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CONSTRUCTED WETLANDS TO REDUCE PESTICIDES' POLLUTION IN WATERTABLES: AN ONGOING INNOVATION?

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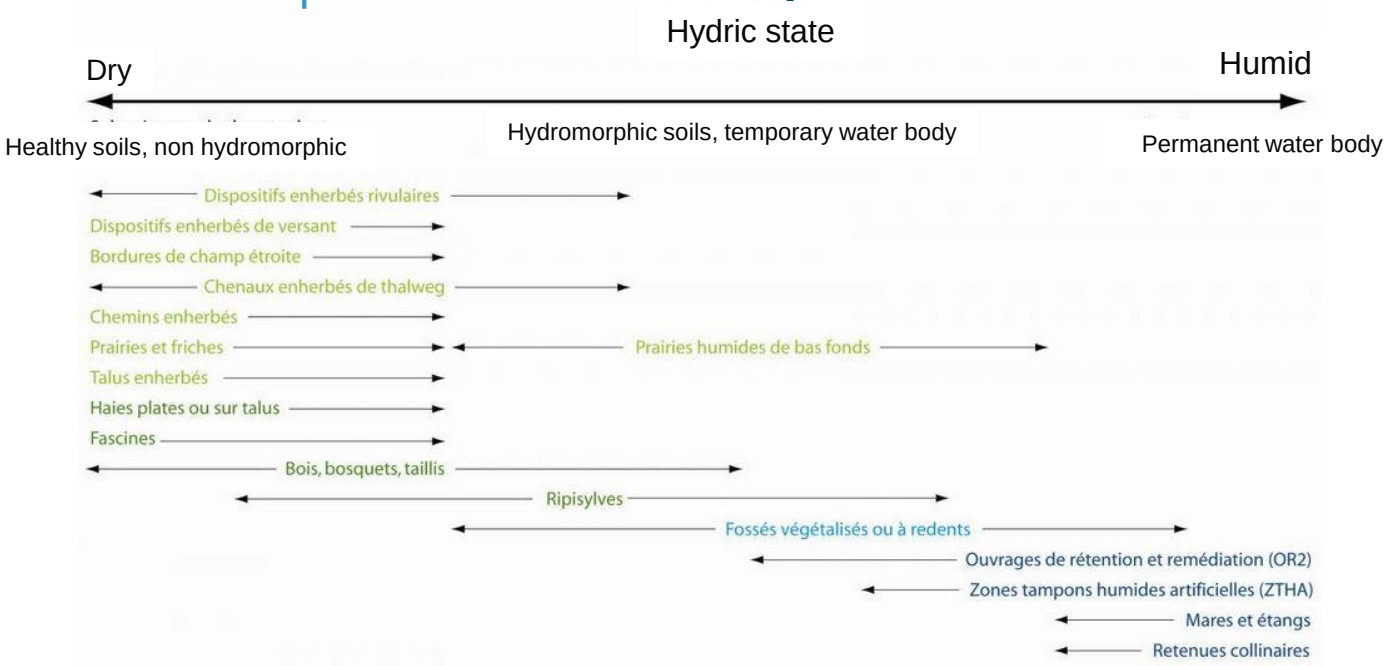
Pesticides' contamination

- Principal contamination source of water resources in Europe
  - Achievements of the FDW 2015 ?

- Two types of solution complementary and indissoluble
  - Reduction at the "source" → écophyto2018 — Réduire et améliorer l'utilisation des phytos : moins, c'est mieux
  - Limitation of pollutants transfer → "Buffer" Zones



BS adoption?

- Buffer strips

Transition from invention to innovation «Successful »

- Adoption by user
- Adoption in the regulatory texts

Which adoption for the AW ?

- AW : Experimental phase

Which diffusion modalities?

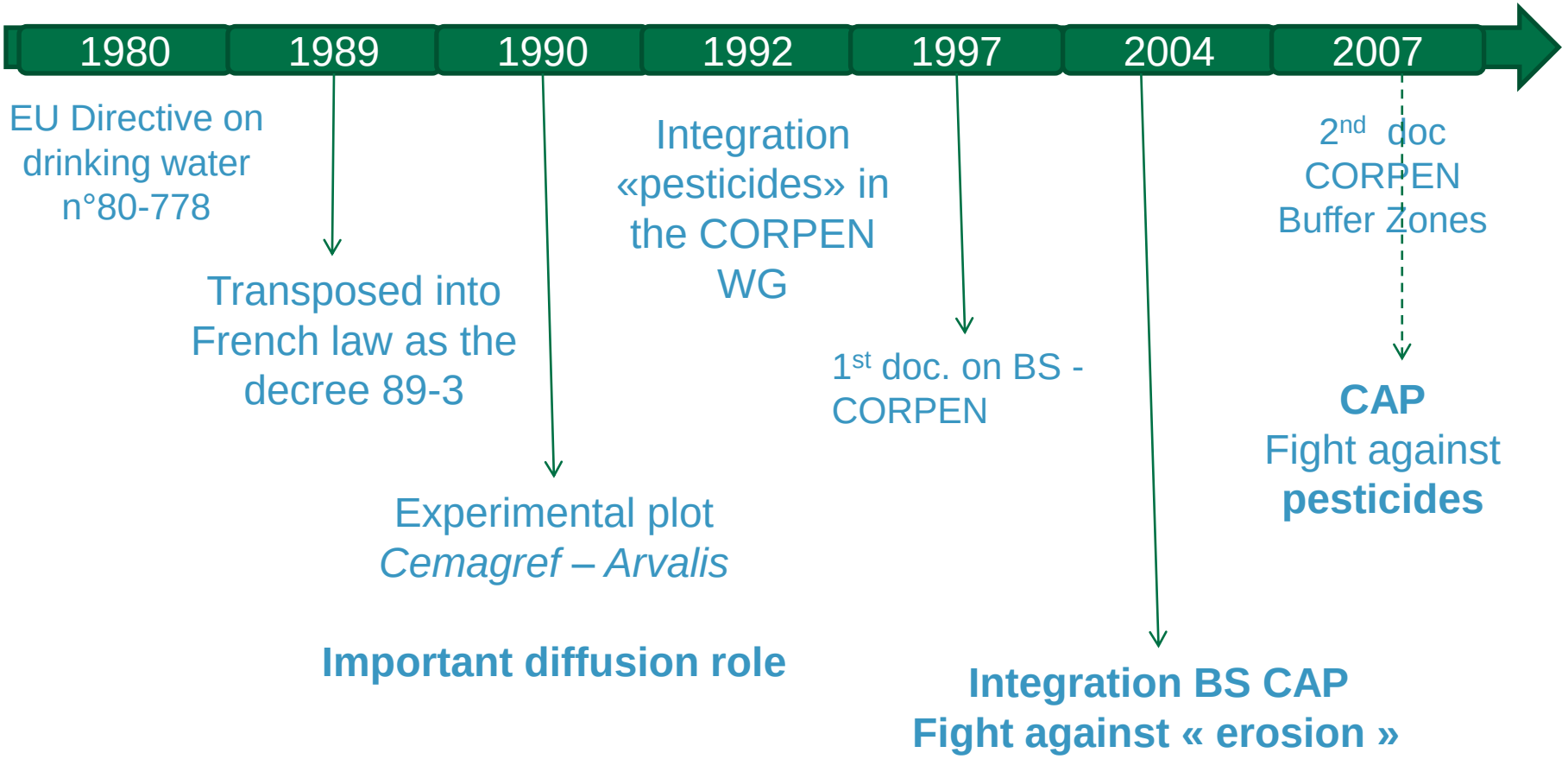
Decrypt

Conception → Diffusion

Analysis

- Ex post Buffer Strips
- Ex ante AW

Buffer Strips



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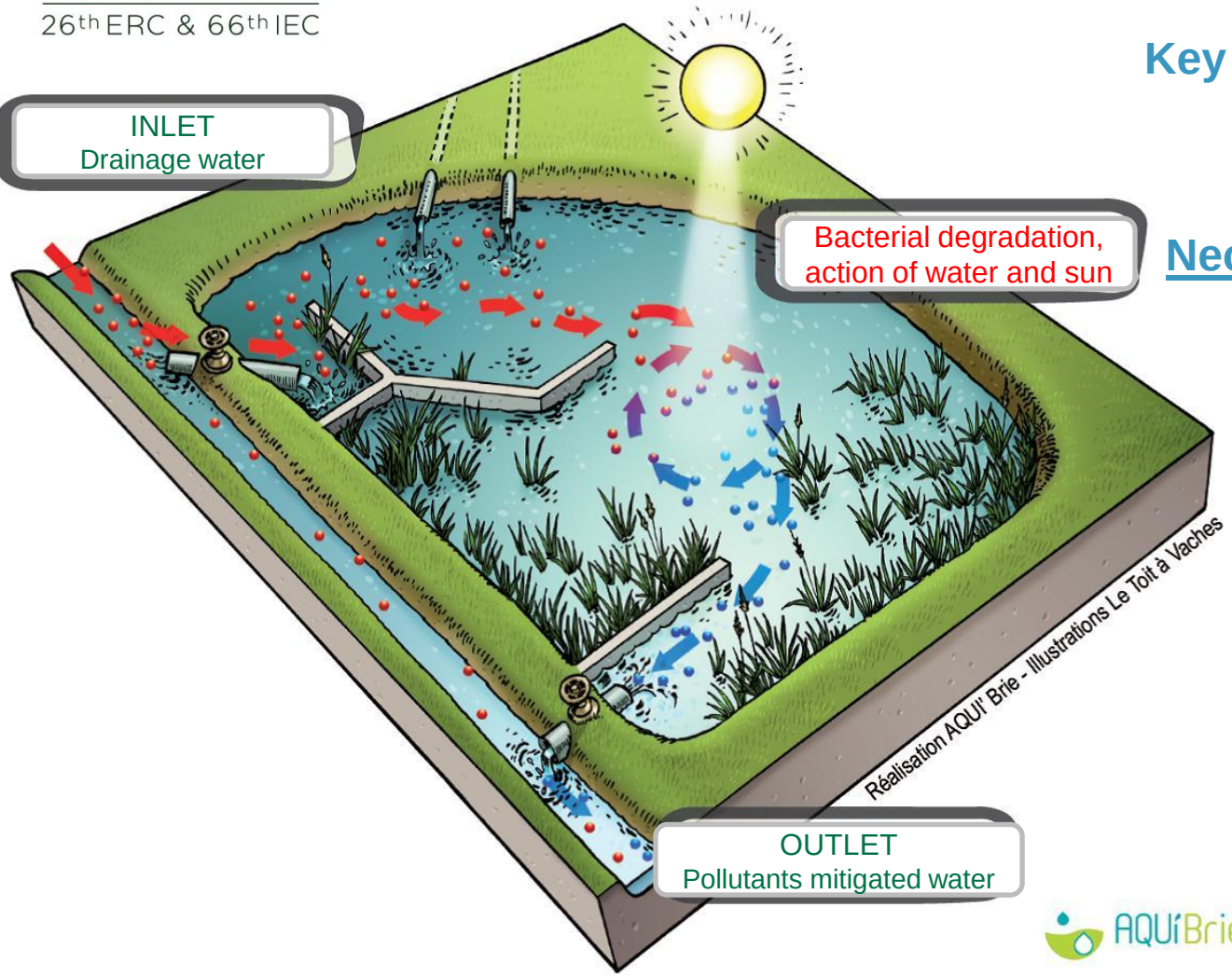
Which adoption for the AW ?

Key factor : retention time



Necessary management in/out flows

Experimentation (AW)

Many pilote sites

Aulnoy (77)
WS : 35 ha
Project PIREN-Seine

Bray (37)
WS : 46 ha
Project Life ArtWET

Rampillon (77)
WS : **355** ha

Strong reluctance from the agricultural profession (Rampillon)

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A first deployement

In partnership w/ « Aqui'Brie »
Co-construction process

Socio-technical compromise
Realization of 55% of the initial project

Planned

Realized

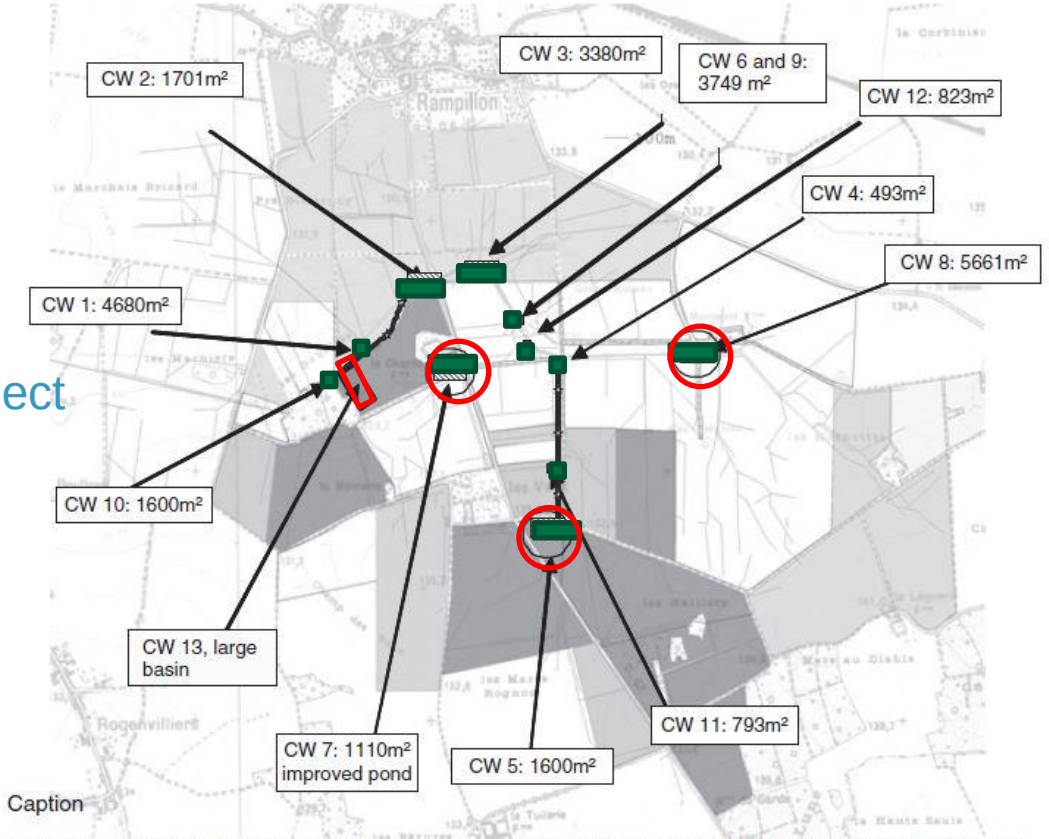


Figure 4. Evolution of the scheme within the process from 2005 to 2010 (CW 5, CW7, CW 8 and CW13 were implemented)

Freins & Facteurs de réussite

Constraints

- Make agricultural pollution & and pesticides impact visible
- Their implementation doesn't exempt from an upstream reduction
- Necessary management by the farmers themselves

Territory issues

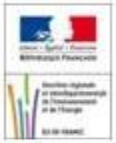
- **Intensive cereal culture**
- **Champigny water table**
  - **(DWS 1M of pers. Great Paris)**

Driving forces

- Concerted approach, non «stigmatizing»
- Carried by Irstea (ex-Cemagref) scientific bases
- Aqui'Brie federative basis
- Implication of stakeholders (syndicates & farmers)

A 2nd diffusion step, possible on the Brie territory ?

Questionnings on the diffusion modalities with Brie stakeholders

Structure	Aqui'Brie	SEME77		Mairie	DRIEE	DDT	AESN	CG 77		SAFER IDF	CA 77	Agriculteur
												
Service / Pôle		Direction		Eau & assainssmt	Eau et agriculture	Police de l'eau	Collectivités	Direction / Direction de l'Eau & Env.		Collectivités	Agronomie et Envrnmt	
Typologie	Environnement					Administration						Agriculture/ Economie

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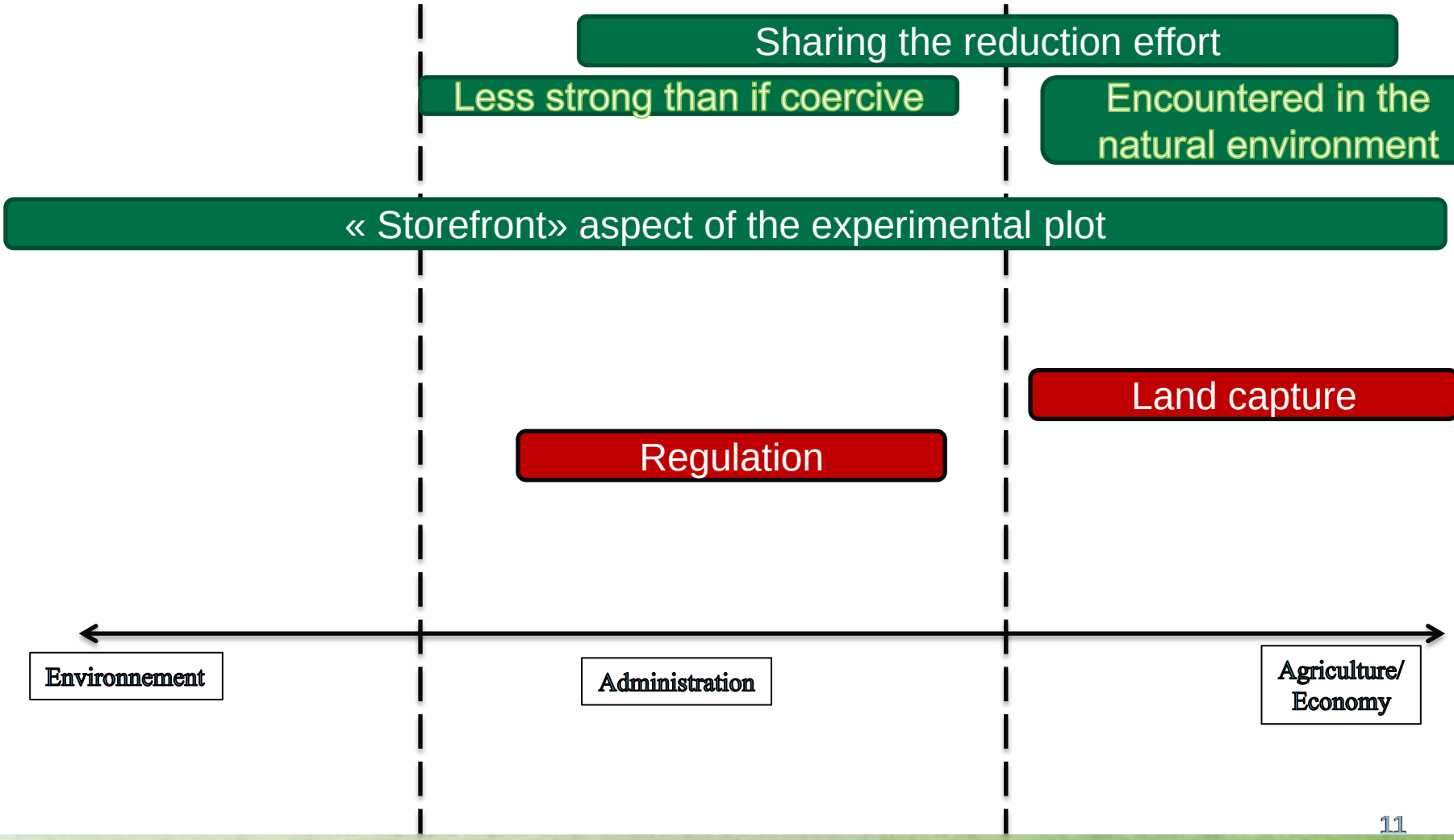
Which diffusion keys ?



Land capture

1% of the drained UAL

≠

Productivist area

Uneven distribution

Patrimonial value of the land

Administration

Agriculture/ Economy

Some levers

- **Exploitation of wetlands**

➡ Restore degraded wetlands

➡ Exploit hydraulic appendices: Rivulets (Rus) and ditches (fossés)

- Poor water quality
- Does not « charge » lands

Regulation

- Difference rivulets and ditches ?
- Banning discards towards a WL

Clarification & ranking regulation

« *Adopting it is adapting it*»

Two types of Buffer Zones derived from the field research **BUT**
Two different diffusion models:

Buffer strips : « *Diffusion Model - Modèle de la diffusion* »
(Akrich et al., 1988)

« Innovations » = Invention that has succeeded or encountered users (Schumpeter, 1911)

Have spread thanks to their technical characteristics by «*demonstration effect - effet de démonstration* »

« *Adopting it is adapting it*»

Artificial wetlands : « *Incentive model - Modèle de l'intéressement* » (Akrich et al., 1988)
« *The innovation destiny depends on the active participation of everyone decided to make it progress*»

Less linear model than BS's one and in which the involvement of many allies is necessary

-Implication of farmers (land, pesticides reduction, management, hydraulic management)
- Adaptation of a regulatory context (AW and Wetlands generally)

Thank you for your attention !

- The authors

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