

Restoration of the ecological continuity between the Moulin Neuf pond and the Saint Gentien stream

© 6394 Last modified by the author on 22/06/2018 - 12:41



Year of commitment : 2018

Address 1 - street : MOULIN NEUF, France

Diameter : 200

Water cycle : River bed and river bank restoration , Other

Biodiversity & Ecosystems : / Green and blue corridor, Ecosystem restauration, Eco-tourism, Ecosystems preservation /



170 638 €

Builder
Chognot

Manager / Dealer
Questembert Community

GENERAL INFORMATION

Property of the community of communes of the country of Questembert, the man-made lake of the Moulin Neuf was the subject of a renovation operation and ecological reconquest following a general degradation of the quality of its waters. On the one hand, work has been undertaken in the man-made lake (lowering of the water line and improvement of the self-purification function). On the other hand, continuity was no longer ensured since the creation of the man-made lake because of the winnowing of the Moulin Neuf. The control and emptying works were impassable for the fish species in view of the height of fall of the order of 4 meters, and did not allow the transit of sediments.

The company CHOGNOT has therefore carried out various works involving civil engineering, earthworks, plant engineering and the vault to restore the ecological continuity and health of the water body.

Progress Status

Delivered

Data Reliability

Self-declared

Funding Type

Public

Website Enterprise / Infrastructure

<http://www.chognot.fr>

Sustainable Development

Attractiveness :

These developments of the Saint-Gatien River constitute a new tourist attraction for the pond of Moulin Neuf. Especially for the improved fishing activity, but also for the bathing activities that become possible again.

Well Being :

The blue algae (cyanobacteria) present before the work caused irritation for the people who bathed in the water. The experimentation of a natural purification system allowed the elimination of nitrogen and phosphorus which polluted the water.

Preservation / Environmental Improvement :

The device for crossing the water intake of the new bed created under the bridge comprises a lateral ramp and macro-pads with a roughness in the bottom of the bed. Thus, the ecological continuity is restored since the fish will be able to cross the device before arriving at the water level to then go up the affluents.

Governance

Community of communes of the country of Questembert

Holder Type : Regional Authority
Chognot

Builder Type : Construction Industry
Questembert Community

Project Manager: CE3E - Consulting & Water Studies Espace Environnement

Sustainable Solutions

Restoration of ecological continuity

Description :

The renovation of this tourist equipment of importance for the territory, was built around two operations of ecological reconquest.

- One concerns the water quality of the Moulin-Neuf where the presence of cyanobacteria thwarted swimming. This blue alga feeds on nitrogen and phosphate molecules and has an irritating effect on the skin. Based on a natural purification experiment, the action consisted of lowering the level of the water body to create wetlands and allow the vegetation to settle on the exposed areas. Thus, the water from the sources that feed the pond will be partially cleared of nitrogen and phosphorus, the very ones that pollute the waters of the pond. Nearly six hectares of the site remain in wet meadows whose role is to cut down the nitrogen and phosphorus levels.

800 m³ of sediments were reused in the softening of the banquettes and served as a breeding ground for the site-adapted helophytes. In addition, new valves (2 surface valves and a bottom valve) were installed with automated control to maintain the new water line lowered from the water body and to promote flow in the bypass river.

- The other operation consists in creating a river bypass of the Mill, integrating a fishway (target species: eels and salmonids), by digging in an arm of discharge by which the lake was released in case of flood. The company CHOGNOT has thus realized the following works from upstream to downstream:

Zone 1: A feeder channel for the intake of the new 17.5 ml St Gentien bed, with a wet bed width of 1.5 m at the same elevation of 41 m NGF and 4.65 m with full board, undergoing the natural variations of water level or artificial related to the management of two valves and the bottom valve in the event of significant variation of flows.

Zone 2: A calibrated concrete intake with bottom roughness and macroplots of 1.45 m wide by 7.15 ml and 8.4 m full deck (passage under bridge).

Zone 3: A 30-ml stream segment after removal of granitic outcrops with a 1.2 to 2 m nested bed width at a flow rate of 0.2 m³ / s and a full width at 2 to 6.65 m. In this segment, a 6 m weir was created in blocks and concrete with an overflow rating of 41.20 m NGF.

Zone 4: A 92-ml segment in the chaos of existing granitic blocks and 0.2 to 2 T block inflow, with a nested bed width of 1 m to 2.90 m wide and a full-bodied bed. 2.1 to 6.25 m. In this zone, 2 crossings were removed and replaced by fords.

- Biodiversity :
- Infrastructure
- Water management



- Management of natural areas

Company (es) Website :

Contest

Reasons for participating in the competition(s)

The renovation of this tourist equipment of importance for the territory, was built around two operations of ecological reconquest: One concerns the water quality of Moulin-Neuf where the presence of cyanobacteria thwarted swimming. This blue alga feeds on nitrogen and phosphate molecules and has an irritating effect on the skin. Based on a natural purification experiment, the action consisted of lowering the level of the water body to create wetlands and allow the vegetation to settle on the exposed areas. Thus, the water from the sources that feed the pond will be partially cleared of nitrogen and phosphorus, the very ones that pollute the waters of the pond. Nearly six hectares of the site remain in wet meadows whose role is to cut down the nitrogen and phosphorus levels.

800 m³ of sediments were reused in the softening of the banquettes and served as a breeding ground for the site-adapted helophytes. In addition, new valves (2 surface valves and a bottom valve) were installed with automated control to maintain the new water line lowered from the water body and to promote flow in the bypass river.

The other operation consists in creating a river bypass of the Mill, integrating a fishway (target species: eels and salmonids), by digging in an arm of discharge by which the lake was released in case of flood. The company CHOGNOT has thus realized the following works from upstream to downstream:

- Zone 1: A supply channel for the intake of the new 17.5 ml St Gatiens bed, with a wet bed width of 1.5 m at the same elevation of 41 m NGF and 4, 65 m at full board, subject to natural water level or artificial variations related to the management of two valves and the bottom valve in case of significant variation in flows.
- Zone 2: A calibrated concrete intake with bottom roughness and macroplots of 1.45 m wide by 7.15 ml and 8.4 m full deck (passage under bridge)
- Zone 3: A 30-ml watercourse segment after removal of granitic outcrops with a 1.2 to 2 m nested bed width at a flow rate of 0.2 m³ / s and a full width from 2 to 6.65 m. In this segment, a 6 m weir was created in blocks and concrete with an overflow rating of 41.20 m NGF.
- Zone 4: A 92-ml segment in the chaos of existing granite blocks and 0.2 to 2 T block inflow, with a nested bed width of 1 m to 2.90 m in width and a full-bodied bed from 2.1 to 6.25 m. In this zone, 2 crossings were removed and replaced by fords.

The economic benefits for the territory:

These developments of the Saint-Gatiens River constitute a new tourist attraction for the pond of Moulin Neuf. Especially for the improved fishing activity, but also for the bathing activities that become possible again.

Building candidate in the category



Coup de Cœur des Internautes



Grand Prix Infrastructure Durable

