

<b>ACTION NAME:</b> D8 Sea lamprey, evaluate the efficiency of the project actions on its population
<b>D8 Follow-up of the Sea lamprey</b>
<b>Special Conservation Zone (SCZ) being acted upon:</b>
Bidasoa River
<b>LINK WITH NATURA 2000</b>
The action is encompassed within the following SCZ Management Plan Operational Objectives: 5.1.1 Establish the state of preservation of the Atlantic salmon, shad, sea lamprey and European bullhead.
<b>Key Elements of the promoted SCZ -</b>
The <b>sea lamprey</b> is one of the key elements designated in the SCZ “River Bidasoa”, and the impassable obstacles in the river constitute the main factor conditioning its preservation.
<b>PLACE OF ACTION AND MUNICIPALS:</b>
Bera, Lesaka
<b>Date</b>
2017-2018
<b>Budget</b>
€26,056
<b>Related project actions</b>
Due to the requirements of the species and its current and potential geographical distribution, the most significantly related preservation actions are C6 “Permeation of Endarlatsa” and C7 “Permeation of Bera”
<b>Description of the action - OBJECTIVES</b>
The aim of this follow-up action is to assess the efficiency of the preservation actions related to the sea lamprey, by comparing initial and final indicator values for reproduction of this species in the adapted stretches of the Bidasoa, which is envisaged to be affected by the project actions.
<b>Description of the action - BACKGROUND</b>
Sea lamprey is a river-born migratory species, where it spends its larval period until adulthood. Adult specimen live in the sea for between 20 to 30 months, at depths of 200 to 300 metres, mainly parasitising fish, and when they reach sexual maturity they return to the rivers to complete the reproductive cycle. Up-river migration begins in February and continues until May. In Navarre, lamprey are only present in Bidasoa. Although their presence in the Las Nazas stretch was documented, the results of a study carried out in 2013 have shown that some specimen manage to overcome the Las Nazas dam, surely helped by the remodelled fish way built on this obstacle in 2007. Furthermore, for the first time a lamprey nest has been found just below the San Martín dam, a location that to date is considered the highest point this species has reached in this river

## Description of the action – DESCRIPTION OF FOLLOW UP

The **methodology** used in this action includes a double follow-up:

- 1) Follow-up of reproductive activity: Through observation and counting of reproductive adults found in the spawning ground whilst they construct the spawning nests.
- 2) Follow-up of the larva during autumn, a specific follow-up will be carried out to determine the presence and amount of larvae buried in the nursery areas.

With these techniques the following indicators will be **estimated**:

- Kilometres of river occupied for reproduction.
- Density of total nests and by sub-stretches.
- Rate of reproductive lamprey spotted.
- Abundance of larvae (CPUE, larvae/m2).
- Demographic structure of the larvae.

With regards to the **field of study**, the works will be developed in all the lower part of the main channel of the SCZ “Bidasoa river”, where its presence has been recorded since 1993. This includes the stretch comprising the up-waters of the San Martín dam in Bera, the obstacle to demolish in action C7, and the border between Navarre, Gipuzkoa and France.

With regards to the **seasonal distribution** of the follow-up, the plan is based on a comparative scheme between the initial state, or that prior to actions, and the final state, or that after actions.

## JUSTIFICATION What are the desired results? - ENVISAGED RESULTS

The expected results for this action are:

- Establish the initial and final values of the indicators mentioned (km of river occupied by reproduction, density of total nests and by sub-stretches, rate of observed reproductive lamprey, abundance of larvae and the demographic structure of the larvae).
- Assess the efficiency of the related preservation actions, comparing initial and final assessments.

