THE RIVER RESTORATION CENTRE
CRANFIELD UNIVERSITY

The French Water and River Management System

- An Overview -

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Introduction

France has an extensive river network. Wide and narrow, fast and slow, long and short, they are all important for biodiversity and the environment. There are hundreds of rivers in France flowing through the *départements* and *régions*. In fact, most of the French *départements* are named after the main river flowing through its territory.
In France, 25 % of potable water comes from rivers, so it is important that they are properly managed, to prevent of pollution.
In some areas of France, floods are part of life. In the 1960s, substantial work was done to straighten rivers and build weirs all over the country to create safe areas for new building projects. They took little account of the natural course of the rivers.
Faced with the past neglect of the environment, habitats and biodiversity, the French government has chosen restoration and management strategies in order to correct the mistakes which were made and to make rivers part of the environmental heritage of the country.
The strategies and objectives have been set in order to meet the Water Framework Directive's 2015 deadline.
In order to implement the strategies, in 1991 and 1992, two major parliamentary decisions were taken: the decentralization of governmental obligations and powers by creating local equivalents of the Ministry of the Environment, and the "Second Water Law", passed in 1992.
This improved river and water management and made it more efficient.

The objective of this report is to give an overview of the river and water management system in France and top address the following questions:
Who does what? At what level? Who is in charge of what? Who supervises who?

In this report, I identify six levels of administrative management: the State, Major Drainage Basins, Regions, Minor Drainage Basins, *Départements* and *Communes.*
All the major actors at the different levels are listed and are organised in separate sections.

Please refer to the organizational chart at the end when reading this report.

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I. The River Management Administration

1. The Role of the State

The State decides the policies that government-funded organisations and the *Services Publics de l'eau* must implement. The State supervises this through the Ministry of the Environment. The water department of the ministry organises collaboration between the different organisations which have responsibility for river management, and works, when necessary, with other ministries including Agriculture, Health and Industry.

Currently, the policies and organisation of river management are consistent with the Water Framework Directive (WFD).

The organisations which are involved in river management at this level are:

- **ONEMA** (*Office National de l'Eau et des Milieux Aquatiques* – National Agency for Water and Aquatic Environments).

ONEMA was created in 2006, after the law on water and aquatic environments was passed by the parliament. It replaced the CSP (*Conseil Supérieur de la Pêche* – Higher Fishing Committee) and became part of the DE (*Direction de l'Eau* – Water Supervision Board) which used to be part of Ministry of the Environment. They employ about 650 agents throughout France.

Their responsibilities are to:

⇨ Developing and collect data relating to water and aquatic environments. They get involved in scientific research programs and have strong partnerships with research organisations and private companies. Like the River Restoration Centre does in the United Kingdom, they also communicate best practise in river restoration, thus contributing to the quality of water and aquatic ecosystems.

⇨ Provide information about the usages of water and aquatic ecosystems.

In a collaboration with many other state organisations, including local government and the ministry of the environment, they have built a database called SIE (*Système d'Information sur l'Eau* – Water Information System) to provide environmental information to the general public. The objective of this database is to provide national information and knowledge of the quality of waterways in France. This database allows anyone to have access to information about the quality of water in France. It helps identify the different elements which have a negative influence on aquatic environments and guides decisions to help protect and restore these environments.

⇨ Water Quality and Usage Controls. ONEMA are also known as *La Police de l'Eau*, the Water Police. Their role is to take preventive action against pollution, physical degradation of river beds and any other factors that could alter the continuity of the flow. They provide technical expertise on the environmental and hydromorphological impact of buildings and structures near, in or over rivers.
They also check that regulations are respected and inform the "préfet*" of any breaches. The « Water Police » comes under the direct authority of the state, in the shape of the local representative, le "*préfet*".

⇨ Field Work. ONEMA works in environmental diagnostics and river restoration. They share technical advice in order to make environmental issues key to on-going and future projects. They also participate in creating local schemes like SAGE and SDAGE (Please refer to pages 9 and 11 for further explanations of these terms). ONEMA is a leading organisation in restoration and management strategies on the national level. The ONEMA agents evaluate the problems of all the French rivers and are currently working on raising awareness of restoration work that is needed.
The agency provides financial support to government to restore and manage their rivers and aquatic environments.

- **CNE** (*Comité National de l'Eau* –National Water Committee).

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The CNE was created in 1964 by the first law on water, passed by parliament on 16th December. Although its president is chosen by the prime minister, the committee is a consultative body of the ministry of the environment, and more specifically of the Water Supervision Board. It brings together various actors of river management such as users, environmental associations, and local governments, representatives of the state, technical river restoration advisers and management and drainage basin presidents. It has a total of 156 members.

The Committee gives its views on any topic related to water. Their views have to be taken into consideration when policies are being developed and new laws and regulations are written. The CNE does not have the power of decision; it is only consultative.
The CNE has an impact on ONEMA strategies, on various river restoration projects (even on the elaboration of SAGE and SDAGE) and decisions concerning fish.

*__Préfet:__ He represents the government in a region or a *département*. As he does not represent the people, he is not elected but is chosen by the government and the president of the republic. He is the eyes and the voice of the government.

- **VNF** (*Voies Navigables Françaises* –French Navigable Waterways)

VNF was created in 1991 to replace the ONN (*Office National de la Navigation* –National Office for Navigation). They are answerable to the ministry of the environment*. The organisation does not manage all the navigable waterways of France, some are managed by local governments or private companies such as EDF. VNF agents manage 6,700 km of the 8,000 of navigable waterways of France (4,160 of 4970 Miles). Of these 6,700 km, 3,800 km (2,360 Miles) are canals and 2,900 km (1,800 Miles) are major or minor rivers.
VNF also manages a certain number of waterway hydraulic structures : 494 dams, 1,595 locks, 74 navigable aqueducts, 35 navigable tunnels, 3,756 km (2,330 Miles) of levees and 800 km^2 (80,000 hectares) of land.
EDF also manages a very large number of hydroelectric dams. This makes the company work closely with VNF.

Their responsibilities are to:

- ⇨ Offer good quality services to users and develop navigation activities by respecting the environment and water quality.
- ⇨ Manage, exploit and modernise French navigable waterways.
- ⇨ Develop water borne transport and have it account for 25 % of all transport in France by 2022 (currently, it represents 14 % of all transport in France).
- ⇨ Enhance hydraulic management of the waterways.
- ⇨ Help local government to develop river tourism.
- ⇨ Participate in all major river projects.
- ⇨ Help new river transport companies.
- ⇨ Co-operate with other European river organisation.

In some *départements*, VNF has participated in developping the SDAGE or/and the SAGE. As of 2012, VNF has government permission to start producing its own electricity.

- **ONF** (*Office National des Forêts* –National Forestry Agency)

ONF was created in 1964. Its creation was part of what is now called the “First Water Law”. Currently, it employs two kinds of engineers: some specialized in water and forests (*Ingénieur des Ponts, des Eaux et des Forêts*) and some specialized in agriculture and the environment (*Ingénieur de l’Agriculture et de l’Environnement*). The agency also employs technicians and lumberjacks. It has a total workforce of 10,000 people. ONF manages 44,000 km^2 (4,400,000 hectares) of forest in metropolitan France and 76,000 km^2 (7,600,000 hectares) in the overseas departments.
Traditionally, whether they are engineers or technicians, ONF agents are military and have a contract with the army. Therefore, they wear uniforms and have special ranks within the organization. Their traditions go back to the 13th century, when the “order” was created by King Philippe II.

***Ministry for Environment**: In France, after a presidential election or a cabinet reshuffle, the official names of ministries change. Currently, the official title of the ministry for environment is *Ministère de l’Ecologie, du Développement Dirable et l’Energie* –Ministry for Ecology, Sustainable Development and Energy

In 2009, ONF became more local agency by creating 9 regional branches; this allowed them to offer more services and more focussed help to local government and private companies. But ONF still has a national "umbrella" branch which is answerable to the ministry of the agriculture* and the ministry of the environment.

Their responsibilities are to:

⇨ Provide wood to the wood industry and make sure the forest renews itself and is stable.

⇨ Preserve and improve forest biodiversity. Some areas are classified as part of the "Natura 2000" scheme and others are designated as being "biological reserves", sites of special scientific interest. They are also responsible for the protection of the perimeters of potable water wells; they must make sure that precautionary measures are taken. ONF contribute to the quality of streams and rivers that flow through forests, they help maintain the quality of aquatic environments by building small bridges to cross rivers for example. They are responsible for wetland ecosystems in forests such as bogs and ponds.

⇨ Make forests welcoming to the general public, adapted to different contexts (Such as forests in urban area or areas of mass tourism) and raising awareness concerning biodiversity.

⇨ Help local governments at the regional and department level.

⇨ Manage natural risks.

⇨ Promote the crucial role of forests in the fight against climate change.

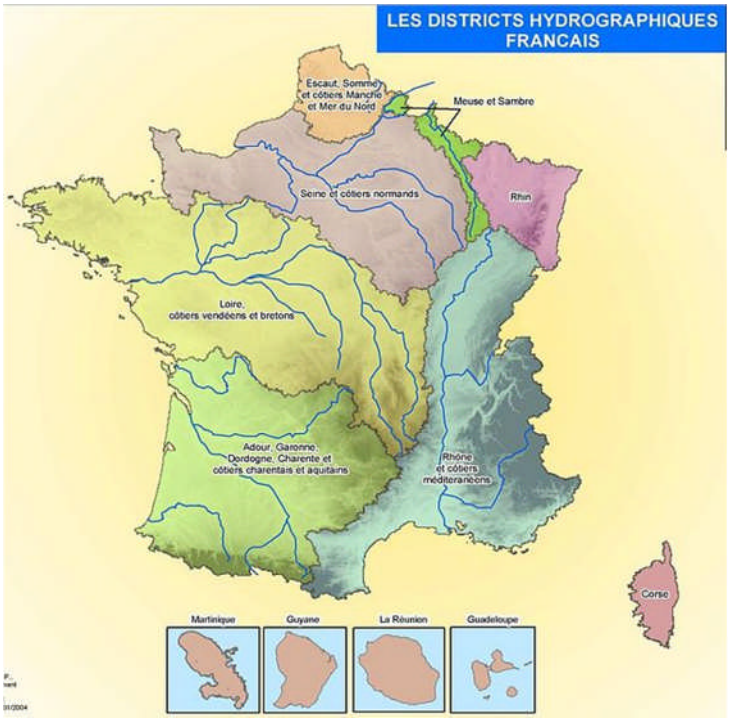
2. Managing Rivers in Drainage Basins.

- **Les Agences de l'Eau** –The Water Agencies.

France is divided into six major drainage basins which are all subdivided into other smaller drainage basins. The six drainage basins are the ones for the major French rivers:

- *Adour –Garonne* in the South –West
- *Rhône –Méditerranée* in the South –East
- *Artois –Picardie* in the North
- *Rhin –Meuse* in the East
- *Loire –Bretagne* in the West
- *Seine –Normandie* in the North/North –West

***Ministry for Agriculture:** The same applies to this ministry. Currently, its official title is *Ministère de l'Agriculture, de l'Agroalinemtaire et des Forêts* –Ministry for Agriculture, Agribusiness and Forests.



Each of these six drainage basins is managed by one of the six water agencies and was set up by the 1964 Water Law. They all answer to the ministry of the environment and to the ministry of finances*. Their role is to manage water in the drainage basins. They do not have the power to make new rules, but one of their roles is to make sure local associations follow the rules decided by the government. They also have to organise cooperation amongst the different water actors in their drainage basin.

Their responsibilities are to:

- ⇨ Work-out, establish and collect taxes and royalties related to the environment and water. They are in charge of the "Pollute & Pay"** scheme; they collect it and keep it. The agencies are largely financed by taxes.
- ⇨ Assist technically and help financially, work to improve aquatic environments and reduce pollution.
- ⇨ Help the drainage basin committee to elaborate the SDAGE.
- ⇨ Contribute to providing information on the quality of water in their catchment area.
- ⇨ Decide how water is managed as a resource.

- **Les Comités de Bassins** –The Catchment Area Committees

These committees are quite similar to the CNE but at a lower level. In France, there are 7 Catchment Area Committees; one for each major drainage basin and one for Corsica. Members of the committees are either elected or chosen for 6 years. They comprise a variety of water and river management actors: representatives of local government, users and professionals, and representatives of the state and different state funded organisations including ONEMA or ONF.

However, unlike the CNE, the Catchment Area Committees design a water and river management strategy at the local level. This strategy must be consistent with the one decided by government at the national level.

The Committees are often compared to "Water Parliaments".

*__Ministry for Finances:__ The current official appellation of this ministry is *Ministère de l' Economie et des Finances* –Ministry for Economy and Finances

**__Pollute & Pay:__ Polluters Pay Principle

Their responsibilities are to:

- ⇨ Protect local areas from floods, and manage flood-prevention campaigns.
- ⇨ Manage wetlands conservation.
- ⇨ Collaborate with other organisations on a local level to protect rivers, surface & ground water and the sea from pollution or degradation of habitats and environments.
- ⇨ Preserve water as a natural resource and to supervise potable water distribution.
- ⇨ Express their views on all major restoration projects.
- ⇨ Advise decision-making by the water agencies, and their policies.

The relationship between the Catchment Area Committees and the Water Agencies is more or less the same as the one between the CNE and the government. But unlike the CNE, the Committees do have decision-making power.

The most important responsibility of these committees, is to draw up what is called the SDAGE. They can also express their views on local SAGE.

- **Le SDAGE** (*Schéma Directeur d'Aménagement et de Gestion des Eaux* –Water Management Master Plan)

  In 1992, French parliament passed what is now called "The Second Water Law". It stated that "water and rivers are part of our national heritage". It sets out four water quality and river management objectives:
  - ➢ Conservation of aquatic ecosystems and wetlands.
  - ➢ Protection of water quality and rivers
  - ➢ Develop water resources.
  - ➢ Advocate water as an economic asset.

These four objectives were to:

- ➢ Improve potable water distribution to guarantee public health and social wellbeing.
- ➢ Let rivers flow freely through their floodplains whilst protecting local areas against flood.
- ➢ Meet the water-needs of agriculture, fisheries, industry and transport.

The SDAGE were created to implement the new law. They are drawn up and written by the water agencies and associated catchment area committees. Their role is to define the management and restoration strategies for the drainage basin, in accordance with the laws, policies and strategies decided by government and parliament.
There are six water agencies but there are twelve different SDAGE, one for each major hydrographic catchment area. Each water agency has to contribute to drawing up two schemes, because it as oversight of two major hydrographic catchment areas.

In 2000, the six SDAGE were rewritten or reviewed in order to meet the 2015 deadline set by the Water Framework Directive.
Currently the SDAGE system is the main strength of the French water and river management system. It has proved very efficient in the organisation of the work undertaken to meet the requirements of the WFD.
The rewritten SDAGE for the WFD were approved in 2009. SDAGE are approved by the catchment area coordinator

- **Le Préfet* Coordonnateur de Bassin** –The Catchment Area Coordinator

Each Catchment Area Coordinator is a prefect of the republic (see note page 5). He is the prefect of the region where the catchment area committee is located. His role is to coordinate the water and river management actors in the catchment area and supervise the work of government organisations including ONF, ONEMA… He is responsible for the "Water Police" provided to the basin by ONEMA. He approves the SDAGE. The Catchment Area Coordinator represents national government in deciding whether or not to approve the SDAGE. He collaborates with the catchment area committee and the water agency when the SDAGE needs to be updated.

*__Préfet__: France is divided into regions which are divided into "départements". There is an appointed "préfet" for each "département" and one for each region. The "préfet" of the region is the "préfet" of the "department" in which the region's administrative centre is located.

3. The Regions

At the regional level, rivers are managed by decentralized state departments*. The department in charge of river and water management in the French regions is called the DREAL, it represents the ministry of the environment.

- **Les DREAL** (*Direction Régionale de l'Environnement, de l'Aménagement et du Logement* – Regional Environmental, Planning and Housing Agency)

These agencies were created in 1991** after the DIREN (*Direction Régionale l'Environnement* – Regional Environmental Agency),were disolved. In 2008, the structure of ministry of the environment was modified and the DIREN were replaced by the DREAL. The DREAL was created by merging four minor agencies: DIREN, DRAAS (*Direction Régionale des Affaires Sanitaires et Sociales* –Regional Social and Sanitary Affairs Agency), DRE (*Direction Régionale de l'Equipement* –Regional Infrastructure Agency) and DRIRE (*Direction Régionale de l'Industrie, de la recherche et de l'Environnement* –Regional Industry, Research and Environmental Agency).

France (and the over-seas regions) is divided into 26 regions. Environmental poliicies are managed by the 26 regional DREALs.

The DREAL have the same responsibilities that other four had. The DREAL come under the "*Préfet*" of the region.

Their responsibilities are to:

- ⇨ Apply state policies in various areas such as: sustainable development and environmental planning, adaptation to climate change, natural resources management, natural heritage, biodiversity, building projects, urbanism, infrastructure and transport, road risks and management, industrial risk management, energy, air quality, pollution prevention, noise, natural and environmental risks, waste management, water management and coastal environments.
- ⇨ Apply state policies in the area of housing quality.
- ⇨ Coordinate and lead the collaboration between other governmental agencies which also work in the housing and sustainable development areas.
- ⇨ Making the public aware of issues concerning water quality and the environment in general.
- ⇨ Water quality monitoring, hydrobiology
- ⇨ Hydrologic, hydrometric and quantitative precipitation forecast monitoring.

***Decentralized State Departments:** In France, most things are managed on a regional or departmental level. For example, Upper Schools are managed by the local regional government. Since recently, the same applies to the environment and river management. In French, this is called "*Décentralisation des services de l'Etat*", basically, the state delegates some of its powers and services to local government and regionally based organisations.

****1991 :** 1991 is the year where this delegation of governmental powers to regions was decided by parliament. Therefore, government services were reorganised and a lot of the environmental government organisations were created. The DREAL were part of this reorganisation, as was VNF and the DDT.

- **Les DRAAF** (*Direction Régionale de l'Alimentation, de l'Agriculture et de la Forêt* –Regional Food, Agriculture and Forest Agency)

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The DRAAF were created in 2008. They are under the direct authority of the Ministry for Agriculture. They contribute to the protection of aquatic environments; make sure agricultural activities are environmentally friendly, police plant protection product usage to prevent pollution of potable water supply. Their role is to coordinate and program management strategies in their domain, and control and supply information. They also are in charge of the agriculture-specialist schools.

Some DRAAF have to collaborate with each other because forests can cover more than one region.

All of the agencies collaborate closely with the ONF regional branches, the regional chambers for agriculture and regional governments.

They participate in the following domains:

- ⇨ Forestry and wood industry
- ⇨ Farming and breeding, including fresh water aquaculture.
- ⇨ Large and small crop management
- ⇨ Agribusiness
- ⇨ Plant protection and regulation of plant protection products.
- ⇨ Applying social and agriculture policies to the local context and suggesting policy changes to government
- ⇨ Managing Agricultural schools

- **Le SAGE** (*Schéma d'Aménagement et de Gestion des Eaux* –Water Management Plan)

The SAGE is a local version of the SDAGE applied to a minor drainage basin. It is written and drawn up by the CLE (*Commission Locale de l'Eau* –Local Water Committee).

A quick word about the CLE

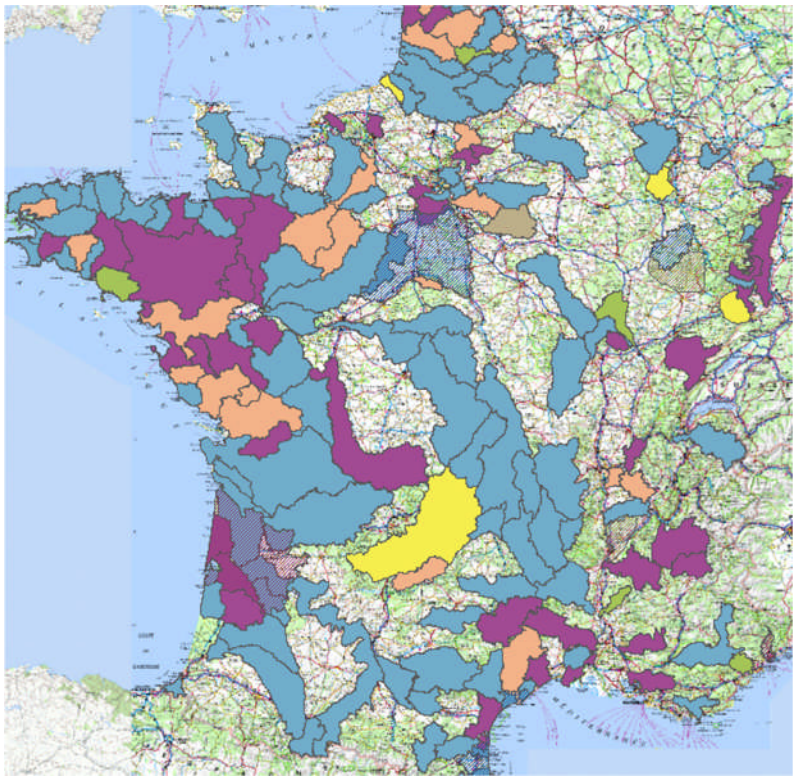
The CLE is created by the "préfet", may he be a *préfet de département* or a *préfet de region* or even the *préfet coordinateur de bassin* (Please refer to page 9). Half of the committee are elected state-representatives, a quarter are locals and members of local environmental groups, fishing and hunting clubs, the remaining 25 % is made up of representatives of state organisations such as ONEMA or members from the water agencies.
Their role is to write the SAGE and put it into practise by finding the money needed to implement it.

This local scheme applies to either a river catchment area or an aquifer. It must be drawn up within the parameters determined by the SDAGE, which applies to the major drainage basin. One of the objectives of the scheme is to resolve existing and prevent eventual future conflicts of interest.

The document highlights the quantitative and qualitative uses of water and water and river quality protection.
Once the SAGE has been approved by the *préfet*, it has to be completed in 5 years.

When writing the scheme, the CLE must consider:

- ⇨ Protection of aquatic environments
- ⇨ The water requirements of the different stakeholders
- ⇨ The potential changes in the rural landscape
- ⇨ The urban surroundings and the economic situation
- ⇨ All the different uses of water (leisure, industry, drinking…)
- ⇨ Economic constraints



All of the rivers in France come under the authority of a SDAGE but not all are associated with a SAGE.
50 % of the area of France is under the authority of a SAGE. 171 are either being put into practice or written.

Map above: Areas of France implementing or initiating a SAGE

4. <u>The *Départements* of France</u>

The leading actor in river management in France at the departmental level is the *préfet de département*. He represents the government and coordinates the water policies in his *département*.
He has authority on all state services which have water and river related responsibilities. He delivers authorisations to the Water Police. He can decide whether or not to apply water rationing policies in case of drought. He can tell the people responsible for incidents and pollution controls what measures to take in order to solve the problem if the incident or pollution has an impact on the quality of water or rivers and the flow (dumping debris in the river for example)

He is in charge of the **MISE** (*Mission Inter-Services de l'Eau* –Inter Organisation Water Service), a board which coordinates all the organisations in order to apply the policies of the state at the *département* level.

- **Les DDT** (*Direction Départementale des Territoires* –Local Land Management Organisation)

The DDT is present in every *département* of France (There are 102, including the over-seas). In the coastal *départements* they are known as **DDTM** (*Direction Départementale des Territoires et de la Mer* –Local Territory and Sea Managing Organisation). They were created in 2010 and come under the authority of the *préfet de département* but are answerable to the prime minister. They are the result of the merger of the **DDAF** (*Direction Départementale de l'Agriculture et de la Forêt* –Local Agricultural and Forest Managing Agency) which used to be the departmental branch of the **DRAAF** (which still exists), with the **DDE** (*Direction Départementale de l'Equipement* –Local Infrastructure Managing Agency) which used to be the departmental equivalent of the **DRE**, itself now part of the **DREAL**.

In the environment and river managing domains, their responsibilities are to:

- ⇨ Promote sustainable development in the *départements*
- ⇨ Develop agriculture, urbanism, transport and new building.
- ⇨ Making the population aware of environmental risks.
- ⇨ Protect and manage rivers and water, natural habitats, improving the environment by applying the government's policies and respecting the SAGE and/or the SDAGE.
- ⇨ Promote forests and agriculture as environmental, economic and social assets.
- ⇨ Take part in the prevention of forest fires.
- ⇨ Protect local wild fauna and flora and manage fishing and hunting

The DDT is the local equivalent to a *département* of the DREAL.

5. The Roles of the *Communes* and Local Town Councils

The *Commune* is the lowest level of the French administrative organisation (Please refer to organizational chart page 16). The *Maire* is the head of the *commune*; he is direcly elected by the people. In France, there are a total of 36,766 *communes*.

Local Town Councils and *Maires* are answerable to their electorate. Citizens can express their views concerning river and water management to the local authorities. If an issue cannot be resolved at the local level, the town council refers it to the General Council of the *département*, at a higher administrative level.

Citizens often express irritation about the state of the local rivers; traditionally, the local fishermen are the leading party of complaint. Complaints are noted by the town council which notifies the appropriate authority.

When it comes to flood risk management, some *communes* may decide to form a syndicate with local citizens and members of associations to assess the problems and go to the general council to ask for flood protection.

The general council either asks the DDT for help by reporting the matter to the Departmental government representative, or, if it has the appropriate department, deals with the problem itself

Since 2000, towns must write a **PLU** (*Plan Local d'Urbanisme* –Local Urbanization Scheme) in order to build new infrastructures and housing developments. This document explains the future use of the town's land will be: zones to be occupied by buildings in the future.

The PLU must include a **PADD** (*Plan d'Aménagement et de Développement Durable* –Planning and Sustainable Development Scheme), a document explaining the town's objectives for sustainable development and the environment in the next 10 to 20 years.

The scheme is approved by a representative body of the town's citizens and presented to an administrative court (*Tribunal Administratif*) for judicial approval.

The PLU must be consistent with the SAGE and/or the SDAGE. If the SAGE and SDAGE were drawn up1 after the PLU was approved, then the PLU must be rewritten.

The **SCOT** (*Schéma de Cohérence Territoriale* –Common Planning and Development Scheme) is the equivalent of the **PLU** at the "*communauté de communes"** level.

In France, river banks which are on private property are the responsibility of the land owner. Any degradation or damage is the land owner's responsibility and the *Maire* can take legal action against the individual to pay for repairs.

6. <u>The Role of Private Companies</u>

Private companies also have a role in river restoration and management. Local governments or governmental organizations frequently hire private companies or private consulting engineers to help them in river management and restoration, flood defense and project management. This is called "*Délégation de Services Publics*", Public Service Delegation Contract.

***Communauté de Communes:** An agreement between several towns to organise life and public services together, as a community. They can decide to organise public transport, water and waste management for example.

River & Water Management Organizational Chart in France