

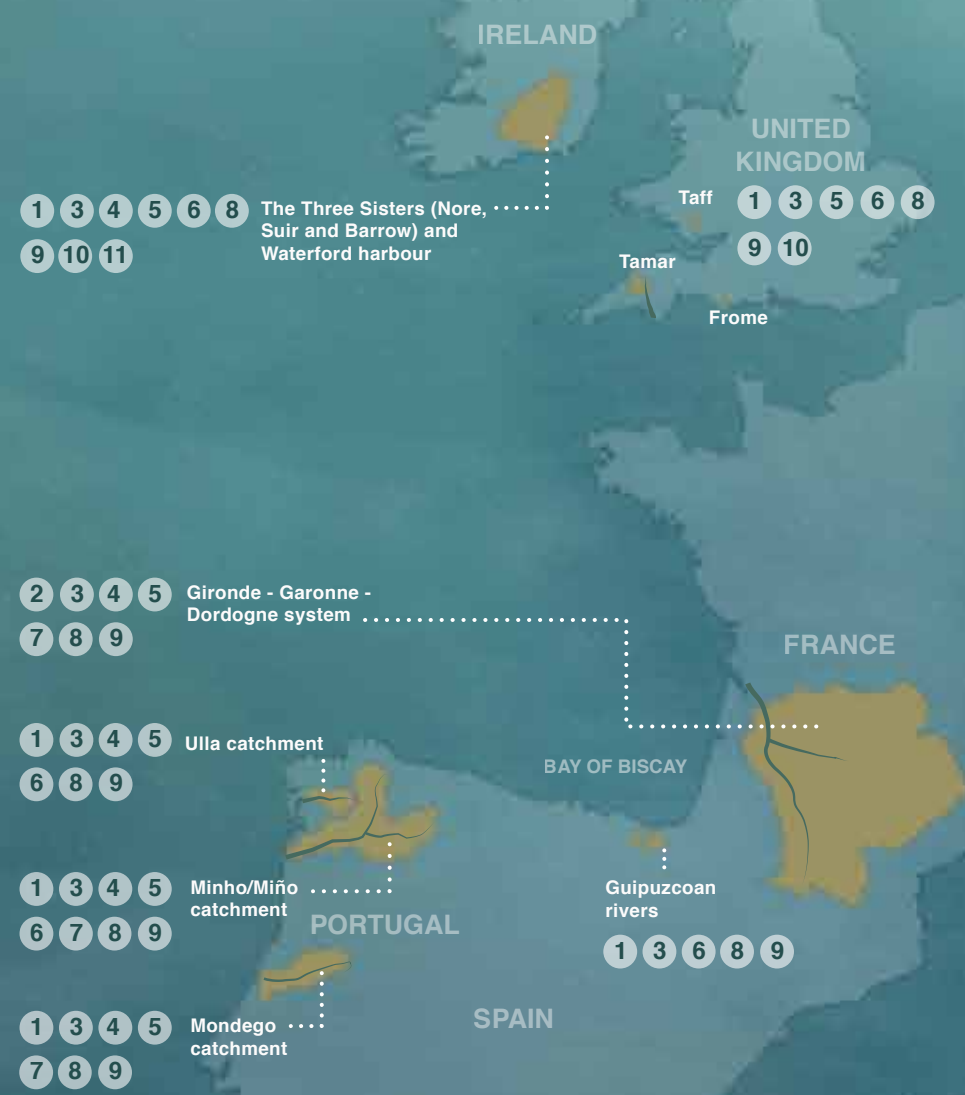
# RIVER OF LIFE

Diadromous fish spend their life cycle between sea, estuary and riverine habitats. Eleven species have been identified in the north-east Atlantic Area, each provide different 'ecosystem services' to local communities. Knowing more about their importance to local and regional economies and societal well-being is a major advance towards a better management of these species, many of which are threatened. The Interreg Atlantic Area DiadES project led an innovative pilot research to assess the monetary value of ecosystem services associated with these fish in five countries and seven river basins.



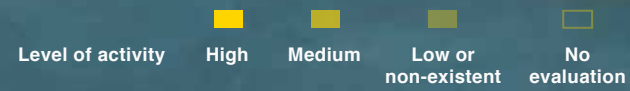
## DIADROMOUS FISH SPECIES ASSESSED BY DIADES PROJECT

Numbers correspond to the main species found in each river basin. Find the name of the species in the bottom table.

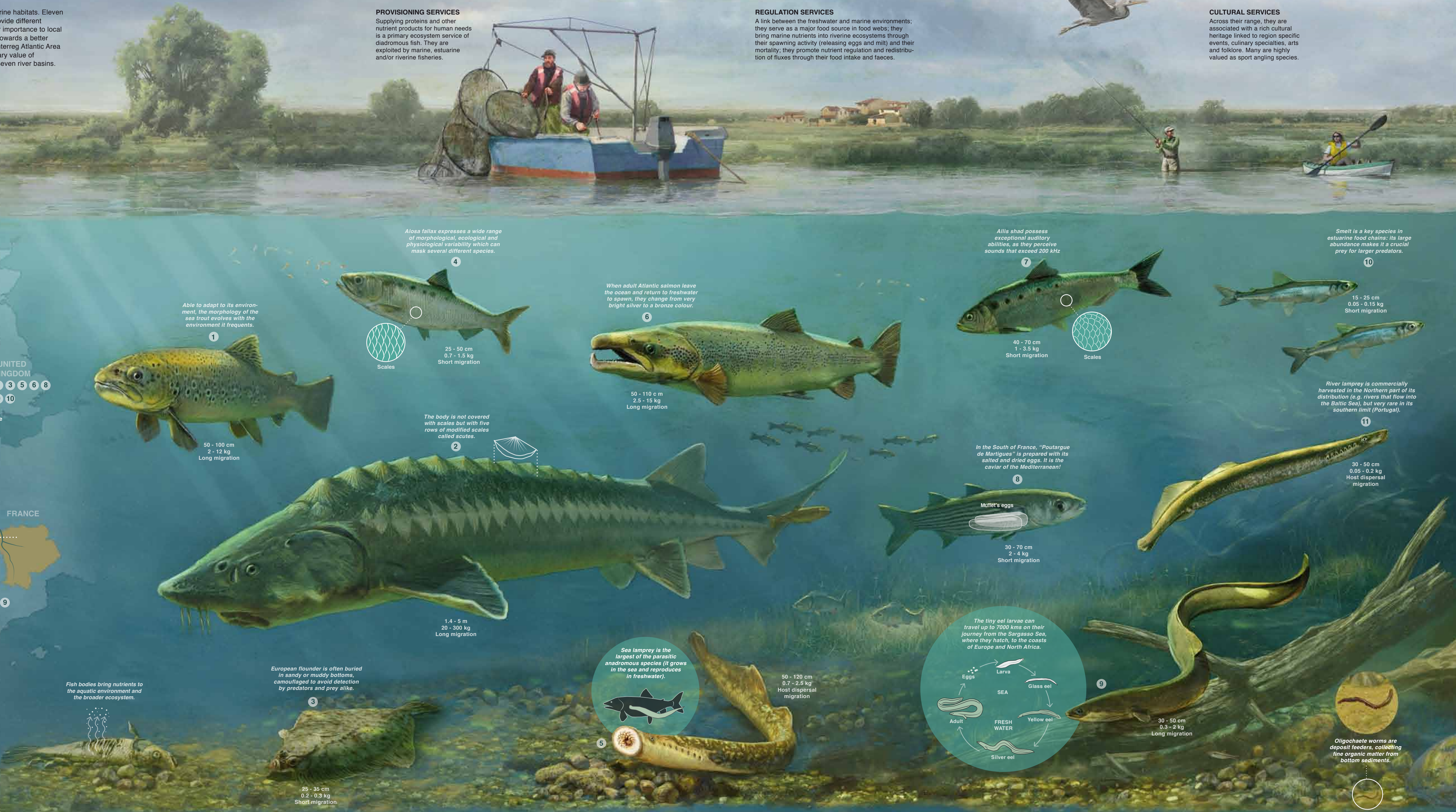


## ECOSYSTEM SERVICES BY AREAS AND SPECIES

How much societal benefit and value do diadromous fish contribute? For each river basin in our study we calculated the monetary value of the ecosystem services they provide and synthesized it in this table.



River Basin	1	2	3	4	5	6	7	8	9	10	11
The Three Sisters (Nore, Suir and Barrow) and Waterford harbour	High	High	High	High	High	High	High	High	High	High	High
Taff, Tamar and Frome catchments	High	High	High	High	High	High	High	High	High	High	High
Gironde - Garonne - Dordogne system	High	High	High	High	High	High	High	High	High	High	High
Guipuzcoan rivers	High	High	High	High	High	High	High	High	High	High	High
Ulla catchment	High	High	High	High	High	High	High	High	High	High	High
Minho/Miño catchment	High	High	High	High	High	High	High	High	High	High	High
Mondego catchment	High	High	High	High	High	High	High	High	High	High	High



**1** *Salmo trutta*  
Able to adapt to its environment, the morphology of the sea trout evolves with the environment it frequents.  
50 - 100 cm  
2 - 12 kg  
Long migration

**4** *Alosa fallax*  
Expresses a wide range of morphological, ecological and physiological variability which can mask several different species.  
25 - 50 cm  
0.7 - 1.5 kg  
Short migration

**6**  
When adult Atlantic salmon leave the ocean and return to freshwater to spawn, they change from very bright silver to a bronze colour.  
50 - 110 cm  
2.5 - 15 kg  
Long migration

**7** *Allis shad*  
Possesses exceptional auditory abilities, as they perceive sounds that exceed 200 kHz.  
40 - 70 cm  
1 - 3.5 kg  
Short migration

**10** *Smelt*  
Is a key species in estuarine food chains: its large abundance makes it a crucial prey for larger predators.  
15 - 25 cm  
0.05 - 0.15 kg  
Short migration

**2**  
The body is not covered with scales but with five rows of modified scales called scutes.  
1.4 - 5 m  
20 - 300 kg  
Long migration

**8** *Mullet's eggs*  
In the South of France, "Poutargue de Martigues" is prepared with its salted and dried eggs. It is the caviar of the Mediterranean!  
30 - 70 cm  
2 - 4 kg  
Short migration

**11** *River lamprey*  
Is commercially harvested in the Northern part of its distribution (e.g. rivers that flow into the Baltic Sea), but very rare in its southern limit (Portugal).  
30 - 50 cm  
0.05 - 0.2 kg  
Host dispersal migration

**3** *European flounder*  
Is often buried in sandy or muddy bottoms, camouflaged to avoid detection by predators and prey alike.  
25 - 35 cm  
0.2 - 0.3 kg  
Short migration

**5** *Sea lamprey*  
Is the largest of the parasitic anadromous species (it grows in the sea and reproduces in freshwater).  
50 - 120 cm  
0.7 - 2.5 kg  
Host dispersal migration

**9** *European eel*  
The tiny eel larvae can travel up to 7000 kms on their journey from the Sargasso Sea, where they hatch, to the coasts of Europe and North Africa.  
30 - 50 cm  
0.3 - 2 kg  
Long migration

**11** *Oligochaete worms*  
Are deposit feeders, collecting fine organic matter from bottom sediments.

Species	1	2	3	4	5	6	7	8	9	10	11
<b>1</b> Sea trout <i>Salmo trutta</i>	High	High	High	High	High	High	High	High	High	High	High
<b>2</b> European sturgeon <i>Acipenser sturio</i>	High	High	High	High	High	High	High	High	High	High	High
<b>3</b> European flounder <i>Platichthys flesus</i>	High	High	High	High	High	High	High	High	High	High	High
<b>4</b> Twaité shad <i>Alosa fallax</i>	High	High	High	High	High	High	High	High	High	High	High
<b>5</b> Sea lamprey <i>Petromyzon marinus</i>	High	High	High	High	High	High	High	High	High	High	High
<b>6</b> Atlantic salmon <i>Salmo salar</i>	High	High	High	High	High	High	High	High	High	High	High
<b>7</b> Allis shad <i>Alosa alosa</i>	High	High	High	High	High	High	High	High	High	High	High
<b>8</b> Thin-lipped mullet <i>Chelon ramada</i>	High	High	High	High	High	High	High	High	High	High	High
<b>9</b> European eel <i>Anguilla anguilla</i>	High	High	High	High	High	High	High	High	High	High	High
<b>10</b> European smelt <i>Osmerus eperlanus</i>	High	High	High	High	High	High	High	High	High	High	High
<b>11</b> River lamprey <i>Lampetra fluviatilis</i>	High	High	High	High	High	High	High	High	High	High	High