



LIFE16 NAT/SI/000644

# Newsletter

# LIFE FOR LASCA

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## ***The alien species and the loss of biodiversity***

In the last newsletter we saw how biodiversity is at risk and how the Italian monitoring system works to assess which species and which habitats are most in danger. One of the main threats to native biodiversity is represented by alien species (also called exotic or allochthonous), species introduced by man in a territory where they were not present before. Some of these are defined invasive aliens because they are particularly quick to expand and invade a territory to the detriment of other species. Indeed, Invasive Alien Species (IAS) are now recognized as the second leading cause of global biodiversity loss and the leading cause of local species disappearance, particularly in islands and freshwater.

In the case of our project, for example, the introduction of the alien species Common nase (*Chondrostoma nasus*) in the Soča basin in Slovenia is one of the factors that led to the decrease of the Lasca (*Protochondrostoma genei* native species in the basin).

The threat posed by species introduced by man, directly or indirectly, therefore voluntarily for commercial purposes (such as for fishing) or accidentally through imports of another nature (such as the Asian bug or other insects), can impact in various way about native ones:

- Competition for resources and environment
- Predation
- Hybridization and consequent of the genetic heritage of native species
- Transmission of parasites / diseases.



Differences between Lasca and Common nase-Photo FRIS

Let's take some examples: in Slovenia between Lasca and Common nase there is a competition for resources as they share the same habitat and the same diet. Along the Ticino river and more generally throughout the Po basin, the European catfish (a native species of Eastern Europe, introduced in Italy for over half a century), an ichthyophagous species, actively preys on native species. The problem of hybridization is also increasingly difficult to manage. A striking example is that of the Marble trout, an endemic species of the Po Valley, capable of interbreeding with the Brown trout, from the Atlantic area, producing fertile offspring. The continuous crossings and the birth of hybrids, from generation to generation, could determine the disappearance of the Marble trout. As far as the transmission of parasites and diseases is concerned, a very serious case is the one found for some time now in the native crayfish, which has to face the parasitic load coming from the populations of allochthonous crayfish species (introduced already starting from the second half of the 800) and competition with them for resources.



Red swamp crayfish (*Procambarus clarkii*)-Photo Beretta Pietro

### ***The White-clawed crayfish***

The White-clawed crayfish *Austropotamobius pallipes*, has been classified as an endangered species (EN) in the list of the IUCN (International Union for the Conservation of Nature) due to the numerous threats it faces deriving from various factors in addition to the presence of Invasive Alien Species such as the Red swamp crayfish (*Procambarus clarkii*): excessive fishing and poaching (now illegal, but practiced in the past), transformation of land use of hydrographic networks, pollution and acidification of waters, barriers and canalizations of rivers.

### ***The studies about crayfish***

Already at the end of the XIX century crayfish in Italy were not in a good state of conservation, in fact, the first studies by Prof. Vinciguerra, which date back to the end of the nineteenth century, report a distribution of the White-clawed crayfish (*Austropotamobius pallipes*) strongly contracted compared to the previous period due to infections (the so-called Crayfish plague, Afanomycosis transmitted by the parasitic fungus *Aphanomyces astaci*) which was later discovered to be caused by the introduction of North American crayfish.

In more recent times, studies on the impact of invasive alien crayfish are being carried out both in Italy and in Slovenia. In Slovenia the FRIS has discovered 5 different species of alien freshwater crayfish, while in Italy an article published a few years ago, published in the journal Studi Trentini di Scienze Naturali, includes 3 American species and another from the Pontic-Caspian region, the area between the Black Sea and the Caspian Sea.

### ***The management interventions***

Interventions to preserve indigenous crayfish populations will therefore have to take into account various factors, from the genetic variability of the species present on the territory to the state of the water as regards pollution, oxygenation and water temperature as well as containment of invasive alien species. In the Ticino river basin, in the province of Verbano-Cusio-Ossola, thanks to the Idro LIFE project (2016-2020, <https://idrolife.eu/>), activities of this type have already been carried out with the use of special traps for crayfish so as not to damage fish species and through repopulation of crayfish specimens in various life stages, in sites particularly suitable for the species in the Val Grande National Park following a preliminary study.



Creek in the Val Grande National Park-Photo Pietro Beretta

## ***The LIFE for Lasca in Budapest***

During September and October 2021, FRIS participated in the international hunting and nature exhibition "One With Nature" in Budapest, where 45 countries and organizations were present. During the exhibition, the efforts made within the LIFE for LASCA project to preserve the Lasca in Slovenia were presented. The history of fishing activity and various fishing methods were illustrated, alongside with running water habitats and still water with reproductions of native, rare and protected fish species.



## ***Create a network and disseminate projects***

Europe has a very rich natural heritage which unfortunately, as we have seen, we risk losing. Joint efforts are needed to safeguard it, as was done by Ticino Park and FRIS for the Lasca. The LIFE for LASCA project has in fact created collaborations and contacts between institutions, universities, fishermen's associations and the local population for the essential role they play in the conservation of biodiversity and nature, because there is no one who knows the territory better than who lives it every day.

Get informed, talk, discuss, spread what you know about our project.

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