

ENVIROKIDS WORKSHOPS



OUR CANAL SYSTEMS



Our Canal systems – Ireland once had a canal network of 25 canals and combining the rivers that connected these canals, nearly every part of Ireland could be reached. Today in Ireland we have 7 active canals and 18 that are not in use. Canals were built to transport goods in bulk from one part of the country to another. The construction of the first canal started in 1731 in Co Tyrone in the north of Ireland. In this part of Co Tyrone there was a huge coal mine called Coalisland, so to transport coal to Dublin by using the road system, a horse and cart could only carry 1 ton but the same horse could pull a **Barge** full of coal weighing 70 tonnes. The Newry canal was finished in 1742 and was 18 miles long, and with 14 loughs climbing through a mountain, this was a huge engineering task for the time.

This new canal proved to be a huge success and opened the door for the construction of more canals throughout the country. In this issue we will take a look at 2 canals in particular, the Grand and the Royal canal and their construction, that changed Ireland and helped one company to expand. We will also look at the canals today and what has happened to some of them, we will look at the Lough systems, and why canals are so important to our wildlife and the people that use them.



B Barge



A Working Barge



Horse drawn Barge

The Grand Canal

After the success of the Newry canal system the Irish government were looking to link Dublin with the River Shannon to open what is called a trade route. In 1715 this was discussed but nothing had been done about it, then in 1757 the government granted Thomas Omar, a Dutch architect who had worked on canals in England. He was given £20,000 to start, and by 1759 he had completed an 8 mile stretch from the river Liffey near Sallins in co Kildare towards Dublin. Over the next 4 years, bridges and loughs were completed and a new water system for the city. By 1779 the canal to Sallins was completed and supplied a passenger service 2 times a week. In 1784 they had reached Robertsown, including the building of the Leinster Aqueduct (A Bridge over a river) a huge engineering task. The junction to the river Barrow was completed by 1791, and getting across the Bog of Allen in Co Kildare took 5 years and eventually the link was completed in 1804. The canal had taken 47 years, achieving a target of 3 inches a day. A circle line from portobello to Ringsend was also completed in this time. The Grand Canal runs from the grand canal docks to the River Shannon coming out near Banagher. The circle line ran from Ringsend through Ballsbridge, Ranelagh, Rathmines, Harolds cross, Crumlin, Grand canal Harbour, the City Basin, Guinness brewery. This circle line had 7 locks and today the Red luas line runs along a lot of this route. In total the Grand canal runs for 81 miles and a total of 43 locks, 5 of which are double locks. The cost of the 47 build was £877,000 roughly £161 million in today's money.



The Royal Canal

The Royal canal like the Grand, this idea was put to government in 1755. Thomas Williams had done a survey for north leinster to the Shannon using the grand feeder rivers along the route. Work got the go ahead in May 1790, 35 years after the plan was put in place, and a lot of work had to be done to find the correct route. Cross bridge in phibsborough was where the Royal started and headed north to Ashtown. Unlike the Grand, the Royal was completed 27 years later, but the cost was much more, and the project had a lot of problems along the way. The Grand takes a more northern route, and some say a more scenic one. The canal makes its way through Dublin. Kildare. Meath, Westmeath and Longford to the next big task, the Whiteworth Aqueduct, (Picture Below) was built over the river Inny. The 5 arches and 165ft length it is one of the finest pieces of construction on the Royal canal. The canal moves on then, meeting the Shannon at Tarmonbarry . In 1798 the canal was past its first big task, the Rye River Aqueduct at Leixlip, then on past Carton house in Maynooth, it is believed that Maynooth college pays an annual fee of €0.50 for a tow path Levy that was set in 1799. In the coming years, the canal had reached Mullingar and lough Owel. The Royal canal is 90 miles in length and has 46 locks, with a final price when completed in 1817 at 1.5 million pounds, it is said the Royal cost 2 times more than the Grand canal.



The Canal Lock

A **lock** is a part of the canal system that makes water deep enough for a boat to use. The lock controls the depths, for example in a lock and dam system across a waterway. The lock is a place where boats travel up or down the canal and can be moved to a higher or lower level. Locks are built in places where the level of the water in the river or canal suddenly changes. They are put in place where a waterfall or weir may have been or because some other thing is in the way. The lock is like a big chamber with gates at each end. They have lock gears which empty or fill the chamber with water. Locks help the canal to be more easily used (easier for boats to travel up and down), **How a lock works a simple guide.**

- The boat waits until the lock is full of water.
- The entrance gates (if shut) are opened and the boat sails in.
- The entrance gates are closed.
- A valve is opened, and water flows out of the chamber so that the boat goes down or rises.
- When the water is at the level with the canal you want to join, the exit gates are opened and the boat sails out.

The Guinness Barges

The Guinness Liffey barges were in two main groups built in 1877 – 1892. They stopped using the canals in 1961 when they were replaced by the modern lorries. The Canal barges served all ports along the canal and Shannon river system. The Barges were loaded at the Grand Canal Harbour or at the adjoining Guinness Harbour which was accessed through a channel under a lifting bridge known as the *Rupee Bridge*. The Barges would have a crew of 3-4 and would take their load of Guinness, up to 300 barrels, all over the country. The barges then would be loaded with timber, turf or sugar beet for the return journey. The early Barges were horse drawn and in the later years 1920s the Barges had a small engine 15hp. The journey did not get much quicker taking 4 days to go from Dublin docks to the Shannon. The Barges were not comfortable with small bunks and a solid fuel stove. The skipper might have had his own room and Greasers (Apprentices) shared bunks, working a 16 hours day and 7 days a week. Crew rarely saw their families while working on the canals, and the work was dangerous, especially when approaching a lock. Some stories have come out that the crew would pierce the barrels with a special device and take a jug of Guinness to enjoy along the journey.



Canals today

As we have seen, our canals and rivers were busy and put to full use, but over the last 50 years a lot of our canals fell into disrepair. Luckily, some of these canals are being restored to the way they were and are now back for all to enjoy. The canals today are used for leisure trips from the Grand canal or the Royal then joining the Shannon, taking boats slowly along and getting close to nature. Cycle along the track once used by the Barge horses, Cycle the canal greenways, or make it part of a holiday. You could hire a bike to take with you on your hire boat to make it part of your waterway experience. The slower way is walking, and taking in the fabulous wildlife along these canals, from Kingfishers to pine martins, otters, and dragonfly's a walk along the canal is a must do activity. If you know where to look you could be lucky to see a Newt or a Crayfish. Fishing is a great way to enjoy the canals and from perch to bream and roach great fishing can be enjoyed and luckily in Ireland we have miles of fabulous waterways and the best are our canals. See the rope marks engraved under the bridges from 250 years ago, the aqueduct and the dock walls are all part of our history.



Activities to do at home

Draw a picture of canal wildlife, maybe a swan or Kingfisher.

Do a small project on how the canals could be kept clean and made better for us to use.



Quiz

- 1, What's the oldest canal in Ireland?
- 2, When was the Grand canal finished?
- 3, What is the name of an apprentice on a Guinness barge?
- 4, How long is the Royal canal?
- 5, How many active canals are there in Ireland?
- 6, How did the first barges move?
- 7, How many barrels were carried in a Guinness barge?
- 8, Why are locks used on the canals?
- 9, How much did the Grand canal cost to build?
- 10, How many locks on the Royal canal?

Next and final issue **Yellowstone National Park**

Quiz answers from last issue the Nile River.

- 1, How long is the Nile River? 6,800km or 4,225 miles
- 2, How many times would Ireland fit into the Sahara? 134 times
- 3, Where do the two rivers meet? Khartoum
- 4, What sport was played by ancient Egyptians? Water Jousting
- 5, How many species of snakes can be found along the Nile? 30 species
- 6, What is the huge swamp that comes in the rainy season in Sudan called? The Sudd
- 7, What is the name of the Lizard that can grow to 7ft long that's found along the Nile? Monitor Lizard
- 8, Name the 2 rivers that form the Nile? White and Blue Nile
- 9, What is the name of the huge lake that's named after an English monarch? Victoria
- 10, How many countries dose the Nile flow through? 11



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