

The Animal Law Clinic

At Lewis & Clark Law

Protecting Ireland's Most Threatened Fish

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INTRODUCTION

It cannot be overstated how important marine and freshwater resources are to the country of Ireland. The country maintains one of the largest marine areas in Europe, one that is ten times that of its land mass.¹ This marine area provides a plethora of resources and economic value to the country. The fishing industry in Ireland alone brought in €226 million in 2017.² Additionally, the seemingly endless array of coastal wildlife attracts millions of tourists each year. Ireland's freshwater ecosystems are also significant sources of value. The country has 70,000 kilometers of rivers, 12,000 lakes, and 850 square kilometers of estuaries.³ These rivers and lakes are important sources of fishing and tourism, and have allowed Ireland to industrialize and develop into a strong independent nation.

Unfortunately, these ecosystems have faced numerous threats in recent decades and fish species have suffered as a result.⁴ Ireland's marine area is now one of the most overfished and exploited marine areas in Europe and the world,⁵ and its freshwater fish populations are likewise suffering. From obstructions of migratory paths from invasive structures such as dams, to pollution from industrial activity, Ireland's fish populations are dwindling as a result of human activity. This decline may be partly because Ireland's legal protections for fish are substantially lacking in comparison to what exists in other countries.

Currently, there are no official protections for marine or fresh water fish species under Irish law.⁶ This is not because Ireland lacks the legal framework for protection, however. Ireland adequately classifies and protects many other animal species, including some other aquatic animals, as endangered. Despite this, it has largely ignored the need for fish protection even in the face of declining fish populations. This has significant impacts not only on the species themselves but also on aquatic environments and ecosystems, as well as on the efforts of Ireland's neighboring nations to protect them. In order for Ireland to preserve its environment and maintain sustainable fish populations, the nation will have to take significant action to protect some of its most vulnerable species.

¹ Environmental Protection Agency, *Ireland's Environment An Assessment* (2016), available at http://www.epa.ie/pubs/reports/indicators/SoE_Report_2016.pdf.

² European Commission, *The Common Fisheries Policy*, https://ec.europa.eu/ireland/news/key-eu-policy-areas/fisheries_en (last visited February 20, 2019).

³ Environmental Protection Agency, *Water*, <http://www.epa.ie/irelandsenvironment/water/> (last visited February 19, 2019).

⁴ Many aquatic species, both marine and freshwater face threats in Ireland, but in order to keep this paper a manageable length, it will focus only on fish. However, much of what is said here may also apply to other aquatic species.

⁵ *Id.*

⁶ Current protections include listing under endangered lists such as the IUCN, Habitats Directive, and OSPAR, but no official legislative protections for fish. This will be discussed in detail later.

This paper will analyze Ireland's current legal framework as it pertains to marine and freshwater fish protection and compare it to the United Kingdom's (UK) system, with a focus on Northern Ireland. The UK provides an appropriate basis for comparison because it shares not only a rich history with Ireland, but it also encompasses much of the same marine region as Ireland. Northern Ireland and Ireland are also uniquely connected as they jointly occupy an island home. Thus, some of the same marine and fresh water species will be found throughout the territory and face similar challenges and need for protection. And while Northern Ireland is a part of the UK, it has protections that go above and beyond that of the rest of the UK and specifically relate to the geographic and biological realities of Ireland's environment. This proximity makes regional cooperation regarding species protection not only desirable, but more easily attainable⁷ because a legal framework and some scientific assessment is already in place regarding relevant species.

The overarching goal of this paper is to highlight the similarities between the environmental goals, legal systems, and species shared by each region, and to suggest that Ireland should be providing the same or similar protections as its neighbors to all of its endangered species.

⁷ Putting the issues arising from the Brexit problem aside for the purposes of this conversation. This is an important issue that will need to be addressed no matter how Brexit is resolved, but it is beyond the scope of this paper.

IMPORTANCE OF REGIONAL COOPERATION

To begin, it is important to note why regional cooperation is so important to the protection of fish species and the effect that a lack of protection has on the marine and fresh water environments shared by jurisdictions. First, many of Ireland's aquatic species are currently at risk of extinction due to human activities such as overfishing and pollution. Second, Ireland's own lack of protection has negative impacts on the ability of other countries to protect species in their territory. Finally, Ireland, Northern Ireland, and the rest of the UK have overlapping environmental goals that should make it desirable to have similar protections in place throughout these jurisdictions.

The waters surrounding the UK and Ireland are rich in marine life and provide a home to hundreds of species of fish, 24 species of whales and dolphins, large colonies of seals, and some of the largest populations of seabirds in Europe.⁸ Unfortunately, many of these species are facing the threat of extinction. A prime example of this threat was shown in the EU's most recent assessment of fish stocks in the region.⁹ As part of the EU's Marine Strategy Framework Directive,¹⁰ fish and shellfish stocks in the EU are assessed to determine if they are in Good Environmental Standing (GES). The 2017 assessment found that 67% of fish and shellfish stocks in Europe's seas do not meet GES.¹¹ These depleted populations include whiting, sole, sea bass, skates, sharks, and other species.

These statistics can be traced, in the part, to prevalence of overfishing in Irish waters. In 2016 and 2017, Ireland was deemed the worst offender when it comes to overfishing in EU waters, according to a study done by New Economics.¹² Each year, the Member States of the EU set Total Allowable Catch (TAC) quotas for fish species in the EU as part of the EU's Common Fisheries Policy.¹³ Ireland exceeded the set Atlantic TAC for 2017 by 18%.¹⁴ While this may be indicative of an

⁸ Environmental Protection Agency, *Ireland's Environment An Assessment*, 2016, <https://www.law.cornell.edu/citation/2-100> (last visited Oct. 24, 2018).

⁹ The term "stocks" is used to describe populations of fish species as fishery resources. Because the Marine Strategy Framework Directive analyzes fish in terms of stocks rather than as individual fish, it will not be discussed further.

¹⁰ "The Marine Directive aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend... In order to achieve GES by 2020, each Member State is required to develop a strategy for its marine waters (or Marine Strategy)." This will be discussed briefly in a later section, but a detailed discussion is not necessary for the purposes of this paper. European Commission, *Our Oceans, Seas and Coasts*, 2017, http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm (last visited Oct. 24, 2018).

¹¹ European Environmental Agency, *Marine fish stocks*, 2017, <https://www.eea.europa.eu/airs/2018/natural-capital/marine-fish-stocks> (last visited February 10, 2019).

¹² New Economics Foundation, *Landing the Blame: Overfishing in the Atlantic 2018*, 2018, <https://neweconomics.org/uploads/files/Landing-the-blame-Atlantic-2018.pdf> (last visited Oct. 24, 2018).

¹³ "The Common Fisheries Policy is a set of rules for managing European fishing fleets and for conserving fish stocks. Designed to manage a common resource, it gives all European fishing fleets equal access to EU waters and fishing grounds and allows fishermen to compete fairly." A detailed discussion of the Policy is not necessary for the purposes of this paper. European Commission, *The Common Fisheries Policy*, https://ec.europa.eu/fisheries/cfp_en (last visited Oct. 24, 2018).

¹⁴ *Id.*

issue with the TACs in general, the severity of the issue would be lessened if Ireland had specific protections in place for species at risk of extinction due to overfishing. This would allow Ireland to more accurately monitor fishing activities and provide sanctions to those who attempt to exploit the marine ecosystem in contravention of government regulations.

This is not to say that Ireland needs to prevent fishing altogether. The country has a long and rich history of fishing its coastlines. However, the current practices of fishing in Ireland, if left unchanged, will result in the loss of these traditions along with the loss of many fish species. The EU Common Fisheries Policy recognizes that switching to sustainable fishing in Ireland is a matter of survival both for fish stocks and fishing communities, both within, and beyond Ireland's borders.¹⁵

Depleted fish populations in Irish waters, as well as the lack of a comprehensive and coordinated approach to the protection of fish in the region, impedes other jurisdictions, such as the UK, in their ability to adequately protect species within their own territory. Because fish in the ocean do not confine themselves to national borders, the activities of one country with respect to fish have significant impacts on other countries. This is especially true for places, such as Ireland and the UK, that are in close proximity to each other and share waterways. By not enforcing TAC quotas and not otherwise legislatively protecting species, Ireland is contributing to the decline of shared species that other countries have already deemed to be endangered. The significance of Ireland's failure to act is heightened by the size of Ireland's marine environment and its important place, from an ecosystem perspective, on the edge of the European Continent in the Atlantic Ocean.

This can be illustrated by the angel shark living off the British and Irish coasts. The angel shark is a flat, ray-like shark that spends most of its time on the ocean floor in the North-East Atlantic Ocean.¹⁶ As will be discussed below, the angel shark is classified as critically endangered on the IUCN Red List and is a listed species under OSPAR, the Wildlife (Northern Ireland) Order, the UK Wildlife and Countryside Act, the UK BAP Priority Species List, and the Northern Ireland Priority Species List. The angel shark was once prevalent in waters from Scandinavia to North Africa, with a large population in British and Irish waters, but is now almost completely extinct.¹⁷

¹⁵ European Commission, *The Common Fisheries Policy*, https://ec.europa.eu/ireland/news/key-eu-policy-areas/fisheries_en (last visited February 20, 2019).

¹⁶ IUCN, *Squatina squatina*, *Angel Shark* (2015), available at https://iucnredlist-doi-pdfs.s3-eu-west-1.amazonaws.com/IUCN.UK.2015-1.RLTS.T39332A48933059.en.2.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIQ5LNOAGQ6MF4A3Q%2F20181107%2F%2F%2Faws4_request&X-Amz-Date=20181107T231319Z&X-Amz-Expires=7200&X-Amz-SignedHeaders=host&X-Amz-Signature=77fc4355354d497035684659d4931b8cf0fff96518d2baae1ea4d6561ff8903.

¹⁷ International Union for Conservation of Nature, *Species of the Day: Angel Shark* (2017), available at <https://nc.iucnredlist.org/redlist/species-of-the-day/squatina-squatina/pdfs/original/squatina-squatina.pdf>.

One of the biggest threats the angel shark faces is being caught as “by-catch” by commercial fisherman.¹⁸ The term by-catch refers to the unwanted animals caught by fisherman (when fishing for other animals) who cannot be sold or kept and are thus thrown away.¹⁹ Commercial fisherman in the region often utilize techniques that result in by-catch, such as bottom trawling. Bottom trawling is designed to herd and capture target species along the ocean floor. Large nets connected to fishing boats are dropped to the ocean floor and dragged along with a boat as fish and other animals are trapped in the nets.²⁰ Because angel sharks sleep, hunt, and breed along the ocean floor, they are particularly susceptible to being caught in these types of devices. This practice is common among Irish fisherman, and when combined with the reluctance of Irish fisherman to limit fishing in the region, impedes the UK’s efforts to revitalize angel shark populations in the region.

Additionally, regional cooperation between Ireland and the UK is desirable because they share similar environmental goals. This is evidenced by their common membership in several international and regional organizations and the commitments they have made within them. For example, both Ireland and the United Kingdom are party to the OSPAR convention and the EU’s Habitats Directive, both will be discussed in further detail below. The goals of each include aquatic species protection and bringing low species populations into GES.

By agreeing to the OSPAR convention, Ireland has committed itself to OSPAR’s guiding principle: the **precautionary principle**. Under the precautionary principle, “preventive measures are to be taken when there are reasonable grounds for concern that human activities may bring about hazards to human health, harm living resources and **marine ecosystems**, damage amenities or interfere with other legitimate uses of the sea, *even when there is no conclusive evidence of a causal relationship*” (emphasis added).²¹ The essence of the precautionary principle is that failing to take protective measures, even if there is a lack of full scientific evidence proving they are necessary, will result in higher costs to society, nature, and future generations. Providing legislative protection for aquatic fish species, as the UK has, would be consistent with this theory because we now know that significant damage has been done to Ireland’s marine and freshwater ecosystems as a result of human activity. As Ireland has committed itself to the precautionary principle by being party to OSPAR, it should be making tangible efforts to protect its threatened aquatic species.

¹⁸ *Id.*

¹⁹ National Oceanic and Atmospheric Administration, *Bycatch*, <https://www.fisheries.noaa.gov/topic/bycatch> (last visited Nov. 5, 2018).

²⁰ National Oceanic and Atmospheric Administration, *Fishing Gear: Bottom Trawls*, <https://www.fisheries.noaa.gov/national/bycatch/fishing-gear-bottom-trawls> (last visited Nov. 5, 2018).

²¹ OSPAR Commission, *Precautionary Principle*, <https://www.ospar.org/about/principles/precautionary-principle> (last visited February 10, 2019).

Another area of importance in both OSPAR and the Habitats Directive is biological diversity, or **biodiversity**. Biodiversity, according to the United Nations Convention on Biological Diversity,²² can be defined as “the variability among living organisms from all sources including, terrestrial, **marine and other aquatic ecosystems** and the ecological complexes of which they are part; this includes diversity **within species, between species** and of ecosystems” (emphasis added).²³ OSPAR’s main goal is to limit human activity in the North-East Atlantic that is putting pressure on the marine ecosystem and to preserve biodiversity.²⁴ Similarly, the Habitats Directive is primarily focused on maintaining biodiversity in Europe by conserving rare, threatened, and endemic animal and plant species.²⁵ Both of these agreements emphasize the importance of regional cooperation in meeting these goals. Thus, Ireland should be committed to taking the necessary steps in order to protect its biodiversity, including its marine and freshwater fish species.

In order to honor the commitments Ireland has made under these international agreements, it is crucial that Ireland take legislative steps to protect the aquatic species that are at risk of extinction in its waters. In doing so, Ireland would be committing to maintain a healthy marine environment for its own citizens and the nations with which it shares its waters. Restoring and maintaining a healthy marine environment would also ensure that Ireland could rely on its marine resources for years to come at sustainable levels.

²² This definition has been accepted by the Environmental Protection Agency of Ireland in its report on Ireland’s Biodiversity Action Plan 2014-2018.

²³ <http://www.epa.ie/pubs/reports/biodiversity/EPA%20Biodiversity%20Action%20Plan%202014-2018.pdf>

²⁴ OSPAR Commission, *Introduction from the Executive Secretary*, <https://www.ospar.org/about/introduction> (last visited Oct. 24, 2018).

²⁵ European Commission, *The Habitats Directive*, http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm (last visited Oct. 26, 2018).

LEGAL FRAMEWORK

There are a number of laws at the international, regional, and national level that affect species protection in Ireland and the UK. Below is a discussion of the EU's Habitats Directive, the OSPAR convention, and the laws in each nation addresses, including Northern Ireland, that pertain to species protection, as well as the specific aquatic species that are covered. While these are not the only laws pertaining to species protection in the region, they provide a basis for understanding the existing framework at each level.

The European Union: Habitats Directive

The Habitats Directive (the Directive) was adopted by the European Union (EU) in 1992 as part of Europe's nature conservation policy.²⁶ Its primary objective is to promote the conservation of biodiversity by requiring Member States to maintain or restore natural habitats and wild species at a favorable conservation status.²⁷ The species and habitats that require protection are listed in the Annexes to the Directive. Each Member State is required to take protective measures, such as national legislation, to ensure the protection of the species listed in the Annexes. Protection for species and sites is focused on preventing damage from development and other human activities. Ireland and the UK are both members of the Habitats Directive. Thus, they have both committed to implementing national measures to ensure species conservation.

There are three annexes to the Directive that require different levels of protection and cover over 1,000 animal and plant species and 200 habitat types.²⁸ These annexes are Annex II, Annex IV, and Annex V.

Annex II covers about 900 species and the "core areas" of their habitats are listed as Sites of Community Importance (SCI). These are the major sites that make up the **Natura 2000** network of protected areas throughout Europe and must be managed according to the ecological needs of each species.²⁹

Annex IV covers over 400 species, some overlapping with Annex II. These sites are subject to a strict protection regime that covers each species' entire natural range within the EU.^{30,31} The

²⁶ *Id.*

²⁷ Joint Nature Conservation Committee, *Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora*, <http://jncc.defra.gov.uk/page-1374> (last visited February 19, 2019).

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ "Articles 12 and 16 of the Habitats Directive are aimed at the establishment and implementation of a strict protection regime for animal species listed in Annex IV(a) of the Habitats Directive within the whole territory of Member States." *Id.*

European Commission provides guidance documents on how member states should go about developing a strict protection regime to protect Annex IV species.³²

Annex V covers over 90 species and requires that EU Member States balance the exploitation and taking of these species with ensuring they are maintained in a favorable conservation status.³³

The Natura 2000 network makes up an essential part of the Directive. Under the Directive, the EU is divided into nine “ecologically coherent biogeographical regions.” These are the: Atlantic, Continental, Alpine, Mediterranean, Boreal, Macaronesian, Pannonian, Steppic, and Black Sea regions.³⁴ Ireland and the UK are both part of the **Atlantic** region.

The process for Natura 2000 site designation starts with each member state submitting a list of proposed SCIs. The European Commission will then adopt a list of SCIs for each biogeographical region to become part of the Natura 2000 network. Finally, at the national level, the designated sites are to be listed as Special Areas of Conservation (SAC) under national law.³⁵

The responsibility of site proposal and implementation lies with each Member State. Site selection is based on a standard selection criteria specified in the Directive developed by the European Council.³⁶ Once a site has been designated a SCI, each member state has up to 6 years to designate the sites as a SAC at the national level.³⁷ After this, it is up to each Member State to take whatever steps are necessary to ensure the favorable conservation of the sites.³⁸ Article 17 of the Directive requires member states to monitor the conservation status of habitats and species covered by the Directive and report findings to the European Commission every 6 years.³⁹

International

OSPAR

The Convention for the Protection of the Marine Environment of the North-East Atlantic, more commonly known as OSPAR, was signed by 15 contracting parties in 1992. The parties include Belgium, Denmark, the European Union, Finland, France, Germany, Iceland, Ireland, the Netherlands,

³² European Commission, *EC guidance on species protection*, http://ec.europa.eu/environment/nature/conservation/species/guidance/index_en.htm (last visited Oct. 26, 2018).

³³ *Id.*

³⁴ European Commission, *The Habitats Directive*, http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm (last visited Oct. 26, 2018).

³⁵ European Commission, *Natura 2000: Habitats Directive Sites according to Biogeographical Regions*, http://ec.europa.eu/environment/nature/natura2000/sites_hab/biogeog_regions/index_en.htm (last visited Oct. 26, 2018).

³⁶ European Commission, *The Habitats Directive*, http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm (last visited Oct. 26, 2018).

³⁷ *Id.*

³⁸ *Id.*

³⁹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland.⁴⁰ OSPAR sets out to protect the marine environment by limiting human activity that puts pressure on the marine ecosystem. These activities include pollution, maritime activities, nuclear energy, and oil and gas extraction.⁴¹

The OSPAR Commission adopted protection strategies in 1998 and now has five annexes that direct its contracting parties.⁴² Annex I focuses on the prevention and elimination of pollution from land-based sources; Annex II addresses the prevention and elimination of pollution by dumping or incineration; Annex III focuses on the prevention and elimination of pollution from offshore sources, Annex IV addresses the assessment of the quality of the marine environment, and Annex V focuses on the protection and conservation of the ecosystems and biological diversity of the maritime area. **Annex V** is the most relevant for the purpose of species protection.

OSPAR is separated into five regions: the Arctic, the Greater North Sea, the Celtic Sea, the Bay of Biscay, and the Wider Atlantic, all falling within the North-East Atlantic Region.⁴³ Ireland falls in the **Celtic Sea** region and the UK falls in both the Celtic Sea and the **Greater North Sea** regions.⁴⁴ The OSPAR Commission has established a list of threatened and/or declining species and habitats in the North-East Atlantic Region which have helped guide the setting of priorities under Annex V.⁴⁵ The list of species and habitats is based on proposals by contracting parties that are examined by the Commission. The criteria used in determining species and habitats is known as the Texel-Faial Criteria and are set out in Annex V.⁴⁶

Like the Habitats Directive, the contracting parties to OSPAR are responsible for establishing and implementing their own national measures to protect and conserve ecosystems in compliance with the Annexes. Using the threatened species lists, the Commission has adopted recommendations that are to be considered by the contracting parties when developing national measures. Relevant recommendations include protecting listed species under national laws, developing a monitoring strategy for the assessment of the status of threatened species, and working with organizations to

⁴⁰ OSPAR Commission, *OSPAR Convention*, <https://www.ospar.org/convention> (last visited Oct. 27, 2018).

⁴¹ *Id.*

⁴² *Id.*

⁴³ OSPAR Commission, *Species & Habitats*, <https://www.ospar.org/work-areas/bdc/species-habitats> (last visited Oct. 26, 2018).

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ The specific criteria are not relevant for this discussion, but can be found here: OSPAR Commission, *Criteria for the Identification of Species and Habitats in need of Protection and their Method of Application* (2013), available at http://jncc.defra.gov.uk/pdf/ANNEX05_Texel_Faial%20criteria.pdf.

obtain regular advice and to coordinate monitoring and research programs.⁴⁷ There are 48 recommendations to be applied by each member nation.

The OSPAR listed species are separated by the five regions in which they exist. Ireland is in **region III** and the OSPAR listed fish in this region are the (by common name): Allis shad, European eel, Portuguese dogfish, leaf scale gulper shark, basking shark, common skate, spotted ray, cod, long-snouted seahorse, short-snouted seahorse, porbeagle, sea lamprey, Thornback skate, white skate, salmon, spurdog, and angel shark.

IUCN

The International Union for Conservation of Nature (IUCN) is a membership union that provides scientific information and tools to its members to, in part, conserve nature worldwide. It is made up of both government and private organizations.⁴⁸ There are approximately 1,300 members, and approximately 13,000 experts. The IUCN is not a governmental body, but has become a respected global authority on the environment and measures needed ensure its health.

Part of what the IUCN does is create the IUCN Red Lists Categories and Criteria. Using some of the 13,000 experts that comprise the IUCN, the lists are assembled to objectively assess most species for conservation worldwide.⁴⁹ The lists are developed using strong scientific criteria⁵⁰ and have become recognized as one of the most authoritative guides on biological diversity and species conservation status. The IUCN Red Lists are commonly used by government agencies, wildlife departments, conservation-related non-governmental organizations (NGOs), natural resource planners, educational organizations, students, and the business community.⁵¹ These lists are not binding law, however, and act solely as a guide to countries determining which species to protect. The Red List fish for the UK and overall EU region is too long to share for the purposes of this paper, but the Irish-specific Red Listed fish will be discussed in the next section.

Ireland

Moving away from the international realm, we look at the national laws of Ireland. Ireland has no statutory protections for fish under its current laws. It does, however, grant some protections,

⁴⁷ OSPAR Commission, *Implementation of species and habitat Recommendations*, <https://www.ospar.org/work-areas/bdc/species-habitats/implementation-of-species-and-habitat-recommendations> (last visited Oct. 26, 2018).

⁴⁸ IUCN, *About*, <https://www.iucn.org/about> (last visited February 10, 2019).

⁴⁹ IUCN, *IUCN Red List of Threatened Species*, <https://www.iucn.org/resources/conservation-tools/iucn-red-list-threatened-species> (last visited Oct. 30, 2018).

⁵⁰ The specific criteria used is not relevant for this discussion, but can be found here: <https://portals.iucn.org/library/sites/library/files/documents/RL-2001-001-2nd.pdf>

⁵¹ IUCN Red List, *Background & History*, <https://www.iucnredlist.org/about/background-history> (last visited February 9, 2019).

mainly in the form of site designations, to fish habitats based on its obligations under the EU Habitats Directive and OSPAR (discussed further below). Additionally, Ireland recognizes the ICUN's red lists as providing a basis for endangered species listings. Thus, Ireland recognizes that certain fish require protection in some form.

Not only does Ireland recognize that fish need protection, it has the law in place that can be used to protect them. This law is known as the Wildlife (Ireland) Acts 1976 and 2000. This law is designed generally for species and habitat protection and covers both marine and fresh water species. However, it has not yet been used to protect fish species. Below is a discussion of the Habitats Directive, the OSPAR Convention, and the ICUN lists as they pertain to Ireland, as well as the Wildlife (Ireland) Acts 1976 and 2000.

Habitats Directive

Under the Habitats Directive, Ireland is required to establish Special Areas of Conservation (SACs) to protect the designated species. This process has been transposed into national law as the **European Communities (Birds and Natural Habitats) Regulation 2011**.⁵² This law empowers the Irish Minister for Arts, Heritage and the Gaeltacht (the Minister) to designate SACs⁵³ and authorizes public authorities to prohibit actions in the SACs that have significant or adverse impacts on them.⁵⁴ "Public authority" refers to any "public authority having or exercising functions, including consent functions, which may have implications for or effects on nature conservation."⁵⁵ All functions of a public authority must be carried out in compliance with the requirements of the Habitats and Birds Directives.

The major focus of this statute is the prevention of the destruction of habitats and bringing habitats and species into "favorable conservation status," as required by the Habitats Directive. The status of a species is considered "favorable" when a species is "maintaining itself on a long-term basis as a viable component of its natural habitats, and the natural range of the species is neither being

⁵² National Parks & Wildlife Service, *Special Areas of Concentration (SAC)*, <https://www.npws.ie/protected-sites/sac> (last visited Oct. 26, 2018).

⁵³ "The Minister shall establish priorities for the designation of sites, pursuant to Regulations 14 and 18, in the light of— (a) the importance of the sites for the maintenance or restoration at a favourable conservation status of— (i) a natural habitat type or types in Annex I to the Habitats Directive, (ii) a species in Annex II to the Habitats Directive, (b) the conservation status of natural habitat types and or priority species, (c) the coherence of Natura 2000, and (d) the threats of degradation or destruction to which those sites are exposed." European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011).

⁵⁴ European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011).

⁵⁵ *Id.*

reduced nor is likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.”⁵⁶

Under the Regulation, no person shall perform an operation or activity on or significantly impacting a SAC without approval from the Minister.⁵⁷ The Minister is to assess proposed operations in light of the site’s conservation objectives and should consent to an operation or activity only after finding it will not adversely affect the SAC.⁵⁸ If approved, the Minister will grant a permit which would allow for potentially species damaging activity to occur. The Regulation does not specifically prohibit actions against individual species such as killing, injuring, or taking. It instead focuses on preventing development of land that is crucial to a species.

SACs in Ireland cover approximately 13,500 sq. km., with approximately 47% of this area being marine and freshwater habitats.⁵⁹ The fish that are included in these sites are the (by common name): sturgeon, Allis shad, twaite shad, Killarney shad, river lamprey, brook lamprey, sea lamprey, Pollan, and salmon.⁶⁰ These fish are not specifically protected under the European Communities (Birds and Natural Habitats) Regulation 2011, but their habitats are as SACs.

OSPAR

Ireland is obligated to protect certain species of fish under its commitment to the OSPAR convention. In pursuing this, Ireland has designated a total of 19 OSPAR Marine Protected Areas (OSPAR MPAs).⁶¹ However, there is currently no legislation to legally enforce any protected areas designated under international conventions.⁶² As a result, Ireland has designated all 19 of these sites as SACs under the Habitats Directive. The fish that are meant to be protected by OSPAR include the (by common name): sturgeon, Allis shad, sea lamprey, salmon, **European eel, Portuguese dogfish, gulper shark, leafscale gulper shark, basking shark, common skate, spotted ray, cod, orange roughy, porbeagle, white skate, spurdog, angel shark, and bluefin tuna.**⁶³

⁵⁶ National Parks & Wildlife Service, *The Status of EU Protected HABITATS AND SPECIES in Ireland 2013* (2013), available at <https://www.npws.ie/sites/default/files/publications/pdf/Art17-Voll1-web.pdf>.

⁵⁷ European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011).

⁵⁸ *Id.*

⁵⁹ National Parks & Wildlife Service, *Special Areas of Concentration (SAC)*, <https://www.npws.ie/protected-sites/sac> (last visited Oct. 30, 2018).

⁶⁰ Kingston, N., *Checklist of protected & rare species in Ireland* (2012), available at https://www.npws.ie/sites/default/files/general/Listed_species_checklist_Dec12.pdf.

⁶¹ For a full list, see here: National Parks & Wildlife Service, *Marine Protected Areas submitted to OSPAR Convention*, available at <https://www.npws.ie/sites/default/files/general/OSPAR%20MPAs.pdf>.

⁶² Atlas of Marine Protection. <http://www.mpatlas.org/region/country/IRL/> (last visited April 9, 2019).

⁶³ Kingston, N., *Checklist of protected & rare species in Ireland* (2012), available at https://www.npws.ie/sites/default/files/general/Listed_species_checklist_Dec12.pdf.

Unfortunately, there are more species entitled to coverage by OSPAR than are offered protection by the Habitats Directive. The fish in bold are the fish that are listed under OSPAR, but are not protected by the Habitats Directive SACs in Ireland. This leaves gaps that need to be filled by further protection. Because there is no national legislation implementing OSPAR, and the Habitats Directive only protects habitats, these fish are offered no individual protection in Ireland.

IUCN

In addition to the Habitats Directive and OSPAR, Ireland recognizes the Red Lists of Threatened Species developed by the International Union for the Conservation of Nature and Natural Resources (IUCN). Ireland recognizes the fish listed by the IUCN for Ireland as those at most risk of extinction within the foreseeable future.

The fish species in Ireland that the IUCN has deemed either critically endangered, endangered, or vulnerable, based on available data, include the (by common name): angel shark, common skate, flapper skate, porbeagle shark, Portuguese dogfish, white skate, basking shark, leafscale gulper shark, spurdog, undulate skate, cuckoo ray, kitefin shark, shagreen ray, tope shark,⁶⁴ European eel, Pollan, Arctic char, twaite shad, Killarney shad, and Atlantic salmon.⁶⁵ Despite Ireland's recognition of these lists, it does not take any additional precautions to protect the fish listed in them.

Wildlife (Ireland) Act

While the above listings have provided some protections in Ireland in the form of habitat protection, they do not have the force of law required for protection of individual fish species. Ireland's major law that designates and protects threatened species is the Wildlife Act 1976 and the Wildlife (Amendment) Act 2000 (together as the Act). The Act provides for the protection of wildlife and regulates activities that impact wildlife, such as hunting.⁶⁶ All bird species in Ireland are currently protected under this Act (as it replaced the Wild Birds Protection Act 1930) as well as 22 other animal species and 86 species of flora.⁶⁷ However, no aquatic fish species are covered under the Act.

The Act is more expansive in the type of protection offered to species than the Habitats Directive or OSPAR as it regulates not just development of habitats, but individual activities that impact a listed species as well. The Act makes it an offense to hunt a protected animal without a permit

⁶⁴ IUCN, *Ireland Red List No. 11 Cartilaginous fish* (2016), available at <https://www.npws.ie/sites/default/files/publications/pdf/Red%20List%2011%20Sharks%20et%20al.pdf>.

⁶⁵ IUCN, *Ireland Red List No. 5 Amphibians, Reptiles & Freshwater Fish* (2011), available at <https://www.npws.ie/sites/default/files/publications/pdf/RL5.pdf>.

⁶⁶ National Parks & Wildlife Service, *Wildlife Act 1976*, <https://www.npws.ie/legislation/irish-law/wildlife-act-1976> (last visited Nov. 1, 2018).

⁶⁷ *Id.*

or a specific exemption, to injure a protected wild animal unless under a hunting permit, or to willfully interfere with or destroy the breeding place of any protected animal.⁶⁸ It also restricts the ways in which animals may be hunted once a permit is granted. For example, it prohibits the use of certain traps and snares.⁶⁹ The Act also makes it an offense to possess or trade a protected wild animal without a license.

The Irish Minister for Arts, Heritage, Gaeltacht and the Islands is responsible for carrying out the Act and is granted wide latitude in passing regulations in furtherance of the provisions of the Act.⁷⁰ Permits may be granted by the Minister, with whatever conditions are deemed appropriate, through the National Parks and Wildlife Service (NPWS).⁷¹ The NPWS is a part of the Heritage Division of the Department of Culture, Heritage, and the Gaeltacht.⁷²

The 2000 Amendments to the Act broadened the scope of animals covered and added a biological diversity section. This section makes it the responsibility of the Minister to promote the conservation of biological diversity.⁷³

Unfortunately, there are **no** aquatic fish species covered by the Act. The only marine animals covered are mammals including dolphins, porpoises, seals, and whales.⁷⁴ These animals are protected in the Fifth Schedule of the Act. Under the original Act, the Minister had the authority to authorize protection to all wild species of fauna and flora **except fish and aquatic invertebrates** without prior consultation with the Minister of Marine and Natural Resources.⁷⁵ The Amendments of 2000 broadened the scope of the Act to allow the protection of most animals. It also requires the Minister to consult with the Minister for the Marine and Natural Resources *before* a regulation can be promulgated that excludes fish and aquatic invertebrates.⁷⁶ Despite this language promoting the protection of fish, there are still no fish or other aquatic non-mammal species protected under the Act.

There are additional drawbacks to the Wildlife Act 1976. While the Amendments largely expanded the Act to grant the Minister more discretion, there are still broad exemptions that leave many animals exposed. The Minister may grant a permit for the humane trapping or killing of a protected animal for educational, scientific, or other approved purpose.⁷⁷ There is also an exemption

⁶⁸ Wildlife (Ireland) Act 1976 (S.I. No. 39 of 1976).

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ National Parks & Wildlife Service, *Wildlife Act 1976*, <https://www.npws.ie/legislation/irish-law/wildlife-act-1976> (last visited Nov. 1, 2018).

⁷² Department of Culture, Heritage and the Gaeltacht, *National Parks and Wildlife Service*, <https://www.chg.gov.ie/heritage/national-parks-wildlife/> (last visited Nov. 1, 2018).

⁷³ <http://www.irishstatutebook.ie/eli/2000/act/38/section/9/enacted/en/html#sec9>

⁷⁴ Wildlife (Amendment) Act, 2000 (S.I. No. 38 of 2000).

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ Wildlife (Amendment) Act, 2000 (S.I. No. 38 of 2000).

for those engaged in agriculture, fishing, forestry, zoology, or any other scientific pursuit who accidentally injure or kill a protected wild animal or interfere with their breeding sites.⁷⁸ Another exemption exists for those engaged in road construction or other building operations.⁷⁹

Over 6,000 licenses for hunting, or the import and export, of protected species are granted each year and are usually issued for free.⁸⁰ Regardless of the problems associated with these broad exemptions, this is the most extensive wildlife protection law Ireland currently has.

United Kingdom

The United Kingdom has numerous laws affecting wildlife protection. Two of the most expansive are the Wildlife and Countryside Act of 1981 and the UK Post-2010 Biodiversity Framework. Both authorize countries within the UK to develop their own strategies and statutes to fulfill the requirements of the laws. A description of these laws and the fish that are protected under them is included to emphasize the severity of the need for protection and to show the importance of regional cooperation among the jurisdictions.

The Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 (the Act) is the major species protection law in the UK. It makes it an offense to kill, injure, or take any wild bird, (or any wild bird's nest and egg) as well as an offense to intentionally kill, injure, or take any other protected wild animal.⁸¹ It also provides protection for certain plants and habitats.

The Act has been amended by numerous country statutes that have enlarged protection. Some of these are the Countryside and Rights of Way (CRoW) Act 2000 (in England and Wales), the Nature Conservation (Scotland) Act 2004 (in Scotland), and the Natural Environment and Rural Communities Act 2006 (in England and Wales).^{82,83}

Schedule 5 of the Act contains a list of animal species other than birds that are covered by the Act.⁸⁴ The fish covered by this list are the (by common name): Allis shad, twaite shad, burbot, short snouted sea horse, spiny seahorse, basking shark, angel shark, white skate, vendace, sturgeon, and Pollan. There is a statutorily required review every five years for the animals listed in Schedule 5, to be

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ National Parks & Wildlife Service, *Wildlife Act 1976*, <https://www.npws.ie/legislation/irish-law/wildlife-act-1976> (last visited Nov. 1, 2018).

⁸¹ *Id.*

⁸² Joint Nature Conservation Committee, *Wildlife and Countryside Act 1981*, <http://jncc.defra.gov.uk/page-4341> (last visited Nov. 2, 2018).

⁸³ A deeper discussion of these laws is not necessary for the purpose of this paper.

⁸⁴ Wildlife and Countryside Act 1981.

conducted by the respective country's agencies and the Joint Nature Conservation Committee (JNCC),⁸⁵ a statutory advisor to the UK.⁸⁶

The UK Post-2010 Biodiversity Framework

In 1992, the UK published the UK Biodiversity Action Plan (UK BAP) in response to the Convention on Biological Diversity (CBD), an international committee tasked with providing a global framework to protect biodiversity.⁸⁷ A list of priority species was developed under the UK BAP to promote recovery and to help the UK meet its obligations under the CBD.

In 2011, the UK Post-2010 Biodiversity Framework (the Framework) was developed and succeeded the UK BAP. This came on the heels of the CBD publishing the Strategic Plan for Biodiversity 2011-2020,⁸⁸ which included the 20 Aichi Biodiversity Targets,⁸⁹ and the launch of the EU Biodiversity Strategy.⁹⁰

The Framework is concentrated on the four UK countries: England, Northern Ireland, Scotland, and Wales, and identifies steps for each country to develop their own biodiversity strategies. As a result, most of the work currently done within the UK Post-2010 Biodiversity Framework is done at the country level, thus the list of UK BAP priority species and habitats has lost some value. It does remain important, however, in helping the countries develop their own statutory lists of priority species and habitats.

The fish included in the UK BAP priority species list for England, Scotland, Wales, and Northern Ireland are the (by common name): common sturgeon, Allis shad, twaite shad, European eel, spined loach, vendace, Pollan, river lamprey, burbot, smelt, sea lamprey, Atlantic salmon, brown/sea trout, Arctic char, lesser sand eel, black scabbardfish, gulper shark, leafscaper shark, Portuguese dogfish, basking shark, herring, roundnose grenadier, kitefin shark, cod, long-snouted seahorse, short-

⁸⁵ The JNCC was established under the Environmental Protection Act of 1990 (revised by the Natural Environment and Rural Communities Act 2006) and now serves as the public body that advises the UK government on UK and international nature conservation. Joint Nature Conservation Committee, *Who we are*, <http://jncc.defra.gov.uk/default.aspx?page=5287> (last visited February 19, 2019).

⁸⁶ Joint Nature Conservation Committee, *Wildlife and Countryside Act 1981*, <http://jncc.defra.gov.uk/page-4341> (last visited Nov. 2, 2018).

⁸⁷ “The Convention on Biological Diversity provides a global legal framework for action on biodiversity. It brings together the Parties in the Conference of the Parties (COP) which is the Convention’s governing body that meets every two years, or as needed, to review progress in the implementation of the Convention, to adopt programmes of work, to achieve its objectives, and provide policy guidance.” Convention on Biological Diversity, *Introduction*, <https://www.cbd.int/convention/bodies/intro.shtml> (last visited Nov. 2, 2018).

⁸⁸ The Strategic Plan for Biodiversity 2011-2020 is a plan agreed upon by the UN parties to CBD to implement a framework on biodiversity in 2010 in Nagoya, Japan. It included 20 “Aichi Biodiversity Targets” to be achieved by each of the parties. *Id.*

⁸⁹ See link for a full list of the Aichi Biodiversity Targets: <https://www.cbd.int/sp/targets/>

⁹⁰ Joint Nature Conservation Committee, *The UK Post-2010 Biodiversity Framework*, <http://jncc.defra.gov.uk/page-6189> (last visited Nov. 2, 2018).

snouted seahorse, Atlantic halibut, orange roughy, shortfin mako, porbeagle shark, sandy ray, sea monkfish, whiting, European hake, blue whiting, blue ling, ling, blue shark, undulate ray, Greenland halibut, white or bottlenosed skate, mackerel, sole, spiny dogfish, angel shark, bluefin tuna, and horse mackerel.^{91,92}

Northern Ireland

In Northern Ireland, most of the species protection exists in the Wildlife (Northern Ireland) Order 1985 and the Northern Ireland Priority Species List. The Northern Ireland Priority Species List will be the focus of the analysis portion in later sections of this paper.

Wildlife (Northern Ireland) Order 1985

Like the UK's Wildlife and Countryside Act, the Wildlife (Northern Ireland) Order 1985 (the Order) prohibits the intentional killing, injuring, or taking of any wild bird, their nests, or eggs. It also prohibits the intentional killing, injuring, taking, possessing, or trading of any wild animal, or its shelter, protected under the Order.⁹³ A person may be exempted under the law if they can show that the action they took that resulted in injury or death to a protected animal was necessary to protect serious damage to livestock or other forms of agriculture and they notify the Department of Environment as soon as possible.⁹⁴

The original Order did not include any fish to be protected. The Act was then amended by the Wildlife and Natural Environment Act (Northern Ireland) 2011 (discussed below) to include more animals for protection, including five fish species. The fish included in this amendment are the (by common name): short snouted sea horse, spiny seahorse, common skate, angel shark, and basking shark.⁹⁵

Northern Ireland Priority Species List & Wildlife and Natural Environment Act (Northern Ireland) 2011

The Northern Ireland Priority Species List (the List) was developed as part of Northern Ireland's biodiversity strategy required by the UK Post-2010 Biodiversity Framework (the Framework). It includes the fish from the UK BAP Lists that inhabit Northern Ireland plus more

⁹¹ Joint Nature Conservation Committee, *UK BAP priority fish species (excluding purely marine species)*, <http://jncc.defra.gov.uk/page-5164> (last visited Nov. 2, 2018).

⁹² Joint Nature Conservation Committee, *UK BAP priority marine species*, <http://jncc.defra.gov.uk/page-5167> (last visited March 28, 2019).

⁹³ The Wildlife (Northern Ireland) Order 1985 No. 171 (N.I. 2).

⁹⁴ *Id.*

⁹⁵ Wildlife and Natural Environment Act (Northern Ireland) 2011.

species that Northern Ireland has chosen to protect. The Framework and the List are enforced in Northern Ireland under the Wildlife and Natural Environment Act (Northern Ireland) of 2011.

This act empowers the Department of Environment to review, revise, and publish any revisions to the list in order to conserve biodiversity.⁹⁶ It requires a public body to take any steps reasonably practicable to further the conservation of listed species.⁹⁷ A public body is: “(a) a Northern Ireland department; (b) a district council; (c) a statutory undertaker within the meaning of the Planning (Northern Ireland) Order 1991 (NI 11); (d) any other body established or constituted under a statutory provision.”⁹⁸

As mentioned above, the Act also amended the Wildlife (Northern Ireland) Order 1985 to include more fish under its prohibition against intentional injury, death, and takings.

The fish protected under the List are the (by common name): Allis shad, twaite shad, lesser sand eel, European eel, basking shark, herring, Pollan, common skate, cod, tope shark, porbeagle shark, river lamprey, sea monkfish, whiting, European hake, ling, smelt, plaice, undulate ray, Atlantic salmon, brown/sea trout, Arctic char, mackerel, sole, spiny dogfish, angel shark, and horse mackerel.⁹⁹

⁹⁶ Wildlife and Natural Environment Act (Northern Ireland) 2011.

⁹⁷ *Id.*

⁹⁸ Wildlife and Natural Environment Act (Northern Ireland) 2011.

⁹⁹ *Id.*

ANALYSIS

Comparison of Legal Frameworks

The Wildlife (Ireland) Act should adopt the fish listed and protected under the Northern Ireland Priority Species List. Threatened fish species should be protected under the Wildlife (Ireland) Act because it is specifically designed to protect individual species from harm, unlike the current protections under the Habitats Directive which focuses solely on habitat loss. The Northern Ireland Priority Species List should be used as a guide because it has the broadest scope in Northern Ireland and encompasses the same goals as those of Ireland, including preserving biodiversity and taking measures to reduce harm.

While the Wildlife (Northern Ireland) Order, 1985 is similar in its statutory provisions to the Wildlife (Ireland) Act, the Northern Ireland Priority Species List is broader in the species it protects, including all the fish species that are protected under the Wildlife (Northern Ireland) Order, 1985. It is also broader in its reach under the Wildlife and Natural Environment Act (Northern Ireland) 2011, as it authorizes any steps reasonably taken to conserve a species included in the List.

The Northern Ireland Priority Species List uses criteria for listing that is scientifically sufficient and can be easily transferred to Ireland's own assessment of fish. In order to receive protection under the List, a species must meet one of the seven criteria:¹⁰⁰

1. Listed as a UK Priority Species;
2. Rapid decline (2% per year);
3. Decline (1% per year) with Northern Ireland being a stronghold consisting of either:
 - a. >50% Irish population, or
 - b. >20% UK population/range
 Or with the Irish or UK population restricted to Northern Ireland;
4. Rare (confined to small population of one or two sites in Northern Ireland) with Northern Ireland being a stronghold consisting of either:
 - a. >50% Irish population, or
 - b. >20% UK population/range
 Or with the Irish or UK population restricted to Northern Ireland;
5. At least 20% of international population of species or well-recognized subspecies occurring in Northern Ireland;

¹⁰⁰ Department of Agriculture, Environment and Rural Affairs, *Northern Ireland Priority Species List*, available at <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/northern-ireland-priority-species-list.pdf>.

6. Irish Red Data Book species classified as critically endangered, endangered, or vulnerable;
or
7. Red-listed species in either Birds of Conservation Concern in Ireland (BOCCI) or the UK Birds of Conservation Concern (UK BOCC) lists.

The above criteria can provide a basis for protection under Irish law because they cover animals that exist in both Ireland and Northern Ireland and have been recognized as being in danger of species decline. The most relevant criteria are numbers one, two, five, and six, as the others apply to Northern Ireland specifically and number seven applies only to birds. Criteria numbers one and two, listed as UK Priority Species and rapid decline, are relevant to Ireland because many of the environmental pressures that exist in Northern Ireland which have led to either listing under the UK Priority Species list or rapid decline in the region also exist in Ireland. Number five, at least 20% of international population of species or well-recognized subspecies occurring in Northern Ireland, similarly relates to Ireland because Ireland and Northern Ireland share a land mass and coastlines. Thus, most fish species occurring in Northern Ireland will also live in Ireland. Number six, Irish Red Data Book species classified as critically endangered, endangered, or vulnerable, directly relates to Ireland because Ireland has accepted these listings as representing those at most risk of extinction within the foreseeable future.

To be sure that the science supports the listing of these fish under the Wildlife (Ireland) Act, fish should not be listed unless they are also covered by one of the other two, Ireland-accepted agreements: Habitats Directive and OSPAR. The lists included in these various agreements have been specifically tailored to vulnerable fish in Ireland. This makes immediate listing easier because Ireland has already accepted that certain fish require additional protection by supporting these agreements. Ireland itself has determined the need for protection of certain fish under the Habitats Directive and OSPAR when it MPAs and SACs in furtherance of protecting these species. Thus, much of the science is already in place to justify listing fish species under the Act. The next step should be to include them in the Act to prevent direct harm to individuals within the species. Doing so would more thoroughly address some of the human activities that have led to their population decline and endangerment.

Further, the listing of these fish is appropriate under the Act because protection would be consistent with the goals of the statute as evidenced by Section 11. Under this section, the Minister is required to promote the conservation of biological diversity, encompassing all living organisms from all sources, including marine and other aquatic ecosystems.¹⁰¹ Ireland is currently falling short of this

¹⁰¹ Wildlife (Amendment) Act, 2000 (S.I. No. 38 of 2000).

requirement by not protecting any fish species at all and thus not protecting the species, or the biological diversity of their ecosystems,¹⁰² as it is required to do.

The aims of the Northern Ireland Priority List, Habitats Directive, and IUCN are also, at least in part, to protect species in order to conserve biological diversity. The fish protected under these lists represent species important to conserving biological diversity and, as such, should be protected from harm. This is particularly true in light of the precautionary principle, which has been agreed upon by both Ireland and Northern Ireland. Because a significant potential harm has been recognized and resulted in other countries and organizations listing these fish as needing protection, all reasonable steps should be taken to prevent future harm to the survival of these species and their ability to thrive.

Fish to be protected

Fish Name	Wildlife (Ireland) Acts	Wildlife and Countryside Act 1981	Wildlife (Northern Ireland) Order 1985	UK BAP Priority Species	Northern Ireland Priority Species List	Habitats Directive: European Communities (Birds and Natural Habitats) Regulation 2011	IUCN Red List: Ireland	OSPAR: Ireland
Sturgeon				X		X		X
Allis Shad		X		X	X	X		X
Twaite shad		X		X	X	X	X	
Killarney shad						X	X	
River lamprey				X		X		
Brook lamprey						X		
Sea lamprey				X				X
Pollan				X	X	X	X	
Atlantic salmon				X	X	X	X	X

¹⁰² Though protections for some marine mammals might be thought to protect fish species, the biological and ecosystem needs of the species are different even where their territory is shared and thus specific protections for fish species are required.

European eel				X	X		X	X
Portuguese dogfish				X			X	X
Angel shark			X	X	X		X	X
Gulper shark				X				X
Leafscale gulper shark							X	X
Basking shark		X	X	X	X		X	X
Common skate			X		X		X	X
White skate		X						
Spotted ray								X
Cod				X	X			X
Orange roughy				X				X
Porbeagle shark				X	X		X	X
White skate				X			X	X
Spurdog							X	X
Bluefin tuna				X				X
Flapper skate							X	
White skate							X	
Undulate ray				X	X		X	
Cuckoo ray							X	
Shagreen ray							X	

Kitefin shark				X			X	
Tope shark					X		X	
Short snouted seahorse			X	X	X			
Spiny seahorse			X		X			
Spined loach				X				
Vendace		X		X				
Burbot		X		X				
Smelt				X	X			
Brown/sea trout				X	X			
Arctic char				X	X			
Herring				X	X			
Sea monkfish				X	X			
Whiting				X	X			
European hake				X	X			
Ling				X	X			
Plaice					X			
Mackerel				X	X			
Spiny dogfish				X	X			
Horse mackerel				X	X			
Lesser Sand eel				X	X			

The table above compares the fish covered by the various laws discussed in the previous sections.¹⁰³ The fish that should be considered for listing under the Wildlife (Ireland) Act are those that exist in both the Northern Ireland Priority Species List and in at least one of the three lists that pertain to Ireland (Habitats Directive, IUCN Red List, and OSPAR). These fish are the (by common name): Allis shad, twaite shad, Pollan, Atlantic salmon, European eel, angel shark, basking shark, common skate, cod, porbeagle shark, undulate ray, and tope shark. While all threatened fish species are worthy of protection, these fish provide a good starting point because they are recognized as needing protection by both Ireland and its close neighbor, Northern Ireland. Thus, much of the scientific analysis establishing the need for protection is already in place and protection can be implemented quickly under existing Irish law.

Below is a closer look at the fish to be protected under the Wildlife (Ireland) Act.

- The **Allis shad** (scientific name *Alosa alosa*) is a member of the herring family. The fish lives in coastal waters and estuaries for most of its life, but migrates into rivers to spawn. Threats to the Allis shad include the construction of dams/weirs in their migratory paths, habitat degradation, pollution, and overfishing.¹⁰⁴
 - The Allis shad is listed under the Northern Ireland Priority List because it meets the following criteria:
 - Listed as a UK priority species;
 - Irish Red Data Book classified as vulnerable¹⁰⁵
 - The Allis shad is also recognized by the Habitats Directive and OSPAR.
- The **twaite shad** (scientific name: *Alosa fallax*) is a member of the herring family, similar in appearance to the Allis shad. Spending most of its life in coastal waters, the fish migrates upstream in the spring to spawn. Like the Allis shad, threats to the twaite shad include dams/weirs and other migratory route obstructions, habitat degradation, pollution, and overfishing.¹⁰⁶
 - The twaite shad is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Listed as a UK priority species;

¹⁰³ For purposes of concision and relevance, the chart excludes fish that are solely listed under the UK BAP priority species list.

¹⁰⁴ National Museums Northern Ireland, *Alosa – allis shad*, <http://www.habitas.org.uk/priority/species.asp?item=5004> (last visited February 21, 2019).

¹⁰⁵ *Id.*

¹⁰⁶ National Museums Northern Ireland, *Alosa fallax – twaite shad*, <http://www.habitas.org.uk/priority/species.asp?item=42767> (last visited February 21, 2019).

- Irish Red Data Book classified as vulnerable.¹⁰⁷
- The twaite shad is also recognized by the Habitats Directive and IUCN in Ireland.
- The **Pollan** (scientific name: *Coregonus pollan*) is a member of the salmonidae family. The fish lives only in Irish (Ireland and Northern Ireland) freshwater lakes, where it also spawns. Threats to the pollan include eutrophication¹⁰⁸ due to industrial runoff, invasive species, and overfishing.¹⁰⁹
 - The Pollan is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Listed as a UK Priority Species;
 - Northern Ireland has over 90% of the Irish population and 100% of the UK population;
 - Pollan has declined rapidly in Lower Lough Erne since the 1970s;
 - Irish Red Data Book classified as endangered.¹¹⁰
 - The Pollan is also recognized by the Habitats Directive and IUCN in Ireland.
- The **Atlantic salmon** (scientific name: *Salmo salar*) is a member of the Salmonidae family. The fish is found in the northern Atlantic Ocean and large river systems on the Irish island. In the fall, the Atlantic salmon swims upstream freshwater rivers to spawn. Threats to the Atlantic salmon include pollution in fresh water, habitat degradation, water-abstraction, overfishing, supplemental stocking with non-native salmon, introduction of diseases and parasites from salmon farming and stocking, interbreeding with escaped farm salmon, creation of barriers to upstream migration, predation, and increased mortality at sea.¹¹¹
 - The Atlantic salmon is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Declining population;
 - Listed in Annexes II and V of the Habitats Directive.¹¹²

¹⁰⁷ *Id.*

¹⁰⁸ Eutrophication refers to the excessive richness of nutrients in a lake.

¹⁰⁹ National Museums Northern Ireland, *Coregonus autumnalis pollan – pollan*, <http://www.habitas.org.uk/priority/species.asp?item=42768> (last visited February 21, 2019).

¹¹⁰ *Id.*

¹¹¹ National Museums Northern Ireland, *Salmo salar – atlantic salmon*, <http://www.habitas.org.uk/priority/species.asp?item=5006> (last visited February 19, 2019).

¹¹² *Id.*

- The Atlantic salmon is also recognized by the Habitats Directive, IUCN, and OSPAR in Ireland.
- The **European eel** (scientific name: *Anguilla Anguilla*) is the only freshwater eel on the Irish island – the eel migrates between the ocean and freshwater. The eel is found in coastal waters and lowland lakes and rivers. Threats to the European eel include changes in water temperature, overfishing, habitat loss, barriers to upstream migration, invasive species, and pollution.¹¹³
 - The European eel is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Declining population;
 - Irish Red Data Book listed as “critically endangered.”¹¹⁴
 - The European eel is also recognized by the IUCN and OSPAR in Ireland.
- The **angel shark** (scientific name: *Squatina squatina*) is a bottom-dwelling shark that spends most of the day buried in the sand. The angel shark has been declared extinct in the North Sea and locally extinct over part of its former range in the Irish Sea. Threats to the angel shark include being killed as bycatch and habitat degradation. The angel shark’s long life span and low birth rate make it particularly susceptible to species decline.¹¹⁵
 - The angel shark is protected by the Northern Ireland Priority Species List because it meets the following criteria:
 - Irish Red Data Book listed as “critically endangered.”¹¹⁶
 - The angel shark is also recognized by the IUCN and OSPAR in Ireland.
- The **basking shark** (scientific name: *Cetorhinus maximus*) is a large shark that feeds exclusively on plankton. The shark is known for its large mouth that it leaves open while catching plankton. Threats to the basking shark include being hunted for body parts (fins, meat, and cartilage), being caught as bycatch, collision with boats, and disturbance by the public. Their slow growth and reproductive rates make them particularly vulnerable to population decline.¹¹⁷

¹¹³ National Museums Northern Ireland, *Anguilla anguilla – european eel*, <http://www.habitas.org.uk/priority/species.asp?item=100015> (last visited February 19, 2019).

¹¹⁴ *Id.*

¹¹⁵ National Museums Northern Ireland, *Squatina – angel shark*, <http://www.habitas.org.uk/priority/species.asp?item=100027> (last visited February 19, 2019).

¹¹⁶ *Id.*

¹¹⁷ National Museums Northern Ireland, *Cetorhinus maximus – basking shark*, <http://www.habitas.org.uk/priority/species.asp?item=40787> (last visited February 19, 2019).

- The basking shark is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Listed as a UK Priority Species.¹¹⁸
- The basking shark is also recognized by the IUCN and OSPAR in Ireland.
- The **common skate** (scientific name: *Dipturus batis*) belongs to the family of cartilaginous fish known as skates and rays. These flat, bottom dwelling fish are found throughout the north-east Atlantic Ocean, however, their numbers have significantly declined in recent decades. The main threat to the common skate is overfishing, by both meat and trophy fisherman. Their low rate of growth and reproduction make them particularly vulnerable to the effects of overfishing.¹¹⁹
 - The common skate is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Listed as a UK Priority Species;
 - Declining population.¹²⁰
 - The common skate is also recognized by the IUCN and OSPAR in Ireland.
- The **cod** (scientific name: *Gadus morhua*) is a member of the gadoid fish family. The fish lives and reproduces in the Irish Sea. Cod is one of the most popular seafood dishes in the UK, and as a result has suffered greatly due to overfishing. Overfishing is the main threat facing the cod.¹²¹
 - The cod is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - IUCN Red List status is “vulnerable;”
 - Listed as a UK priority species;
 - Declining population.¹²²
 - The cod is also recognized by OSPAR in Ireland.
- The **porbeagle shark** (scientific name: *Lamna nasus*) is a deep-water shark that feeds on fish and cephalopods. The porbeagle shark is a migratory shark, but the North East Atlantic population has significantly declined due to unregulated fishing. The main

¹¹⁸ *Id.*

¹¹⁹ National Museums Northern Ireland, *Dipturus batis* – common skate, <http://www.habitas.org.uk/priority/species.asp?item=40795> (last visited February 19, 2019).

¹²⁰ *Id.*

¹²¹ National Museums Northern Ireland, *Gadus morhua* – cod, <http://www.habitas.org.uk/priority/species.asp?item=100017> (last visited February 19, 2019).

¹²² *Id.*

threats to porbeagle sharks are overfishing for meat and being caught as bycatch. Their low birth rates make them particularly vulnerable to population decline.¹²³

- The porbeagle shark is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - Listed as a UK Priority Species;
 - Declining population.¹²⁴
- The porbeagle shark is also recognized by the IUCN and OSPAR in Ireland.
- The **undulate ray** (scientific name: *Raja undulata*) is a member of the skate and ray family. The flat, bottom dwelling fish is found throughout the Irish Sea, mostly in the southern region. Threats to the undulate ray include overfishing, being caught as bycatch, and habitat degradation from human activity.¹²⁵
 - The undulate ray is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - IUCN Red List status is “endangered;”
 - Listed as UK Priority Species¹²⁶
 - The undulate ray is also recognized by the IUCN in Ireland.
- The **tope shark** (scientific name: *Galeorhinus galeus*) is a type of hound shark found in the temperate waters surrounding Ireland. They are small sharks that live close to the shore. Threats to the tope shark include overfishing, being caught as by-catch, and habitat degradation in nursery areas. Their long life span and low birth rate make them particularly susceptible to species decline.¹²⁷
 - The tope shark is protected under the Northern Ireland Priority Species List because it meets the following criteria:
 - IUCN Red List status is “vulnerable;”
 - Declining population.¹²⁸
 - The tope shark is covered by the Northern Ireland Priority Species List and IUCN.

¹²³ National Museums Northern Ireland, *Lamna nasus – porbeagle shark*, <http://www.habitas.org.uk/priority/species.asp?item=100018> (last visited February 19, 2018).

¹²⁴ *Id.*

¹²⁵ National Museums Northern Ireland, *Raja undulata – undulate ray*, <http://www.habitas.org.uk/priority/species.asp?item=100024> (last visited February 19, 2019).

¹²⁶ *Id.*

¹²⁷ National Museums Northern Ireland, *Galeorhinus galeus – tope*, <http://www.habitas.org.uk/priority/species.asp?item=704> (last visited February 19, 2019).

¹²⁸ *Id.*

Application under the Wildlife (Ireland) Act

While the Habitats Directive and OSPAR are intended to protect species that are at risk of extinction, they fall short in Ireland. This is because neither agreement protects individuals within the species, but rather only the habitats in which they exist. They do not prevent harmful action against the animals themselves, such as fishing, but rather prohibit development and other indirect hazards to the fish. Harmful activities may proceed so long as the areas deemed to be Special Areas of Conservation remain in “favorable conservation status.” According to the most recent report to the EU Commission of the status of Ireland’s habitats and species, a species’ conservation status is determined by looking at “the *sum of the influences acting on the species* concerned that may affect the long-term distribution and abundance of its populations within the territory of the member states” (emphasis added).¹²⁹ This means that if the overall area is doing well, it may meet the criteria even when one species is still significantly at risk.

These protections are certainly important to the conservation of the species, but one could argue that looking at the “sum of the influences... that may affect the long-term distribution” of a species is not narrowly tailored enough for effective protection. Only focusing on the habitats of species and their long-term distribution does not do enough to prevent the harm that is happening to individual fish in real time. Threatened, endangered, and critically endangered species need protection from all types of harm, including actions taken by individuals, in order to be brought back to sustainable levels.

The gaps in protection can be seen in Ireland’s own assessment of the conservation status of fish under the Habitats Directive. Under the Habitats Directive, Ireland is required to report every 6 years on the conservation status of listed species.¹³⁰ The most recent report for Ireland was done in 2013, entitled *The Status of EU Protected Habitats and Species in Ireland 2013*. The report outlined the conservation status of a number of listed habitats and species, including eight fish species. The conservation status is determined by the rate of loss in the species’ population. The scores given are “favorable,” “unfavorable – inadequate,” “unfavorable – bad,” or “unknown.”¹³¹ These are based on the range, population, habitat for species, and future-prospects of the species.¹³²

¹²⁹ National Parks & Wildlife Service, *The Status of EU Protected HABITATS AND SPECIES in Ireland 2013* (2013), available at <https://www.npws.ie/sites/default/files/publications/pdf/Art17-Voll1-web.pdf>.

¹³⁰ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

¹³¹ National Parks & Wildlife Service, *The Status of EU Protected HABITATS AND SPECIES in Ireland 2013* (2013), available at <https://www.npws.ie/sites/default/files/publications/pdf/Art17-Voll1-web.pdf>.

¹³² *Id.*

Of the assessed species, three fish species were given a score of “bad”: the sea lamprey, twaite shad, and Pollan.¹³³ Three fish were given a score of “favorable”: the river lamprey, brook lamprey, and Killarney shad.¹³⁴ The Atlantic salmon was given a score of “unfavorable – inadequate” due to their low populations.¹³⁵ And the Allis shad was marked as a “unknown” because no juveniles have been found in Irish river waters.¹³⁶

The sea lamprey, twaite shad, Pollan, Atlantic salmon, and Allis shad were all found to have low or declining populations in comparison to past years. All of these fish, except the sea lamprey, are on the Northern Ireland Priority Species List plus one of the three conservation lists that pertain to Ireland. Their listing under the Habitats Directive means that the habitats that these animals rely on are already protected as SACs, yet their populations are still suffering. This is a good indicator that more legal protection is needed.

These fish are faced with serious threats to their survival and require more targeted protection than what is offered by the “sum of the influences acting on the species.” The Atlantic salmon, for example, are suffering in part from barriers to upstream migration like weirs.¹³⁷ As upstream migration is crucial to these fish’s breeding, obstructive structures could be prevented under the Wildlife (Ireland) Acts, 1976 & 2000 as “willful interferences with the breeding place of a protected species.”¹³⁸ At the very least, the existence of these breeding sites would have to be taken into consideration before any structure was built, and mitigation efforts, like fish ladders, might be required.

Considering the angel shark as an example, we can see how lack of protection in Ireland affects populations not only in other jurisdictions, but populations in Ireland as well. The angel shark used to frequent Tralee Bay and Clew Bay off of Ireland but now has all but disappeared from its habitat in Irish coastal waters due to unsustainable fishing practices like bottom trawling.¹³⁹ This could be prevented by listing the fish as “at risk” under the Wildlife (Ireland) Act in order to prevent any harmful commercial or non-commercial activity, i.e. commercial and non-commercial fishing, from occurring without a license from the National Parks and Wildlife Service (NPWS). Where licenses are issued by the NPWS, they would be overseen and conditioned on the regulation of the use of certain gear and fishing during certain times of the year. In addition to protecting the sharks themselves,

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ National Parks & Wildlife Service, *The Status of EU Protected HABITATS AND SPECIES in Ireland 2013* (2013), available at <https://www.npws.ie/sites/default/files/publications/pdf/Art17-Voll1-web.pdf>.

¹³⁸ Wildlife (Ireland) Acts, 1976 & 2000.

¹³⁹ *Id.*

further protection would help Ireland reach and maintain a “coherent network” of MPAs within its borders as required by OSPAR because the angel shark breeds in at least one Special Area of Conservation.

CONCLUSION

Ireland has proved itself to be an environmentally progressive country in a number of aspects. It is party to numerous international and regional agreements to protect its marine environment, and as a result, maintains 192 Special Areas of Conservation in its extensive marine region.¹⁴⁰ This shows its commitment to sustainability and preserving the rich biodiversity that calls its waters home. Unfortunately, time has shown that these protections are not enough to fully protect the threatened species in Ireland. Aquatic fish species are particularly at risk because currently, they are afforded no protections under Ireland's most expansive species protection act, the Wildlife (Ireland) Act.

This is not consistent with the goals of Ireland or of its neighboring countries. Under the Habitats Directive, OSPAR, and its own Wildlife (Ireland) Act, Ireland has committed itself to maintaining biodiversity within its borders. The goal of biodiversity is shared by Ireland's neighbors in the UK. This makes it especially important for Ireland to take further actions to restore biodiversity to its important waters. One step that would dramatically help Ireland's species is to expand the scope of the Wildlife (Ireland) Act to include both freshwater and marine fish.

Twelve fish should be first to receive this new protection: Allis shad, twaite shad, Pollan, Atlantic salmon, European eel, angel shark, basking shark, common skate, cod, porbeagle shark, undulate ray, and tope shark. These fish are protected under the Northern Ireland Priority Species List, and/or the Habitats Directive, IUCN Red Lists, and the OSPAR convention. These laws share Ireland's goals in maintaining biodiversity and encompass fish that are known to be threatened in Ireland. In order to fulfill Ireland's obligations under the Habitats Directive, OSPAR, and its own laws, Ireland should take legislative steps to protect fish species that desperately need saving. Doing so would ensure sustainable fish populations for future generations in Ireland, and help bring the country into compliance with international agreements.

¹⁴⁰ National Parks & Wildlife Service, *Special Areas of Conservation (SAC)*, <https://www.npws.ie/protected-sites/sac> (last visited Oct. 26, 2018).