The Globetrotters of Eglinton Country Park

The diversity of fish species living in the **Lugton Water**, which flows from **Loch Libo** to the **Garnock Water**, includes sticklebacks and lampreys, brown trout and eels, sea trout and salmon, amongst others. Some of these fish species will live their entire lives in the river. A few of the more adventurous species, however, will migrate thousands of miles out to sea. These sea going fish are termed diadromous meaning they move between the sea and freshwater during different stages of their lives.

Adult European eels *(Anguilla anguilla)* swim all the way across the North Atlantic to lay their eggs in the Sargasso Sea. Young salmon *(Salmo salar)* and sea trout *(Salmo trutta)* do the reverse, heading out to sea as juveniles for up to four years before returning to the Lugton Water as adults to lay their eggs in oxygen rich river gravels.

Across Scotland, the progress of these international travellers is hindered by the hundreds of weirs and dams that have been constructed over the last few hundred years, with significant impacts on fish populations. The fish pass constructed on Garden Weir will help these fish to swim up and down the Lugton Water and continue their global adventures.

1. European eels start their lives near to America. Eel larvae hatch in the Sargasso Sea before taking advantage of the Gulf Stream currents to drift over to Scotland when they are just a few centimetres long.

2. The 3,700 mile journey is thought to take around 300 days, but no one really knows for certain.

3. As they approach Scotland's coastal waters, they are small, wriggly and virtually see-through. They are known as glass eels.

4. By the time they find their way into a river, the young eels have developed colouring and look much like an adult eel, but are still small, no longer than a pencil. They are called elvers. Elvers cannot jump, but are great at climbing. They can wriggle their way up near vertical surfaces, as long as they have something wet to cling to and the flow is not too fast. Garden weir has been altered to create the right climbing conditions.

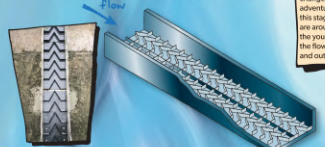
5. The young eels puddle about in the mud and gravels of ponds and rivers, feeding on small invertebrates and scavenging on dead organisms. As they mature, they grow. Adult eels can grow to over a metre in length.

6. Eels can live for more than 50 years in captivity but will typically spend less time in the Lugton Water before heading back downstream and out to sea

7. When the adult eels are ready to return to the Sargasso Sea their bodies turn silver. This helps them to hide from marine predators on their long journey back across the Atlantic. They start the return journey in the spring time, usually under the cover of darkness. European eels are listed as critically endangered by the IUCN (International Union for Conservation of Nature).

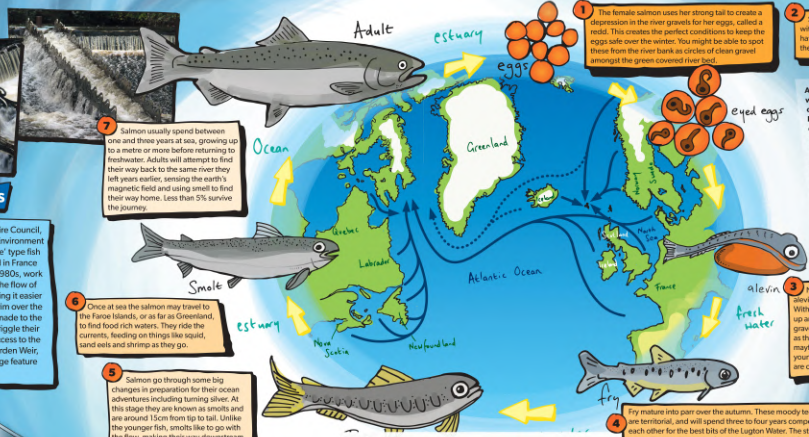
The Fish Pass

To restore fish passage, North Ayrshire Council, with the support of the SEPA Water Environment Fund, have installed a 'bottom baffle' type fish pass. These fish passes, developed in France by Larinier and Miralles in the early 1980s, work by creating turbulence that slows the flow of water and increases the depth, making it easier for migrating salmon and trout to swim over the weir. Modifications have also been made to the weir providing a route for eels to wriggle their way over. These solutions restore access to the freshwater habitats upstream of Garden Weir, whilst retaining the weir as a heritage feature within the park.



Project partners

Working towards restoring access to the Lugton wat migratory fish species has benefited from contributi from a range of organisations including North Ayrsh Council, the SEPA Water Environment Fund, Ayrshir Rivers Trust and North Ayrshire Rangers Service.



1. The female salmon uses her strong tail to create a depression in the river gravels for her eggs, called a redd. This creates the perfect conditions to keep the eggs safe over the winter. You might be able to spot these from the river bank as circles of clean gravel amongst the green covered river bed.

2. Salmon eggs, hidden deep within the river bed over the winter, hatch out into the Lugton Water in the late spring.

After 200 years, salmon and eels, as well as other migrating fish species can now swim freely through Eglinton Country Park, making use of the fish passes to swim or climb over Garden Weir when the water levels rise. The fish passes should also help sea trout, river lamprey and possibly even sea lamprey to make the Lugton Water their home. With many of these species facing an uncertain future, it is important that we do what we can to ensure the Lugton Water is a safe haven where they can thrive.

3. Newly hatched salmon are called alevin and carry a yolk sack for food. Within a short time, the yolk is used up and they emerge from the river gravels to feed on tiny creatures such as the underwater larvae of caddisflies, mayflies and stoneflies. These hungry young fish, swimming for the first time, are called fry.

4. Fry mature into parr over the autumn. These moody teenagers are territorial, and will spend three to four years competing with each other for the best bits of the Lugton Water. The strongest parr will control a patch of river gravel with the perfect flow and the best supply of their favourite food.

5. Salmon go through some big changes in preparation for their ocean adventures including turning silver. At this stage they are known as smolts and are around 15cm from tip to tail. Unlike the younger fish, smolts like to go with the flow, making their way downstream and out to sea to feed and grow.

6. Once at sea the salmon may travel to the Faroe Islands, or as far as Greenland, to find food rich waters. They ride the currents, feeding on things like squid, sand eels and shrimp as they go.

7. Salmon usually spend between one and three years at sea, growing up to a metre or more before returning to freshwater. Adults will attempt to find their way back to the same river they left years earlier, sensing the earth's magnetic field and using smell to find their way home. Less than 5% survive the journey.

SEPA Scottish Environment Protection Agency Buidheann Dìon Àrainneachd na h-Alba

wef Water Environment Fund

North Ayrshire Council Comhairle Siorrachd Àir a Tuath

Ayrshire Rivers Trust

Greener Scotland Scottish Government