



Colloque international sur l'étude, la restauration et la gestion de l'aloise
International symposium on restoration and conservation of shads

Comportement des aloises en montaison au niveau des obstacles de Golfech sur la Garonne, et de Bergerac et Tuilières sur la Dordogne

Behaviour of upstream migrating shads at the obstacles of Golfech on the Garonne, and at Bergerac and Tuilières on the Dordogne



Olivier GUERRI, Pascal VERDEYROUX (EPIDOR, France)

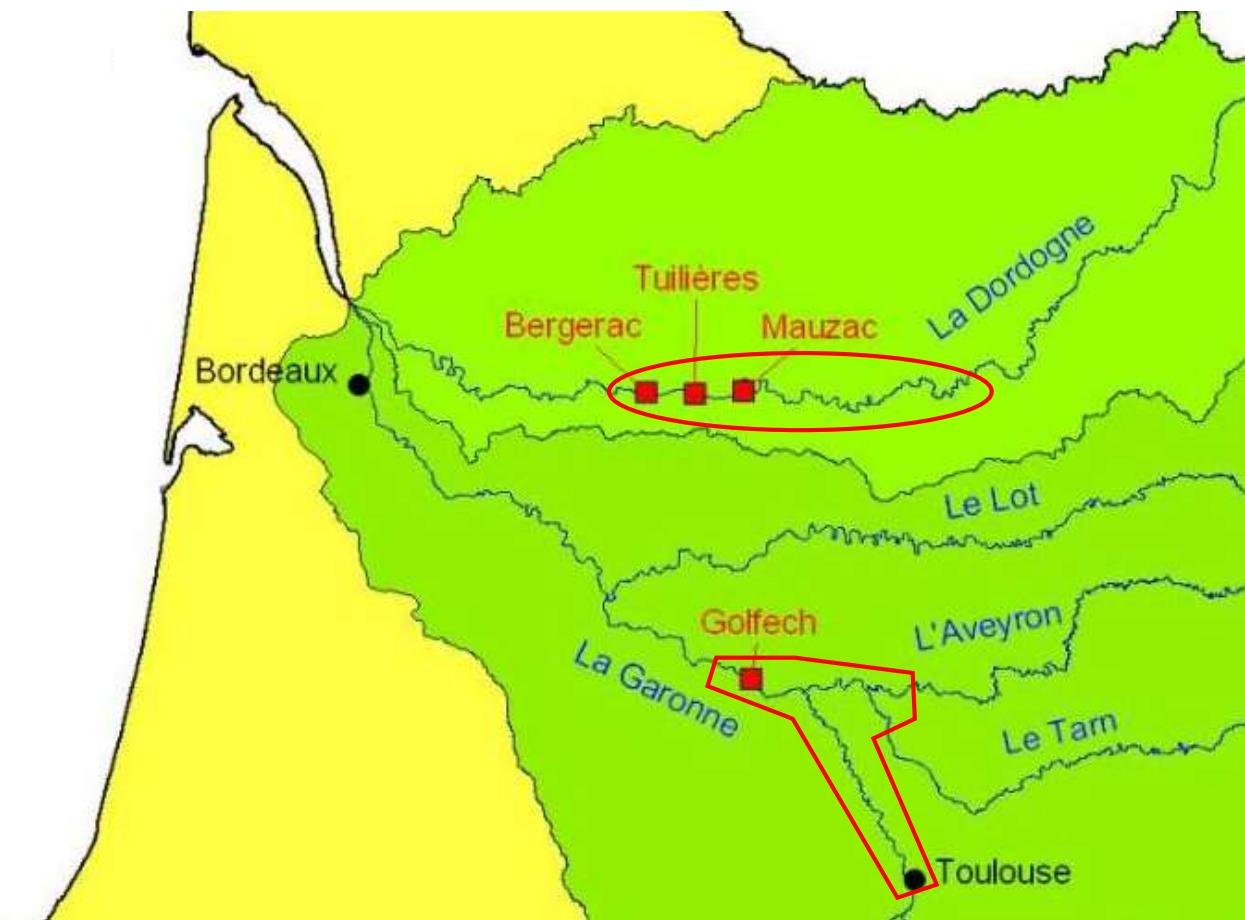
Session 1 : Les actions du programme Life+ Alose / Results of the Allis shad project

Bergerac
14-15 octobre 2015

Contexte / Context

Dordogne : majority of potential spawning grounds are upstream 3 dams

Garonne : majority of potential spawning grounds are upstream 1 dam



Contexte / Context

Dams equipped with fish ladders

But poor efficiency
(Dordogne : less than 5 % of shads succeed to pass upstream the 3 dams ; less than 1 % since 2009)

Why ?
How to improve efficiency ?



Bergerac



Tuilières

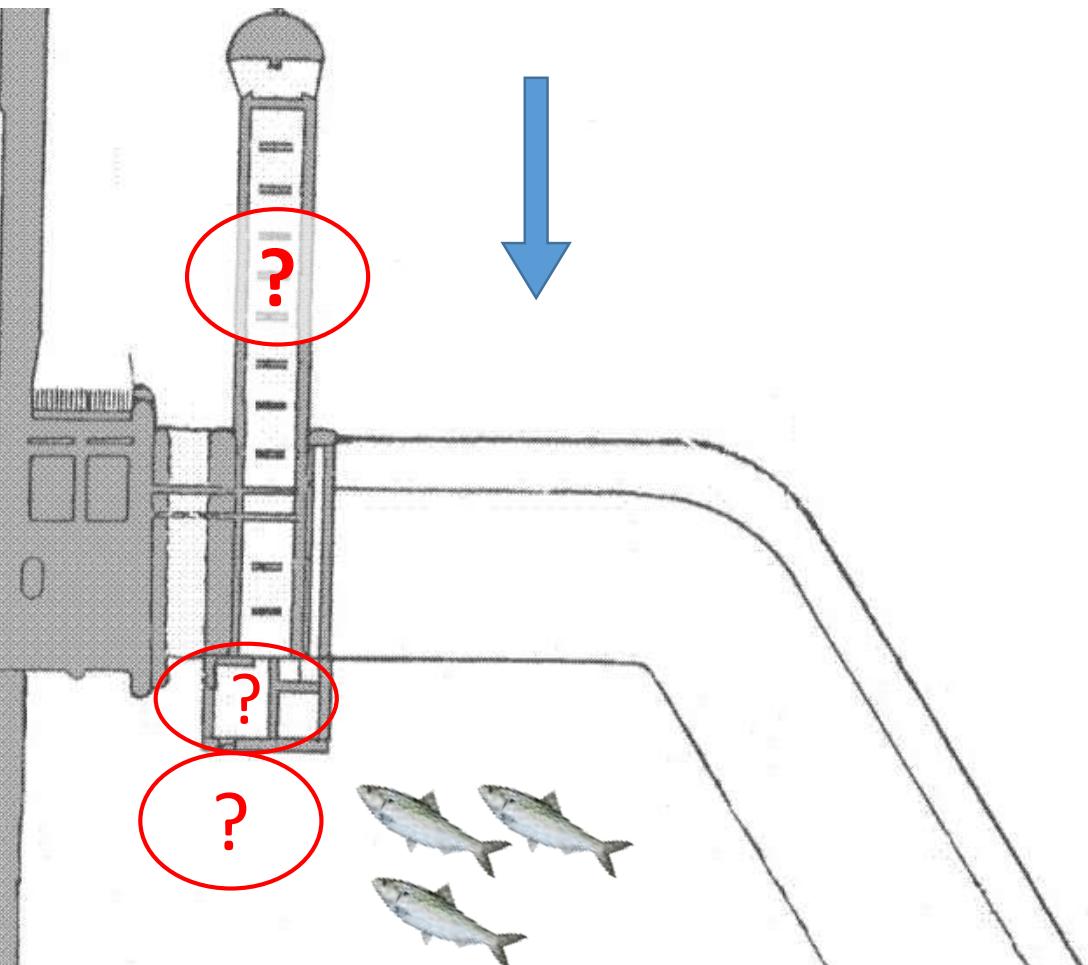


Golfech



Mauzac

Objectifs de l'action / Aims of the action



Describe the behaviour of Allis shad during the upstream migration at the obstacles of :

- Bergerac, Tuilières and Mauzac (Dordogne river)
- Golfech (Garonne river)

To identify the factors which are problematic in the use of the fish ladders :

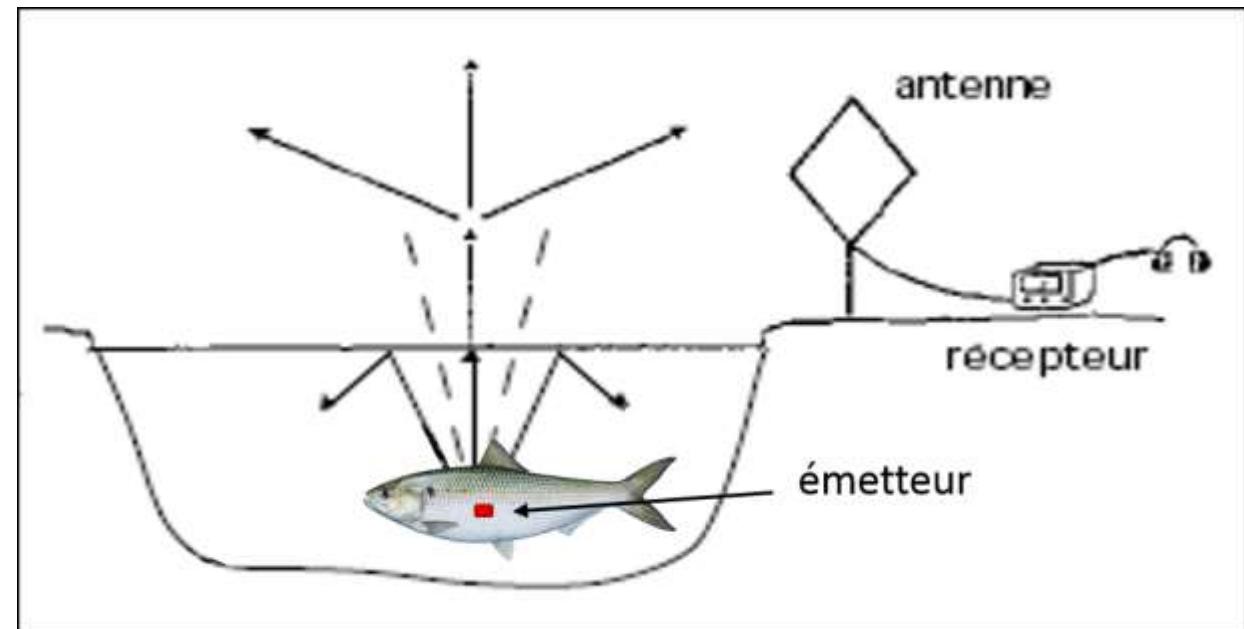
- Fish ladder attractivity
- Facility to enter inside
- Facility to progress inside

Méthodologie / Methodology

Tagging shad with radio-transmitters

Radio-tracking → description of the movements and behaviour of the shads, particularly in front of the dams

Study on 4 years
Objective of 200 shads par year



Méthodologie / Methodology

Catch in the fish ladders



Tuilières



Golfech



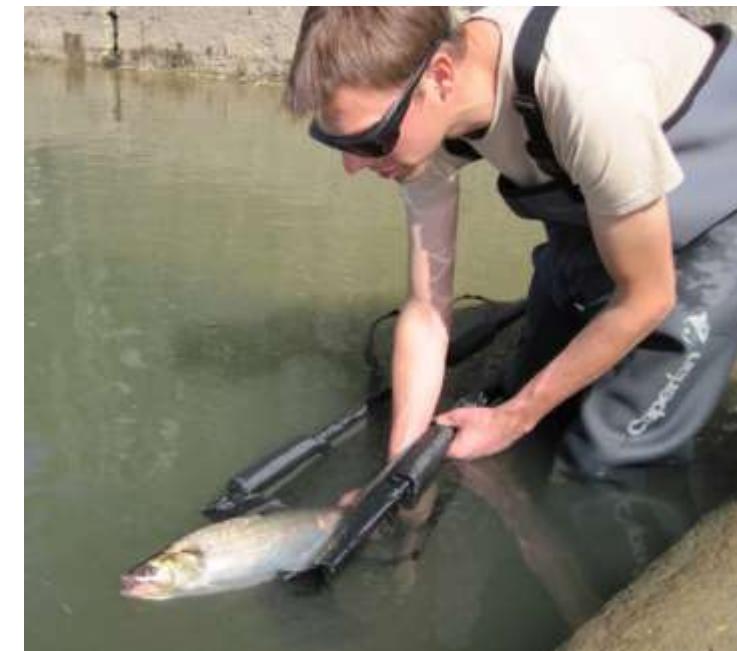
Méthodologie / Methodology

Anesthesia
Intra-oesophageal tagging



Méthodologie / Methodology

Transport
Release downstream of the dams





Migrations et captures

Migrations and catch

Quite a few shads caught

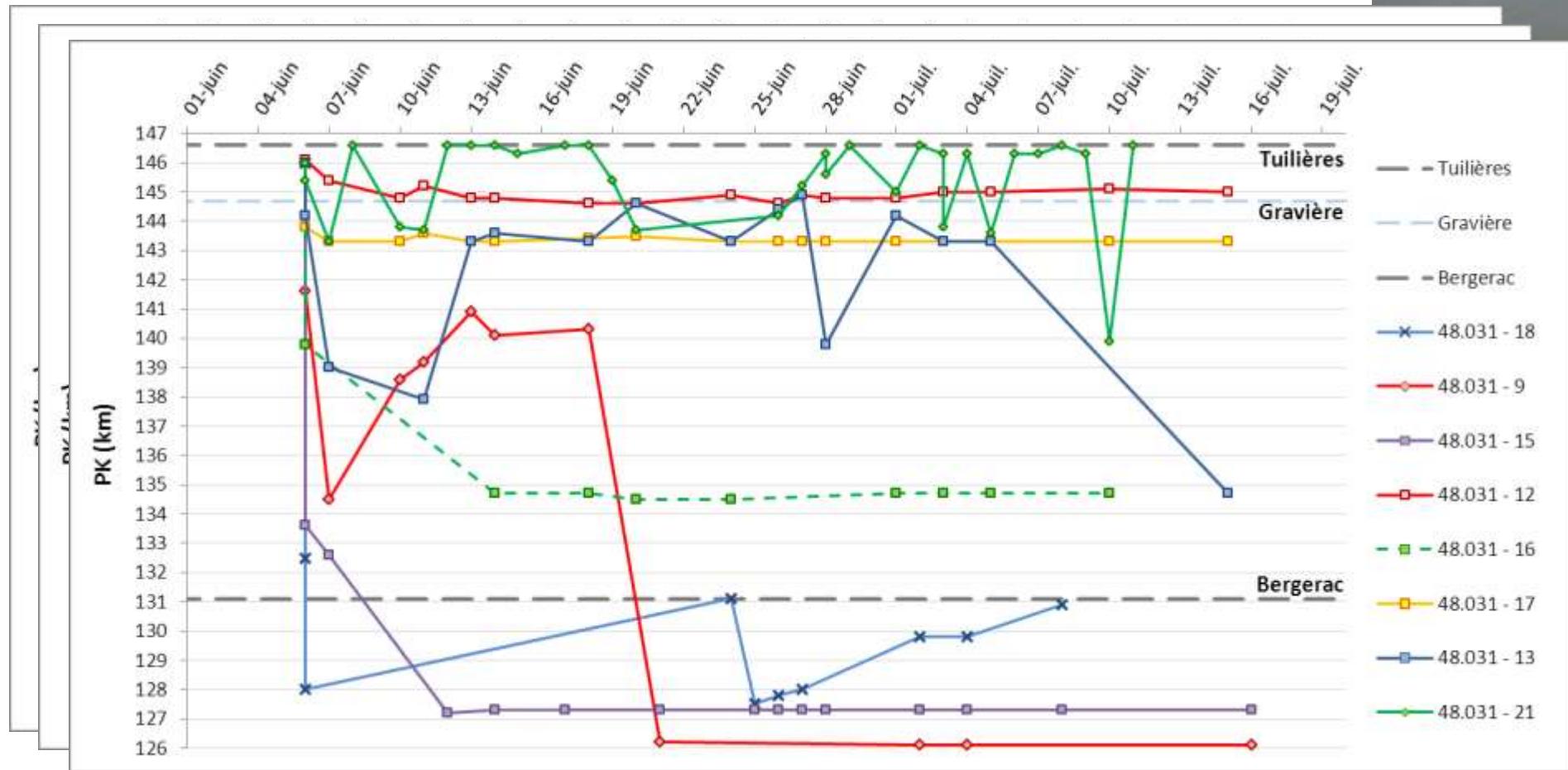
Few passages at Golfech and Tuilières dam

	Garonne		Dordogne		Estimated total population
	Estimated population	Passed Golfech	Estimated population	Passed Tuilières	
2011	28 000	2 794	8 000	21	36 000
2012	1 500	733	2 200	261	3 700
2013	1 200	630	3 300	682	4 500
2014	3 300	1 099	1 600	170	4 900

	Number of shads	
	Caught	Released with tag*
Garonne	2011	49
	2012	21
	2013	32
	2014	43
	TOTAL	145
Dordogne	2011	1
	2012	21
	2013	89
	2014	
	TOTAL	111
TOTAL		222

* Difference due to too small shads, bad condition, transmitter split or dead during transport

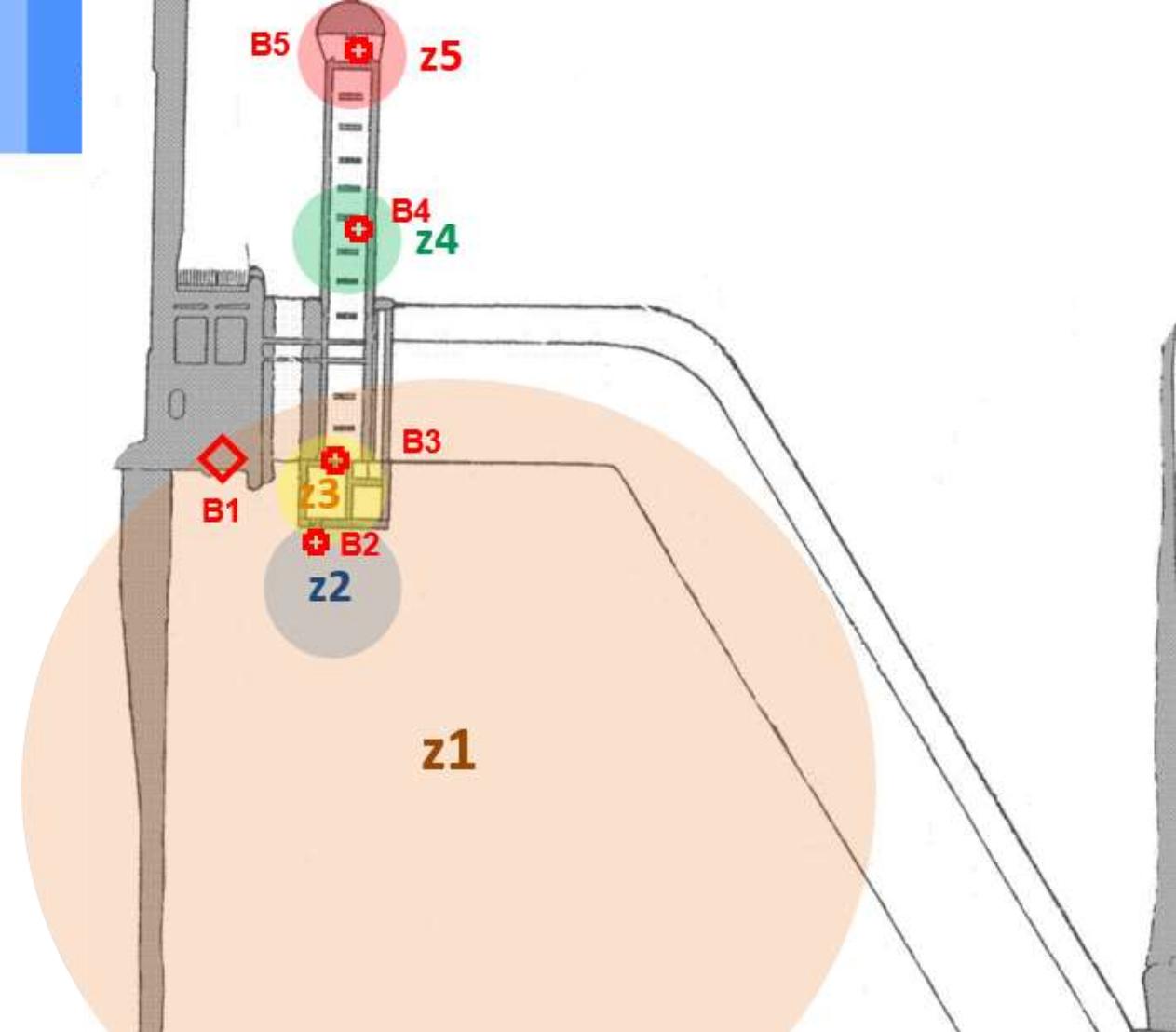
Suivis manuels / Manual tracking



Suivis au niveau des barrages

Tracking at dams

Bergerac



5 antenna + receptors
5 studies area

Bergerac

27 shads tagged

4 different shads come on site

7 days of presence

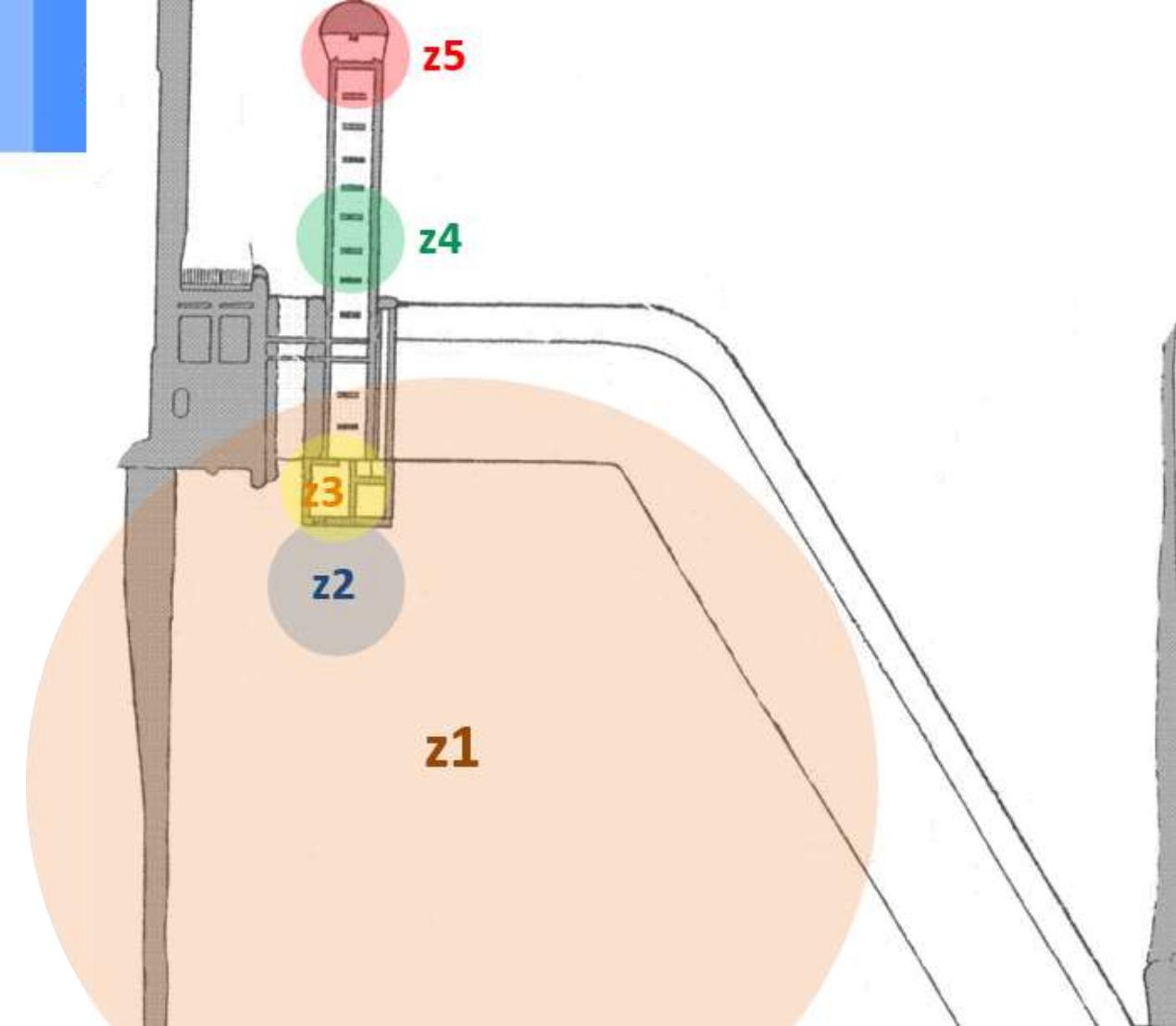
4 active prospections (15 h)

9 % of the time near the entrance

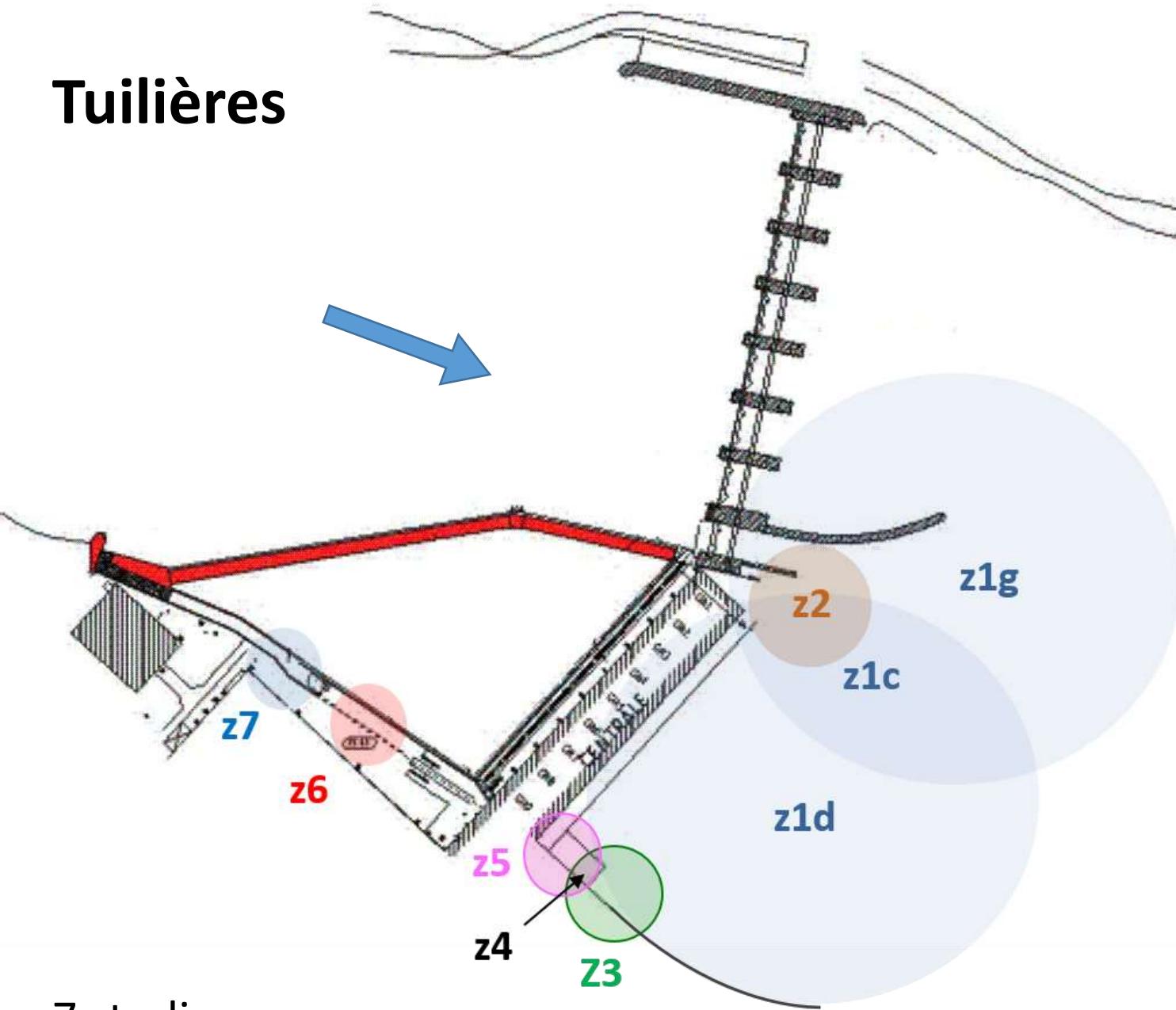
3 entry in the device
(during 2 differents prospection)

1 progression to the middle

1 passage upstream



Tuilières



7 studies area



74 shads tagged

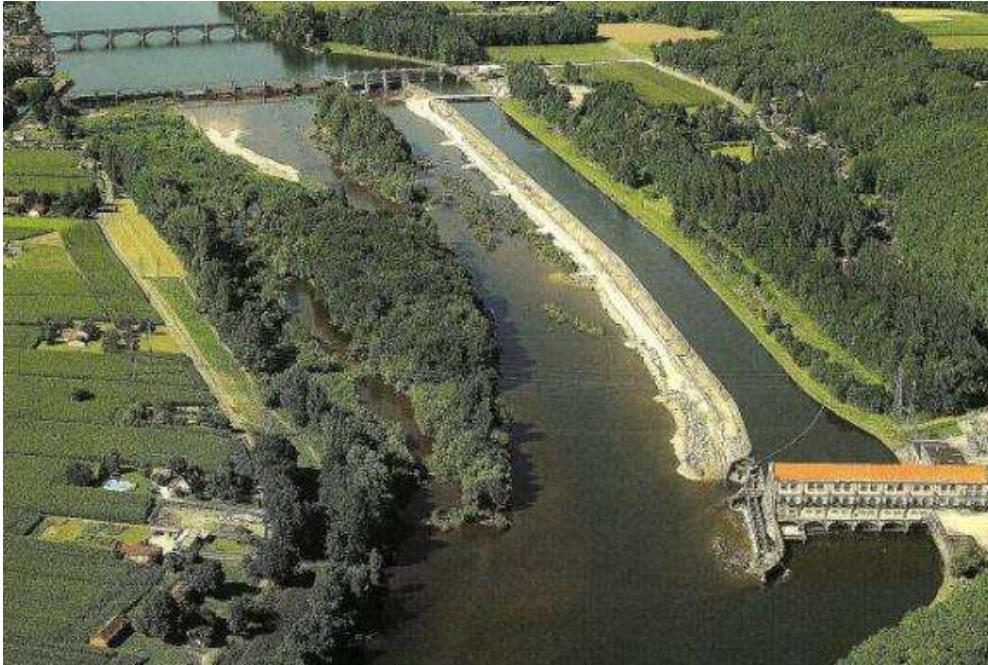
16 different shads come on site
61 days of presence
18 active prospections (103 h)

4 % of the time near the entrance
(but very variable 0,4 to 14 %)

0 entry in the device
0 passage upstream



Mauzac



- *No shads released downstream Mauzac*
 - *No shads passed upstream Tuilières*
- ➔ *No data for Mauzac*

Golfech

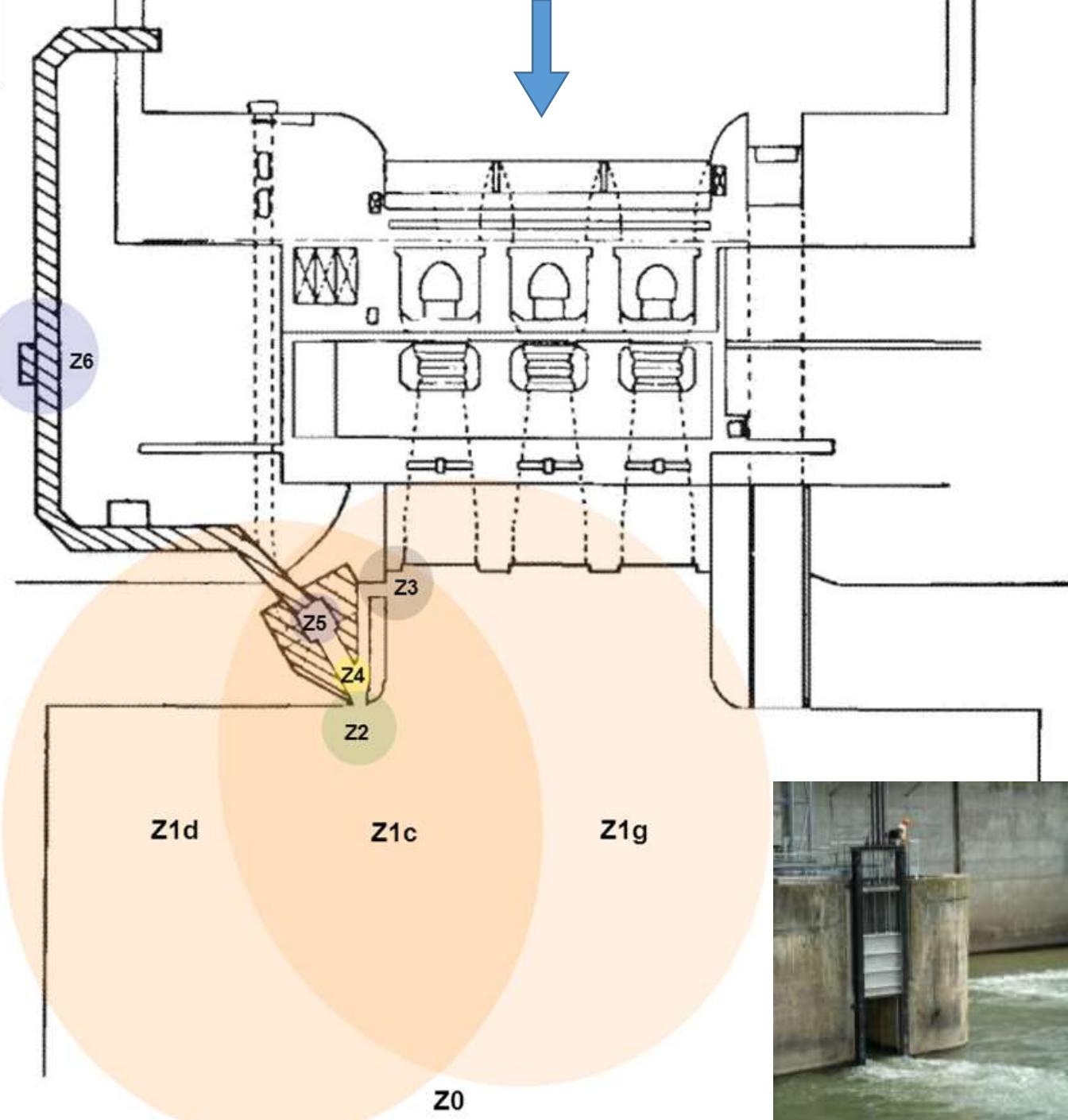
6 antenna + receptors
6 studies area

121 shads tagged

4 different shads come on site
7 days of presence
7 active prospections (35 h)
14 % of the time near the entrance

15 entry in the device
(during 6 prospections)

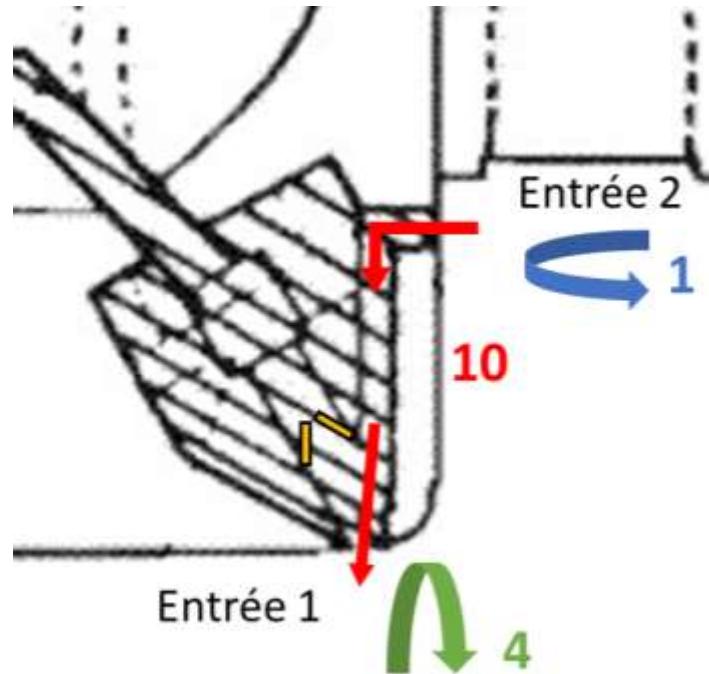
0 passage upstream



Golfech

Shads went out quickly every times

- 4 came in from entrance n°1
 - All went out by n°1
- 11 came in from entrance n°2
 - 10 went out by n°1
 - 1 went out by n°2





Résultats

Résultats

	Number of shads tagged	Number of shads come at damk	Number of days of presence	Number of active prospection	Number of prospection with entry	Number of entry inside	Number of upstream passage
Bergerac	27	4	7	4	2	3	1
Tuilières	74	16	61	18			
Golfech	121	4	7	7	6	15	
	222	24	75	29	8	18	1





Résultats

Résultats

	Entrance attractivity	Facility to go in	Progression in the fish ladder
Bergerac	Good ?	Middling	Good ?
Tuilières	Bad ? (very variable)	Bad	?
Golfech	Good ?	Variable	Bad



Pistes de travail Working lines

Bergerac : improve the facility to go inside the device

Tuilières : improve the attractivity of the entrance
and improve the facility to go inside the device

Golfech : improve the progression inside the device



Thank you for your attention

