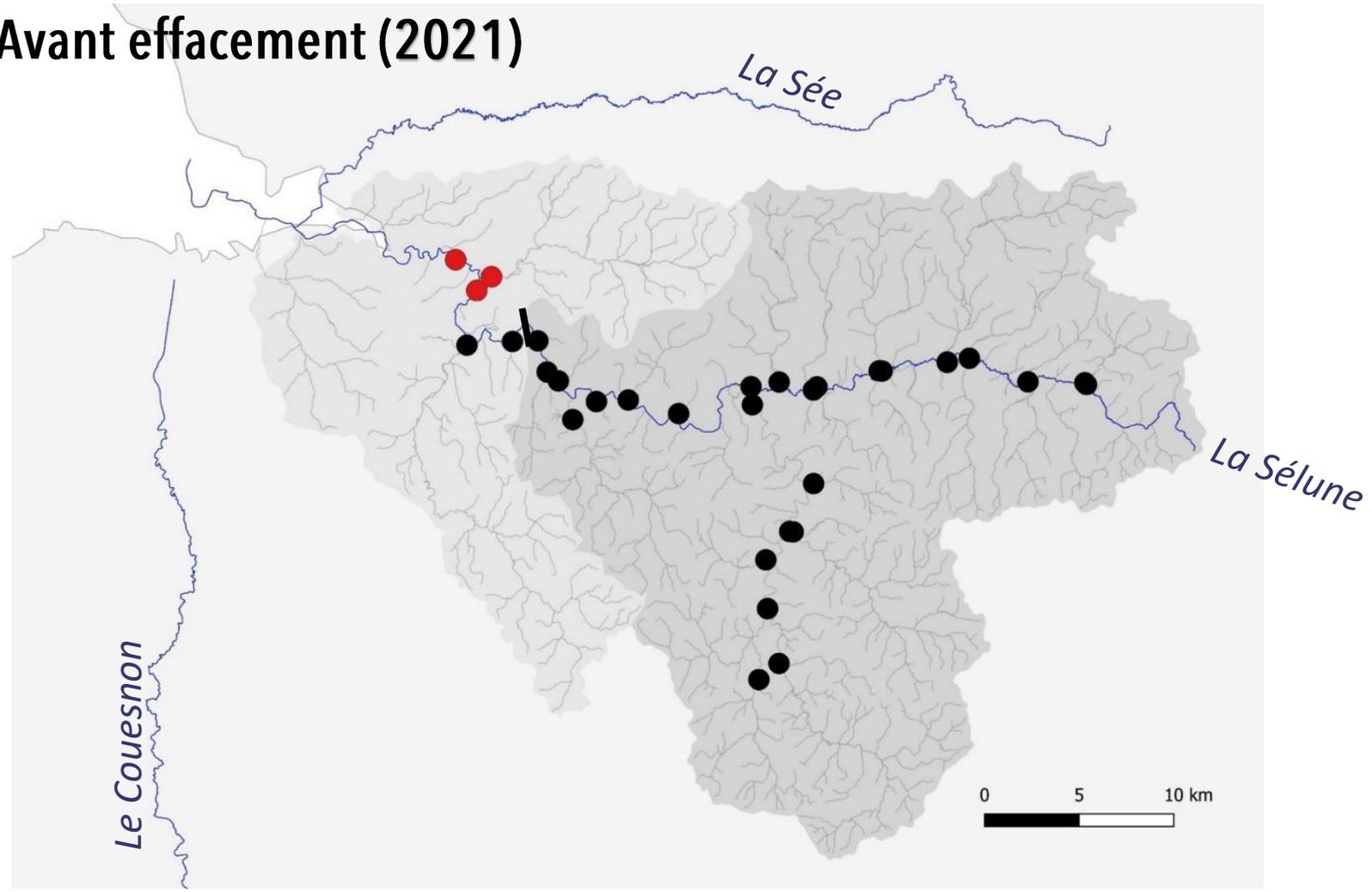
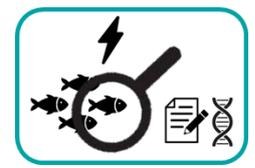
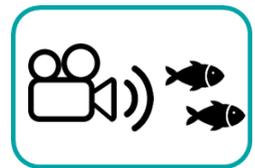
● Position finale des poissons (morts ou sur zone de fraie)

Le saumon atlantique



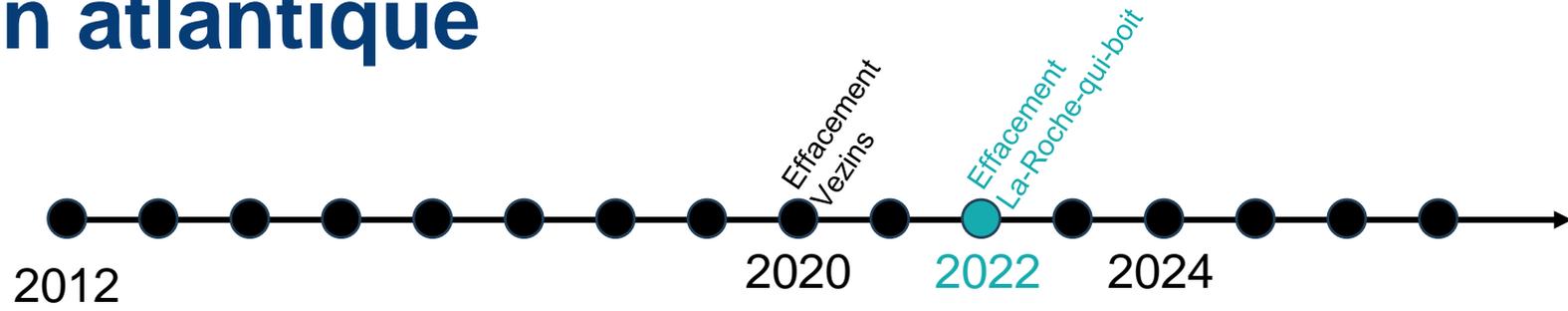
Avant effacement (2021)

ADNe

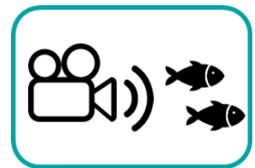


- Présence d'ADN de saumon
- Absence d'ADN de saumon

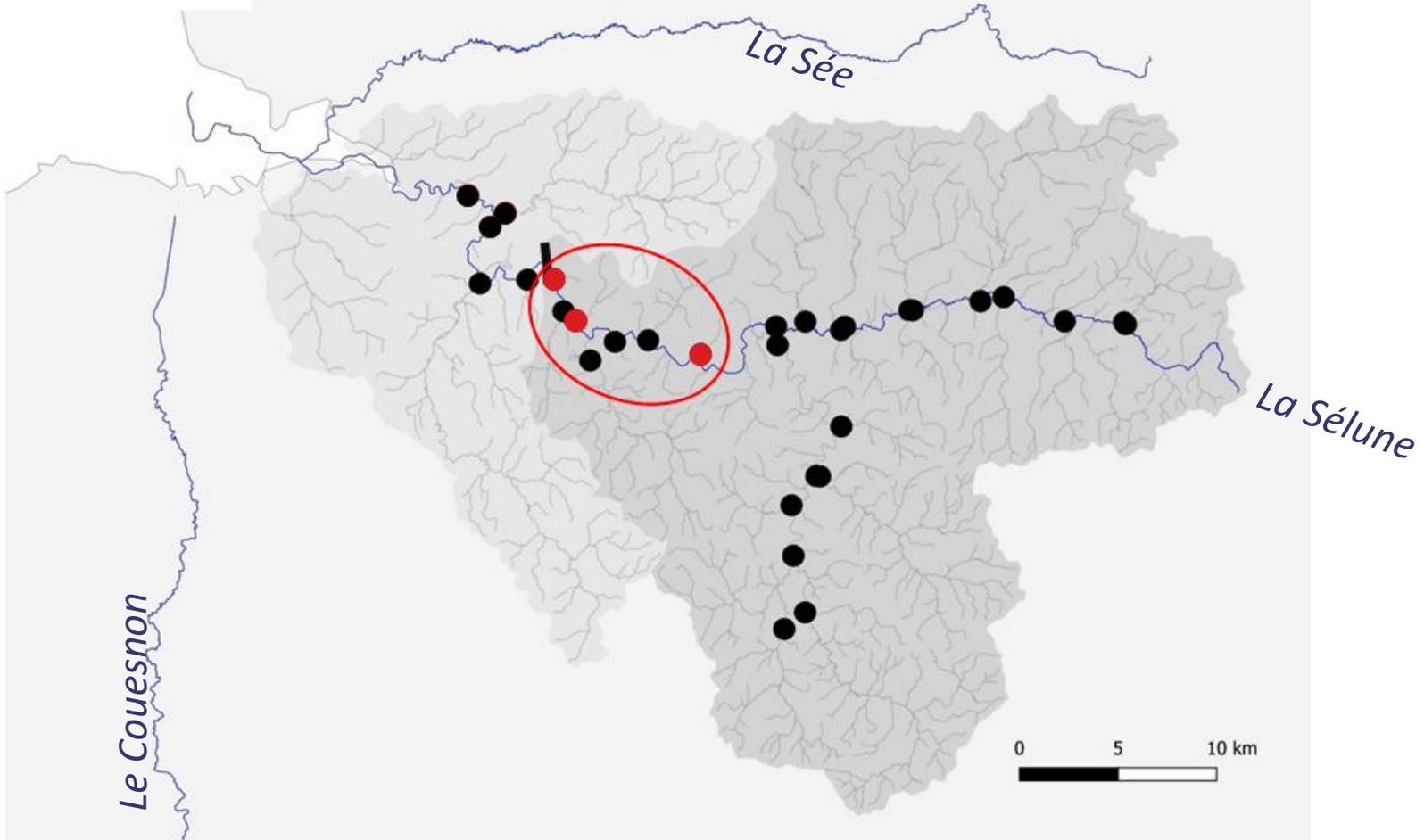
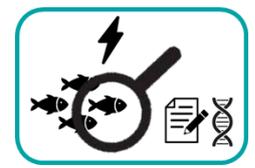
Le saumon atlantique



Pendant les travaux d'effacement (2022)

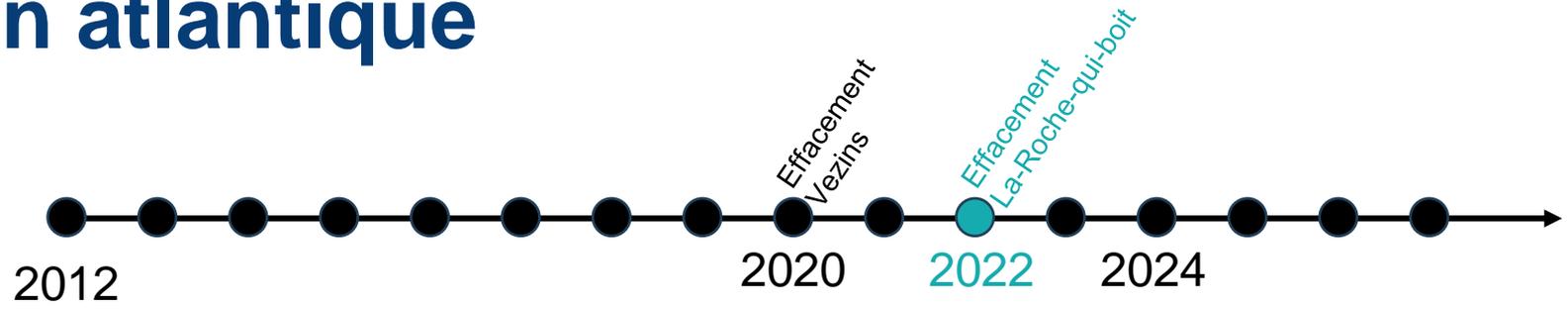


ADNe



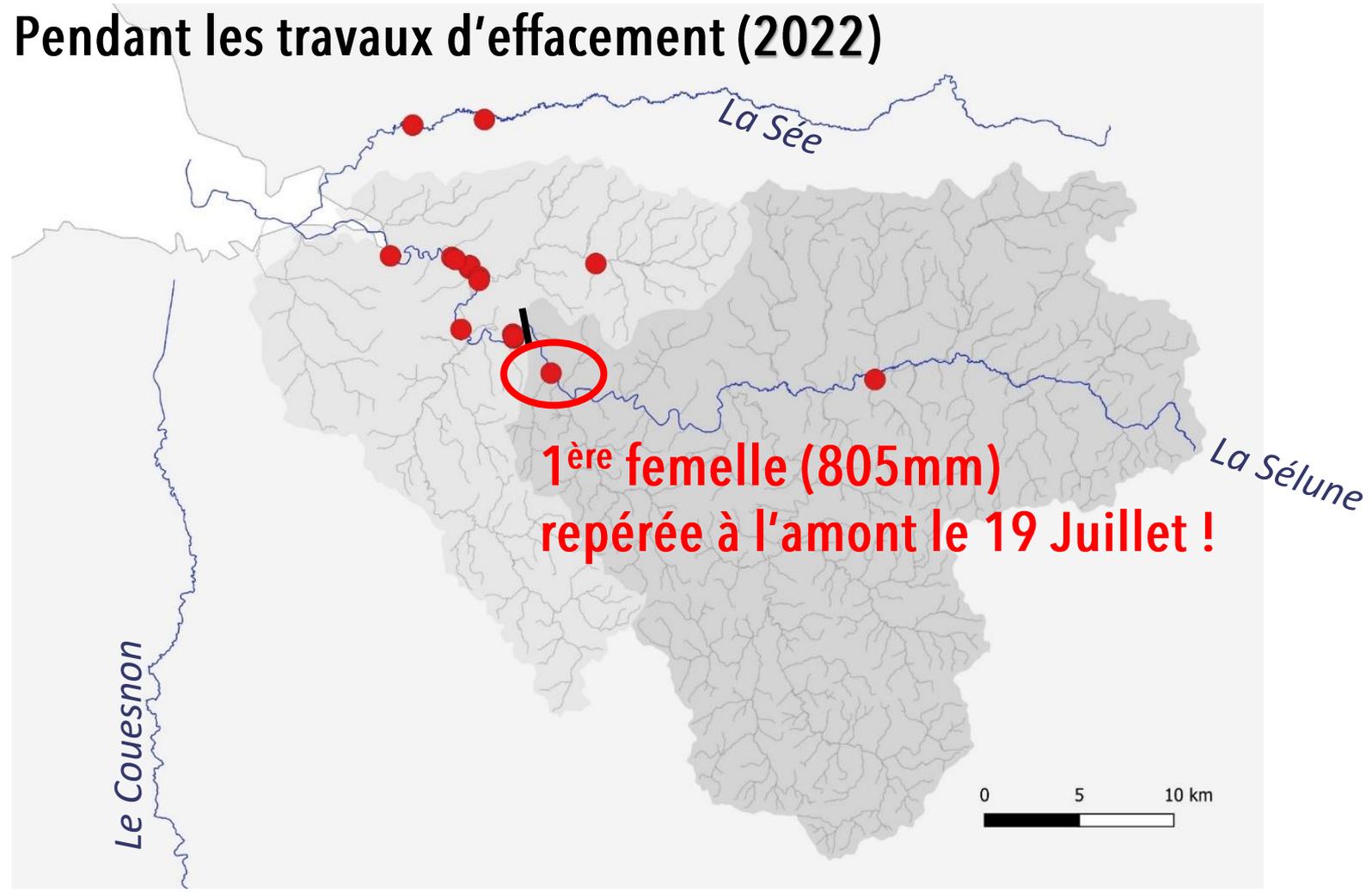
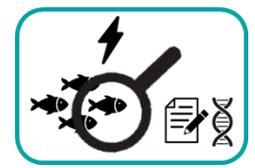
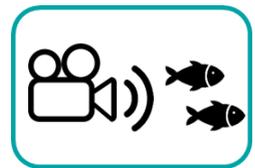
- Présence d'ADN de saumon
- Absence d'ADN de saumon

Le saumon atlantique



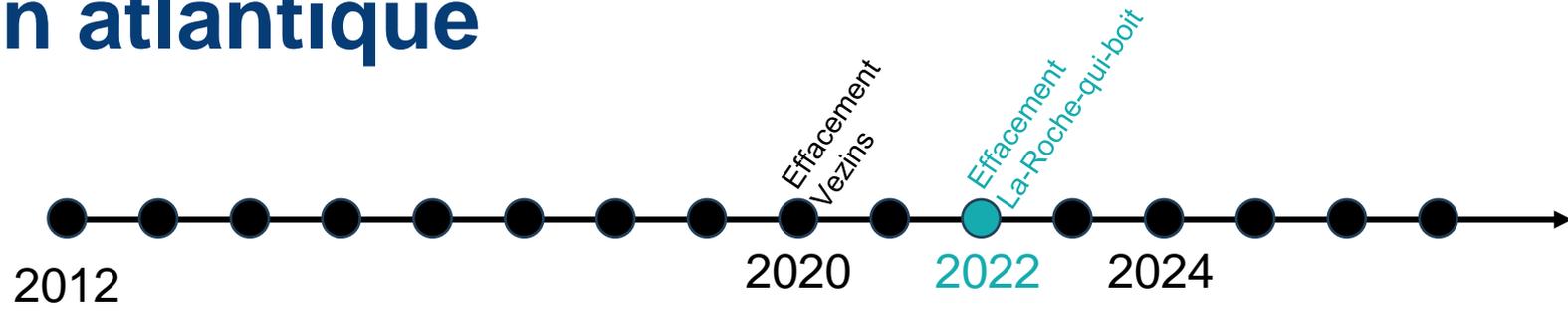
Pendant les travaux d'effacement (2022)

Télémetrie

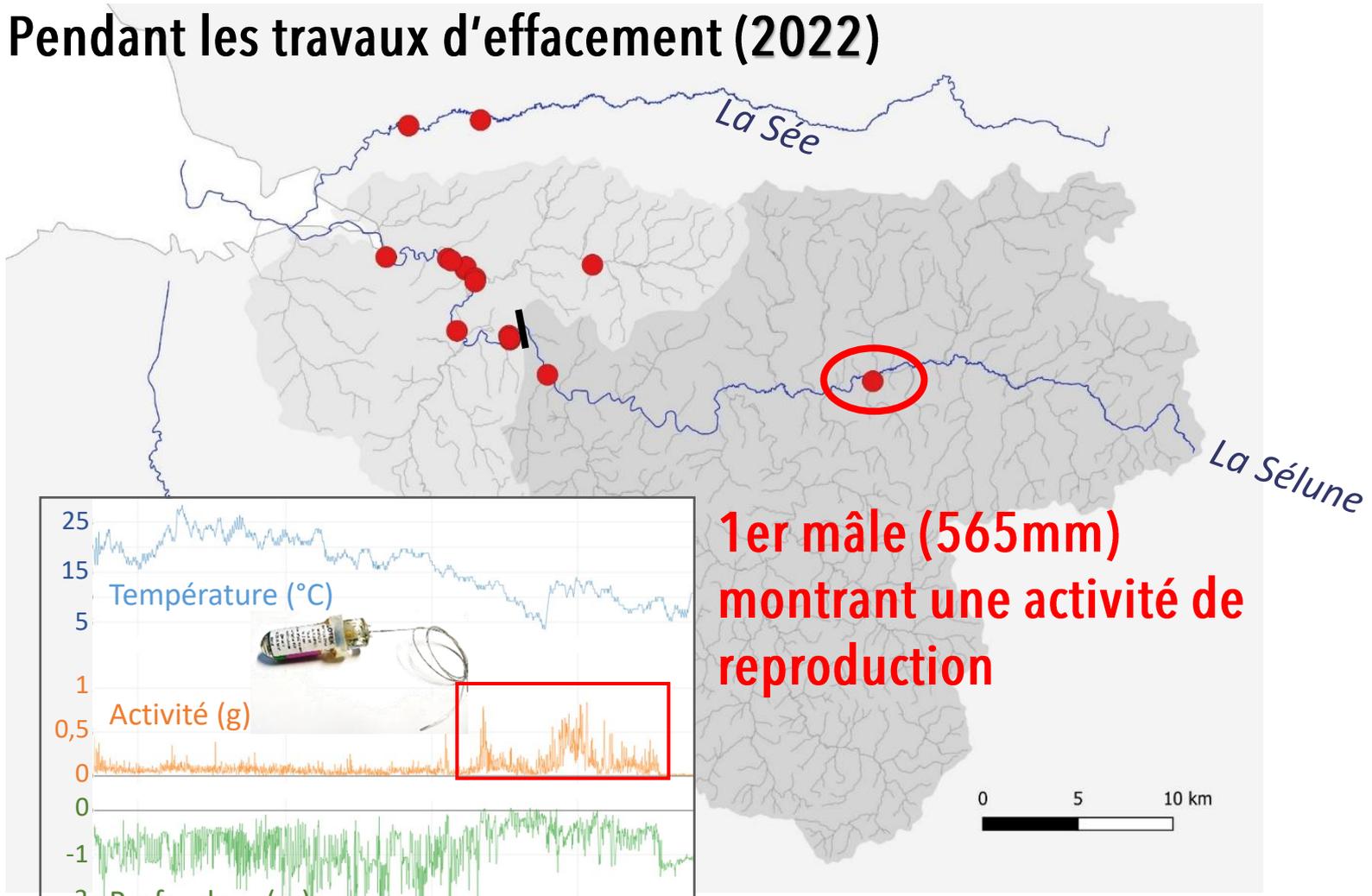


**1^{ère} femelle (805mm)
repérée à l'amont le 19 Juillet !**

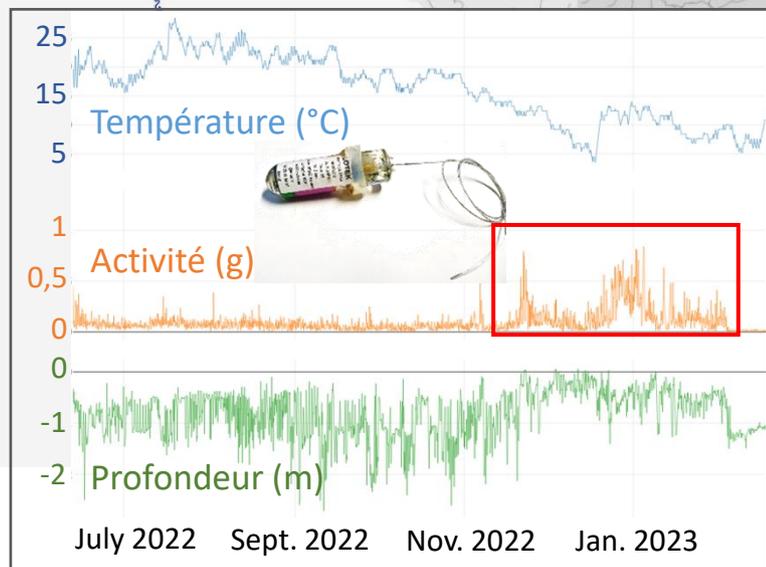
Le saumon atlantique



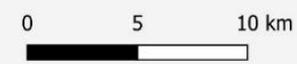
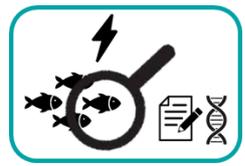
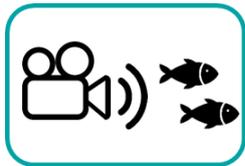
Pendant les travaux d'effacement (2022)



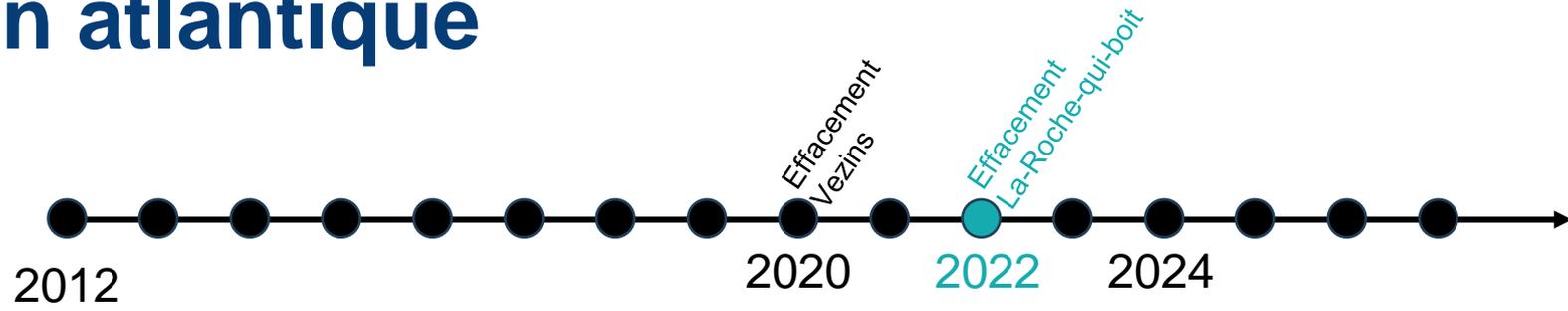
1er mâle (565mm) montrant une activité de reproduction



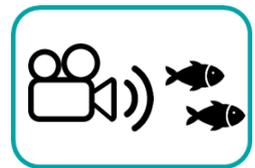
Télémetrie



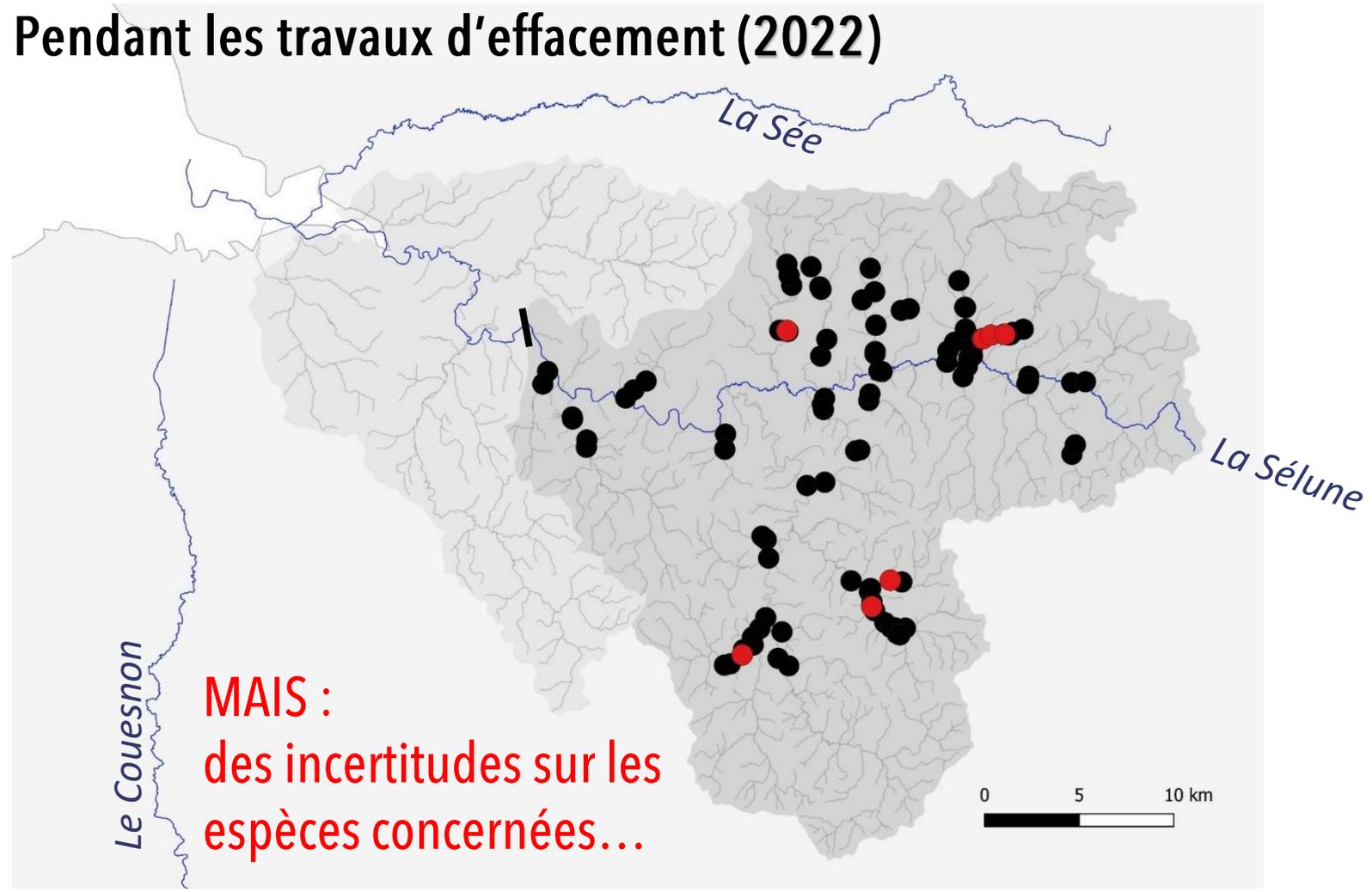
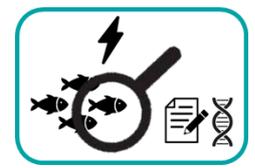
Le saumon atlantique



Pendant les travaux d'effacement (2022)



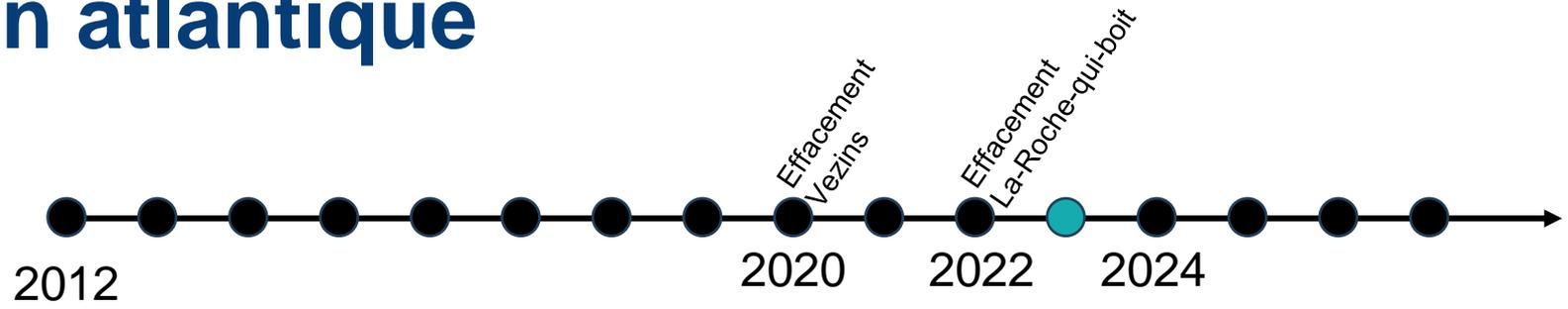
Frères



MAIS :
des incertitudes sur les
espèces concernées...

- Présence dans les zones prospectées
- Absence dans les zones prospectées

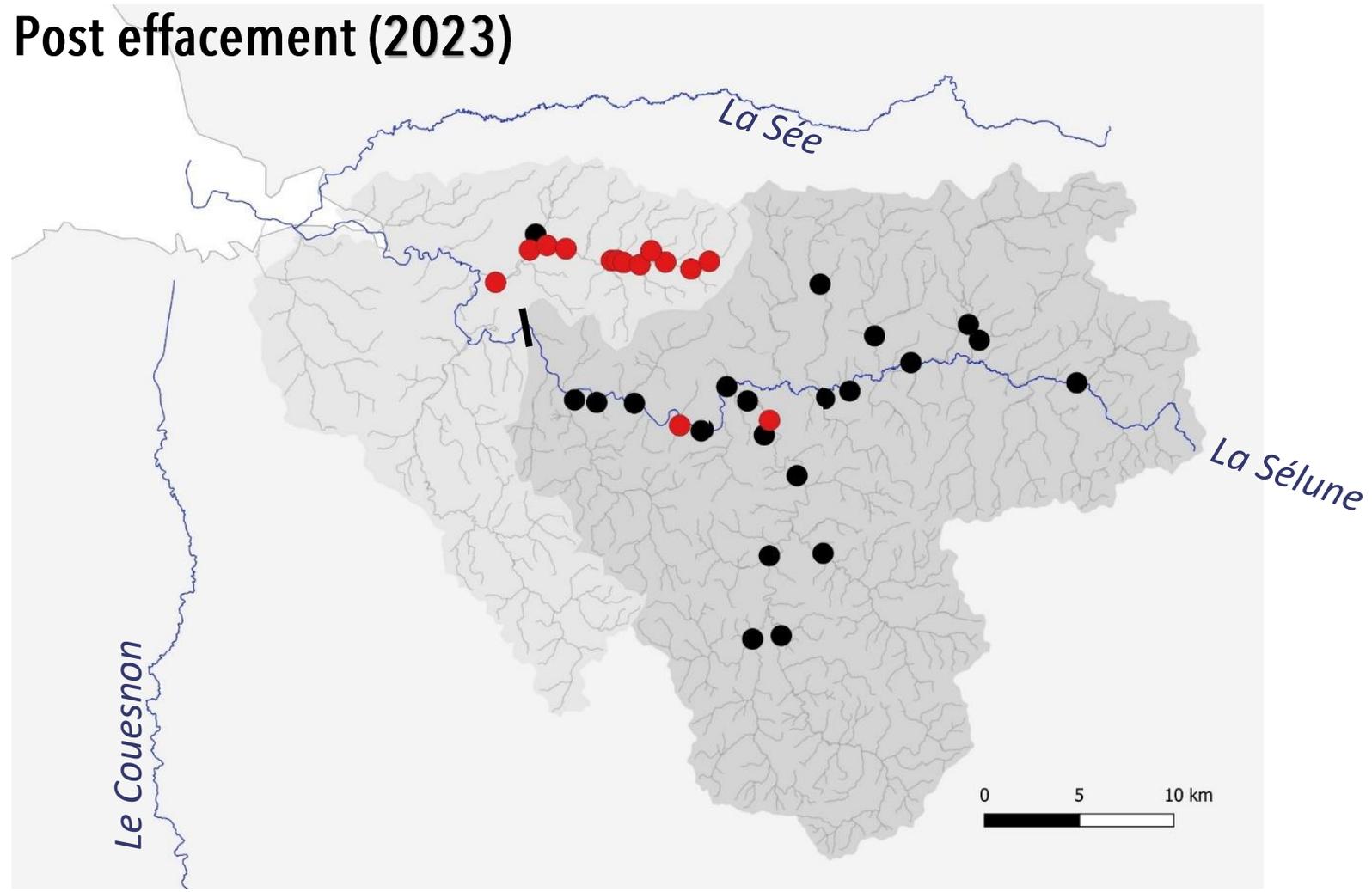
Le saumon atlantique



Post effacement (2023)

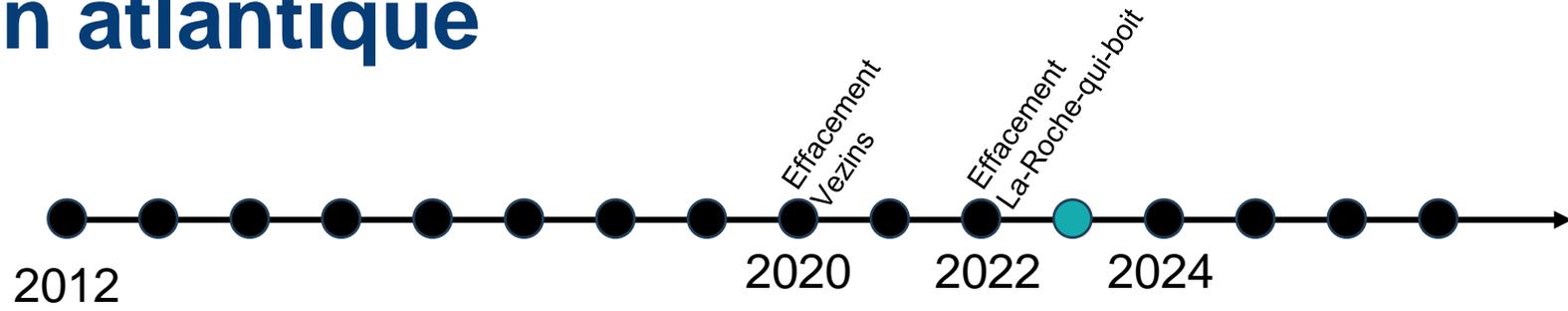
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Juveniles



- Présence dans les zones prospectées
- Absence dans les zones prospectées

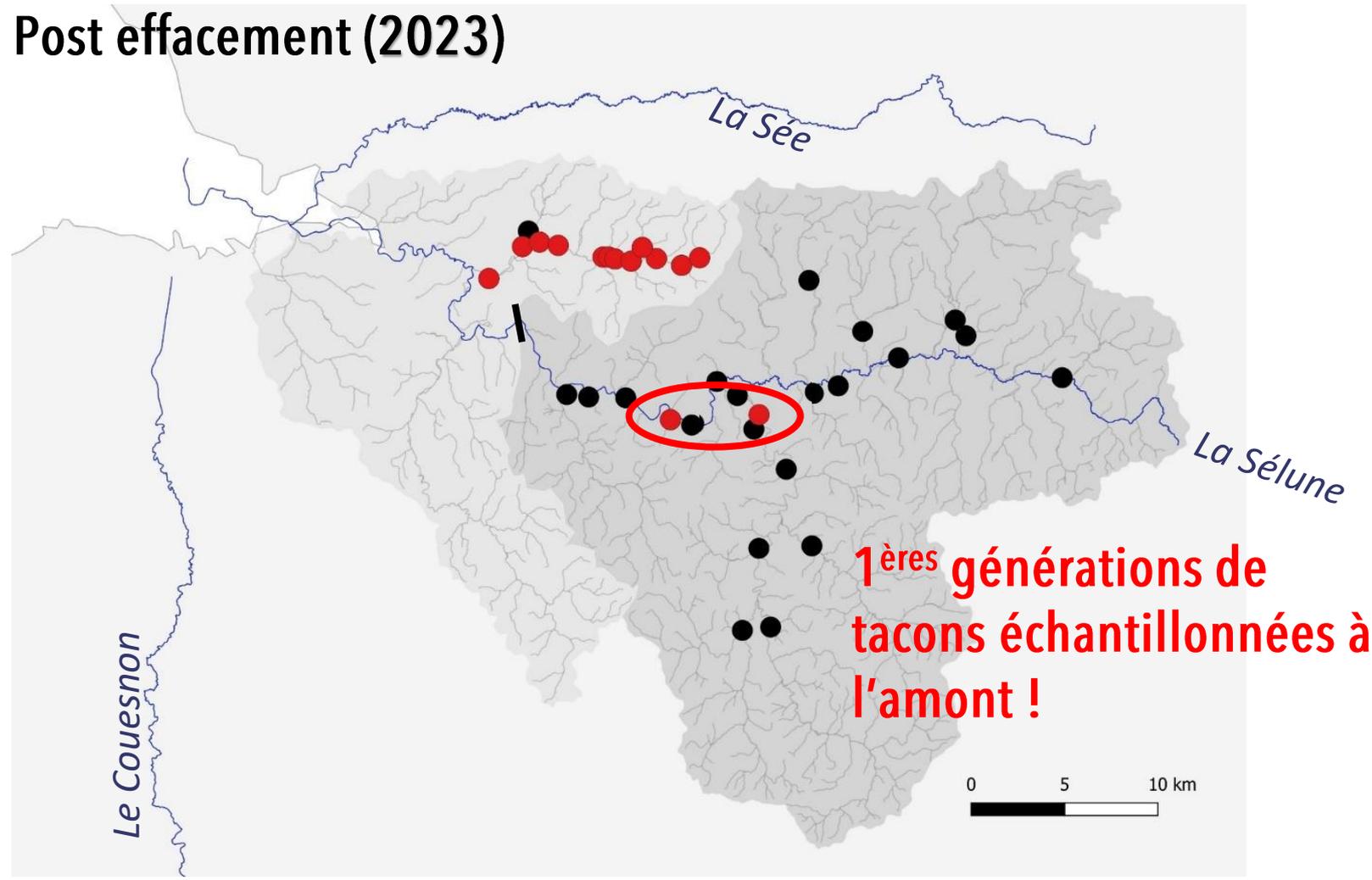
Le saumon atlantique



Post effacement (2023)

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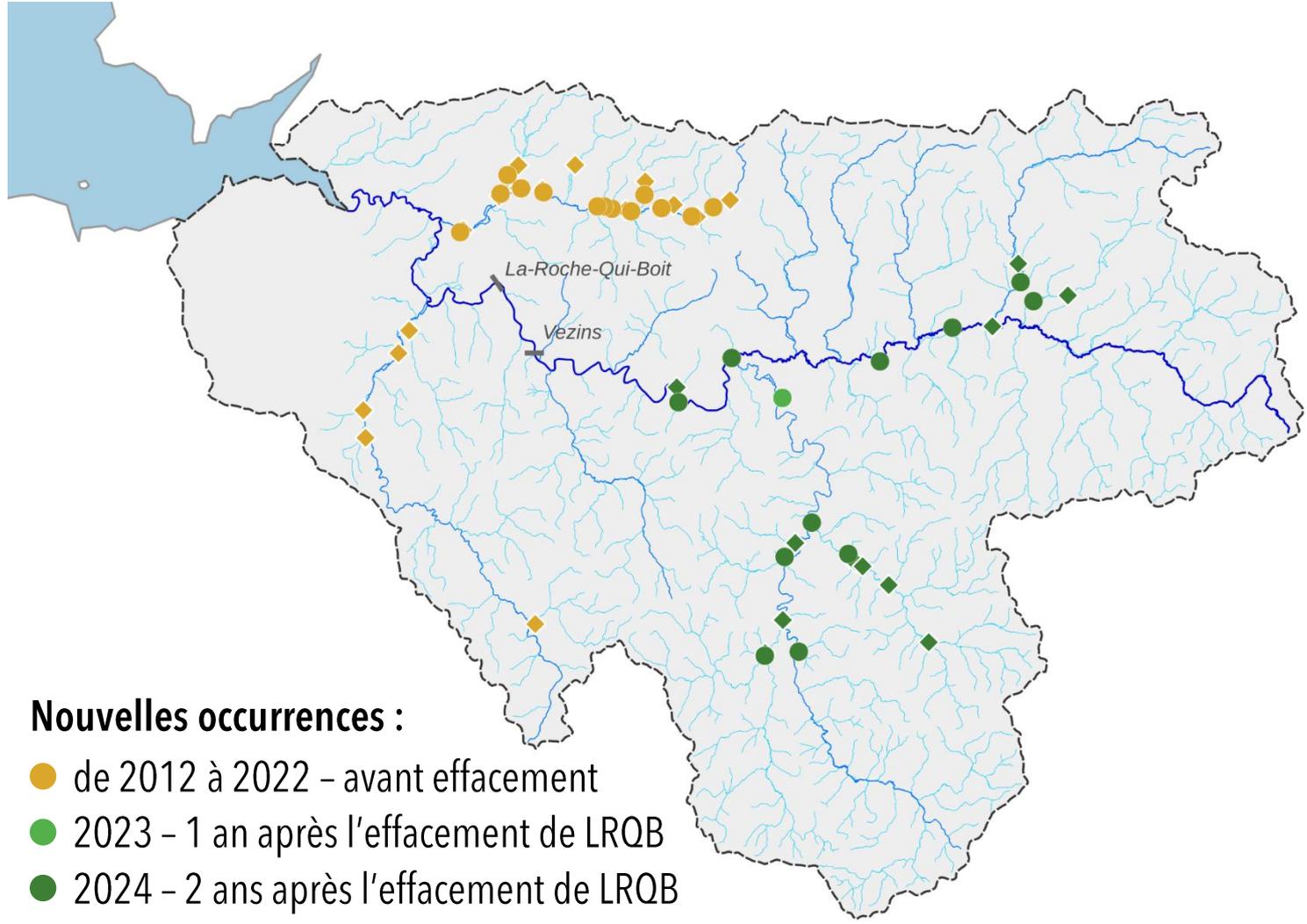
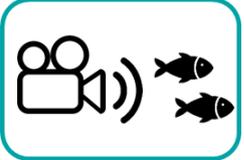
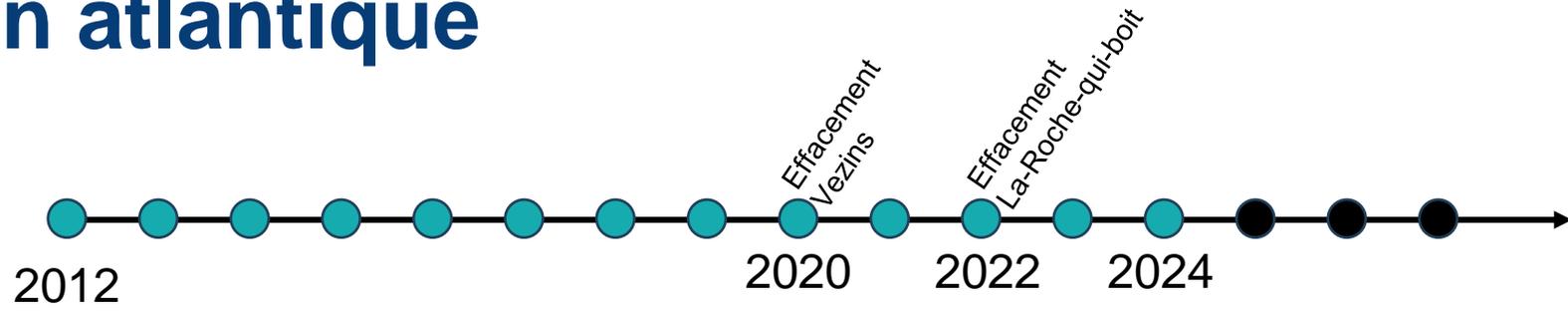
Juveniles



1^{ères} générations de tacons échantillonnées à l'amont !

- Présence dans les zones prospectées
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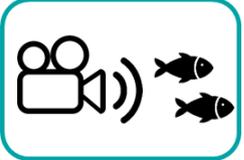
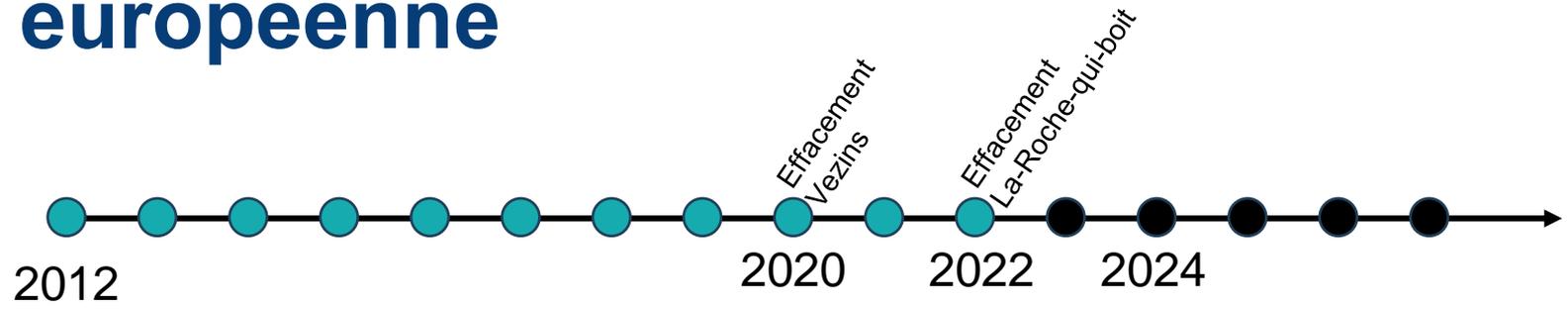
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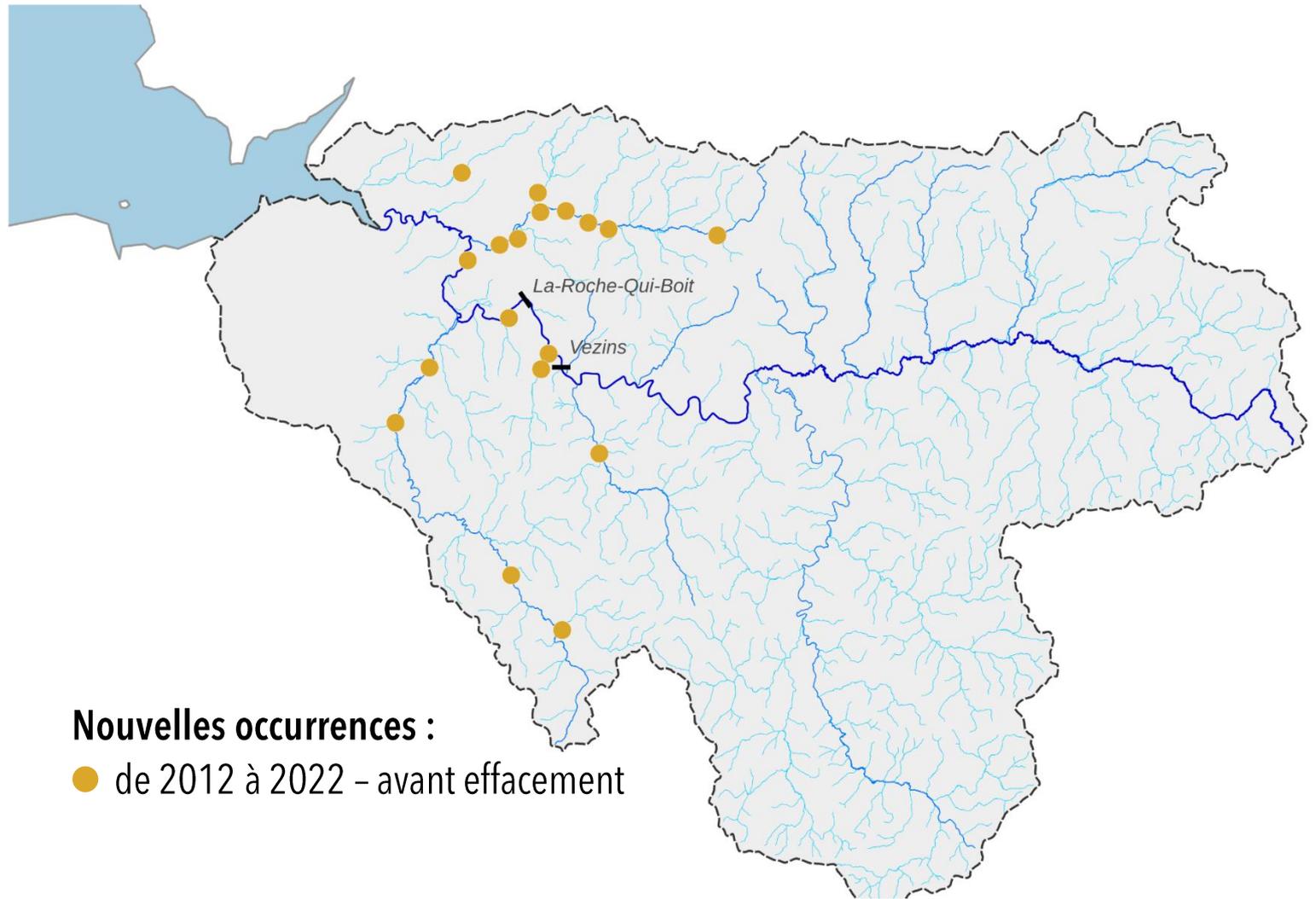
Nouvelles occurrences :

- de 2012 à 2022 - avant effacement
- 2023 - 1 an après l'effacement de LRQB
- 2024 - 2 ans après l'effacement de LRQB
- ◆ Individus pêchés hors protocole IAS

L'anguille européenne

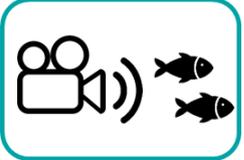
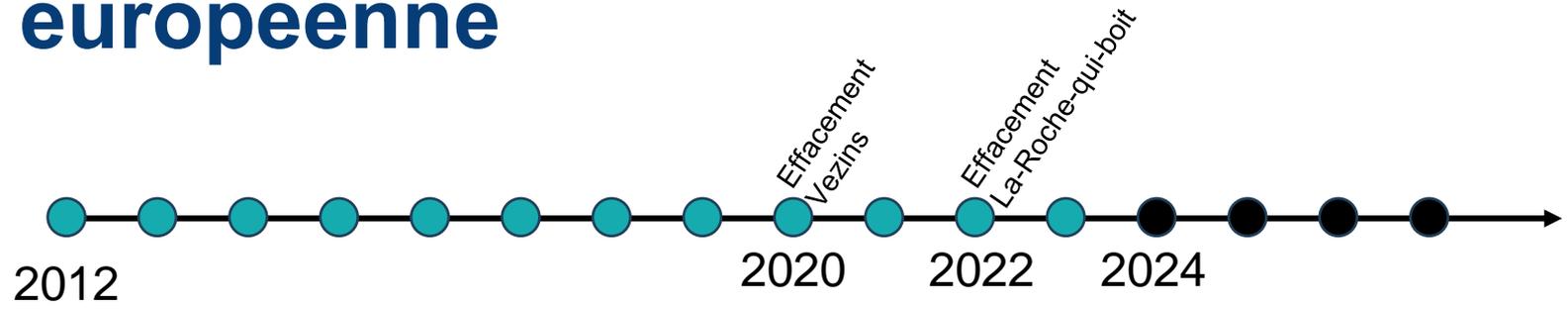


IAA

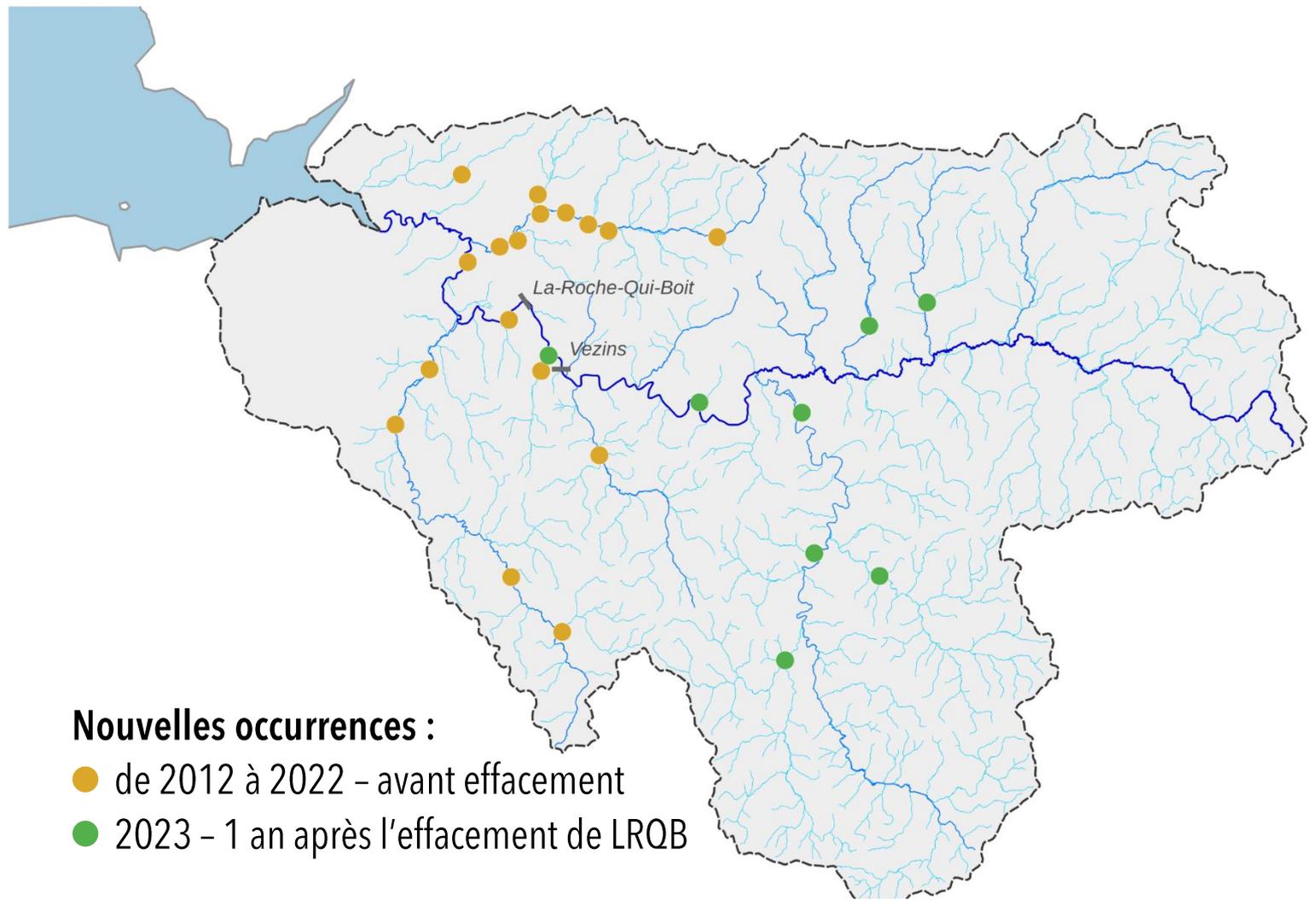


Nouvelles occurrences :
● de 2012 à 2022 - avant effacement

L'anguille européenne



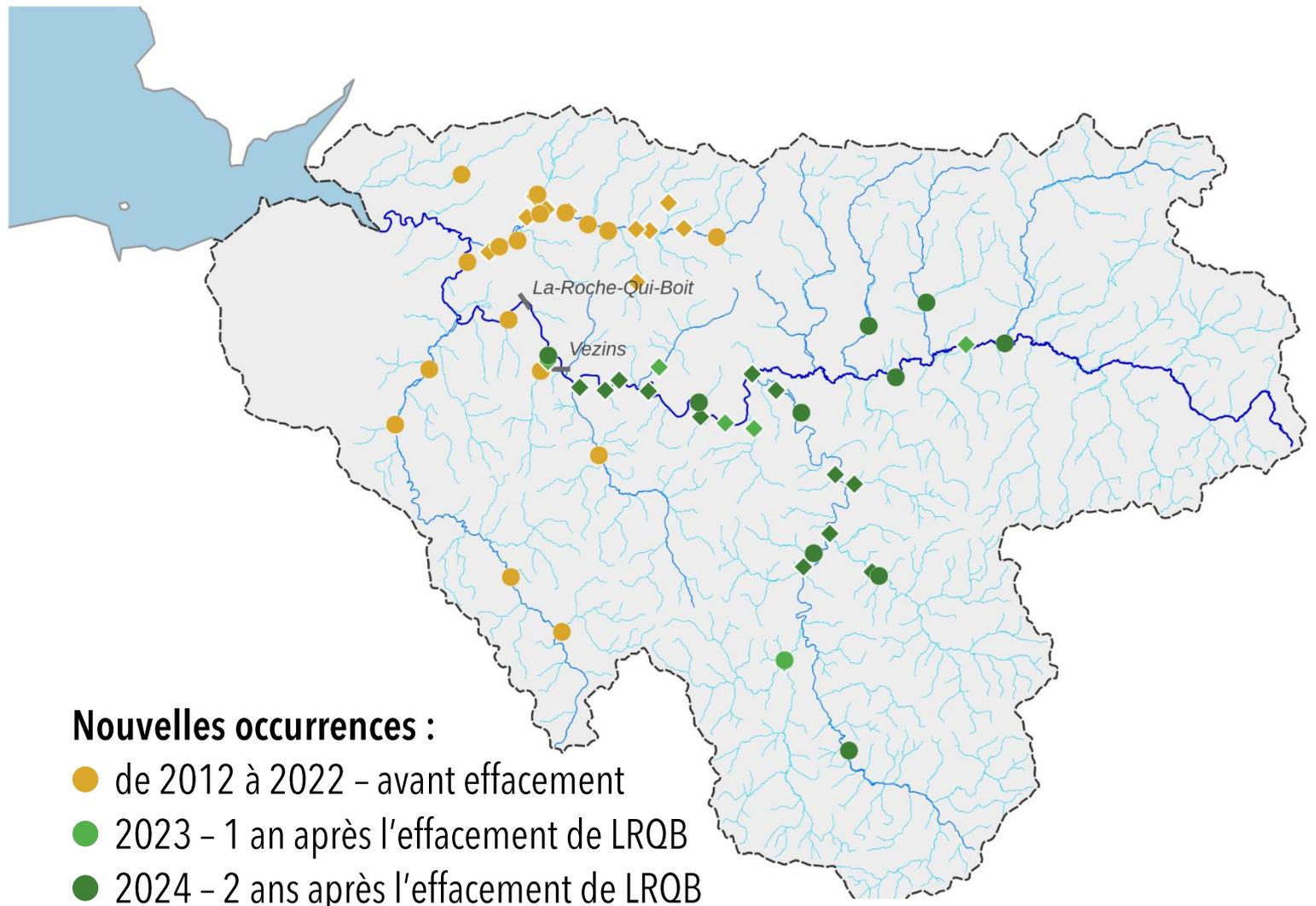
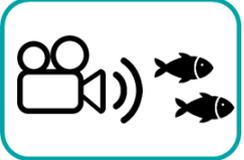
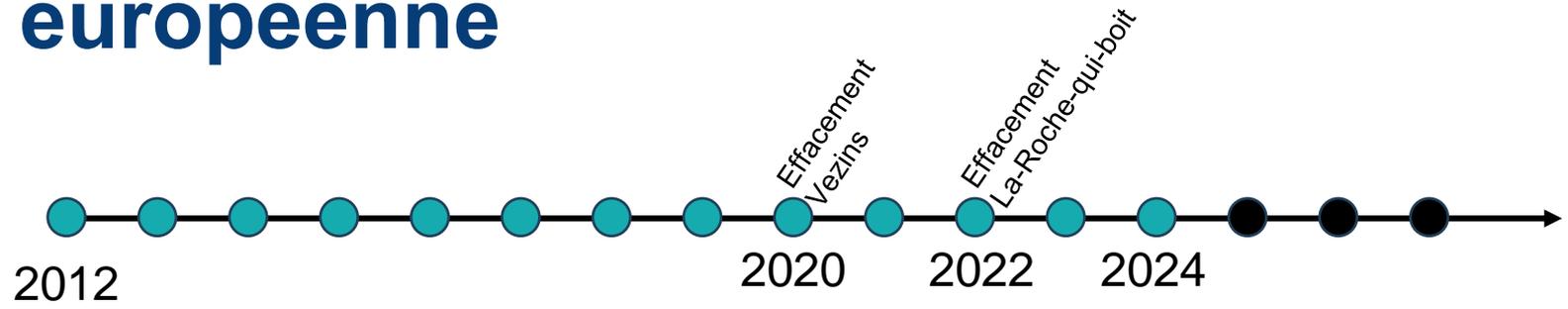
IAA



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- de 2012 à 2022 - avant effacement
- 2023 - 1 an après l'effacement de LRQB

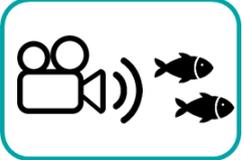
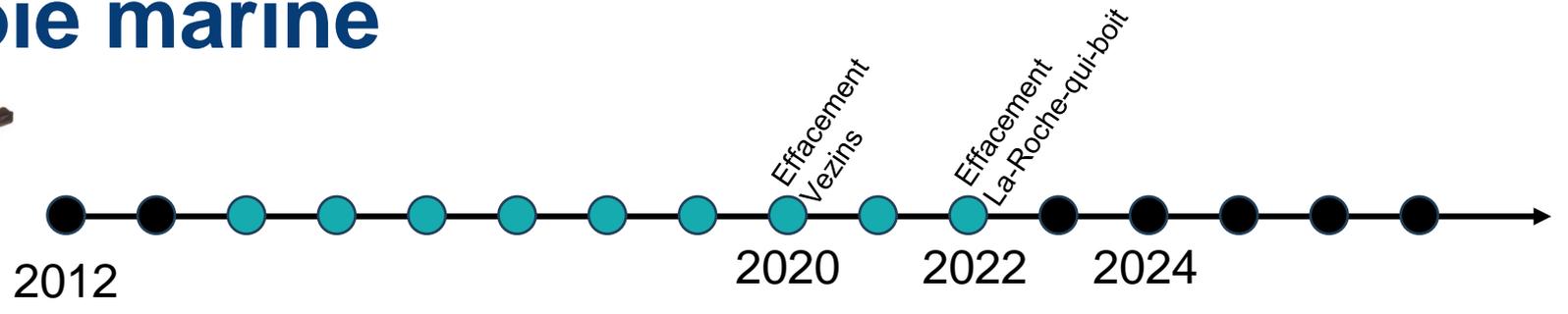
L'anguille européenne



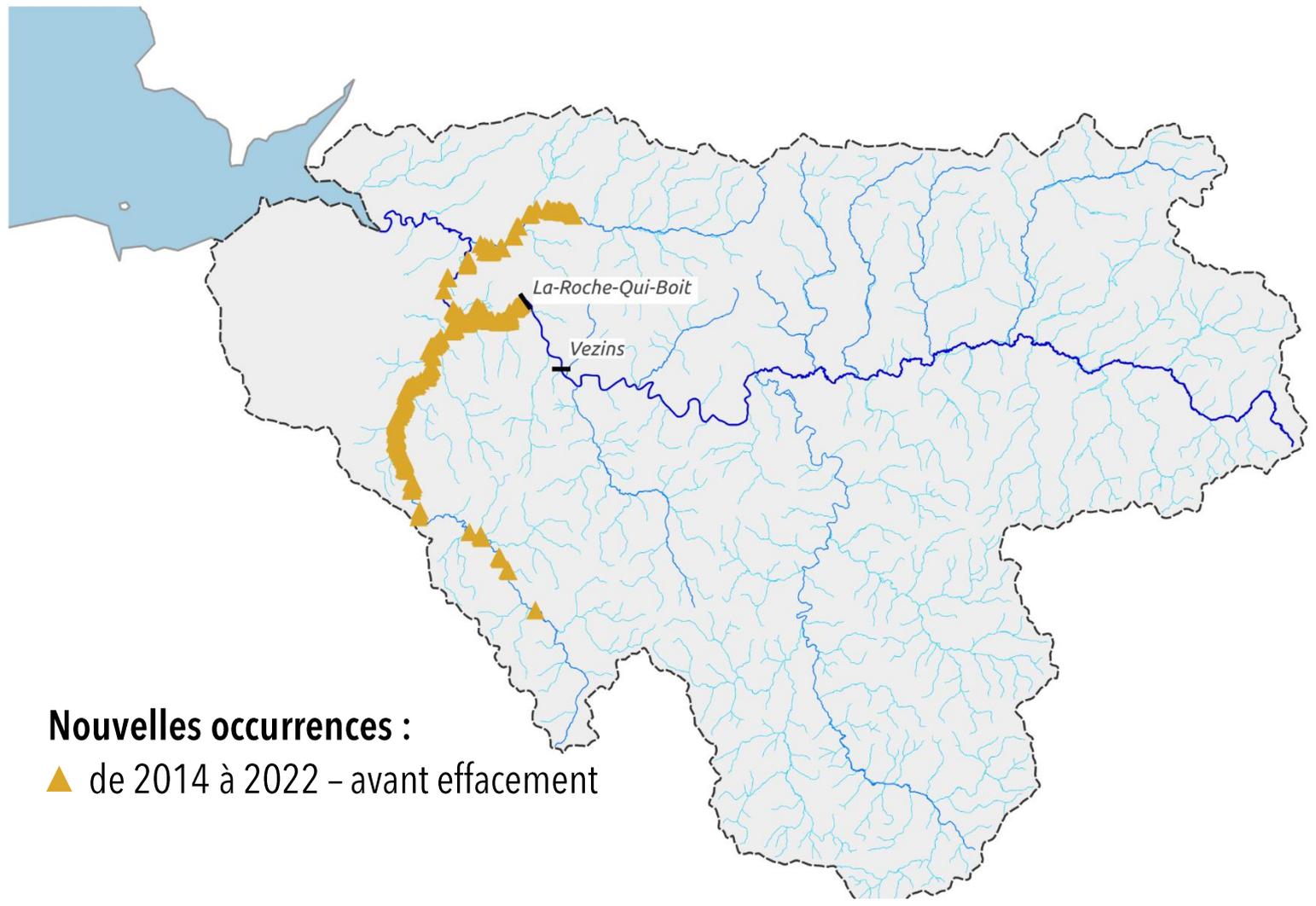
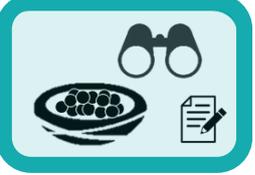
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- 2024 - 2 ans après l'effacement de LRQB
- ◆ Individus pêchés hors protocole IAA

La lamproie marine

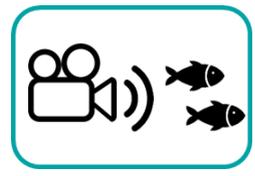
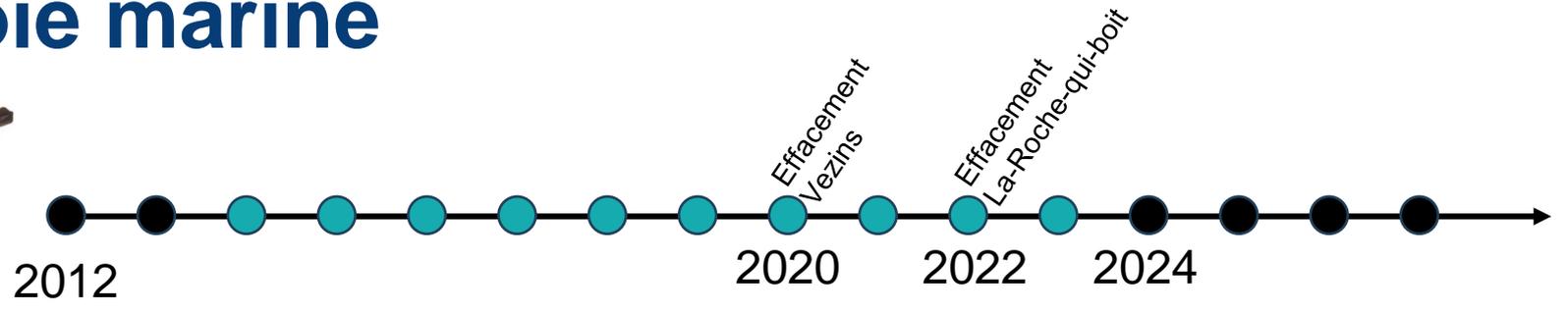


Frayeres

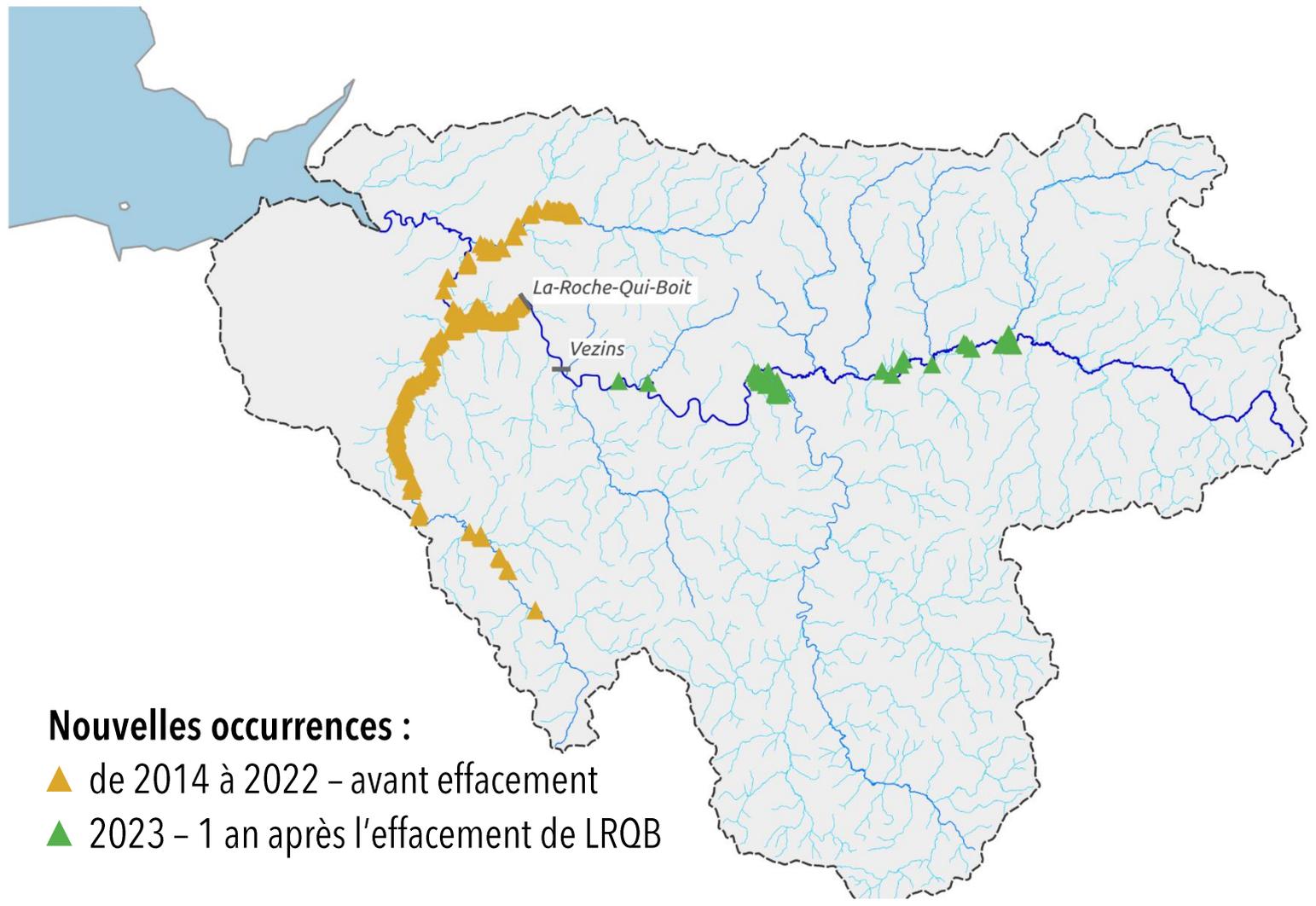


Nouvelles occurrences :
▲ de 2014 à 2022 - avant effacement

La lamproie marine

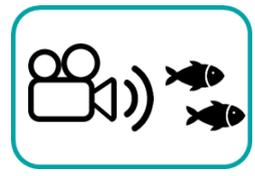
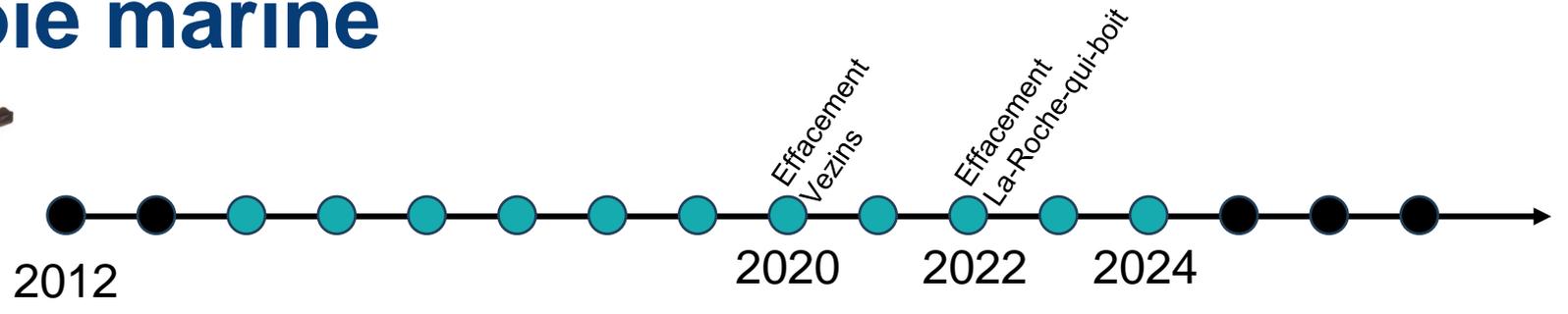


Frayeres

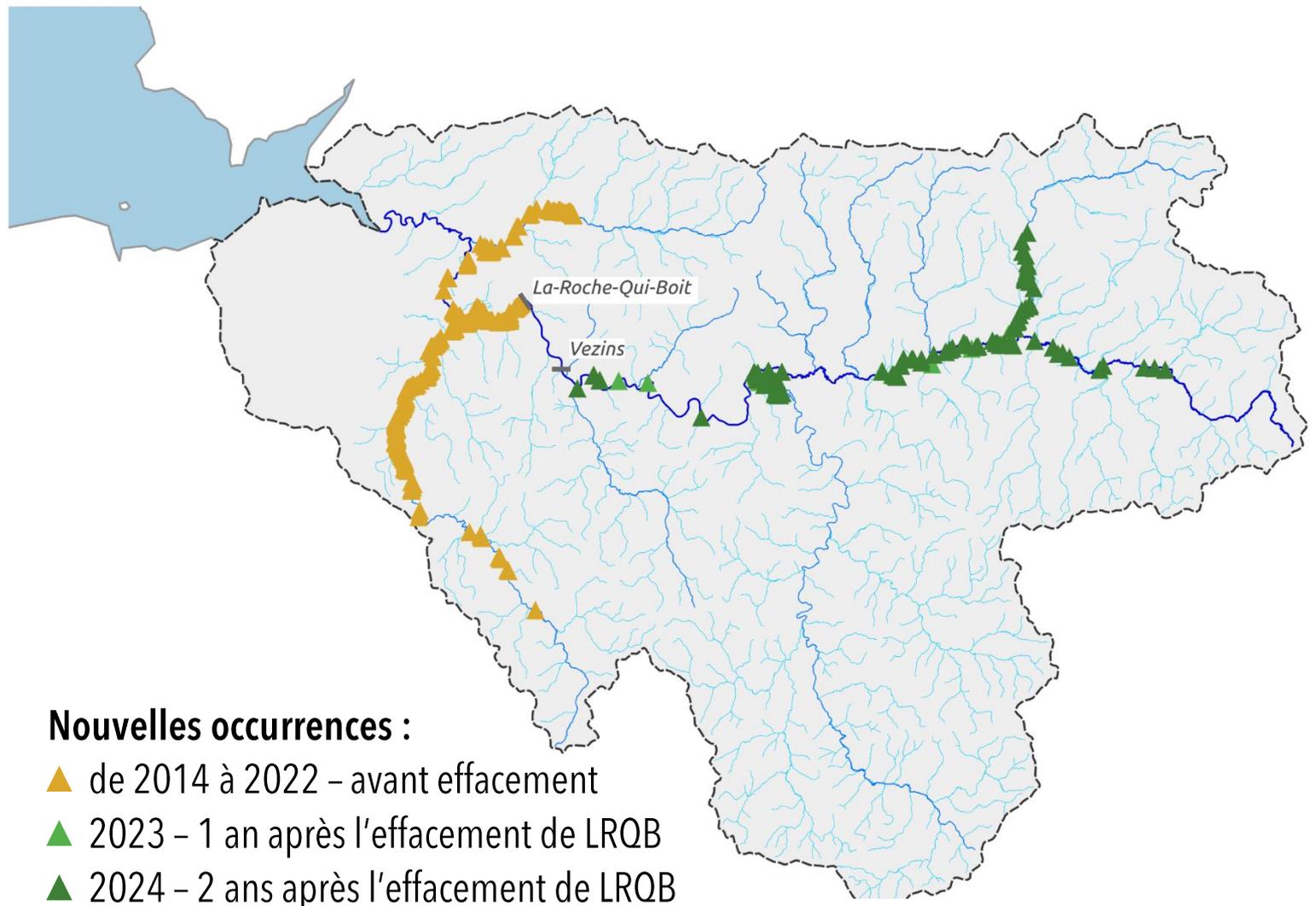


Nouvelles occurrences :
▲ de 2014 à 2022 - avant effacement
▲ 2023 - 1 an après l'effacement de LRQB

La lamproie marine



Frères



Nouvelles occurrences :

- ▲ de 2014 à 2022 - avant effacement
- ▲ 2023 - 1 an après l'effacement de LRQB
- ▲ 2024 - 2 ans après l'effacement de LRQB

Les poissons migrateurs de la Sélune



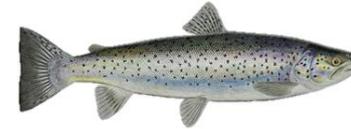
Lamproie marine
(*Petromyzon marinus*)



Lamproie fluviatile
(*Lampetra fluviatilis*)



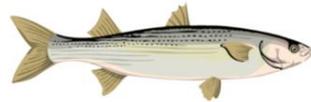
Saumon Atlantique
(*Salmo salar*)



Truite de mer
(*Salmo trutta*)



Anguille Européenne
(*Anguilla anguilla*)



Mulet porc
(*Chelon ramada*)



Grande alose
(*Alosa alosa*)



Flet commun
(*Platichthys flesus*)

Les poissons migrateurs de la Sélune

Individus identifiés génétiquement sur des échantillons d'ammocètes (0+ et 1+) à l'amont.



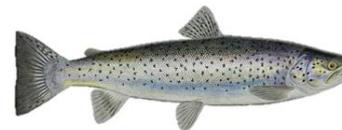
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(*Salmo salar*)



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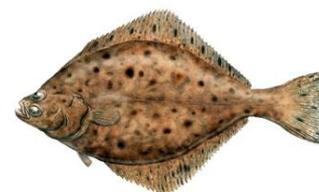
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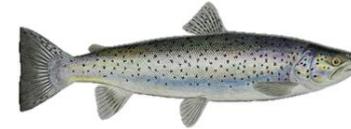
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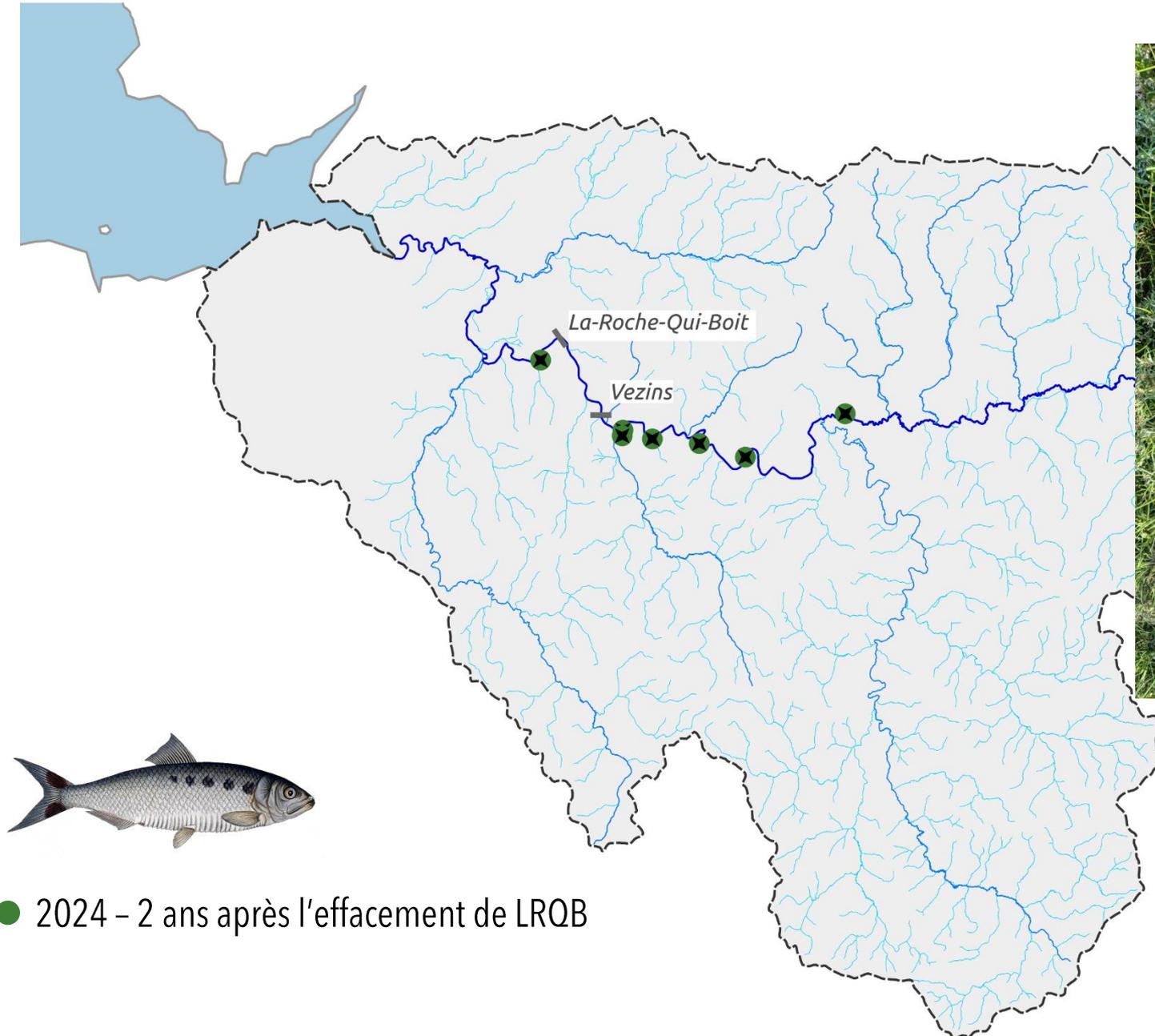


Grande alose
(*Alosa alosa*)



Flet commun
(*Platichthys flesus*)

La grande alose à l'amont des anciens barrages



● 2024 - 2 ans après l'effacement de LRQB

La recolonisation de la vallée de la Sélune par les migrateurs amphihalins

Effacement
des barrages



La recolonisation de la vallée de la Sélune par les migrateurs amphihalins

Effacement
des barrages



Aujourd'hui



à suivre...



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Merci de votre attention