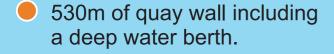




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# Master Of All He Surveys

# Dublin Port's Harbour Master, Captain David Dignam, explains the challenges of controlling traffic through a busy modern Port and the procedures in place to minimise risks.

With great power comes great responsibility, according to the 18th Century French philosopher, Voltaire. While the famous writer may have been referring to the French nobility of the time, his words ring just as true today, even in the busy surrounds of Dublin Port.

Shouldering the responsibility for the safe passage of thousands of vessels each year is a lot to take on. But for Dublin Port Harbour Master, Captain David Dignam, it's all just part of the job.

David Dignam began working in Dublin Port back in 1996 as a pilot, before becoming Assistant Harbour Master in 2001 and graduating to the big job in 2005.

"The Harbour Master's role is to ensure that the channel into the port is properly maintained, that the shipping traffic is controlled," he explains. The VTS (Vessel Traffic Services) similar to Air Traffic Control do the job of controlling the movement of shipping in the Bay and in the channel. Dublin Port Company's responsibility is to facilitate the movement of traffic and goods through the Port in a safe and efficient manner. The Dublin Port shipping channel is a major trade artery for the movement of those goods, handling 55% of all imports and exports into and from the island of Ireland.

That traffic includes ferries, which run every day, as well as LO-LO (load on, load off) container ships, RO-RO (roll on, roll off), Bulk Carriers, fuel tankers, cruise liners, leisure craft etc.

#### 16,000 Shipping Movements

"Every year we have approximately 16,000 shipping movement in and out of Dublin Port, which is a fairly substantial amount, especially when you consider the size of some of those ships," he explains.

"Our job is all about planning and scheduling. We consider amongst other things, the tide and channel depth limitations, weather conditions and the availability of berths. We liaise with the VTS Operators, Pilots, ships masters, agents, stevedores, shippers, receivers and the terminal operators. The movement of ships can be effected by any of the above players and this can result in numerous changes to arrival and/or departure times. For example, a ship that is due on a Monday may not arrive until days later. This may be due to adverse weather or to delays in other ports. So while we have an initial scheduling plan, it is constantly changing and evolving every day: we have to re-assess the situation and re-schedule ships as and when the need arises."

In international terms, Dublin is considered a feeder port, according to Assistant Harbour Master, Fergus Britton: "Any transatlantic or global cargo movements would go from a foreign hub port, like Singapore, to a European hub port, like Rotterdam or Antwerp and the cargo is then distributed by feeder ships to the smaller ports around Europe, like Dublin."

#### **An Essential Trade Hub**

Up to 75% of all goods imported into Ireland enter through Dublin Port, including all the aviation fuel for Dublin Airport. The Port is the main access route for goods from the UK, many of which are "Just-In-Time" deliveries, with all the logistic and economic pressure that brings.

"If you think of big stores, like Marks & Spencer, Tesco etc, food that arrives to Dublin in the morning is put on the shelves for sale that day. When you consider the ban on HGVs entering the city after 07:00 hours, there are a lot of commercial sensitivities, logistic and supply chain issues in trying to get goods into the city and to market on time," Dignam notes.

While acknowledging the commercial pressures involved, Dignam is equally aware that the movement of ships needs to be controlled. The Harbour Master's office corresponds regularly with all the shipping operators to ensure a slot-time for entry. "That gives ships a commercial certainty," Dignam explains. "In terms of maintaining the supply chain, they are able to give definitive delivery times to clients, which is hugely important, especially for JIT deliveries."

"If we didn't keep our channel open, the economy of the country would suffer," Dignam notes. "I know goods could move to Belfast or Cork, but it would make the transport costs for goods more expensive. So there is a huge onus on us to keep the channel open and a big part of that is management of shipping traffic through the port."

#### **Efficient Shipping Traffic Management**

Efficient shipping traffic management also includes ensuring, wherever possible, that ships are not put to anchor. "Ships are only making money when they're moving and at sea, so when a ship is sitting at anchor or sitting alongside the berth, it is not making money," Dignam explains.

Length of stay in the Port is another concern. "Whilst this is not in our hands, but is under the control of the terminal operators and stevedores, we are able to put pressure on ships to ensure that they don't dawdle," the Harbour Master warns. "If we need a berth free by a certain date, we can tell the ship operators to put on extra cranes or staff to get it loaded or unloaded quicker and get it out. We have complete control over the berths. For instance, if a big ship comes in on a Friday and the agent or ship owner decides they don't want to work overtime, we can tell that ship to go out to anchor, bring another ship in that might want to work overtime and thus expedite the movement of goods and ships through the port."

To improve traffic management through the Port, recent years have seen the introduction of a VTS (Vessel Traffic Services) system, which works similar to the way air traffic control operates. VTS are shore-side systems which range from the provision of simple information messages to ships, such as position of other traffic or hazard warnings, to extensive management and control of shipping within a port or waterway" Dignam recalls.

#### **Promoting Best Practice**

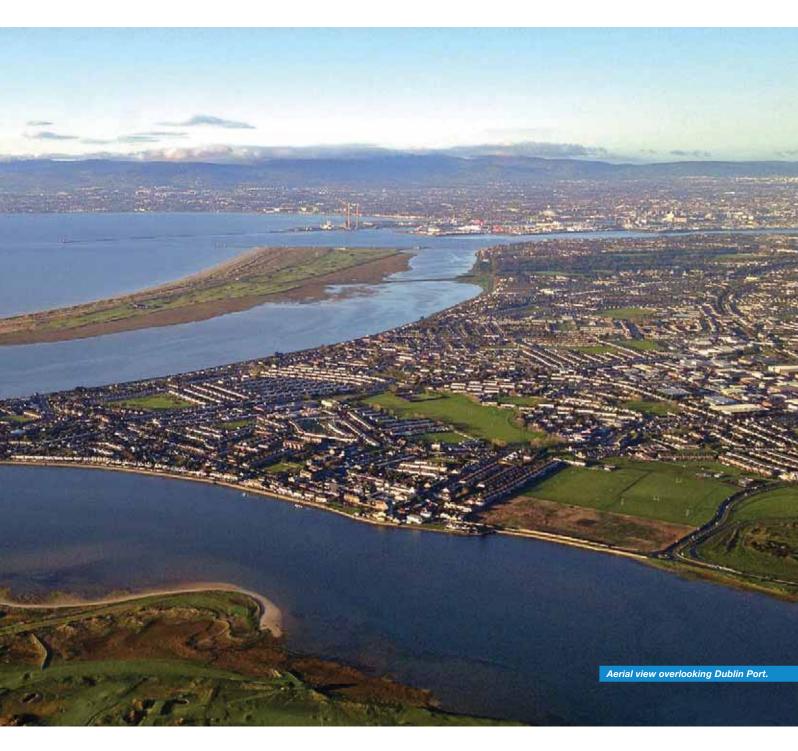
In order to prevent the occurrence of accidents, there is a whole set of Standard Operation Procedures and Risk Assessments in place, which promote best practice across the Port's services, from traffic management to piloting or towing vessels in the channel. "These are live documents and are constantly being updated," Dignam notes. "We also have

"Every Harbour Master was a master at sea, so we understand shipping; we understand ship manoeuvring; we understand what happens to ships in certain circumstances; we understand the loading and discharging of ships."



the best available equipment to deal with any scenario. We are working with big machines, so the dangers are also big, and we have to put procedures in place to ensure that those operations are carried out safely."

Indeed, the Harbour Master cites the increasing size of vessels as one of the biggest challenges his department faces on a daily basis. "Dublin Port is the same size as it was 40 or 50 years ago. Different berths have been developed over that time and in some cases, berths have been deepened, but we're still restricted by the design criteria of berths in those days, while ships are getting bigger and deeper," he says. "With towage, for example, we have



increased the power of our tugs to deal with bigger ships, but there are limiting conditions on what a ship can do in these confined spaces and what a tug can do to assist that ship within those confined spaces."

To that end, the Harbour Master is heavily involved in the development and delivery of the Dublin Port Masterplan, in terms of maximising the number and type of ships that will be able to enter the Port. "We will look at a worst case scenario, whereby the Port would be filled with the biggest ships that we think we're going to get, because we want to make sure it remains accessible at all times to all the ships we expect at any given time," Dignam notes.

When it comes to ship movements, the Harbour Master has the last word: "Every Harbour Master was a master at sea, so we understand shipping; we understand ship manoeuvring; we understand what happens to ships in certain circumstances; we understand the loading and discharging of ships."

The Assistant Harbour Master sums it up succinctly: "The Harbour Master's knowledge and experience of the operation of the port and its limits is vital. Our judgement is called into play during strong winds, storms etc. It is the Harbour Master who has to make these critical decisions."



## The Year in Review

### **Dublin Port Company's RiverFest – June 1-3**

The official launch of the Dublin Port Company's RiverFest took place on board the MV Cill Airne on Thursday, May 30, 2013.

RiverFest was Dublin Port Company's Summer Festival which celebrates the Liffey and took place on the North Wall campshire over the June Bank Holiday. Organised by





Dublin Port Company in association with the Docklands Business Forum, RiverFest had a jam-packed programme of entertainment and family fun.

In addition, the festival coincided with the 50th Anniversary of the Old Gaffers Association. The event culminated with a rare demonstration of skills demonstrated by the spectacular Howth 17's race on Saturday.

A huge array of activities were organised over the course of the weekend, including the arrival of six tall ships, as well as curragh and boat racing on the Liffey. However, without doubt one of the most impressive crowd pullers were the daily choreographed tug boat demonstrations to music.

Carnival attractions, face-painters, balloon modellers and top quality Irish food stalls complemented the on-water activity to and played an integral part of the festival, which attracted over 38,000 visitors.







#### The Gathering - Riverdance - July 21

Its official, 1629 Irish dancers broke a Guinness World Record on Sunday, July 21, when they danced to the iconic 'Riverdance' along the Dublin quays.

The dancers hailing from 44 countries, including our own Riverdance female lead, Jean Butler, danced the 'Longest Line' for a full five minutes between the Beckett and O'Casey bridges to beat the previous record of 652 in Nashville, Tennessee, from 2011.

The attempt was part of a weekend of 'Riverdance'-themed events organised by 'The Gathering' and Dublin Port Company were pleased to have been involved.



Dublin Port Company also hosted a spectacular water display on the liffey which showcased Thundercats (high powered speed boats), and a flotilla of yachts graced the River Liffey showcasing River Monsters, designed and created by children from the four local communities of East Wall, Pearse Street, Sheriff Street and Ringsend/ Irishtown.











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#### **Dublin Port Company Gets Social**

For the first time ever, Dublin Port Company have ventured into the arena of social media with huge success.

Working with award winning creative agency IDEA, Dublin Port Company launched an initial Facebook page at the end of June and within two months gained over 3,000 fans, with varying topics of interest, from ecology, leisure activities, cruise ships to mechanics and commerce within the Port. Interaction to date makes for a fascinating engagement between the Port and the public.

The social media engagement is continuing to gain even more momentum with the development of a twitter presence and a blogging site launched in October at **www.dublinportblog.com** 

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#### The Gathering FlightFest - September 15

Dublin Port Company was proud to be a sponsor of FlightFest, one of the largest National events of 'The Gathering Ireland 2013', with over 130,000 spectators lining the banks of the River Liffey from Dublin Port to the Customs House. FlightFest was a free family event with a great carnival atmosphere that showcased Irish and international aviation. Dublin Port Company employees, their family and friends enjoyed food and refreshments at a specially erected marquee and viewing area at Berth 18 in the Port.

Lord Mayor of Dublin, Oisín Quinn, "The spectacular sight of these aircraft over the River Liffey and the centre of Dublin will be remembered by all who viewed it for many years to come... the display will rank as one of the best Dublin has ever seen."

Large commercial aircraft from Ireland and abroad took part in the spectacular fly past, which included a fantastic variety of helicopters and historic aircraft, as well as modern stunt planes and even the latest British Airways Airbus A380.

Other participants included Aer Lingus, Aer Lingus Regional, Cityjet, Ryanair, British Airways, Etihad, Air Contractors, FlyBe, Transaero – and of course the Air Corps. Dublin Port Company was proud to be a sponsor of this event.













#### **One Millionth Passenger Arrives in Dublin Port**

On September 27, Dublin Port Company was thrilled to welcome the millionth cruise liner passenger to visit the city over the last 20 years. The passenger, Diane Taylor, disembarked from the 292m Carnival Legend luxury cruise liner, the 100th and final cruise liner to berth at Dublin Port this cruise season.

Diane was presented with a bouquet of flowers by Dublin Port Company chairperson Lucy McCaffery and was treated to a VIP personalised trip around Dublin City for her and her husband Doug in a chauffeur-driven limousine. She was also given €1,000 cash to spend on her visit to the capital.

A record number of cruise ships have arrived in Dublin Port this year, including 'The World' which arrived in August. This growth rate is far ahead of all predictions: indeed, it was predicted that we would not reach this number until 2025. So, we're 12 years ahead of schedule... not bad!





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### **Dublin Port Company host Prestigious IPA Conference**

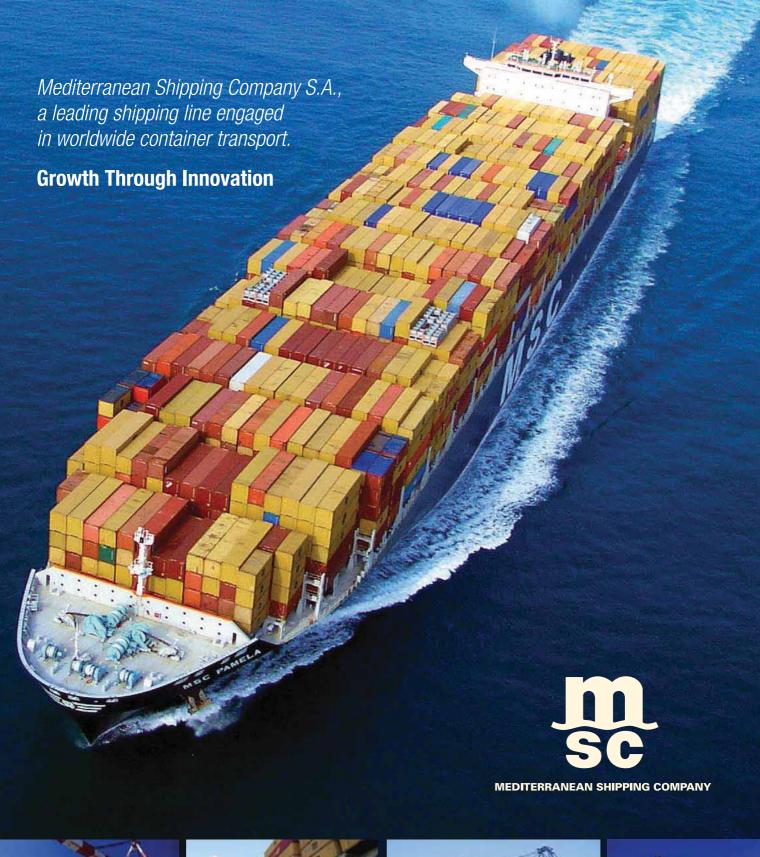
This year's Irish Ports Association (IPA) Conference was hosted by Dublin Port Company and sponsored by Liebherr. The conference focused on Ports Policy, Practice & Planning and took place in the Gibson Hotel on September 27.

The 2013 conference brought together an elite panel of speakers to look at recent policy developments in Ireland, as well as presenting examples from around the world as to how ports have adapted and responded to changing regulatory environments.





One of the key international speakers was Dimitrios Theologitis, Head of Unit "Ports and Inland Navigation", European Mobility Network Directorate, Directorate General for Mobility and Transport.











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# Bernadette Brazil, Environmental, Health and Safety Specialist, focuses on Dublin Port Company's huge strides forward in environmental performance, its superb safety management system and the

Dublin Port is situated in an environmentally sensitive location (both in terms of the natural and built environments). Dublin Port Company (DPC) aspires to be a leader among ports worldwide in its management of Safety and the Environment and in achieving a harmonious relationship with many stakeholders, including local residents, Dublin City Council and a variety of Government agencies and environmental NGO's. Bernadette Brazil was appointed as DPC's Environmental,

company's plans for 2014.

Health and Safety Specialist in March of 2013, a first for DPC. The previous role of Environmental Management was completed by the Maintenance & Services Manager: as the company has developed, so has the role of environmental management and for this reason the company decided a dedicated Environmental, Health and Safety (EHS) Position was required. In Bernadette's time to date, she has found the role to be both "challenging and interesting".

As the main point of contact for 142 staff when it comes to all things safety-related or any environmental issues, Bernadette's work schedule is ever-changing. So does she have anything approaching a typical day?

"Not at all," she says with a laugh. "I plan my days but then anything could arise.

"There is potential for major accidents / incidents which could threaten life and could cause considerable damage to local communities, the economy and the environment: therefore, developing programmes for addressing risk management control strategies and ensuring programs are implemented and maintained is of top priority for me.

"Ensuring appropriate mitigation measures are implemented for the protection of natural resources, including the protection of water resources, designated and non-designated sites, aquatic ecology and protection against flood risk is also high priority."

Bemadette is the first point of contact for all department managers and employees if they have any environmental or safety concerns. "We have an excellent software system, which enables employees to log on and report concerns; I get immediate notification of these. We also have six safety representatives who are very active, so I would regularly receive emails and phone calls from them, as issues come up: some issues, you just have to prioritise."

With an MSc (Masters of Science) in Environmental, Health and Safety Management, a BSc (Bachelor of Science) Honours Degree in Occupational Health and Safety, an IEMA (Institute of Environmental Management & Assessment) approved Lead Environmental Auditor and a CV that



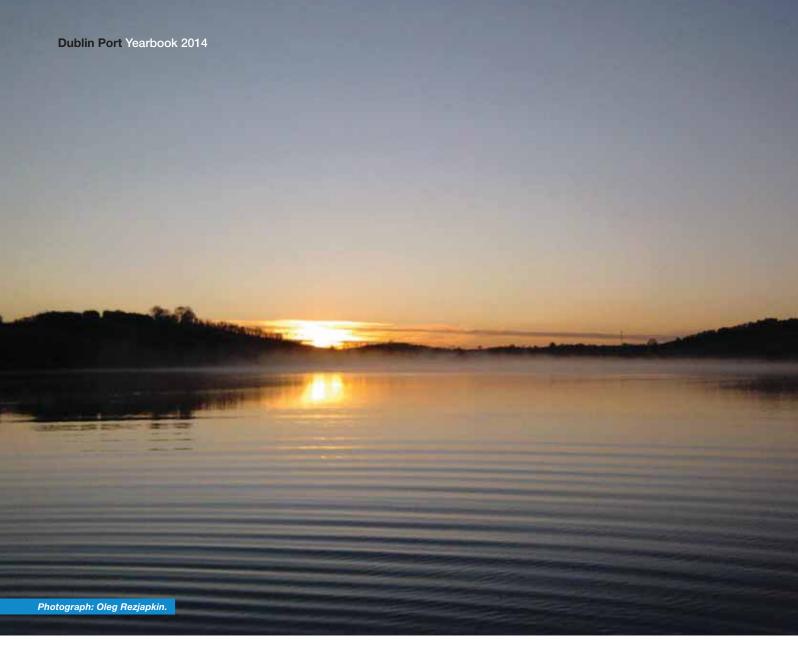
Dublin Port in the early morning. Photograph:: Helen Duffy



encompasses manufacturing, construction, pharmaceutical, utilities, telecommunications and civil, Bernadette brings a wealth of experience to the role.

"My experience is so varied, I think that works in my favour," she explains. "For example, my experience of the high levels of regulation in manufacturing and pharmaceutical industries has worked well for me when it comes to carrying out environmental audits on the tenants of Dublin Port Company and my utilities, civil and construction background is essential considering DPC's Master plan and its associated projects e.g. Alexandra Quay East phase III.

"We aim to get 10% of tenants and 25% of our main contractors audited on an annual basis," she says. "The aim of our tenant audits is to suggest improvements to their environmental practices, with our main focus on the reduction



of Dublin Port Estate's Carbon footprint. Our main contractor audits encompass Environmental, Health and Safety, with our top priority ensuring that all works are being completed as safe as possible. People management and relationship development is key to ensuring co-operation. After every audit, a report is compiled, outlining all findings and any corrective actions required."

As well as auditing its tenants, Bernadette carries out sixmonthly environmental audits on each function within Dublin Port Company (Estates & Facilities, Engineering - including Capital Projects and Maintenance & Services, Procurement, Harbour Operations, Land Operations, IT and Corporate Services), meeting the managers in each area to increase environmental awareness and ensure that best practice is being carried out.

Historically, working ports, of which DPC is a prime example, would not have been viewed as being environmentally friendly. However, over recent decades, Environmental, Health and Safety has now taken precedence, according to Bernadette. Waste management has improved year on year within DPC,

with the recycling rate increasing from 40% in 2009 to an impressive 96% this year.

Another area where Dublin Port Company has excelled is in reducing its water usage year-on-year. The introduction of a software system which detects any leaks in the water supply led to a reduction in the metered water level from 800,000 tonnes to less than 100,000 in 2012. Similar improvements have been noted in air quality and noise levels.

"While I'd love to take the credit for our achievements to date, most of the credit must go to our Environmental Team which was driven by Ciaran Callan, the Maintenance & Services Manager," admits Bernadette. "A huge amount of work and a lot of training went into achieving impressive figures, of which waste management is a good example, and I hope during my time here in DPC, I further improve our environmental management and awareness.

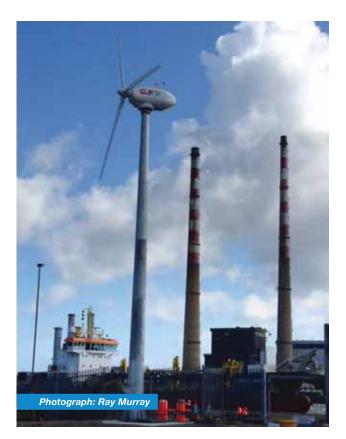
Environmental issues are just half of Bernadette's job, however, with the rest of her time taken up with ensuring that Dublin Port Company's safety record is second to none.

To that end, she oversees monthly Health & Safety committee meetings, with both the company's safety reps and function managers, where any concerns or issues are dealt with. DPC also run regular health and safety training courses, to ensure employees are all up to speed on everything from manual handling to first aid, along with more specialised areas such as traffic management, landscaping equipment etc.

"I want to provide quality training courses for our staff," she says. "I don't just want to provide training because it complies with legislation: there has to be a benefit for our employees. I don't want someone coming in showing guys who work on boats how to lift a box, because it's not practical. I want the appropriate type of training to be given to the appropriate people."

In her nine months in the job to date, Bernadette has "selected and reviewed" three different manual handling trainers until she found a trainer who tailored their course specifically to the requirements of DPC workers.

"Everyone wants to put their own stamp on their role within the company they work with," she says. "Over the next year, I'll be focusing on developing my knowledge of Marine and reviewing companywide RA's to determine if existing controls can be improved upon."





Some specific large scale construction projects, such as the upgrading of quay walls, bring their own unique safety concerns, and as already stated, Bernadette regularly audits the construction contractors involved. "At the tender process, we make sure the contractor is as competent as they possibly can be, and the contractors we employ have a safety record that's second to none," she says.

"We're very aware of the local community in the surrounding areas and the concerns or issues they might have about any development of the Port. For example, with AQE III, we looked at every aspect of the project and what effect it might have on the local community, ensuring that every possible mitigation measure was implemented."

Bernadette is currently examining Standard Operation Procedures (SOPs) across the entire company, in conjunction with the various port managers, to ascertain if there are any gaps in place and if so, to fill them. "I make sure that any accidents, incidents and near misses are fully investigated and that corrective actions are implemented to make sure they don't happen again," she notes.

DPC have also implemented a risk management group, which Bernadette is a member of, to review their emergency management procedure. "Because the port is such an important element of the country's infrastructure, we need to ensure that even in the case of emergency, critical goods can move in and out of the port and the port remains fully operational."

"When it comes to sustainability and the environment, you must ensure that you have buy-in from all stakeholders. Thankfully, the culture here at Dublin Port Company is to think about the Environment and Health and Safety first. All the staff are Environmentally aware and they're not afraid to pick up the phone if there's something they need to clarify. These days, the environment is part of everyone's job, just like Health & Safety."

Dublin Port Company is also a member of ESPO (European Sea Ports Organisation) and Bernadette travels to their annual environmental management congress to ensure she keeps up to date on developments in other ports around Europe and international best practice.

She also needs to keep up to date with legislation, which is constantly amended, to ensure that DPC is compliant. "If a new piece of EHS legislation comes into force, we examine it to ascertain its relevance to DPC. If and when a piece of legislation is applicable to DPC, we review our procedures to amend, if necessary: this is carried out every three months and is a strict management process, as we want to make sure we are always compliant with legislation."

It's clear that after nine months, Bernadette has already settled into her new role and relishes its challenges. She has plans in place to publish an environmental report, focusing on Dublin Port Company's improvements across the year, while she has also earmarked 2014 as the year DPC gets "recognition for our safety management system".

One thing is clear. With Bernadette Brazil at the helm, DPC will not rest on its laurels and will continue to make improvements in both health and safety and environmental management. "We want to promote a positive safety and environmental culture, and it's impossible to do that without everybody rowing in with you," she concludes. "We already have a great system here in DPC but, like every other company, there is always room for improvements."



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# Redeveloping Alexandra Basin

The Alexandra Basin
Redevelopment (ABR) is
Dublin Port Company's first major
project since the launch of its
Masterplan.

It's just over two years since Dublin Port Company launched its Masterplan consultation on the future development of Dublin Port. During that time, we spoke to a wide range of people and organisations, including community groups, residents and businesses with an interest in Dublin Port and its future. The end result was the publication of a Masterplan, or framework document, designed to guide the future development and operation of Dublin Port.

Thanks to everyone who took part in the various stages of our consultation; so many people took the time to meet with us, get in touch and contribute their views on the role of Dublin Port. This in turn helped us to identify a series of projects that could be undertaken at Dublin Port in the future, which will allow the Port to continue serving the national economy and the City of Dublin.

With the framework now in place, Dublin Port Company is preparing its first significant Masterplan project for development. The project will focus on the Alexandra Basin in Dublin Port, and involves reconfiguring some of the berthing facilities there for the ships which use the port daily, in addition to some new berthing facilities for the growing number of cruise liners which visit Ireland each year.

#### **Meeting Future Trading Needs**

As Ireland's largest and busiest port, Dublin Port already handles over €35 billion worth of trade annually and supports some 4,000 jobs locally. This means that even with modest growth in the economy, the port's current volumes will easily double by the year 2040.



To ensure that Dublin Port will be able to facilitate Ireland's future trading needs, the Port needs to be ready to handle larger trade volumes efficiently and competitively when economic recovery comes and also have deeper berths in place to cater for more modern ships. This means developing the projects identified under the Masterplan now and over time, so that the Port can continue to accommodate the freight and container ships carrying the goods we import and export daily, whether it's the microwave, breakfast cereals and shoes we buy, or the pharmaceuticals, beef and dairy products we send abroad.

#### **Maximising Existing Land**

Dublin Port Company made a commitment in the Masterplan to maximise the use of existing lands within the port, instead of developing through reclaiming new land. We are living up to that commitment. This project is essentially about how we can best re-design and maximise the use of our existing berthing facilities so that we can better accommodate the modern day vessels using Dublin Port now and in the future without any further encroachment into Dublin Bay.



### Fair Feathered Friends

Dublin Port Company recently began a three-year monitoring programme with BirdWatch Ireland, which will study the movements of waterbirds in Dublin Bay, writes Richard Nairn, Natura Environmental Consultants.





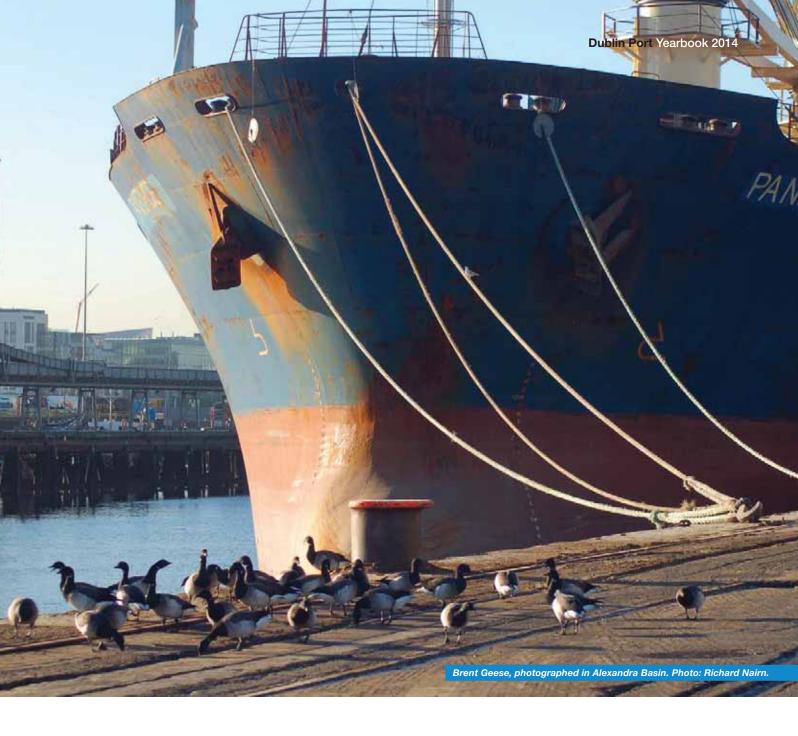
Dublin Port Company recognises that the port is part of the wider environment of Dublin Bay, from which most of its land was reclaimed over the centuries. We share that environment with the people of Dublin and also with tens of thousands of birds that migrate here from all over the world. We need to better understand how the port can interact with and protect this natural environment for the benefit of all.

With this in mind, Dublin Port Company is now supporting the conservation organisation, BirdWatch Ireland, to investigate how birds use Dublin Bay. The three-year monitoring programme, which began in 2013, will identify key feeding and roosting areas.

Studies of the movements of colour-ringed birds will help us better understand the ecological requirements of the birds using Dublin Bay and its neighbouring estuaries of Baldoyle Bay, Malahide Estuary and Rogerstown Estuary, which are all internationally recognised for their importance for waterbirds and are each designated as Special Protection Areas under the European Birds Directive.

#### 30,000 Waterbirds

Dublin Bay regularly supports in excess of 30,000 waterbirds from more than 30 species. The high concentrations and diversity of waterbirds in Dublin Bay make the site particularly important in its own right and it is among the top 10 most important sites for wintering waterbirds in Ireland. Probably the best known natural area in Dublin Bay is the North Bull Island, which was formed by the growth of sand



dunes following the creation of the Bull Wall in the early nineteenth century.

In winter, large flocks of waterbirds arrive in Dublin Bay from their Arctic nesting areas in countries like Iceland, Greenland, Canada, Norway and even from Siberia. The opportunities in Dublin Bay for feeding (mainly on shellfish, worms and seaweeds) are attractive to the birds, and there are secure roosting areas which the birds use at high tide.

Among the best places to see the large bird flocks are from the Clontarf Road seafront, from Strand Road in Sandymount or from the DART station at Booterstown.

In summer, mooring structures within Dublin Port support a large breeding colony of terns. These small delicate seabirds migrate from as far away as West Africa and return there in the autumn. In August and September, Sandymount Strand is the venue for a spectacular gathering of thousands of terns and

their newly fledged young, from many colonies all around the Irish Sea, before they depart from Ireland. At this time, when these terms are preparing to head south, they are joined by incoming migrants from the Arctic once again. The birds have adapted to cope with sometimes high levels of recreational disturbance as the people of Dublin enjoy the open spaces of Dublin's beaches.

During this project, BirdWatch Ireland will be undertaking a comprehensive programme of monthly waterbird counts and observations within Dublin Bay that will help us to better understand how waterbirds are using the bay, to define the most important areas used and to examine the ecological needs of the birds. These counts and observations began in late summer 2013 and will continue through to spring 2016. They will take place at varying tidal states and at different times of the day to help us build an accurate representation of the birds' distribution and abundance.



#### **Applying Colour-Rings To Individual Waders**

BirdWatch Ireland is also coordinating a programme of applying colour-rings to individual birds from a selection of wader species for which Dublin Bay is especially important, namely Oystercatcher, Redshank and Bartailed Godwit. The movements of these birds are poorly understood at present.

In February 2013, a group of 119 Oystercatchers were fitted with individually-coded colour rings which can be read from a distance using a telescope. We now know that some of these birds spent the entire summer in Dublin Bay. However, others will have returned to more northerly breeding places. The longest record so far is held by the bird with the code AJ, which was re-sighted and photographed in southern Norway on April 2 and again on August 3, 2013.

"Through dedicated fieldwork and the collation of colour-ring re-sightings by us, along with help from birdwatchers and the wider public, we will build a re-sightings database, which will allow complex ecological questions on the birds' usage of Dublin Bay to be answered," explains Dr Olivia Crowe, Head

of Conservation and Science with BirdWatch Ireland. This work will inform on measures that may reduce the impacts of disturbance, development and climate change, and facilitate decision-making regarding human activities around the wider Dublin Bay area.

#### **Exciting New Information**

Early results of the Dublin Bay Birds project are already producing exciting new information which will be of vital importance for conservation, as well as for the future development of Dublin Port.

Eamonn O'Reilly, Chief Executive of Dublin Port Company, welcomed the opportunity for the Port to work with BirdWatch Ireland: "We made a number of commitments in our Masterplan 2012 to 2040, including to maximise the use of our existing lands and, at the same time, to make a positive contribution to both the natural and built environment. Our co-operation with BirdWatch Ireland will help us to operate and develop the Port consistent with these commitments. The better we understand our environment, the better the decisions we will make in the future."

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# Port Facilities & Services

### Dublin Port Company (under the Harbours Act, 1996) vested on the 3rd March 1997.

#### **Limits of Dublin Port**

Under the 1996 Harbours Act the limits of Dublin Port consist of the waters of the River Liffey commencing from and including Rory O'Moore Bridge and extending to an imaginary straight line drawn from the Baily Lighthouse on the north in the County of Dublin and extending through the North Burford Buoy and thence through the South Burford Buoy and thence to Sorrento Point on the south including all bays, creeks, harbours and all tidal docks within such area.

#### **Anchorage**

For information on anchoring positions please refer to the admiralty chart No. 1415.

Anchorage is position 53°n 21, 6°w 12, sand over stiff marl. This anchorage is very exposed and a vessel should be prepared to leave at the first sign of a shift of Wind E.

#### Approach and berthage

The approach to the harbour of Dublin is well lighted and of easy access. There is a channel across the Bar which is 7.8m below LAT. Vessels drawing up to 10.2m can enter the port at high water of normal tides. Vessels drawing up to 7m can enter at any state of tide.

Vessels proceeding to the Dublin Bay Buoy, which is a Roundabout Buoy to be passed on the vessel's port side, should proceed through the Traffic Separation Scheme which was introduced during 1997. The scheme comprises of two elements, an inward lane and outward lane at North Burford and South Burford. For larger craft this is the only access to Dublin Port.

#### **Tides**

Mean H.W. Springs Dublin Bar 4.1m. Mean H.W. Neaps, 3.4m. Prevailing winds are S.W.

All depths refer to chart datum. This datum is referred to as C.D. and is 2.51m below Ordnance Datum Malin Head.

#### **Verification of depths**

Verification of depths in the port should be obtained from Port Operations, Eastern Breakwater Road, Dublin 1. Tel: (01) 887 6028/887 6033.

#### **Pilotage**

Dublin Port Company is the pilotage authority for the Dublin Pilotage District. The limits of the compulsory Pilotage District are the waters of the River Liffey below Butt Bridge and so much of the sea westward of the sixth meridian West longitude as lies between the parallels of latitude passing through the Baily Lighthouse on the North and through Sorrento Point on the South, including all bays, creeks and harbours and all tidal and enclosed docks within such area. The pilotage service is based in the Port Operations building situated on the Eastern Breakwater Road and is operated by direct boarding fast cutters each capable of speeds up to 20 knots. Dublin Port V.T.S. operates VHF channel 12.

To request a Pilot contact Dublin Port Company shipping desk at Tel: (01) 887 6028/887 6033.

#### **Towage**

Dublin Port Company operates two tugs with twin Voith propellers and are 50 tonne bollard pull. The tugs also have a fire fighting capacity.

To request towage contact Dublin Port Company shipping desk at Tel: (01) 887 6028/887 6033 or VHF channel 12.

#### **Graving dock**

Dublin Port has one operational graving dock situated to the west of Alexandra Quay. The dock is 202 metres long and can be divided to accommodate small or medium sized vessels.

For graving dock services contact Dublin Graving Docks Ltd. Alexandra Road Tel: (01) 887 9506.

#### **Stevedoring**

Eight private companies are licensed by Dublin Port Company to provide stevedoring services in the port.

| Dublin Ferryport Terminals | Dublin Stevedores     |
|----------------------------|-----------------------|
| Irish Ferries              | Marine Terminals Ltd. |
| P&O Ferries                | Portroe Stevedores    |
| Stena Line                 | Seatruck Ferries      |



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# Dublin Port: Throughput Figures

Table 1:

#### **Gross Tonnage by Cargo Mode '000**

| <b>Gross Tonnes</b> | 2014 est | 2013 est | 2012   | 2011   |
|---------------------|----------|----------|--------|--------|
| Ro-Ro               | 18,781   | 18,150   | 17,322 | 17,325 |
| Lo-Lo               | 5,297    | 5,200    | 5,348  | 5,431  |
| Bulk Liquid         | 3,627    | 3,550    | 3,444  | 3,620  |
| Bulk Solid          | 1,907    | 1,935    | 1,814  | 1,635  |
| Break Bulk          | 41       | 40       | 59     | 85     |
| Total               | 29,653   | 28,875   | 27,987 | 28,096 |
| Unitised            | 24,078   | 23,350   | 22,670 | 22,756 |
| Non-Unitised        | 5,575    | 5,525    | 5,317  | 5,340  |
| Total               | 29,653   | 28,875   | 27,987 | 28,096 |

Table 2:

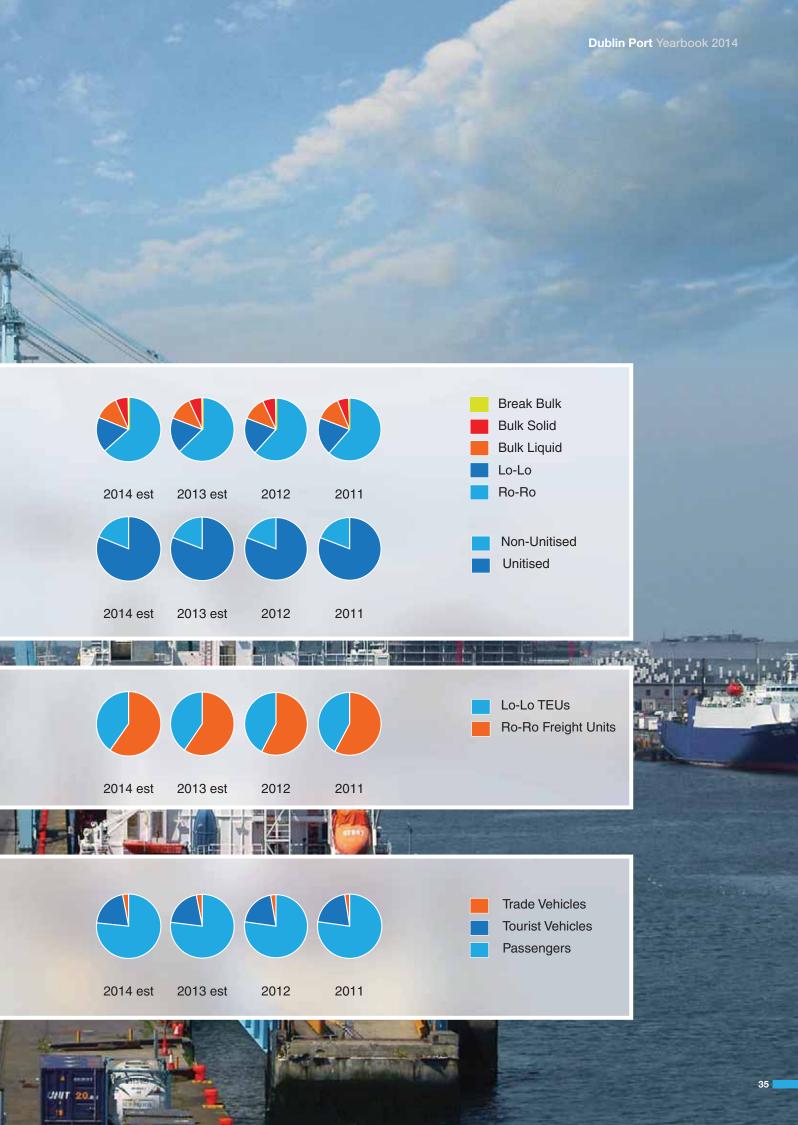
#### **Unitised Freight**

| Units               | 2014 est | 2013 est | 2012    | 2011    |
|---------------------|----------|----------|---------|---------|
| Ro-Ro Freight Units | 788,502  | 762,000  | 718,525 | 724,693 |
| Lo-Lo TEUs          | 527,120  | 517,440  | 527,984 | 525,741 |

Table 3:

#### **Tourism & Trade Vehicles**

| Units            | 2014 est  | 2013 est  | 2012      | 2011      |
|------------------|-----------|-----------|-----------|-----------|
| Passengers       | 1,662,000 | 1,628,500 | 1,603,432 | 1,667,455 |
| Tourist Vehicles | 439,000   | 427,000   | 414,022   | 436,149   |
| Trade Vehicles   | 61,000    | 59,250    | 52,779    | 48,813    |



## Ro Ro Terminals

| Terminal | Operator                   | Berth Details  | Facility Details  | Contact Details                         |
|----------|----------------------------|--|---|---|
| T1       | Irish Ferries              | Berth No.49<br>Length 213m<br>Depth at L.A.T. 11m<br>standard  | No. 5 ramp Two Tier Ramp Upper Deck Length of Shore Ramp 43m Width of Shore Ramp 10.8m Maximum Vehicle Load 40 tonnes Lower Deck Length of Shore Ramp 40m Width of Shore Ramp 20m Maximum Vehicle Load 180 tonnes         | +353 1 607 5700<br>www.irishferries.com |
| T1       | Irish Ferries              | Berth No. 51A<br>Length 190m<br>Depth at L.A.T. 8m<br>standard | No. 9 ramp Single Tier Ramp Length of Shore Ramp 45m Width of Ramp 20m Maximum Vehicle Load 180 tonnes  | +353 1 607 5700<br>www.irishferries.com |
| T1       | Isle of Man<br>Steampacket | Details as above   | Details as above  | 1800 805 055<br>www.steam-packet.com    |
| T2       | Co.<br>Stena Line          | Berth No. 51<br>Length 205m<br>Depth at L.A.T. 8m<br>standard  | Ramp No. 1 Two Tier Ramp  Upper Deck  Length of Shore Ramp 49m  Width of Shore Ramp 12m  Maximum Vehicle Load 40  tonnes  Lower Deck  Length of Shore Ramp 46m  Width of Shore Ramp 20m  Maximum Vehicle Load 180  tonnes | +353 1 204 7777<br>www.stenaline.com    |
| ТЗ       | P&O Ferries                | Berth No. 21<br>Length 238m<br>Depth at L.A.T. 7m<br>standard  | Ramp No. 6 Single Tier Ramp Length of Shore Ramp 41m Width of Shore Ramp 20m at ship end Maximum Vehicle Load 180 tonnes  | +353 1 876 2345<br>www.poferries.com    |





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## Ro Ro Terminals

| Terminal      | Operator            | Berth Details  | Facility Details  | Contact Details                            |
|---------------|---------------------|--|---|--|
| Т4            | Car Storage<br>Area | Berth No. 25<br>Length 290m<br>Depth at L.A.T. 7m<br>standard    | Ramp No. 4 Double Tier Ramp  Upper Deck Length of Shore Ramp 41.5m Width of Shore Ramp 10.5m Maximum Vehicle Load 40 tonnes Lower Deck Length of Shore Ramp 46m Width of Shore Ramp 20m Maximum Vehicle Load 180 tonnes | +353 1 887 6000<br>www.dublinport.ie       |
| Т5            | Seatruck Ferries    | Berth No. 52<br>Length 200m<br>Depth at L.A.T. 7m<br>standard    | Ramp No. 7 Single Tier Ramp Length of Shore Ramp 35m Width of Shore Ramp 20m at ship end Maximum Vehicle Load 180 tonnes  | +353 1 823 0492<br>www.seatruckferries.com |
| T5            | Seatruck Ferries    | Berth No. 53<br>Length 156m<br>Depth at L.A.T. 7m<br>standard    | Ramp No. 8 Single Tier Ramp Length of Shore Ramp 48m Width of Shore Ramp 20m at ship end Maximum Vehicle Load 100 tonnes  | +353 1 823 0492<br>www.seatruckferries.com |
| Ocean<br>Pier | CLdN (Cobelfret)    | Berth No. 36/37<br>Length 200m<br>Depth at L.A.T. 7m<br>standard | Ramp No. 2 Single Tier Ramp Length of Shore Ramp 60m floating Linkspan Width of Shore Ramp 31m Maximum Vehicle Load 200 tonnes  | +353 1 856 1608<br>www.cobelfret.com       |



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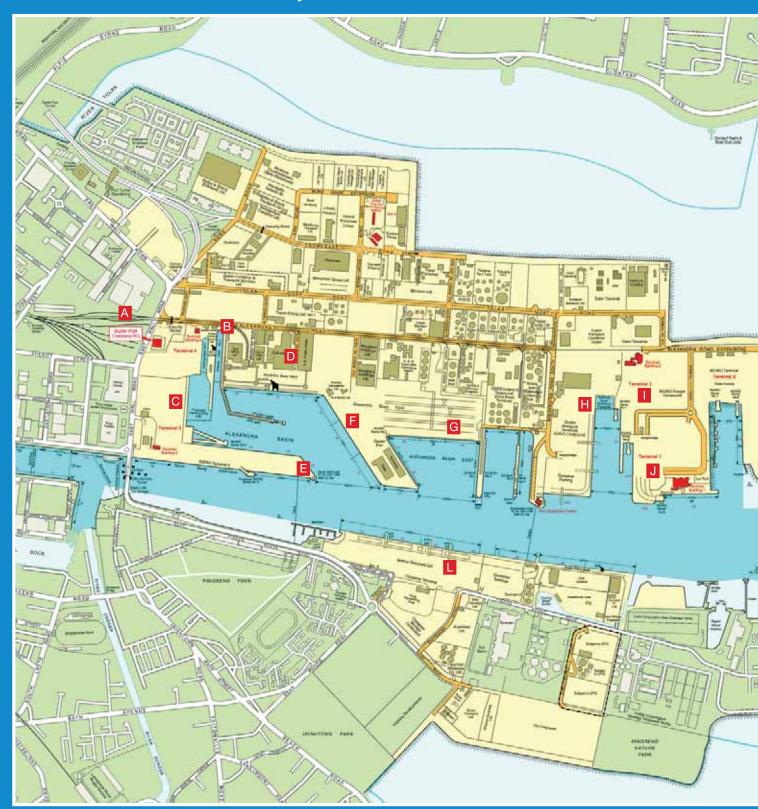
At Top Oil we have a tradition of serving the community stretching back over 200 years. We are proud of this tradition and providing our customers with quality fuels they can trust.

**Top Oil,** Promenade Road, Dublin 3. **Tel:** 01 8198000 www.top.ie



## Map of Dublin Port

Dublin Port is a 260 hectare area spanning both North and South banks of the River Liffey.



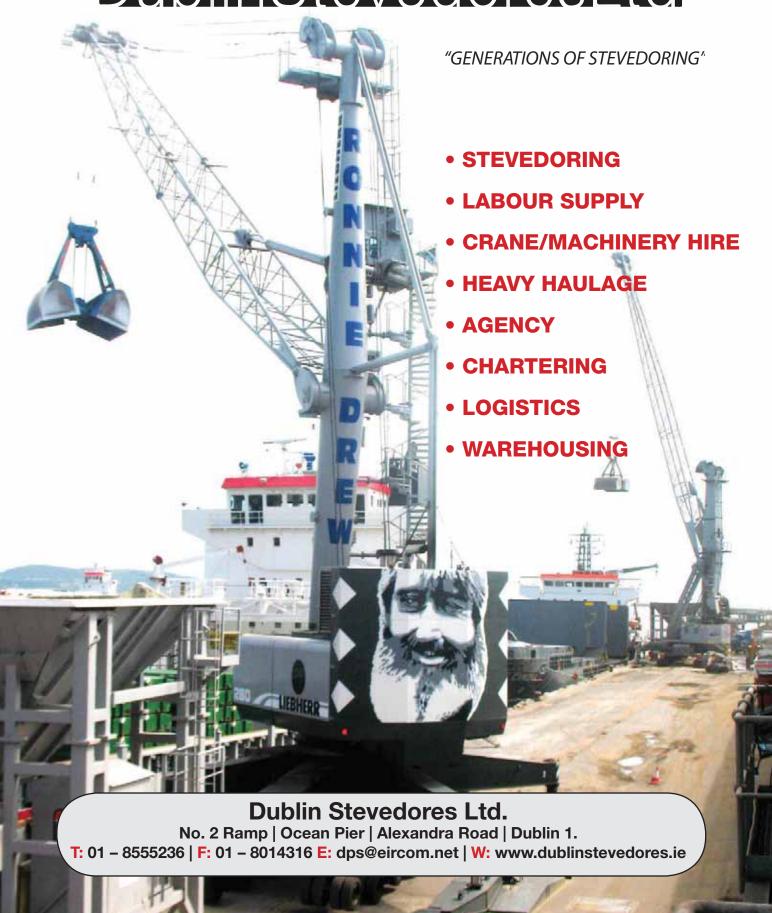
- A Dublin Port Company HQ
- B Graving Dock
- C Terminal 3: RoRo P&O
- D Dry Bulk Area
- E North Wall Lighthouse
- F Ocean Pier West: Cruise Ships
- G Alexandra Quay West: LoLo

- H DFT
- Terminal 2: RoRo Stena Line
- J Terminal 1: RoRo Irish Ferries
- K Terminal 5: RoRo Seatruck
- LoLo Marine Terminals
- M ESB Chimneys
- N North Bank Lighthouse

- O Great South Wall
- P Poolbeg Lighthouse
- Q North Bull Lighthouse
- R North Bull Wall
- S Bull Island







## Lo Lo Terminals

| Terminal                         | Operator              | Berth Details  | Facility Details   | Contact Details                          |
|----------------------------------|-----------------------|--|--|--|
| Dublin<br>Ferryport<br>Terminals | DFT                   | Berth No's 50 & 50A Total Berth Lengths 580m Depth at L.A.T. 9.00-11.00m standard                | Cranes 3 x 40 tonnes gantry 1x 45 tonnes gantry Reachstacker 1 x 45 tonnes Second-handling equipment 8 x 40 RTG cranes 1 x 12 FLT 4 x 18 tonne empty handlers Reefer Points 250 Area 15.2 hectares                             | +353 1 607 5700<br>info@dft.ie           |
| Marine<br>Terminals<br>Ltd       | MTL                   | Berth No's 41,42,43,44,45<br>Total Berth Lengths 700m<br>Depth at L.A.T. 8.50-11.00m<br>standard | Cranes 3 x 45 tonne Ship to Shore Gantry Second-handling equipment 4 x 40 tonne RMG Reefer Points 300  | +353 1 667 7765<br>www.peelports.co.uk   |
| Ocean<br>Pier                    | Portroe<br>Stevedores | Berth No.'s 32,33,38,39,40<br>Total Berth Length 900m<br>Depth at L.A.T. 10m                     | Cranes 2 x 400 mobile (104 tonnes SWL) 3 x 250 mobile (65 tonnes SWL) 6 x 250 tonnes RTG's Second-handling equipment 3 Kalmar reachstackers 20 tugmasters 11 Novatech Flexmasters Reefer points 300 Warehousing 300,000sq feet | +353 1 836 5736<br>www.burkeshipping.com |

## **Bulk**

| Terminal                        | Operator              | Berth Details                   | Facility Details  | <b>Contact Details</b>                     |
|---------------------------------|-----------------------|---------------------------------|---|--|
| Ocean Pier Dry Bulk/ Break Bulk | Portroe<br>Stevedores | Berth No's<br>29,30,31,32,33,34 | Cranes 2 x 400 mobile (104 tonnes SWL) 3 x 250 mobile (65 tonnes SWL) 1 x 20 tonnes electric portal grabbing crane  | +353 1 836 5736<br>www.burkeshipping.com   |
| South<br>Bank<br>Quay           | Dublin<br>Stevedores  | Berth 46 & 47                   | Cranes<br>2 x 250 mobile  | +353 1 855 5236<br>www.dublinstevedores.ie |
| Liquid<br>Bulk                  | Common User           | Berths 4 oil jetties            | 41 Hectare oil zone storage capacity 330,000 tonnes facilities for handling oil products, bitumen, chemicals and liquid petroleum gases linked to a common user pipe line system. | +353 1 887 6000<br>www.dublinport.ie       |

## Cruise

| Terminal | Operator | Berth Details           | Facility Details | Contact Details   |
|----------|----------|-------------------------|------------------|-------------------|
| Cruise   | Various  | Berths 18, 33, 36/37,   |                  | +353 1 887 6000   |
| Tourism  |          | 35, 39,40               |                  | www.dublinport.ie |
|          |          | Smaller vessels can     |                  |                   |
|          |          | berth up river close to |                  |                   |
|          |          | the city                |                  |                   |



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## Ro Ro Schedule

#### **Irish Ferries**

| Ferry  | Port     | Sailings<br>Per Day | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|--|----------|---------------------|----------------------|---------------------------|------------|
| Cruise Ferry (Passengers & Freight) Tel: +353 1 607 5700 | Holyhead | 2                   | 05.55<br>17.25       | 08.05<br>20.55            | Terminal 1 |
| Fast Ferry (Passengers) Tel: +353 818 300 400            | Holyhead | 2                   | 13.40<br>19.15       | 14.30<br>08.45*           | Terminal 1 |

#### **Stena Line**

| Ferry                               | Port     | Sailings<br>Per Day | Arrival Times<br>Dublin | Departure<br>Times Dublin | Terminal   |
|-------------------------------------|----------|---------------------|-------------------------|---------------------------|------------|
| Cruise Ferry (Passengers & Freight) | Holyhead | 4                   | 23.45                   | 02.15                     | Terminal 2 |
| Tel: +353 1 204 7777                |          |                     | 05.45                   | 08.20                     |            |
|                                     |          |                     | 12.10                   | 15.10                     |            |
|                                     |          |                     | 17.05                   | 21.15                     |            |

#### **P&O Ferries**

| Ferry                        | Port      | Sailings<br>Per Day | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|------------------------------|-----------|---------------------|----------------------|---------------------------|------------|
| Cruise Ferry (Freight)       | Liverpool | 3                   | 05.15                | 09.15                     | Terminal 3 |
| <b>Tel:</b> + 353 1 876 2345 |           |                     | 10.30                | 15.00                     |            |
| (Passengers)                 |           |                     | 17.30                | 21.30                     |            |
| <b>Tel:</b> +353 1 407 3434  |           |                     |                      |                           |            |

#### \* Next Day Sailing

Terminals 1 & 2 Ferryport, Alexandra Road, Dublin 1

Terminal 3 North Wall Extension, East Wall Road, Dublin 1

Terminal 4 Alexandra Road, Dublin 1

Terminal 5 Alexandra Road Extension, Dublin 1

Ocean Pier Branch Road North, Alexandra Road, Dublin 1

The above schedules are subject to change and should be checked with the ferry company at the time of booking.

## Ro Ro Schedule

### **Isle Of Man Steam Packet Company**

| Ferry                    |         | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|--------------------------|---------|----------------------|---------------------------|------------|
| Fast Ferry               | Douglas | Seasonal             | Seasonal                  | Terminal 1 |
| <b>Tel:</b> 1800 805 055 |         |                      |                           |            |

#### **Seatruck Ferries**

| Ferry                       |           |   | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|-----------------------------|-----------|---|----------------------|---------------------------|------------|
| Cruise Ferry (Freight)      | Liverpool | 2 | 05.00                | 09.00                     | Terminal 5 |
| <b>Tel:</b> +353 1 823 0492 |           |   | 17.00                | 21.00                     |            |
|                             | Heysham   | 1 | 11.00                | 14:30                     | Terminal 5 |

#### **CLDN** (Compagnie Luxembourgeoise De Navigation)

| Ferry       | Port      | Sailings<br>Per Day | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|-------------|-----------|---------------------|----------------------|---------------------------|------------|
| ConRo Ferry | Zeebrugge | 1 Thursday          | 12.00                | 18.00                     | Ocean Pier |
|             | Zeebrugge | 1 Sunday            | 18.00                | 23.59                     | Ocean Pier |
|             | Rotterdam | 1 Thursday          | 18.00                | 23.59                     | Ocean Pier |
|             | Rotterdam | 1 Sunday            | 11.00                | 17.30                     | Ocean Pier |

#### \* Next Day Sailing

Terminals 1 & 2 Ferryport, Alexandra Road, Dublin 1

Terminal 3 North Wall Extension, East Wall Road, Dublin 1

Terminal 4 Alexandra Road, Dublin 1

Terminal 5 Alexandra Road Extension, Dublin 1

Ocean Pier Branch Road North, Alexandra Road, Dublin 1

The above schedules are subject to change and should be checked with the ferry company at the time of booking.



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## Lo Lo Schedule

## **European**

| Country     | Port                        | Frequency   | Agent  | Line  | Contact Details   |
|-------------|-----------------------------|---|--|---|---|
| Belgium     | Antwerp                     | 2 sailings weekly<br>2 sailings weekly  |  | BG Freight Line Eucon   | +353 1 803 8700<br>+353 1 607 5700  |
| Cyprus      | Limassol                    | 1 sailing weekly  | Jenkinson Agencies   | Borchard Lines  | +353 1 816 3500   |
| France      | Le Havre                    | <ul><li>1 sailing weekly</li><li>1 sailing weekly</li><li>1 sailing weekly</li></ul>                  | CMA-CGM (Ireland) Ltd  | CMA-CGM<br>MSC<br>Eucon                                       | +353 1 887 7423<br>+353 1 294 8704<br>+353 1 607 5700                                       |
| Greece      | Piraeus                     | 1 sailing weekly  | Jenkinson Agencies   | Borchard Lines  | +353 1 816 3500   |
| Italy       | Salerno                     | 1 sailing weekly  | Jenkinson Agencies   | Borchard Lines  | +353 1 816 3500   |
| Netherlands | Rotterdam                   | 2 sailings weekly<br>2 sailings weekly<br>2 sailings weekly<br>4 sailings weekly<br>2 sailings weekly | Burke Shipping Group  Burke Shipping Group                                       | Eucon<br>X-Press CL<br>Samskip/DFDS<br>BG Freight Line<br>APL | +353 1 607 5700<br>+353 1 819 2600<br>+353 1 631 0900<br>+353 1 803 8700<br>+353 1 819 2600 |
| Portugal    | Leixoes                     | <ul><li>1 sailing weekly</li><li>1 sailing weekly</li><li>1 sailing weekly</li></ul>                  | MacAndrews<br>(Ireland) Ltd<br>Jenkinson Agencies<br>MacAndrews<br>(Ireland) Ltd | MacAndrews & Co. Ltd  Borchard Lines  MacAndrews & Co. Ltd    | +353 1 855 2644<br>+353 1 816 3500<br>+353 1 855 2644                                       |
| Spain       | Bilbao<br>Castellon         | <ul><li>1 sailing weekly</li><li>1 sailing weekly</li></ul>   | MacAndrews<br>(Ireland) Ltd<br>Jenkinson Agencies                                | MacAndrews & Co. Ltd Borchard Lines                           | +353 1 855 2644<br>+353 1 816 3500  |
| Turkey      | Mersin<br>Izmir<br>Istanbul | <ul><li>1 sailing weekly</li><li>1 sailing weekly</li><li>1 sailing weekly</li></ul>                  | Jenkinson Agencies<br>Jenkinson Agencies<br>Jenkinson Agencies                   | Borchard Lines<br>Borchard Lines<br>Borchard Lines            | +353 1 816 3500<br>+353 1 816 3500<br>+353 1 816 3500                                       |

### Irish Sea

| Country | Port        | Frequency   | Agent  | Line  | Contact Details                    |
|---------|-------------|---|--|---|------------------------------------|
| UK      | Cardiff     | 1 sailing monthly   | Connect Logistics                            | Cardiff Container Lines                         | +353 1 895 1015                    |
| UK      | Liverpool   | 3 sailings weekly<br>2 sailings weekly                      |  | Coastal Container Line<br>Mac Andrews & Co. Ltd | +353 1 855 2644                    |
| UK      | Southampton | <ul><li>1 sailing weekly</li><li>1 sailing weekly</li></ul> | Burke Shipping Group<br>Burke Shipping Group | X-Press CL<br>APL                               | +353 1 819 2600<br>+353 1 819 2600 |

## Non-European

| Country | Port       | Frequency        | Agent              | Line          | <b>Contact Details</b> |
|---------|------------|------------------|--------------------|---------------|------------------------|
| Egypt   | Alexandria | 1 sailing weekly | Jenkinson Agencies | Borchard Line | +353 1 816 3500        |
| Israel  | Haifa      | 1 sailing weekly | Jenkinson Agencies | Borchard Line | +353 1 816 3500        |
|         | Ashdod     | 1 sailing weekly | Jenkinson Agencies | Borchard Line | +353 1 816 3500        |

## Passenger Schedule

#### **Irish Ferries**

| Ferry  | Port      | Sailings<br>Per Day     | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|--|-----------|-------------------------|----------------------|---------------------------|------------|
| Cruise Ferry (Passengers & Freight) Tel: +353 1 607 5700 | Holyhead  | 2                       | 05.55<br>17.25       | 08.05<br>20.55            | Terminal 1 |
| Fast Ferry (Passengers) Tel: +353 818 300 400            | Holyhead  | 2                       | 13.40<br>19.15       | 14.30<br>08.45*           | Terminal 1 |
| The Epsilon (Passengers) Tel: +353 818 300 400           | Holyhead  | 2 (Monday<br>to Friday) | 11:20<br>23:15       | 14:15<br>01:55            | Terminal 1 |
| The Epsilon (Passengers) Tel: +353 818 300 400           | Cherbourg | 1 (Saturday to Monday)  | 11:00                | 15:30                     | Terminal 1 |

#### **Stena Line**

| Ferry                               | Port     |   | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|-------------------------------------|----------|---|----------------------|---------------------------|------------|
| Cruise Ferry (Passengers & Freight) | Holyhead | 4 | 00.45                | 02.15                     | Terminal 2 |
| <b>Tel:</b> +353 1 204 7777         |          |   | 05.45                | 08.20                     |            |
|                                     |          |   | 12.10                | 15:10                     |            |
|                                     |          |   | 17.05                | 21.15                     |            |

#### **P&O Ferries**

| Ferry                               |           |   | Arrival Times Dublin | Departure<br>Times Dublin | Terminal   |
|-------------------------------------|-----------|---|----------------------|---------------------------|------------|
| Cruise Ferry (Passengers & Freight) | Liverpool | 3 | 05.15                | 09.15                     | Terminal 3 |
| <b>Tel:</b> +353 1 407 3434         |           |   | 10.30                | 15.00                     |            |
|                                     |           |   | 17.30                | 21.30                     |            |

## **Isle Of Man Steam Packet Company**

| Ferry                    |         | _ |          | Departure<br>Times Dublin | Terminal   |
|--------------------------|---------|---|----------|---------------------------|------------|
| Fast Ferry               | Douglas |   | Seasonal | Seasonal                  | Terminal 1 |
| <b>Tel:</b> 1800 805 055 |         |   |          |                           |            |

#### \* Next Day Sailing

Terminals 1 & 2 Ferryport, Alexandra Road, Dublin 1

Terminal 3 North Wall Extension, East Wall Road, Dublin 1

Terminal 4 Alexandra Road, Dublin 1

Terminal 5 Alexandra Road Extension, Dublin 1

Ocean Pier Branch Road North, Alexandra Road, Dublin 1





## **Dublin (North Wall)**

|   |      |    |       |        |       |      |         |       | JANUA     | RY 201 |
|---|------|----|-------|--------|-------|------|---------|-------|-----------|--------|
|   |      |    |       | High \ | Water |      |         | Low \ | Water     |        |
|   | Date | 9  | Mor   | ning   | After | noon | Morning |       | Afternoon |        |
|   |      |    | Time  | m      | Time  | m    | Time    | m     | Time      | m      |
| • | 1    | W  | 11:00 | 4.32   | 23:31 | 4.20 | 04:22   | 0.59  | 16:48     | 0.45   |
| _ | 2    | Th | 11:46 | 4.44   |       |      | 05:07   | 0.49  | 17:35     | 0.31   |
|   | 3    | F  | 00:19 | 4.23   | 12:33 | 4.48 | 05:52   | 0.47  | 18:23     | 0.26   |
|   | 4    | Sa | 01:08 | 4.19   | 13:21 | 4.45 | 06:39   | 0.54  | 19:12     | 0.31   |
|   | 5    | Su | 01:59 | 4.09   | 14:12 | 4.37 | 07:28   | 0.67  | 20:05     | 0.45   |
|   | 6    | M  | 02:54 | 3.96   | 15:07 | 4.23 | 08:22   | 0.84  | 21:00     | 0.64   |
|   | 7    | Tu | 03:51 | 3.82   | 16:05 | 4.06 | 09:20   | 1.04  | 21:57     | 0.86   |
| D | 8    | W  | 04:54 | 3.69   | 17:08 | 3.87 | 10:21   | 1.22  | 22:58     | 1.09   |
|   | 9    | Th | 05:59 | 3.60   | 18:15 | 3.71 | 11:26   | 1.38  |           |        |
|   | 10   | F  | 07:05 | 3.57   | 19:24 | 3.61 | 00:06   | 1.28  | 12:37     | 1.46   |
|   | 11   | Sa | 08:09 | 3.62   | 20:30 | 3.58 | 01:20   | 1.38  | 13:51     | 1.43   |
|   | 12   | Su | 09:09 | 3.71   | 21:30 | 3.60 | 02:28   | 1.37  | 14:56     | 1.32   |
|   | 13   | M  | 10:00 | 3.82   | 22:21 | 3.64 | 03:23   | 1.29  | 15:47     | 1.18   |
|   | 14   | Tu | 10:43 | 3.91   | 23:00 | 3.68 | 04:06   | 1.19  | 16:29     | 1.05   |
|   | 15   | W  | 11:18 | 3.97   | 23:33 | 3.71 | 04:42   | 1.10  | 17:06     | 0.94   |
| 0 | 16   | Th | 11:49 | 4.00   |       |      | 05:15   | 1.02  | 17:39     | 0.87   |
|   | 17   | F  | 00:03 | 3.73   | 12:18 | 4.01 | 05:45   | 0.97  | 18:11     | 0.83   |
|   | 18   | Sa | 00:33 | 3.75   | 12:48 | 4.00 | 06:12   | 0.95  | 18:40     | 0.82   |
|   | 19   | Su | 01:04 | 3.77   | 13:22 | 3.98 | 06:39   | 0.94  | 19:09     | 0.81   |
|   | 20   | M  | 01:39 | 3.77   | 13:59 | 3.95 | 07:11   | 0.96  | 19:43     | 0.82   |
|   | 21   | Tu | 02:19 | 3.74   | 14:39 | 3.88 | 07:48   | 1.00  | 20:22     | 0.87   |
|   | 22   | W  | 03:02 | 3.69   | 15:24 | 3.79 | 08:30   | 1.09  | 21:06     | 0.95   |
|   | 23   | Th | 03:49 | 3.60   | 16:11 | 3.68 | 09:18   | 1.20  | 21:56     | 1.07   |
| ( | 24   | F  | 04:42 | 3.50   | 17:05 | 3.56 | 10:13   | 1.32  | 22:54     | 1.20   |
|   | 25   | Sa | 05:42 | 3.44   | 18:09 | 3.48 | 11:20   | 1.41  |           |        |
|   | 26   | Su | 06:53 | 3.46   | 19:25 | 3.49 | 00:05   | 1.28  | 12:39     | 1.39   |
|   | 27   | M  | 08:03 | 3.60   | 20:37 | 3.63 | 01:19   | 1.24  | 13:52     | 1.22   |
|   | 28   | Tu | 09:05 | 3.82   | 21:38 | 3.82 | 02:26   | 1.07  | 14:55     | 0.94   |
|   | 29   | W  | 09:58 | 4.06   | 22:31 | 4.00 | 03:22   | 0.84  | 15:50     | 0.63   |
|   | 30   | Th | 10:47 | 4.27   | 23:20 | 4.13 | 04:11   | 0.61  | 16:38     | 0.36   |
|   | 31   | F  | 11:33 | 4.41   |       |      | 04:56   | 0.44  | 17:24     | 0.18   |

|   |      |    |       |        |           |      |         |       | FEBRUA    | KY 201 |
|---|------|----|-------|--------|-----------|------|---------|-------|-----------|--------|
|   |      |    |       | High ' | Water     |      |         | Low \ | Water     |        |
|   | Date | 2  | Mor   | ning   | Afternoon |      | Morning |       | Afternoon |        |
|   |      |    | Time  | m      | Time      | m    | Time    | m     | Time      | m      |
|   | 1    | Sa | 00:06 | 4.19   | 12:18     | 4.47 | 05:39   | 0.36  | 18:09     | 0.12   |
|   | 2    | Su | 00:51 | 4.17   | 13:03     | 4.45 | 06:22   | 0.37  | 18:54     | 0.18   |
|   | 3    | M  | 01:36 | 4.08   | 13:51     | 4.35 | 07:08   | 0.46  | 19:41     | 0.34   |
|   | 4    | Tu | 02:24 | 3.96   | 14:40     | 4.19 | 07:57   | 0.63  | 20:30     | 0.56   |
|   | 5    | W  | 03:14 | 3.80   | 15:33     | 3.98 | 08:49   | 0.83  | 21:22     | 0.83   |
| D | 6    | Th | 04:09 | 3.64   | 16:31     | 3.75 | 09:46   | 1.05  | 22:17     | 1.11   |
|   | 7    | F  | 05:12 | 3.50   | 17:38     | 3.53 | 10:48   | 1.26  | 23:18     | 1.37   |
|   | 8    | Sa | 06:21 | 3.42   | 18:48     | 3.39 | 11:56   | 1.42  |           |        |
|   | 9    | Su | 07:28 | 3.42   | 19:58     | 3.34 | 00:32   | 1.54  | 13:18     | 1.46   |
|   | 10   | M  | 08:34 | 3.51   | 21:05     | 3.39 | 02:00   | 1.55  | 14:34     | 1.35   |
|   | 11   | Tu | 09:32 | 3.65   | 21:59     | 3.48 | 03:03   | 1.42  | 15:28     | 1.18   |
|   | 12   | W  | 10:18 | 3.78   | 22:39     | 3.57 | 03:48   | 1.26  | 16:09     | 1.02   |
|   | 13   | Th | 10:55 | 3.87   | 23:12     | 3.64 | 04:23   | 1.10  | 16:44     | 0.89   |
| 0 | 14   | F  | 11:27 | 3.92   | 23:41     | 3.70 | 04:54   | 0.97  | 17:15     | 0.79   |
|   | 15   | Sa | 11:56 | 3.95   |           |      | 05:22   | 0.87  | 17:43     | 0.72   |
|   | 16   | Su | 00:07 | 3.76   | 12:23     | 3.96 | 05:46   | 0.80  | 18:09     | 0.67   |
|   | 17   | M  | 00:36 | 3.81   | 12:54     | 3.97 | 06:11   | 0.74  | 18:37     | 0.64   |
|   | 18   | Tu | 01:09 | 3.84   | 13:30     | 3.96 | 06:42   | 0.72  | 19:11     | 0.63   |
|   | 19   | W  | 01:48 | 3.84   | 14:11     | 3.92 | 07:19   | 0.73  | 19:50     | 0.68   |
|   | 20   | Th | 02:30 | 3.80   | 14:54     | 3.84 | 08:01   | 0.80  | 20:33     | 0.78   |
|   | 21   | F  | 03:15 | 3.71   | 15:42     | 3.72 | 08:48   | 0.92  | 21:23     | 0.94   |
| C | 22   | Sa | 04:06 | 3.58   | 16:36     | 3.56 | 09:42   | 1.08  | 22:20     | 1.13   |
|   | 23   | Su | 05:05 | 3.46   | 17:42     | 3.43 | 10:49   | 1.23  | 23:32     | 1.29   |
|   | 24   | M  | 06:18 | 3.41   | 19:03     | 3.40 |         |       | 12:12     | 1.27   |
|   | 25   | Tu | 07:37 | 3.51   | 20:21     | 3.52 | 00:54   | 1.29  | 13:35     | 1.13   |
|   | 26   | W  | 08:45 | 3.72   | 21:27     | 3.72 | 02:09   | 1.13  | 14:43     | 0.85   |
|   | 27   | Th | 09:43 | 3.96   | 22:21     | 3.91 | 03:10   | 0.87  | 15:39     | 0.54   |
|   | 28   | F  | 10:33 | 4.18   | 23:08     | 4.05 | 04:00   | 0.60  | 16:27     | 0.28   |

| M | Δ | R | CH | 12 | <b>0</b> 1 | 4 |
|---|---|---|----|----|------------|---|

|   |      |    | High Water Low Water |      |       |      |       |      |       |      |
|---|------|----|----------------------|------|-------|------|-------|------|-------|------|
|   | Date | е  | Mor                  | ning | After | noon | Mor   | ning | After | noon |
|   |      |    | Time                 | m    | Time  | m    | Time  | m    | Time  | m    |
| • | 1    | Sa | 11:19                | 4.32 | 23:50 | 4.11 | 04:43 | 0.40 | 17:10 | 0.12 |
|   | 2    | Su |                      |      | 12:02 | 4.37 | 05:24 | 0.28 | 17:51 | 0.09 |
|   | 3    | M  | 00:30                | 4.10 | 12:44 | 4.34 | 06:05 | 0.26 | 18:33 | 0.16 |
|   | 4    | Tu | 01:10                | 4.03 | 13:27 | 4.23 | 06:48 | 0.33 | 19:15 | 0.33 |
|   | 5    | W  | 01:51                | 3.93 | 14:13 | 4.07 | 07:33 | 0.47 | 20:00 | 0.56 |
|   | 6    | Th | 02:36                | 3.79 | 15:02 | 3.87 | 08:22 | 0.66 | 20:48 | 0.83 |
|   | 7    | F  | 03:25                | 3.63 | 15:56 | 3.63 | 09:15 | 0.89 | 21:39 | 1.12 |
| D | 8    | Sa | 04:23                | 3.46 | 17:00 | 3.39 | 10:14 | 1.12 | 22:36 | 1.39 |
|   | 9    | Su | 05:33                | 3.33 | 18:12 | 3.22 | 11:18 | 1.31 | 23:43 | 1.59 |
|   | 10   | M  | 06:46                | 3.28 | 19:24 | 3.18 |       |      | 12:35 | 1.40 |
|   | 11   | Tu | 07:55                | 3.35 | 20:32 | 3.24 | 01:11 | 1.64 | 14:00 | 1.33 |
|   | 12   | W  | 08:56                | 3.48 | 21:28 | 3.37 | 02:33 | 1.50 | 14:58 | 1.16 |
|   | 13   | Th | 09:46                | 3.63 | 22:10 | 3.51 | 03:21 | 1.29 | 15:40 | 0.98 |
|   | 14   | F  | 10:27                | 3.75 | 22:45 | 3.62 | 03:57 | 1.09 | 16:14 | 0.82 |
|   | 15   | Sa | 11:00                | 3.83 | 23:14 | 3.71 | 04:27 | 0.92 | 16:44 | 0.70 |
| 0 | 16   | Su | 11:29                | 3.88 | 23:39 | 3.78 | 04:54 | 0.78 | 17:10 | 0.61 |
|   | 17   | M  | 11:56                | 3.92 |       |      | 05:18 | 0.67 | 17:36 | 0.54 |
|   | 18   | Tu | 00:06                | 3.86 | 12:27 | 3.95 | 05:44 | 0.58 | 18:06 | 0.50 |
|   | 19   | W  | 00:39                | 3.91 | 13:04 | 3.96 | 06:16 | 0.54 | 18:42 | 0.51 |
|   | 20   | Th | 01:18                | 3.93 | 13:46 | 3.93 | 06:54 | 0.54 | 19:23 | 0.58 |
|   | 21   | F  | 02:01                | 3.89 | 14:31 | 3.85 | 07:38 | 0.61 | 20:09 | 0.71 |
|   | 22   | Sa | 02:48                | 3.80 | 15:21 | 3.72 | 08:28 | 0.74 | 21:00 | 0.90 |
|   | 23   | Su | 03:40                | 3.67 | 16:18 | 3.56 | 09:26 | 0.91 | 22:00 | 1.11 |
| C | 24   | M  | 04:40                | 3.53 | 17:27 | 3.42 | 10:36 | 1.06 | 23:13 | 1.27 |
|   | 25   | Tu | 05:54                | 3.46 | 18:51 | 3.39 | 11:59 | 1.11 |       |      |
|   | 26   | W  | 07:15                | 3.51 | 20:09 | 3.50 | 00:36 | 1.29 | 13:20 | 0.99 |
|   | 27   | Th | 08:27                | 3.69 | 21:15 | 3.68 | 01:52 | 1.14 | 14:29 | 0.75 |
|   | 28   | F  | 09:28                | 3.90 | 22:09 | 3.85 | 02:54 | 0.89 | 15:24 | 0.50 |
|   | 29   | Sa | 10:20                | 4.08 | 22:54 | 3.96 | 03:44 | 0.64 | 16:12 | 0.30 |
| • | 30   | Su |                      |      | 12:06 | 4.18 | 05:28 | 0.44 | 17:54 | 0.20 |
|   | 31   | M  | 00:34                | 4.01 | 12:47 | 4.21 | 06:09 | 0.32 | 18:33 | 0.20 |
|   |      |    |                      |      |       |      |       |      |       |      |

| Δ | PRII | 201 | ž |
|---|------|-----|---|

| High Water   |      |    |       |      |           |      | Low Water |      |       |      |
|--------------|------|----|-------|------|-----------|------|-----------|------|-------|------|
|              | Date | 2  | Mor   | ning | Afternoon |      | Mor       | ning | After | noon |
|              |      |    | Time  | m    | Time      | m    | Time      | m    | Time  | m    |
|              | 1    | Tu | 01:10 | 4.01 | 13:27     | 4.17 | 06:48     | 0.29 | 19:12 | 0.28 |
|              | 2    | W  | 01:46 | 3.97 | 14:06     | 4.08 | 07:29     | 0.33 | 19:51 | 0.44 |
|              | 3    | Th | 02:24 | 3.90 | 14:50     | 3.94 | 08:12     | 0.44 | 20:33 | 0.64 |
|              | 4    | F  | 03:06 | 3.80 | 15:36     | 3.76 | 08:59     | 0.60 | 21:17 | 0.87 |
|              | 5    | Sa | 03:51 | 3.67 | 16:26     | 3.55 | 09:50     | 0.79 | 22:06 | 1.12 |
|              | 6    | Su | 04:42 | 3.51 | 17:24     | 3.34 | 10:45     | 1.00 | 23:01 | 1.36 |
| D            | 7    | M  | 05:46 | 3.35 | 18:34     | 3.17 | 11:46     | 1.18 |       |      |
|              | 8    | Tu | 07:03 | 3.25 | 19:46     | 3.12 | 00:04     | 1.55 | 12:53 | 1.30 |
|              | 9    | W  | 08:13 | 3.26 | 20:52     | 3.18 | 01:15     | 1.63 | 14:07 | 1.29 |
|              | 10   | Th | 09:15 | 3.36 | 21:48     | 3.32 | 02:37     | 1.55 | 15:13 | 1.16 |
|              | 11   | F  | 10:08 | 3.50 | 22:34     | 3.47 | 03:38     | 1.36 | 16:00 | 0.99 |
|              | 12   | Sa | 10:51 | 3.63 | 23:12     | 3.61 | 04:19     | 1.15 | 16:36 | 0.83 |
|              | 13   | Su | 11:27 | 3.74 | 23:42     | 3.72 | 04:51     | 0.95 | 17:07 | 0.68 |
|              | 14   | M  | 11:58 | 3.83 |           |      | 05:19     | 0.78 | 17:36 | 0.57 |
| 0            | 15   | Tu | 80:00 | 3.83 | 12:28     | 3.90 | 05:47     | 0.63 | 18:06 | 0.48 |
|              | 16   | W  | 00:38 | 3.93 | 13:03     | 3.95 | 06:18     | 0.52 | 18:39 | 0.44 |
|              | 17   | Th | 01:13 | 4.00 | 13:42     | 3.97 | 06:54     | 0.45 | 19:18 | 0.47 |
|              | 18   | F  | 01:54 | 4.02 | 14:27     | 3.94 | 07:36     | 0.45 | 20:01 | 0.56 |
|              | 19   | Sa | 02:39 | 3.99 | 15:15     | 3.87 | 08:23     | 0.52 | 20:50 | 0.71 |
|              | 20   | Su | 03:30 | 3.91 | 16:09     | 3.75 | 09:17     | 0.64 | 21:45 | 0.90 |
|              | 21   | M  | 04:24 | 3.80 | 17:09     | 3.61 | 10:20     | 0.78 | 22:49 | 1.09 |
| $\mathbb{C}$ | 22   | Tu | 05:26 | 3.68 | 18:20     | 3.50 | 11:30     | 0.90 |       |      |
|              | 23   | W  | 06:39 | 3.61 | 19:39     | 3.48 | 00:00     | 1.22 | 12:47 | 0.94 |
|              | 24   | Th | 07:56 | 3.63 | 20:52     | 3.56 | 01:16     | 1.24 | 14:02 | 0.87 |
|              | 25   | F  | 09:08 | 3.74 | 21:57     | 3.69 | 02:29     | 1.14 | 15:08 | 0.73 |
|              | 26   | Sa | 10:10 | 3.87 | 22:52     | 3.81 | 03:31     | 0.96 | 16:04 | 0.58 |
|              | 27   | Su | 11:05 | 3.99 | 23:39     | 3.90 | 04:24     | 0.76 | 16:52 | 0.46 |
|              | 28   | M  | 11:52 | 4.05 |           |      | 05:10     | 0.60 | 17:36 | 0.41 |
|              | 29   | Tu | 00:19 | 3.93 | 12:33     | 4.05 | 05:53     | 0.50 | 18:15 | 0.43 |
|              | 30   | W  | 00:54 | 3.94 | 13:11     | 4.00 | 06:33     | 0.46 | 18:53 | 0.51 |

## **Dublin (North Wall)**

JULY 2014

|   |      |    |       |        |       |      |       |       | M     | AY 201 |
|---|------|----|-------|--------|-------|------|-------|-------|-------|--------|
|   |      |    |       | High ' | Water |      |       | Low \ | Water |        |
|   | Date |    | Mor   | ning   | After | noon | Mor   | ning  | After | noon   |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time  | m      |
|   | 1    | Th | 01:26 | 3.93   | 13:48 | 3.93 | 07:14 | 0.47  | 19:30 | 0.62   |
|   | 2    | F  | 02:01 | 3.89   | 14:29 | 3.82 | 07:55 | 0.54  | 20:09 | 0.76   |
|   | 3    | Sa | 02:41 | 3.84   | 15:12 | 3.69 | 08:40 | 0.65  | 20:51 | 0.93   |
|   | 4    | Su | 03:24 | 3.74   | 15:59 | 3.54 | 09:28 | 0.78  | 21:36 | 1.11   |
|   | 5    | M  | 04:11 | 3.61   | 16:51 | 3.37 | 10:19 | 0.94  | 22:29 | 1.30   |
|   | 6    | Tu | 05:05 | 3.46   | 17:52 | 3.23 | 11:15 | 1.09  | 23:27 | 1.47   |
| D | 7    | W  | 06:12 | 3.33   | 19:00 | 3.16 |       |       | 12:14 | 1.20   |
|   | 8    | Th | 07:24 | 3.28   | 20:06 | 3.18 | 00:31 | 1.56  | 13:15 | 1.24   |
|   | 9    | F  | 08:28 | 3.32   | 21:03 | 3.29 | 01:37 | 1.55  | 14:16 | 1.18   |
|   | 10   | Sa | 09:24 | 3.42   | 21:52 | 3.44 | 02:38 | 1.44  | 15:09 | 1.06   |
|   | 11   | Su | 10:10 | 3.55   | 22:32 | 3.60 | 03:28 | 1.26  | 15:51 | 0.90   |
|   | 12   | M  | 10:50 | 3.69   | 23:06 | 3.75 | 04:08 | 1.06  | 16:28 | 0.75   |
|   | 13   | Tu | 11:26 | 3.81   | 23:38 | 3.89 | 04:43 | 0.85  | 17:03 | 0.61   |
| 0 | 14   | W  |       |        | 12:03 | 3.92 | 05:18 | 0.67  | 17:39 | 0.51   |
|   | 15   | Th | 00:13 | 4.01   | 12:42 | 3.99 | 05:55 | 0.52  | 18:18 | 0.46   |
|   | 16   | F  | 00:52 | 4.10   | 13:26 | 4.02 | 06:36 | 0.44  | 18:59 | 0.48   |
|   | 17   | Sa | 01:36 | 4.13   | 14:13 | 4.00 | 07:21 | 0.42  | 19:45 | 0.57   |
|   | 18   | Su | 02:24 | 4.12   | 15:04 | 3.93 | 08:12 | 0.47  | 20:36 | 0.71   |
|   | 19   | M  | 03:15 | 4.07   | 16:00 | 3.83 | 09:10 | 0.56  | 21:33 | 0.87   |
|   | 20   | Tu | 04:12 | 3.98   | 17:01 | 3.72 | 10:13 | 0.66  | 22:36 | 1.02   |
| C | 21   | W  | 05:14 | 3.88   | 18:09 | 3.63 | 11:20 | 0.76  | 23:42 | 1.14   |
|   | 22   | Th | 06:23 | 3.80   | 19:20 | 3.59 |       |       | 12:29 | 0.83   |
|   | 23   | F  | 07:36 | 3.77   | 20:30 | 3.62 | 00:51 | 1.20  | 13:38 | 0.85   |
|   | 24   | Sa | 08:45 | 3.79   | 21:33 | 3.69 | 02:00 | 1.18  | 14:43 | 0.83   |
|   | 25   | Su | 09:50 | 3.84   | 22:30 | 3.77 | 03:05 | 1.09  | 15:41 | 0.78   |
|   | 26   | M  | 10:47 | 3.89   | 23:20 | 3.84 | 04:02 | 0.96  | 16:33 | 0.73   |
|   | 27   | Tu | 11:37 | 3.91   |       |      | 04:52 | 0.84  | 17:18 | 0.71   |
|   | 28   | W  | 00:03 | 3.88   | 12:21 | 3.90 | 05:38 | 0.74  | 17:58 | 0.72   |
|   | 29   | Th | 00:38 | 3.90   | 12:57 | 3.86 | 06:20 | 0.69  | 18:36 | 0.76   |
|   | 30   | F  | 01:09 | 3.91   | 13:31 | 3.80 | 07:00 | 0.67  | 19:12 | 0.81   |
|   | 31   | Sa | 01:42 | 3.91   | 14:09 | 3.74 | 07:39 | 0.69  | 19:48 | 0.88   |

|   |      |    |       |        |       |      |       |       | 30        | NE 201 |  |  |
|---|------|----|-------|--------|-------|------|-------|-------|-----------|--------|--|--|
|   |      |    |       | High \ | Water |      |       | Low \ | Low Water |        |  |  |
|   | Date |    | Mor   | ning   | After | noon | Mor   | ning  | After     | noon   |  |  |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time      | m      |  |  |
|   | 1    | Su | 02:19 | 3.88   | 14:48 | 3.67 | 08:21 | 0.75  | 20:25     | 0.98   |  |  |
|   | 2    | M  | 02:59 | 3.82   | 15:30 | 3.58 | 09:04 | 0.83  | 21:06     | 1.09   |  |  |
|   | 3    | Tu | 03:42 | 3.74   | 16:16 | 3.47 | 09:51 | 0.93  | 21:52     | 1.22   |  |  |
|   | 4    | W  | 04:28 | 3.62   | 17:06 | 3.36 | 10:40 | 1.04  | 22:44     | 1.35   |  |  |
| D | 5    | Th | 05:20 | 3.49   | 18:02 | 3.28 | 11:32 | 1.14  | 23:42     | 1.47   |  |  |
|   | 6    | F  | 06:20 | 3.39   | 19:05 | 3.25 |       |       | 12:27     | 1.20   |  |  |
|   | 7    | Sa | 07:26 | 3.36   | 20:07 | 3.30 | 00:42 | 1.52  | 13:24     | 1.21   |  |  |
|   | 8    | Su | 08:28 | 3.40   | 21:02 | 3.41 | 01:42 | 1.48  | 14:18     | 1.15   |  |  |
|   | 9    | M  | 09:23 | 3.51   | 21:48 | 3.58 | 02:36 | 1.36  | 15:07     | 1.02   |  |  |
|   | 10   | Tu | 10:12 | 3.65   | 22:31 | 3.76 | 03:24 | 1.17  | 15:52     | 0.87   |  |  |
|   | 11   | W  | 10:57 | 3.81   | 23:12 | 3.93 | 04:09 | 0.95  | 16:35     | 0.71   |  |  |
|   | 12   | Th | 11:41 | 3.94   | 23:53 | 4.09 | 04:53 | 0.73  | 17:17     | 0.58   |  |  |
| 0 | 13   | F  |       |        | 12:26 | 4.04 | 05:36 | 0.54  | 18:00     | 0.50   |  |  |
|   | 14   | Sa | 00:36 | 4.21   | 13:12 | 4.09 | 06:22 | 0.41  | 18:44     | 0.48   |  |  |
|   | 15   | Su | 01:21 | 4.27   | 14:00 | 4.08 | 07:10 | 0.36  | 19:31     | 0.53   |  |  |
|   | 16   | M  | 02:09 | 4.28   | 14:51 | 4.03 | 08:02 | 0.38  | 20:21     | 0.64   |  |  |
|   | 17   | Tu | 03:01 | 4.24   | 15:47 | 3.94 | 08:58 | 0.45  | 21:17     | 0.78   |  |  |
|   | 18   | W  | 03:57 | 4.16   | 16:45 | 3.83 | 09:59 | 0.56  | 22:16     | 0.93   |  |  |
| C | 19   | Th | 04:57 | 4.05   | 17:48 | 3.73 | 11:01 | 0.68  | 23:18     | 1.07   |  |  |
|   | 20   | F  | 06:03 | 3.93   | 18:55 | 3.65 |       |       | 12:04     | 0.82   |  |  |
|   | 21   | Sa | 07:12 | 3.83   | 20:02 | 3.62 | 00:23 | 1.18  | 13:09     | 0.94   |  |  |
|   | 22   | Su | 08:21 | 3.78   | 21:06 | 3.65 | 01:30 | 1.25  | 14:15     | 1.02   |  |  |
|   | 23   | M  | 09:27 | 3.76   | 22:06 | 3.72 | 02:38 | 1.24  | 15:18     | 1.04   |  |  |
|   | 24   | Tu | 10:28 | 3.76   | 22:59 | 3.79 | 03:42 | 1.16  | 16:13     | 1.02   |  |  |
|   | 25   | W  | 11:21 | 3.77   | 23:45 | 3.85 | 04:36 | 1.05  | 17:00     | 0.99   |  |  |
|   | 26   | Th |       |        | 12:06 | 3.77 | 05:24 | 0.95  | 17:42     | 0.95   |  |  |
|   | 27   | F  | 00:21 | 3.89   | 12:42 | 3.75 | 06:06 | 0.87  | 18:18     | 0.93   |  |  |
|   | 28   | Sa | 00:51 | 3.92   | 13:13 | 3.73 | 06:45 | 0.82  | 18:53     | 0.93   |  |  |
|   | 29   | Su | 01:22 | 3.93   | 13:46 | 3.71 | 07:22 | 0.80  | 19:25     | 0.94   |  |  |
|   | 30   | M  | 01:56 | 3.93   | 14:22 | 3.68 | 07:59 | 0.81  | 19:58     | 0.97   |  |  |

|   |      |    |       | High \ | Water |      | Low Water |      |       |      |
|---|------|----|-------|--------|-------|------|-----------|------|-------|------|
|   | Date | e  | Mor   | ning   | After | noon | Mor       | ning | After | noon |
|   |      |    | Time  | m      | Time  | m    | Time      | m    | Time  | m    |
|   | 1    | Tu | 02:33 | 3.90   | 15:00 | 3.65 | 08:36     | 0.85 | 20:33 | 1.02 |
|   | 2    | W  | 03:11 | 3.85   | 15:40 | 3.59 | 09:15     | 0.91 | 21:12 | 1.10 |
|   | 3    | Th | 03:53 | 3.76   | 16:23 | 3.53 | 09:56     | 0.98 | 21:54 | 1.21 |
|   | 4    | F  | 04:39 | 3.66   | 17:10 | 3.45 | 10:41     | 1.06 | 22:42 | 1.32 |
| D | 5    | Sa | 05:28 | 3.55   | 18:03 | 3.38 | 11:31     | 1.15 | 23:38 | 1.41 |
|   | 6    | Su | 06:25 | 3.45   | 19:03 | 3.35 |           |      | 12:28 | 1.21 |
|   | 7    | M  | 07:30 | 3.42   | 20:07 | 3.40 | 00:42     | 1.46 | 13:28 | 1.22 |
|   | 8    | Tu | 08:38 | 3.47   | 21:08 | 3.54 | 01:47     | 1.41 | 14:27 | 1.15 |
|   | 9    | W  | 09:39 | 3.61   | 22:02 | 3.74 | 02:48     | 1.25 | 15:21 | 1.01 |
|   | 10   | Th | 10:33 | 3.78   | 22:50 | 3.95 | 03:43     | 1.02 | 16:12 | 0.83 |
| _ | 11   | F  | 11:24 | 3.95   | 23:36 | 4.15 | 04:34     | 0.76 | 16:59 | 0.65 |
| 0 | 12   | Sa |       |        | 12:11 | 4.08 | 05:22     | 0.52 | 17:44 | 0.51 |
|   | 13   | Su | 00:21 | 4.31   | 12:57 | 4.15 | 06:09     | 0.33 | 18:29 | 0.43 |
|   | 14   | M  | 01:06 | 4.40   | 13:45 | 4.16 | 06:57     | 0.24 | 19:15 | 0.43 |
|   | 15   | Tu | 01:52 | 4.42   | 14:34 | 4.11 | 07:47     | 0.25 | 20:03 | 0.51 |
|   | 16   | W  | 02:42 | 4.37   | 15:26 | 4.01 | 08:39     | 0.34 | 20:54 | 0.65 |
|   | 17   | Th | 03:36 | 4.26   | 16:21 | 3.89 | 09:36     | 0.49 | 21:50 | 0.82 |
|   | 18   | F  | 04:33 | 4.11   | 17:19 | 3.76 | 10:33     | 0.68 | 22:49 | 1.01 |
| C | 19   | Sa | 05:36 | 3.94   | 18:23 | 3.64 | 11:33     | 0.89 | 23:51 | 1.18 |
|   | 20   | Su | 06:45 | 3.77   | 19:30 | 3.57 |           |      | 12:36 | 1.09 |
|   | 21   | M  | 07:55 | 3.65   | 20:36 | 3.58 | 00:59     | 1.31 | 13:44 | 1.24 |
|   | 22   | Tu | 09:04 | 3.60   | 21:39 | 3.64 | 02:12     | 1.36 | 14:54 | 1.30 |
|   | 23   | W  | 10:09 | 3.61   | 22:36 | 3.74 | 03:24     | 1.30 | 15:54 | 1.26 |
|   | 24   | Th | 11:05 | 3.64   | 23:24 | 3.83 | 04:22     | 1.18 | 16:44 | 1.18 |
|   | 25   | F  | 11:49 | 3.67   |       |      | 05:10     | 1.04 | 17:24 | 1.09 |
| • | 26   | Sa | 00:02 | 3.90   | 12:24 | 3.69 | 05:50     | 0.93 | 18:00 | 1.01 |

|   |      |    |       |        |       |      |       |       | AUGU  | JST 2014 |
|---|------|----|-------|--------|-------|------|-------|-------|-------|----------|
|   |      |    |       | High \ | Water |      |       | Low \ | Water |          |
|   | Date |    | Mor   | ning   | After | noon | Mor   | ning  | After | noon     |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time  | m        |
|   | 1    | F  | 03:20 | 3.87   | 15:46 | 3.67 | 09:09 | 0.89  | 21:15 | 1.04     |
|   | 2    | Sa | 04:03 | 3.78   | 16:31 | 3.60 | 09:52 | 0.96  | 22:00 | 1.15     |
|   | 3    | Su | 04:51 | 3.66   | 17:20 | 3.51 | 10:40 | 1.07  | 22:51 | 1.27     |
| D | 4    | M  | 05:43 | 3.53   | 18:16 | 3.42 | 11:36 | 1.20  | 23:51 | 1.38     |
|   | 5    | Tu | 06:46 | 3.43   | 19:22 | 3.41 |       |       | 12:42 | 1.28     |
|   | 6    | W  | 08:02 | 3.42   | 20:33 | 3.51 | 01:06 | 1.40  | 13:53 | 1.27     |
|   | 7    | Th | 09:15 | 3.54   | 21:37 | 3.71 | 02:20 | 1.28  | 14:57 | 1.14     |
|   | 8    | F  | 10:16 | 3.74   | 22:31 | 3.96 | 03:24 | 1.03  | 15:54 | 0.92     |
|   | 9    | Sa | 11:09 | 3.94   | 23:19 | 4.20 | 04:21 | 0.73  | 16:45 | 0.69     |
| 0 | 10   | Su | 11:57 | 4.10   |       |      | 05:10 | 0.44  | 17:30 | 0.49     |
|   | 11   | M  | 00:05 | 4.38   | 12:42 | 4.19 | 05:57 | 0.22  | 18:13 | 0.36     |
|   | 12   | Tu | 00:48 | 4.47   | 13:27 | 4.20 | 06:42 | 0.12  | 18:57 | 0.33     |
|   | 13   | W  | 01:33 | 4.48   | 14:12 | 4.15 | 07:27 | 0.15  | 19:42 | 0.40     |
|   | 14   | Th | 02:20 | 4.41   | 14:59 | 4.04 | 08:16 | 0.28  | 20:30 | 0.54     |
|   | 15   | F  | 03:09 | 4.27   | 15:49 | 3.91 | 09:07 | 0.48  | 21:22 | 0.73     |
|   | 16   | Sa | 04:03 | 4.08   | 16:43 | 3.76 | 10:01 | 0.73  | 22:19 | 0.95     |
| C | 17   | Su | 05:03 | 3.85   | 17:44 | 3.61 | 10:57 | 1.00  | 23:20 | 1.17     |
|   | 18   | M  | 06:12 | 3.64   | 18:52 | 3.51 | 11:58 | 1.25  |       |          |
|   | 19   | Tu | 07:26 | 3.48   | 20:02 | 3.49 | 00:27 | 1.35  | 13:06 | 1.44     |
|   | 20   | W  | 08:39 | 3.43   | 21:09 | 3.56 | 01:43 | 1.43  | 14:26 | 1.50     |
|   | 21   | Th | 09:48 | 3.47   | 22:10 | 3.68 | 03:05 | 1.36  | 15:34 | 1.42     |
|   | 22   | F  | 10:45 | 3.55   | 23:00 | 3.81 | 04:06 | 1.21  | 16:24 | 1.28     |
|   | 23   | Sa | 11:29 | 3.63   | 23:38 | 3.90 | 04:51 | 1.04  | 17:04 | 1.14     |
|   | 24   | Su |       |        | 12:02 | 3.69 | 05:29 | 0.90  | 17:38 | 1.01     |
| • | 25   | M  | 00:09 | 3.96   | 12:30 | 3.73 | 06:02 | 0.81  | 18:08 | 0.91     |
|   | 26   | Tu | 00:39 | 3.99   | 12:58 | 3.76 | 06:31 | 0.75  | 18:35 | 0.85     |
|   | 27   | W  | 01:06 | 4.00   | 13:25 | 3.80 | 06:58 | 0.73  | 19:00 | 0.82     |
|   | 28   | Th | 01:36 | 4.00   | 13:57 | 3.83 | 07:24 | 0.72  | 19:28 | 0.81     |
|   | 29   | F  | 02:10 | 3.98   | 14:33 | 3.83 | 07:55 | 0.74  | 20:03 | 0.83     |
|   | 30   | Sa | 02:49 | 3.93   | 15:14 | 3.80 | 08:32 | 0.79  | 20:42 | 0.90     |
|   | 31   | Su | 03:32 | 3.84   | 15:58 | 3.73 | 09:15 | 0.89  | 21:27 | 1.01     |

 27
 Su
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## **Dublin (North Wall)**

|              |      |    |       |        |       |      |       |      | SEPTEME | SER 2014 |
|--------------|------|----|-------|--------|-------|------|-------|------|---------|----------|
|              |      |    |       | High \ | Water |      |       | Low  | Water   |          |
|              | Date |    | Mor   | ning   | After | noon | Mor   | ning | After   | noon     |
|              |      |    | Time  | m      | Time  | m    | Time  | m    | Time    | m        |
|              | 1    | М  | 04:19 | 3.71   | 16:46 | 3.62 | 10:03 | 1.03 | 22:19   | 1.15     |
| D            | 2    | Tu | 05:12 | 3.56   | 17:42 | 3.51 | 11:00 | 1.20 | 23:21   | 1.30     |
|              | 3    | W  | 06:16 | 3.43   | 18:48 | 3.45 |       |      | 12:09   | 1.34     |
|              | 4    | Th | 07:37 | 3.39   | 20:05 | 3.51 | 00:39 | 1.36 | 13:27   | 1.36     |
|              | 5    | F  | 08:57 | 3.51   | 21:15 | 3.71 | 02:01 | 1.25 | 14:39   | 1.22     |
|              | 6    | Sa | 10:01 | 3.72   | 22:13 | 3.97 | 03:12 | 0.99 | 15:39   | 0.98     |
|              | 7    | Su | 10:55 | 3.93   | 23:03 | 4.21 | 04:09 | 0.66 | 16:30   | 0.72     |
|              | 8    | M  | 11:42 | 4.10   | 23:48 | 4.39 | 04:59 | 0.37 | 17:15   | 0.49     |
| 0            | 9    | Tu |       |        | 12:26 | 4.19 | 05:42 | 0.17 | 17:57   | 0.34     |
|              | 10   | W  | 00:31 | 4.47   | 13:07 | 4.21 | 06:25 | 0.10 | 18:39   | 0.30     |
|              | 11   | Th | 01:13 | 4.47   | 13:48 | 4.16 | 07:07 | 0.15 | 19:21   | 0.35     |
|              | 12   | F  | 01:57 | 4.37   | 14:32 | 4.06 | 07:51 | 0.31 | 20:07   | 0.48     |
|              | 13   | Sa | 02:44 | 4.21   | 15:18 | 3.94 | 08:37 | 0.54 | 20:57   | 0.68     |
|              | 14   | Su | 03:34 | 4.00   | 16:08 | 3.79 | 09:27 | 0.81 | 21:51   | 0.90     |
| _            | 15   | M  | 04:31 | 3.76   | 17:05 | 3.63 | 10:22 | 1.10 | 22:51   | 1.13     |
| $\mathbb{C}$ | 16   | Tu | 05:38 | 3.52   | 18:12 | 3.50 | 11:21 | 1.36 | 23:55   | 1.33     |
|              | 17   | W  | 06:54 | 3.35   | 19:24 | 3.45 |       |      | 12:27   | 1.56     |
|              | 18   | Th | 08:08 | 3.31   | 20:33 | 3.50 | 01:09 | 1.43 | 13:48   | 1.63     |
|              | 19   | F  | 09:19 | 3.37   | 21:36 | 3.62 | 02:36 | 1.38 | 15:06   | 1.54     |
|              | 20   | Sa | 10:18 | 3.50   | 22:28 | 3.76 | 03:39 | 1.21 | 15:58   | 1.36     |
|              | 21   | Su | 11:00 | 3.63   | 23:09 | 3.88 | 04:25 | 1.04 | 16:39   | 1.18     |
|              | 22   | M  | 11:35 | 3.73   | 23:43 | 3.95 | 05:01 | 0.88 | 17:12   | 1.02     |
|              | 23   | Tu |       |        | 12:05 | 3.80 | 05:33 | 0.77 | 17:42   | 0.90     |
|              | 24   | W  | 00:13 | 3.99   | 12:32 | 3.85 | 06:00 | 0.71 | 18:07   | 0.82     |
|              | 25   | Th | 00:40 | 4.01   | 12:57 | 3.90 | 06:25 | 0.67 | 18:32   | 0.77     |
|              | 26   | F  | 01:09 | 4.02   | 13:28 | 3.93 | 06:52 | 0.66 | 19:01   | 0.74     |
|              | 27   | Sa | 01:43 | 4.01   | 14:04 | 3.95 | 07:24 | 0.68 | 19:36   | 0.75     |
|              | 28   | Su | 02:23 | 3.96   | 14:45 | 3.92 | 08:02 | 0.75 | 20:17   | 0.81     |
|              | 29   | M  | 03:07 | 3.88   | 15:31 | 3.85 | 08:45 | 0.87 | 21:04   | 0.92     |
|              | 30   | Tu | 03:56 | 3.75   | 16:21 | 3.75 | 09:36 | 1.05 | 21:58   | 1.07     |

|              |      |    |       |      |       |      |       |       | OCTOR | ER 2014 |
|--------------|------|----|-------|------|-------|------|-------|-------|-------|---------|
|              |      |    |       | High | Water |      |       | Low \ | Water |         |
|              | Date |    | Mor   | ning | After | noon | Mor   | ning  | After | noon    |
|              |      |    | Time  | m    | Time  | m    | Time  | m     | Time  | m       |
| D            | 1    | W  | 04:51 | 3.60 | 17:16 | 3.63 | 10:36 | 1.23  | 23:04 | 1.21    |
|              | 2    | Th | 05:58 | 3.46 | 18:23 | 3.56 | 11:47 | 1.38  |       |         |
|              | 3    | F  | 07:21 | 3.43 | 19:40 | 3.60 | 00:24 | 1.27  | 13:06 | 1.41    |
|              | 4    | Sa | 08:40 | 3.55 | 20:52 | 3.76 | 01:46 | 1.17  | 14:20 | 1.28    |
|              | 5    | Su | 09:46 | 3.75 | 21:54 | 3.99 | 02:57 | 0.93  | 15:22 | 1.05    |
|              | 6    | M  | 10:41 | 3.95 | 22:46 | 4.19 | 03:55 | 0.64  | 16:15 | 0.79    |
|              | 7    | Tu | 11:28 | 4.10 | 23:33 | 4.33 | 04:44 | 0.40  | 17:00 | 0.58    |
| 0            | 8    | W  |       |      | 12:10 | 4.18 | 05:27 | 0.25  | 17:42 | 0.43    |
|              | 9    | Th | 00:15 | 4.39 | 12:49 | 4.19 | 06:09 | 0.22  | 18:23 | 0.38    |
|              | 10   | F  | 00:57 | 4.37 | 13:28 | 4.16 | 06:48 | 0.29  | 19:05 | 0.41    |
|              | 11   | Sa | 01:39 | 4.27 | 14:08 | 4.09 | 07:29 | 0.44  | 19:48 | 0.51    |
|              | 12   | Su | 02:23 | 4.12 | 14:51 | 3.99 | 08:11 | 0.66  | 20:36 | 0.68    |
|              | 13   | M  | 03:11 | 3.92 | 15:38 | 3.86 | 08:57 | 0.91  | 21:27 | 0.87    |
| _            | 14   | Tu | 04:03 | 3.70 | 16:30 | 3.71 | 09:49 | 1.17  | 22:24 | 1.08    |
| $\mathbb{C}$ | 15   | W  | 05:06 | 3.48 | 17:32 | 3.57 | 10:46 | 1.42  | 23:24 | 1.27    |
|              | 16   | Th | 06:18 | 3.32 | 18:43 | 3.47 | 11:49 | 1.61  |       |         |
|              | 17   | F  | 07:30 | 3.26 | 19:52 | 3.47 | 00:32 | 1.39  | 13:00 | 1.69    |
|              | 18   | Sa | 08:39 | 3.33 | 20:56 | 3.55 | 01:50 | 1.39  | 14:21 | 1.64    |
|              | 19   | Su | 09:37 | 3.47 | 21:50 | 3.68 | 03:00 | 1.27  | 15:22 | 1.47    |
|              | 20   | M  | 10:24 | 3.62 | 22:35 | 3.80 | 03:49 | 1.10  | 16:06 | 1.28    |
|              | 21   | Tu | 11:03 | 3.76 | 23:13 | 3.89 | 04:27 | 0.95  | 16:41 | 1.11    |
|              | 22   | W  | 11:36 | 3.86 | 23:45 | 3.95 | 04:59 | 0.83  | 17:12 | 0.97    |
|              | 23   | Th |       |      | 12:04 | 3.93 | 05:27 | 0.74  | 17:39 | 0.86    |
|              | 24   | F  | 00:14 | 4.00 | 12:30 | 4.00 | 05:54 | 0.68  | 18:06 | 0.77    |
|              | 25   | Sa | 00:45 | 4.03 | 13:02 | 4.05 | 06:24 | 0.65  | 18:39 | 0.72    |
|              | 26   | Su | 01:21 | 4.03 | 12:39 | 4.07 | 05:58 | 0.67  | 18:16 | 0.70    |
|              | 27   | M  | 01:02 | 4.00 | 13:22 | 4.05 | 06:38 | 0.74  | 19:00 | 0.75    |
|              | 28   | Tu | 01:48 | 3.93 | 14:09 | 4.00 | 07:24 | 0.88  | 19:49 | 0.84    |
|              | 29   | W  | 02:40 | 3.81 | 15:01 | 3.91 | 08:17 | 1.06  | 20:47 | 0.97    |
|              | 30   | Th | 03:38 | 3.68 | 15:58 | 3.82 | 09:18 | 1.24  | 21:53 | 1.08    |
| D            | 31   | F  | 04:46 | 3.57 | 17:03 | 3.75 | 10:28 | 1.37  | 23:09 | 1.13    |

| NC | VF | MR | FR | 20 | 14 |
|----|----|----|----|----|----|

|   |      |    |       | High \ | Water |      | Low Water |      |       |      |  |
|---|------|----|-------|--------|-------|------|-----------|------|-------|------|--|
|   | Date | 2  | Mori  | ning   | After | noon | Mor       | ning | After | noon |  |
|   |      |    | Time  | m      | Time  | m    | Time      | m    | Time  | m    |  |
|   | 1    | Sa | 06:04 | 3.55   | 18:17 | 3.75 | 11:45     | 1.40 |       |      |  |
|   | 2    | Su | 07:20 | 3.64   | 19:29 | 3.84 | 00:26     | 1.07 | 12:57 | 1.31 |  |
|   | 3    | M  | 08:26 | 3.79   | 20:33 | 3.99 | 01:36     | 0.92 | 14:00 | 1.14 |  |
|   | 4    | Tu | 09:23 | 3.95   | 21:30 | 4.12 | 02:36     | 0.73 | 14:55 | 0.94 |  |
|   | 5    | W  | 10:12 | 4.08   | 22:19 | 4.21 | 03:27     | 0.57 | 15:44 | 0.75 |  |
| 0 | 6    | Th | 10:56 | 4.15   | 23:03 | 4.24 | 04:12     | 0.48 | 16:28 | 0.62 |  |
|   | 7    | F  | 11:35 | 4.17   | 23:45 | 4.21 | 04:53     | 0.46 | 17:11 | 0.56 |  |
|   | 8    | Sa |       |        | 12:12 | 4.16 | 05:32     | 0.53 | 17:52 | 0.56 |  |
|   | 9    | Su | 00:24 | 4.13   | 12:48 | 4.12 | 06:10     | 0.64 | 18:34 | 0.61 |  |
|   | 10   | M  | 01:06 | 4.02   | 13:29 | 4.05 | 06:50     | 0.80 | 19:18 | 0.72 |  |
|   | 11   | Tu | 01:51 | 3.87   | 14:12 | 3.95 | 07:32     | 0.99 | 20:06 | 0.86 |  |
|   | 12   | W  | 02:39 | 3.70   | 15:00 | 3.83 | 08:20     | 1.19 | 20:58 | 1.03 |  |
|   | 13   | Th | 03:33 | 3.52   | 15:54 | 3.68 | 09:13     | 1.40 | 21:53 | 1.19 |  |
| C | 14   | F  | 04:36 | 3.37   | 16:57 | 3.55 | 10:12     | 1.57 | 22:53 | 1.33 |  |
|   | 15   | Sa | 05:45 | 3.29   | 18:05 | 3.47 | 11:17     | 1.69 | 23:57 | 1.39 |  |
|   | 16   | Su | 06:52 | 3.32   | 19:09 | 3.48 |           |      | 12:24 | 1.70 |  |
|   | 17   | M  | 07:51 | 3.43   | 20:06 | 3.56 | 01:02     | 1.36 | 13:29 | 1.61 |  |
|   | 18   | Tu | 08:42 | 3.58   | 20:56 | 3.66 | 02:00     | 1.25 | 14:22 | 1.45 |  |
|   | 19   | W  | 09:25 | 3.73   | 21:38 | 3.77 | 02:45     | 1.11 | 15:03 | 1.28 |  |
|   | 20   | Th | 10:03 | 3.86   | 22:15 | 3.87 | 03:22     | 0.97 | 15:39 | 1.11 |  |
|   | 21   | F  | 10:34 | 3.98   | 22:49 | 3.96 | 03:54     | 0.84 | 16:11 | 0.94 |  |
| • | 22   | Sa | 11:06 | 4.08   | 23:24 | 4.03 | 04:27     | 0.74 | 16:44 | 0.80 |  |
|   | 23   | Su | 11:40 | 4.16   |       |      | 05:01     | 0.68 | 17:21 | 0.69 |  |
|   | 24   | M  | 00:03 | 4.06   | 12:20 | 4.21 | 05:39     | 0.67 | 18:01 | 0.64 |  |
|   | 25   | Tu | 00:47 | 4.06   | 13:04 | 4.21 | 06:21     | 0.72 | 18:47 | 0.64 |  |
|   | 26   | W  | 01:35 | 4.01   | 13:52 | 4.18 | 07:08     | 0.84 | 19:39 | 0.70 |  |
|   | 27   | Th | 02:27 | 3.92   | 14:45 | 4.12 | 08:01     | 0.99 | 20:36 | 0.80 |  |
|   | 28   | F  | 03:26 | 3.82   | 15:42 | 4.03 | 09:01     | 1.15 | 21:39 | 0.90 |  |
| D | 29   | Sa | 04:31 | 3.72   | 16:45 | 3.95 | 10:08     | 1.28 | 22:48 | 0.98 |  |
|   | 30   | Su | 05:42 | 3.68   | 17:53 | 3.89 | 11:18     | 1.35 |       |      |  |

#### DECEMBER 2014

|   |      |    |       | High \ | Water |      | Low Water |      |       |      |
|---|------|----|-------|--------|-------|------|-----------|------|-------|------|
|   | Date | •  | Mor   | ning   | After | noon | Mor       | ning | After | noon |
|   |      |    | Time  | m      | Time  | m    | Time      | m    | Time  | m    |
|   | 1    | М  | 06:54 | 3.71   | 19:04 | 3.89 | 00:00     | 1.02 | 12:29 | 1.34 |
|   | 2    | Tu | 08:02 | 3.80   | 20:12 | 3.93 | 01:09     | 0.99 | 13:36 | 1.25 |
|   | 3    | W  | 09:02 | 3.91   | 21:13 | 3.99 | 02:12     | 0.92 | 14:36 | 1.12 |
|   | 4    | Th | 09:55 | 4.02   | 22:08 | 4.03 | 03:08     | 0.83 | 15:29 | 0.97 |
|   | 5    | F  | 10:42 | 4.09   | 22:55 | 4.05 | 03:57     | 0.77 | 16:17 | 0.84 |
| 0 | 6    | Sa | 11:24 | 4.13   | 23:36 | 4.03 | 04:39     | 0.75 | 17:00 | 0.75 |
|   | 7    | Su | 11:59 | 4.14   |       |      | 05:18     | 0.77 | 17:42 | 0.71 |
|   | 8    | M  | 00:13 | 3.98   | 12:33 | 4.12 | 05:55     | 0.82 | 18:21 | 0.71 |
|   | 9    | Tu | 00:50 | 3.91   | 13:09 | 4.09 | 06:31     | 0.90 | 19:03 | 0.76 |
|   | 10   | W  | 01:30 | 3.82   | 13:49 | 4.02 | 07:09     | 1.01 | 19:45 | 0.84 |
|   | 11   | Th | 02:12 | 3.72   | 14:31 | 3.92 | 07:51     | 1.14 | 20:30 | 0.96 |
|   | 12   | F  | 02:58 | 3.60   | 15:16 | 3.80 | 08:36     | 1.29 | 21:18 | 1.09 |
|   | 13   | Sa | 03:49 | 3.48   | 16:06 | 3.65 | 09:29     | 1.45 | 22:09 | 1.23 |
| C | 14   | Su | 04:47 | 3.37   | 17:03 | 3.52 | 10:27     | 1.59 | 23:05 | 1.34 |
|   | 15   | M  | 05:52 | 3.33   | 18:07 | 3.44 | 11:30     | 1.68 |       |      |
|   | 16   | Tu | 06:57 | 3.36   | 19:12 | 3.43 | 00:03     | 1.40 | 12:31 | 1.68 |
|   | 17   | W  | 07:54 | 3.46   | 20:09 | 3.50 | 01:02     | 1.38 | 13:29 | 1.59 |
|   | 18   | Th | 08:43 | 3.61   | 21:00 | 3.62 | 01:56     | 1.28 | 14:20 | 1.43 |
|   | 19   | F  | 09:27 | 3.78   | 21:45 | 3.76 | 02:42     | 1.14 | 15:04 | 1.23 |
|   | 20   | Sa | 10:05 | 3.95   | 22:26 | 3.90 | 03:24     | 0.97 | 15:45 | 1.00 |
|   | 21   | Su | 10:43 | 4.10   | 23:07 | 4.02 | 04:03     | 0.81 | 16:24 | 0.79 |
|   | 22   | M  | 11:22 | 4.23   | 23:49 | 4.10 | 04:42     | 0.69 | 17:06 | 0.61 |
|   | 23   | Tu |       |        | 12:03 | 4.32 | 05:23     | 0.62 | 17:49 | 0.49 |
|   | 24   | W  | 00:33 | 4.13   | 12:48 | 4.36 | 06:06     | 0.61 | 18:36 | 0.45 |
|   | 25   | Th | 01:21 | 4.10   | 13:36 | 4.35 | 06:53     | 0.68 | 19:26 | 0.48 |
|   | 26   | F  | 02:13 | 4.04   | 14:28 | 4.29 | 07:45     | 0.80 | 20:21 | 0.58 |
|   | 27   | Sa | 03:09 | 3.94   | 15:24 | 4.19 | 08:41     | 0.95 | 21:19 | 0.71 |
| D | 28   | Su | 04:09 | 3.83   | 16:23 | 4.07 | 09:42     | 1.11 | 22:21 | 0.87 |
|   | 29   | M  | 05:15 | 3.74   | 17:28 | 3.93 | 10:48     | 1.24 | 23:28 | 1.02 |
|   | 30   | Tu | 06:25 | 3.70   | 18:39 | 3.83 | 11:57     | 1.33 |       |      |
|   | 31   | W  | 07:33 | 3.72   | 19:50 | 3.78 | 00:39     | 1.12 | 13:09 | 1.34 |

## **Soldiers Point (Dundalk)**

|   |      |    |       |        |       |      |       |       | JANUA | ARY 201 |
|---|------|----|-------|--------|-------|------|-------|-------|-------|---------|
|   |      |    |       | High \ | Water |      |       | Low \ | Water |         |
|   | Date | •  | Mor   | ning   | After | noon | Mor   | ning  | After | noon    |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time  | m       |
| • | 1    | W  | 10:51 | 5.39   | 23:22 | 5.23 | 05:05 | 0.46  | 17:33 | 0.29    |
| _ | 2    | Th | 11:37 | 5.53   |       |      | 05:52 | 0.34  | 18:19 | 0.11    |
|   | 3    | F  | 00:10 | 5.27   | 12:24 | 5.59 | 06:35 | 0.32  | 19:04 | 0.05    |
|   | 4    | Sa | 00:59 | 5.21   | 13:12 | 5.55 | 07:18 | 0.40  | 19:47 | 0.12    |
|   | 5    | Su | 01:50 | 5.09   | 14:03 | 5.44 | 08:01 | 0.56  | 20:32 | 0.28    |
|   | 6    | M  | 02:45 | 4.92   | 14:58 | 5.27 | 08:46 | 0.78  | 21:17 | 0.52    |
|   | 7    | Tu | 03:42 | 4.74   | 15:56 | 5.04 | 09:34 | 1.02  | 22:06 | 0.80    |
| D | 8    | W  | 04:45 | 4.57   | 16:59 | 4.81 | 10:27 | 1.25  | 23:00 | 1.09    |
|   | 9    | Th | 05:50 | 4.45   | 18:06 | 4.60 | 11:27 | 1.44  |       |         |
|   | 10   | F  | 06:56 | 4.42   | 19:15 | 4.47 | 00:06 | 1.33  | 12:39 | 1.55    |
|   | 11   | Sa | 08:00 | 4.48   | 20:21 | 4.43 | 01:27 | 1.45  | 14:05 | 1.52    |
|   | 12   | Su | 09:00 | 4.60   | 21:21 | 4.45 | 02:50 | 1.44  | 15:25 | 1.38    |
|   | 13   | M  | 09:51 | 4.74   | 22:12 | 4.51 | 03:57 | 1.34  | 16:26 | 1.20    |
|   | 14   | Tu | 10:34 | 4.86   | 22:51 | 4.56 | 04:47 | 1.21  | 17:13 | 1.04    |
|   | 15   | W  | 11:09 | 4.93   | 23:24 | 4.60 | 05:27 | 1.10  | 17:51 | 0.91    |
| 0 | 16   | Th | 11:40 | 4.97   | 23:54 | 4.63 | 06:00 | 1.00  | 18:23 | 0.82    |
|   | 17   | F  |       |        | 12:09 | 4.98 | 06:29 | 0.94  | 18:53 | 0.77    |
|   | 18   | Sa | 00:24 | 4.65   | 12:39 | 4.98 | 06:54 | 0.91  | 19:19 | 0.74    |
|   | 19   | Su | 00:55 | 4.67   | 13:13 | 4.95 | 07:18 | 0.90  | 19:44 | 0.74    |
|   | 20   | M  | 01:30 | 4.67   | 13:50 | 4.90 | 07:46 | 0.92  | 20:13 | 0.75    |
|   | 21   | Tu | 02:10 | 4.64   | 14:30 | 4.82 | 08:17 | 0.98  | 20:46 | 0.81    |
|   | 22   | W  | 02:53 | 4.57   | 15:15 | 4.71 | 08:53 | 1.08  | 21:23 | 0.91    |
|   | 23   | Th | 03:40 | 4.46   | 16:02 | 4.56 | 09:33 | 1.22  | 22:05 | 1.06    |
| ( | 24   | F  | 04:33 | 4.33   | 16:56 | 4.40 | 10:20 | 1.38  | 22:57 | 1.23    |
|   | 25   | Sa | 05:33 | 4.25   | 18:00 | 4.30 | 11:21 | 1.49  |       |         |
|   | 26   | Su | 06:44 | 4.28   | 19:16 | 4.32 | 00:05 | 1.33  | 12:41 | 1.46    |
|   | 27   | M  | 07:54 | 4.46   | 20:28 | 4.49 | 01:26 | 1.27  | 14:06 | 1.25    |
|   | 28   | Tu | 08:56 | 4.74   | 21:29 | 4.74 | 02:48 | 1.06  | 15:23 | 0.90    |
|   | 29   | W  | 09:49 | 5.05   | 22:22 | 4.98 | 03:56 | 0.77  | 16:29 | 0.51    |
|   | 30   | Th | 10:38 | 5.32   | 23:11 | 5.14 | 04:53 | 0.49  | 17:22 | 0.17    |
|   | 31   | F  | 11:24 | 5.50   | 23:57 | 5.21 | 05:41 | 0.28  | 18:09 | -0.05   |

|              |      |    |       | High \ | Water |      | Low Water |      |       |       |  |  |
|--------------|------|----|-------|--------|-------|------|-----------|------|-------|-------|--|--|
|              | Date | 9  | Mor   | ning   | After | noon | Mor       | ning | After | noon  |  |  |
|              |      |    | Time  | m      | Time  | m    | Time      | m    | Time  | m     |  |  |
|              | 1    | Sa |       |        | 12:09 | 5.58 | 06:23     | 0.17 | 18:51 | -0.12 |  |  |
|              | 2    | Su | 00:42 | 5.19   | 12:54 | 5.54 | 07:03     | 0.18 | 19:31 | -0.05 |  |  |
|              | 3    | M  | 01:27 | 5.08   | 13:42 | 5.42 | 07:43     | 0.30 | 20:12 | 0.15  |  |  |
|              | 4    | Tu | 02:15 | 4.92   | 14:31 | 5.22 | 08:25     | 0.51 | 20:53 | 0.43  |  |  |
|              | 5    | W  | 03:05 | 4.72   | 15:24 | 4.95 | 09:08     | 0.76 | 21:36 | 0.76  |  |  |
| D            | 6    | Th | 04:00 | 4.51   | 16:22 | 4.65 | 09:56     | 1.04 | 22:23 | 1.12  |  |  |
|              | 7    | F  | 05:03 | 4.33   | 17:29 | 4.37 | 10:51     | 1.31 | 23:19 | 1.44  |  |  |
|              | 8    | Sa | 06:12 | 4.22   | 18:39 | 4.18 | 11:56     | 1.50 |       |       |  |  |
|              | 9    | Su | 07:19 | 4.23   | 19:49 | 4.12 | 00:33     | 1.65 | 13:25 | 1.55  |  |  |
|              | 10   | M  | 08:25 | 4.35   | 20:56 | 4.18 | 02:16     | 1.66 | 14:57 | 1.41  |  |  |
|              | 11   | Tu | 09:23 | 4.52   | 21:50 | 4.30 | 03:33     | 1.50 | 16:03 | 1.21  |  |  |
|              | 12   | W  | 10:09 | 4.68   | 22:30 | 4.42 | 04:27     | 1.30 | 16:51 | 1.00  |  |  |
|              | 13   | Th | 10:46 | 4.80   | 23:03 | 4.51 | 05:06     | 1.10 | 17:29 | 0.83  |  |  |
| 0            | 14   | F  | 11:18 | 4.87   | 23:32 | 4.59 | 05:39     | 0.93 | 18:00 | 0.71  |  |  |
|              | 15   | Sa | 11:47 | 4.91   | 23:58 | 4.66 | 06:07     | 0.81 | 18:27 | 0.62  |  |  |
|              | 16   | Su |       |        | 12:14 | 4.93 | 06:30     | 0.72 | 18:51 | 0.56  |  |  |
|              | 17   | M  | 00:27 | 4.72   | 12:45 | 4.94 | 06:53     | 0.65 | 19:16 | 0.52  |  |  |
|              | 18   | Tu | 01:00 | 4.77   | 13:21 | 4.93 | 07:21     | 0.62 | 19:46 | 0.52  |  |  |
|              | 19   | W  | 01:39 | 4.77   | 14:02 | 4.87 | 07:53     | 0.64 | 20:19 | 0.57  |  |  |
|              | 20   | Th | 02:21 | 4.71   | 14:45 | 4.77 | 08:28     | 0.73 | 20:55 | 0.70  |  |  |
|              | 21   | F  | 03:06 | 4.60   | 15:33 | 4.61 | 09:07     | 0.88 | 21:37 | 0.90  |  |  |
| $\mathbb{C}$ | 22   | Sa | 03:57 | 4.44   | 16:27 | 4.41 | 09:53     | 1.07 | 22:26 | 1.14  |  |  |
|              | 23   | Su | 04:56 | 4.28   | 17:33 | 4.24 | 10:52     | 1.26 | 23:32 | 1.33  |  |  |
|              | 24   | M  | 06:09 | 4.21   | 18:54 | 4.21 |           |      | 12:12 | 1.31  |  |  |
|              | 25   | Tu | 07:28 | 4.34   | 20:12 | 4.36 | 00:58     | 1.34 | 13:45 | 1.14  |  |  |
|              | 26   | W  | 08:36 | 4.61   | 21:18 | 4.61 | 02:27     | 1.14 | 15:09 | 0.79  |  |  |
|              | 27   | Th | 09:34 | 4.93   | 22:12 | 4.86 | 03:42     | 0.81 | 16:16 | 0.40  |  |  |
|              | 28   | F  | 10:24 | 5.20   | 22:59 | 5.03 | 04:41     | 0.48 | 17:11 | 0.07  |  |  |

| M | AR | CH | 20 | 14 |
|---|----|----|----|----|

|   |      |    |       | High \ | Water |      | Low Water |      |       |       |
|---|------|----|-------|--------|-------|------|-----------|------|-------|-------|
|   | Date |    | Mor   | ning   | After | noon | Mor       | ning | After | noon  |
|   |      |    | Time  | m      | Time  | m    | Time      | m    | Time  | m     |
| • | 1    | Sa | 11:10 | 5.38   | 23:41 | 5.11 | 05:28     | 0.22 | 17:55 | -0.12 |
|   | 2    | Su | 11:53 | 5.44   |       |      | 06:09     | 0.07 | 18:34 | -0.17 |
|   | 3    | M  | 00:21 | 5.10   | 12:35 | 5.40 | 06:47     | 0.05 | 19:13 | -0.07 |
|   | 4    | Tu | 01:01 | 5.01   | 13:18 | 5.27 | 07:26     | 0.13 | 19:49 | 0.14  |
|   | 5    | W  | 01:42 | 4.88   | 14:04 | 5.07 | 08:05     | 0.31 | 20:28 | 0.43  |
|   | 6    | Th | 02:27 | 4.70   | 14:53 | 4.80 | 08:46     | 0.55 | 21:07 | 0.77  |
|   | 7    | F  | 03:16 | 4.50   | 15:47 | 4.49 | 09:30     | 0.83 | 21:50 | 1.12  |
| D | 8    | Sa | 04:14 | 4.28   | 16:51 | 4.19 | 10:21     | 1.12 | 22:40 | 1.46  |
|   | 9    | Su | 05:24 | 4.10   | 18:03 | 3.97 | 11:19     | 1.36 | 23:43 | 1.71  |
|   | 10   | M  | 06:37 | 4.05   | 19:15 | 3.91 |           |      | 12:36 | 1.47  |
|   | 11   | Tu | 07:46 | 4.13   | 20:23 | 4.00 | 01:17     | 1.77 | 14:16 | 1.38  |
|   | 12   | W  | 08:47 | 4.30   | 21:19 | 4.16 | 02:56     | 1.60 | 15:27 | 1.17  |
|   | 13   | Th | 09:37 | 4.49   | 22:01 | 4.34 | 03:55     | 1.34 | 16:18 | 0.95  |
|   | 14   | F  | 10:18 | 4.65   | 22:36 | 4.48 | 04:37     | 1.09 | 16:56 | 0.76  |
|   | 15   | Sa | 10:51 | 4.75   | 23:05 | 4.59 | 05:11     | 0.87 | 17:29 | 0.60  |
| 0 | 16   | Su | 11:20 | 4.81   | 23:30 | 4.69 | 05:39     | 0.70 | 17:55 | 0.49  |
|   | 17   | M  | 11:47 | 4.87   | 23:57 | 4.79 | 06:03     | 0.56 | 18:20 | 0.40  |
|   | 18   | Tu |       |        | 12:18 | 4.91 | 06:28     | 0.46 | 18:48 | 0.35  |
|   | 19   | W  | 00:30 | 4.86   | 12:55 | 4.92 | 06:57     | 0.39 | 19:21 | 0.36  |
|   | 20   | Th | 01:09 | 4.88   | 13:37 | 4.88 | 07:31     | 0.40 | 19:56 | 0.45  |
|   | 21   | F  | 01:52 | 4.83   | 14:22 | 4.78 | 08:09     | 0.49 | 20:35 | 0.62  |
|   | 22   | Sa | 02:39 | 4.71   | 15:12 | 4.61 | 08:51     | 0.65 | 21:17 | 0.85  |
|   | 23   | Su | 03:31 | 4.55   | 16:09 | 4.41 | 09:39     | 0.86 | 22:08 | 1.11  |
| ( | 24   | M  | 04:31 | 4.37   | 17:18 | 4.23 | 10:40     | 1.05 | 23:14 | 1.31  |
|   | 25   | Tu | 05:45 | 4.27   | 18:42 | 4.19 | 11:59     | 1.11 |       |       |
|   | 26   | W  | 07:06 | 4.35   | 20:00 | 4.33 | 00:38     | 1.33 | 13:27 | 0.96  |
|   | 27   | Th | 08:18 | 4.57   | 21:06 | 4.56 | 02:06     | 1.14 | 14:51 | 0.66  |
|   | 28   | F  | 09:19 | 4.84   | 22:00 | 4.78 | 03:22     | 0.84 | 15:59 | 0.35  |
|   | 29   | Sa | 10:11 | 5.07   | 22:45 | 4.93 | 04:22     | 0.52 | 16:54 | 0.10  |
| • | 30   | Su | 11:57 | 5.21   |       |      | 06:12     | 0.28 | 18:39 | -0.03 |
|   | 31   | M  | 00:25 | 4.99   | 12:38 | 5.24 | 06:54     | 0.13 | 19:17 | -0.03 |

| Α | P | R | IL | 2 | 0 | 1 | 4 |
|---|---|---|----|---|---|---|---|

|              |      |    |       | High \ | Water |      | Low Water |      |        |      |
|--------------|------|----|-------|--------|-------|------|-----------|------|--------|------|
|              | Date |    | Mor   | ning   | After | noon | Mor       | ning | Afteri | noon |
|              |      |    | Time  | m      | Time  | m    | Time      | m    | Time   | m    |
|              | 1    | Tu | 01:01 | 4.98   | 13:18 | 5.19 | 07:32     | 0.09 | 19:54  | 0.08 |
|              | 2    | W  | 01:37 | 4.93   | 13:57 | 5.07 | 08:09     | 0.14 | 20:29  | 0.27 |
|              | 3    | Th | 02:15 | 4.85   | 14:41 | 4.89 | 08:47     | 0.27 | 21:05  | 0.52 |
|              | 4    | F  | 02:57 | 4.72   | 15:27 | 4.66 | 09:27     | 0.47 | 21:42  | 0.81 |
|              | 5    | Sa | 03:42 | 4.55   | 16:17 | 4.39 | 10:09     | 0.71 | 22:23  | 1.12 |
|              | 6    | Su | 04:33 | 4.34   | 17:15 | 4.12 | 10:56     | 0.97 | 23:09  | 1.42 |
| D            | 7    | M  | 05:37 | 4.13   | 18:25 | 3.91 | 11:49     | 1.20 |        |      |
|              | 8    | Tu | 06:54 | 4.01   | 19:37 | 3.83 | 00:06     | 1.66 | 12:53  | 1.34 |
|              | 9    | W  | 08:04 | 4.02   | 20:43 | 3.92 | 01:15     | 1.76 | 14:12  | 1.33 |
|              | 10   | Th | 09:06 | 4.15   | 21:39 | 4.09 | 02:48     | 1.66 | 15:32  | 1.17 |
|              | 11   | F  | 09:59 | 4.33   | 22:25 | 4.29 | 04:02     | 1.42 | 16:29  | 0.96 |
|              | 12   | Sa | 10:42 | 4.50   | 23:03 | 4.47 | 04:53     | 1.16 | 17:13  | 0.76 |
|              | 13   | Su | 11:18 | 4.64   | 23:33 | 4.62 | 05:30     | 0.91 | 17:49  | 0.58 |
|              | 14   | M  | 11:49 | 4.75   | 23:59 | 4.76 | 06:02     | 0.70 | 18:20  | 0.43 |
| 0            | 15   | Tu |       |        | 12:19 | 4.84 | 06:32     | 0.51 | 18:51  | 0.33 |
|              | 16   | W  | 00:29 | 4.88   | 12:54 | 4.91 | 07:03     | 0.37 | 19:23  | 0.28 |
|              | 17   | Th | 01:04 | 4.97   | 13:33 | 4.93 | 07:37     | 0.29 | 19:59  | 0.31 |
|              | 18   | F  | 01:45 | 5.00   | 14:18 | 4.90 | 08:15     | 0.29 | 20:37  | 0.43 |
|              | 19   | Sa | 02:30 | 4.96   | 15:06 | 4.80 | 08:56     | 0.38 | 21:19  | 0.62 |
|              | 20   | Su | 03:21 | 4.86   | 16:00 | 4.65 | 09:42     | 0.53 | 22:05  | 0.85 |
|              | 21   | M  | 04:15 | 4.71   | 17:00 | 4.47 | 10:34     | 0.70 | 22:59  | 1.08 |
| $\mathbb{C}$ | 22   | Tu | 05:17 | 4.56   | 18:11 | 4.33 | 11:35     | 0.85 |        |      |
|              | 23   | W  | 06:30 | 4.46   | 19:30 | 4.30 | 00:02     | 1.25 | 12:47  | 0.90 |
|              | 24   | Th | 07:47 | 4.50   | 20:43 | 4.40 | 01:16     | 1.28 | 14:07  | 0.81 |
|              | 25   | F  | 08:59 | 4.64   | 21:48 | 4.57 | 02:38     | 1.15 | 15:25  | 0.64 |
|              | 26   | Sa | 10:01 | 4.81   | 22:43 | 4.73 | 03:54     | 0.92 | 16:34  | 0.45 |
|              | 27   | Su | 10:56 | 4.95   | 23:30 | 4.84 | 04:59     | 0.68 | 17:32  | 0.30 |
|              | 28   | M  | 11:43 | 5.03   |       |      | 05:52     | 0.48 | 18:20  | 0.24 |
| •            | 29   | Tu | 00:10 | 4.89   | 12:24 | 5.03 | 06:38     | 0.35 | 19:00  | 0.27 |
|              | 30   | W  | 00:45 | 4.89   | 13:02 | 4.97 | 07:17     | 0.30 | 19:36  | 0.36 |

## **Soldiers Point (Dundalk)**

|   |      |    |       |        |       |      |       |       | M     | AY 2014 |
|---|------|----|-------|--------|-------|------|-------|-------|-------|---------|
|   |      |    |       | High ' | Water |      |       | Low \ | Water |         |
|   | Date | 2  | Mor   | ning   | After | noon | Mor   | ning  | After | noon    |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time  | m       |
|   | 1    | Th | 01:17 | 4.88   | 13:39 | 4.88 | 07:56 | 0.32  | 20:10 | 0.50    |
|   | 2    | F  | 01:52 | 4.84   | 14:20 | 4.74 | 08:32 | 0.40  | 20:44 | 0.68    |
|   | 3    | Sa | 02:32 | 4.76   | 15:03 | 4.57 | 09:11 | 0.53  | 21:20 | 0.89    |
|   | 4    | Su | 03:15 | 4.64   | 15:50 | 4.38 | 09:51 | 0.70  | 21:57 | 1.12    |
|   | 5    | M  | 04:02 | 4.47   | 16:42 | 4.16 | 10:33 | 0.90  | 22:42 | 1.35    |
|   | 6    | Tu | 04:56 | 4.28   | 17:43 | 3.98 | 11:22 | 1.09  | 23:32 | 1.56    |
| D | 7    | W  | 06:03 | 4.11   | 18:51 | 3.89 |       |       | 12:15 | 1.23    |
|   | 8    | Th | 07:15 | 4.05   | 19:57 | 3.92 | 00:32 | 1.68  | 13:15 | 1.28    |
|   | 9    | F  | 08:19 | 4.10   | 20:54 | 4.06 | 01:39 | 1.66  | 14:23 | 1.21    |
|   | 10   | Sa | 09:15 | 4.23   | 21:43 | 4.25 | 02:49 | 1.52  | 15:27 | 1.05    |
|   | 11   | Su | 10:01 | 4.40   | 22:23 | 4.45 | 03:50 | 1.30  | 16:18 | 0.86    |
|   | 12   | M  | 10:41 | 4.57   | 22:57 | 4.65 | 04:39 | 1.04  | 17:03 | 0.66    |
|   | 13   | Tu | 11:17 | 4.73   | 23:29 | 4.83 | 05:21 | 0.79  | 17:44 | 0.49    |
| 0 | 14   | W  | 11:54 | 4.86   |       |      | 06:01 | 0.56  | 18:23 | 0.36    |
|   | 15   | Th | 00:04 | 4.99   | 12:33 | 4.96 | 06:40 | 0.38  | 19:03 | 0.30    |
|   | 16   | F  | 00:43 | 5.10   | 13:17 | 4.99 | 07:20 | 0.27  | 19:42 | 0.33    |
|   | 17   | Sa | 01:27 | 5.14   | 14:04 | 4.97 | 08:02 | 0.25  | 20:23 | 0.44    |
|   | 18   | Su | 02:15 | 5.13   | 14:55 | 4.88 | 08:47 | 0.31  | 21:07 | 0.61    |
|   | 19   | M  | 03:06 | 5.06   | 15:51 | 4.76 | 09:36 | 0.42  | 21:55 | 0.81    |
| _ | 20   | Tu | 04:03 | 4.95   | 16:52 | 4.61 | 10:28 | 0.55  | 22:48 | 1.00    |
| ( | 21   | W  | 05:05 | 4.82   | 18:00 | 4.49 | 11:26 | 0.67  | 23:46 | 1.15    |
|   | 22   | Th | 06:14 | 4.72   | 19:11 | 4.44 |       |       | 12:30 | 0.76    |
|   | 23   | F  | 07:27 | 4.68   | 20:21 | 4.48 | 00:51 | 1.22  | 13:40 | 0.79    |
|   | 24   | Sa | 08:36 | 4.71   | 21:24 | 4.57 | 02:04 | 1.20  | 14:55 | 0.76    |
|   | 25   | Su | 09:41 | 4.77   | 22:21 | 4.68 | 03:22 | 1.08  | 16:06 | 0.70    |
|   | 26   | M  | 10:38 | 4.83   | 23:11 | 4.77 | 04:32 | 0.93  | 17:09 | 0.64    |
|   | 27   | Tu | 11:28 | 4.86   | 23:54 | 4.82 | 05:32 | 0.77  | 18:01 | 0.61    |
|   | 28   | W  |       |        | 12:12 | 4.84 | 06:22 | 0.65  | 18:43 | 0.62    |
|   | 29   | Th | 00:29 | 4.85   | 12:48 | 4.79 | 07:05 | 0.58  | 19:20 | 0.67    |
|   | 30   | F  | 01:00 | 4.86   | 13:22 | 4.72 | 07:43 | 0.57  | 19:54 | 0.74    |
|   | 31   | Sa | 01:33 | 4.85   | 14:00 | 4.64 | 08:18 | 0.59  | 20:26 | 0.83    |

|   |      |    |       |        |       |      |       |       | JU    | NE 2014 |
|---|------|----|-------|--------|-------|------|-------|-------|-------|---------|
|   |      |    |       | High ' | Water |      |       | Low \ | Water |         |
|   | Date |    | Mor   | ning   | After | noon | Mor   | ning  | After | noon    |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time  | m       |
|   | 1    | Su | 02:10 | 4.82   | 14:39 | 4.55 | 08:55 | 0.66  | 20:58 | 0.94    |
|   | 2    | M  | 02:50 | 4.75   | 15:21 | 4.43 | 09:31 | 0.76  | 21:33 | 1.09    |
|   | 3    | Tu | 03:33 | 4.63   | 16:07 | 4.29 | 10:10 | 0.88  | 22:11 | 1.25    |
|   | 4    | W  | 04:19 | 4.48   | 16:57 | 4.15 | 10:51 | 1.02  | 22:55 | 1.42    |
| D | 5    | Th | 05:11 | 4.32   | 17:53 | 4.04 | 11:37 | 1.15  | 23:46 | 1.56    |
|   | 6    | F  | 06:11 | 4.19   | 18:56 | 4.00 |       |       | 12:28 | 1.23    |
|   | 7    | Sa | 07:17 | 4.14   | 19:58 | 4.07 | 00:42 | 1.62  | 13:25 | 1.24    |
|   | 8    | Su | 08:19 | 4.20   | 20:53 | 4.22 | 01:44 | 1.57  | 14:25 | 1.16    |
|   | 9    | M  | 09:14 | 4.34   | 21:39 | 4.43 | 02:46 | 1.42  | 15:24 | 1.01    |
|   | 10   | Tu | 10:03 | 4.53   | 22:22 | 4.66 | 03:45 | 1.19  | 16:20 | 0.81    |
|   | 11   | W  | 10:48 | 4.72   | 23:03 | 4.89 | 04:40 | 0.92  | 17:12 | 0.62    |
|   | 12   | Th | 11:32 | 4.90   | 23:44 | 5.09 | 05:33 | 0.64  | 18:00 | 0.45    |
| 0 | 13   | F  |       |        | 12:17 | 5.02 | 06:20 | 0.40  | 18:45 | 0.35    |
|   | 14   | Sa | 00:27 | 5.24   | 13:03 | 5.08 | 07:07 | 0.24  | 19:28 | 0.33    |
|   | 15   | Su | 01:12 | 5.32   | 13:51 | 5.08 | 07:52 | 0.17  | 20:11 | 0.39    |
|   | 16   | M  | 02:00 | 5.33   | 14:42 | 5.01 | 08:38 | 0.19  | 20:55 | 0.52    |
|   | 17   | Tu | 02:52 | 5.28   | 15:38 | 4.89 | 09:26 | 0.29  | 21:42 | 0.70    |
|   | 18   | W  | 03:48 | 5.18   | 16:36 | 4.75 | 10:17 | 0.42  | 22:31 | 0.88    |
| C | 19   | Th | 04:48 | 5.04   | 17:39 | 4.62 | 11:09 | 0.58  | 23:24 | 1.06    |
|   | 20   | F  | 05:54 | 4.88   | 18:46 | 4.52 |       |       | 12:06 | 0.75    |
|   | 21   | Sa | 07:03 | 4.76   | 19:53 | 4.49 | 00:24 | 1.20  | 13:09 | 0.90    |
|   | 22   | Su | 08:12 | 4.68   | 20:57 | 4.52 | 01:31 | 1.28  | 14:22 | 1.00    |
|   | 23   | M  | 09:18 | 4.66   | 21:57 | 4.61 | 02:49 | 1.27  | 15:38 | 1.02    |
|   | 24   | Tu | 10:19 | 4.67   | 22:50 | 4.70 | 04:07 | 1.18  | 16:45 | 1.00    |
|   | 25   | W  | 11:12 | 4.68   | 23:36 | 4.78 | 05:13 | 1.04  | 17:41 | 0.96    |
|   | 26   | Th | 11:57 | 4.67   |       |      | 06:07 | 0.91  | 18:27 | 0.92    |
| • | 27   | F  | 00:12 | 4.84   | 12:33 | 4.65 | 06:51 | 0.81  | 19:03 | 0.89    |
|   | 28   | Sa | 00:42 | 4.87   | 13:04 | 4.62 | 07:29 | 0.75  | 19:36 | 0.88    |
|   | 29   | Su | 01:13 | 4.89   | 13:37 | 4.59 | 08:03 | 0.73  | 20:06 | 0.90    |
|   | 30   | M  | 01:47 | 4.88   | 14:13 | 4.56 | 08:36 | 0.74  | 20:35 | 0.93    |

| - 1 | U | ١٧ | 2 | <b>01</b> |
|-----|---|----|---|-----------|

|   |      |    |       | High \ | Water |      | Low Water |      |       |      |
|---|------|----|-------|--------|-------|------|-----------|------|-------|------|
|   | Date | e  | Mor   | ning   | After | noon | Mor       | ning | After | noon |
|   |      |    | Time  | m      | Time  | m    | Time      | m    | Time  | m    |
|   | 1    | Tu | 02:24 | 4.84   | 14:51 | 4.52 | 09:07     | 0.79 | 21:05 | 1.00 |
|   | 2    | W  | 03:02 | 4.77   | 15:31 | 4.45 | 09:40     | 0.86 | 21:38 | 1.11 |
|   | 3    | Th | 03:44 | 4.67   | 16:14 | 4.36 | 10:14     | 0.95 | 22:12 | 1.23 |
|   | 4    | F  | 04:30 | 4.53   | 17:01 | 4.26 | 10:52     | 1.05 | 22:53 | 1.37 |
| D | 5    | Sa | 05:19 | 4.39   | 17:54 | 4.17 | 11:36     | 1.16 | 23:42 | 1.49 |
|   | 6    | Su | 06:16 | 4.27   | 18:54 | 4.13 |           |      | 12:29 | 1.24 |
|   | 7    | M  | 07:21 | 4.22   | 19:58 | 4.20 | 00:42     | 1.55 | 13:29 | 1.25 |
|   | 8    | Tu | 08:29 | 4.29   | 20:59 | 4.38 | 01:50     | 1.48 | 14:36 | 1.17 |
|   | 9    | W  | 09:30 | 4.47   | 21:53 | 4.64 | 03:01     | 1.29 | 15:41 | 0.99 |
|   | 10   | Th | 10:24 | 4.69   | 22:41 | 4.91 | 04:09     | 1.00 | 16:44 | 0.76 |
|   | 11   | F  | 11:15 | 4.91   | 23:27 | 5.17 | 05:10     | 0.68 | 17:40 | 0.54 |
| 0 | 12   | Sa |       |        | 12:02 | 5.07 | 06:05     | 0.37 | 18:29 | 0.36 |
|   | 13   | Su | 00:12 | 5.37   | 12:48 | 5.17 | 06:54     | 0.14 | 19:13 | 0.26 |
|   | 14   | M  | 00:57 | 5.48   | 13:36 | 5.17 | 07:40     | 0.03 | 19:57 | 0.27 |
|   | 15   | Tu | 01:43 | 5.51   | 14:25 | 5.11 | 08:25     | 0.04 | 20:39 | 0.37 |
|   | 16   | W  | 02:33 | 5.44   | 15:17 | 4.99 | 09:10     | 0.15 | 21:22 | 0.54 |
|   | 17   | Th | 03:27 | 5.31   | 16:12 | 4.83 | 09:57     | 0.34 | 22:09 | 0.76 |
|   | 18   | F  | 04:24 | 5.12   | 17:10 | 4.66 | 10:45     | 0.58 | 22:59 | 0.99 |
| C | 19   | Sa | 05:27 | 4.89   | 18:14 | 4.51 | 11:38     | 0.84 | 23:54 | 1.20 |
|   | 20   | Su | 06:36 | 4.68   | 19:21 | 4.42 |           |      | 12:36 | 1.09 |
|   | 21   | M  | 07:46 | 4.53   | 20:27 | 4.43 | 00:59     | 1.37 | 13:46 | 1.28 |
|   | 22   | Tu | 08:55 | 4.46   | 21:30 | 4.51 | 02:18     | 1.43 | 15:08 | 1.34 |
|   | 23   | W  | 10:00 | 4.47   | 22:27 | 4.64 | 03:45     | 1.35 | 16:22 | 1.30 |
|   | 24   | Th | 10:56 | 4.51   | 23:15 | 4.76 | 04:56     | 1.20 | 17:22 | 1.20 |
|   | 25   | F  | 11:40 | 4.55   | 23:53 | 4.85 | 05:52     | 1.03 | 18:07 | 1.08 |
| • | 26   | Sa |       |        | 12:15 | 4.57 | 06:35     | 0.89 | 18:45 | 0.98 |
|   | 27   | Su | 00:23 | 4.90   | 12:44 | 4.59 | 07:11     | 0.79 | 19:16 | 0.91 |
|   | 28   | M  | 00:52 | 4.93   | 13:13 | 4.60 | 07:42     | 0.74 | 19:44 | 0.86 |
|   | 29   | Tu | 01:22 | 4.93   | 13:45 | 4.62 | 08:10     | 0.73 | 20:10 | 0.85 |
|   | 30   | W  | 01:55 | 4.92   | 14:19 | 4.62 | 08:37     | 0.74 | 20:37 | 0.87 |
|   | 31   | Th | 02:31 | 4.88   | 14:57 | 4.61 | 09:05     | 0.77 | 21:06 | 0.93 |

| ΔΙ | IGI | IST | 201 | Δ |
|----|-----|-----|-----|---|

|   |      |    |       | High \ |       | Low Water |       |       |        |      |  |
|---|------|----|-------|--------|-------|-----------|-------|-------|--------|------|--|
|   | Date |    | Mori  |        | After | noon      | Mor   |       | Afteri | noon |  |
|   | Jul  | _  |       |        |       |           |       | _     |        |      |  |
|   |      |    | Time  | m      | Time  | m         | Time  | m     | Time   | m    |  |
|   | 1    | F  | 03:11 | 4.80   | 15:37 | 4.55      | 09:35 | 0.83  | 21:40  | 1.02 |  |
|   | 2    | Sa | 03:54 | 4.68   | 16:22 | 4.46      | 10:11 | 0.93  | 22:17  | 1.16 |  |
|   | 3    | Su | 04:42 | 4.53   | 17:11 | 4.34      | 10:51 | 1.07  | 23:01  | 1.31 |  |
| D | 4    | M  | 05:34 | 4.36   | 18:07 | 4.23      | 11:40 | 1.22  | 23:54  | 1.45 |  |
|   | 5    | Tu | 06:37 | 4.24   | 19:13 | 4.21      |       |       | 12:42  | 1.33 |  |
|   | 6    | W  | 07:53 | 4.23   | 20:24 | 4.34      | 01:06 | 1.48  | 13:56  | 1.31 |  |
|   | 7    | Th | 09:06 | 4.38   | 21:28 | 4.60      | 02:27 | 1.33  | 15:12  | 1.15 |  |
|   | 8    | F  | 10:07 | 4.63   | 22:22 | 4.92      | 03:45 | 1.02  | 16:22  | 0.88 |  |
|   | 9    | Sa | 11:00 | 4.89   | 23:10 | 5.22      | 04:55 | 0.63  | 17:23  | 0.58 |  |
| 0 | 10   | Su | 11:48 | 5.10   | 23:56 | 5.45      | 05:52 | 0.27  | 18:14  | 0.33 |  |
|   | 11   | M  |       |        | 12:33 | 5.21      | 06:42 | 0.01  | 18:58  | 0.18 |  |
|   | 12   | Tu | 00:39 | 5.58   | 13:18 | 5.23      | 07:26 | -0.12 | 19:40  | 0.14 |  |
|   | 13   | W  | 01:24 | 5.59   | 14:03 | 5.16      | 08:07 | -0.09 | 20:21  | 0.22 |  |
|   | 14   | Th | 02:11 | 5.50   | 14:50 | 5.03      | 08:50 | 0.07  | 21:02  | 0.40 |  |
|   | 15   | F  | 03:00 | 5.32   | 15:40 | 4.85      | 09:33 | 0.33  | 21:46  | 0.64 |  |
|   | 16   | Sa | 03:54 | 5.07   | 16:34 | 4.66      | 10:18 | 0.64  | 22:33  | 0.92 |  |
| C | 17   | Su | 04:54 | 4.78   | 17:35 | 4.47      | 11:06 | 0.97  | 23:26  | 1.19 |  |
|   | 18   | M  | 06:03 | 4.50   | 18:43 | 4.34      |       |       | 12:00  | 1.29 |  |
|   | 19   | Tu | 07:17 | 4.31   | 19:53 | 4.32      | 00:28 | 1.41  | 13:06  | 1.52 |  |
|   | 20   | W  | 08:30 | 4.24   | 21:00 | 4.40      | 01:45 | 1.51  | 14:35  | 1.60 |  |
|   | 21   | Th | 09:39 | 4.29   | 22:01 | 4.56      | 03:22 | 1.43  | 15:57  | 1.50 |  |
|   | 22   | F  | 10:36 | 4.39   | 22:51 | 4.73      | 04:37 | 1.23  | 16:59  | 1.33 |  |
|   | 23   | Sa | 11:20 | 4.49   | 23:29 | 4.85      | 05:30 | 1.03  | 17:45  | 1.15 |  |
|   | 24   | Su | 11:53 | 4.57   |       |           | 06:13 | 0.85  | 18:22  | 0.98 |  |
| • | 25   | M  | 00:00 | 4.92   | 12:21 | 4.62      | 06:47 | 0.74  | 18:53  | 0.86 |  |
| _ | 26   | Tu | 00:30 | 4.95   | 12:49 | 4.67      | 07:15 | 0.67  | 19:19  | 0.79 |  |
|   | 27   | W  | 00:57 | 4.97   | 13:16 | 4.71      | 07:41 | 0.64  | 19:43  | 0.75 |  |
|   | 28   | Th | 01:27 | 4.97   | 13:48 | 4.75      | 08:05 | 0.63  | 20:08  | 0.74 |  |
|   | 29   | F  | 02:01 | 4.94   | 14:24 | 4.75      | 08:32 | 0.65  | 20:39  | 0.76 |  |
|   | 30   | Sa | 02:40 | 4.88   | 15:05 | 4.71      | 09:04 | 0.71  | 21:12  | 0.85 |  |
|   | 31   | Su | 03:23 | 4.77   | 15:49 | 4.62      | 09:40 | 0.84  | 21:50  | 0.99 |  |
|   |      |    |       |        |       |           |       |       |        |      |  |

## **Soldiers Point (Dundalk)**

| SEPTEMBER 2014 |      |    |       |        |       |      |       |       |           |      |
|----------------|------|----|-------|--------|-------|------|-------|-------|-----------|------|
|                |      |    |       | High ' | Water |      |       | Low   | Water     |      |
|                | Date | 2  | Mori  | ning   | After | noon | Mor   | ning  | Afternoon |      |
|                |      |    | Time  | m      | Time  | m    | Time  | m     | Time      | m    |
|                | 1    | M  | 04:10 | 4.60   | 16:37 | 4.48 | 10:20 | 1.02  | 22:33     | 1.17 |
| D              | 2    | Tu | 05:03 | 4.41   | 17:33 | 4.34 | 11:08 | 1.23  | 23:27     | 1.35 |
| _              | 3    | W  | 06:07 | 4.23   | 18:39 | 4.26 |       |       | 12:11     | 1.40 |
|                | 4    | Th | 07:28 | 4.19   | 19:56 | 4.35 | 00:39 | 1.42  | 13:28     | 1.42 |
|                | 5    | F  | 08:48 | 4.34   | 21:06 | 4.60 | 02:05 | 1.29  | 14:50     | 1.25 |
|                | 6    | Sa | 09:52 | 4.61   | 22:04 | 4.93 | 03:30 | 0.96  | 16:04     | 0.95 |
|                | 7    | Su | 10:46 | 4.89   | 22:54 | 5.24 | 04:40 | 0.55  | 17:06     | 0.62 |
|                | 8    | M  | 11:33 | 5.10   | 23:39 | 5.47 | 05:40 | 0.19  | 17:58     | 0.34 |
| 0              | 9    | Tu |       |        | 12:17 | 5.22 | 06:27 | -0.06 | 18:42     | 0.15 |
|                | 10   | W  | 00:22 | 5.58   | 12:58 | 5.24 | 07:10 | -0.15 | 19:23     | 0.09 |
|                | 11   | Th | 01:04 | 5.57   | 13:39 | 5.17 | 07:49 | -0.09 | 20:02     | 0.16 |
|                | 12   | F  | 01:48 | 5.45   | 14:23 | 5.05 | 08:29 | 0.11  | 20:43     | 0.33 |
|                | 13   | Sa | 02:35 | 5.25   | 15:09 | 4.89 | 09:08 | 0.40  | 21:25     | 0.57 |
|                | 14   | Su | 03:25 | 4.97   | 15:59 | 4.70 | 09:50 | 0.74  | 22:10     | 0.85 |
|                | 15   | M  | 04:22 | 4.66   | 16:56 | 4.50 | 10:36 | 1.10  | 23:01     | 1.14 |
| C              | 16   | Tu | 05:29 | 4.35   | 18:03 | 4.33 | 11:27 | 1.43  | 23:58     | 1.39 |
|                | 17   | W  | 06:45 | 4.14   | 19:15 | 4.26 |       |       | 12:28     | 1.68 |
|                | 18   | Th | 07:59 | 4.08   | 20:24 | 4.32 | 01:09 | 1.52  | 13:51     | 1.76 |
|                | 19   | F  | 09:10 | 4.17   | 21:27 | 4.48 | 02:46 | 1.45  | 15:23     | 1.65 |
|                | 20   | Sa | 10:09 | 4.33   | 22:19 | 4.66 | 04:04 | 1.24  | 16:27     | 1.43 |
|                | 21   | Su | 10:51 | 4.49   | 23:00 | 4.81 | 05:00 | 1.02  | 17:16     | 1.20 |
|                | 22   | M  | 11:26 | 4.62   | 23:34 | 4.91 | 05:42 | 0.83  | 17:54     | 1.00 |
|                | 23   | Tu | 11:56 | 4.71   |       |      | 06:17 | 0.69  | 18:27     | 0.85 |
|                | 24   | W  | 00:04 | 4.95   | 12:23 | 4.78 | 06:45 | 0.61  | 18:52     | 0.75 |
| _              | 25   | Th | 00:31 | 4.98   | 12:48 | 4.84 | 07:10 | 0.56  | 19:16     | 0.69 |
|                | 26   | F  | 01:00 | 4.99   | 13:19 | 4.89 | 07:35 | 0.54  | 19:44     | 0.65 |
|                | 27   | Sa | 01:34 | 4.98   | 13:55 | 4.90 | 08:05 | 0.57  | 20:15     | 0.66 |
|                | 28   | Su | 02:14 | 4.93   | 14:36 | 4.87 | 08:38 | 0.66  | 20:51     | 0.74 |
|                | 29   | M  | 02:58 | 4.82   | 15:22 | 4.78 | 09:15 | 0.82  | 21:31     | 0.88 |
|                | 30   | Tu | 03:47 | 4.65   | 16:12 | 4.64 | 09:57 | 1.03  | 22:16     | 1.06 |

| OCTOBER 2014 |      |    |       |        |       |      |       |       |       |      |  |
|--------------|------|----|-------|--------|-------|------|-------|-------|-------|------|--|
|              |      |    |       | High \ | Water |      |       | Low \ | Vater |      |  |
|              | Date |    | Mor   | ning   | After | noon | Mor   | ning  | After | noon |  |
|              |      |    | Time  | m      | Time  | m    | Time  | m     | Time  | m    |  |
| D            | 1    | W  | 04:42 | 4.45   | 17:07 | 4.50 | 10:48 | 1.27  | 23:12 | 1.24 |  |
|              | 2    | Th | 05:49 | 4.28   | 18:14 | 4.41 | 11:50 | 1.45  |       |      |  |
|              | 3    | F  | 07:12 | 4.24   | 19:31 | 4.46 | 00:25 | 1.31  | 13:06 | 1.48 |  |
|              | 4    | Sa | 08:31 | 4.39   | 20:43 | 4.67 | 01:49 | 1.18  | 14:27 | 1.32 |  |
|              | 5    | Su | 09:37 | 4.64   | 21:45 | 4.95 | 03:12 | 0.88  | 15:43 | 1.03 |  |
|              | 6    | M  | 10:32 | 4.90   | 22:37 | 5.22 | 04:23 | 0.53  | 16:48 | 0.72 |  |
|              | 7    | Tu | 11:19 | 5.09   | 23:24 | 5.40 | 05:22 | 0.23  | 17:41 | 0.44 |  |
| 0            | 8    | W  |       |        | 12:01 | 5.20 | 06:11 | 0.04  | 18:27 | 0.27 |  |
|              | 9    | Th | 00:06 | 5.47   | 12:40 | 5.22 | 06:54 | -0.00 | 19:08 | 0.20 |  |
|              | 10   | F  | 00:48 | 5.44   | 13:19 | 5.18 | 07:32 | 0.08  | 19:47 | 0.24 |  |
|              | 11   | Sa | 01:30 | 5.32   | 13:59 | 5.09 | 08:09 | 0.28  | 20:26 | 0.37 |  |
|              | 12   | Su | 02:14 | 5.13   | 14:42 | 4.96 | 08:46 | 0.55  | 21:07 | 0.57 |  |
|              | 13   | M  | 03:02 | 4.87   | 15:29 | 4.79 | 09:25 | 0.86  | 21:50 | 0.82 |  |
|              | 14   | Tu | 03:54 | 4.59   | 16:21 | 4.60 | 10:08 | 1.19  | 22:38 | 1.08 |  |
| $\mathbb{C}$ | 15   | W  | 04:57 | 4.30   | 17:23 | 4.41 | 10:56 | 1.49  | 23:30 | 1.32 |  |
|              | 16   | Th | 06:09 | 4.09   | 18:34 | 4.29 | 11:52 | 1.73  |       |      |  |
|              | 17   | F  | 07:21 | 4.03   | 19:43 | 4.29 | 00:32 | 1.47  | 13:00 | 1.84 |  |
|              | 18   | Sa | 08:30 | 4.11   | 20:47 | 4.39 | 01:53 | 1.47  | 14:29 | 1.77 |  |
|              | 19   | Su | 09:28 | 4.29   | 21:41 | 4.55 | 03:16 | 1.31  | 15:43 | 1.57 |  |
|              | 20   | M  | 10:15 | 4.49   | 22:26 | 4.71 | 04:16 | 1.11  | 16:37 | 1.33 |  |
|              | 21   | Tu | 10:54 | 4.66   | 23:04 | 4.83 | 05:02 | 0.91  | 17:19 | 1.12 |  |
|              | 22   | W  | 11:27 | 4.79   | 23:36 | 4.91 | 05:40 | 0.76  | 17:54 | 0.94 |  |
|              | 23   | Th | 11:55 | 4.89   |       |      | 06:11 | 0.65  | 18:23 | 0.80 |  |
|              | 24   | F  | 00:05 | 4.97   | 12:21 | 4.97 | 06:39 | 0.57  | 18:51 | 0.69 |  |
|              | 25   | Sa | 00:36 | 5.01   | 12:53 | 5.04 | 07:09 | 0.53  | 19:23 | 0.62 |  |
|              | 26   | Su | 01:12 | 5.02   | 12:30 | 5.06 | 06:41 | 0.56  | 18:57 | 0.61 |  |
|              | 27   | M  | 00:53 | 4.97   | 13:13 | 5.04 | 07:17 | 0.66  | 19:37 | 0.66 |  |
|              | 28   | Tu | 01:39 | 4.88   | 14:00 | 4.97 | 07:57 | 0.83  | 20:18 | 0.78 |  |
|              | 29   | W  | 02:31 | 4.73   | 14:52 | 4.86 | 08:42 | 1.05  | 21:07 | 0.94 |  |
|              | 30   | Th | 03:29 | 4.56   | 15:49 | 4.74 | 09:33 | 1.27  | 22:02 | 1.08 |  |
| D            | 31   | F  | 04:37 | 4.42   | 16:54 | 4.65 | 10:33 | 1.44  | 23:11 | 1.14 |  |

|   |      |    |       |        |       |      |       |       | NOVEME    | BER 2014 |
|---|------|----|-------|--------|-------|------|-------|-------|-----------|----------|
|   |      |    |       | High ' | Water |      |       | Low \ | Water     |          |
|   | Date | 2  | Mor   | ning   | After | noon | Mor   | ning  | Afternoon |          |
|   |      |    | Time  | m      | Time  | m    | Time  | m     | Time      | m        |
|   | 1    | Sa | 05:55 | 4.39   | 18:08 | 4.65 | 11:45 | 1.48  |           |          |
|   | 2    | Su | 07:11 | 4.50   | 19:20 | 4.77 | 00:27 | 1.07  | 13:01     | 1.37     |
|   | 3    | M  | 08:17 | 4.70   | 20:24 | 4.95 | 01:46 | 0.87  | 14:16     | 1.15     |
|   | 4    | Tu | 09:14 | 4.91   | 21:21 | 5.13 | 03:00 | 0.64  | 15:23     | 0.89     |
| _ | 5    | W  | 10:03 | 5.07   | 22:10 | 5.24 | 04:02 | 0.44  | 16:22     | 0.67     |
| 0 | 6    | Th | 10:47 | 5.16   | 22:54 | 5.28 | 04:54 | 0.32  | 17:12     | 0.50     |
|   | 7    | F  | 11:26 | 5.19   | 23:36 | 5.25 | 05:38 | 0.31  | 17:56     | 0.42     |
|   | 8    | Sa |       |        | 12:03 | 5.18 | 06:16 | 0.38  | 18:35     | 0.42     |
|   | 9    | Su | 00:15 | 5.14   | 12:39 | 5.12 | 06:52 | 0.53  | 19:14     | 0.49     |
|   | 10   | M  | 00:57 | 4.99   | 13:20 | 5.04 | 07:28 | 0.73  | 19:52     | 0.62     |
|   | 11   | Tu | 01:42 | 4.80   | 14:03 | 4.91 | 08:04 | 0.96  | 20:33     | 0.80     |
|   | 12   | W  | 02:30 | 4.58   | 14:51 | 4.75 | 08:44 | 1.22  | 21:16     | 1.01     |
|   | 13   | Th | 03:24 | 4.36   | 15:45 | 4.56 | 09:28 | 1.47  | 22:02     | 1.22     |
| C | 14   | F  | 04:27 | 4.16   | 16:48 | 4.39 | 10:19 | 1.69  | 22:56     | 1.38     |
|   | 15   | Sa | 05:36 | 4.06   | 17:56 | 4.30 | 11:18 | 1.83  | 23:57     | 1.46     |
|   | 16   | Su | 06:43 | 4.10   | 19:00 | 4.31 |       |       | 12:25     | 1.85     |
|   | 17   | M  | 07:42 | 4.24   | 19:57 | 4.40 | 01:07 | 1.42  | 13:38     | 1.73     |
|   | 18   | Tu | 08:33 | 4.43   | 20:47 | 4.54 | 02:16 | 1.28  | 14:43     | 1.54     |
|   | 19   | W  | 09:16 | 4.62   | 21:29 | 4.68 | 03:11 | 1.11  | 15:33     | 1.32     |
|   | 20   | Th | 09:54 | 4.79   | 22:06 | 4.81 | 03:56 | 0.93  | 16:16     | 1.11     |
|   | 21   | F  | 10:25 | 4.94   | 22:40 | 4.92 | 04:34 | 0.78  | 16:53     | 0.91     |
| • | 22   | Sa | 10:57 | 5.07   | 23:15 | 5.01 | 05:11 | 0.65  | 17:29     | 0.73     |
|   | 23   | Su | 11:31 | 5.18   | 23:54 | 5.05 | 05:46 | 0.57  | 18:06     | 0.59     |
|   | 24   | M  |       |        | 12:11 | 5.24 | 06:23 | 0.56  | 18:44     | 0.52     |
|   | 25   | Tu | 00:38 | 5.05   | 12:55 | 5.24 | 07:02 | 0.63  | 19:25     | 0.53     |
|   | 26   | W  | 01:26 | 4.98   | 13:43 | 5.20 | 07:43 | 0.77  | 20:10     | 0.60     |
|   | 27   | Th | 02:18 | 4.87   | 14:36 | 5.12 | 08:28 | 0.96  | 20:57     | 0.72     |
|   | 28   | F  | 03:17 | 4.74   | 15:33 | 5.01 | 09:18 | 1.16  | 21:50     | 0.85     |
| D | 29   | Sa | 04:22 | 4.61   | 16:36 | 4.90 | 10:15 | 1.32  | 22:51     | 0.96     |

|      |    |    |            |      |           |      |           |      | DECEME    | BER 2014 |
|------|----|----|------------|------|-----------|------|-----------|------|-----------|----------|
|      |    |    | High Water |      |           |      | Low Water |      |           |          |
| Date |    |    | Morning    |      | Afternoon |      | Morning   |      | Afternoon |          |
|      |    |    | Time       | m    | Time      | m    | Time      | m    | Time      | m        |
|      | 1  | М  | 06:45      | 4.59 | 18:55     | 4.82 | 00:00     | 1.00 | 12:30     | 1.40     |
|      | 2  | Tu | 07:53      | 4.71 | 20:03     | 4.88 | 01:15     | 0.96 | 13:46     | 1.29     |
|      | 3  | W  | 08:53      | 4.85 | 21:04     | 4.95 | 02:30     | 0.87 | 15:00     | 1.12     |
|      | 4  | Th | 09:46      | 4.99 | 21:59     | 5.02 | 03:39     | 0.77 | 16:05     | 0.93     |
| _    | 5  | F  | 10:33      | 5.09 | 22:46     | 5.04 | 04:37     | 0.69 | 17:00     | 0.77     |
| O    | 6  | Sa | 11:15      | 5.14 | 23:27     | 5.01 | 05:23     | 0.66 | 17:45     | 0.66     |
|      | 7  | Su | 11:50      | 5.15 |           |      | 06:03     | 0.69 | 18:26     | 0.61     |
|      | 8  | M  | 00:04      | 4.94 | 12:24     | 5.13 | 06:38     | 0.75 | 19:02     | 0.62     |
|      | 9  | Tu | 00:41      | 4.85 | 13:00     | 5.08 | 07:11     | 0.86 | 19:39     | 0.67     |
|      | 10 | W  | 01:21      | 4.74 | 13:40     | 5.00 | 07:44     | 0.99 | 20:15     | 0.78     |
|      | 11 | Th | 02:03      | 4.61 | 14:22     | 4.87 | 08:20     | 1.15 | 20:53     | 0.92     |
|      | 12 | F  | 02:49      | 4.45 | 15:07     | 4.71 | 08:57     | 1.34 | 21:33     | 1.09     |
|      | 13 | Sa | 03:40      | 4.30 | 15:57     | 4.53 | 09:42     | 1.54 | 22:16     | 1.26     |
| C    | 14 | Su | 04:38      | 4.17 | 16:54     | 4.35 | 10:32     | 1.72 | 23:07     | 1.40     |
|      | 15 | M  | 05:43      | 4.10 | 17:58     | 4.25 | 11:31     | 1.82 |           |          |
|      | 16 | Tu | 06:48      | 4.15 | 19:03     | 4.24 | 00:03     | 1.47 | 12:32     | 1.83     |
|      | 17 | W  | 07:45      | 4.28 | 20:00     | 4.33 | 01:07     | 1.45 | 13:38     | 1.72     |
|      | 18 | Th | 08:34      | 4.47 | 20:51     | 4.48 | 02:11     | 1.33 | 14:40     | 1.52     |
|      | 19 | F  | 09:18      | 4.69 | 21:36     | 4.66 | 03:07     | 1.14 | 15:34     | 1.26     |
|      | 20 | Sa | 09:56      | 4.90 | 22:17     | 4.84 | 03:59     | 0.94 | 16:23     | 0.98     |
|      | 21 | Su | 10:34      | 5.11 | 22:58     | 4.99 | 04:44     | 0.74 | 17:07     | 0.71     |
|      | 22 | M  | 11:13      | 5.27 | 23:40     | 5.10 | 05:27     | 0.58 | 17:51     | 0.48     |
|      | 23 | Tu | 11:54      | 5.38 |           |      | 06:08     | 0.50 | 18:33     | 0.34     |
|      | 24 | W  | 00:24      | 5.13 | 12:39     | 5.43 | 06:48     | 0.49 | 19:15     | 0.29     |
|      | 25 | Th | 01:12      | 5.11 | 13:27     | 5.42 | 07:30     | 0.58 | 19:59     | 0.33     |
|      | 26 | F  | 02:04      | 5.02 | 14:19     | 5.34 | 08:15     | 0.73 | 20:45     | 0.44     |
|      | 27 | Sa | 03:00      | 4.90 | 15:15     | 5.22 | 09:02     | 0.92 | 21:33     | 0.61     |
| D    | 28 | Su | 04:00      | 4.75 | 16:14     | 5.06 | 09:53     | 1.11 | 22:27     | 0.81     |
|      | 29 | M  | 05:06      | 4.64 | 17:19     | 4.89 | 10:51     | 1.28 | 23:29     | 1.00     |
|      | 30 | Tu | 06:16      | 4.58 | 18:30     | 4.75 | 11:57     | 1.39 |           |          |
|      | 31 | W  | 07:24      | 4.61 | 19:41     | 4.69 | 00:41     | 1.13 | 13:15     | 1.40     |

30 Su 05:33 4.55 17:44 4.83 11:19 1.41



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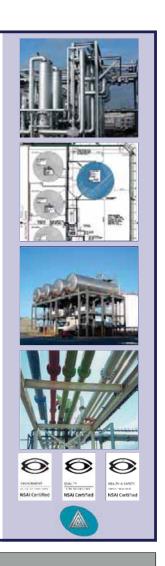


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## BRIDGES OF DUBLIN

- everything you ever wanted to know about Dublin's bridges

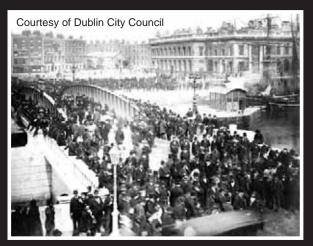
Have you ever wondered how many bridges cross the River Liffey or which one is the oldest? Well, wonder no more, answers to these questions and many more can be found on Dublin City Council's new website:

www.bridgesofdublin.ie.

Bridges of Dublin was designed to showcase Dublin's unique bridge infrastructure. The site provides a range of information running to over 90,000 words covering the history, design, engineering and interesting facts for each of the current 23 bridges. A spectacular digital archive contains more than 900 photos from the historic to the modern, some of which have never be seen on public display. Sources include the Dublin City Library & Archive, National Gallery, National Library of Ireland, Dublin Port, Fáilte Ireland and the Guinness Archive.

As the completion of the Liffey's 24th bridge
- the Rosie Hackett – approaches, the new
website provides an opportunity for all to learn
about our rich bridge heritage. From the oldest,
Mellows Bridge built in 1688, to the more recently
constructed Samuel Beckett, built in 2009.

The website won the Best Government and Local Government category at the recent Irish Web Awards 2013. It was the second year in a row that the Council won the publicly judged award.









Comhairle Cathrach Bhaile Átha Cliath Dublin City Council

### Interesting facts:

- The force on the back cables of the Samuel Beckett Bridge is equivalent to a people load of over 80,000 - a Croke Park full house.
- Island Bridge was originally named Sarah Bridge for Sarah Fane, Countess of Westmorland.
- The keystones on the centre arches of O'Connell Bridge represent Anna Liffey looking westwards and the Atlantic gazing eastwards towards the sea.





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|             | SUN  | MON               | TUE | WED                                       | THU | FRI | SAT | SUN | MON                    | TUE | WED | THU | FRI | SAT | SUN             | MON | TUE | WED |
|-------------|------|-------------------|-----|---|-----|-----|-----|-----|------------------------|-----|-----|-----|-----|-----|-----------------|-----|-----|-----|
| J<br>A<br>N |      |                   |     | New<br>Year's<br>Day<br>Public<br>Holiday | 2   | 3   | 4   | 5   | 6                      | 7   | 8   | 9   | 10  | 11  | 12              | 13  | 14  | 15  |
| F<br>E<br>B |      |                   |     |   |     |     | 1   | 2   | 3                      | 4   | 5   | 6   | 7   | 8   | 9               | 10  | 11  | 12  |
| M<br>A<br>R |      |                   |     |   |     |     | ı   | 2   | 3                      | 4   | 5   | 6   | 7   | 8   | 9               | 10  | П   | 12  |
| A<br>P<br>R |      |                   | I   | 2   | 3   | 4   | 5   | 6   | 7                      | 8   | 9   | 10  | П   | 12  | 13              | 14  | 15  | 16  |
| M<br>A<br>Y |      |                   |     |   | I   | 2   | 3   | 4   | 5<br>Public<br>Holiday | 6   | 7   | 8   | 9   | 10  | 11              | 12  | 13  | 14  |
| J<br>U<br>N | I    | Public<br>Holiday | 3   | 4   | 5   | 6   | 7   | 8   | 9                      | 10  | П   | 12  | 13  | 14  | Father's<br>Day | 16  | 17  | 18  |
| JUL         |      |                   | I   | 2   | 3   | 4   | 5   | 6   | 7                      | 8   | 9   | 10  | 11  | 12  | 13              | 14  | 15  | 16  |
| A<br>U<br>G |      |                   |     |   |     | I   | 2   | 3   | 4<br>Public<br>Holiday | 5   | 6   | 7   | 8   | 9   | 10              | П   | 12  | 13  |
| S<br>E<br>P |      | I                 | 2   | 3   | 4   | 5   | 6   | 7   | 8                      | 9   | 10  | 11  | 12  | 13  | 14              | 15  | 16  | 17  |
| 0<br>C<br>T |      |                   |     | I   | 2   | 3   | 4   | 5   | 6                      | 7   | 8   | 9   | 10  | 11  | 12              | 13  | 14  | 15  |
| N<br>O<br>V |      |                   |     |   |     |     | I   | 2   | 3                      | 4   | 5   | 6   | 7   | 8   | 9               | 10  | 11  | 12  |
| D<br>E<br>C |      | I                 | 2   | 3   | 4   | 5   | 6   | 7   | 8                      | 9   | 10  | П   | 12  | 13  | 14              | 15  | 16  | 17  |
|             | <br> | MON               |     |   |     |     |     |     |                        |     |     |     |     |     |                 |     |     |     |

| THU | FRI                       | SAT | SUN                    | MON  | TUE | WED | THU                    | FRI  | SAT | SUN                          | MON               | TUE | WED | THU | FRI | SAT | SUN   | MON |             |
|-----|---------------------------|-----|------------------------|--|-----|-----|------------------------|--|-----|------------------------------|-------------------|-----|-----|-----|-----|-----|---|-----|-------------|
| 16  | 17                        | 18  | 19                     | 20   | 21  | 22  | 23                     | 24   | 25  | 26                           | 27                | 28  | 29  | 30  | 31  |     |   |     | J<br>A<br>N |
| 13  | St.<br>Valentine's<br>Day | 15  | 16                     | 17   | 18  | 19  | 20                     | 21   | 22  | 23                           | 24                | 25  | 26  | 27  | 28  |     |   |     | F<br>E<br>B |
| 13  | 14                        | 15  | 16                     | St.<br>Patrick's<br>Day<br>Public<br>Holiday | 18  | 19  | 20                     | 21   | 22  | 23                           | 24                | 25  | 26  | 27  | 28  | 29  | Mother's<br>Day<br>Summer<br>Time<br>Begins | 31  | M<br>A<br>R |
| 17  | 18                        | 19  | 20<br>Easter<br>Sunday | <b>2 I</b> Easter Monday Public Holiday      | 22  | 23  | 24                     | 25   | 26  | 27                           | 28                | 29  | 30  |     |     |     |   |     | A<br>P<br>R |
| 15  | 16                        | 17  | 18                     | 19   | 20  | 21  | 22                     | 23   | 24  | 25                           | 26                | 27  | 28  | 29  | 30  | 31  |   |     | M<br>A<br>Y |
| 19  | 20                        | 21  | 22                     | 23   | 24  | 25  | 26                     | 27   | 28  | 29                           | 30                |     |     |     |     |     |   |     | J<br>U<br>N |
| 17  | 18                        | 19  | 20                     | 21   | 22  | 23  | 24                     | 25   | 26  | 27                           | 28                | 29  | 30  | 31  |     |     |   |     | JUL         |
| 14  | 15                        | 16  | 17                     | 18   | 19  | 20  | 21                     | 22   | 23  | 24                           | 25                | 26  | 27  | 28  | 29  | 30  | 31  |     | A<br>U<br>G |
| 18  | 19                        | 20  | 21                     | 22   | 23  | 24  | 25                     | 26   | 27  | 28                           | 29                | 30  |     |     |     |     |   |     | S<br>E<br>P |
| 16  | 17                        | 18  | 19                     | 20   | 21  | 22  | 23                     | 24   | 25  | 26<br>Summer<br>Time<br>Ends | 27 Public Holiday | 28  | 29  | 30  | 31  |     |   |     | 0<br>C<br>T |
| 13  | 14                        | 15  | 16                     | 17   | 18  | 19  | 20                     | 21   | 22  | 23                           | 24                | 25  | 26  | 27  | 28  | 29  | 30  |     | N<br>0<br>V |
| 18  | 19                        | 20  | 21                     | 22   | 23  | 24  | 25<br>Christmas<br>Day | 26<br>St.Stephen's<br>Day<br>Public<br>Holiday | 27  | 28                           | 29                | 30  | 31  |     |     |     |   |     | D<br>E<br>C |

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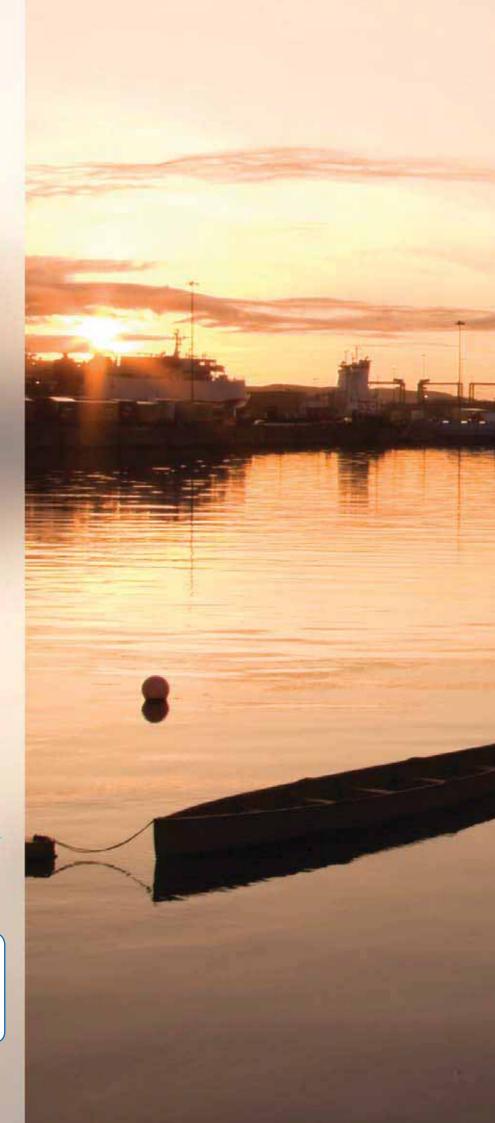
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