

Some notes on Early Pilotage Information relating to the Carrick Coast.

Introduction

When preparing an article on the history of the charting of the Firth of Clyde, it became very clear that the available information mostly related to the upper reaches of the Firth, and that relatively little chart and pilotage information covered the lower reaches, particularly the coast between Loch Ryan and the county town of Ayr. As for the west side of the lower Firth, covering the west side of Arran and the Kilbrannan Sound between Skipness and Sanda Island, there appeared to be little or no early pilotage or chart data at all.

Early writers such as Alexander Lindsay and John Watt make it very clear that, with the exception of Loch Ryan, Lamash Bay in Arran, and Fairlie Roads, just south of Largs, there is a great scarcity of secure natural anchorages, and, with the prevailing winds being from the west and southwest, there was a great danger of sailing vessels being trapped in the large bays at Irvine and Ayr on the lower east side of the Firth, and that, in endeavouring to escape to the west under storm conditions, sailing masters regularly found themselves ashore either in these bays, or on the rocky Carrick coast. It therefore comes as no surprise that one of the early references to the coast south of Ayr describes that coast as being "a yrne coest" ; the authors use of the phrase "an iron coast" really says it all; it is a hard and unforgiving shore, best avoided by mariners, unless possessed of great and detailed local knowledge. If it is best avoided, say so, and comment no more!. This then seems the reason why there is little information on the lower eastern shores of the Firth of Clyde; the visiting mariner was simply advised to avoid the area, and so there was no need to give elaborate descriptions of this inhospitable shore.

This situation was supported by the writings of Robert Cuninghame, a North Ayrshire entrepreneur and colliery owner, who maintained a regular coal export trade with Ireland in the late 18th. and early 19th. century, and whose voluminous papers are held currently in the local government reference library in Ardrossan. In these papers are two notices addressed to the "Shipping interests of the Clyde" suggesting that there were some safe places in the east side of the Firth to make for under stormy conditions. In his notice of 20th. February, 1803, he suggests that shelter could be sought behind the Shott, a ridge of rocks that run out from the southern side of the entrance to Saltcoats harbour, and he quotes examples of vessels that obtained a degree of safety in this spot. He makes the point, however, that such vessels could only get out of this precarious shelter with help from local boatmen. In his later notice of 9th. August, 1819, he advocates the use of the shelter provided by the new pier built by the Duke of Portland at "the Troon", where sailing masters could either anchor in the lee of the pier, or take the sandy ground further up the inside of the pier. These two examples seem to bear out the old sailing adage of "any port in a storm", but they really were of very limited use as harbours of refuge, in that, if anything else occurred to exacerbate the situation, the mariner and his vessel would have been in a very exposed position. One gets the distinct feeling that Robert Cuninghame was overstating the virtues of these supposed shelters in order to encourage sailing masters to enter the local north Ayrshire coal trade.

For the purposes of this article, the concept of the Carrick coast has been extended both to the north and south so as to include the harbour and roadstead of Ayr and the whole of Loch Ryan.

Despite the inhospitable nature of this coast, there are references to harbours, tides, hazards and other information that go to give a partial description of the local pilotage situation. The four main sources commented on below are certainly not exhaustive, and the author would be pleased to receive from readers any other related references, particularly of a primary nature. The earliest reference as yet found comes from the northwest of France, relates to tidal information, and probably dates from the late 15th. century, but only exists in printed form from about 1530/40. The author is one G. Brousson, and the information probably arises from the existence of the wine trade between that part of France and the west coast of Scotland. The next source is dated about 1540, and is a very complete set of pilotage notes of the coasts of Scotland, assembled by a Scottish pilot, Alexander Lindsay,

for the use of a royal squadron, led by James V, to the Western Isles; these notes have information pertaining to the Carrick coast. A slightly later source, probably created in 1563 / 1566, is a description of the Carrick coast prepared for the English Warden of the West March, with a view to a seaborne attack on that coast, as part of a pre-emptive strike, aimed at limiting warfare on the English borders. The final source is dated about 1755 to 1765, and comes from the manuscript notes of James Watt, father of James Watt of steam engine fame ; it was this Watt family from Greenock who produced the first reasonably accurate chart and map of the Firth of Clyde.

G. (Guillaume) Brouscon, ca. 1480 - 1540.

The earliest examples of recorded pilotage information come from the Mediterranean, but, due to the fact that the tides in that area are very weak, these early examples of marine information contain virtually no data on tides and tidal streams. For this region, the information was mainly recorded in the form of "portolan" charts that simply gave the bearings of one headland to another, with some indication of the distances involved, and the names of the towns and harbours located on the coast. It must have come as a considerable shock to the traders and mariners of that region, when they ventured past the Pillars of Hercules, now known as the Straits of Gibraltar, on commercial voyages to Cornwall for tin, or to the Low Countries for woollen yarn, to find that it was possible to anchor in say 5 metres of water, and find that, six hours later, the vessel was aground. Knowledge of the tides was essential to mariners of the north west coast of Europe, and it is interesting to note that the recording of maritime information in that area took on a very different form from that of the Mediterranean, in that the information was recorded, not on a primitive chart, but held in book form, with notes on tides, distances and bearings of headlands and harbours, data on depths of water and the nature of the sea bottom. These books were called "rutters", a name related to the French word "routier", and amongst the earliest of the printed versions were the sailing directions of Pierre Garcie, a mariner of Brittany, who, in the late 15th. century, gathered together the maritime information of the north west shores of Europe. The waters of Brittany are essential to this story, in that the headlands of north west France are treacherous with complex tides, violent tidal races, and very variable weather, and yet through these waters passed the wine trade from Gascony to the northern countries of Europe, as well as the trade routes connecting northwest Europe and the Mediterranean.

In his rutters, Pierre Garcie gave simple rules that allowed a mariner , knowing the phase of the moon, to work out the periods of moonlight that would be available to assist in night navigation, and also to work out times of high water, and so simplify the entrance to harbours, particularly in time of adverse weather. To handle these simple rules, however, the mariner required a degree of numerical skill, and not all mariners had this gift ; it is this problem that brings us to Guillaume Brouscon, a printer in the Brittany village of Conquet. He had been involved in preparing almanacs for local farmers and timetables of religious ceremonies, allowing the populace to, in part, plan their lives according to the seasons of the year and the demands of the church. Many of these events were timed by reference to the phases of the moon, and Brouscon realised that there was a connection between a detailed knowledge of the phases of the moon, the prediction of tides, and the timing of farming and religious activities. With respect to maritime affairs, Brouscon's great contribution was the development of small printed charts and simple rose calendars that allowed the unsophisticated mariner to derive vital tidal information without the need for numerical skill.

This inspired development was based on the concept of the "establishment" of a port, which is a method of recording high water at a port when the moon is full. For example, and quoting from the earliest Scottish rutter, the establishment of the ports on the east side of the lower reaches of the Firth of Clyde is given as " At Irvine and Ayr, and along the coast of Carrick, the [full] moon is in the south east [at] full sea [i.e. at high tide]". This piece of information tells us that when the moon is full, and is on the south east horizon, it is the time of high tide; and , of course, it follows that the mariner, knowing the length of the monthly moon cycle, and the number of days before or after full moon, can then predict, as accurately as is practical, the time of high tide in a particular area for any day of the month. Brouscon's small scale charts give the establishment of any port named on the chart, and

the corresponding rose chart automatically does the calculation of high tide on any day of the month, thus eliminating any calculations that the mariner might have to perform.

In one of Brousson's small scale charts, he records the ports of Cumbrae, Irvine, Ayr and a location in Galloway, and so it is that we have on record tidal information relating to the Carrick coast from as early as the late 15th. century.

Alexander Lindsay, ca. 1540.

The earliest printed rutter in English is entitled "The Rutter of the Sea", and is dated 1528. It is clear that this rutter, which gives information about tides, harbours, routes etc., on both sides of the English Channel, is, in fact, a translation of a Garcie rutter, published about 1502. In 1541, a second version of this English translation was published, with an additional section entitled "A Rutter of the North", which gave maritime information relating to the coasts of Britain from the Humber, north about to the Solway Firth. While this latter section was based on an early English manuscript rutter of as early as 1408, it is also clear that the author had access to a second manuscript rutter, prepared by a Scottish pilot, Alexander Lindsay, for a voyage of James V of Scotland around the north of Scotland to the Western Isles, and on to the Firth of Clyde. It is this second manuscript rutter that provides a considerable amount of maritime information about the Firth of Clyde in general, and the Carrick coast in particular.

The details of the historical background to the preparation of Alexander Lindsay's "Rutter of the Scottish Seas" can be stated quite simply. In the 14th., 15th. and early 16th centuries, the kings of Scotland exercised very little control over the established families in the Western Isles. This arose from the vacuum left in these islands, following the departure of the Norwegians at the time of the Treaty of Perth (1266), and the subsequent establishment of the Lordship of the Isles, under the descendants of Somerled. The leaders of this Lordship were given to creating trouble on the western borders of Scotland, and to entering into arrangements with the English crown and related families in Ireland to the embarrassment of the Scottish crown. Several naval expeditions were sent by the Scottish authorities to the Western Isles to convince the locals of the error of their ways. The ultimate expedition was made in 1540 by James V, and resulted in the arrest of many leading figures in the Isles. The expedition started in the Firth of Forth, proceeded to the Orkneys, and then down the west coast, with the king entertaining the local dignitaries, and arresting them while under the influence of the entertainment. The expedition proceeded round the Mull of Kintyre, and on to Dumbarton, which at that time was a Scottish naval dock yard. The king and his entourage disembarked, and proceeded on horseback to Edinburgh, while the captives were kept on board and the expedition made the long voyage back to the Forth via the Pentland Firth. In the fullness of time, these families from the Western Isles agreed to behave themselves, and gradually the Scottish crown gained control of these outlying areas.

Very detailed information on the preparations for the 1540 expedition are to be found in the Accounts of the Lord High Treasurer, and in the Exchequer Rolls, but while these records give details, for example, of the hiring of pilots to handle the large ships of the expedition within the Firth of Forth, there are no references to the expenses incurred in the preparation of rutters or charts. Our information on these matters comes from a very different source, namely a French nobleman, Nicolas de Nicolay, who happened to be welcome in the English court at the time, arising from a friendship with the English Lord High Admiral, Lord Dudley. Dudley showed de Nicolay an English translation of a rutter of the Scottish coast, which had been written in Scots. Subsequently, de Nicolay had a French translation of the rutter prepared, and on return to France had it published and distributed to officers of the French court. Later, a further version of the same rutter was found in the Balfour Collection of manuscripts in the National Library of Scotland, and this version, which was shown to be compatible with both the French and English versions, was used in the definitive study of Scotland's earliest rutter.

Very little is known about the author of this unique rutter. Nicolas de Nicolay refers in his correspondence with the French authorities to the preparation of the rutter by "Alexandre Lyndesay Escossoys"; in another reference, de Nicolay uses the phrase "Alexandre Lindsay excellent Pilate Escossois". There is a reference, independent of de

Nicolay, to "Alexander Lindsay his rutter of the sea..." in a catalogue of papers in the Lumley collection of 1609. There is also a reference to an Alexander Lyndesay as a member of the crew of James IV's great ship "The Michael" in 1513, but there is no known connection with the Lindsay of 1540.

A detailed study of this rutter suggests that it is unlikely that one pilot would have had personal experience of all the detail given in the rutter, and it is likely that Alexander Lindsay compiled his rutter from a series of local rutters, which have either not survived, or not yet come to light.

Lindsay's rutter is laid out in the logical sequence that is typical of other north west European rutters of the time ; the area under description is divided into small local areas, each of which is described under headings such as "Courses of tydes", "Floddis and ebbs", "Courses and kennings", and finally "Hauens, soundis, and dangeris". In this context, a "kenning" is a unit of distance, approximately equal to 14 miles, and "soundis" are measurements of depth, as in the English expression "to take soundings". Within the small geographical area defined as "from the Mulle of Cantyir to the Mulle of Galloway", Lindsay gives the following information that pertains to the Carrick coast. These extracts are given in modern English.

Direction of the Tidal flows.

From Sanda [at the Mull of Kintyre] to Loch Ryan in Galloway, [the tide] flows south southeast and north northwest ;

On the coast of Galloway, [the tide] flows south to west and north to east; At the Mull of Galloway, [the tide] flows southeast and northwest.

Floods and Ebbs... along the Carrick coast and Galloway... .

At Irvine and Ayr, and along the Carrick coast, it is high tide when the full moon is in the southeast.

At the Mull of Galloway, it is high tide when the full moon is in the south.

Courses and Kennings [on the Ayrshire coast].

From Bute to Ayr, the course is east southeast, and the distance 15 miles ; From Ayr to Loch Ryan, the course is southwest, and the distance 40 miles ; From Loch Ryan to the Mull of Galloway, the course is southeast to south, and the distance is 32 miles.

Havens, Depths and Dangers [on the Ayrshire coast].

On the east side of Arran, at the island of Lamlash [Holy Island], there is a good anchorage for all sizes of ships ;

When entering the water of Ayr [the mouth of the River Ayr], choose the time of three quarters flood, as the channel has a hard bottom

Loch Ryan is a good harbour for ships, both great and small.

A Military Report, ca. 1563/1566.

The Brittany tidetables of Guillaume Brouscon barely mention the Carrick coast ; the rutter of Alexander Lindsay covers the whole of the Scottish coast line, but does have some specific information relating Carrick. The next source of maritime information comes in an English Military Report, which also contains information relating to the military strengths of the local landed families ; the maritime information given in this source is more detailed, as it was required to assist in the planning of a military and naval operation specifically aimed at the subjection of the Carrick coast. What were the circumstances in the mid-1560's that caused the English guardians of the Western March to consider such a dramatic move ?.

At this time, Scotland was in turmoil; Mary, Queen of Scots was on the throne. She was a practising Catholic, and a former queen of France, but she was not persecuting the reformed Church of Scotland. Her marriage to Darnley in 1565 was conducted under Catholic rites, but was not approved of by Elizabeth of England. This led to the break up of

the "Amity" between Scotland and England. Some Catholics in England believed that Mary had a legitimate claim to the throne of England, so Elizabeth saw her as a political threat. The establishment of Scotland at the time was split between the supporters of the Queen, who were mainly Catholic, and contained many of the landed families, which in turn had French connections ; and the supporters of the State, who were Protestant in belief, and tended to be pro-English. Elizabeth did not wish England to be caught in a "two front" war, with France on the one hand and with the Catholic landed families in Scotland on the other. A pre-emptive strike by the English forces on the Western March against the Catholic families in the west of Scotland could eliminate the threat from Scotland, and so leave Elizabeth free to deal directly with the French.

Success in such a scheme would result in control of the Firth of Clyde by the English fleet, and the elimination of any Scottish naval threat from the naval base at Dumbarton. A major problem, however, for the English planners was the complete absence of roads in the southwest of Scotland, so that troops, siege equipment and supplies would need to be carried by sea. This problem could be overcome by the extension of the sea supply route which already existed between Beaumaris in Angelsey, the Isle of Man, and the small ports on the south side of the Solway, and which kept the garrison at Carlisle fully supplied. What was missing was detailed information on the harbour facilities and maritime hazards on the Carrick coast between Loch Ryan and Irvine. It was unlikely that marine facilities north of Irvine would be required, as an English fleet would not want to operate too far from its own bases, and too close to Dumbarton. The above argument would seem to be a valid reason for the preparation of the Military Report, and the sections in it that deal with the maritime features of the Carrick coast.

The maritime information in the Report can be grouped together under the three headings of distances, directions, and details of havens;

Distances

Lochryan to Girvan	16 "myles"
Girvan to Turnberry	5 "
Dunure to Doonfoot	4
Doonfoot to Ayr	2
Ayr to Lamlash	14
Ayr to Irvine	8
Ayr to Beaumaris	130
Ayr to Isle of Man	84

This information is awkward to analyse as the definition of a "myle" as used in the Report is not clear, and there is no indication as to whether the distances are via headlands or in a direct line. From a maritime perspective, it would have to be distances via headlands, but other evidence suggests these items of information were collected by a land-based military person, and may have taken the distances from some crude land map. It is known that the statute mile, as used today for land distances, was only introduced in 1593, and even then was only used in and around London. As late as the 18th. century, there was still much confusion about which mile definition to use, and it was quite common on English land maps to have three scales denoting "the greater, the lesser, and the middle mile" !!.

A comparison of the above numerical values with those derived from a modern land map, and measuring tracks around headlands, suggests that the Report "myle" is about 1.30 statute miles. In a qualitative sense, the "myle" values are satisfactory, in that, for example, Beaumaris is further from Ayr than the Isle of Man, and Irvine is nearer Ayr than Lamlash.

The Report contains one other distance that is clearly a land based measurement ; the original reference is "from Edinbrught thys town [Ayr] ys thre score myles strait ground". A free translation of this reference suggests " Ayr to Edinburgh is 60 "myles", as

the crow flies". This is a remarkable statement, as Ayr to Edinburgh, when measured directly on a modern land map gives a value of 65 statute miles; this raises the question as to how the writer of the Military Report, or anyone else in the mid-16th. century, could estimate such a distance.

Directions

No numerical or directional compass bearings are given in the Report, but some very general directions are given, using only the main compass points ; again translating into modern English, these directions are ;

Carrick is NORTH of Lochryan Dunure is SOUTH of Doonfoot Doonfoot is SOUTH of Ayr Cunningham is NORTH of Kyle Irvine is NORTH of Ayr

Annualashe". The Scots word "foment" meant "opposite", so the extract translates into modern English as '14 miles opposite (i.e.west of) Ayr, on the island of Arran, lies the island and woods of Lamlash". Early maps of Arran describe Holy Island as the island of Lamlash.

Haven Details

The Military Report gives details of four havens on, or near, the Carrick coast. At the time of writing the Report, no haven in this area would have had extensive harbour works, although there was a rudimentary quay at the mouth of the River Ayr. In the 16th. century, a haven was usually just a partially sheltered river mouth or bay. The haven at Ayr was not well sheltered, explaining why the Report writer also mentions an off shore anchorage for Ayr. In the context of havens, the Report writer describes the Carrick shore as "an iron coast", thus describing the coast between Lochryan and Ayr as inhospitable, because of a lack of sheltered anchorages.

Girvan Mouth.

"At high tide, vessels of up to 40 tons can enter".

Such a vessel would draw about 5 feet, suggesting the sand bar at the mouth of the river had a maximum cover of about 6 feet. Even today, there is a sand bar at Girvan, but the scouring effect of the river, confined by breastworks, does give a reasonable depth for most of the time.

Ayr.

"The haven is at the mouth of the River Ayr, adjacent to Ayr town. There is an offshore anchorage 2 miles from the town of Ayr. The haven mouth has a sand bar with 3.5 and 2.5 fathoms at high and low water. The haven can always be entered on a rising tide in calm water. The Ayr haven is far superior to that at Irvine".

A tidal rise and fall of only 6 feet seems too small by modern experience, but the actual value can vary significantly depending upon river flow and wind conditions.

Lamlash.

"This haven, 14 miles west of Ayr, on the east coast of Arran, is an excellent anchorage, and is protected in all weathers".

This description is still valid today, and is the reason why Lamlash Bay was, until recent times, a major naval anchorage.

Irvine.

"This is a poor haven, but is only 8 miles north of Ayr. The haven has a sand bar, with less than 2 fathoms at high water. The haven entrance is narrow, and banked on both sides".

The Report writer basically does not recommend Irvine as a haven, especially when Ayr is close by. The banking at the entrance made this haven very awkward for a sailing vessel, and even today a sailing vessel would be advised to enter Irvine on a rising tide, with a following wind, and a very reliable engine !.

James Watt, senior (1699-1782).

James Watt, senior, was the father of James Watt of steam engine fame, and the son of Thomas Watt, known as the "mathematician of Cartesdyke". James, senior was a merchant in Greenock, with close connections with the shipping fraternity of that town. Amongst many business interests, he supplied surveying and navigational instruments ; he was a member of the Greenock Town Council for 20 years , and was a magistrate. Unlike his elder brother, John, who had been trained by his father as a surveyor, and who prepared an early manuscript chart of the Clyde that was subsequently extended, completed and printed by his brother and nephews in 1759 , James, senior does not appear to have been trained as a surveyor ; however, he did accumulate a mass of information about the west coast of Scotland, and the Firth of Clyde in particular, and it is in the manuscripts relating to the Clyde that several references are to be found of maritime information pertaining to the Carrick coast and its surroundings.

It is only because of the fame of James Watt as a development engineer, and the foresight of his son , another James, that the Watt family papers were gathered together, and preserved. Some of these papers found their way into the archives of Birmingham City Library, and it is there that James, senior's manuscripts relating to the Clyde are to be found in the Boulton and Watt collection. It is not clear why James Watt, senior set about collecting information relating to the west coast of Scotland. As a merchant, he had the opportunity to travel widely in that area, and with his regular use of ferries, packet boats and coastal vessels, he would have met the seamen who had the detailed information that he subsequently recorded. Some of this information was used by James, senior and his sons to extend the manuscript chart of the Clyde that had been prepared by his brother, and sections of the recorded information were required and used by Watt, senior and his Council colleagues in Greenock to counter threats to the business opportunities in the Greenock area. He was very active in protesting against certain custom duties being applied to the coastal transportation of coal, for example, and he aided the Greenock Council in opposition to the desire of the Glasgow establishment to deepen the upper reaches of the Clyde, so allowing ocean going vessels to go directly to Glasgow, and thus avoiding the transshipment of goods at Greenock and Port Glasgow ; this activity was, of course, very valuable to the Greenock economy. It may have been that James Watt, senior had the idea of producing a pilot book, as an adjunct to the family chart of the Clyde. He seems to have collected most of the maritime information in the decades both before and after the publication of the Watt chart of the Clyde in 1759, and it may be not just be a coincidence that this time period coincides with the government decision to proceed with the mapping of the land and waters around Scotland by William Roy and Murdo McKenzie. These latter cartographic activities were a result of an analysis of the suppression of the 1745 rebellion, and the problems created for the Army and Navy by the absence of accurate maps and charts. This mid -18th. century period is also the start of major industrial development of Scotland, and Watt may simply have seen an opportunity to contribute to the development. Whatever the reason, Watt assiduously gathered and recorded a great quantity of useful information, some of which gave an insight to things maritime on the Carrick coast.

Some examples of maritime data collected by James Watt senior are given below. The manuscript references are to the location of these documents in the Muirhead section of the Boulton and Watt collection in the Birmingham City archives. Only examples that have a bearing on the Carrick coast have been chosen. Where appropriate, a few general comments are given within square brackets.

Ref. M IV/11/2 ; {General description of the Lower Clyde}

"The Firth of Clyde may be considered as a great harbour of 60 miles long and 30 miles wide with good roads [anchorage] and smaller harbours."

"On the east side, near the entry to the Firth, is Loch Ryan, which is 5 miles long and 3 to 5 fathoms deep."

"Girvan is a dry harbour, which has 10 feet of water at spring tides."

"Ayr is a barred harbour, and has 14 feet of water with the tide."

[The data given on Girvan and Ayr is very similar to that given in the Military Report, suggesting that, over a 200 year period, the limited water depths had not altered, either by natural or human intervention. The information on Loch Ryan is limited, and the quoted length is too short, but much better data is given in a later document. It is interesting to note that, in this manuscript, Watt makes no reference to Ailsa Craig, which is the most dominant marine feature in the described area.]

Ref. M IV/??/? ; {Distances from Glasgow}

"Distances of places on the Clyde from Glasgow ; the distance from Glasgow to the Mulls of Galloway and Kintyre, which is the entrance to the Clyde, is 85 miles".

[The actual distance on a modern chart is 83 miles, compared to Watt's value of 85 ; this gives a clear indication of the general accuracy of Watt's measurements, even though we have no indication how the measurement was made !.]

Ref. M IV/4/3 ; {Distances within the Clyde}.

"The Clyde contains several harbours, and is 56 miles long from Loch Ryan, the southern-most harbour to the Tail of the Bank, the upper-most road and harbour, which is 2% miles below Port Glasgow, and % mile below Greenock ; the Tail of the Bank is 12 miles from Rothesay, 14 from Fairlie [Roads], and 42 miles from Campbeltown".

[This quotation has little direct connection with the Carrick coast, except that a) the detail again indicates the quality of Watt's work, and b) the places mentioned are either good harbours or safe anchorages, and none are located on the Carrick coast !.]

Ref. M IV/11/1 ; "A draught of Loch Ryan taken by hand, 1759."

[This manuscript is a sketch plan of Loch Ryan, showing anchorages, shallows and what were conspicuous landmarks on both sides of the Loch, at the time of the survey, 1759. The sketch compares favourably with a modern chart, and would have served visiting mariners well, in that the information would have allowed the stranger to avoid the narrows at what is now call Cairnryan. The landmarks given in the sketch can still be identified on modern large scale Ordnance Survey maps.

The manuscript also contains a small inset drawing showing the relationship of Loch Ryan to both the Carrick coast and the Mull of Galloway. This inset also has a scale, apparently in statute miles, and three converging lines that would appear to originate at Ailsa Craig, although the latter is not shown on the drawing. The scale suggests that Loch Ryan is about 8.5 miles long, where a modern chart gives 8.3 miles. Similarly, the distance between Ballantrae and Corsewell Point gives a value of 8.0 miles, where the modern value is 8.8 miles.

While the Watt manuscript is clearly a sketch, the above measurements again show the standard of the authors work, as does a spatial comparison between the main sketch and a modern map.]

Ref. M ?/?I? ; {Further distances within the Clyde}.

[This unnamed Watt manuscript gives a series of distances within the Firth of Clyde, and also some details of the harbours at Ayr and Girvan. This particular document also gives details of the position of Ailsa Craig, a very dominant island feature off the Carrick coast; the Craig has always been a valuable navigational feature for mariners in the southern part of the Firth of Clyde, and would have been valuable to early cartographers like Watt, who attempted to lay out charts and maps, using magnetic bearings only, without the benefit of accurate base line data. It is difficult to believe that the Watt family did not know the basic theory of triangulation ; it is more likely that the practical problems associated with laying down and measuring base lines defeated them].

"Loch Ryan is 9 miles long, and about I mile wide, but only 1/2 mile wide at Cairnryan". "Girvan is 15 miles from Loch Ryan, and the harbour bar depth is 10 feet at high tide". "Ayr is 18 miles from Girvan, and has 14 feet of water at high tide".

"Ailsa Craig is 10 miles off the Carrick coast, 10% miles from Arran, and 13 miles from Loch Ryan".

[With two exceptions, the distances quoted by Watt are within 1/2 mile of modern values ; the exceptions are a) the length of Loch Ryan, which is nearer to 8.3 miles than Watt's value of 9 miles, although it is difficult to define precisely the entrance to the Loch, and b) the distance from Ailsa Craig to the nearest point on the Carrick coast is 7 miles, and not 10 miles as given by Watt].

Conclusion

The above four sources of maritime information on the Carrick coast cover a period of 250 years, but, compared with the north end of the Firth of Clyde, the sources do not provide a wide range of information. What does come to light is concerned with only three locations, namely Loch Ryan, always seen as a safe haven, and Girvan and Ayr, which at the time of preparation of these sources were only partially sheltered river mouths.

The situation is rather different today, in that Loch Ryan is now buoyed, lit and dredged, with the ports of Stranraer and Cairnryan acting as major Irish ferry ports. Civil engineering work, in the form of breakwaters and regular dredging, has improved the accessibility of Girvan and Ayr, but due care is still required on entering these ports; neither can handle vessels of the size that regularly use Loch Ryan and its associated ports. In relatively modern times, minor maritime facilities have been created at Dunure, the Maidens and Baliantrae, but these sites only cater for small local vessels with local knowledge.

As reported above, the Carrick coast was depicted, as early as the 16th. century, as "an iron coast", and this concept is carried forward in modern pilot books specifically written for modern yachtsmen, whose vessel sizes, including draught, are not all that different from the vessels using the coast at the time of the early literature sources. The Clyde Cruising Club's Sailing Directions (1985) report

"The [Ayrshire] coast offers no shelter from fresh to strong onshore winds, and the entrance to Girvan harbour is difficult under these conditions".

Let the last word be with Martin Lawrence in his 1989 edition of "The Yachtsmans Pilot to the West Coast of Scotland"

"The distance from the Mull of Galloway to the Heads of Ayr is about 55 miles. In that distance, there is one natural inlet, a couple of harbours neither of which is accessible at low water or in strong offshore winds, and a few smaller harbours accessible only to shoal draught boats".

William Laing; August, 1999.