



Newsletter

LIFE FOR LASCA

N. 04/2020

As part of the **LIFE for LASCA LIFE16 NAT / SI / 000644** (2017-2021) project, two of the main actions are focused on the breeding of the Lasca.

In Italy, **in the fish hatchery of the Ticino Park**, the species is reproduced to provide the Slovenian partner FRIS with adult specimens as breeding stock and young specimens born in captivity to be released into the wild.

In Slovenia, the launch of a Lasca farming is planned to make the FRIS autonomous in artificial reproduction and captive breeding of the species to be used in releases into the wild.

The experience of breeding and artificial reproduction of fish species in the Ticino Park was **inaugurated in 2004** on the occasion of a Life Natura project concerning the protection of the *Salmo trutta marmoratus* and the *Rutilus pigus*; on this occasion the Park realized, within its territory, an hatchery to become autonomous in the artificial reproduction of native fish species in decline. The property is located in the R.N.O. "La Fagiana" (Pontevecchio di Magenta, MI).

For some stages of captive breeding and for the housing of breeding stock the Park also makes use of the system of **breeding tanks** in Cassolnovo. These tubs, born as components of intensive trout farming, were purchased by the Park in 1998 and subsequently adapted by the Authority through partial renaturalization interventions (vegetation of the banks, softening of the embankments, conservation of the bottom in semi-natural conditions).



Fish hatchery intern view – picture by Alice Pellegrino



Young Sturgeons in the fish hatchery – picture by Alice Pellegrino



Fish hatchery of La Fagiana, Magenta (MI) – picture by Alice Pellegrino

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THE FISH HATCHERY OF "LA FAGIANA"

In the hatchery the eggs, obtained through artificial reproduction, are hatched and the young fish are raised before releasing them into the waterways deemed suitable.

The structure consists of:

- fiberglass tanks to house eggs and fry;
- Zug bottles for the incubation of adhesive eggs that need to be kept constantly in motion, such as pike and sturgeon eggs;
- various boxes for the incubation of non-adhesive eggs such as marble trout eggs;
- outdoor pond for the breeding of fry.

At the fish hatchery, various species are reproduced every year: Salmo trutta marmoratus, Esox flavius, Acipenser naccarii, Barbus plebejus, Rutilus pigus, Condrostoma soetta, Condrostoma genei and Tinca tinca.

Every year, therefore, thousands of fry are released into the river, and in the lateral environments deemed suitable, which will increase the wild populations of the various species to which they belong.

THE BREEDING TANKS OF CASSOLNOVO

The breeding fish and part of the juveniles produced by the Ticino Park are housed in *semi-natural basins* in Cassolnovo (PV). There are 2 housing tanks, each of about 11,000 square meters. Using artifacts and grids, the tanks have been divided in order to better organize the breeding.

The structure is fed by streams and springs and is located within one of the most interesting sites in the entire park from a naturalistic point of view: *the Mandelli island reserve*. Here, in addition to humid environments and plain woods, there is one of the most important heron breeding site in the Park.

FITNESS FOR SURVIVAL

The fish obtained with artificial reproductions are reared according to the rules of fitness for survival. This means that the subjects chosen for release in the wild are accustomed to the natural conditions before their release. They are then exposed to natural photoperiod, at the temperature they will find in the water in which they will be released, shelters are introduced into the tank in order to train the fish to hide and are given more and more natural food. All of this increases the chances of survival once these fish are released into the wild.



Eggs of Marble Trout embryonated at the hatchery – picture by Alice Pellegrino



Tanks of Cassolnovo (PV) – picture by Pietro Beretta

THE WORD TO THE EXPERT

To better understand how the management of a fish hatchery works, we interviewed Marco Primavesi, an employee of the Ticino Park.

What is your role in the hatchery?

I work as a technician at the Fauna office, since 2001 I have been dealing with fish fauna and in particular with the management of the hatchery which is based at the "La Fagiana" park center in Pontevecchio di Magenta. I am involved in the reproduction of interesting species for the Park and in maintaining the good health of the reproducers and the juvenile stages present. Currently the structure is suitable for the reproduction of many species. It starts in December with the *Salmo trutta marmoratus* and then moves on to the *Esox flavius* in March, followed by *Rutilus pigus*, *Condrostoma genei*, *Condrostoma soetta*, *Barbus plebejus*, *Acipenser naccarii* and *Tinca tinca* from April.

When did the Park begin to reproduce the Lasca?

The first reproduction was carried out in May 2016, retrieving all possible information, in particular at the structures of Fipsas Varese (Italian Federation of Sport Fishing and Underwater Activities) where a reproduction in captivity occurred by chance. Starting from here, a protocol was developed that allowed us to effectively carry out the reproduction. Then the European project "Life for Lasca" was financed.

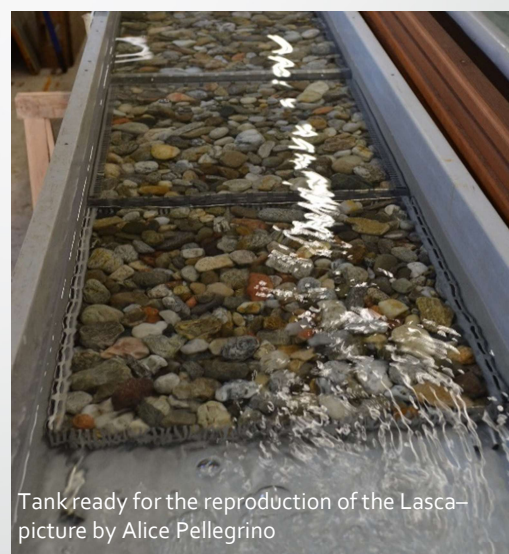
What are the specific techniques adopted?

The method essentially considers three factors: the water temperature, the deposition substrate and the water flow. The spawners' tank is put to water in a continuous cycle with the use of a pump, then a heater is connected that raises the temperature by three degrees (from 17 ° to 20 °) and keeps it constant. On the bottom of the tank are placed some boxes containing clean gravel of a size between 2 and 4 cm. The spawning will be concentrated near the point where the water falls.

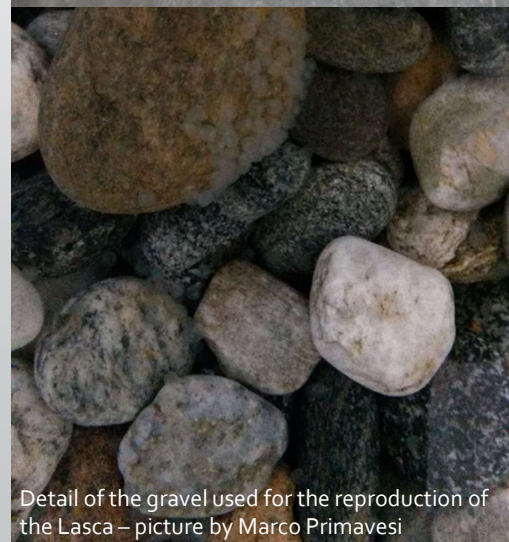
Is it easy to raise and reproduce fish, especially Lasca?

Reproduction is always quite complicated. The most difficult thing is to identify the correct protocol for each species and apply it in the right way and with the correct timing. As for the Lasca, once the method has been identified, reproduction does not present particular problems.

Breeding is not always simple either, especially in the early stages of life, starting with the reabsorption of the yolk sac. Weaning is the most complex part.



Tank ready for the reproduction of the Lasca – picture by Alice Pellegrino



Detail of the gravel used for the reproduction of the Lasca – picture by Marco Primavesi

Do breeding and reproduction work the same in all species?

No. For some species it is necessary to intervene for the release of the eggs with hormonal stimulation. This happens only if they are recovered just before the natural deposition. Other fish, such as the *Rutilus pigus*, do not react to the treatment with hormones, in this case it is necessary to take the specimens in the wild at the exact moment of the "scrub".

Speaking of breeding, on the other hand, for species such as the *Acipenser naccarii*, it is expected a growth period of at least 6 months / 1 year in the Cassolnovo tanks. This period of stay in semi-liberty certainly facilitates the subsequent release in nature which occurs when the fish have reached at least 40/50 cm. Other species are raised for a few days after the absorption of the yolk sac and then released.

The Park hosted a FRIS technician for training. How was this experience?

During his stay we explored the possibilities of adapting our breeding protocol to their waters which have different temperatures.

We have also identified stretches of canals and rivers that could be suitable for future sowing of juveniles.

Finally, the visit to our plant was useful to bring the farming techniques and feed used back to the Slovenian facilities.



Lasca specimens – picture by Marco Primavesi



Reproduction of Lasca – picture by Alice Pellegrino



Italian and Slovenian staff – picture by Alice Pellegrino

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