

# Loire



## Summary of basin characteristics

The Loire has frequently been characterized as ‘the last wild river in western Europe’ owing to the relative absence of large dams and the consequent semi-natural condition of the river, notably in its upper reaches. The main channel is more than 1,000km in length and the total hydro-graphic network extends to more than 135,000km. The basin covers a total area of 155,000km<sup>2</sup> or 22 per cent of French territory.

## Socio-economic importance

The Loire basin has more than 11.5 million inhabitants but is markedly rural in character, with more than one-third of communities having fewer than 400 inhabitants.

The basin is extremely important for farming, supporting two-thirds of livestock raising and half of all cereal production in France. Some 350,000ha of farmland in the basin are irrigated. The Loire itself is used for navigation, generation of hydro and nuclear power from 38 dams and four power stations, and

recreation. The estuary and its shoreline are important for fishing, shellfish farming and tourism, and there is a major commercial port at Nantes, which has caused severe damage to the Loire estuary's ecology.

### **Biodiversity values**

The Loire supports a number of rare and protected species of both plants and animals, and provides important breeding, feeding and resting habitats for many migratory birds. Atlantic Salmon *Salmo salar* still migrate to the upper reaches of the Allier River, some 900km from the Loire estuary.

### **Priority issues for river basin management**

During the 1980s, the French authorities decided to increase regulation of the Loire through construction of four large dams, primarily for storage of water for irrigation and flood control. One of the most environmentally damaging dams would have been constructed at Serre de la Fare on the upper Loire River and would have inundated 20km of pristine gorges that have since been protected as a 'Natura 2000' site under European Union environmental legislation.

### **Role of WWF and its partners**

WWF was a founder of the '*Loire Vivante*' ('Living Loire') Committee which brought together a range of non-governmental organizations dedicated to maintaining the Loire's status as a 'wild river'. Working primarily through *Loire Vivante*, WWF helped transform government policy on the Loire from one of support for dam building and a 'regulation by engineering' approach, to one embracing ecologically sustainable management of the river and the wise use of its banks and floodplains. In January 1994, the French government launched the '*Plan Loire Grandeur Nature*'. This involved abandoning three large dam projects, putting forward alternative means of flood management, and decommissioning two dams to restore migration pathways for Atlantic salmon.

WWF's role has involved a strong element of leadership and facilitation (e.g. bringing together of NGOs at a basin level, provision of campaign communications expertise), but the organization has also been responsible for implementing key activities,

especially promoting alternative thinking about flood management and irrigation. In addition, WWF has played a lead role in catalysing a major restoration programme for the Loire, including the communications component of the US\$9 million '*Loire Nature*' project, which was funded under the EU's 'LIFE' programme and ran from 1992 to 1999. This enabled the purchase of land to demonstrate better approaches to floodplain management in the Loire basin, in particular through implementing more environmentally sustainable agricultural practices.

A second *Loire Nature* project was initiated in 2002 (this time without LIFE funding), and WWF once again has lead responsibility for communications. The project covers the whole Loire basin and envisages securing the ownership and sustainable management of some 4,500ha of land, with a total budget of some US\$18 million, based mainly on contributions from government and public bodies, particularly the *Établissement Publique Loire* (EPL), a public institution that formerly promoted large dams.

For further details of WWF's activities, see the 'Chronology' section, below.

### **Conservation method demonstrated**

- **Campaigning** – demonstrations, sit-ins, five-year occupation of the proposed site of the Serre de la Fare dam, petitions, letter-writing campaigns.
- **Public awareness raising** – national advertising campaigns, work with local stakeholder groups, work on alternatives, support for progressive political parties during election periods.
- **Research** – for example, analysis of why the 1980 flood was so damaging; development of more efficient flood forecasting and public information systems; gathering data to support a construction ban in floodplains and other improvements to local and national regulations on flood risk management.
- **Use of flagship species** – the migratory Atlantic salmon was selected as the emblem of efforts to conserve the Loire. Before river regulation, pollution and overfishing, approximately 100,000 salmon migrated annually to their spawning grounds in the headwaters of the Loire and its tributaries. In 1996, only 67 salmon were counted on the upper Allier River, the sole tribu-



The first of three new removable sills installed on the Loire to restore the river's floodplain. WWF / SOS Loire Vivante

tary of the Loire basin where salmon continue to spawn. WWF has campaigned for the removal of existing dams to at least partially restore the species' historical numbers and range.

- **Field projects** – *Loire Nature* involved the purchase and demonstration of sustainable management of significant floodplain areas and other wetland habitats throughout the basin.

### Resources devoted

Approximately US\$2.5 million have been invested by WWF and *Loire Vivante*. The first *Loire Nature* programme cost EUR7 million, with major funding from the EU LIFE instrument, while another EUR15 million will be invested in the second *Loire Nature* programme (not LIFE-funded).

### Chronology

#### 1986

- The French government, the Loire-Brittany Water Agency and the EPALA (public office/committee for the management of the Loire and its tributaries) agree a flood prevention scheme and water storage programme involving the construction of four large dams – one on the upper Loire River

itself and three on major tributaries (the Allier and Cher Rivers).

- The *Loire Vivante* (Living Loire) network is established by WWF and other NGO partners to fight the dam proposals.

#### 1988

- *SOS Loire Vivante* committee is created to oppose the Serre de la Fare dam scheme on the upper Loire.
- First meeting between a *Loire Vivante* delegation and the French Environment Minister.
- First major public demonstration organized by *Loire Vivante*.

#### 1989

- Government approves construction of the Serre de la Fare dam on the upper Loire.
- Following public demonstrations, the beginning of a peaceful but continuous occupation of the Serre de la Fare dam site, and the filing of a lawsuit by *Loire Vivante*, the government postpones the project and requests *Loire Vivante* to advise on developing alternative proposals, with funding provided by the Ministry of Environment.
- Members of *Loire Vivante* travel along the Loire, from its source to the estuary, to raise public awareness of water pollution and over-abstraction. Water samples taken at each stop are com-

pared with clean water at the river's source, showing the cumulative impacts of downstream pollution and eutrophication. The first major advertising campaign for the Loire is launched: 'Save me before it's too late!'.

#### 1990

- *Loire Vivante* meets the French Prime Minister. The government instructs EPALA to make significant changes in its approach to managing the river, including reconsideration and/or modification of three of the four proposed dams.
- *Loire Vivante* shows how the migration of Atlantic salmon is blocked at 25 places along the Loire, from its mouth to the upstream confluence of the Allier River.
- Second major advertising campaign launched: 'A free Loire, a source of life'.
- *SOS Loire Vivante* launches an appeal – 'Let's buy back the upper Loire valley' – in order to secure strategic plots of land to oppose dam construction and begin working on sustainable development options.
- The Ministry of Environment publishes results of a poll of upper Loire citizens showing that the alternatives put forward by *Loire Vivante* are favoured by a clear majority.

#### 1991

- *SOS Loire Vivante* begins to clear and mark out 14 paths in the upper Loire Valley to promote eco-tourism.
- The Prime Minister and Environment Minister announce that two of the dams are cancelled, and one subject to substantial revision. The government also announces a policy of active management of the river, a programme to protect the natural environment, the creation of a 'Loire Observatory' and the protection of floodplain areas from further development.

#### 1992

- Upper Loire Valley Farmers association created through a partnership between *SOS Loire Vivante* and a farmers' union, to promote diversification, rural tourism, improved products and the development of local outlets/markets.
- *Loire Vivante* receives the Goldman Prize for Europe in San Francisco. This award, amounting to US\$60,000, is presented in recognition of outstanding conservation gains.

- A parliamentary commission partially revives some of the dam proposals in the name of flood control, but also advocates better maintenance of the riverbed and banks, a total stop to gravel extraction, a programme to reduce eutrophication, and a better balance between environmental protection and economic development of the port of Nantes.
- Signing of the EU LIFE *Loire Nature* contract by the Ministry of Environment, the environmental NGO Espaces Naturels de France, and WWF.

#### 1993

- Petition campaign calling for the demolition of the Poutès-Monistrol Dam on the upper Allier River because it impedes salmon migration.

#### 1994

- The government launches a ten-year, US\$110 million initiative '*Plan Loire Grandeur Nature*', implementing many of the priorities of *Loire Vivante*. This confirms cancellation of the dam on the upper Loire, implementation of alternative measures for flood management in the town of Brives-Charensac at a cost of US\$60 million, and a range of other measures including restoration of floodplain areas.
- Demonstrators against the dam on the upper Loire end their protest after five years of continuous occupation of the proposed construction site.
- Commencement of non-dam alternatives to flood control in the upper Loire, including removal of artificial obstructions from the riverbed, deepening of the riverbed, and retrofitting of a highway bridge.

#### 1998

- Two existing dams are dismantled to improve salmon migration.
- Completion of EU LIFE *Loire Nature* project.

#### 1999-2002

- Remaining dam schemes are cancelled or suspended by the government.
- WWF inaugurates its new 'Centre for the Loire River', in the town of Nevers.
- Initiation of a second phase of *Loire Nature*, aiming, *inter alia*, to secure the protection of 4,500ha of floodplains.

#### 2003

- The *Plan Loire Grandeur Nature* is extended to



2006 and a further US\$120 million are allocated for sustainable management of the river. WWF and *Loire Vivante* continue active monitoring of the plan's implementation and prepare to campaign for removal of an obsolete dam on the upper Allier that is a major obstacle to salmon migration.

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## Lessons learnt

### 1. The power of partnership

Support for (and participation in) the *Loire Vivante* association has enabled WWF to achieve far more than it would have been able to accomplish alone. The work pioneered by *Loire Vivante* has been replicated at European level through the establishment of the European Rivers Network. The LIFE *Loire Nature* contract enabled WWF to develop a fruitful partnership with local and regional authorities and government agencies. This helped strengthen the newly emerging approach to watercourse management focused on the rehabilitation of floodplain wetland ecosystems, the maintenance of biodiversity, and the combining of ecological, social and economic interests. It also strengthened cooperation between NGOs and local communities, as well as with farmers and various political bodies, beginning with the Ministry of Environment. The programme helped to reinforce the idea that decentralization is a good idea with regard to nature conservation, and that NGOs have the capacity to manage conservation programmes.

### 2. The importance of adopting a multi-faceted approach

WWF's work for the Loire has involved a combination of campaigning, awareness-raising, scientific research, conferences, policy development and advocacy, and field demonstration projects. The campaigning work helped to build public and political support for WWF's policy proposals, which were in turn given increased credibility by implementation at project sites.

### 3. Work simultaneously at several scales

WWF has engaged at local, regional, national and EU levels to pursue its objectives for the Loire.

### 4. Base conservation solutions on thorough research and sound science

The options developed by WWF and its *Loire Vivante* partners won credibility and respect from politicians and the general public because they were based on rigorous scientific work.

### 5. The need for long-term engagement

As shown in the chronology, above, it took 16 years between the formation of *Loire Vivante* in 1986, the almost complete cancellation of the last dam schemes in 2002, and adoption of a sustainable, river basin approach.