



Woodlands for drinking water: 2 “success stories”

Castelfranco Veneto

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COST PESFOR-W

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Catchments in agricultural plains

➤ Case study of Rennes

Creating woodland to protect water

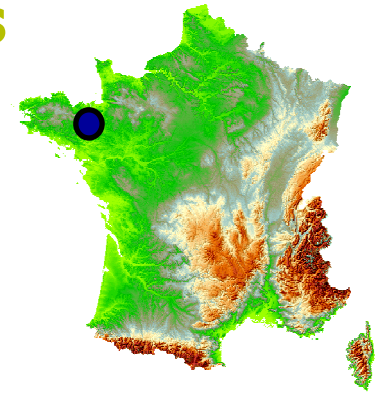
Protection costs study

71.5 ha afforested for water protection,
costs 6 300 €/ha (14 700 €/ha including land purchase).

Over 10 years:

- **Protection costs** (including agricultural measures)
= 0.16 €/m³ (1/4 due to woodland planting)
- **Costs avoided** (changing the catchment)
= 1.50 €/m³

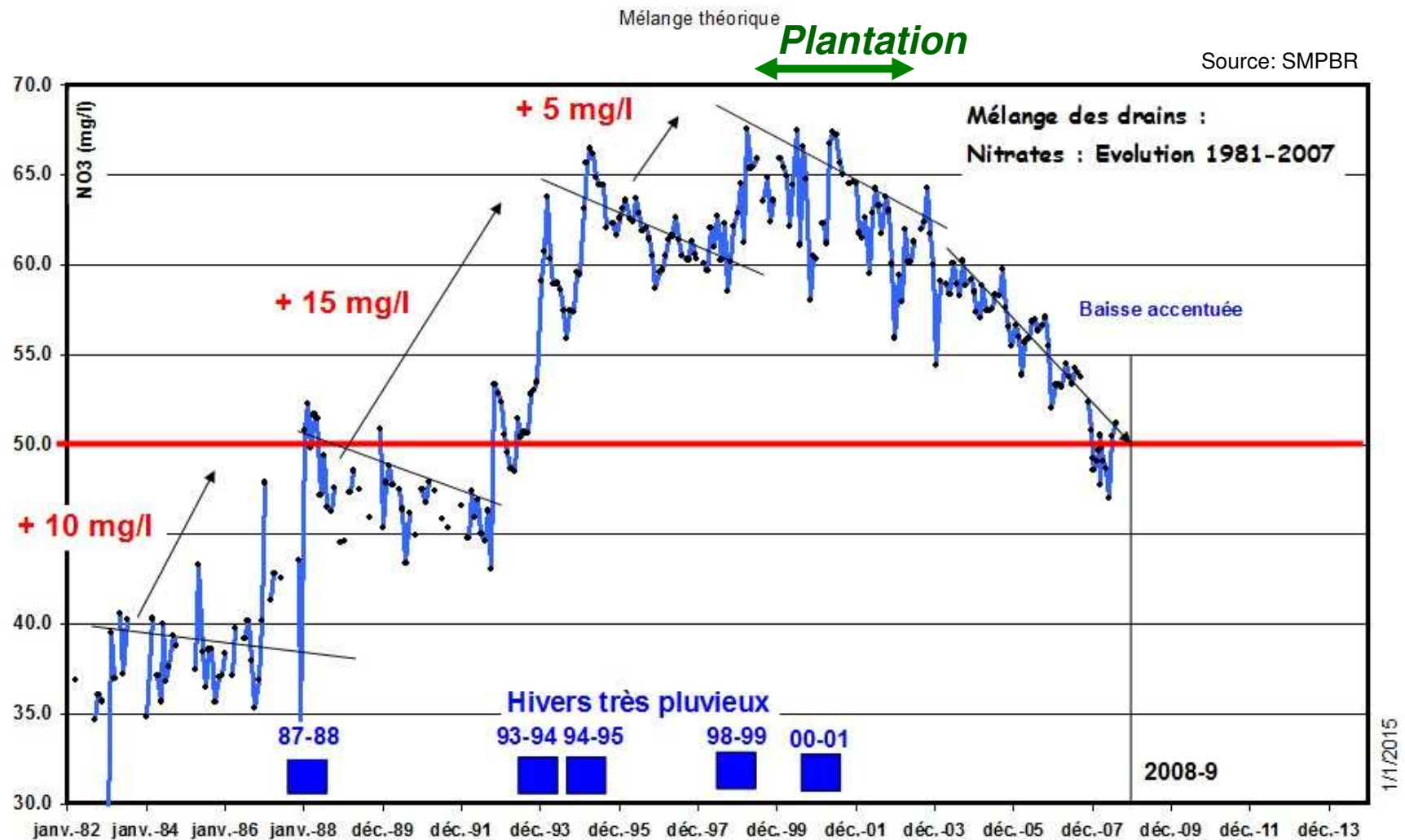
Here the local authorities fund the land purchase and woodland planting to create protective forest cover



Catchments in agricultural plains

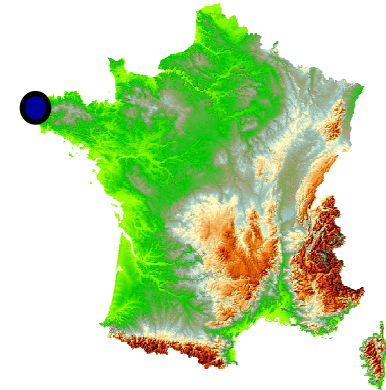
➤ Case study of Rennes

An efficiency indicator of this approach:



Catchments in agricultural plains

➤ Case study of Plabennec (Brittany)



Small catchment area : 30 ha, 100% crops

Woodland plantation on 5.3 ha, close to the intake (most vulnerable zone)

Nitrate contents:

1982 : 74 mg/l

1995 : 109 mg/l,
5.3 ha bought by the municipality,
crops are stopped

1998 : 96 mg/l, woodland plantation

2016 : 47 mg/l



⇒ From 0 to 18% of forest cover: minus 50 mg/l of nitrate 18 years latter

Catchments in agricultural plains

➤ Woodland plantation for water quality Recommendations

Woodlands act in two ways:

- a minimal pollution dilution role
with areas that infiltrate high-quality water
- and as a purifying filter if the root system is exposed
to an inflow of polluted water to the catchment.



Woodland plantation is efficient “by itself” on small catchments.

Until around 200ha, few tens of ha can modify forest cover rate and be efficient on water quality.

On larger catchments, woodland plantation has to be combined with other measures (Fermond *et al.*, 2013).

Woodland plantation is also “a question of image”. It shows that water services are working on water protection. It’s a first step to convince other land users to commit themselves to protect water.

Thanks for your attention!



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To go further:

<http://www.cnpf.fr/n/woodlands-for-drinking-water/n:263>

<http://www.cnpf.fr/n/the-forest-development-organizations/n:249>