

## — No. VI. —

SAILING DIRECTIONS for the *Lower Shannon*, and for *Lough Derg*; with some Hydrographic Notices of *Lough Ree* and *Lough Erne*. By Commander *James Wolfe*, R.N.; being the result of Surveys made by Order of the Lords Commissioners of the Admiralty.

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The Bearings are all Magnetic. The Distances are given in Nautic Miles. The Elevations are measured above the High Water of Ordinary Springs.

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## SAILING DIRECTIONS, &amp;c.

IN approaching the Shannon from the westward in clear weather, the first land seen, will be the high-peaked mountain of Brandon, which must be kept open on the starboard bow, until the land has been neared sufficiently to distinguish Loop Head, the northern point of entrance to the river. It must, however, be remarked, that about five miles to the N.W. by N. of Kerry Head, the southern point of entrance, there is some rocky ground with from 11 to 19 fathoms over it, on which there is always a heavy swell. Brandon Mountain.

Loop Head is a remarkable bluff point, projecting to the westward at an acute angle, and may further be known by a white lighthouse near its extremity, in which is exhibited a fixed light at an elevation of 269 feet above high water, and visible at a distance of 22 miles. From thence the land rises gradually as it trends to the eastward; the shores are clifty, and at six miles to the eastward of the head there is a remarkable hill called Ray Hill, which being steep towards the sea, shows a wedge-like form rising to the height of 386 feet. Lighthouse.

Between Loop Head and Ray Hill stands the village of Kilbaha, near a small bay of that name, in which partial shelter is afforded to the fishing and pilot hookers belonging to that place. Kilbaha.

From Loop Head, to as far as Dunmore Head, which is the western extremity of Horse Island, the shore is foul to the distance of half a cable's length, but from thence to the eastward it is clear as far as Kilcradan Head, W.S.W.  $\frac{1}{4}$  W., from which there is a sand-bank called the Kilstiffin. Dunmore Head.

Kilstiffin Bank lies rather more than three-quarters of a mile S.S.W. of Rinevella Bay, and carrying from four to six fathoms. From its shoalest spot, four fathoms, Ray Hill bears N.W., Duncans Gap N.  $\frac{1}{4}$  W. and Kilcradan Lighthouse E.N.E.  $\frac{1}{4}$  E. rather more than a mile. It is dangerous from the heavy breaking sea which runs over it, more especially with an ebb tide against strong westerly winds. There is a passage between it and the shore, called the Seven Fathoms Channel, the leading mark through which is Kilbaha Cliff in one with Kilclogher Head W.N.W.  $\frac{1}{4}$  W. Kilstiffin Bank. Seven Fathoms Channel.

Kerry Head, the southern point of entrance to the Shannon, bears nearly S.W. by S.  $8\frac{1}{2}$  miles from Loop Head. It is a round bluff, and from it the land trends to the eastward for nearly 10 miles, the coast being of a low clifty character, to the entrance of the Cashen River. Kerry Head.

All the outer part of the estuary is clear until near the Cashen River, off which a spit runs out to the N.N.W. for upwards of a mile, with a depth on it varying from  $4\frac{1}{2}$  to  $1\frac{1}{2}$  fathoms; the latter depth is on the Nine Feet Rock, lying nearly north, two-thirds of a mile from Kilmore Point, the western point of entrance of the Cashen. A vessel need be under no fear of this spit, as long as Kinconly Point is kept open to the northward of Leck Point, or bearing to the eastward of N.E. by E.  $\frac{1}{2}$  E. Cashen River and Spit.

From the Cashen River the shore is sandy, and trends to the north-eastward. The sand-hills of Ballybunnion here become very conspicuous, stretching to the northward towards Ballybunnion Castle. Beyond that castle the shores again become rocky and irregular as far as Kilconly Point, which is scarcely  $1\frac{1}{4}$  miles from the Kilcradan land on the opposite shore. Ballybunnion.

**Kilcradan Head,** Kilcradan Head,\* on the Clare or northern shore, is a bluff rocky headland, 120 to 140 feet high, eight miles to the eastward of Loop Head, and, with Kinconly Point on the Kerry shore, forms a second entrance to the Shannon. On the southern bluff of this headland there is a white lighthouse, exhibiting a fixed light, red to seaward, but towards the land, of the ordinary colour. The light is 133 feet above high water, and may be seen 15 or 16 miles.

**and Light.**

**Kilcradan Point.**

Half a mile to the eastward is a shelving rocky point, called Kilcradan Point, on which there is a battery, mounted *en barbette*, with a bomb-proof tower. All this shore is clear, and may be boldly approached; the tide, however, round the point, particularly the ebb, sweeps out of Carrigaholt Bay with great velocity. In the fairway, the flood at springs runs at the rate of 3 and the ebb at 3  $\frac{1}{4}$  to 4 miles an hour.

**Carrigaholt.**

Round Kilcradan, to the northward, and protected by it, is the anchorage or Road of Carrigaholt. It is a fine secure anchorage with all winds from the westward, but from the E.N.E. to S. much sea prevails, though not heavy enough to endanger a vessel well found in ground tackling. With S.W. gales, a long rolling swell sets in round Kilcradan Point, which renders riding here at those times very uneasy. These roads have the advantage of being free from any great strength of tide.

The ground is level all over the road, but from six fathoms it shoals gradually towards the shores; the bottom, of sand over clay and mud, is generally considered good holding ground. The best anchorage for a large ship is with the top of Ray Hill in one with the Coast-guard Watchhouse W.  $\frac{3}{4}$  N., and Moyarta Lodge, just open of the point on which Carrigaholt Castle stands, nearly N.  $\frac{1}{2}$  W. in 5  $\frac{1}{2}$  to 6 fathoms low-water springs.

The shore forms two smaller bays, the northern of which takes its name from the village which stands on its shores, and the southern is called Kilcradan. Both are very flat and shallow; in the latter there is a coast-guard station, but it is not a boarding station. The village is a poor miserable place, and does not afford supplies of any sort, nor can a ship complete water here. At the village is a small pier, accessible only (to loaded boats) at high water. It is used by the turf-boats, though most of these load on the beach.

Carrigaholt Castle, a high square tower on the point, and the chapel, a cruciform building, with its belfry, are very conspicuous objects.

**Beal Bar.**

Two miles E. by S. of Kilcradan Point is Beal Bar, the earliest danger that presents itself on entering the Shannon. It extends off Beal Sand-hills, on the Kerry side; these sand-hills are very conspicuous from the whiteness of the sand of which they are formed; they rise to the height of 50 to 60 feet, broken into irregular mounds, the tops of which are covered with a rank verdure.

The bar, though why so called it is difficult to say, is a flat bank of fine sand, which dries off at ordinary low-water springs to the distance of about 550 yards from the high-water line; but outside this it is skirted with a ledge of stones, which only shows itself at extraordinary springs, and the outer patch of which is rather more than half a mile from the shore. Beyond this, again, the shallow runs out another 300 yards, making the whole extent of the danger from the high-water line to the edge of the three fathoms line three-quarters of a mile. The mark generally used for clearing it is Kilclogher Head, just touching Kilcradan Head W.N.W.  $\frac{1}{2}$  W., but this mark is very wide; and the lighthouse in one with the peak of Ray Hill, W.N.W.  $\frac{1}{2}$  W., will lead more than a cable's length clear in 17 fathoms. The breast-mark for being off the apex of the danger is Doonaha Chapel (on the Clare side) just open to the eastward of Doonaha Battery. There is likewise a stony spit of three fathoms, stretching away nearly a mile to the westward. Ballybunnion Point just open west of the low rocks off Leck Point S.W. by S., will clear it.

**Doonaha Shoal.**

S.W. from Doonaha Battery, and three-quarters of a mile off shore, there is a bank, the least water on which is 18 feet, with 4  $\frac{1}{4}$  to 5 fathoms inside of it. You must not stand farther to the northward than to bring Kilcradan Lighthouse in one with Kilcradan Battery, and Doonaha Chapel in one with Doonaha Battery N.N.E.  $\frac{3}{4}$  E. clears it to the eastward.

Being off Kilcradan Lighthouse, the Round Tower on Scatterry will be seen bearing east, distant 7  $\frac{1}{4}$  miles. If close off the point, a course may safely be shaped

\* See Chart of the Shannon, Sheet II.

shaped for it with a fair wind, which will lead a quarter of a mile to the northward of Beal Bar ; and having passed this, the channel is perfectly safe and clear, and the shores may everywhere be approached by the lead ; but the northern shores are shallowest and flattest. All along this shore vessels may anchor in good ground and convenient depth of water when waiting for the tide.

Vessels bound for Kilrush \* may, on rounding Kilcradan Point, steer directly for the town, which will be seen to the northward of the Round Tower. As you approach Scattery Island, you will perceive a high storehouse † in the town, to the right of the Roman-catholic Chapel, which must be kept touching the right part of a very white house at the patent slip E.  $\frac{1}{2}$  N., till the two western points of Hog Island (which are low, but well defined bluffs) come in one, when you may steer for a berth off the pier, where there is anchorage, rather to the westward of it, between the shore and Hog Island, in about four fathoms ; but the tides run strongly through this narrow channel, and the ground being scoured by them, is not the best for holding. This anchorage is much exposed, and should only be used preparatory to going along-side the pier ; it is called Cappah, or the Foot of Cappah. There is a small dry harbour at Kilrush, but capable of improvement and of being adapted to vessels drawing 12 feet, when provided with quays, which are now in course of erection. It is from the western point ‡ of this harbour that the quay ought originally to have been run out. At present small vessels, which, indeed, are the only ones that can come to Kilrush, are obliged to load alongside the pier, about 500 yards to the eastward of the harbour.

The town of Kilrush is a mile from the pier ; it is of considerable size, and rapidly increasing, and supplies of all sorts may be procured there.

In running up to the eastward from the pier, the passage between Hog Island and the main is only 380 yards wide at high-water, and 200 at low-water ; the channel is, however, deep ; but the tides at springs run with the velocity of 4 to 4  $\frac{1}{2}$  knots. It is necessary to keep rather over towards the point of Hog Island, which is very bold, and may be passed at little more than half a cable's length from the high-water line, to avoid the Wolf Rock (with four feet on it at ordinary low-water springs) which lies a cable's length S. S. W. of a large white house § on the shore opposite. Rinana Point, on Scattery, touching the S. E. point of Hog Island, is the breast-mark for it. There is an arch over a stream, 200 yards to the eastward of the Pier, and keeping this in sight, open of the high-water line, will clear the rock.

The pilots are in the habit of anchoring large vessels more to the eastward, but this is wrong, inasmuch as there is less room for drift in getting under weigh, less depth of water, and more tide ; and they are less under shelter of Scattery Island.

If bound up the river, the most direct course is to the southward of the Island of Scattery, which lies about six or seven miles above Carrigaholt. It is three-quarters of a mile in length, and is remarkable for one of those remnants of antiquity, a round tower, about one-third from its northern extreme. On the south extreme, called Rinana Point, there is a battery and a tower similar to those on Kilcradan Point.

From the extent and position of this island, with that of the smaller island of Hog, to the eastward, there is excellent shelter (from the prevailing westerly winds), to the E. and S. E. of it, known as Scattery Road, which is the common stopping place of wind-bound vessels. The holding-ground is good, being of blue mud, but coated with a thin covering of sand. The anchoring marks for large vessels are Kilcradan Hill in one with Rinana Point W. N. W.  $\frac{1}{2}$  W., and Cappah House in one with the east point of Hog Island N. E.  $\frac{1}{2}$  E., or as far east as the Revenue Square. Beal Point, touching Rinana Point W.  $\frac{1}{2}$  N., leads just outside the three-fathoms line. The small vessels frequenting the Shannon anchor just inside this line. The road is sheltered from the flood-tide, and the strength of the ebb is much diminished.

Between Scattery and Hog Islands there is a passage of nine feet at low-water,

\* See Chart of the Shannon, Sheet III.

† Not the Distillery store, which may be distinguished by its two chimneys.

‡ Skagh Point.

§ Cappah House.

**Carrig Donaun.** water, which is rendered narrow and dangerous by Carrig Donaun, a rock which uncovers only at extraordinary springs.

No water can be had either at Scattery or Kilrush ; but on the south shore just to the west of Knockfinlish Point (the eastern point of Ballylongford Bay), there is a stream where a supply may be obtained, and there is fair anchorage off it in seven fathoms good ground, out of the tide, and only about two cables' lengths from the stream. Rinana Point bears E.  $\frac{1}{2}$  S. from Kilcradan Head, distant seven miles.

**Rinana Shoal.** Rinana Shoal lies to the S. W. of Scattery Island, about a third of a mile from Rinana Point. It extends about three cables' lengths east and west, and about one and a half cables' lengths north and south, with not less than 15 feet at low water, ordinary springs ; but the bottom is stony and foul. The Round Tower, in one with the tower of the battery, is the breast-mark for the shoalest part ; but when the ruined church, on the highest part of Scattery,\* is in one with the low clay cliff, forming the eastern part of Rinana Point, you are above or to the eastward of it. Much foul ground, with about five fathoms, runs off to the S. W., to pass to the southward of which, keep the peak of Ray Hill,† a distance equal to its own elevation open of Kilcradan Head.

**Rinana Pass.** There is a passage between the Shoal and Scattery Island, which, however, should not be used by large vessels, as the bottom is very uneven and rocky. The leading mark through is the right or south end of Caherdoty House, a large and conspicuous white house to the left and above Money Point, just open to the left, or northward of a limekiln on the beach below it, bearing E. S. E.  $\frac{1}{2}$  E.

**Rinana Race.** Off Rinana Shoal there is a Race with heavy overfalls at springs, especially with a strong wind against the tide. The velocity of the tides at this spot is 4  $\frac{1}{2}$  knots on the ebb and 4 on the flood.

**Carrig Island.** Opposite Scattery, on the south shore, is Carrig Island, with merely a boat passage round it ; on its northern point there are a battery and a tower like those on Rinana Point, which bears from it N. by E.  $\frac{1}{2}$  E., distant 1  $\frac{1}{2}$  miles.

**Carrig Shoal.** From Carrig Island, an extensive flat bank of sand, gravel, and stones, runs off to the northward more than half a mile, leaving the navigable channel between it and Rinana Shoal scarcely three-quarters of a mile wide ; and as it is rather steep-to, the lead is but an unsafe guide. There is, however, a very sharp clearing-mark, which is Kilclogher Head, just touching Beal Point W. N. W.  $\frac{1}{2}$  W., which will lead to the northward of it in not less than five fathoms.

When off Rinana Point, Tarbert Lighthouse, which bears from it S. E. by E., distant 5  $\frac{1}{2}$  miles, will be distinctly seen, and having passed the Carrig Shoal, a course may be shaped for it. All this part of the river is perfectly clear and safe, and the shores on either side may be approached to two cables' lengths ; except in Ballylongford Bay (a deep bight to the eastward of Carrig Island), which is very shallow.

**Money Point.** About 1  $\frac{1}{2}$  miles to the N. N. W. of Tarbert Lighthouse there is a bold bluff, called Money Point, which may be known by the slate quarries on it. Off this point the water is very deep, there being more than 30 fathoms, the deepest spot inside of Kilcradan ; but about a mile to the westward of the point, a remarkable narrow rocky ridge runs across the river to a high projecting point called Ardmore Point, on which there are generally only 10 and 12 fathoms, with deep water on each side. In bad weather, and especially with a spring ebb, this causes a heavy breaking sea. It is called the Bridge, and there is a legendary tale attached to it.

**The Bridge.** There is good anchorage to the eastward of Ardmore Point, in Glown Clonsagh Bay, with five to six fathoms, muddy bottom ; also to the eastward of Money Point opposite, called Poul-na-Dharri.

**Glown Clonsagh Bay.** In running up from Scattery, strangers are liable to be deceived in the trending of the river, by the appearance of a deep and broad inlet, called Cloonderlaw Bay, running up to the N. E., about three miles ; and vessels have occasionally got on shore, as it is exceedingly shallow.

**Cloonderlaw Bay.**

Rounding

\* Teample-na-Angel.

† Small vessels may bring the peak in one with Kilcradan Head.

Rounding Tarbert Lighthouse to the southward, we come to Tarbert Road,\* Tarbert Road. which may, perhaps, be considered the best anchorage in the Shannon, being well sheltered from the prevailing westerly winds, and the holding-ground good. It lies to the S.E. of, and is formed by, Tarbert Island, which is, however, only insulated at high-water springs. The shores are bold, and may be approached with safety, care being taken not to get into the strong eddies at the back of the lighthouse, which occur at the springs.

The best anchorage for large vessels is the lighthouse, well open off Cooks Point, bearing N.  $\frac{1}{4}$  W., and a large corn store, in the village of Tarbert, just open of the high-water mark (or the wall of the road from the island), bearing W.  $\frac{1}{4}$  S. in about six fathoms, muddy bottom. Small vessels lie closer up towards the island, keeping the lighthouse just over Cooks Point.

On the northern extremity of the rocks of Tarbert Island, and insulated at Tarbert Light. half-tide, stands a beautiful white circular Lighthouse, showing a fixed white light 58 feet above high water, which is distinctly visible off Kilcradan Point, but to the eastward soon becomes intercepted by the bending of the river.

Off the Lighthouse, and all along the shore to Cooks Point, the spring ebb runs Tarbert Race. with such velocity as to form a violent race, which extends some distance off the shore and to the northward of the Lighthouse.

On the island is a battery and tower, similar to those of Scatterry, Carrig, and Tarbert Island. Kilcradan, with a corresponding one on the opposite point of Kilkerrin, thus completely commanding the passage, which is here exactly a mile in width. There is also a Coast-guard Station, and this is the boarding station for all vessels coming into the Shannon.

Tarbert is a small village, affording no supplies, nor good watering place for Tarbert Village. vessels. It is only at high water that boats can go from the road to the village, as the bight of the bay is silted up by an extensive flat mud bank reaching from Ballydonoghoe Point to the pier at the island, and is steep-to. The pier is only for lighters.

Nearly a mile to the southward of the anchorage, a foul stony spit, called the Oyster Bank. Oyster Bank. runs off three cables' lengths from Ballydonoghoe Point, to clear which, keep Glin Church open to the left, or eastward of Glin Castle S.E.  $\frac{1}{4}$  S.† At the back of this point there is a stream from which ships may obtain a supply of water, though not with facility.

A mile and a half S.E.  $\frac{1}{4}$  E. from Tarbert Lighthouse is the Bowline Rock, Bowline Rock. lying about two cables' lengths off the northern shore; but as vessels are obliged to heave-to at Tarbert, it is not so much to be apprehended. In beating down, however, vessels should be careful how they stand over to the northward while above the rock, as the ebb tide sets directly upon it. Between it and the shore there is a passage of three fathoms, but the tides are rapid; there are no marks for it, and there is no advantage in using it. If obliged from any cause to do so, keep rather over to the shore at less than a cable's length from the high-water line. There is an iron perch on the S.E. end of the rock, which, at low water, uncovers to the extent of about 200 yards; and across the top of the perch are two pieces of iron, with B. R. on them; but should they be removed, there is an excellent clearing mark, by keeping Rock Lodge (a large white house on Gurraun Point), well open of Colmans Point E.S.E.

The pretty little village of Glin lies about three miles E.S.E. of Tarbert; it is remarkable for the castle of the Knight of Glin, to the N.E., of which there is tolerably good anchorage in five to six fathoms, with good holding-ground, especially with the wind at all to the southward. Glin.

About a mile and a quarter eastward of Glin a long rocky spit projects into the river nearly three cables' lengths from the high-water line, called the Long Rock. Long Rock. and consisting of large boulders. The outer point is rather bold-to, and the clearing marks are Glin Castle, well open of Knockranny Point, W. by S.; or a white farm-house on Foynes Island, well open of Gurraun Point.

From the Bowline Rock all the north shore is bold and safe, as far as Labbasheeda Bay. Labbasheeda Bay. Labbasheeda Bay, which is four miles to the eastward of Tarbert Roads. It is usually considered one of the best anchorages in the Shannon, and with the wind from the northward, is even better sheltered than Tarbert Road. The bottom is very clean, of a tenacious mud, and is excellent holding-ground. The anchoring

\* See Plan.

† See Chart of the Shannon, Sheet IV.

ing marks for large vessels are, the chapel at the village, well open of Killanna Point, N. by E.  $\frac{3}{4}$  E.; the lower farm-house on Mount Shannon, in one with the top of the hill, W. by N.; and Shannon Lawn (west of Glin), just in one with Mount Shannon Point, W. by S., about two cables' lengths off Red Gap Point, in six to eight fathoms, along the edge of the bank to the eastward. Vessels may anchor with off-shore winds. Between the anchorage and the shore is a flat mud bank, very steep-to. The village of Labbasheeda is a small miserable place.

**Dilliak Rock.**

About a mile to the eastward of the anchorage is a rocky patch, called Dilliak Rock, 500 yards from the shore; the white farm-house on Foynes, over Rinalan Point about E.S.E., will keep you well clear of it, and serve for a turning mark all along this shore to Rinalan Point.

**Carrigeen Rocks.**

Carrigeen Rocks lie about two miles to the eastward of the Long Rock, off the small village of Loughel, about three cables' lengths from the high-water line. They consist of two patches of boulders, the inner one just on the low-water line spring tides (at which time only they uncover), the other about  $1\frac{1}{2}$  cables' lengths outside of it, but the water is shallow all round them. Mount Trenchard House open off Loughel Point, E.S.E., will lead well clear outside of them.

**Foynes Island.**

Nine miles above Tarbert Road on the south shore is the Island of Foynes,\* three-quarters of a mile in extent each way, and rising towards the centre to a height of 200 feet. To the S.W. it approaches the main, which is here high and bold, within 200 yards; and to the S. and S.E. is a well-sheltered harbour, capable of containing many vessels in depths from three to six fathoms, stiff muddy bottom. At present it is seldom used, but there is no place on the Shannon so well adapted for the site of a commercial town, while on the island there are already natural docks requiring but little assistance from art.—(See note † below.)

**Foynes Harbour.****Foynes Harbour.**

From the N.W. the entrance is quite clear and deep, the leading mark for the fairway is the high-water line of Barneen Point in one with Durnish farm-house, S.E.  $\frac{1}{4}$  E.; but from the N.E. it is more intricate and shallow, as between the N. point of Foynes and the N. point of Aughinish Island there is a flat bar of sand with only seven feet at low-water springs. There are also in this passage several patches of rocks, which would require to be marked off with buoys or beacons.

**Foynes Village.**

The village of Foynes,† is prettily situated, with a ferry from thence to the opposite coast of Clare at Cahircon.

The usual stopping-place for tide-bound vessels is to the N.E. of Foynes Island, on a bank of stiff muddy sand, good holding-ground, where you may choose your depth from  $2\frac{1}{2}$  to 5 or 6 fathoms, or more out of the tide, the strength of which sets along the north shore.

From off Foynes the channel course is the Beeves Tower in one with Beagh Castle, bearing E.S.E.  $\frac{3}{4}$  E.

**Inish Murray.**

On the Clare side, about a mile to the eastward of Cahircon House, and N.E. by N. of Foynes, is a small flat island, called Inish Murray, to the S. and S.S.E. of which there is also good anchorage.

Between the island and the main there is a channel 350 yards in width, with a depth of from two to four fathoms, but the spring-tides sweep through it with great velocity. A quay has been built on a ledge of rocks opposite the island, which is intended as a shipping-place for the village of Kildysart, which is rather more than a mile to the north-eastward.

**Crinaan Rocks.**

Eastward of Aughinish Island, which lies next above Foynes, is an extensive batch of rocks, called Crinaan, uncovering at half-ebb, and forming the northern boundary of an extensive mud flat from the shore, on which is the small island of Trummera. Between these rocks and Aughinish is a singular creek about  $1\frac{1}{2}$  cables' lengths wide, with two fathoms in it at low water, which would afford

**Poularone Creek.**

excellent

\* See Chart of the Shannon, Sheet V., and Plan of Foynes Harbour.

† Great improvements are being carried out at this place through the public spirit and personal exertions of Lord Monteagle, the expenses of which are to be borne in equal proportions by Government and his Lordship. A harbour, covering an area of 10,000 square yards, is being excavated, which will be protected from northerly winds by a breakwater, and from the eastward by a pier, already so far completed as to afford shelter to a slip that has been laid down.

excellent shelter for small vessels in westerly or south-westerly gales, as the holding-ground is good, and there is no strength in the tides.

The Herring Rocks lie two-thirds of a mile W.S.W. of Beeves Tower. They are very dangerous, especially in turning down, as the ebb-tide sets directly down on them from the Beeves. They begin to uncover at half-ebb, and at low water there is about a cable's length uncovered; but a tail runs off to the northward about two cables' lengths, with only three and four feet. To clear them, keep the highest part of Foynes Island well open of Aughinish Point about W.  $\frac{1}{2}$  N., or the Queen's Meadow on Foynes open of Aughinish Point. The rocks off Trummera are liable to be mistaken for the Herrings, but there is a clear passage between them of more than a cable's length in width, with 2 $\frac{1}{2}$  to 2 fathoms.

Three miles and a half E.  $\frac{1}{2}$  S. from the N. point of Foynes is a tower resembling a martello tower, built near the southern edge of a patch of rocks, called the Beeves, lying nearly in the middle of the river. The deep water and general course lie to the southward of them, and this end of the rocks, being very steep-to, may be rounded with safety at a cable's length from the tower. To the N. and N.E. of the Beeves are other patches of rocks, called the Wide and Cork Rocks, which only cover at high water, and are more or less connected with the Beeves by foul ground, though between them and the islands at the entrance of the Fergus River there is a passage for small vessels drawing 12 feet, but the bottom is rocky and uneven. The leading mark through the best water is Ringmoilan Windmill (ruin), just open to the left, or northward of Beagh Castle, E.S.E. This channel should never be attempted by large vessels.

Three-quarters of a mile south of Beeves Tower is the entrance to the Deel, a small river with a channel of 200 feet in width at low water, and a depth of six or seven feet at the lower part, about 2 $\frac{1}{2}$  miles from the town of Askeaton. Vessels under 100 tons go up to load grain at small quays along its banks.

A mile to the eastward of the Beeves is the principal and only navigable entrance to the River Fergus,\* which comes from the N.N.E. amid vast banks of mud, and numerous islets and rocks. Having passed the Beeves, steer up for Feenish Island till you bring the tall square tower of an old castle (called Court Brown) in one with a house near the beach, bearing S.S.W. Keeping this mark on, you may steer up the Fergus till another tall square tower on Cannon Island (Cannon Castle) is in one with the north point of Low Island, W.N.W.  $\frac{1}{2}$  W.; which is studded with white houses. You must then keep rather more to the northward for the round hill of Coney Island, until Cannon Castle is in one with the peak of Grady Island, W.  $\frac{1}{2}$  S.; when you must bear away for the east point of Coney Island; you will then shortly come into five and six fathoms, where you must anchor with the sharp peak of Coney Island bearing N. by E., and Cannon Castle W.S.W.  $\frac{1}{2}$  W. in about six fathoms soft muddy bottom.

Beyond this it would be impossible to proceed without a pilot. The river beyond Coney Island winds through vast banks of mud, extending from 1 to 1 $\frac{1}{2}$  miles from the shore, decreasing gradually in width from 600 yards, and varying in depth from nine to three feet up to the town of Clare, nearly seven miles in a direct line, and about nine following the channel.

At Clare the bed of the river is dry at low water, but there is a quay, alongside of which vessels load. Clare is a miserable place, though the shipping port of Ennis. It is a military station.

Pilots may be had at Low Island, but no vessel above 150 tons should go up to Clare.

To the westward of this principal entrance of the Fergus, there is a multitude of islands (some of considerable extent) and rocks; among which are various intricate channels, totally unfit for navigation, except for small vessels, on account of their narrowness, the strength of the tides, and the frequent shallows, though there are spots with 10 to 13 fathoms depth.

To the eastward the coast of Clare is low and flat; and off Rynany Point, the mud dries out to the westward with many patches of stone, which are terminated just at the low-water line by a large mass of rock, called Mylaun Rock. Outside

\* See Plan of the Fergus.

side of these again are other rocks, which only uncover at low-water springs, called Mylaun's Children.

From the Beeves to Beagh Castle (an old ruin), on the next point, called Ballyvoher, the distance is  $2\frac{1}{2}$  miles. Beagh Castle bears from the Beeves Tower E.S.E.  $\frac{1}{4}$  E. This portion of the river is clear of danger, taking care not to stand so far to the northward as to bring a farm-house on the profile of Aughinish Island in one with the Beeves Tower, which will keep you clear of the tail of the Horse and Mylaun's Children at the entrance of the Fergus. Just below Beagh Castle is the termination of the three fathoms line, except in a few spots above.

Horse Rock.

Waller Bank.

Pickett Island.

Being abreast of Beagh Castle, steer up for Sod Island, which will be seen bearing E.  $\frac{1}{4}$  N. distant four miles, but keeping Aughinish Point just on with Ballyvoher Point W.  $\frac{1}{4}$  N., till Pickett Island is in one with a large white house, called Castletown, bearing S. by W.  $\frac{1}{4}$  W., when you will be clear of Waller Bank, a rocky patch with only three feet about a cable in length. There is a passage with nine feet between it and the low line of mud, which runs in a straight line from a little outside Beagh Castle to a little outside Ringmoylan Quay, bearing E.S.E.  $\frac{1}{4}$  E.  $2\frac{1}{2}$  miles from the castle.\*

The best water, however, lies to the northward of Waller Bank, and having passed it, keep Bunker Hill half way between the south bluff of Cain Island, and the houses on that island E.S.E.  $\frac{1}{4}$  E. which will lead about three-quarters of a cable's length to the southward of Sod Island, which is  $1\frac{1}{2}$  miles from Ringmoylan Quay. In this part, from the Quay nearly to Sod, is a kind of bar over which there is not more than six and seven feet, so that no heavy vessel can pass this reach till nearly high water.

The Bridges.

To the N.W. of Ringmoylan Quay there are several very dangerous detached rocks, called the Bridges, which only uncover about the last quarter spring ebb, and extend three cables' lengths from the end of the quay; but keeping the N. point of Foynes, just shut in behind Ballyvoher Point till abreast of the quay, will lead to the northward of them.

Middle Ground.

From about a mile above Beagh Castle to beyond Sod Island the river is divided into two channels by the Middle Ground, formed by a series of rocks connected by mud and sand-banks, which dry at low water. The westernmost

Carrig-keal.

of them, Carrig-keal, or the Narrow Rock, bears from Beagh Castle E.  $\frac{3}{4}$  S.  $1\frac{1}{2}$  miles, and uncovers at the last quarter ebb; the next, about half a mile higher up, called the Horse, shows itself at the first quarter ebb. About half

Bridge.

a mile above is the Bridge (opposite the Bridges before noticed), which only covers at high springs; and at a quarter of a mile farther up is the fourth patch of rocks, called Little Limerick, which begins to bare at half tide. The

Bird Rock.

Middle Ground continues to the Bird Rock, the last patch, which lies 700 yards E.S.E. of Sod Island. It is a large mass of limestone rock, which uncovers at the last quarter ebb, and around it for about half a cable's length other rocks show at low water.

Sod Island.

Sod Island itself is very small and narrow, only 350 feet in length, and probably will ere long wash away to the state of a rocky shoal similar to the others on this middle ground, as the rocks at present uncover to the distance of more than half a cable's length all round it. It is clifty to the westward.

North Channel.

The channel to the northward of the middle ground is now never used. It is the narrower of the two, averaging only from 400 to 500 yards in width, but it has three feet more water, the least water being nine feet. It commences abreast of Rynany Point, and leaving on the left, or to the northward, Fergus and Saints Islands (at about a cable's length) unites with the south channel to the eastward of Bird Rock.

River Maigue.

A mile above Sod Island is the river Maigue, which flows into the Shannon from the south. At its confluence it is about 150 yards wide between the low-water lines, with a depth of seven and eight feet, but there is a bar of only four feet, gradually decreasing from Grass Island to Court Bridge, the high road from Limerick to Askeaton, where at low-water it is very narrow and nearly dry. This bridge is four miles from the mouth in a direct line, and a portion of it is made to swing so as to admit turf-boats, which are almost the only vessels navigating the river, to the town of Adare about three miles further up.

Off

\* See Chart of the Shannon, Sheet VI.



Off the Maigue there is excellent anchorage between Cain Island and Grass Island. The marks are Bunratty Castle in one with the eastern part of Cain Island, bearing N.N.E. and a remarkable ruin called Carrickgogunnell, just open to the right of Battle Island, S.S.E.  $\frac{1}{4}$  E., in 3 to 3  $\frac{1}{4}$  fathoms at low water, muddy bottom. Maigue Road.

At this spot, which is seven miles below Limerick, large vessels should stop to wait a favourable opportunity of tide and wind to carry them up at once to the quays, as it is the only place where they can lie without taking the ground at low-water. The large timber ships generally discharge their deck and light loading here. Though beyond this, no vessel should attempt to proceed without a pilot, yet it may be satisfactory to give some description of the river between this place and Limerick.

Grass Island, at the eastern entrance to the Maigue, is about 70 yards in length, N.E. and S.W., 50 feet in width, and only three feet above the level of high-water springs: it is surrounded by rocks at low water 60 yards off, and to the westward a rocky spit extends 400 yards to the Maigue. A mud spit likewise runs off to the northward 500 yards, with foul ground outside, and the island is connected with the main to the southward by a mud-bank, which begins to dry at half ebb. Grass Island.

Half a mile to the northward of Grass Island is Cain Island, about 500 yards in length, flat, and connected with the north shore by mud-banks at low-water. To the east of Cain Island is Greens Island, also flat, and somewhat smaller than Cain Island. Between these a creek runs up to Bunratty Castle, a remarkable old building, still in a state of good preservation. A quarter of a mile to the S. E. is Brier Island, also lying on the northern mud-bank, flat, grassy, and smaller than Green Island. Cain Island.  
Greens Island.  
Bunratty.  
Brier Island.

Battle Island, lying S.W. of Brier Island a quarter of a mile, and nearly half a mile S.E. by E. of Grass Island, is in mid-channel, leaving a passage on either side. That to the northward is most direct, but, being shallower, can only be used by small vessels. It is 500 feet wide between the low-water lines, and lies nearer to Battle Island than to Brier Island. That to the southward, between Battle and Grass Islands, though not wider, has deeper water. It scarcely deserves the name of island, for at high water it is a mere green spot barely above water. It stands, however, on a mass of rocks extending 500 yards all round; and beyond this, to the N.N.W. and S.S.E. are spits of mud, the north-western extremity of them is terminated by Logheen Rock, which contracts the channel to 500 feet. The leading mark through the South Channel is Bunratty house, just open east of Cain Island N. by E. till the two outer houses on Mellon Point are open to the southward of Grass Island when you may shape your course gradually round Battle Island till the tower on the Scarletts is half-way between the two castles of Cratloe, bearing E.  $\frac{1}{4}$  S., and keeping this mark on will lead clear of the Hogshead and Slate Rocks, which lie three-eighths of a mile to the S.E. of Battle Island, and only uncover at low-water springs. Battle Island,  
and Channels.  
  
Logheen Rock.  
  
Battle Island  
Channels.

E.S.E. 1  $\frac{1}{4}$  miles from Battle Island is a round tower resembling that on the Beeves, and built on the middle of a patch of rocks called the Scarletts, which at low water are connected with the south shore by a mud-bank.\* Above this, and almost joined to it, is a spit of sand and mud more than half a mile in length; there are several rocks on it called the Whelps, which uncover at half-ebb. The deepest channel lies to the northward of this spit, and along the edge of the mud bank on the northern side of this reach. It begins at Craig Island, which lies N.W. of the Scarletts, and the rocky point of which runs down to low water. There are several dangerous rocks in this channel just along the edge of the northern low-water line. Scarletts.  
  
Whelps.

First is Shawn-a-Garra, which only shows at extraordinary springs; and next Crawford Rock, a large mass of limestone, which is only covered at spring tides. From the very contracted nature of the channel, which is here only about half a cable's length in width, and the tide (which at springs runs with great velocity) setting upon them, they are very dangerous. Farther E. is the rocky point of a small islet on which is a flagstaff, and close above this is the Kippen, an extensive patch of rocks which uncovers at low water, and has nine Shawn-a-Garra.  
Crawford Rock.  
  
Flagstaff Rock.  
Kippen Rock.  
and

\* See Chart of the Shannon, sheet VII.

- and 10 feet water close outside of it. About four cables' lengths higher up there is another cluster of rocks, the breast-mark of which is the two castles of Cratloe in one; above this are the Horril Rocks, which extend beyond the line of mud, and uncover every spring tide, and lastly a collection of stones, called the Ballast. Here the channel takes a turn to the S.S.W., leaving an extensive mud-bank stretching from Muckinish Point to the S.E. half a mile, and leaving a channel between it and the opposite shore of only 150 yards, which breadth continues up to Limerick.
- Horril Rocks.**
- Ballast.**
- The Hole.** In this reach, which is called the Hole, just above the Ballast, there is deeper water than usual, from 12 to 15 feet, for about three or four cables' lengths, and vessels finding they cannot reach Limerick with the tide would do well to anchor here.
- Cock Rock.** The next difficulty is the Cock Rock, formed of large masses of rock lying on a gravel bed, running off from the western shore under Teervo House towards Coonagh House, and narrowing the channel to only 40 yards. There is a sharp leading-mark for this passage, which is the little castle of Cratloe, or Cratloekyle, in one with a remarkable white farm-house, half way up the Cratloe Hills, bearing north.
- Coonagh Point.** Just above the Cock Rock, in the bight of Teervo, there is rather deeper water again, from 11 to 12 feet, and round Coonagh Point the channel winds more to the eastward through what is called the Cross Channel, in which there is not more than eight and nine feet.
- A mile and a half above Coonagh Point is Barrington Quay, projecting out to the low-water line, and fit only for boats to discharge at. Off this quay, a little below it, is a ledge of rocks extending nearly across the channel from the south, consisting of masses of limestone rock, with not more than three feet on them.
- Pool.** The reach between Barrington Quay and Limerick, a distance of rather more than half a mile, is called the Pool; but the general depth is only seven to eight feet at low-water springs, though there are some places with as much as ten feet. Vessels only lie here preparatory to going alongside the quays or to sailing.

#### TIDES.

- Tides.** Near Limerick, as soon as the flood begins to make, the water rises with surprising rapidity, frequently in a bore, from its being confined within such narrow limits, and from the constant freshes down the river, the first falls of which occur just above the quays. During the first hour of the flood there is a rise of as much as seven feet; but after the first quarter, the mud-banks being covered, and thereby affording the water a larger space to flow over, the rise is not so rapid, nor the velocity so great. This, from the above cause, is always strongest at the first quarter flood and last-quarter ebb. An extraordinary high water is not always followed by a corresponding very low water; the cause of either being the wind, which has great influence over the tides, especially in the narrows. Thus a strong southerly or westerly wind will keep the water up in the river, producing a great high water, while it will operate in preventing a great fall; whereas a strong northerly or easterly wind will have precisely the opposite effects. This cause acts not only on the waters of the river itself, but on the sea tides, as a S. wind drives the flood which comes from the southward into the river, and N.E. winds drive it off-shore.
- There is always a greater rise at the new moon than at full, frequently a foot difference; also a greater range at the first quarter than the last, and the afternoon tide was always the highest during the survey.
- Tides.** The flood stream runs after the turn of tide on the shore during the springs, as much as half an hour; and the ebb sometimes three quarters of an hour, after the flood has made by the shore. The ebb is always stronger than the flood, the springs varying from  $4\frac{1}{2}$  in the narrows to three knots. At Limerick, it is high water at full and change at 6 h. 16 m. Rise of springs, 19 feet; neaps, 14 feet.

#### GENERAL REMARKS.

- General Remarks.** The Shannon possesses the great advantage of being easy of access, for, its entrance being broad, free from dangers, and lying latitudinally, vessels may boldly run for it. In clear weather the high land of Brandon serves to mark it distinctly, and may be seen 14 or 15 leagues. Having made the Loophead Lighthouse,

Lighthouse, which, from its great elevation, may be seen at least 20 miles, vessels caught in a westerly gale may fearlessly run for shelter to Carrigaholt Road, or, if bound up the river, either to Scattery or Tarbert Roads. The Shannon, however, from the straitness of its course, is very deficient in well-sheltered anchorages for small vessels, and is at present in a most neglected state, without a single buoy throughout its entire length to mark any of its numerous dangers, or scarcely one convenient shipping place where a boat can land at low water. General Remarks.

As far as the confluence of the Fergus, the Shannon may be called an estuary of the sea; but above that it is generally narrow, shallow, obstructed by rocks and mud-banks, and consequently difficult of navigation, so that the trade of Limerick is necessarily confined to vessels of 200 to 250 tons; and even these must pass over this upper portion during the highest half of the tide, or lie aground in the whole strength of the ebb. Nor does the port of Limerick offer any good security for vessels, as they are obliged to lie at the quays exposed to the stream and to the necessity of grounding every tide, whereby they sustain considerable damage from straining. This is the more surprising, as the port possesses such advantages for the construction of wet docks, from the nature of the shores, the great rise and fall of the tide, and the abundance of excellent building stone in the vicinity, so that they might be made with facility, and at a small expense. But the port dues have been mortgaged for the payment of a very large sum incurred by building the handsome Wellesley Bridge, as well as the present line of quays, which have been recently constructed.

The commerce of Limerick has hitherto been confined to the export of grain and provisions to various ports in England and Scotland, with returning general cargoes, or coals as ballast; but latterly a very increasing trade has sprung up with Canada for timber, in which vessels as large as 400 tons are employed. This is the largest class of vessels that can come up to Limerick, and they are obliged to unload some of their cargo down the river. The total absence of manufactures in the country, although the water-power of the Shannon between Limerick and Killaloe offers such advantages, limits its commerce to mere agricultural produce.

The sea-weed on the rocks is a source of profit to those who live along the shores of the river, being much sought after as manure; and the most barren rocks are claimed, for that purpose, with as much pertinacity as the best land, and stones even are carried out and scattered over the tidal mud-banks for the sea-weed to grow on them.

There is a patent slip and yard at Kilrush, as well as at Limerick. At the latter place the slip is proved for vessels of 400 tons, at the former only for those of 250 tons. Repairs to any extent may be done at either of these places; and at Limerick some fine vessels have lately been built.

Water is procured with difficulty at Limerick, as it can be obtained only from a pump on the quays; but all other supplies may be had in abundance.

The high-water line of the Shannon, down to the junction of the Fergus, is nearly all embankment, and much of the land within it is below that level; not unfrequently, therefore, by the banks giving way in storms, large tracts of country are inundated.

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## LOUGH DERG.\* 1838 AND 1839.

### DESCRIPTION.

In proceeding from Limerick up the Shannon, Lough Derg is the first expansion of the river, both in point of order and magnitude. It commences about a mile above the town of Killaloe, and 16 miles above the city of Limerick, but between the summer level of the lake and the low-water springs at Limerick, there is a difference of level of 108 feet. The water communication between these two towns is carried on partly by means of the river, and partly by three connecting canals, on which there are eleven locks; but the whole of this navigation is in a very neglected state. Height above the Sea.  
Canals.

The

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\* See Chart of Lough Derg.

- Extent of the Lough.** The Lough (or Lake) is bordered by the county Tipperary on the east, and by Galway and Clare on the west; it lies about N.  $\frac{1}{2}$  W. and S.  $\frac{1}{2}$  E., and the direct distance from the bridge of Killaloe, to that of Portumna, is 22 miles. Its course is tolerably straight, and the average breadth does not exceed two miles, which is, in many places, diminished to a navigable breadth of one mile, by rocks and islands, stretching off from either shore. From this central line, however, some deep bays diverge to the east and west, the largest of which is that of Scarriff, running up between Clare and Galway. Farther up on the Galway side are Coose and Cloondavaun bays; while on the Tipperary side there are the bays of Youghal, Dromineer, Castletown, and Terryglass.
- Slate Quarries.** That portion of Galway which borders Lough Derg is generally low, containing a great quantity of bog, which supplies the opposite shores of Tipperary with turf, as that necessary article is there found only in small patches, not sufficient for the consumption. Clare, on the other hand, is high; the ranges of hills (of slate formation) are precipitous, and come down abruptly to the lake. Tipperary exhibits a great diversity of feature, though generally high; the northern portion being composed of rounded limestone hills, while that to the southward resembles the opposite coast of Clare in appearance and formation. There are some extensive slate quarries in these mountains, two of which, at Portrue and Derry, are now in full work. The proportion of callow or flooded land on the margin of Lough Derg is very small, and is chiefly found at the heads of the bays. The shores generally are rocky, but in some places stony, with large boulders both on the beach and some distance off; so much so, that in many places the coast can scarcely be approached in boats. From these causes
- Boat Harbours few.** boat harbours are scarce, and without them, and without good roads, the facility of intercourse offered by this great river to so large a portion of Ireland, cannot be rendered available.
- Beacons and Buoys.** On Lough Derg something has been done towards the general improvement of the navigation by the construction of several beacons on the rocks and islands lying in the ordinary tracks of vessels, and covered during the winter floods; and also by placing buoys on most of the detached rocks, which are numerous and remarkably pinacular. Many of these rocks, indeed, might easily be removed, at a trifling expense, which would render this part of the inland navigation of Ireland much more complete. These buoys and beacons are all under the superintendence of the Board of Public Works in Dublin.
- Steam vessel plies daily.** The Dublin Steam Navigation Company have a steamer plying daily, between Killaloe and Portumna; she starts from the former place about 9 a. m., on the arrival of a canal fly-boat, which leaves Limerick at 6 a. m., and returns in the evening. She reaches Portumna between twelve and one o'clock, where a transfer of passengers takes place into a smaller steamer plying to Shannon Harbour, the large steamer receiving in return those brought down by the river steamer, and returning to Killaloe about four or five o'clock. A considerable intercourse between Limerick and Dublin is thus kept up; but the principal source of revenue to the company arises from the conveyance of goods by what are there termed Lumber Boats, which are towed by the steamers, without transshipment of lading, from one place to the other. Cattle and pigs also are sent by these boats in great numbers through Dublin to the English markets. In continuation of the line of intercourse another small steamer plies between Shannon Harbour and Athlone, and in connexion with it the company have stations at Garry-Kennedy, Dromineer, and Terryglass on the Tipperary side of Lough Derg, and at Williamstown and Cloondavaun on the Galway side. From Williamstown, where something of a harbour has been constructed (but which, as well as another little harbour at Garry-Kennedy, were as ill planned as they are ill executed), a car communication with Ennis has recently been opened, thereby saving the necessity of going round by Limerick, where the traveller would be as far from Ennis as at Williamstown.
- Depth of the Lake.** Lough Derg is by no means a deep lake, its average depth not exceeding 20 feet, though in a small portion of it there are from 100 to 120 feet. The southern part is generally much deeper than the northern; and it is remarkable that in this lake, as well as in Lough Ree, we cannot trace any continuous line of deeper water which it might have been supposed would mark the course of the river; nothing but singular deep holes of small area. The
- Marly Bottom.** bottom, for the most part, is of a stiff marl, which in many places is dredged up and used for manure, and which forms one branch of occupation to many of the inhabitants.

inhabitants. The lake contains but few species of fish, and there are no persons who get a living by their pursuit. At Killaloe, indeed, the eel weirs are numerous and productive, the eels being of the silver kind and very large in size. This lake, however, is one of the few spots in Europe in possession of the gillaroo trout, which has a gizzard like that of a fowl.

Eel Weirs.

The river Shannon continues for about a mile below Portumna Bridge, and before it opens out into the broad expanse of the lake, it is crossed by a bar of rocks and gravel, with not more than six feet water in summer; and the channel, even with this depth, is so narrow as barely to admit the steamer passing between the rocks on either side. It is said that a dredging vessel was employed on this bar, of course unsuccessfully, but with proper means the obstruction might be easily removed.

Gillaroo Trout.

Portumna Bar.

The old wooden bridge of Portumna has long been in a most dilapidated condition, the piers being in a rapid state of decay, and the roadway full of holes; but a new bridge is now constructing with stone piers, and with the central part to swing on a pivot, so as to permit steamers and masted vessels to pass. Portumna is a populous village, and at present a military station; it stands on the Galway side, nearly a mile from the bridge, which affords the only passage across the Shannon into Connaught for the distance of 36 miles; namely, from Bannagher Bridge 14 miles to the northward, to Killaloe Bridge 22 miles to the southward. Near the bridge, Lord Avonmore has a house at Belleisle, on the eastern side of the river; and on the Galway side, the walls are still standing of the Marquis of Clanricarde's castle, which was burnt in 1826.

Portumna Bridge.

About two miles below the bridge, on the Tipperary side, moorings are laid down off the village of Terryglass, the church only of which is visible from the lake. This anchorage is not in the least sheltered, nor is there any harbour; but it is used by the Company's steamers on the occasion of any particular supply to the village. In Cloondavaun Bay moorings are laid down for the use of turf boats, there being a very extensive bog at the head of this bay. About 12 miles down on the Galway shore, at the little cove of Williamstown, the Company has built a small inn for those travellers who avail themselves of the before-mentioned communication with Ennis. Here the steamer touches daily, both in going up and down. In connexion with this a boat plies across to Dromineer, where the Company has also an establishment, and where there is a boat harbour at the back of the old castle, which is a very conspicuous object from the lake. The next and only other station is that of Garry-Kennedy, an indifferent boat harbour, capable of containing not more than 10 lumber boats, in six feet water, summer level. It appears to have been formerly excavated, as part of an old castle stands on the outer wall of the harbour. To the eastward of it there is another small harbour, but scarcely more safe or commodious than the former. This station is principally used for the shipment of slates from the quarries near Portrue, which are about two miles distant; and for landing the turf with which Galway supplies this part of the country.

Terryglass Moorings.

Cloondavaun Bay.

Williamstown.

Dromineer.

Garry-Kennedy.

Portrue Slates.

In all Scarriff Bay, though bounded by a fine corn country on both sides, there is no station for these vessels. The bay is four miles in extent, with a fine river at its head, and navigable nearly up to the town of Scarriff. The shores of this bay are particularly bad, though many spots might be selected for boat harbours; but it is strange that along the whole coast of Clare there is not one creek that has been adapted to that purpose.

Scarriff Bay.

On the island of Inishcaltra, commonly known by the name of Holy Island, there stands a round tower, in tolerable preservation, and wanting only the conical top. Like that of Devenish, in Lough Erne, it does not stand on the highest part of the island; and, like it in other respects also, it is surrounded by ecclesiastical ruins, from which it is sometimes called the Island of the Seven Churches—a favourite name for any sacred spot. It is still used as a burial place, and as such is held in high estimation. It is recorded that an abbey was founded here, in the seventh century, by St. Camin; and some of the ruins display considerable elegance of design. Within a mile of this island, and very prettily situated, stands Mountshannon, the only village on the shores of the whole lake.

Inishcaltra.

Mountshannon.

The town of Killaloe lies on the Clare side of the Shannon, about a mile below where the lake contracts to its river form. It stands on a rising ground, and has a very pleasing and picturesque appearance, but is in reality a poor place and indifferently supplied. It contains the cathedral of the diocese,

Killaloe.

which is a cruciform building, erected in 1160, in the Norman style of architecture, with a square central tower. The bishop's palace stands about a quarter of a mile below the town. To the City of Dublin Steam Company, Killaloe is indebted for most of its present prosperity, it being their chief depôt on the Shannon, with a repairing establishment, slip, and dry dock. Marble works, on an extensive scale, have also been erected, worked by water-power obtained from the falls of the Shannon, which here commences its descent towards Limerick. The bridge, which dates from 1054, consists of 19 arches, of which the five central ones have been recently rebuilt. The older part is of rubble masonry, and very narrow, but appears strong. There is a small barrack, and a court house, and a large Roman-catholic chapel are now building. At two miles above the town, in Cregg Hill, there were extensive quarries, from which about 100,000 tons of good slates were raised annually; but they are not now worked. Opposite Killaloe, on the eastern side of the river, there is a small suburb called Ballina, in a most miserable state of neglect.

Cregg Hill Slates.

The view of the opening of Lough Derg, from Killaloe, is very beautiful, the country on both sides being tolerably well-wooded, of a sufficiently elevated character, and interspersed with many gentlemen's seats. A remarkable feature about the lake is the abundance of old castles, all built in the same uniform quadrangular form.

Rise of the Lake.

The average summer level of the lake is about 108 feet above the low water of spring tides at Limerick; but the lake rises in winter eight or nine feet, or even more, above that level, according to the wetness of the season. By a lately constructed regulating weir, thrown across the river just above Killaloe Bridge, it is proposed to lessen these floodings during winter, as well as to keep the summer level somewhat higher.

#### SAILING DIRECTIONS.

Killaloe Channel.

Leaving the pier-head of Killaloe, the channel, though only 150 yards in breadth, is deep and clear; and the shores, though low on both sides, are well defined, and steep-to; but in winter they are flooded, especially on the Clare side, to a considerable distance. About three quarters of a mile from the pier, Ballyvally Point is remarkable for a round knoll, with a clump of trees, called Balbourou Fort; and off this point the navigable channel narrows to a breadth of not more than 90 yards, in consequence of a flat running off from the opposite shore, so that vessels must keep the Ballyvally Point close aboard. About 60 yards to the northward of this point there is a beacon on a small rock; and, having rounded this very closely, you may be said to enter the lake, which offers a clear and straight channel for  $5\frac{1}{2}$  miles, as far as Scilly Island. For the first mile of this distance the deep water lies on the Clare side; but, after passing Reinthoo Point, the Tipperary shore is the deepest and clearest, being everywhere bold and free from dangers, with the exception of the Deer Rock, lying off the ruins of the old Castle of Derry, which stands on a rocky islet, 60 yards from the main land. There is a black buoy on it; but the mark to clear it, is to keep Reinthoo Point in one with Balbourou Fort.

Deer Rock.

Rinnaman Point.

Beyond Rinnaman Point, the Clare coast forms a deep bay, in the northern portion of which the ground is very foul and uneven; and no vessel ought to open Crow Island to the eastward of Scilly Island.

Scilly Island.

Scilly Island, which is wooded, and about 15 feet high, lies to the eastward of Aughinish Point, about mid-channel, or half a mile from either shore. There is a passage on each side, but that to the eastward is not only the most direct course up the lake, but also the clearest and safest. In the western passage lie the two dangerous Tully Rocks, having only three feet upon them; nor should Aughinish Point be too closely approached, as there are some large lumps of rock lying fully half a cable's length from the shore; but the Tipperary side is clear; and Parker Point, which is about half a mile further on, may be passed closely, and a course shaped for Hare Island, lying about two miles to the E.N.E. On this island, as well as on Farra Point, opposite, there is a large conical beacon; for, in winter time, when the lake is high, the islets themselves are under water. Between the point and the island lies a channel of about 60 yards wide, with 10 to 11 feet water, summer level; but it is seldom used.

Tully Rocks.

Aughinish Point.

Parker Point.

Hare Island.

Farra Point.

Having passed Hare Island, the course lies along the Galway shore for about  $2\frac{1}{2}$  miles. This coast abounds in small islets and rocks. The first danger that

occurs

occurs is a spit, extending  $1\frac{1}{2}$  cables lengths off the small island of Bunlahy, and a little more than half a mile beyond Hare Island; there is a black buoy on it. When off this spit, steer for the middle of Illanmore, a large grassy island, about 80 feet high, which will lead outside the Benjamin Shoals. These are two detached rocks, lying nearly north and south, about 350 yards apart, with a black buoy on each of them. Between them the ground is foul.

When abreast of Illanmore, another black buoy will be seen to the westward; it is called the Buoy of the Horse, and lies on the outer extremity of some rocky ground off Kilcooney Point. In winter, the Horse Rocks just inside the buoy are nearly covered.

Being mid-channel, between the Horse Buoy and Illanmore, you may steer just outside Bellevue Point, the extremity of the Tipperary shore; but, about half a mile before reaching it, a ledge of rocks, called the Goat Reef, stretches off from the shore a quarter of a mile. In the deep water just outside of it, a red buoy has been placed. Having passed Bellevue Point, the eastern shore must be kept close till past the next, or Brookfield Point, to avoid the Split and Hagan Rocks, which are small and detached, and lie nearly midway between the shores. On both these are at present black buoys.

Now steer a mid-channel course as far as Drominagh Point, where a black buoy is placed well out from a ledge of rocks, called Kyleneo; and, having passed close to it, steer for Gortmore Point, which is clean and safe. Being close off this point, steer for the centre of Derry Hill, till abreast of a black buoy on the port hand, which lies in deep water, but with foul ground between it and Rinmaher Point; and then, off the west point of Derry Hill an iron pile will be perceived, which is placed on the point of a spit running off from the low land on the Galway side. Between it and the rocks off Derry Hill there is a passage, but only about 50 yards in breadth; so that the pile must be very closely passed, leaving it to the westward. Beyond this the river is very narrow up to Portumna Bridge, where there is a wooden jetty; but the channel is marked out by stakes on each side.

It would be a vain attempt to describe the numerous dangers, or to point out the various anchorages in Lough Derg. Some of these are, of course, preferable to others; but regard must generally be had to the direction of the wind, so as to secure the shelter of a weather shore. The bottom, though generally of blue mud, is too soft to be called good holding ground.

We shall say only a few words about its principal bays. The largest is Scarriff Bay, about six miles above Killaloe, and spreading three miles to the westward, between the counties of Clare and Galway. In coming from the southward, a good passage will be found to the westward of Scilly Island, between it and the Lushing Rocks, on the outermost of which there is a conical beacon. The leading mark through this passage is Crow Island, just open to the right of Ballyvally House, which will lead to the eastward of Tully Rocks. The shores of the bay, on both sides, are bad; and along the north side there are several islands. In its centre there is a dangerous rocky patch, called the Middle Ground.

Opposite Scarriff, and round Parker Point, Youghal Bay runs to the S.S.E., about  $1\frac{1}{2}$  miles, and is the clearest bay in the whole lake. The shores on both sides are good, and the water deepens gradually to its head.

Beyond this, and behind Rinskaheen Point, will be found Dromineer Bay, with its old castle, which must have once been of considerable magnitude. Near this, Nenagh River joins the lake, having run four miles to the N.W. from the town of Nenagh, and having a navigable channel for boats, about a mile up from its mouth, in summer. It has been in contemplation to form a canal communication from Nenagh to the lake.

About three miles farther, on the Galway side, lies the wide open bay of Coose, with very foul and rocky shores; and towards the head of the lough, and also on the Galway side, the extensive inlet called Cloondavaun Bay, the northern and eastern shores of which are so thickly fringed with rocks as scarcely to be approached within half a mile. With the prevailing winds, however, there is good anchorage just inside the old castle on its south-western point.

And lastly, on the opposite shore, Terry-glass Bay has an extent of about  $1\frac{1}{2}$  miles, with a clean level and marly bottom.

## LOUGH REE.—1837.

THE second expansion of the River Shannon in point of order as well as of magnitude, Lough Ree,\* commences 75 miles above Limerick, and 2 above the town of Athlone. It extends about 16 miles north and south (true), and terminates at the bridge of Lanesborough, varying from three-quarters of a mile to three miles in breadth. About half way along its eastern shore is a deep indentation, called Derry Bay, at the head of which the only stream at all deserving the name of a river (the Inny) discharges itself into the lake. The depth of water is very irregular, the greatest being from 115 to 120 feet, but this occurs only in a few spots, and the average cannot be considered to be more than 20 to 30 feet. The bottom is universally of a tenacious slate-coloured mud, except where gravel beds rise and form shoals, which are very numerous, and are always collected round masses of limestone rock. This probably forms the basis of all the shoals, as all the strata near the shore are of that description. There are numerous islands in the lake, but none of any great magnitude. The surrounding country is generally very flat, though more than 200 feet above the surface of the lake, and contains large tracts of bog land, with very few hills; the coast rises. Its shores are entirely devoid of wood, and wanting in all the diversity of feature that could render them picturesque; nor is there a single village to be seen in sailing along the whole distance from Athlone to Lanesborough; the population is but scanty, and the land neither fertile nor well cultivated.

Derry Bay.

This lake is but little used in a commercial way, not a trading vessel of any description crosses its surface, and even the boats for carrying turf, which are occasionally seen passing to and fro, merely supply the islands or other places where this necessary article cannot be more easily obtained; Athlone being furnished from the extensive bogs below, and Lanesborough from those above those towns. Those are, however, the two points to which the produce of the surrounding country is sent for shipment to Dublin; from Athlone by the Grand Canal, and from Lanesborough by the Royal Canal. From the latter place, lumber boats adapted to canal navigation are poled or sailed up to Cloondara, a distance of seven English miles, to the junction of the Royal Canal with the Shannon; but at Athlone a small steamer is employed to tow the boats twice a-week to and from Shannon Harbour, where the Grand Canal enters the river. On both these canals fly-boats also ply for the conveyance of passengers only, and they are towed at the rate of eight miles an hour.

Athlone.

The bridge of Athlone, built in the time of Elizabeth, and of the rudest rubble masonry, is constructed on a gravelly ford rendered still more shallow by stones and rubbish thrown in, for the purpose of raising the head of water to work the mills erected on the bridge, so that in summer the river is dry nearly all the way across. The velocity of water does not exceed three miles an hour in winter, and the fall, which at the lock of the canal varies from 2 feet 6 inches to 4 feet 3 inches, does not here, at the greatest, amount to 2½ feet, owing to the many eel-weirs above it. Empty boats frequently shoot the bridge, even during the floods, to avoid paying the toll on the canal. For the distance of half a mile above the bridge the navigation is greatly obstructed by the eel-weirs, besides shallow fords of gravel, though the bottom generally is of mud. The communication for laden vessels between the lake and the river is carried on by means of a canal about one-and-a-half miles in length, on the western or Connaught side of the river, but it is in a most neglected state. There is one lock on this canal, over the sills of which, in summer there are not more than 4 feet 3 inches, and the banks of the canal have in many places slipped in, so as to reduce the depth to 3 feet.

Lanesborough.

At Lanesborough the navigation is likewise carried on by a short canal on the Connaught side, but separated from the river only by a wall, so that one of the arches of the bridge spans both the river and the canal. This canal, which is not more than a quarter of a mile long, has one lock on it, over the sills of which in summer there are only 4½ feet, which is the general depth of the canal. The fall at the lock in the dry season is only from 4 to 6 inches; but occasionally

\* See Chart of Lough Ree.



sionally in the winter, after heavy rains, there is a difference of level of nearly 2 feet. The difference of elevation between the lower sill at Lanesborough and the upper sill at Athlone was not accurately determined; but assuming the lake as a level, the former stands 6 inches above the latter. This canal also is in a very neglected state, but it is less used than that of Athlone, as the lock gates are rarely opened, except for the purpose of allowing some small pleasure boats to pass up and down. Immediately above the canal there is a small port constructed of masonry, where all the lumber boats to and from the Royal Canal load and unload. The bridge at Lanesborough is very similar to that of Athlone, but in better order; it was erected in 1706 on a gravelly ford, which extends some little distance above and below the bridge. The depth of water under the bridge in summer is not more than 8 or 9 inches, and in many places the bed of the river dries. There are eel-weirs above and below the bridge.

The shores of the lake are very unfavourable for landing, being either shallow and stony, and along the low meadow lands called callows; their summer margin is lined with steep muddy banks. The extent of cultivable land overflowed by the winter floods is not very great. This injury is principally felt in the narrow parts of the Shannon. There are some deep bays in the shores of the lake, though few are well sheltered or afford eligible shipping places. Paley Bay reaches to within five miles of the town of Roscommon, and this distance is still further reduced by a small lake communicating with the bay; and could a supply of water be commanded, a canal might easily be cut from that town to Lough Ree. From the head of Derry Bay to the nearest point of the Royal Canal, near Ballymahon, the distance is only two miles; but its elevation above the lake being 77 feet, it would require too many locks to make this line of communication useful.

Paley Bay.

Derry Bay.

Lough Ree might, with very little expense, be rendered freely navigable for steamers; and unless an effort of this kind be made, it never will be useful in a commercial view, as the boats adapted for the canal navigation could not reckon upon making the passage across the lake with certainty or safety. The only spots where an immediate outlay is absolutely necessary are about three quarters of a mile above the canal head, where the river first begins to expand, and off Curreen Point, about a mile below Lanesborough; in both places the channel wants clearing and deepening; although in the latter it would perhaps be more advisable to cut a small canal through the low land opposite Curreen Point.

Curreen Point.

The soundings on the accompanying chart are reduced to the lowest level to which the lake fell during five years, that was 5 ft. 11 in. above the upper sill of the lock at Athlone. This was on the 25th of July 1837, and as its greatest height in that interval was 11 feet above the same sill in March 1837, the difference of the summer and winter level was 5 feet. It is, however, said to amount frequently to 8 feet.

Lough Ree abounds in fish of various descriptions; the trout and pike are particularly fine, as well as the eels, for the taking of which there are numerous weirs at Athlone and Lanesborough.

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### LOUGH ERNE\*—1835 & 1836.

THOUGH not in the direct line of the Shannon, like the three lakes that have been described, yet as Lough Erne also pours its waters into that noble river, a brief notice of its hydrographic features will not be out of place here.

Lough Erne lies almost entirely in the county of Fermanagh, which it traverses from one end to the other. Its limits are considered to extend from Belleek

Extent.

Belleek

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\* See the charts of Upper and Lower Lough Erne.

Belleek on the N. W., to Belturbet on the S. E., a direct distance of about 35 English miles; but for some distance on each side of these towns it is so narrow as merely to deserve the name of a river. It offers the greatest extent of inland navigation of any of the lakes in Ireland, though, from the number of islands with which it is studded, it does not contain the same area of water as Lough Neagh.

Its water does not appear to possess any peculiar qualities, such as the petrifying properties of Lough Neagh, but it has a harsh unpleasant taste, and is not considered wholesome to drink. Its constant use was supposed to affect the health of a regiment quartered at Enniskillen. At the season of gathering the flax it is said to be particularly unwholesome, from the quantity of that article 'drowned,' or laid to soak, along the shores.

Wild Fowl.

These lakes abound in wild ducks, and during the winter are visited by large flocks of wild geese. Of marine birds, the common gull and the tern are occasionally seen; also the white eagle. Along the shores may be found snipe, curlew, and plover. The varieties of fish are, salmon, trout, pike, perch, bream, eels, herrings, roach, tench, and shads.

Fish.

Lough Erne is generally divided into the upper and lower lakes; the town of Enniskillen forming the point of separation, and nearly equidistant from either extremity.

#### LOWER LAKE—1835.

Lower Lake.

The Lower Lake is by far the largest and deepest of the two, and might be navigated by vessels of 200 tons burden from Rossor Island to a mile below Enniskillen. For about seven miles below that town it is thickly covered with islands; it then opens out into a wide expanse, and at its greatest breadth is 5 English miles from shore to shore. The coasts present a striking uniformity of appearance, consisting of a stony beach, (backed by low earthy cliffs,) with many large masses of rock and from 15 to 20 yards wide. The waves in winter when the lake is high, reach the cliffs, undermine and wear them away, leaving or washing down to the beach the imbedded masses of stone, according as they are more or less ponderous. In many places, within the memory of the present inhabitants, the shores had lost 18 or 20 feet; and islets are now entirely under water in the winter, on which once stood private stills for the manufacture of potyeen, or contraband whisky. In consequence, landing is not only difficult but dangerous to boats.

Poola Fooka Mountain.

The general features of the shores are rounded hills of moderate elevation; but near the western end of the lake, on the southern side, there is a range of table-land, called the Poola Fooka Mountain, which rises to the height of about 900 feet, overhangs its shores, to which it descends with considerable abruptness, and offers the only imposing feature on the lake. The hills are chiefly composed of limestone, and in Carracreagh Bay quarries were worked to some profit. It is there so compact as to take a good polish, and is much used for black marble chimney pieces. Towards Enniskillen, on the northern shores, and on some of the islands, veins of a fine sandstone are found; while among the debris on the beach may be seen crystals of quartz, carbonate of lime, and occasionally pieces of micaceous schist. The limestone is loaded with fossils, principally shells and coral formations. Below Boa Island, the northern shores present a dreary and barren prospect of bare limestone hills and mountain bog.

Carracreagh Bay.

Height above the sea.

The elevation of the lake, at the lowest to which it has been known to subside during the last three years that a register has been kept, is about 138 feet above the high-water level of the sea; and its greatest rise, during the above period, has been eight feet. This, of course, causes a very great difference in the winter and summer outlines of its shores; peninsulas being insulated, islands covered and converted into dangerous shoals, and where the coast is low, many acres of pasture land entirely lost. The bottom, though generally of blue or yellow clay, is singularly irregular, frequent variations of 20 to 30 feet in depth occurring in the distance of almost as many yards. The deepest water lies along the shores of Magho, at the foot of Poola Fooka, and two-thirds of a mile to the northward of Cloyaduff Point we found 226 feet. In this deep water the temperature at the

the bottom was proved, by several experiments, not to differ from that of the surface. The velocity of the current, at the bridge of Enniskillen, is about  $2\frac{1}{2}$  knots at the greatest; and though there must be throughout the whole lake a drainage towards the sea, it is imperceptible in the broad lake. Current.

The borders of the lower lake are very thinly peopled, and not a single village is to be seen along its whole extent. The nearest are Churchill, on the southern side, about half a mile inland, and Kesh and Pettigoe to the northward, each of which is about a mile from the shore; and the population of the latter does not exceed 300 souls. In consequence of a new line of road avoiding Churchill, that place is nearly deserted, so that from Enniskillen to Belleek, a distance of 23 miles, there is not a single village. Population.

On the southern shore no river empties itself into the lake, but to the northward are the Ballicassidy, Kesh, Bannagh, and Termon or Pettigoe rivers. Of these only the Ballicassidy and Bannagh may be considered navigable, even for the smallest vessels, and in summer they are greatly impeded by bars. The country abounds in springs, and there are some mineral wells near the coast. Rivers.

There are ruins of four ancient castles, once belonging to well known chieftains; that of Portora, about a mile below Enniskillen, the seat of the Maguires; Tully, about half-way down on the southern coast, the abode of the Humes; Crevnish in Kesh Bay, the stronghold of the Blennerhassetts; and Termon, near the Pettigoe Waterfoot, the patrimony of the Magraths, and famous as the residence of Terman Magrath, the first Irish reformed bishop. These remains all bear exactly the same character and form, being built of rough stones of all sizes, the cement of which is nearly as hard as the stone itself, of a quadrangular form, with towers at each angle. Termon castle remained in good preservation till within the last few years, when it was greatly destroyed for materials to build a modern house. Ancient castles.

On the island of Devenish, about  $1\frac{1}{2}$  miles below Enniskillen, is one of those monuments of Irish antiquity, the Round Towers, and in excellent preservation, its progress towards decay having been stopped by repairs at the expense of the neighbouring gentry. On the cornice, outside the tower, immediately below the cone which crowns it, there are four heads well carved in stone, and facing the cardinal points; those exposed to the prevailing northerly and westerly winds are much obliterated, but the others still exhibit the marks of the chisel, and are carved with considerable sharpness and skill. They are about the size of life, and are remarkable from the singular manner of plaiting the beard. The ornamental work round the cornice is also worthy of notice, and is different between each of the heads. The height of this tower is 81 feet 10 inches. Devenish Tower.

Near Devenish tower are the remains of an abbey which appears to be of a later date; but a large portion of the stones has been carried away for building in the town of Enniskillen. The masonry of the walls is rude, but the beauty of the arches is remarkable, as well as their being of a different stone from the rest of the building. Among the tomb-stones we saw several with armorial bearings, and many are still buried in this once sacred place.

The boats on the lake are termed cots; they are of the most primitive construction, flat-bottomed and square at each end, drawing very little water, and rigged with one large gaff sale. The largest are about 36 feet in length, and are capable of carrying from 10 to 12 tons. They are ill adapted for making any progress against the wind, and are therefore obliged in bad weather to seek shelter under the lee of some of the islands, where they are drawn close to the shore, and frequently lie for days together. Latterly, however, a superior sort of vessel has been introduced on the lake; but they are generally so badly found and managed, that, although capable of carrying a greater burden, they make but little better progress than the cots. The chief occupation of these boats is the supplying Enniskillen with turf, stones, gravel, and sand for building, which are procured on the shores of the lake, with occasionally a freight of slates or coal from Belleek, brought by land carriage from Ballyshannon. Cots or turf boats.

The portion of the county Donegal which touches the lake is a mere point between the Pettigoe river and a small stream called the Letter, which meet on the shore of the lake.

Bcg.

On the southern shore there is very little bog land, but to the northward there are large tracts lying very convenient for embarkation, and from these, more especially about Portinode and Ross Harbour, the town of Enniskillen is chiefly supplied. As no coal is found in the country, these bogs, though contributing nothing to its beauty, are of the utmost importance, as they afford the only fuel of turf and bogwood. Great quantities of turf are also cut on the top of the Poola Fooka range, down the steep cliffs of which it is thrown, and carried to the boats or cots below.

Ratha.

There is but one round tower in the county of Fermanagh, but all around the lake there is scarcely a hill which is not crowned by a rath or Danish fort. These are simply circular mounds from 40 to 60 yards in diameter, with a trench dug round them, and frequently planted. From their number and conspicuous appearance, they form a very remarkable feature in the country.

It might naturally be supposed that strong winds along the axis of the lake would set a large volume of the water up in that direction, yet a very slight difference was shown by four different registers, at the extreme distance of 18 miles, during seven months.

Traffic.

Such an extensive sheet of inland water at first sight suggests the great advantages it must afford to the commerce of this part of the country, by the facility it affords of water communication; but the present survey shows that the benefit of such intercourse is somewhat diminished from its over-depth in some places, its shallowness in others, and the number of its rocks. To the westward of Ardees Bay, two miles above Rosscor Island, where the lake may be said to begin, the navigation is almost impracticable even to the cots. The river Erne has in many places not more than three and a-half to four feet water in summer, and two miles above Belleek it is obstructed by an eel weir, which has caused a great accumulation of gravel, except in a narrow passage between it and the north bank, through which the current sweeps with great violence. The whole of the space at the back of Boa Island is full of detached shoals, rocks, and sand-banks, projecting from the shores, and the access to it is in summer difficult, as both entrances are narrow and shallow. From Ardees Bay, however, there is an uninterrupted space of 21 miles, which may be navigated by vessels of 200 or 300 tons, as far as the Friar's Leap, a narrow channel between two rocks, about  $1\frac{1}{4}$  miles below Enniskillen, where there are only six feet at low water. The Portora Passage also, immediately communicating with the town, has a bar of only four feet across it. These certainly interfere with the free navigation of the lake, but the real impediments are want of enterprise and want of capital, and on either side there are good anchorages for all classes of vessels.

River Erne.

Friar's Leap.

Portora Passage.

Outlet to the sea wanted.

Belleek.

Road to Donegal.

The most serious drawback on the utility of the lake is the want of an outlet to the sea for the produce of the adjacent country. Efforts have been made to connect the lake with the harbour of Ballyshannon, and a canal was planned between that place and Belleek, but from the number of locks that were required it was abandoned. Belleek would be a bad point of trans-shipment, from the above-mentioned difficulties, from thence to Ardees Bay. A far more eligible place offers itself in the Bay of Bleana Lung, to the northward of Castle Caldwell, where the natural advantages of security of anchorage, depth of water, good shores, and free access, would give facility to the undertaking. Another important consideration is, that from that bay, the distance to Donegal is not much greater than to Ballyshannon, and a good road would then offer another channel for the exports of the country; but it must be confessed, that the intervening country between Donegal and Bleana Lung is hilly, and that such a road would be expensive. An excellent road has been made between Pettigoe and Donegal, passing within about half a mile of the shores of the lake; but the objections to the back of Boa Island have already been stated. There are not indeed, many very good places for embarkation, either of goods or passengers, as the shores generally run off so flat. Benmore and Carracreagh Bays to the southward, and Gublusk Bay to the northward, may be mentioned as the most convenient landing-places in connexion with the high roads, and therefore as fitting spots for the sites of villages.

ABSTRACT of the Weather.

DATES.		DIRECTION.				FORCE.				Rain.
MONTHS.	Days.	Between N. & W.	Between N. & E.	Between S. & W.	Between S. & E.	Strong.	Moderate.	Light.	Calm.	
April - - -	30	14	10	4	2	10	8	2	1	17
May * - - -	14	5	4	3	2	5	8	-	1	9
June - - -	30	21	5	2	2	14	9	7	-	10
July - - -	31	13	8	3	7	19	7	4	1	19
August - - -	31	10	9	2	10	11	13	5	2	9
September - -	30	16	11	-	3	22	7	1	-	22
October - - -	31	14	10	5	2	17	13	1	-	22

\* Employed getting the cutter from Ballyshannon during the latter part of this month, without any opportunity of registering meteorological observations.

REGISTER of the Height of the Water in the Lower Lake above an assumed Datum-level 138 ft. above the High Water of ordinary Spring Tides in *Ballyshannon Bay*.

MONTHS.	1833.		1834.		1835.	
	Max.	Min.	Max.	Min.	Max.	Min.
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
January - - -	- -	4 3	7 8	6 4	5 0	3 0
February - - -	5 0	4 0	5 11	4 9	5 6	4 3
March - - -	4 11	3 3	4 8	3 5	6 9	4 9
April - - -	3 5	2 9	3 4	1 7	4 6	2 0
May - - -	2 7	1 7	1 6	1 2	3 1	1 8
June - - -	1 6	1 2	1 5	0 9	3 0	1 6
July - - -	1 7	1 6	2 5	1 2	2 3	1 4
August - - -	1 5	0 9	2 4	1 9	1 9	0 9
September - -	1 9	0 5	1 11	1 6	1 11	0 6
October - - -	2 9	1 11	2 9	1 10	3 2	1 10
November - -	5 3	3 2	3 9	2 7	-	-
December - -	7 11	6 0	3 8	2 9	-	-

The zero was placed at the above level in August 1832; the lake then standing at that elevation, to which, however, it has never since fallen, as shown by the above register.

UPPER LAKE.—1836.

THE Upper Lake differs greatly in its nature from the Lower Lake; for being generally understood to comprehend the whole interval between Enniskillen and Belturbet, by far the greater part of it is nothing more than winding and intricate channels between innumerable islands. A small expanse, however, does occur six miles above Enniskillen, extending about 1 ½ miles each way, and is called the Broad Lough, or the Bleana Walagan.

Extent.

The features of the country that surround the Upper Lake are rounded limestone hills, connected by low land, containing small lakes and superficial ponds. By casting the eye over the S. E. portion of Fermanagh and the adjacent part of Cavan, it will be seen that these little lakes are so numerous

Broad Lough, or Bleana Walagan. Limestone hills.

- as to make the area of water bear a large proportion to that of the land, and as they generally communicate with each other, or with Lough Erne, by drains, this extensive surface of low land becomes during the winter season almost entirely flooded by the back water, which cannot find vent into the Lower Lake. Thus about 10,000 acres are estimated to be under water during a great part of the year, and though by affording pasture during the summer they are not entirely unproductive, yet they are quite unfitted for arable purposes. This injury is not confined to the immediate vicinity of the lake, but extends itself into the back country for many miles. Enterprise and capital only are wanted to rescue this large tract of country from inundation, and to fit it for profitable purposes; for nature has placed no insuperable barrier to this philanthropic desire, however difficult to lower the level of the long and narrow channel between the broad parts of the Upper and Lower Lakes.
- Overflowed lands.**
- Inland navigation.** This extensive line of inland navigation has not yet been called into use, though by charter toll-free; while too many causes forbid any hope of present return if adequate capital were expended on this gigantic improvement. The shores of this lake also are thinly inhabited; on its western side not one village occurs in the whole distance from Enniskillen to Belturbet, while to the northward there is only that of Lisnaskea, which is most disadvantageously situated for any communication, in the way of traffic, with the lake being two miles distant from its shores. Two of the small lakes, however, of difficult access, and with little water in the dry season, allow small cots to approach it within half a mile.
- Lisnaskea.**
- Shallows.** The depth of water, even in the narrow passages, generally exceeds 20 feet, but there are several shallows or gravelly fords, over which in summer there are not more than four feet, and therefore the general navigation of the lake must be confined to vessels of that draught; in a few places there are only 1 ½ to two feet water, such as Blockson Ford (a rocky ledge), in the River Erne, about two miles below Belturbet; the Bloody Pass (gravel, with large stones), below the eel-weirs a mile above Enniskillen, and at the bridge of Enniskillen (which stands on a bed of stones and gravel). These obstructions prevent a free navigation of the two lakes, and to their removal must the first efforts of improvement be directed. The Bloody Pass, though the shorter passage from Belturbet, may be avoided by a more circuitous route, and needs not, therefore, such early consideration; but Blockson Ford being of solid rock, and 80 to 100 yards in length, can only be removed by blasting. At the eel-weirs the whole reach, which is more than a quarter of a mile in length, consists of gravel, with occasional masses of rock; and probably the best means of overcoming this obstacle, as well as the least expensive, would be by cutting a new channel through the townland of Drumsna, for which operation the low ground there offers every facility, and the fall is so trifling as to cause no difficulty on that account. The obstruction at the west bridge of Enniskillen (the only passable one) consists chiefly of loose rocks and blocks of stone, which might be removed without much labour, so as to deepen this spot at least to the level of the numerous fords beforementioned. Besides these four-foot fords, varying from 40 to 100 yards in length, there is an extensive mud bank of the uniform depth of five feet, between the S. W. end of Inish-more and the main, reaching nearly half a mile; and as this cannot well be removed, or lowered, it must be considered as the prescribed depth of the navigable water. It must be remembered, however, that these depths are calculated for the lowest level to which the lake was known to fall between the years 1833 and 1836, and that this low ebb does not continue for more than a month at the very utmost; all which in considering the capacity for profitable and uninterrupted navigation must be taken into account.
- Blockson Ford.**
- Bloody Pass.**
- Drumsna.**
- Depth.**
- Level.** The mean difference of the levels of the two lakes may be assumed at 1 ft. 8 in., the extremes being from 11 in. to 2 ft. 10 in. The upper lake fluctuates most; for instance, in 1833, while the rise of the lower lake was only 7 ft. 6 in., that of the upper one was 9 ft.; and in 1836 the former rose 4 ft. 7 in., the latter 5 ft. 9 in. The difference of levels is also varied by many circumstances which act upon the time of each lake reaching its maximum and minimum, and which prevent the quantity of their rise and fall being equally affected by the change of seasons.

Several

Several rivers of considerable size fall into the upper lake, the Erne, Finn, Woodford or Aghalane, Colebrooke or Drumany, Cladagh or Swanlinbar, Arney, and Sillees; all of which except the last are navigable about two miles up, where their course is interrupted by falls over rocky ledges, which have been chosen as the sites of bridges; and all are more or less obstructed at their entrances by sand banks. Rivers.

The hill of Knockninny, which rises to the height of 628 feet above the sea, is the only remarkable elevation on the upper lake; it is of lime-stone formation, but very rugged, and descending on the land side with considerable abruptness: behind it, about two miles, a range of table land of nearly equal altitude extends for some distance parallel to the lake; the intermediate space being a large tract of low land nearly all bog. On the banks of the Arney a stiff clay is found tolerably well adapted for bricks, of which there is a large manufacture. The bottom of the lake generally is of blue clay or mud, except some gravel beds and sand banks off the mouths of the rivers; the shores stony and shelving, and bad for landing. The greatest depth is 76 feet, which occurs in one small spot in the Bleana Walagan, and in several places there are from 30 to 40 feet, but the general depth cannot be taken at more than 9 to 12 feet. Many old castles stand near the shores of this lake, but all in a very dilapidated condition; that of Crum was famous during the wars of the rebellion. Knockninny Hill.  
Depth.  
Crum Castle.

Fermanagh is said to be a highly improving county; and its cultivation in a satisfactory state, so that even the summits of the high lands are gradually coming under the hand of the farmer, and are made to yield crops of potatoes, which in the low lands is giving place to more profitable crops of grain and flax; the growth of the latter being greatly on the increase. All the time of those females who are not occupied in agricultural or domestic employment, is taken up in spinning, and almost every farm-house has its loom. A great quantity of linen is thus made, which finds at the market of Enniskillen, every alternate week, a ready sale to the dealers of the northern counties, where it undergoes the process of bleaching. A linen market has been established at Lisnaskea, a very improving village. Labour and provisions are cheap; cattle and pigs are exported in great numbers to England, as well as eggs and butter, of which latter article there are generally brought into Enniskillen market, every Monday and Tuesday, from 600 to 800 firkins of 70 lbs. each, all of which are sent over by the way of Newry or Londonderry. Fermanagh County.  
Enniskillen.  
Lisnaskea.

By the Ordnance Survey the superficial area of the county of Fermanagh is 456,538 acres, of which 46,755 are water, and of this Lough Erne, exclusive of the river, measures 36,923. It is to be hoped that English capital and Irish industry will not much longer defer the navigable improvement of this noble sheet of water. The completion of the Ulster Canal ought to afford an additional stimulus to exertion on this subject, as for a small expense a communication of equal depth with the canal may be secured from Rosscor to any part of the lake and to Belfast; while a draft of water of four feet will allow of a steam vessel of sufficient power for all legitimate purposes. Area.  
Ulster Canal.

#### LOUGH DERG—1836.

BESIDES the Lough Derg described in these pages (23 to 31) there is another lake of the same name in the county of Donegal; and though without any navigable interest attached to it, yet its proximity to Lough Erne, which he was surveying, induced Lieutenant Wolfe to make a sketch plan of its shores. That plan is published in the sheet of Lower and Lough Erne, and we may add here a few words of description.

It is surrounded by dreary uplands about 3½ miles N. W. of the village of Pettigoe, and covers an arrear of 2,140 acres. Innisgoosk, Saints Island, and Station Island, besides a few groups of mere rocks, are its principal contents. On Saints Island there are some ruins of a priory which boasts of high antiquity, and which was at one time the resort of numerous pilgrims; but for more than a century that honour has been transferred to Station Island, though less than an acre in extent. It is, however, within half a mile of the shore; it possesses two small chapels (St. Patrick's and St. Mary's), a house for the priest, and a