Almost 16 million hectares of forest
Forests and woodlands in France cover 15.7 million hectares, or 28.6% of the territory.

…of which 3/4 are privately owned

- 3.5 million private forest owners
  - 1.1 million own more than 1 ha
- 96% of private forest owners are individuals.
  - They own 82% of the private area.

French Private Forestry Federation

- 16 regional unions
- 78 departmental unions
- 30,000 members, 2 million hectares

Eric Toppan - French Private Forestry Federation – Antalya 12-14 mai 2009
A well-managed forest produces timber of course, but also different kinds of products, like drinking water, at a very competitive cost.

The role of forests in water management: which is to capture, filter, store, distribute water and also mitigate floods, is not legally recognized in France.

But 1/3 of water catchments are located in forests = 1 million hectares of forest.

What kind of management?  

Land acquisition, regulation, recommendation (contracts are very rare)

Why? Because water caught in forests has around 5 mg/l nitrate when the legal rate is 50 mg/l for tap water.
• Many local authorities are attempting to highlight the role of forests in the protection of drinking water.

• We started a 3 year project in 2006 in order to demonstrate the importance of promoting experiences with contracts between water users and foresters, and to move towards better protection of water resources.

• In collaboration with National Research Institute on Agriculture (INRA) and the Economic Forestry Institute in Nancy, we are working on the development of a contract implementation method between users of drinking water and foresters, along with relevant tools (technical and budgetary reference bases, models for contracts, etc.).
Comparaison des prix de l’eau et taux de boisement départementaux
(Départements métropolitains, sauf Paris, moyenne des taux de boisement pour les départements 92, 93 et 94)

\[ y = -0.0023x + 0.4069 \]
\[ R^2 = 0.2218 \]

J. Fiquepron - Laboratoire d’Economie Forestière, 2006

Eric Toppan - French Private Forestry Federation – Antalya 12-14 mai 2009
Which services can be contractualized?

• **Resource protection**
  – Forest cover? Not a priority in France because forest clearance is forbidden without special authorization.
  – Best practices: less important than in agriculture, but can be considered when the resource is vulnerable (ex: Moises-Forchat in Rhône-Alpes, Masevaux in Alsace)
    • Natural regeneration under umbrella of older trees,
    • Forests of coniferous are transformed by introducing broadleaved trees,
    • Timber harvesting must be accompanied by additional measures, such as restriction of circulation of forestry engines…
  – Afforestation: yes, when the resource is vulnerable
Economic valuation of forest services for drinking water
Existence of forest

Value of natural drinking water originated from the forest

- Question:

Raw water: Has drinking water’s origin an importance for households?
What do we buy, with mineral water? Not only a bottle of water, but also a water origin.
55% of the French population think that sewage water is directly treated in plants to produce drinking water (Baromètre C.I.EAU / TNS SOFRES - 2008)

⇒ Wrong idea

Eric Toppan - French Private Forestry Federation – Antalya 12-14 mai 2009
QUE SAVEZ-VOUS DE L’EAU QUE VOUS BUVEZ

AVEC L’EAU MINÉRALE NATURELLE
TOUT EST TRANSPARENT.

Vous buvez une eau naturellement pure,
qui ne subit aucun traitement microbiologique,
provenant d’un site unique et protégé de toute pollution,
d’une composition minérale garantie
et reconnue essentielle pour l’équilibre nutritionnel.
What is the value of good quality drinking water, since the origin, thanks to forest?

Eric Toppan - French Private Forestry Federation – Antalya 12-14 mai 2009
• Site of Nancy’s metropolitan area

- **Goal**: Assess households’ willingness to pay for natural tap water from the forest
- **Method**: contingent valuation
  Household survey based on scenarios with variations of raw water origin and quality
- **Assess households’ preferences between 2 origins of drinking water**:
  - forest water with little treatments
  - surface water with complex treatments
Manage Forest FOR water quality can be a very good deal!

There are few attempts in France that are consistent and endure over the long-term:

In MASEVAUX:
• Water from forest catchment is twice cheaper than other catchments nearby
  – The local authority decides to promote best management practices to preserve the drinking water quality like skidding cable:
    • it costs 5 € more per m³ of wood, in addition to the costs of forest management for the local authority which range between 33 to 75 €/ha/year

  – A forest owner is not able to manage alone these extra or additional costs alone. If the local authorities choose to promote best management practices in forest, it is proven cheaper than an alternative source of clean water (minus 70%).
City of Rennes: Afforestation to protect water resources

How much it costs?

• Protection cost:
  – afforestation of 70 ha, around 1 million €
    • 600 000 € to buy 70 ha of land (8500 €/ha).
    • 450 000 € for afforestation (6400 €/ha)
  – Capacity building program for farmers on watershed < 2 million € between 1996-2006

• Avoided costs: to change resource > 40 million €

• In 10 years, Protection cost = 0,16 €/m³, of which 0,04 €/m³ for afforestation.

• Those costs are to compare with the costs avoided to change the resource = 1,50 €/m³
Afforestation on Rennes water catchment
The main objective of the French Private Forestry Federation is to demonstrate the importance of promoting projects with contracts between water users and foresters, aiming at a better protection of water resources and at a lower cost!

During the Grenelle Environment conference in 2008 in France the Federation obtained the possibility for forest owner's to recommend some forest management measures to protect drinking water resources on a watershed if a majority of forest owners agree.

The main goal of the task force INRA/Private Forestry organization called “forest and water” is to develop the contract implementation methods between users of drinking water and foresters. The project is conducting econometric studies in order to quantify the economic gain in the medium term for water users, as compared to the alternative solutions of water treatment or switching to other supply sources. This action will be achieved in September 2009, with concrete results on demonstration sites.
We would be very glad to follow this work with other countries and experts in the future in order to promote forests and forest owners’ role in the protection of water quality.

Thank you for your attention!

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