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John B. Roney
Sacred Heart University

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Article

[Mis-]managing Fisheries on the West Coast of Ireland in the Nineteenth Century

John B. Roney

Department of History, Sacred Heart University, Fairfield, CO 06825, USA; roneyj@sacredheart.edu

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Abstract: This study focuses on the cultural heritage of artisan coastal fishing in the west of Ireland in the 19th century. The town and port of Dingle, County Kerry, offers an important case study on the progress of local development and changing British policies. While there was clearly an abundance of fish, the poverty and the lack of capital for improvements in ports, vessels, gear, education, and transportation, left the fishing industry underdeveloped until well after the 1890s. In addition, a growing rift developed between the traditional farmer-fishermen and the new middle-class capitalist companies. After several royal commissions examined the fishing industry, the leading ichthyologists of the day concluded that an abundance of fish could be taken without fear of overfishing. The utilitarian economic principle became dominant, changing the previous non-interventionist policies. In the end, there was little concern for sustainability. The mismanagement of commercial fishing in the west of Ireland stemmed from a series of factors, including the increasing need for protein in Britain, technological developments that allowed greater fish catch, and the Conservative government's political policy of 'constructive unionism' that attempted to develop the Irish economy to preserve the kingdom.

Keywords: coastal cultural heritage; maritime heritage; Irish artisan fishing; history of Dingle; Co. Kerry; Ireland

This study focuses on the cultural heritage of coastal fishing in the west of Ireland in the 19th century where essentially there was only artisan fishing, which is subsistence and small-scale commercial near-shore fishing. The town and port of Dingle, County Kerry, offers an important case study of the progress of local development and changing British policies. Today, Dingle is the fourth largest fishing port in Ireland, continuing its earlier status as an important port for trade and fishing; however, it struggled within the confines of British policy until 1922; and it struggled with inadequate policies under the new Irish Free State after. Until 1922, policies and procedures that affected changes to cultural maritime heritage in Ireland were largely the product of outside British interests; the result was generally a mismanagement of fisheries in the west of Ireland. Mismanagement, however, must account for a complex number of factors, and while many governmental policies can be assessed as ineffective, local community factors must also be taken into consideration.

The peninsula of Dingle (Corca Dhuibhne), County Kerry, and the principal harbour town of Dingle (An Daingean) were both renowned for their natural beauty ([Office of the National Illustrated Library 1852](#)). Dingle had a suitable harbour for trade and fishing, first established in the 13th century. It was one of the main departure points that carried medieval Irish pilgrims to the shrine of Saint James at Santiago de Compostela in northern Spain and there was trade in wool, hide, and butter, returning with wine, salt, and clothing; the pier became known as the Spanish Pier. Dingle was granted a charter by Queen Elizabeth I, demonstrating its importance as a centre of trade, and it became the only walled town in Kerry. As a corporation it sent two representatives to Parliament until the Union of 1800 ([Hitchcock 1852](#), p. 134). By the late 18th century a successful linen industry supplemented

fishing, with families finding sufficient employment for all members of the family. Writing in 1821, Barry compared Dingle with Valentia and underlined the fact that in Dingle, fishermen could devote themselves to fishing:

Dingle Harbour is opposite to Valentia, on the north side of Dingle bay, and also extremely well situated; there is much larger quantity of fish taken, and cured here, than in any other quarter of the Kerry district; the boats are the same kind, but better than Valentia, and the Fishermen, being more exclusively confined to that occupation, are more experienced and enterprising; they have greater facilities in obtaining salt, and there are two to three persons of capital, who purchase and cure the fish. The quality of their cured fish is, therefore, considerably better than at Valentia; here they use hand lines, only, and a few herring nets; the poor people are exceedingly industrious, and with a little assistance, I think a most valuable Fishery may be established here. (Barry 1821, p. 41)

Nearly all nineteenth-century reports about marine life on the west coast of Ireland describe an abundance of fish, yet also reveal an underdeveloped fishing industry. Although Ireland agreed to unite with Great Britain in 1800, Ireland did not receive the same governmental support for industry. While some agriculture thrived, with the goal of exporting produce and cattle to England, the fishing industry was largely under-funded and often ignored. By contrast, the eighteenth-century Irish Parliament under Grattan had supported the fishing industry to some degree. In 1785 the Irish Parliament introduced barrel bounties, based on the amount of cured herring produced. Bounties were economic rewards to encourage certain products or industries they deemed essential to the economy. Under a mercantile economy, bounties were constantly evaluated as the government believed a strict management would lead to greater prosperity. Under the Union of Great Britain and Ireland in 1801, a new Bill for the Encouragement and Improvement of the Irish Fisheries in 1819 paid a bounty of 50 shillings per ton on fishing vessels (Bill 1819). The bounties helped the herring fishermen in Scotland who had the advantage of making contracts with local curing stations that had perfected the art of smoking and curing, forming successful industries. Scotland also benefited from an already existing trade and competition with Norway and the Netherlands, and it had a long history of herring and white fisheries (Poulsen 2008, p. 56). Although Cornwall and Devon had a developed fishing industry, according to Anna Gambles, Britain concentrated on Scotland “... to forge a national fishery to rival that of the Dutch ...” Its “... strict monitoring of the quality and character of the British cure ...” helped maintain “... the ‘national character’ of British exports ... fundamental to capturing and keeping a share of the foreign markets.” (Gambles 2000, pp. 302–3) By contrast, Ireland lacked the quality of curing and, despite bounties, high tariffs on salt made attempts at improving curing for commercial fishing difficult. Mr. Curwen, M.P., argued in Parliament that “The complete repeal of the salt duties ought to take place, were it only for the sake of Ireland. Let this tax be repealed, and the same would be the case in the south, and every man might then have a herring to his potatoe.—If the salt duties were abolished, where we now drew one million from the sea, we might draw many millions.” (Curwen 1822) Since salt was necessary for preserving fish for external markets, many large catches would quickly become worthless and could only be used as fertilizer.

Any discussion about how Britain managed 19th century Irish fisheries must consider the changing political, social and economic policies, and the individuals and political parties who wielded power. Robb Robinson and David Starkey have warned that reliance upon the material factors alone misses the complexity. “Many of the accepted explanations of the development of the fisheries require revision. For instance, fishing historians, perhaps sub-consciously, have generally adopted the model of the classic Industrial Revolution as the conceptual framework for their studies of Britain’s nineteenth-century fisheries. ... [F]ishing activity ... passed through various stages, [such as] ... nature of the gear ... vessel propulsion [and] ... labour.” (Robinson and Starkey 1996, p. 140) Attention must be given to Britain’s changing economic policies throughout the 19th century to understand the apparent lack of management and leadership in sectors like fishing. The fundamental policies of mercantilism that controlled the means of production in the early 19th century gave way to an emerging

capitalism and the concept of free market; this led to a new economic policy of non-intervention or *laissez-faire* capitalism (Riordan 1920, p. 21). Reliance on a static view of capitalism, however, does not account for the complexity of the British economy by the mid-century, nor for the changes in British policies and management of fishing and commercial fisheries. By the end of the 19th century, the mismanagement of commercial fishing was the result of a series of factors, including the utilitarian needs arising from an increasing need for protein in Britain; technological developments that allowed a greater fish catch; the Conservative government's political policy of constructive unionism that developed the Irish economy to avoid Home Rule; and the local politics surrounding an emerging capitalist economy versus an older rural economy.

In the 1820s, the British government increased the bounty system to subsidize herring boats of 60+ tons, with additional bounties for herring sold abroad. Under mercantilism, the British government set up Corn Laws (tariffs on all grains) between 1815–1846 to keep the prices high. New railways in Britain helped fishermen send their catch to markets. Herring were plentiful off coastal Scotland, and nearly 30,000 vessels were involved in fishing for herring and other varieties of fish in the Irish Sea. By contrast, Ireland received very few bounties: the bounties in Britain totaled £927,110, while Ireland received only £163,376 (Andrews 1866). James Redmond Barry, the Inspector General of Fisheries, declared in 1820 that in Ireland the bounties on the White fishery, as well as the smaller amounts of herring, was "... considered inequivalent to the expense of the barrels ..." (Barry 1820). Guided by a new policy of non-intervention, in 1830 the British government cut all bounties.

In 1830, the Irish Fishery Department was demoted and became a branch of the Board of Inland Navigation; nearly all practical benefits for the sea fishing industry came to a stop. By the early 1830s, Dingle no longer prospered from linen, and fishing declined. The principal export trade was grain and butter—"about 10 cargoes, averaging 200 tons each"—was sent to Liverpool. Dingle imported mainly iron, coal, salt, and earthenware (Lewis 1837). The Rev. Dr. Foley reported in 1836 that in his 32 years in Dingle, the current condition was the worst he had seen and that the "only period of prosperity that had existed, was during the latter years of the bounty." (Barry and Townsend 1836) On the other hand, a Report of the Commissioners of Inquiry states that the class of boats in Dingle was "very inferior" and that "... so strong has the prejudice been in favor of that class of boats, that in 1823, when Mr. Barry was administering a fund of relief of the Dingle fishermen ... he made several ineffectual efforts to induce them to substitute a better class of small hookers." (Barry and Townsend 1836, p. 126).¹

According to Lewis's *Topographical Dictionary of Ireland*, in 1837 there were approximately 100 boats with 600 fishermen in Dingle, while another 400 persons were employed in curing and transporting fish by land to Tralee and Killarney, and by sea to Limerick and Cork (Lewis 1837). Even with this industry, however, and to the consternation of many Dingle fishermen, the people of Dingle often relied on cured Scottish herring to make it through the winter. No doubt an immense rise in population in Ireland in the years 1800–1845 taxed any normal means to feed the growing masses, and pervasive epidemics of cholera and typhus, attended with famine due to poor harvests, reduced the effectiveness of many governmental programs, such as Poor Law legislation, workhouses, distribution of food, and work projects. When it came to capitalize on what might be a successful fishing industry, however, there were very few inspectors or means available to regulate fishing, no education to improve techniques and the understanding of fishing, and unaffordable high taxes on salt for curing fish (Wood 1911, p. 118).

H. D. Conner, who prepared a Manual of Fisheries (Ireland) Acts in 1904, claimed that "Prior to 1842 the law dealing with these Irish fisheries was in an unsatisfactory state." (Manual of Fisheries 1904) In 1842, under a new Act [5 and 6 Vict. c.106], fisheries were given to the Commissioners of Public

¹ The Office of Public Works, OPW 11/6/3, Irish National Archive, states in a record that on 3 June 1822 a 'sum £200 appropriated to the Relief of Poor fishermen at Dingle, in conjunction with a Sum of £200 granted by the Commissioners for Irish Relief, appointed by the Lord Lieutenant, same to be under the direction of the Inspector-general of the Southern District—Irish, £200'. For a description of the diversity of boats in Dingle, see (Graham 1998).

Works with almost absolute powers to make bye-laws regulating fishing. Fishermen were allowed the right to the *foreshore*, but public access to salmon fishing was reduced, thus privileging Lords, profiteers, and speculators. The effect on fishing at sea was also compromised, with fore-shortened seasons to catch migratory fish (Hatten 1993, pp. 200–1). Writing in 1850, Herbert Francis Hore claimed that, “The principle of non-interference by Government set forth in the ‘Suggestions’, will be shown to pervade the subsequent reports of the Board of Public Works, and to have guided their proceedings after the management of the fisheries was committed to them by the Act of 1842.” (Hore 1850, p. 25) Likewise, Robert Worthington asserted in 1856, “The Act of 1842 was a failure because, though prepared by eminent lawyers, it exhibits throughout a total deficiency of technical knowledge, and the practical effect is, that all the important clauses have become a nullity, or are evaded . . . ” (Worthington 1856, pp. 140–1) Thus, fishing, especially in Ireland, was not a priority of the British government, and even when they organized commissions they failed to appoint the most technically-capable people, nor did they offer much capital available for improvements.

Another obstacle was the poor transportation system, especially in the west of Ireland, making it nearly impossible to market fish in larger cities or to export it. Apart from some short east coast railways whereby in the late 1850s, passengers could travel from Dublin to Belfast or Galway in just 5.5 h, there was no rail service to the west of Ireland; thus, it took more than 12 h from Dublin to Sligo, and 11 h by mail coach to Wexford (Horner 2007, p. 27). Railways finally came to smaller towns in the west, made possible by The Tramways Act of 1883, but due to poor engineering the narrow-gauge track did not remain in service for long (West Clare Railway 2018). In addition to railways, very few ships served western ports to transport fish to eastern Irish or English markets.

Very little help for fishermen or for the building and maintenance of harbours and piers was available in Ireland prior to the 1850s. Private interests opened some opportunities, yet limited capital and inconsistent laws hampered any real progress. John De Courcy Ireland accused mid-nineteenth century politicians—in both London and Dublin—of a “*trahison des clerics* . . . [that is] *turning their backs on the sea*.” (De Courcy Ireland 1981, p. 12) The key to making sense of the British policies toward fishing is to recognize the shifts under the Whig, later Liberal, party as they changed from Classical non-interventionist policies to social planning and reform in Ireland, beginning in the second half of the nineteenth century. A strong case can be made that few Classical economists promoted a strict non-interventionist solution after 1850. This was certainly the case when John Stuart Mill published his *Principles of Political Economy* in 1848, which became the formative document for a generation of economists. He promoted land nationalization, charity for the unemployed, protection of child labour, and compulsory education, with stricter guidelines for large industries. (Paul 1980) Lionel Robbins has shown that Mill “dominated the intellectual life of his like-minded contemporaries—the radical wing of the Whig party—and eventually came perhaps to dominate rather too much the life of the universities.” (Robbins 1998, p. 219) Yet the shift to a more utilitarian interest was more compulsory than planned: the ever-rising population of Great Britain needed food, and fish became a new staple product.

Despite opposition from his own Conservative party, PM Robert Peel pushed through a repeal of the Corn Laws with his Importation Act 1846, which was passed in the House of Commons and, with Lord Wellington’s persuasion, it passed the House of Lords as well. Economic policy began to slowly change from mercantilism to capitalism. New forms of capitalism required more non-government spending. Although the Public Works (Ireland) (No. 1) Act, 1846 set aside £ 50,000 for grants to build piers and harbours that could provide greater protection for larger vessels it required matching funds by local investors (Fremantle 1846, p. 1; Public Works 1846). The difficulty with the structure of the loan plan was that it required local districts or landlords to pay 25% of the cost. With the rising awareness of the severity of the famine [an Gorta Mór] by 1847, landlords were not interested, and many began losing huge revenues as the famine progressed (Dooley 2000, p. 6). The Act of 1846 selected several small western fishing ports of Baltimore and Castletown Bearhaven, County Cork, Valentia, County Kerry; Roundstone, County Galway; Belmullet, County Mayo; Inniscoe, County Sligo; and Killybegs,

County Donegal, as model fishing curing stations; however, this made no positive impact on Irish fisheries in general. In 1845, fisheries in Ireland had 19,883 vessels and 93,073 men. By 1868, only 9000 vessels and 40,000 men were involved in fishing, due in part to the effects of famine and emigration ([Inspectors of Irish Fisheries 1870](#), p. 3).

When the famine of 1845 set in, even the feeble attempts to support fishing were reduced, and the number of fishermen and vessels dropped substantially. Wallop Brabazon, owner of a fishing company, identified a significant problem for fishermen: "... [on] the West Coast the very great poverty of the Fishermen arises from the want of markets or other demand for fish. The Fishermen often see the creeks along the West Coast crammed with fine fish, when they could take tons of them at a haul, or shot, with a deep seine or drift net, but when caught they would be useless to them, as they could not either salt or sell them." ([Brabazon 1848](#)) Even with an abundance of fish, the fishing industry remained stagnant, with little access to markets due to poor transportation. The town of Dingle, already suffering under years of cholera (then a plague in 1849) and smaller famines, was devastated by the famine of 1845. In January 1848 Lord Ventry offered a free site for a temporary Workhouse [Fever Hospital] in the town, and the Dingle Union was formed under the Tralee Poor Law Union; by June 1851 there were 4760 residents. In 1852, many remained destitute after the famine, and 700 inmates continued in the workhouse as they had nowhere else to turn ([Higgenbotham 2018](#); [Mansfield 2018](#)).

William Andrews (1802–1880), Member of the Royal Irish Academy (M.R.I.A.), and president of the Natural History Society of Dublin, turned his attention to the fishing industry in the west of Ireland. His early scientific studies were in botany—he is known for a variety (*Andrewsii*) of the Killarney fern (*Trichomanes radicans*), and he published papers on ornithology and entomology. He then devoted his studies to marine ichthyology, one of the earliest scientists to study fish species and ocean conditions in Ireland. He gave numerous papers on his discoveries of the characteristics of new species of fish in Ireland, and especially in the harbours of the Dingle peninsula. He was also remarkable for his insight into the possibility of establishing aquaculture. In a paper delivered to the Natural History Society of Dublin on 13 January 1854, entitled "Remarks on Harbour Fish and Formation of Piscina," he suggested that "Many admirable positions existed on the west coast for the formation of extensive marine store ponds, and where turbot, soles, haddock, cod, and lobsters, could be securely stored and made available in times of scarcity and boisterous weather. Under such circumstances, the artificial propagation of the turbot, the sole, and the cod-fish and haddock could, with the same results, be accomplished from the spawn, as the propagation of the ova from the salmon or trout." ([Andrews 1854](#), p. 125)

In 1847 Andrews established the Royal Irish Fisheries Company in Dingle, and a royal charter was granted ([Andrews 1847](#)). There is no record for why he chose Dingle, however, it had a very good natural harbour and since the town and region were devastated by the famine it had a clear humanitarian need. This author also suspects since it was known in Dublin and England for the Protestant mission in Dingle and Ventry, it would offer an important example of how to promote economic development and moral reforms ([Wendling 2018](#)). This might have been part of the reason why the company charter was accepted under the patronage of the 4th Earl of Clarendon George William Frederick Villiers, Lord Lieutenant of Ireland Henry Petty-Fitzmaurice, the 3rd Marquis of Lansdowne, and Sir Charles Edward Trevelyan ([Andrews 1861a](#), p. 9). Since Andrews desired to help all the residents of Dingle, some success can be seen in reports that by 1849, the Long family and Thomas Kavanagh, both from long-established Dingle families, had purchased the first trawlers: *Nelson*, a cutter (80 tons), and *Louisa*, a wherry (16 tons). Andrews reports that together they supplied Dublin with "15,316 pair of soles, 93 turbot, 256 brett or brill, and some fine dorey, which realised by public auction upwards to £450. Sandsmelts, trout, and lobsters were also sent, but the heavy rates of carriage-charges are a serious deduction from Dublin sales." ([Andrews 1861a](#), p. 19) Thus, the problem of transportation to markets remained ([Symonds 1855](#), p. 6).

A firm commitment by the government to develop Irish fishing, however, was not yet a reality. Trouble began brewing in Dingle when a small number of ‘farmer-fishermen’ from nearby Annascaul garnered the support of public officials to restrict trawling, which had become successful in the Royal Irish Fishery Company (Ó Conchubhair 1941, p. 478). They claimed the new trawlers were destroying the spawn and the stocks of fish. In March 1852 a Dingle Bay bye-law was enacted that restricted trawling to only half of Dingle Bay. William Andrews laboured continually to help Irish fishing, but after a long illness, he could not keep up with the management of the Company, and the charter was placed in abeyance. A year later, in 1853, when he asked the new directors of the company for help [Mr. Stopford, the manager, Lord Talbot de Malahide, Sir Edward Borough, Bart., and Thomas Hutton, Esq.], Andrews notes that they “were desirous of seeing the affairs of the Company satisfactorily wound up.” (Andrews 1861a, p. 13) He found the Company without funds, and despite appeals by many Dingle fishermen, he concluded that the directors turned their backs on the company, yet Andrews offered no clearly-defined reason. One can conclude that part of the reason is that individual funding dried up, and without matching funds government grants and loans would not materialize. This is confirmed by Robert Worthington, Honorary Secretary of the Fishery Association, who in 1856 pleaded that it was necessary to

... give to Ireland the same advantages [as England and Scotland], and soon a similar scene of prosperity and industry will develop itself—encouragement, and due and full development of our fisheries, is the just claim which we prefer. ... A grant in aid of a loan-fund to encourage and assist the native fishermen will be our first requirement: ... the Chancellor of the Exchequer ... declares positively, ‘No money’: we answer: then the fisheries must slumber for another century. (Worthington 1856, p. 61)

Rather than making political or economic arguments for fishing, Andrews staked his claim on the ‘science of the day’: “The Commissioners, however, perfectly agreed that the validity of any doctrine on these subjects reposes on facts in the natural history of the animal to which it refers, and that evidence given from a scientific knowledge of Ichthyology, combined with experience, through practical investigations of the subject, could alone be depended upon, the habits of fish being so little known to those in whose presumed facts they relied as the best authority.” (Andrews 1851)

The Dingle fishermen wrote to Andrews:

Since trawling was first introduced into this bay by yourself, we ... have improved in our habits of fishing, in our boats, and in our tackle ... This injustice done to us was caused by a few half farmers and half fishermen from Auniscaule, their representatives being of more weight than those of a large number of Dinglemen, who with their families are upwards of 400, solely depend on fishing, and who have not a sod of ground beyond their cabins. We therefore pray you will take our cause ... and the Bye-law repealed. (Moriarty et al. 1861)

The bye-laws restricting trawling in Dingle were finally reversed in 1861. Despite the failure of Andrews’s company, the positive effects of his work, shown in the letter above by Dingle fishermen, can be seen in reports from 1867 that show 12 vessels were active trawling in Dingle. Trawlers travelled in search of good shoals of fish and to find better ports with more direct railway lines to Dublin. But leaving the Dingle vicinity could spell disaster in times of frequent heavy seas and storms (Coyne 1902).

The lack of new technology and capital investment was not always the main reason for a lack of development in commercial fishing; the cultural heritage of poor coastal communities required a survival technique of exploiting meager resources of land and sea. Farmer-fishermen fished the coastal shores and bays, using line, seine nets, or trammel nets. This inshore fishing was limited by the size of boats, the amount of time to paddle or use small sails to go to fishing grounds, as well as the migration of fish. By contrast offshore fishing required much larger boats and sails that could be used as trawlers to travel long distances from shore. Yet many small coastal villages in the west

of Ireland depended on the farmer-fishermen for subsistence. In the west of Ireland many of those who grew up in poverty lacked education and were reluctant to change the old ways. Andrews was sympathetic to their plight and he claimed that “though poverty may be great among them, they have no countenance, through absent owners of the soil, and even were security to be obtained by them, the loans would more likely be employed to the advantage of their little holdings than to the procuring of means for pursuing fishing.” (Andrews 1873, p. 10) Andrews’s use of the word ‘countenance’ is significant since farmer-fishermen had no permanent security and control of their land and resources. Farmer-fishermen could not maintain a subsistence through the amount of food they produced by farming or fishing alone. They were dependent on harvesting and gleaning any sources of food possible, whether by land or sea (Ó Conchubhair 1941, p. 478). They had little knowledge of advanced methods of farming or fishing, their tools remained primitive, their boats were small, and they had very little opportunity to trade or benefit from any social welfare. Often, they faced feast or famine: when shoals of fish came closest to the shore their nets were quickly swamped with the catch. Yet, without any means to preserve fish, their catch was often turned into fertilizer, which did not pay very much. Thus, while Andrews’s goal was to promote commercial fishing in Dingle he understood the plight of farmer-fishermen: “Those that demand our greatest sympathy are the poor curragh-men, who labour on the wild and rocky shores of an exposed coast.” (Andrews 1873, p. 10) Some months they also faced the problem of needing to either sow or harvest at the very moment when the fish were running, whereas for months on end there would be neither fish to catch nor crops to harvest. Todd Young found that “the life style of these communities was strongly interlinked with the sea and their folkways were more reflective of the sea than of the land. The life of the villages was centered around the fishermen coming home early in the morning from the boats, working the land in the afternoon and fishing again through the night.” (Young 1975, p. 51)

Farmer-fishermen were reluctant, however, to change traditional ways of living when presented with new methods of fishing. Lawrence J. Taylor, a Maynooth University anthropologist, has found that

... local fishermen were not ‘proper’ fishermen, which is to say full-time fishermen, able to chase the shoals of herring into the high seas. ... [A] fisherman combined his sea-bound activities with small-scale agriculture, occasional labor, and anything else that came his way. ... The efforts to create capitalist fishermen were as unsuccessful as those which sought to modernize and individualize agriculture. Yet, fishing still provided the minimal cash necessary for a marginal existence in an increasingly cash economy. (Taylor 1980, p. 175)

William Andrews’s support of trawl fisheries led to confrontations with farmer-fishermen in Dingle and beyond. In June 1852 his Royal Irish Fisheries Company had sent two boats to Galway to test the effectiveness of trawling. He recounted that “... so great was the intimidation given by the Claddaghmen, that an inquiry was held by the Harbour Commissioners on the 15 June 1852 ... Their views were so opposite, and their knowledge and information of the habits and spawning of fish so absurd and untenable, that no dependence whatever could be placed on the representations they had made.” (Andrews 1861b, p. 28) Andrews believed that “... the fisheries of Ireland present a fine field of enterprise and profit ... This, as I have observed, must mainly depend upon the separation of farming and fishing interests, ... the study of ichthyology, marine zoology, and animal physiology, should be made a scientific and practical course. The seasons and habits of fish, topography of our coasts, use and construction of charts, tides, and winds, should all form essential profits to be thoroughly informed upon.” (Andrews 1861b, p. 17–18)

Since most farmer-fishermen could not venture very far from shore, they were also involved in collecting shellfish. Máirtín Mac Con Iomaire has found that “Up until the nineteenth century it was mainly the poor who gathered shellfish. Such fare, called ‘*cnuasach mara*’ (sea pickings) was known as ‘*bia bocht*’ or poor man’s food. For this reason shellfish failed to appear in the written accounts of commerce and taxation, leading some commentators to conclude that they were not eaten here at all. Thereby arose the myth that the Irish have no maritime food tradition.” (Mac Con Iomaire 2004, p. 66)

Well into the 20th century, many shellfish were not commercially viable, and any shellfish by-catch was often left for the taking on the piers.

Farmer-fishermen also subsidized their coastal livelihood by collecting seaweed, which was used as fertilizer, food or, if they were lucky, sold for industry. However, over-production of seaweed could destroy the safe spawning areas of fish. When farmer-fishermen gained opportunities to learn new methods of fishing or to purchase larger, sea-going vessels when more funds became available after 1891, they were reluctant to change (Sikes and Meide 2006). The primary vessel for fishing on the west coast of Kerry was the traditional naomhóg or working currachs, which were especially large canoes. A deep attachment to this type of boat can be seen in its naming: naomh means saint or holy; óg is the feminine diminutive. With three men rowing, fishermen set out into the open ocean in search of fish. Many naomhógs were built with small sails [lug sails] that gave some relief from rowing, but they were ill-equipped to venture far from shore or to handle rough weather and were therefore restricted to in-shore fishing. With few trees in the west, these small canoes were constructed of wood ribbing, originally covered with hides, and by the 19th century tarred canvas became the custom. Their design allowed them to carry remarkable loads for their size, and their rather light weight allowed fishermen to store them on shore.

It is universally acknowledged that sailors and fishermen have deep superstitions. It is understandable that without real knowledge of forecasting storms and the migration of fish, as well as navigating in strange waters and a greater chance of injury or death, farmer-fishermen were highly suspicious of the ocean's mysteries; since they had been ignored by any governing body and left to fend for themselves with no leadership, coastal communities became deeply rooted in a culture of survival. Unable to fully understand the science of the sea, they developed methods that attempted to predict changes in seasons, tides, and bad weather. To the new class of educated entrepreneurs, however, local knowledge had little value. In 1848, Wallop Brabazon claimed that "The fishermen generally are a superstitious and self-willed class of men, they know it is by their knowledge of their business that it is either a gaining or losing concern, and that this knowledge is solely gained by long experience. . . . You may lead fishermen to do anything, but if it goes to driving them, they will go there is no doubt, but they will take right good care that it is at your expense." (Brabazon 1848, p. 42) However, this 'local knowledge' was in fact valuable for the continuance of the community and may have provided important keys to sustainability not present in national scientific investigations of the day. Liza Griffin, for example, has discovered that

Since fishers spend their daily lives at sea it is believed that they have a perception of the ocean that is simply not obtainable through the centralised and universal scientific survey technique. . . . they may observe 'local' processes that operate at fine scales. These could be missed by a fisheries science that generally ranges over larger scales. . . . fishers have been shown to have sophisticated knowledge about specific habitats and the annual, seasonal, lunar and food-related variations in the behaviour and movements of marine fishes. So given this perceived value of local knowledge, it is no wonder that some fisheries commentators go so far as to argue that the low status accorded to local fishers' knowledge in many fisheries management regimes is a major cause of overexploitation. (Griffin 2009, p. 560)

By 1889 John Bowles Daly claimed that many poor Irish fishermen had lost their natural ingenuity in the nineteenth century due to governmental policies that took away all incentive to develop an industry:

The fisher folk of that country, . . . are dreamy and superstitious, active and lazy by turns, given to gossip and lying on their backs when the sun is warm. The old time honoured record alludes to the strange sights witnessed by those who go down to the sea in ships. This may account for their peculiarities, for the sea is a mighty world of mystery, . . . will explain and perhaps give colour to the fantastic legends woven about them, many of which are still retailed in yarns and fireside stories. (Bowles Daly 1889, p. 194)

A strong sense of fatalism prevailed among fishermen; it was by far the most dangerous occupation. Dan Graham told a conference on settlement on the Dingle peninsula that “Like the Irish fishermen, the Manx fishermen were very superstitious. They didn’t want to see a priest or clergyman on the pier before they went fishing; they didn’t want to see a red haired woman or to hear someone whistling because they believed these things brought bad luck. There was no talk of horses, pigs, foxes, hares or rabbits for the same reason.” (Graham 2010) Thus, the sea remained a mystery, with little knowledge of the causes and connections between the weather, ocean currents, or fish. No doubt it took considerable courage to set off into a wild and very cold northern ocean with very little equipment. For this reason, many fishermen never learned to swim, and remained fatalistic about their chances to survive should they become immersed in the sea. In 1911, Walter Wood stated that “There was little or no chance for the fisherman, who as a rule could not swim, and wore heavy clothes and very heavy boots, some of the latter reaching to the hip. In this matter of boarding the trawlerman was largely a fatalist and was accustomed to declare that fishermen were used to being drowned.” (Wood 1911, p. 20) These realities demonstrate a willingness to catch fish for sustenance, but also little opportunity to further understand the science of the sea or fish.

One can see a complex mixture of increased government regulations, coupled with a belief in the power of the free market, as well as the growth of individualism stimulated by the Victorian social values of self-improvement. Although sustained support for Irish fishermen was not of explicit importance, a series of events in the second half of the 19th century required new policies. Most importantly, the large number of people starving due to famine (1845–1852 and 1879) and the ever-rising population of the United Kingdom of Great Britain and Ireland (1846: 19.7 million; 1914: 41.7 million) demanded more food. While the price of grain increased on the world market, the demand for more protein-based food, such as meat and fish, increased rapidly, along with prices (Brunt and Cannon 2004). While fish was a part of the regular diet in Britain, it remained only a small part of the Irish diet since there was no transport of fish to the interior of Ireland, thus it had ceased to be part of the culture. Writing in 1920, E. J. Riordan, Secretary of the Irish Industrial Development Association, underlined that most fish of quality—measured in both species, such as sole, plaice, brill, and turbot, and value (fresh or cured)—were exported to Britain, and inferior fish were imported to Ireland. His conclusion was that “... were the sale of Irish fish more systematically organized in Ireland... the cost to the consumer could be reduced, and a larger consumption in Ireland of superior quality of fish would result.” (Riordan 1920, p. 78) However, in Britain and Ireland bread and potatoes had been the staple food for many; fish in Britain became a needed source of protein. The modern craze for fish and chips can be dated from the 1860s, and by 1910 there were an estimated 25,000 fryers in Britain, which needed fish imported from Ireland (Walton 1992, p. 5).

With the promise of much greater catches of fish through improved trawling, the British government began to see the benefits of investing in fisheries in Ireland to feed Britain’s growing population. A clear shift occurred in the management of fishing and fisheries in the 1860s. Britain’s imperial power was challenged throughout the 19th century as some of its colonies sought greater autonomy or independence and the decline of the Ottoman Empire created conflicts. While grain was a necessary staple food throughout the United Kingdom of Britain and Ireland, the amount of acreage for grain in Ireland was reduced as the demand for meat turned former agricultural areas into pasture. From the 1820s to the 1870s, grain trade was run by a web of family merchants in what Thomas Finger calls an “Actor Network” within the framework of protectionism. From the 1870s to the 1920s a new “Technological System” developed with more efficiency, increased volume, and free trade (Finger 2013, p. 154). Falling prices eventually led to a depression in Britain and throughout Europe and North America (1873–1879). The Malthusian fears of the inability to feed the population became real (Mokyr 1980).

A Royal Commission was established in the years 1863–1865 to study the effects of trawling on inshore fishing catches (Roberts 2007, Chp. 10). The most celebrated participant in the Commission was T. H. Huxley (Collinge 1984). He described the conclusions of his earlier study in an inaugural

address in 1883 for the opening of the International Fisheries Exhibition in London—another example of increased interest in exploiting fishing. He assured his audience that the boundless numbers of fish were unaffected by fishing. “The supply of food is, in the long run, the chief of these interests. Every nation has its anxiety on this score, but the question presses most heavily on those who, like ourselves, are constantly and rapidly adding to the population of a limited area, and who require more food than that area can possibly supply.” (Huxley 1883, p. 82) This statement is indeed revealing of the far greater need for food at any cost, rather than sustainability. In her evaluation of the Commission, Jennifer Hubbard concludes that “... they supported industrialized fishing, developing close ties with large, centralized industrial fishing enterprises with good shipping connections to major markets. ... Second, fisheries biologists’ ideals for efficient management and conservation were entwined in gospel of efficiency ideals drawn from German scientific forestry.” (Hubbard 2014, p. 371) Walter Wood, writing in 1911, underlines how many fishermen thought trawling had a positive effect on promoting the growth of more fish:

The early experience of trawling showed that, the more the ground was stirred up, the better produce came from it. Trawling disturbed the ground and brought the insects up, supplying the fish with food. A Hull smacksman stated that the fish followed the trawl, ‘like a parcel of crows, to catch these things.’ ‘I compare trawling almost to farming’, said a Yarmouth fisherman. ‘You plough the field and cast out all that’s bad, and you think every year you get better crops. So it is with us. We disturb the ground and the soil comes up underneath, and the fish are able to get at it’. (Wood 1911, pp. 49–50)

Another well-known scientist, William Carmichael McIntosh, the first systematic marine zoologist in Britain and professor of Natural History at the University of St. Andrews, was appointed to the Royal Commission of 1885 under Huxley’s leadership. With some nuances to the harmful effects of fishing close to shore in some bays, he essentially endorsed Huxley’s conclusion of unlimited fishing: “... with some exceptions, the fauna of the open sea, from its nature and environment, would appear, to a large extent, to be independent of man’s influence. ... Nature almost invariably carries out her own laws, and, as a rule, in the sea these are beyond man’s influence.” (McIntosh 1899, p. 1) In fact, the conclusions of a study in 2010 show the opposite: over-fishing has done almost irreparable damage: “... LPUP [landings per unit of fishing power] reduced by 94%—17-fold—over the past 118 years.” (Thurstan et al. 2010) Some responsibility for a lack of attention to ecology was a decline in further scientific research from 1890 to 1922. (Whyte 1997) A fundamental misunderstanding of nature, combined with the desire to exploit fishing, meant that Britain overfished.

Despite support from scientists of the day, the British government was slow to fully support Irish commercial fishing. Isaac Butt spoke at a meeting of the Home Government Association of Ireland in October 1871:

That the continued refusal to comply with the strong and repeated recommendations of committees of the House of Commons and Royal Commissions, that aid, by way of loan, should be given to the men engaged in the Irish deep sea fisheries, supplies a striking illustration of the disadvantage which Irish industry sustains by the absence of Home Rule. ... I will establish from these documents that the industry engaged in our Irish deep sea fisheries has been declining, and is now on the verge of extinction; that this decline is to be traced not to want of any energy or industry on the part of our fishermen, but to the effects partly of the want of aid and encouragement such as the fisheries of other parts of the United Kingdom are receiving, and partly to the terrible effects of the famine, which laid every Irish interest low. (Butt 1874, p. 5)

Some progress was made in the new Sea Fisheries (Ireland) Act in 1883. The Act funded building more piers and harbours and regulated Irish waters near the coast, with some restrictions for foreign boats off-shore. J. C. Bloomfield, writing in the same year, underlines how important this Act was for the success of some ports in the west of Ireland:

... the *little* fishery pier of Baltimore springs into a prosperous station in a remarkable manner, rising *in two years* from 9845 boxes to 56,643, making, with the established fishing harbour of Kinsale, the amount of 177,000 out of an Irish total of 199,779, leaving but 22,779 boxes for all the rest of Ireland—close on 3000 miles! The fish were there when the 9000 boxes represented the whole take in 1880. How is this? Simply a pier was built, costing £4000, by Government, and the people (who could not fish before, and so had no money to start) found a patron, who advanced the necessary funds, and see the result. (Bloomfield 1883, p. 3)

Many of the ports within a reasonable distance of Cork received the earliest support since larger vessels could transport the catch from smaller fishing boats to London markets quickly. Eventually fish made their way to North American markets when sufficient ships were available to visit ports in the west of Ireland.

The Dingle fishing industry continued to struggle with a lack of resources for the transportation of fish to markets as well as sufficient vessels to travel to where the migration of fish was located. In a testimony to the Chief Secretary at Dublin Castle, in reference to a railway plan from Tralee to Dingle, John Moriarty, a Dingle fisherman, stated, "There are 19 trawlers engaged in fishing off the Dingle coast; ... there is a great deal of coarse fish caught there, but there is no market for them; we have to sell them at a very low price ... " (Moriarty 1886, p. 2) Despite the number of trawlers, and lack of good transportation to market, Moriarty and other Dingle fishermen understood that another problem was the lack of capital for better vessels. He noted that when the Mackerel fishery commenced between 12 March and 1 July each year, there were "40 Manx boats and a steamer, 12 Scotch, and 4 native Irish boats off the ports of Ventry, Smerick and Dingle; they fish cheaper out at sea than we do; I and my fellows had the fish of three deep sea fishing boats and the fishing of a few years with canoes ... " (Moriarty 1886, p. 2) Thus, Irish fishermen could only watch as 'foreign' vessels could catch and sell far more fish. Very little progress was made to further study new places to fish. In a "Survey of Fishing-Grounds, West Coast of Ireland, 1890–1891," Ernest Holt and W. L. Calderwood lament that no real progress in examining new fishing grounds had recently occurred:

Since the days when William Andrews and A. G. More explored that district the fish fauna of our most western coast has suffered some neglect. The "Porcupine" [sic] made a few hauls of the dredge in the neighbourhood of the bank which now bears its name, and the results formed a few additions to the list of British fishes. In 1885 Professor Haddon organised and carried out the first of a series of deep-sea dredging cruises, and since then, up to the commencement of the Survey, no year has elapsed without a record of some good work in this direction. (Holt and Calderwood 1895, p. 362)

The *Porcupine* was a naval paddle steam and sail vessel built in 1844 that was commissioned in 1869 to conduct hydrographic surveys of the Porcupine Bank (named after the boat) off the west of Ireland. On board was the naturalist John Gwyn Jeffreyes, a British conchologist and malacologist. In 1885 Alfred Cort Haddon, a British Professor of Zoology at the College of Science in Dublin, and friend of Huxley, began more extensive studies of deep-sea marine life.

Isaac Butt's call for Home Rule as a solution to Irish fisheries lost its potential role in alleviating poverty when the Conservative Party won the elections in August 1886 and rejected the pathway to Home Rule. Marques of Salisbury, Lord Robert Cecil, held office until August 1892, and reinstated Conservative economic policies. In 1891, the Irish Chief Secretary Arthur J. Balfour created the Congested District Board (CDB) to relieve poverty in Connacht, Donegal, and Kerry. Thereby, he hoped to demonstrate that Union was necessary for survival. In supplementing the western agrarian economy, it gave incentives to fishing and cottage industries. Balfour's 'constructive unionism' had as a primary goal, he admitted, to 'kill Home Rule with kindness'; yet he comments that "we intended to promote measures having for their object an increase in the material prosperity of the country; that if we could thereby kill Home Rule with kindness, so much the better; but that the policy stood on its own merits, irrespective of any ulterior consequences." (Rosenbaum 1912, p. 240) There is still a debate

about the primary motives of the CDB and whether it had any lasting success in helping fishermen. Ciara Breathnach argues that the CDB was largely successful as a plan; it only failed where locals were unable to operate in a new capitalist economy or where they were reluctant to modernize (Breathnach 2005). By contrast, J. J. Lee points out that the CDB failed to invest in the correct industries and “the attempts to foster lace-making, knitting weaving, and fishing proved an expensive waste of time and money.” (Lee [1973] 2008, p. 128) When living standards appeared to be better, apparently many Irish were not reassured that British management was sufficient since emigration continued to rise.

With funds available from the CDB, Dingle found some benefit, and the first railway from Tralee to Dingle was built in 1891. This made transportation of fish to larger ports quicker and more efficient. However, the great problem was that to save money, the narrow-gauge railroad was ill-engineered, with severely compromised curves and grades that made travel difficult and, in some cases, disastrous. The Board also gave support to canning and curing fish, expanded the Dingle Harbour Board, and built a lighthouse and coastguard station. Under the leadership of Sir Horace Plunkett, pioneer of agricultural cooperatives, and William Spotswood Green, members of the CDB, the Act of 1899 created the Department of Agriculture and Technical Instruction, with a Fisheries Branch that employed inspectors, a scientific adviser, and several naturalists. It provided £10,000 annually for expenses of administration of the branch: administered loans to enable fishermen to purchase boats and gear; directed the fishing industry; provided better transport; and encouraged markets by expanding the fish-curing industry (Hobhouse 1909).

The Rev. William Spotswood Green, Church of Ireland priest and a scientist, was appointed chief inspector of Irish fisheries in 1900 (Hinks 1920). While Green accepted the conclusion of Huxley and MacIntosh that deep-sea fishing would not diminish the supply of fish, he was open to new studies that would further the knowledge of fishing. Green’s motivation and sincerity to help Irish fishermen is a good example of how individual actions can have positive results despite government policies that may have ulterior motives. He made a visit to the United States Fisheries Commission and later filed a report, praising the advancement of ichthyology. It is revealing that Green was also aware of, and respected, the ‘local knowledge’ that fishermen possessed:

The general impression left by studying the American fisheries is that we are sadly behind-hand in practical knowledge of the life-history and movements of our food fishes. A great deal of knowledge of the subject exists amongst fishermen and others. The Americans have taken pains to collect and classify this, so as to form an accessible store of information to all concerned. The general history of fish may be studied to advantage in the Reports of the US Fish Commission; but as there is no similar institution in this country to collate and focus the knowledge floating in the minds of a multitude of individuals, it is impossible to know as much of our fish and their movements as the Americans do of theirs. (Green 1889, p. 163)

Green was charged with improving the fishing industry in Ireland, and he possessed a more mature understanding of the science of fishing; at the same time, he was very aware of and sensitive to the plight of poorer, west-coast fishermen, and came to understand how reluctant farmer-fishermen were to change. Despite Green’s management of fishing at the end of the 19th century, many poor fishermen did not trust government officials and did not have the education or initiative to learn new methods. A gap had been developing since the mid-nineteenth century where a new generation of commercial fishermen, endowed with financial support from larger companies, cornered the market for fish.

By the beginning of the 20th century the west coast of Ireland began to develop a substantial fishing industry. A report on the number of vessels, men, and boys involved in the fishing industry compiled by E. J. Riordan, in 1914 shows the progress of fishing in the west of Ireland. By far the largest region was Galway, which included Canamallagh, Co. Clare to Mace Head, Co. Galway, with 999 vessels, and 3072 men and 44 boys working there. Dingle and Valentia were second, depending on vessels and men. The Dingle region included Inch Point to the south and extended to Blennerville

(just outside Tralee) to the north, with 277 vessels, 805 men, and 3 boys. Utilizing the same bay to the south, Valentia region included Inch Point, north, and Kenmare Bridge to the south, with 262 vessels, 1001 men, and 10 boys. By contrast, the east coast still struggled in comparison, despite how close they were to the Dublin and London markets. Dublin region, included Howth to Greystones) employed 100 vessels, 459 men, and 26 boys; Wicklow region had 113 vessels, 616 men, and 22 boys (Riordan 1920, p. 75).

Looking back on the nineteenth century in 1905, James Johnstone, in his book *British Fisheries; Their Administration and Their Problems*, summarized the complexity of the problems: “All the causes contributing to the depression of the industry are economic ones: the maladministration of the early part of the century; the unfortunate withdrawal of the bounties; the positive discouragement due to English or Scottish jealousy; the famine and resulting emigration, and the further reduction of the population; and, finally, the apathy of the administration.” (Johnstone 1905, pp. 129–30) One can conclude that the fishing industry in the west of Ireland remained under-developed due to the neglect, inadequate management, or mismanagement by the British government. Any success in fishing prior to 1890 was due rather to the persistence of some individuals with the energy and skill who saw the great potential in the abundance of fish in the west of Ireland, and to the thousands of Irish fishermen who braved the seas in search of a livelihood.

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References and Notes

- Andrews, William. 1847. *On the Fisheries of the Coasts of Ireland: Addressed to Rear-Admiral Sir Thomas Ussher*. Edited by William Smith O’Brien. Dublin: J. Browne.
- Andrews, William. 1851. On the cod and ling fisheries of Ireland. Read before the Royal Dublin Society April 16th. Reprint from the Royal Dublin Society Journal, Dublin, 1861.
- Andrews, William. 1854. Remarks on Harbour Fish and Formation of Piscina. *Proceedings of the Natural History Society of Dublin* 1: 1849–55.
- Andrews, William. 1861a. *Remarks on the Formation and Progress of the Royal Irish Fisheries Company: With Notes on Trawling on the West Coast and Its Effects, and on the Ling and Cod Fisheries of Ireland ... To Which Is Added, Notes on Trawling on the East Coast of Ireland*. Edited by John Good. Dublin: Browne and Nolan.
- Andrews, William. 1861b. Notes on the West Coast—Trawling and Its Effects. Read at a Meeting of the Natural History Society of Dublin.
- Andrews, William. 1866. On the herring fisheries of Ireland. Read before the Royal Dublin Society, 19 February. In *Dublin Quarterly Journal of Science*. Dublin: McGlashan & Gill, vol. 6, pp. 235–49.
- Andrews, William. 1873. *The State of the Sea-Coast Fisheries of Ireland*. Dublin: Royal Dublin Society.
- Barry, James Redmond. 1820. Account of the Fisheries on the Southern Coasts of Ireland. 23 November. In *An Account of the Present State of the Fisheries on the Different parts of the Coast of Ireland*. Dublin: W. Underwood, National Library of Ireland, Dublin, P 1465.
- Barry, James Redmond. 1821. Account of the Fisheries on the Southern Coasts of Ireland, Extending from the East Point of Tramore Bay to Kerry Head. Cork. In *An Account of the Present State of the Fisheries on the Different parts of the Coast of Ireland*. Dublin: W. Underwood, National Library of Ireland, Dublin, P 1465 (2).
- Barry, James Redmond, and Henry Townsend. 1836. Report of the Commissioners of Inquiry into the State of the Irish Fisheries; with the Minutes of Evidence, and Appendix. Dublin: Alexander Thom. Available online: <http://www.dippam.ac.uk/eppi/documents/11292/page/151971> (accessed on 18 December 2018).
- Bill for the Encouragement and Improvement of the Irish Fisheries. 1819. Enhanced British Parliamentary Papers on Ireland [EPPi]. Available online: www.dippam.ac.uk/eppi/documents (accessed on 9 August 2018).
- Bloomfield, J. C. 1883. *The Fisheries of Ireland*. London: W. Clowes and Sons.
- Bowles Daly, J. 1889. *Glimpses of Irish Industries*. London: Ward and Downey.
- Brabazon, Wallop. 1848. *The Deep Sea and Coast Fisheries of Ireland; with Suggestions for the Working of a Fishing Company*. Dublin: James McGlashan.

- Breathnach, Ciara. 2005. *The Congested Districts Board of Ireland, 1891–1923*. Cork: Four Courts Press.
- Brunt, Liam, and Edmund Cannon. 2004. The Irish Grain Trade from the Famine to the First World War. *The Economic History Review* 57: 33–79. [CrossRef]
- Butt, Isaac. 1874. The Irish Deep Sea Fisheries. In *Proceedings of the Meeting of the Home Government Association of Ireland, 17 October 1871*. Dublin: R. Chapman.
- Collinge, J. M., ed. 1984. No. 107. Sea Fisheries 1863–5. Office-Holders in Modern Britain: Volume 9. In *Officials of Royal Commissions of Inquiry 1815–1870*. London: University of London. Available online: www.british-history.ac.uk/office-holders/vol9/pp62-91#h2-0013 (accessed on 23 March 2018).
- Coyne, William P., ed. 1902. *Ireland Industrial and Agricultural*. Ireland: Department of Agriculture and Technical.
- Curwen, Mr. 1822. Parliamentary Debate on Salt duties. HC Deb 28 June 1822 vol 7 cc1407–13. 1407. Available online: <https://api.parliament.uk/historic-hansard/commons/1822/jun/28/salt-duties> (accessed on 29 October 2018).
- De Courcy Ireland, John. 1981. *Ireland's Sea Fisheries: A History*. Dublin: Glendale Publishing.
- Dooley, Terence A. M. 2000. Estate ownership and management in nineteenth-and early twentieth-century Ireland. In *Sources for the History of Landed Estates in Ireland*. Edited by Terence A. M. Dooley. Dublin: Irish Academic Press.
- Finger, Thomas D. 2013. Trading Spaces: Transferring Energy and Organizing Power in the Nineteenth-Century Atlantic Grain Trade. In *New Natures: Joining Environmental History with Science and Technology Studies*. Edited by Dolly Jørgensen, Finn Arne Jørgensen and Sara B. Pritchard. Pittsburgh: University of Pittsburgh.
- Fremantle, Sir T. 1846. Fisheries-Piers and Harbours (Ireland). HC Deb 02 February 1846 vol 83 cc435–9. 435. Available online: <https://api.parliament.uk/historic-hansard/commons/1846/feb/02/fisheries-piers-and-harbours-ireland> (accessed on 27 October 2018).
- Gambles, Anna. 2000. Free Trade and State Formation: The Political Economy of Fisheries Policy in Britain and the United Kingdom circa 1780–1850. *Journal of British Studies* 39: 288–316. [CrossRef]
- Graham, Daniel. 1998. The Dingle Fish Trawling Controversy 1849–1862. *Kerry Archaeological and Historical Society Magazine*, December.
- Graham, Daniel. 2010. Fishing industry owes a lot to visiting Manxmen. *The Kerryman*, May 12.
- Green, William Spotswood. 1889. Report cited by Christopher Moriarty, 'The Reverend W. S. Green: A Pioneer in fisheries Research and Development' in *British Marine Science and Meteorology: The History of Their Development and Application to Marine Fishing Problems*. (Buckland Occasional Papers: No. 2). Available online: <https://www.cefas.co.uk/publications/files/buckland2.pdf> (accessed on 10 July 2018).
- Griffin, Liza. 2009. Scales of knowledge: North Sea fisheries governance, the local fisherman and the European scientist. *Environmental Politics* 18: 557–75. [CrossRef]
- Hatten, Helen E. 1993. *Largest Amount of Good: Quaker Relief in Ireland, 1654–1921*. Montreal: McGill-Queen's University Press.
- Higgenbotham, Peter. 2018. Dingle, Co. Kerry. The Workhouse. The Story of an Institution. Available online: www.workhouses.org.uk/Dingle (accessed on 24 October 2018).
- Hinks, Arthur R. 1920. Obituary: William Spotswood Green. *The Geographical Journal* 55: 70–71.
- Hitchcock, Richard. 1852. Dingle in the Sixteenth Century. With an Introduction and Notes. *Transactions of the Kilkenny Archaeological Society* 2: 133–43.
- Hobhouse, Mr. 1909. Sea Fisheries Regulation Act, 1888. Commons and Lords Hansard, the Official Report of debates in Parliament. 1803–2005. HC Deb 12 August 1909. Vol. 9. cc813–4W. Available online: https://api.parliament.uk/historic-hansard/written-answers/1909/aug/12/fishery-research#S5CV0009P0_19090812_CWA_2 (accessed on 24 October 2018).
- Holt, Ernest William Lyons, and William Leadbetter Calderwood. 1895. Survey of Fishing-Grounds, West Coast of Ireland, 1890–1891. In *Scientific Transactions of the royal Dublin Society*. Report on the Rarer Fishes. Read 16 December 1891. Dublin: William and Norgate, vol. V, pp. 361–525.
- Hore, Herbert Francis. 1850. *An Inquiry into the Legislation, Control, and Improvement of the Salmon and Sea Fisheries of Ireland*. Dublin: Hodges and Smith.
- Horner, Arnold. 2007. *Ireland's Time-Space Revolution: Improvements in Pre-Famine Travel*. Dublin: History Ireland, vol. 15.
- Hubbard, Jennifer. 2014. In the Wake of Politics: The Political and Economic Construction of Fisheries Biology, 1860–1970. *ISIS* 105: 364–78. [CrossRef] [PubMed]

- Huxley, Thomas Henry. 1883. *Inaugural Address, Fisheries Exhibition, London*. London: W. Clowes and Sons.
- Inspectors of Irish Fisheries. 1870. Report of the Inspectors of Irish Fisheries on the Deep, Coast, and Inland Fisheries for 1869. Dublin. Available online: <http://www.dippam.ac.uk/eppi/documents/15429> (accessed on 23 March 2018).
- Johnstone, James. 1905. *British Fisheries: Their Administration and Their Problems*. London: Williams and Norgate.
- Lee, Joseph John. 2008. *The Modernisation of Irish Society 1848–1918*. Dublin: Gill and Macmillan. First published 1973.
- Lewis, Samuel. 1837. *Topographical Dictionary of Ireland*. London: S. Lewis & Co. Library Ireland. Available online: <http://www.libraryireland.com/topog/D/Dingle-Corkaguiney-Kerry.php> (accessed on 13 April 2018).
- Mac Con Iomaire, Máirtín. 2004. The History of Seafood in Irish Cuisine and Culture. *History Studies* 5: 61–76. [CrossRef]
- Mansfield, W. J. 2018. Dingle Hospital during the Famine. Irish Medical Directory-Directory of Hospitals. Available online: <http://www.igp-web.com/Kerry/dinghosp.html> (accessed on 24 October 2018).
- Manual of Fisheries (Ireland) Acts. 1904. Prepared by H. D. Conner, K.C. Dublin: Alexander Thom & Co. Available online: <https://catalog.hathitrust.org/Record/008599894> (accessed on 16 March 2017).
- McIntosh, William Carmichael. 1899. *The Resources of the Sea. As Shown in the Scientific Experiments to Test the Effects of Trawlings and of the Closure of Certain Areas off the Scottish Shores*. London: C. J. Clay and Sons.
- Mokyr, Joel. 1980. Malthusian Models and Irish History. *The Journal of Economic History* 40: 159–66. [CrossRef]
- Moriarty, Eugene, Thomas Cavanagh, John O’Flaherty, and James Johnson. 1861. Declaration, 28 Feb. Chief signatories: Letter supported by “D.B. DE MOLEYNS, J.P., D.L. Burnham, Dingle.” [Lord Ventry] In William Andrews, 1861a. Remarks on the formation and progress of the Royal Irish Fisheries Company: with notes on trawling on the West coast and its effects, and on the ling and cod fisheries of Ireland.
- Moriarty, John. 1886. Railway Communication in Kerry. *Kerry Evening Post*. October 27. Available online: <https://www.britishnewspaperarchive.co.uk/viewer/bl/0001649/18861027/033/0002?noTouch=true> (accessed on 26 October 2018).
- Ó Conchubhair, Seán M. 1941. The Congested Districts Board. *The Irish Monthly* 69: 517–25.
- Office of the National Illustrated Library. 1852. *The Irish Tourist’s Illustrated Handbook for Visitors to Ireland in 1852*, 2nd ed. London: Office of the National Illustrated Library. Available online: <https://archive.org/details/irishtouristsill00lond/page/n25> (accessed on 29 December 2018).
- Paul, Ellen Frankel. 1980. Laissez Faire in Nineteenth-Century Britain: Fact or Myth? In *Literature of Liberty: A Review of Contemporary Liberal Thought*. Edited by Leonard P. Liggio. Carmel: Liberty Fund, Inc. Available online: <http://oll.libertyfund.org/pages/laissez-faire-in-nineteenth-century-britain-a-bibliographical-essay-by-ellen-f-paul> (accessed on 6 October 2018).
- Poulsen, Bo. 2008. Producers and Production of Salted herring. In *Dutch Herring Book Subtitle: An Environmental History, c. 1600–1860*. Amsterdam: Amsterdam University Press. Available online: <https://www.jstor.org/stable/j.ctt6wp5m2.9> (accessed on 15 December 2018).
- Public Works. 1846. An Act for the further Amendment of the Acts for the Extension and Promotion of Public Works in Ireland. [5th March 1846.] Irish Statute Book. Available online: <http://www.irishstatutebook.ie/eli/1846/act/1/enacted/en/print> (accessed on 27 October 2018).
- Riordan, Edward J. 1920. *Modern Irish Trade and Industry. Historical Introduction by George O’Brien*. New York: E. P. Dutton and Company.
- Robbins, Lionel. 1998. Lecture 23: John Stuart Mill. In *A History of Economic Thought: The LSE Lectures*. Edited by Steven G. Medema and Warren J. Samuels. Princeton: Princeton University Press.
- Roberts, Callum. 2007. *The Unnatural History of the Sea: The Past and Future of Humanity and Fishing*. Washington: Island Press.
- Robinson, Robb, and David J. Starkey. 1996. *The Sea Fisheries of the British Isles, 1376–1976: A Preliminary Survey*. Edited by Poul Holm, Richard J. Starkey, Jón Th. Thór and The North Atlantic Fisheries. Esbjerg: Studia Atlantica.
- Rosenbaum, Simon, ed. 1912. *Against Home Rule: The Case for the Union*. Arthur by J. Balfour and others. Introduction by Sir Edward Carson. Preface by A. Bonar Law. London and New York: Frederick Warne.

- Sikes, Kathryn, and Chuck Meide. 2006. British Imperialism on Achill Island, Ireland: A Study of Irish Symbolic Resistance Through the Use of Vernacular Fishing Boats. Presented at the Symposium: Images of Colonialism: Reinvented Identities in the Atlantic World, 2 November 2006. Williamsburg: American Society for Ethnohistory Annual Conference. Available online: https://www.academia.edu/3245695/British_Imperialism_on_Achill_Island_Ireland_A_Study_of_Irish_Symbolic_Resistance_Through_the_Use_of_Vernacular_Fishing_Boats (accessed on 18 December 2018).
- Symonds, Thomas Edward. 1855. *Observations on the Fisheries of the West Coast of Ireland*. London, Dublin: Chapman and Hall.
- Taylor, Lawrence J. 1980. Colonialism and Community Structure in Western Ireland. *Ethnohistory* 27: 169–81. [CrossRef]
- Thurstan, Ruth H., Simon Brockington, and Callum M. Roberts. 2010. The effects of 118 years of industrial fishing on UK bottom trawl fisheries. *Nature Communications* 1: 15. [CrossRef] [PubMed]
- Walton, John K. 1992. *Fish and Chips, and the British Working Class, 1870–1940*. London: Leicester University Press.
- Wendling, Karina Bénazech. 2018. *Reforming the Poor, a Charitable Enterprise of Colonization? Protestant Missions in Ireland in the Nineteenth Century*. Exeter: Britain and the World Conference of the British Scholar Society.
- West Clare Railway. 2018. www.westclarerailway.ie/about/history/. Railway Preservation Society of Ireland. Available online: www.steamtrainsireland.com/schools/irishrailwaysystem.htm (accessed on 2 September 2018).
- Whyte, Nicholas. 1997. The Social Context of Science in Ireland, 1890–1930. A Thesis Presented for the Degree of Ph.D. Queen's University of Belfast Faculty of Arts. January 27. Available online: www.nicholaswhyte.info/nwphdthesis.doc (accessed on 2 September 2018).
- Wood, Walter. 1911. *North Sea Fishers and Fighters*. London: Kegan, Paul, Trench, Trübner & Co. Available online: <https://archive.org/stream/northseafishersf00woodrich#page/n7/mode/2up> (accessed on 2 September 2018).
- Worthington, Robert. 1856. *The Fisheries Considered as a National Resource: With Comments upon the Laws Relating to Them: Being a Collection of Articles on the State of the Irish Fisheries Published at Different Periods*. Dublin: Edward J. Milliken.
- Young, Todd. 1975. The Dingle Commercial Fishermen: An Analysis of the Economic Action of an Irish Fishing Fleet. Ph.D. dissertation, University of Pittsburgh, Pittsburgh, PA, USA.



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