Restoration of river Hermance, France

Year of issue

2025

Summary

Hermance is a French–Swiss transboundary river. Since 2006, within a cross-border river programme led by SYMASOL with support from the Canton of Geneva, restoration has re-meandered the channel, widened the mouth, renaturalised the bed and banks, replanted riparian vegetation, and used the Mermes marsh as flood-storage via a retention pond ; reducing flood risk for ~100 homes and reconnecting people to their river with a riverside path (opened in 2017). More recent records show the programme extended in phases through 2016–2017, reaching ~3 km of restored river in Veigy-Foncenex, with a total budget reported at €2.5 M (excl. tax). Cross-border works included the 2010 renaturation of the Pont-Neuf–Pont-des-Golettes reach and the 2011 revitalisation of the river mouth. Complementary lacustrine actions created/reinforced reedbeds on the French shore at Chens-sur-Léman (2012, 2016). Flood-risk management was strengthened upstream by a ~12,000 m³ flood-retention basin. Ongoing follow-up includes a 2021 hydrological/hydraulic review of the Hermance dams in Veigy-Foncenex to check performance and safety. Overall, the project combines flood protection, ecological recovery and public amenity at a transboundary scale.

Photo Gallery



Location

46.271137, 6.273155

Project

NWRM

National ID

France_02

Sector

Hydromorphology

Installation Date

2006-2012

Implementation status

Completed

Contact

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Overview

Location of the project

Veigy-Foncenex reach between Pont des Soupirs and Pont de l’Hermance, plus the Lake Geneva delta between Chens-sur-Léman (FR) and Hermance (CH) at the river mouth.

Country

France

NUTS2 Code

Rhône-Alpes

Sponge measures implemented in the case study

Re-meandering

Stream bed re-naturalisation

Natural bank stabilisation

Objectives

The objectives are renaturing 4,4km of artificialised river, improving water retention capacity of a 5ha marshland.

Involved partners

Authority type	Authority name	Authority role	Comments

Local water authority	SYMASOL	Implementation	Local water authority created to manage weter in the concerned watershed and impelement the River contract
—	—	Monitoring	—
Other	Canton de Genève DIAE	Financing	swiss Canton of Geneva

Site Information

Climate Zone

Cool temperate moist

Precipitation

1150.00 mm

Temperature (°C)

10.00 °C

Elevation range

441 m

Vegetation class

Agricultural land and forests along much of the corridor; extensive reedbeds (roselières) on the Chens-sur-Léman lakeshore between Hermance and Port-de-Tougues; riparian woodland near the mouth.

WFD Ecological status

Poor

WFD Chemical status

Good

Water quality status

Historic sewage discharges and misconnected wastewater, diffuse agri pollution, low summer flows; past chlorination at Hermance STEP sterilized the lower reach. STPs at Hermance (CH) & Veigy (FR) were later removed.

Design and Implementation

Project scale

Meso

Project scale specifications

Multi-kilometre river reach across communes and a transboundary delta; basin-level retention basins; coordinated via a cross-border River Contract rather than a single site.

Project area

4320

Area subject to Land use change or Management/Practice change (ha)

7.50 ha

Size

13.50

Size unit

km

Principles

Multifunctionality: flood-risk reduction, ecological restoration, public access (pathways).
Give room to the river: widening, re-meandering/renaturalization, bank softening, fish passage.
Storage/retention: two flood-retention basins upstream, incl. a ~12,000 m³ basin formed by an earthen barrage; additional structure at Marais des Mermes. (Return period not specified in accessible docs.)

Constraints

Biophysical: low gradients and historical canalization; wetlands (Mermes, etc.); lake-delta dynamics; summer low flows; space constraints in urban sections; utilities relocations.
Constraints: very fragmented land tenure (~65 riparian owners); lengthy land negotiations.
Favourable: presence of marshes enabling retention; available widening room in some reaches.

Favourable preconditions

Areas relevant to retain water have been identified; the Mermes marshland appeared as an interesting retention place.

Financing

Total cost

1831600.00 €

Costs investment

357800.00 €

Costs investment information

343800€ have financed the creation of retention areas along the Hermance river

Costs land acquisition

64000.00

Costs land acquisition unit

€ (total value)

Costs operation maintenance

237300.00 €

Costs operation maintenance information

About 96000€ have been spent for restoring the banks of the Hermance river and 1000800€ have been spentto restore and renature the riverbed. 134331€ have been spent for widenning a discharge section. 5128€ have been spent for implementing grass buffer strips in the vineyards above the river, 10 000e/year are spent on haying in retention ponds.

Costs operational

211300.00 €

Costs operational information

About 96000€ have been spent for restoring the banks of the Hermance river (9,63€/m), corresponding to about 16 000€/year during six years. 166800€ have been spent per year during six years to restore and renature the riverbed. 134331€ have been spent for widenning an discharging section, that is to say 22400€ per year. About 100€/year have been spent on supporting grass buffer implementation in the vineyards above the river

Costs maintenance

26000.00 €

Costs maintenance information

About 96000€ have been spent to manage the newly planted vegetation along the Hermance riverbanks. Moreover, haying in retention ponds require about 10 000€/year.

Information on Economic costs - income loss

Famers have received indemnisations for yield losses

Financing authorities

Authority name	Type of funding	Financing share
Agence de l'Eau	Sub-national funds	97 %
Conseil régional rhône Alpes	Sub-national funds	97 %
conseil général Haute Savoie	Sub-national funds	97 %
SYMASOL	Local funds	97 %
Canton of Geneva	Local funds	97 %
Thonon municipality	Local funds	97 %
European Union	EU-funds: Rural development funds	3 %
European Union	EU-funds: Cohesion and regional development funds	3 %

Compensations annual

2500.00 €

Compensations annual information

About 14000€ have been received by farmers for income losses

Compensations number of beneficiaries

3.00

Compensations number of beneficiaries information

Farmers

Policy and Governance

Policy description

Implemented under the Transboundary River Contract “Sud-Ouest Lémanique” (2006–2012) led by SYMASOL, with the Canton of Geneva as a key partner. Aimed to reduce downstream flood risk, address morphological degradation and water-quality issues, and restore public river access; aligned with SDAGE Rhône-Méditerranée. Geneva reports the Hermance mouth among embouchures renatured (2011).

Land ownership

Mixed. The river corridor crosses many private parcels (formal agreements signed). Works at the mouth involved public/communal areas near Chens-sur-Léman; cross-border stretch includes cantonal/public domains on the Swiss side.

Policy targets

Peak-flow reduction

Increase Water Storage

Erosion Control

Improved Biodiversity

Oher Societal Benefits

Target remarks

Renature ~4.4 km of artificialized channel; enhance retention capacity of ~5 ha marshland; reduce flood risk for ~100 houses; re-meander/renaturalize ~2.3 km; widen the mouth; plant riparian vegetation.

Part of a wider plan

Oui

Wider plan

Wider plan type	Wider plan focus	Name	Comments
Local	Water	Contrat de rivière transfrontalier Sud Ouest Lémanique	The plan defines water maagement strategy on rivers located in a watershed
Regional	Water	SDAGE Rhône Méditerranée	The SDAGE defines the main objectives and strategies necessary to reach the good status for water bodies in 2021

Public consultation

Oui

Consultation activities

Activity stage	Activity type
Design phase	Information letters
Screening phase	Private interviews
Screening phase	Public meeting
Implementation phase	Public meeting

Has contractual arrangements

Oui

Contractual arrangements

Arrangement type	Name	Comments
Contractual agreement	Contracts with private owners	Contractual arrangements have been signed with private owners about banks management

Impacts and Monitoring

Monitoring System

Monitoring parameters

Water quality (pesticides, nitrogen and metals) is monitored. Water flow and ecological quality are measured punctually.

Upstream station

A monitoring station was built in 2024, in order to follow flow rate and water quality.

Downstream station

HER 379 and HER380

Impact Assessment Methodology

Performance impact assessment method

Catchment outlet

Performance impact estimation information

Comparison to the state before the implementation of the measure

Socio-economic Impacts

Direct benefits information

The main benefit is social: people walk along the river and walkaways enable them to link the two sides of the city. People seem to make again the river their own and to became more aware of river management issues.

Biophysical impacts: Hydrology

Information on retained water

Flood: storage basins (incl. ~12,000 m^3) and marsh restoration reduce peak flows; Geneva reports households/school moved out of medium-danger zone at Hermance.
Hydromorphology: widened mouth restored partial alluvial dynamics; re-meandering/bed diversifications increased habitat heterogeneity.
Connectivity & low flows: fish passage improved; marshes support baseflow during drought periods.

Biophysical impacts: Biodiversity

Improved biodiversity

Oui

Information on improved biodiversity

The river renaturation, banks restoration and riverbed works have benefited to natural habitats; fish population status have improved along the river: it passed from disturbed to excellent in one station, and to good in another one, between 2002 and 2011. Moreover, new plants can now be observed along the river.

10 years after the restoration work, if a clear return of fauna and flora has been observed, there is still no population of fish of fishing interest; further waiting is required.

Biophysical impacts: Water & Soil Quality

Water quality overall improvements

Negative impact-WQ deterioration

Information on water quality overall

Water quality has decreased during the implementation of the measure, but his can be linked to other factors (pressures...). Only hydrobiological quality (downstream) and metals (mouth) have stayed at the same level.

Soil quality overall improvements

Not relevant for this application

Ecosystem erosion control

Oui

Biophysical impacts: Others

Ecosystem impact climate regulation

No information available

Lessons Learned

Key lessons

The case study provides an example of a bundle of measures which can be implemented to achieve several purposes; it does not gives much facts on biophysical impacts but provides interesting elements about succes and barrier factors; in this case as in many others, dealing with private owners in order to implement the measures on their properties have been the main difficulty.

Barriers

Barrier type	Barrier role	Comments
Attitude of relevant stakeholders	Main barrier	The main barrier has been dealing with land property; private owners were not ready to give away constructible lands and even in the case of existing regulations, they would not take away their fences. Negociations with private owners had to be done.
Attitude of the public	Secondary barrier	At the beginning of the project, people were not convinced; after several achievements, they understand better.
Other	Secondary barrier	The property issue has been considered to late; it needs to be anticipated.
Limited staff and consultant knowledge	Secondary barrier	The design consultant was not aware of the local context in terms of vegetation for instance; it proposed to plant trees which were not adapted to the local climate

Drivers

Driver type	Driver role	Comments
Balancing different objectives	Main driver	Local authorities decided to deal with their rivers management after some studies that showed the pressure of urbanisation and the need to restore water quality. They made a first preliminary dossier that led them to implement a River contract and create the SYMASOL.
Legal obligations	Secondary driver	Objectives fixed by the SDAGE asked for implementing a management strategy

Success factors

Success factor type	Success factor role	Comments
Successful coordination between authorities	Main factor	coordination between stakeholders, particularly in a transboundary watershed, was essentiel to guarantee the success of the implementation
Financing possibilities	Main factor	Existing financing posibilities, including one from Geneva Canton, was a main succes factor
Other	Main factor	Contractors change for the different works; the SYMASOL considers that it is a good thing

Transferability

Highly transferable to small cross-border or peri-urban rivers, but expect protracted land negotiations, multi-jurisdictional permitting, and the need to couple morphology with wastewater fixes and wetland management; plan O&M for created retention areas.

Sources

Sources

Contrat de rivières transfrontalier du sud-ouest lémanique 2006-2012, Etude, bilan, évaluation et prospective, phase 1: état des lieux initial et final

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Film ARRA² - L'Hermance reprend vie.

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Présentation du contrat - SYMASOL

Thonon Agglomération - 2024 Sustainable Development Report

Thonon Agglomération - 2021 Sustainable Development Report

Comité de Territoire - Sud-Ouest Lémanique - 6 décembre 2017