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# The new Common Fisheries Policy and its landing obligation- Implications for governability and legitimacy

*A case study of the Scottish mixed roundfish trawl fishery*

—  
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*Master thesis in International Fisheries Management, May 2015*







## **Acknowledgements**

Now that I am about to finish my master's degree in International Fisheries Management it is with great joy and excitement for what is to come. In the process of getting here I would especially like to thank the following.

Frist of all I would like to thank Kåre Nolde Nielsen for giving me the inspiration to the thesis through a guest lecture at the Norwegian School of Fisheries. My interest was sparked to investigate what seemed to be a complex EU system in the light of the landing obligation and how fishers would deal with this.

I am grateful for all the time made available to be, including the great conversations, discussions and laughs, with my Supervisor, Jahn Petter Johnsen. He has granted academic and moral support in the best way imaginable.

I would especially like to thank Lisa Kaufmann for her support, good conversations and patience during the write-up of the thesis. I would also like to thank my family for their support and understanding.

It was of great inspiration to go visit the East Coast of Scotland and talk to fishers involved in the North Sea roundfish fisheries and also the people responsible for the compliance of these fisheries, namely Marine Scotland Compliance. I truly appreciate the time and conversations had with Skipper Peter Bruce of the "Budding Rose". I also appreciate the time and information given to me by Marine Scotland Compliance staff in Peterhead and Fraserburgh, despite the understandable limitation as to what they could share with me. I hope this paper will be of use to some of you.

I would also like to thank my fellow students of my master's program, in particular Harald Sakarias Hansen and Olga Voronova, for great support and good conversations. Last but not least I would like to thank my professors at the Norwegian College of Fisheries for a great learning experience and opportunity now that I am completing my degree.

## **Abstract**

The European Union has been applying a top-down and centralized approach to management of fish stocks to try dealing with the complexity of the marine environment. Since the establishment of the Common Fisheries Policy in 1983 the principle of relative stability has maintained the main resource “conservation” component of the policy, despite all its criticism for being the major driving factor for discards in for example the North Sea fisheries. In addition a focus has been placed on landings rather than catches, simplifying the problem of incidental catches to remove liability of the fishermen. A ban on discards and an obligation to land all commercial catches are now to be implemented. The obligation has received much attention from the public, governing agencies of member states and fishers themselves.

The success of the change depend both on new regulations and if the EU gets fishers on the same page through normative and cognitive change among the fishers. This way it is possible to create governmentality which will favor governability of a landing obligation as fishers will self-govern themselves and others to avoid wasting marine resources. The ecological complexity combined with the complex regulative framework consisting of a path dependent principle of relative stability makes it difficult to change the system.

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## **List of abbreviations**

CFP- Common Fisheries Policy

EEZs – Exclusive Economic Zones

EFCA – European Fisheries Control Agency

EU- European Union

FAO – The Food and Agriculture Organization of the United Nations

GI – Governing interactions

GS - Governing system

ICES - The International Council for the Exploration of the Sea

MSC – Marine Scotland Compliance

MSY – Maximum Sustainable Yield

NGO- Non-Government Organization

PO's – Producer Organizations

SFF – Scottish Fishermen's Federation

SG – System to be governed- natural/social (NSG/SSG)

TAC – Total allowable catch

TAL – Total allowable landings

UNCLOS – United Nations Convention on Law of The Sea

UK – United Kingdom



## **1.0 Introduction**

### **1.1 European Union fisheries management and the Common Fisheries Policy**

Fisheries management occurs in a dynamic and unpredictable environment across the world and certainly not in a vacuum (Jentoft et al. 1995). External ecological, political, cultural and economic factors influence the governing systems. Governing systems (GS), in this paper the European Union (EU), manage the system-to-be-governed (SG), in this case the Union fisheries. The environment of the European Union's fisheries management is highly complex. Including outside complexity of governing systems the EU fisheries are very diverse and different from area to area inside Union waters. Ecosystems vary from rough offshore colder water fisheries in the North Sea to shallow near tropical fisheries in the Mediterranean with much greater species diversity (Raakjær 2009). The diversity of ecosystems makes it challenging to manage the Union waters with the Common Fisheries Policy as it is the case in the EU fisheries management today. The EU consists of 28 Member States. Hence decision making process of the Common Fisheries Policy is lengthy since each Member State represents its own political, cultural and economic interests (Raakjær 2009).

The Common Fisheries Policy (CFP) that governs EU fisheries was established in 1983. It is revised in a ten-year interval. The newest CFP reform was adopted in 2013. One of the most noticeable changes within the new CFP is Article 15. It establishes a ban on discards and an obligation to land all catches (with some exceptions) (Union 2013). The paper focuses on the implications for governability and legitimacy of the CFP that this radical shift in fisheries governance has on the EU fisheries governance.

The EU's legal change from a discard obligation to a landing obligation is controversial. The former obligation asked the fishers to discard all catches they do not have quota for or have exhausted their quotas already. The CFP has never before introduced a bycatch policy to avoid discards. The EU has regulated landings ashore rather than the catches at sea, where discards actually occur (Raakjær 2009). The discard obligation with its focus on landings rather than catches made enforcement and implementation of the CFP easier, especially considering the ecological and political complexity of EU fisheries. The bias on landings made it possible to avoid much of the complexity inherent in governance of natural environment (Raakjær 2009).

Considering the ecological and political complexity of the EU, governability have depended on simple mechanisms such as the principle of relative stability that helped establish the first CFP. The principle of relative stability allows for a system that distributes fishing rights and quotas based on historical landings in the 1970s. The principle is a fundamental glue of the policy and is not easy to change. It has become path dependent in the CFP (Raakjær 2009) and has led to large misrepresentation of what is actually captured by fleets fishing in the North Sea (Raakjær 2009, Baudron et al. 2014). In addition complexity has increased as fishing patterns have developed further and new states have joined the EU.

The shift to a landing obligation requires EU fishers to bring in all the commercial by-catch caught when they fish for their target species. Fishers will be limited by space on their vessels as to what they can bring in that they receive payment for. They also have to spend time and energy taking care of the catches. The new landing obligation requires them to change their practices and questions their traditional views on their profession. A successful adaptation depends on the fishermen's compliance with rules and regulations. The new landing obligation means brings also substantial changes for other stakeholders such as processors, markets and governance (Gullestad et al. 2015). The change from having to discard all fish they did not have quotas for to an obligation to land all commercial species whether they have quotas for them or not requires a substantial cognitive and normative adaptation.

Governability is defined as the overall capacity for governance of any societal entity or system (Kooiman et al. 2008). The governability of fisheries is influenced by the extent the EU member states and fishers concede legitimacy to the landing obligation. Insufficient legitimacy leads to non-compliance of regulations (Jentoft et al. 1998). It reduces the capacity for governance since the attempt to ensure compliance with the new regulations consumes too much capacity. Supervising, monitoring and controlling the fishers and other stakeholder of the fishing industry become then a costly and conflict-laden necessity.

Legitimacy is described as normative assessment by individuals of the appropriateness or right of enforcement agencies to restrict their behavior (Kuperan et al. 1998). Empirical evidence shows that compliance is higher when legitimacy relates to compliance and individuals accord a high level of legitimacy to the enforcement (Kuperan et al. 1998). Legitimacy is the key to a successful fisheries management (Jentoft et al. 1995).

The extend user groups are involved in the management and are participating through co-management increases compliance (Jentoft et al. 1995). Co-management and involvement in decision-making processes provide for legitimacy. To evaluate the legitimacy for the landing obligation it is therefore necessary to explore who is included in which way in the EU fisheries management. It must also be looked at how governability might occur if legitimacy is not present. There is already a legitimacy crisis and a culture of non-compliance between fishers, member states and the EU Commission (Commission 2009, Raakjær 2009). Considering this, a scenario where legitimacy for the landing obligation does not exist is not unlikely to become reality.

Governability of the fisheries system-to-be-governed will become increasingly challenging for more complicated and complex systems such as the diverse EU fisheries, with the shift from discard to landing obligations. Banning discards puts focus on the catches at sea. The less legitimacy the landing obligation will receive among stakeholders, the more governing capacity is needed to make the system governable. Logistic and financial reasons limit the capacity for governing such a large and complex system though. The landing obligation is after all to be implemented on a fleet of around 87 000 EU vessels (Commission 2014) in vastly different Seas with great fleet heterogeneity, which all are supposed to adhere to the new regulative change.

It is hard to say what the external influences are for the large-scale reform from a discard obligation to a landing obligation. Countries in the North Sea, which share stocks with the EU, ensured that every country adapts principles of good governance. A policy on bycatches that reduces, or even avoids, discards meets the principles of good governance (Raakjær 2009). Measures such as banning discards occur in many fisheries such as Norway. The GS of these countries developed the attitude that this is the right way (Harvey 2013, Gullestad et al. 2015). The Food and Agriculture Organization of the United Nations (FAO) declared the reduction of waste of human resources to a crucial goal. The discard rate is approximately 8% in relation to the world total catch or sums up to around 7 million tons of fish discarded in the sea. Shrimp and demersal trawl fisheries are responsible for about 55% of the total world discard (Johnsen et al. 2011). The Commission wants the EU common fisheries policy to continue its work on promoting good maritime governance and responsible fishing worldwide (Commission 2009).

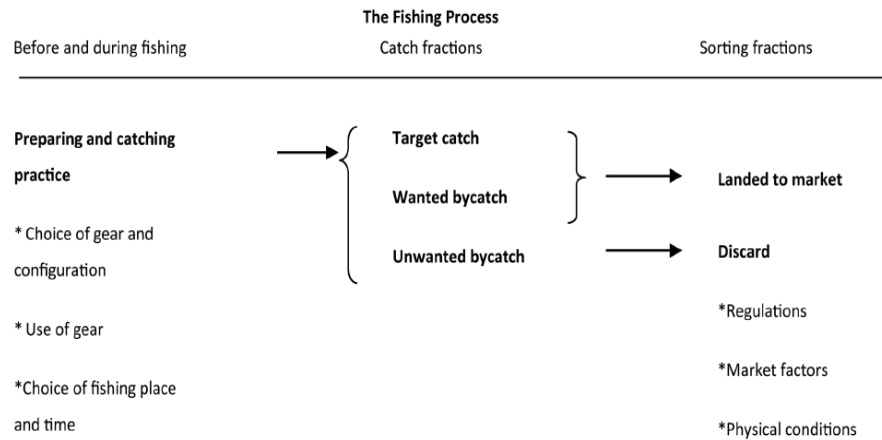
Non-government organizations (NGO's) also press for changes in the discard policy. The NGO 'Fishfight.net' was one of the many institutions from outside the governing system that urged the

EU to change their discard ban to the landing obligation. The campaign that was launched by Fishfight expanded from 30 000 to 500 000 signatures in 3 days, with EU citizens sending letters and putting pressure on the Member State representatives that are part of the GS to ban discards. It shows how relevant Jentoft et al. (1995)'s theory is that fisheries management is not carried out in a vacuum.

The landing obligation is a mixture of outside pressure and the goal from within the EU to end the bad pattern of poor resource conservation. The new CFP states that by January 1<sup>st</sup> of 2015, all EU pelagic fishing fleets are supposed to land all catches where applicable. This is followed by a landing obligation for the demersal fishing fleet to land all catches for certain commercial fisheries by the 1<sup>st</sup> of January 2016, and all other commercial EU fisheries by first of January 2019 (Commission 2009, Union 2013). Discards in all commercially important fisheries are to be eliminated in a five-year period. This will be implemented for a huge fleet of 87 000 fishing vessels (Commission 2014). They fish with a wide variety of gear ranging from less than six meters to more than 75 meters, which are often connected to one of the 232 different producer organizations (PO's) with different interests (Commission 2014).

## **1.2 What are discards?**

The figure below shows how discards occur through a fishing process. FAO defines discards as “the portion of the total organic material of animal origin in the catch, which is thrown away, or dumped at sea for whatever reason. The discards may be dead, or alive” (Kelleher 2005). Others have defined discards to part of the catch, which is not retained on board during commercial fishing operations and is returned to the sea (Catchpole 2005). The new CFP policy simply defines discards as “Catches returned to the sea” (Union 2013).



**Figure 1- The fishing process from sea to market including by-catch (Eliassen 2013)**

Catches returned to sea is based on a wide variety of incentives and reasons created by social, economic, legal or biological factors (Feeckings 2012). Some also argue that discards and fishing practice are caused by institutional factors from tradition and community through values and norms (Eliassen 2013). Other intergovernmental organizations develop their regulative framework (pillar) to ensure an obligation to discard species that one has no quota or after the quotas are exhausted such as the EU. As mentioned above designing the regulative framework for discards (or having no discard policy at all), should be seen in relationship with countries keeping landings regulations rather than catch regulations to simplify enforcement of complex systems to be governed.

There are also physical conditions for discards such as space limitation on ships as seen in the figure above. Space limitation will be one of the most obvious problems for such a radical change the discard ban requires. Additionally there are physical conditions ashore that might lead to challenging implementation, as the processing industry does not have the capacity, to process the bycatch from fishing operations. All the discard reasons put together mean that EU fisheries end up with a variety of aspects to the discard problem making it a complex and difficult problem to solve (Johnsen et al. 2011).

Despite countries stating they have a ban on discards this mostly applies to commercial species. Many countries with such a ban are at the same time discarding so-called non-commercial biomass (Catchpole 2005). Starfish and other bottom dwelling organisms that maintain an important role in the marine ecosystems with the services they provide are important to consider

when talking about good governance and ecosystem care. The discard of those species has ecological consequences on the marine ecosystem (Raakjær 2009). The ecological consequences are however outside the scope of this thesis to address this issue as the focus is mainly on commercially discarded species.

There are many EU fisheries suffering from bycatch which has resulted in discards (Catchpole 2005, Fernandes et al. 2011, Uhlmann 2013). The previous CFP required fishers to discard fish as of two reasons: When there was a mismatch between the species caught and what the fishers held a quota for, i.e. what he was allowed to land. Secondly, if the fisherman had already reached the limit for one of his commercial quota species while fishing for another quota species (Union 2002, Feekings 2012). Quotas are determined based on total allowable catches (TAC) or total allowable landings (TAL) which are set annually. This does not reflect the abundance of the stock accurately in a specific moment (TheScottishGovernment 2009).

The new landing obligation has been the most criticized aspect of the new CFP reform by everyone from scientists for its ecological impact on seabird populations (Heath et al. 2014) to fishers and producer associations for its content and rushed timeframe of implementation (Commission 2001, Armstrong 2014) (Personal Communication Bruce P.). Most of the critique of the new CFP is related to the landing obligation. There are however other important elements that the CFP is trying to address, which indirectly could affect the landing obligation such as the goal of exploiting fish stocks at a level that will let them produce the maximum sustainable yield (MSY) by 2015 and by 2020 at the latest (Commission 2014).

Regionalization is an important aspect to the landing obligation and its governability as legitimacy will be essential to try to ensure legitimacy and compliance. Increased regionalization is another goal of the new CFP (Commission 2009, Union 2013), whereas the focus before has been a very top down micromanagement situation distancing the GS and SG (Raakjær et al. 2012) that has led to a culture of non-compliance and legitimacy crisis (Commission 2009, Raakjær 2009). Regionalization will ensure that rules are adapted to the specificities of each fishery and sea area which should result in better compliance (Christensen 2009) and governability of the system to be governed as more capacity is freed up in the GS when they micromanage less. The EU aims to rebuild the fishermen's trust after it has been washed out



slowly through the many failed attempts from the CFP and its reforms to establish good conservation of fish resources (Commission 2009, Raakjær 2009).

Despite the EU addressing the need to regionalize and involve stakeholders The Scottish Fishermen's Federation and Scottish fishers feel left out and ignored in the process of establishing a landing obligation. They are worried that due to the scope of the policy, unfair enforcement between fleets will follow and there is no level playing field across the CFP. Making sure rules and regulations around the discard ban are at least fairly enforced will cause lack of legitimacy according to fishers (Armstrong 2014). Fishers are also worried that the previous discards may be used in non-human consumption processes such as fish meal, failing therefore to reap the intended benefit of reducing fishing mortality (Armstrong 2011). In any event there is a need to work closer with the fishers to improve the transition to the landing obligation, not only changing the regulative pillar but also working closely with fishers to develop the cognitive and normative pillars of the system-to-be-governed. Once the fishers understand see the benefits from new management instruments, the legitimacy will improve and governmentality could occur (Johnsen 2014).

The involvement and pressure from the external environment and more stakeholders taking an active part in and outside the SG increase both the complexity of the European GS and the conflicts within the system. When adding the fact that the EU is already at a point of a "culture of non-compliance" due to the failed conservation following CFP (Raakjær 2009), a fundamental change like this should likely start from involvement of fishers on the lower levels as argued by (Johnsen 2014). This is recognized but hard for the EU GS to accomplish and implement given the natural system complexity.

### **1.3 Research problem and research questions**

Following the introduction above the following research problem has been formulated:

"How to create governability for the Common Fishery Policy's landing obligation, based on a case study on Scottish mixed demersal trawl fishery"

To investigate my research problem three research questions have been formulated:

1. “Will the new landing obligation be seen as legitimate among fishers in a mixed Scottish fishery?”
2. “Which factors affect the governability of the landing obligation and could make the obligation more governable, looking at a mixed Scottish fishery?”

## **1.4 Structure of the thesis**

Chapter 1 contains introduction, the research problem and the research questions. Chapter 2 describes the theoretical framework and the methodology of the thesis. Chapter 3 outlines the findings from the literature review and field interviews in Scotland. It explains the governing system with aspects of importance to the landing obligation, and the North Sea system-to-be-governed including the fishing history of Scotland, the relevant North Sea natural resources and their management. Chapter 4 then looks at the implications the landing obligation could have for governability in a Scottish fishery. A point to discuss will be if the landing obligation and CFP will see legitimacy among fishers. Chapter 5 suggests possible actions to improve the governability of the landing obligation and conclude if the landing obligation is governable.

## **2.0 Theoretical Framework and Methodology**

### **2.1.1 The change in fisheries governance**

Combining fisheries and coastal governance gives us fisheries governance: “the regulation of how humans can relate to or exploit their fishing resources” (Johnsen 2014). Governance has traditionally been exercised through hierarchical top-down organization, with the governing system as a Hobbesian almighty governor on top, governing in a rational way based on the best available knowledge (Jentoft 2007, Johnsen 2014) with the basis of the Tragedy of the Commons (Hardin 1968) arguing that control is needed to avoid destruction of the common resources. Governance as governing is to Jentoft (2007) imaged as a pyramid, with the governing system in the superior, commanding position and the system-to-be-governed in the subordinate, receiving role. The governing system is hierarchical and rigid. Authority and responsibility are centralized with the emphasis on enforcement and control. The governing system is self-sufficient, and has clearly defined boundaries, which render it easily distinguishable from other systems. In the case of EU, the top down approach limits capacity for governance as it is trying to manage a large

complex system. It is apparent who are the governors and the governed, as there is no double membership in the two systems. Background images and assumptions are not communicated to the SG and goals and other steering means are always developed within the confines of the GS (Jentoft 2007).

Jentoft et al. (2009) connects their definition of governance to the term “interactive governance,” which Kooiman et al. (2008) define as the whole of interactions taken to solve societal problems and to create societal opportunities, including the formulation and application of principles guiding those interactions and care for institutions that enable them. Jentoft et al. (2009) further argues that interactive governance theory works from a three system’s model; a governing system (GS), a system-to-be-governed (SG), and a system of governing interactions (GI), i.e. one that links the other two, showing relationships and interactions, that forms a system in its own right. It is assumed that there are constraints as to how effectively and efficiently these systems can be governed, hence the concept of governability (Jentoft et al. 2009). The concept of governability is therefore defined as the overall capacity of a GS or SG (Kooiman 2003).

As argued by Jentoft et al. (2009) the system to be governed may be too diverse and complex for the top-down approach impacting governability directly. Diversity (in for example a mixed demersal fishery or EU fisheries in general) suggests that no one-size-fits-all situations exist in the fisheries management discourse. Problems are unique and governance solutions cannot be standardized. This has been ignored by EU fisheries management under the establishment CFP in addition to the fact that a top down approach has been nurtured (Symes 2012). The fisheries are not common, they are in fact very diverse and no one-size-fits-all situation exists. To acknowledge more of this diversity and complexity inherent in fisheries, governance has more recently been “redefined” by Jentoft et al. (2009) as the shared, collective effort of government, private business, civic organizations, communities, political parties and the general public.

According to Jentoft et al. (2009) governance is less top-down and more bottom-up from this broader definition and in many instances also horizontal. Governance is however still more or less organized, formal and routine. When a crisis calls for immediate measures, governance sometimes occurs ad hoc. Governance is often conflictive, particularly when interests collide. However in modern society, governance is mostly interactive, as when actors consult each other or take into consideration what others do and therefore try to avoid getting in each other’s way.

Governance is also co-operative, as when actors collaborate in some joint venture or establish strategic networks.

This new way from fisheries management to fisheries governance is according to Jentoft (2007) governing as governance. Fisheries governance is perceived as an open system that interacts with, and dependent upon, its environment. The system forms a heterogeneous network of more or less numerous and powerful stakeholder groups who are partly inside, partly outside the system. The particular stakeholder composition of the GS, its goals and how it attempts to realize these goals is not given ex ante or once and for all. Conflict and tension is present however as each group has its goals to pursue, interests to defend, demands and contributions to make. Governing as governance will therefore be interactive and multi-stakeholder driven (Jentoft 2007). This adds complexity when adapting to this new way of governance.

The shift is in line with a governing principle inscribed in the FAO Code of Conduct for Responsible Fisheries (Jentoft 2007). The principle is to make the decision-making processes more open and democratic by including stakeholders. Participatory democracy in fisheries and coastal governance is a value in itself and is also expected to enhance legitimacy, and hence compliance, and therefore governability (Jentoft 1989). By adding more stakeholders you increase the complexity as the systems become more and more nested, as explained below. Governance can also give mandate/ power further down to the social SG so that top-down management can happen at lower levels than the overall GS. However stakeholders can also give mandate to managers if stakeholders can legitimize this. Hence there is not always resistance to a top down system but the people need to see the legitimacy for this to happen.

In line with the broader view of governing as governance Johnsen (2014) Jentoft (2007) argues that the SG consists of two equally important parts, namely the social system to be governed (SSG) and the natural system to be governed (NSG). The NSG consists of an ecosystem, and the resources that this harbours, where the SSG is a system of users and stakeholders who, among themselves, form political coalitions and institutions. Hence to halt ecological degradation of the natural sub-system for instance, the governing system must work with and through the social sub-system (Jentoft 2007). This has been hard in the EU GS due to the very top-down management present (Symes 2012). The governing system is social and therefore man-made and form institutions. In addition the GS contains regulatory steering instruments and mechanisms.

Acknowledging that the SG consists of two equally important parts increases the complexity of fisheries governance as the ecosystem in itself is very complex and difficult to predict and fully understand. The understanding of the SG as two important components will likely benefit governability, as to understand where capacity of the SG and GS can be improved.

Johnsen (2014) observations show that a governance system (consisting of two subsystems) with governed objects and governing mechanisms, can have many forms of governance existing between these two, from a local bottom-up self-governance to a traditional hierarchical top-down type of governance. If interaction occurs collaborative and bottom-up it can benefit governability as argued by Jentoft et al. (2009) as the co-operative approach brings about local knowledge. This knowledge is important to understand the NSG better, which can make increase governability as the GS learn something new about the capacities of the NSG. Therefore governance must be exercised in proximity to the problem, by involving those who know (Jentoft et al. 2009).

### **2.1.2 Institutions in fisheries governance**

Institutions are essential components of the SG and GS and therefore to interactive governance. Every institution has its rules, norms and cognitive elements (Jentoft 2004). According to Jentoft (2004) fisheries are made up of families, firms, communities, social networks, private organizations (NGOs), research institutes, government agencies and legislative bodies entities that are all termed institutions. Institutions are also generally perceived to include shared symbolic systems, such as language, religion, law and science. According to Bavinck et al. (2013) institutions are considered to consist of relatively enduring sets of rules stimulating, enabling, regulating or controlling human behaviors. They can do this in formal or informal ways. They will surely be changed over time, although the faster they change the less influence they may have. As argued by Jentoft (2004) institutions are what we invoke and are among the remedies we employ when things do not work out as intended, and need correction. Sometimes problems are such that institutions need to be reformed, whereas in other instances new institutions must be established (Jentoft 2004).

For Scott (2008) institutions are less rule centered and consist instead of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behavior. Based on Bavinck et al. (2013) definition of institutions, practices and behavior can, as I see it, over time become institutionalized. An example of this is the discarding practices of EU fisheries

governance and fishermen. The institutions of the GS has tried to deal with the ecosystem complexity by having no discard policy developed (a focus on landings rather than catches) and hence the practice of discarding has been accepted, and legally required discard ban. This has led to an institutionalized practice that is hard to change. If the GS at a later point in time wishes to change this practice to a landing obligation they need to work on developing the pillars, both individually and in relation to one another, so that the practice of an obligation to land all catches becomes institutionalized and replaces the old institutionalized practice of discarding. In interactive governance theory one could say that the images of how fishers see and think of oneself needs to change. The process of changing these images takes time and if the process is rushed there is a chance that images could have less influence on behavior. The process has been rushed in the EU as expressed by fishers (Cogeca 2011), which is unfortunate as more influence is what is the pressing issue/what the CFP is trying to accomplish at the moment.

As emphasized by Scott (2008) institutions operate at multiple levels of jurisdiction or that institutions work at different levels of society (Jentoft 2004). Jentoft (2004) argues that institutions should in many situations be regarded as Chinese boxes—institutions existing within a sequence of institutions. The institutions are nested within one another. Thus, institutions are linked to each other and form networks that are themselves institutions. They should be analyzed as “open” systems, which receive impulses from the outside, i.e. from other institutions, in the form of impacts, resources and ideas (Richard 1992).

Thinking back to the new trend, governing as governance, more stakeholders are included in the process of governance. The particular stakeholder composition in the EU for example with GS institutions, environmental NGOs, outside countries etc. contributes to the complexity of the system when regarded as nested into one another. Simple regulative mechanisms are adapted to try deal with the complexity of nested systems which become institutionalized over time. For example institutions or institutionalized practices such as discarding become more and more nested in one another and changing them takes time as argued by Jentoft (2004) due to the nature of institutions being nested. The process of changing them takes longer as old practices “fight” the new ones. However as mentioned by Jentoft (2004) the time needed to change an institution can be sped up or initiated by a “shock”, such as an internal or external crisis. In addition when



crisis occurs, the existing institutional order will be questioned, its effectiveness debated and legitimacy reduced.

When applying the concept of nested institution the complexity of the systems they inhabit increase as goals and values at different levels of institutions might be conflictive, and often not visible to everyone. For example the crew of a fishing vessel has its home base in a particular community. Again, this community is part of a larger surrounding region, a nation, which must sometimes yield to institutions at a supranational level, such as ICES, which plays a prominent role in fisheries management. Governance at a national and local level must relate to premises that are determined at a supra-national level by means of efforts by global institutions such as World Trade Organization or ICES (Jentoft 2004). An example of this could be the FAO establishing goals that all states should aim for MSY, and exploit resources with principles of good governance including the policy to avoid discarding of fish. The idea of nested institutions proves Jentoft (2004) argument that institutions are never fully self-controlled because they never exist in a cultural, social and institutional vacuum as is the case seen for the EU GS and SG.

That interactive governance theory assumes that there are constraints as to how effectively and efficiently these systems can be governed, should be seen in relation to the fact that all three systems are structurally diverse, complex and dynamic, and are operative at various scales (nested institutions). This means that the governability challenge is persistent and must be addressed on a continuous basis and it should be obvious as argued by Jentoft et al. (1998) that the success of governance varies from country to country and case by case, and that successful experiences are difficult to copy. The complexity and diversity of the EU GS and SG outlines an interesting scene for investigating what the capacity for governance, governability, is for EU fisheries.

### **2.1.2 The three pillars of institutional structure, including a fourth essential pillar for the nature of fisheries**

To try understand the diversity and complexity inside and between the SG and GS institutions one can make use of Scott (2008) three pillars of institutional structure from the theory of interactive governance. As argued by Scott (2008) institutions consist of cognitive, normative, and regulative structures and activities, that provide stability and meaning to social behavior. Institutions are transported by various carriers, cultures, structures, and routines and they operate

at multiple levels of jurisdiction. As argued by Jentoft (2004) it is easy to identify that these pillars exist and matter in the practice of fisheries management (Jentoft 2004).

According to Jentoft et al. (1998) Scott's view of institutions as embodiments of culture, social structures and routines within various levels of jurisdiction is in line with the embeddedness perspective in social theory. The embeddedness perspective is described by McCay et al. (1998) as a way for a "thicker" study of environmental problems as it brings dimensions of social life and community into the analytic framework concerned with both causes and consequences of problems in the use and management of common resources such as fisheries. The thicker study makes it easier to understand how governability (capacity) can be improved in the GS and SG.

### **Regulative**

Drawing on Scott (2008), Kostova (1997) defines the regulative component of a country's institutional characteristic as the existing laws and rules in a national environment that promote certain types of behaviors and restrict others. For fisheries management the first pillar concerns the regulative framework, rules and regulations. Key regulative questions are how and which rules are established and how they are enforced (Jentoft et al. 1998). To this point in marine fisheries policy, the tendency has been to focus only on the regulative "pillar" of institutions, the "rules of the game", giving little weight to the normative and cognitive dimensions (Jentoft et al. 1998). It is also important to note that the regulative pillar of fisheries varies from one to another institutional regulative pillars due to the great diversity, complexity and dynamics of fisheries (Jentoft 2004). Therefore a management regime from one country does not necessarily fit other countries.

As argued by Jentoft (2004) rules tend to be more numerous and unstable in fisheries than in most other industries and for management agencies, user' rule compliance is a constant source of concern. In other words managing fisheries is more complex than managing most other industries. In addition it is argued by Jentoft (2004) that management systems often fail, due to their particular institutional design, e.g. unclear rules or sloppy enforcement which relates to the regulative pillar.

### **Normative**

Kostova (1997) describes the normative component of a nation's institutional profile to consist of social norms, values, beliefs and assumptions that are socially shared and carried out by individuals. This is supported by Jentoft et al. (1998) stating that the normative pillar has emphasis on behavioral standards and values and on prescriptions about how things should be done and what means are legitimate in the pursuit of valued goals. Scott (2008) argues that the normative components of institutions define what is appropriate and “right” for a society's members. For fishers this “right” practice can be an obligation to discard catches that they do not have quotas for. As such, when an institution (e.g. an educational system, religion, or government) promotes the “correct” way of behavior, even in the absence of legal or other sanctions, that institution influences organizational and individual actions by normative processes (Trevino et al. 2008). This shows that for fisheries management the focus should not only be on the regulative pillar as expressed in the argument by Jentoft et al. (1998) above. This thought is also supported by Kooiman et al. (2008) stating that institutions are vital for any governance interaction, thus principles according to which interactions take place and institutions function is important. The assumption made by Kooiman et al. (2008) is that governance arrangements lacking a normative basis suffer from ineffectiveness and illegitimacy in the long run.

Co-management is related to the normative "pillar" of institutions as co-management is expected to improve legitimacy and compliance because users tend to support management schemes that they have worked out themselves (Jentoft 1989). Co-management also relates to the regulative pillar as it changes how regulations are formed, who is included in shaping the regulations and how the regulations are implemented. When rules enjoy legitimacy, breaking them is considered unethical. Thus, compliance is not only subject to calculated risk on the part of those who fish as it is also morally binding (Jentoft 2004). It is important to note though that if the problem is that those who fish have lost the ability to feel morally committed to values such as honesty and respect for rules, the remedy does not necessarily lie with the individual. Instead, more support is needed for those institutions in which moral values such as honesty, trust and respect are nurtured. These are institutions such as the family, community, church and school (Jentoft 2004).

### **Cognitive**

The third pillar encompasses processes of communication, learning and identification with the images present in the system (Johnsen et al. 2011). The cognitive pillar of social institutions

emphasizes cognitions and actors' generally shared perceptions of what is typical or taken for granted (Scott 2008). Thus, the cognitive component of a nation's institutional profile reflects the cognitive structures and symbolic systems shared among individuals (e.g. shared knowledge) (Trevino et al. 2008). It is these cognitive components through learning and education (communication) that new images are created such as a fisher identifying himself as a resource steward instead of a hunter if the fisher understands and believes in the new image (Johnsen et al. 2011).

With respect to why co-management is an improved way of managing fisheries (Jentoft et al. 1998) this is because it relates to the cognitive aspect. Cognitive pillar development questions the indisputable, taken-for-granted objectivity of marine science, where users traditionally are told how nature is and how it should be managed, as opposed to seeking contribution of local, experience-gained user knowledge. Involving users in regulatory decision-making broadens the basis of information that informs regulatory systems, and is a step towards more ecologically and socially-sound management. Dyer et al. (1994) argue that if folk knowledge and local perspectives are incorporated into a larger management system as co-management, they may make the difference between the systems having local legitimacy or not, having local relevance or not and in general operating more, rather than less effectively. For the landing obligation to be workable involving users more will both gather important information about the natural system that can increase the understanding and ease governability of the natural system, but also establish local legitimacy that will increase the capacity for governability of the landing obligation. North Sea fishers will take it upon themselves to ensure that the obligation is followed, given that their images of how nature is and fishing practices should be has changed through cognitive development.

## **Natural**

In accordance with the understanding of the SG as a coupled system mentioned with nature and society and the interaction between them, a fourth pillar of institutional structure should be investigated looking at fisheries governance (Johnsen et al. 2011). The fourth pillar has been left out when addressing governance of fisheries despite the fact that nature is important for how we interpret the SG and GS interactions, for example how the fishers use the resource and how the resource leads to certain practices such as discarding. Discards has its natural causes and so a

discard problem must be analyzed as interplay between natural, regulative, normative and cognitive aspects of the management arrangements. As argued by Johnsen et al. (2011) thus is the complexity of the discard problem related to both natural and social components. The natural components make it difficult to undertake selective fishing as the practice of fishing in mixed fisheries produce bycatch. Some fisheries target species that are mixed with other species, and if capture of the targeted species requires gear with low selectivity with respect to that particular species, bycatch is unavoidable.

Knowing then that there are four pillars of institutional structure to look at when addressing fisheries governability, the first step according to Johnsen et al. (2011) should be to define to which pillar(s) a problem belongs to. One should ask questions such as: “is it basically a regulation problem, a social value problem or a learning problem?” To answer the questions, Johnsen et al. (2011) developed an analytical model shown in figure 2 below. One could explore whether the problem is in the norms or values of fishers or if there is a natural condition causing problems such as an irregular recruitment pattern (or if there is a crisis of legitimacy).

The four institutional pillars.

	Material	Cultural
Conditions for action	Natural Natural/ecological conditions	Normative Norms, values, moral and ethical standards, objectives, goals, and purposes, including economic incentives and motivation Institutional knowledge
Structural arrangements for action	Regulative Policy framework: regulations and decision making procedures (technical and regulative measures) Communication structures Control and enforcement	Cognitive Legitimacy Identification, socialisation Learning

Figure 2 - The four institutional pillars (Johnsen et al. 2011)

Identifying where or what could be a problem is not always straight forward as the problem can be defined as linked to all four pillars in some cases (Johnsen et al. 2011) which increases complexity of trying to improve governability. There can be also be complex connections

between the pillars as argued by Johnsen et al. (2011). The regulative pillar is motivated by the normative and the cognitive pillars, and forms together with the natural conditions a material realm for practical action, while the normative and the cognitive pillars together represent the cultural foundation for motivation of management (Johnsen et al. 2011). To take an EU example in the principle of relative stability there is a normative ideal of thinking of how resources allocation should be distributed fairly, which now has an effect on all pillars, especially the regulative pillar as it has been driving regulatory discards. This way it impacts the natural pillar as unknown number of fish is killed and a stock could be exploited to hard as result. In addition the normative pillar shaped how fishers view their resources as something that can be thrown out without critical thinking. Repeating the process of discarding over time has led to cognitive pillar development institutionalizing discards in fishers images of how it should be.

A ban on discarding marine resources is an example of part of a conservation policy, which is part of the regulative pillar of the governing system, trying to direct how the social system to be governed should interact with the natural system to be governed. The practice of discarding however can be institutionalized in fisher's normative pillar, as a result of the regulative pillar setting this practice. As pointed out by Johnsen et al. (2011) there is a need to work on all pillars to try and have the all pillars corresponds with one another. If that is accomplished there is still a need to make sure the three pillars align with the natural pillar, which is largely given and defines itself by its ecosystem with its boundaries. When looking at discards or any challenge it is important to try identify where the bottlenecks for governance are. For example natural pillar with its complex ecosystem might not allow for a system to be governable if nature is composed of habitats with very mixed fisheries, which will cause bycatches regardless of how one has designed or worked with the other pillars.

As in the EU and many other fisheries, norms and values with a certain degree of rigidity do not adapt according to changes in the ecological or social conditions. The problem can also occur because of lack of correspondence between the material regulative structures and arrangements and the cultural structures, arrangements and processes that are necessary for the production of legitimacy among the users and stakeholders in the system. A more general example of this can be that a very formal top-down control and enforcement regime can break with culturally established systems for self-regulation among the fishers (Johnsen et al. 2011). It should also be



said that it could be practically impossible to follow a rule that is not adapted to its natural environment with the inherent complexity within.

In addition to the knowledge gained about the problem addressing all pillars is important as argued by Trevino et al. (2008) and Jentoft et al. (1998) important to work with the systems by addressing all pillars to attain organizational legitimacy. Organizational legitimacy is much needed for the CFP if the EU is to have a chance to turn the negative trend of EU fisheries management around (Commission 2009). Institutions fail when the pillars they rest are weak either if rules that regulate behavior may be underdeveloped or poorly enforced, the normative standards may provide few incentives and little guidance and/or the knowledge that could inform decision-making may be inadequate or insufficient. Thus, governance should improve if these pillars are strengthened (Jentoft 2004).

### **2.1.3 Governability**

Governability is explored as a measure of how governable fisheries are given the particular features of the natural and social system to be governed (NSG and SSG), the governing system(s) (GS) and the interactions between them (GI) (Bavinck et al. 2013). In other words a country should make use of and adapt broad fisheries governance to be able to identify these features. To improve governability there is a need to first recognize the complexity of the problems in a fishery and conceptualize them in a way that points towards solutions. However solutions to problems might be seen differently for actors of different, or even the same, nested levels. It is essential however to acknowledge the complexity to reveal not only limits of governance but also the opportunities and possibilities that exist to enhance governability (Bavinck et al. 2013) In other words governability will depend on the extent to which the governing system is able to cope with the properties in the system-to-be-governed. All systems to be governed are full of complexity in their features and governability is hard to ensure (Johnsen 2014).

### **2.1.4 Governmentality**

As argued by Johnsen (2014) governmentality conceptualizes both the citizens' willingness to be governed and hence the governors ability to govern, i.e. governability. Through the development of governmentality, the governance system and the system-to-be-governed are merged and form a new kind of governance, where those who govern and those who are governed agree upon what they have to do and about a division of responsibilities (Johnsen 2014). Governmentality and

governability is connected to the social components of the SG where fishers seem to accept more individual responsibility through development of the cognitive and normative pillar, as a rationale for a system of governance. By fishers adapting to, and exercising, self-regulating practices that come out of them having developed the normative and cognitive pillars of the GS, one can say that a certain governmentality has developed (Johnsen 2014)..

External governance (i.e. no governmentality developed) has been difficult to exercise in many cases, yet the most common practice of governance. In Norway however, actors have accepted arranging their practices in a manner and pattern that turns them into self-governors (Johnsen 2014). From the vocabulary of interactive governance, one may say that a new approach and mentality towards new images of themselves in relation to what is considered natural. The shift has been one from hunter to resource steward and the practices shifted from a discard obligation to landing obligation. The fisher's normative and cognitive pillars have been changed and new images formed. The new and different arrangements in Norway represent delegated power, the governing ideas, structures and the fishers' actions which becomes the outcome of an indirect control that is executed through small and modest governance instruments. The work with modifying the instruments to the fishers' own reality may contribute to the development of a common understanding (Johnsen 2014) that aids governability of the system to be governed.

Further explained the governmentality for Norwegian skippers is changed to try to catch as close as possible to their quota (Johnsen 2014). Here the governance system has disciplined fishers to develop and exercise self-regulatory practices. It can be claimed that fear of sanctions levied against fishers make them follow the rules, but on the other hand they experience the privileges and the long-term economic benefit of the regulated system. To reap the benefits the fishers have to govern themselves with strict guidelines and are responsible for staying within the limits of their catch and acting according to the rules (Johnsen 2014). I believe it is important to point out that fear of sanctions might differ from case to case depending on the history between the GS and SG (legitimacy being present or not) and the capacity for enforcement as the regulative pillar has its limits and boundaries to what is possible to control and enforce (how afraid the fishers are they might get caught during illegal practices). That being said it is important to note that the capacity for governance, governability, can be increased/improved through working on all pillars in the EU, with special focus on the normative pillar as this regulates much of the fisher's

behavior. The work with the normative pillar is what has favored enforcement in Norway as governmentality has developed self-regulatory practices among skippers.

Then according to Johnsen (2014) the limits of governability does not depend on how well a governance system corresponds to observable properties of the system-to-be-governed, but rather on the society's and the fishers' willingness to accept governance devices and organize activities according to them. The clue is that governance, with more participatory and broader involvement of the SG, creates governable fishers, and that governable fishers are the guarantee for governability (Johnsen 2014). If fishers are governable, having been part of and accepted the instruments will also see legitimacy due to the involvement (Jentoft 2004).

### **2.1.5 Legitimacy**

Legitimacy is present if the SG complies with the rules and instruments introduced by the GS. As argued by Jentoft (2004) compliance requires that those who fish should consent and co-operate. To enhance legitimacy of a regulatory regime, and hence compliance, participation of users is essential (Jentoft et al. 1998). Legitimacy is therefore compromised or weakened because some user groups feel that they are not adequately represented (Jentoft et al. 1995). Thinking back to the normative and cognitive pillar of institutions, Jentoft (1989) argument is relevant that involvement of users is expected to improve legitimacy and compliance because users tend to support schemes that they have worked out themselves (Jentoft 1989) and understand the reasoning behind.

Whether users consent and/or cooperate depends on their evaluation and perception of the management system (Jentoft et al. 1998). Legitimacy is therefore a key to effective fisheries management, with a GS having the fishers of the SG on "their" side and the SG believing in the management system. It is important to include the argument by Raakjær Nielsen et al. (2003) that fishers acceptance of regulations (content legitimacy) is particularly influenced by whether the implementation of a regulation ensures distributive effects to be considered fair, whether the imposed regulations are perceived as meaningful, and whether there is compatibility between the regulation and the traditional fishing patterns and practices.

Legitimacy of a management system is according to studies by Raakjær Nielsen et al. (2003) undermined by a lack of confidence in the marine biological research and the meaninglessness of

the imposed regulations. This can have negative impacts on the incentive to comply with regulations. An example is EU fishers with poor evaluation of the GS and a feeling that regulation are unfair and without meaning as they fail to conserve resources, which has led to a culture of non-compliance and legitimacy crisis (Raakjær 2009) (Commission 2009). In other words the regulative pillar is weakened under such circumstances which increase costs of enforcement and monitoring as there is no legitimacy.

### **2.1.6 Co-management**

Connected to the thought of governability, governmentality and legitimacy is the concept of co-management. According to Jentoft et al. (1998) co-management is not so much about the rules per se as it is about the communicative and collaborative process through which these rules are formed. One should look at who participates, how debates are structured, how knowledge is employed, how conflicts of interest are addressed, and how agreements are reached. Co-management should enable and empower, provide licenses, establish mandates and create opportunities between the GS and SG. Looking at who participates between the systems it is also according to Jentoft et al. (1998) a need to look at the many levels and interactions within GS and SG. Today co-management is a normative component of the good governance (institution) that fishing nations should adapt.

To try identify the interactions and the many levels is important, as success or failure of fisheries co-management hinges upon these links that bind one level of jurisdiction to the other (Jentoft et al. 1998). An example presented by Jentoft et al. (1998) is that co-management occur between links of for example producer organizations and government institutions. One could argue that if links are missing between these two, co-management is less likely to occur. It is therefore important to try identifying all the links and as a governing system, finding the possibilities that exist for co-management to improve legitimacy and compliance.

Considering the fact that there are many user groups and stakeholders present in EU fisheries applying co-management will only increase complexity of the governance. It should be done in any system however as it is a principle of good governance and has implications for compliance and legitimacy which again impacts governability of the marine resources.

## **2.2 Methodology and limitations –**

The methodology of this thesis is qualitative. I have made use of literature review and field interviews.

### **2.2.1 Literature Review**

Primarily a desk-based study was used to produce a synthesis of past and current CFP, with a focus on bycatch and/or discarding and the compliance and legitimacy around the EU and its fisheries management. The searches were for the most part conducted in Google Scholar where the words “bycatch”, ”discards”, ”compliance”, “legitimacy”, “governability”, “mixed fisheries”, “common fisheries policy”, “regionalization”, “ecosystem” were used in combination with “EU” and “North Sea”. Searches on the EU website and legal website “EURLEX” was conducted to gain policy information. Articles were read and focus was put on sections relevant to the thesis. Books were read in the relevant sections. In addition information about fishers and their “voice” was captured using “twitter” which is a social media platform where one can follow people that share their opinions etc. Using twitter was based on advice from the interview with a skipper in Scotland.

The findings were analyzed with the CFP, the case study selected, and institutional theory of Scott (2008) three pillars plus the fourth natural pillar (Johnsen et al. 2011).

### **2.2.2 Field Interview**

The method chosen to collect data about the case was through informant interviews with stakeholders connected to the commercial fishing industry and enforcement officials. Interviews were based upon a semi-structured format as it allowed learning from and utilizing knowledge from the range of participants. Qualitative in depth interviews were chosen in order to allow for the free flow of ideas and information in order to obtain viewpoints, new ideas and an overview of the Scottish fishing industry’s view and means of dealing with the landing obligation. The selection method was based upon a process of finding the most important fishing ports to travel there and identify fishers, organizations and government officials. Two government officials were interviewed, both working for Marine Scotland Compliance, as well as one skipper, Peter Bruce, which has agreed and expressed the wish to have his name in the paper. Questions were written out in advance, differently for fishers and government officials, including questions like: “How is

the discard ban perceived by fishers?” and “What would you say are the major changes to fisheries management in Scotland following the new CFP?”

The information from these interviews is used to verify what the academic literature is arguing about the impact and implications for a discard ban in the EU, both for fisheries and for enforcement of such a ban.

### **2.2.3 Limitations**

Time was the main limiting factor to the interview aspect, as I only had a short week to travel in Scotland and perform field interviews. The responses cannot be used to predict a general response to other EU countries on how they receive the CFP. This is due to the large natural differences (such as different discard specific rates of species), cultural differences, and diversity of the Member State which totals to a very complex governing system and system to be governed. The amount of people I get the time to interview will not be sufficient for extrapolation of a larger EU wide response regarding the new CFP and the discard ban impact on governability.

Another limitation with the interviews is the possibility that I might not get in touch with certain actors such as the SFF and Marine Scotland. If the response rate is low or nonexistent I will have to focus more on the papers around the CFP including the changes, who was involved, how the user groups were listened to and statements from user groups from themselves.

Limitations regarding the literature review are that there is little research done on the governability, compliance and enforcement of the new CFP as it is not yet fully implemented. Larger changes to the CFP through amendments/obniguous regulations could happen throughout the thesis writing process. This could mean that some of the concepts investigated with the policy, could be irrelevant to the readers at a later point in time.

Before going into detail of the CFP and the governing system the reader should be aware of the fact that there are many aspects of the CFP that are important but they are not covered due to limited time and space in the thesis. Much of the CFP aspects and its history will be left out and what is covered is relevant for the thesis. The reader should also be aware that legal documents of the CFP and control policy are interpreted without legal background and there could be misinterpretations.



## **3.0 Literature review**

### **3.1 The Governing System - EU Fisheries Management**

#### **3.1.1 History EU fisheries management**

The EU, formerly called the European Economic Community (EEC) was founded in 1957. Fisheries of Europe became increasingly politicized by this joining of states and to meet all the demands of member states, the Common Fisheries Policy (CFP) started to take form (Kerby et al. 2012). Fisheries were first organized under the Common Agricultural Policy until 1970 when fisheries became organized as an individual component of the EU. In the same period Member State access rights came with the 200-mile EEZ granted to the EEC in 1975-1976. The principle of equal access was established for EEC vessels to Member State waters. The only exception to sharing waters were the exception of a narrow coastal band reserved for local fishers with a tradition of fishing in that area (Kerby et al. 2012).

As a result of the increased fishing pressure in the EU waters following the EEZ establishment there was now a threat of overfishing on EU stocks. The first CFP was established in 1983 to protect EU fish stocks from overfishing (EC1983). This policy included two important conservation aspects that have shaped EU fisheries and the CFP up until today namely the principle of relative stability and managing fisheries through total allowable catch (TAC). Relative stability was established to allocate the TAC within member states based on their fishing patterns and historical landings up till the establishment of the CFP.

According to Raakjær (2009) the strong pressure from the outside was one of the main incentives to create a TAC system and reach an agreement on the CFP. At the time of the establishment of the CFP, the nine member states had a common interest in keeping Portugal and Spain that were in the process of joining the EU, out of the North Sea. Italy and Ireland was however critical to the use of historical landings as the quota system would penalize the countries whose fishing industry was still developing or whose fishing of EEC stocks had for historical reasons been low or non-existent. Under such a system the very fishers who had provoked the conservation crisis by overfishing in the past would enjoy the built-in preference for the future (Farnell et al. 1984) p.29. TACs in the early days of the CFP mainly used to provide a starting point for allocation fish resources (quotas) to different member states based on their relative (stability) share of the

TAC (Raakjær 2009). Soon after, however, TACs were used to control the amount of fish removed each year from the sea (TheScottishGovernment 2014).

### 3.1.2 Organization of the Governing System

Fisheries policy in Europe Union is led exclusively by the EU where all fisheries related decisions are made at this level unless explicitly delegated to the Member State (Mardsen 2011). This is also argued by Symes (2012) stating that the EU GS has been top-down governing through micromanagement and a lack of will to delegate responsibility to the SG. This is in line with the traditional way of governance with the EU being the Hobbesian almighty governor.

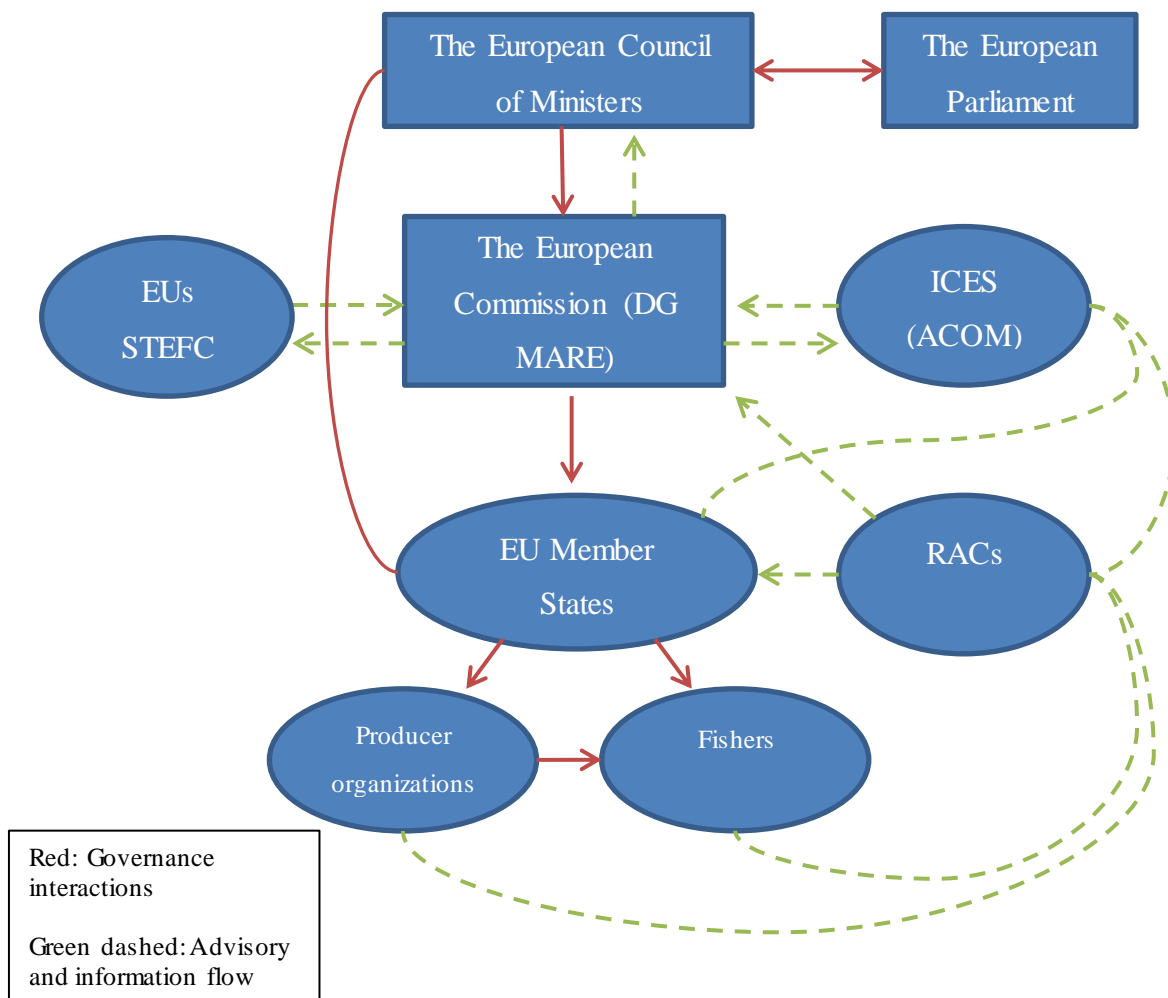


Figure 3 - Governance interactions and advisory flow in EU fisheries

The European GS today consists of the Council of Ministers, the Parliament and the Commission. Since the Lisbon Treaty, the EU Council collaborates on most fisheries legislation including the

CFP often with the European Parliament. The exception is annual fishing opportunities where the Council decides on its own. The European Commission proposes new regulations that the Parliament and Council of Ministers review and/or propose further amendments. Once they reach consensus on the proposal, the new legislation is introduced (Mardsen 2011). It is then the Commission's responsibility to ensure the implementation of the new regulation, such as the CFP and its landing obligation. The Commission consists of 28 members, one from each member state, which are supposed to be independent of their national loyalties in their work.

As seen from the figure 3 above the CFP is communicated to the Council which interacts with the Parliament on topics such as the CFP. After all amendments are discussed the final result of the regulation is rendered to the Commission, which is the institution responsible for enforcing the CFP in the SG. Member states must adhere to the enforcement of the CFP. In terms of EUs TAC management, RACs and/or member states collect information from the fishers and forwards it to ICES. ICES use the information to advise the Commission on next year quotas. The Commission then revises the information from ICES and STEFC and recommends the Council to adopt the TAC proposal. The Council can request new proposals or adjustments. TACs are finally decided on by a vote in the Council. This requests the Commission to implement this to the fishery. The Commission communicates the TACs each member state will receive. The quotas are traditionally given by member states to their POs which again control the fishers' landings.

The Council makes decisions by voting on policy issues which usually need a qualified majority to pass. Each member state has a number of votes corresponding to its economic and political status and population. It is therefore important for member states to ensure cooperation with other member states in order to influence the outcome of the decision-making process within the Council (Raakjær 2009). The members of the Council are in contrast politically driven as opposed to the Commission. Adapting or modifying regulations takes time, as the GS is complex as it includes an array of actors with different values, interests and motives competing with one-another making the GS a nested institution. In addition the SG is very complex with the CFP covering many different Seas with diverse ecosystems. It is a process that has become politicized, leading to challenges for the GS to conserve resources (Gezelius et al. 2010), as they should be doing.

As the Commission tries ensuring fish stocks are managed in the best and most sustainable way (as members there should have no self-interest in anything but sound governance), it should be no shock to the reader that there is often conflict within the governing system. The Council majority has in the recent years argued for higher total allowable quotas to member states, than what is suggested by the Commission. The Commission has based their advice on the best available conservation measures and science through advice from ICES and The Scientific, Technical and Economic Committee for Fisheries (STECF).

As described above the Commission drafts a proposal which then has to pass in Council and Parliament. In this interaction between the different governing institutions occurs most likely a “give and take” cycle. The European GS is a highly politicized environment driven by various economic interests of the actors. The nested GS is embedded in the four pillars, which means that a new bill such as the landing obligation as part of the CFP has to gain acceptance from all actors how different their view on the respective might be. Within that process the interests of the users might clash. In order to find consensus they most likely exert leverage on another actor, or have to concede to a regulation that is not in their interest. Hence every technical/measurement component needs to find its place in this environment (Personal Communication Johnsen J.).

The reform of the CFP does not ensure sustainable fishing. The cooperation between GS and SG has not led to a successful compromise. The most member states pursued their own interests in the process. In addition ministers have in general taken short-sighted decision focusing on popular opinion such as increased quotas instead of taking a long-term perspective focusing on sustainability of the fish stocks and fisheries communities (Raakjær 2009).

### **3.1.3 The Common Fisheries Policy**

The CFP promotes inter alia social sustainability and resource conservation. At the same time it tries to reconcile economic interests, political aspirations and the normative systems of the Member States. With every country that joins the EU a new stakeholder with his own interests entered the GS. The CFP is thus a nested institution and the main part of the European regulative framework for fisheries. Making amendments and modifications to it is a precarious, time consuming process where success is no foregone conclusion.

In addition to the conservation policy there was four other components agreed on with the first CFP. These are also important but due to limited time and space, as well as relevance, they will not be covered in the thesis. With the conservation measures of TAC The Community (now known as the European Union) was given the formal competence to govern the conservation policy e.g. by fixing the yearly annual to the Member States (Jensen 1999). The principle of relative stability was the allocation tool the TAC to avoid yearly negotiations on allocations of quotas each year but also ensured equal access to member states (Raakjær 2009).

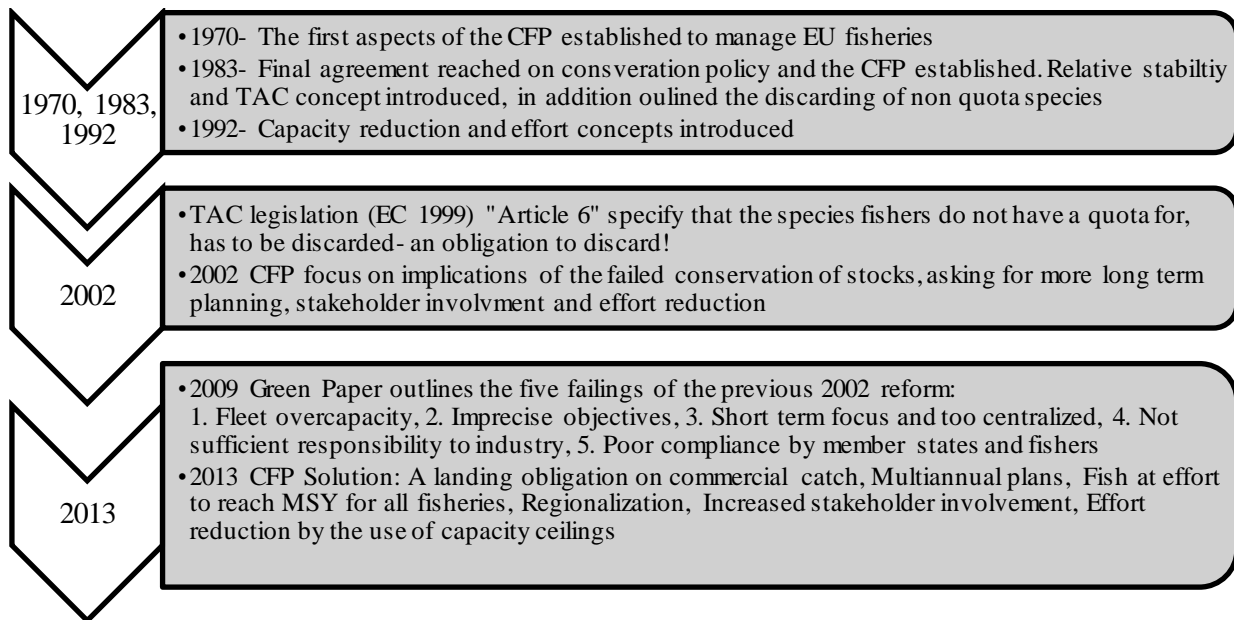
The agreement on the conservation policy including the principle of relative stability can according to Jensen (1999) be seen as a compromise to the negotiations that were initiated by the Hague resolution in 1976. The CFP was drafted in response to the requirements of the Treaty of Rome focusing on equal access (Raakjær 2009). Long and hard negotiations on the principle ensured the establishment of the CFP to take about 10 years before it became a full fisheries policy (Raakjær 2009) in 1983. The process of reaching an agreement between the member states on the CFP was long due to the principle of relative stability. . To deal with the complexity of the SG with many different member states that each have their own norms, values and motives, a simple measurement was needed and it became not only a principle but a path dependent glue that has enabled the creation of, and kept, the CFP rigid despite efforts to change certain regulative aspects of it. The principle will be explained in detail in the GS.

The agreement on a conservation policy can be seen as an adaptation from an economic and political focus of EU fisheries management to include conservation of the North Sea fish stocks. The conservation “add-on” was at the time essential due to the increased pressure in the newly drawn up boundaries due to EEZ claims by surrounding fishing nations. The CFP now had a more integrated approach to managing fisheries, in line with what was happening in other fishing nations following the closing of the “commons” (Personal Communication Johnsen J.). This could show some of the complexity in EU governance at an early stage, needing such simple mechanisms to gather the members on a common policy to try ensure conservation of fish stocks.

#### **3.1.4 The development of the CFP**

The management of EU fisheries happens through the Common Fisheries Policy. The development and important aspects of each policy can be seen from timeline in the figure below. Development of the CFP happens through legally required ten-year intervals, reviewed and

communicated as a Green Paper by the Commission. The Green Paper is then worked on to implement the next reform, which is the CFP of 2013.



**Figure 4- Timeline and development of the CFP from 1970-2013**

It is important to keep in mind that between each of the reforms, new Member States have joined the EU. Each of these members has a different set of values and norms connected to their normative pillar, a varying dependence on fisheries, varying economic power, culture etc. This makes the system to be governed more and more complex as new countries enter the “common” fisheries policy. Simple mechanisms are needed such as the principle of relative stability to gather all these states and govern them under one policy.

As argued by Hegland et al. (2008) the period up to the first CFP of 1983 was the period where the main political decisions were taken. The period from 1983 and onwards has been periods of implementation and adaptation of the existing policy. After the revisions of 1992 and 2002 the CFP today is basically based on the same fundamental principles as when the CFP was adopted in 1983 (Raakjær 2009). The need to keep the simple yet important principle of relative stability can be seen in the lack of changes made from one CFP to another, and is likely an evidence of path dependency in the CFP. The first policy has been setting the path for the following policies. One of the things that have been kept at all costs is the glue, namely the principle of relative

stability despite it being heavily criticized by both scientists (Raakjær 2009) and by institutions inside the GS (Commission 2009).

As pointed out by Hegland (2004) the 1992 reform focused on new management instruments including the possibility to set TACs on a multi-annual basis, meaning a more long term focus of exploitation. In addition days-at-sea to limit fishing effort was introduced, as pressure was too high in member waters after the closing of the commons. A Community licensing system for fishing vessels was also established. In the reform it was acknowledged that discarding by-catch was a bad practice that should be avoided through technical adjustments, yet it was still legally required to discard if fishers did not have a quota for what was captured. Control and enforcement was also addressed by the 1992 review of the CFP due to low compliance with the CFP by member states.

Due to the failed 1992 reform at conserving stocks (Commission 2009) the public preparation for the 2002 reform included a hearing of the most affected interest groups through questionnaires and regional meetings. The 2002 CFP reform proposed in the aftermath was much more wide-ranging than in 1992 with “no aspect untouched” (Hegland 2004, Raakjær 2009). However the main elements of the CFP, relative stability and the TAL system remained untouched and were even prolonged till 2012. Control and enforcement responsibility was still largely on the member states as with the previous CFP to reduce by-catch and conservation of fish stocks. In addition the Commission did not get the increased power in the setting of TACs as it has requested (Hegland 2004).

A new important element of the 2002 CFP was the creation of Regional Advisory Councils (RAC) (Hegland 2004). The RACs give advice to the GS on the management of the fishing regions they cover. The RACs were according to the Commission part of a larger attempt by the EU to improve governance and legitimacy by giving a higher priority to participation. This again was expected to lead to increased “quality, relevance and effectiveness of EU policies” and “create more confidence in the end result and in the governing Institutions which deliver policies (Hegland 2004). As observed by Hegland (2004) however is that no decision-making powers were delegated to the RACs to give commercial fishers a feeling of true responsibility the CFP.

Despite the ambitious aim of the 2002 reform the process fell far short of what was proposed by the Commission in the Green Paper (Raakjær 2009). Management decisions at both EU and national level has been short-term measures, often taken under political pressure, and not backed up by any coherent long- term strategy or scientific advice (Raakjær 2009). The issue of discards has been ignored allowing this to be a regulatory practice still, which is not good for long term management of fish stocks. In addition regulations and rules are often not respected because they have been too difficult to enforce and simply because the will and means to enforce them has not been there.

The CFP failed against the backdrop of mutual distrust between stakeholders of the SG and the regulators of the GS. The failure of the previous reforms to co-operate with them let the SG grow skeptical towards the GS. The issue entailed a lack of legitimacy for the implementation of the new regulations. Enforcement does not seem to apply across the board in a uniform manner (Commission 2009). A reason for the lack of trust is according to Hegland (2004) the Parliament and Council undermining the Commission by adopting legislative resolutions that are widely considered biased towards the interests of the catching industry.

There was on average 42-57% higher quotas adapted by the Council than those recommended by the Commission based on advice from ACFM (today known as ACOM) (Raakjær 2009). If a Member States wants a higher quota it has to opt for a higher quota for the whole Community. Member States try to raise the quota roofs for the simple reason that old allocation keys that do not match fishing patterns today determine the catch-composition These outmoded regulation causes the pressure on TACs according to the Commission (2009) and is a result of the principle of relative stability.

In figure 5 below research by Salomon et al. (2013) show more current discrepancies between ACOM advice, that the Commission has tried to follow, and the quotas agreed upon by the Council. The Commission with the CFP they are supposed to enforce and ensure conservation but have failed partly due to this increased pressure, and stakeholders of the SG have lost trust in the SG (Raakjær 2009). The conservation policy is likely failing due to the complexity and nested institutions that the GS contains and nature has taken the bill in the increased fishing pressure.



Difference between scientific advice and quota setting for fisheries.										
Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percentage of stocks for which TAC greater than sustainable catch <sup>1</sup>	46	49	59	47	45	51	48	34	23	11

<sup>1</sup>catch corresponding to International Council for the Exploration of the Seas (ICES) and Scientific, Technical and Economic Committee for Fisheries (STECF) advice based on the precautionary approach.  
Source: European Commission 2012.

**Figure 5- Difference (%) between scientific advice and quota setting for fisheries from 2003 to 2012 (Salomon et al. 2013)**

Each CFP reform has outlined similar problems and failed at addressing them. Fish stocks are generally in danger because of excessive mortality due to high quotas and large overcapacity, leading to negative impacts on fisher’s income (Commission 2009). As argued by the Commission it is the time for a sea change targeting the reasons behind the vicious circle in which EU fisheries have been trapped in for decades. Therefore the 2013 reform of the CFP need a whole-scale and fundamental reform, including remobilization of the fisheries sector (Commission 2009).

The reform answer to the calls from the external environment, “The World Summit on Sustainable Development” in 2002, which spelled out specific targets for fisheries management including restoring fish stocks to MSY levels by 2015. The new CFP apply the precautionary approach to ensure levels, which can produce the MSY. MSY exploitation rate shall be achieved by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks. In line with the goal to reach MSY levels is the goal to adopt good governance principle by avoiding discarding. The CFP shall gradually eliminating discards on a case-by-case basis, moving towards an obligation to land all commercial catches by EU vessels by 2019 (Union 2013). Where necessary the EU shall make the best use of the unwanted catch now brought to be ashore, without creating a market for such of the catches that are below the minimum conservation reference size. The EU shall also provide conditions for economically viable and competitive fishing capture and processing industry and land-based fishing related activity.

The CFP shall also, based on principles of good governance, ensure a long-term perspective with appropriate involvement of stakeholders, in particular Advisory Councils, at all stages - from conception to implementation of CFP measures (Union 2013). This should improve legitimacy

and governability of the CFP which will help the implementation of the landing obligation and hopefully ensure conservation of resources. The CFP also try and deal with the long lived problem of overcapacity that is one of the causes for poor conservation of EU fisheries. Member States shall from 1 January 2014 not have fishing capacity of their fleets that exceed, at any time, the fishing capacity ceilings set out in Annex II (Union 2013).

Member States decides how the fishing opportunities that are allocated to it should be distributed in the CFP. However the new CFP establishes a system for transferable fishing opportunities between member states through Article 21. Member States may establish a system of transferable fishing concessions. Member States having such a system shall establish and maintain a register of transferable fishing concessions. Seen together with Article 22 where “Member States shall put in place measures to adjust the fishing capacity of their fleet to their fishing opportunities over time, taking into account trends and based on best scientific advice, with the objective of achieving a stable and enduring balance between them” (Union 2013), such a system seem wanted by the Commission. As the CFP outlines it is important for Member States to distribute quotas between vessels in a mix that reflects as far as possible the expected composition of species in the fisheries. In the event of a mismatch between available quotas and actual fishing pattern, Member States should consider adjustments through quota swaps with other Member States, including on a permanent basis (Union 2013).

In the CFP the need for a sea change is expressed and this has its background in the GS wish to educate the ocean users, i.e. fishers better. This shall be accomplished through The “College of Exploration” which is participating in the European Union’s Horizon 2020 Blue Growth program “Sea Change” (Exploration 2015). This program is supposed to enhance knowledge and cognitive development through education of fishers. The College of Exploration will together with 17 European organizations who are partnered on this three year project, try bring about a fundamental “Sea Change” in the way European citizens view their relationship with the sea, by empowering them – as ‘Ocean Literate’ citizens - to take direct and sustainable action towards healthy seas and ocean, healthy communities and ultimately a healthy planet (Exploration 2015). In other words the goal is to change the interactions that fishers have with the natural pillar. This can be seen as an attempt to educate fishers to gain legitimacy and governmentality for the new landing obligation and the conservation of stocks.

A final thing that should be pointed out to the reader is that new “full scale reform needed of the CFP” (Commission 2009), both the TAC approach and principle of relative stability is kept and protected in the policy (Union 2013). As argued by Raakjær (2009) reforming the CFP is challenged by its strong “path dependency” with the TAC approach and the issue of Relative Stability being strong obstacles in introducing a major reform. A reason for this reluctance can be according to Raakjær (2009) that none of member states with quotas in the North Sea are really interested in re-opening this discussion as this could provide Spain and Portugal with an opportunity to acquire quotas in the North Sea, from which they are presently excluded. Both of these “obstacles” together could have implications for the governability of the CFP and particularly the landing obligation. That the principle of relative stability is kept in the new CFP, despite its critique, shows how the simple measurements are important to the GS, but that from Raakjær (2009) view only leads the policy towards repeated failure to preserve the natural resources as the CFP is set out to do. Not only is the GS adding to the complexity of EU fisheries governance but the SSG also adds complexity regarding how protective some members of the SSG are.

The wording and scope of the CFP is quite extensive. The next paragraphs will only illuminate the concepts relevant to the research problem. The relevant concepts are the principle of relative stability, the landing obligation, compliance and enforcement, regionalization and the conservation measure of using TAC towards reaching MSY.

### **3.1.5 The Glue that brought about the CFP: The principle of Relative Stability**

When looking at the complexity present in the system to be governed and governing system above, it should be said that being able to agree on the regulative pillar i.e. conservation policy and the quota allocation tool of relative stability the EU fisheries governance system, is a milestone in fisheries management history. There are different cultures, size of countries and fishing sectors within each country and interests. Considering all this together reaching an agreement of a fisheries policy is commendable. What brought it all together is the glue that still holds it together, namely the principle of relative stability.

Relative stability has its basis in the Hauge Declaration of 1976. Here an agreement is laid down in 170/83, securing the sharing of resources based on the concept of relative stability. It gives each Member State a constant relative share of the quotas (Jensen 1999). According to Jensen

(1999) and Raakjær (2009) the principle introduced in CFP 1983 can be seen as a political compromise between the Member States that safeguards the local and social interests in the Member States. The first CFP outlines the principle of relative stability as: “The volume of the catches available to the Community shall be distributed between the Member States in a manner which assures each Member State relative stability of fishing activities for each of the stocks considered” (Communities 1983).

The compromise on relative stability took a long time, but brought the CFP as a full fisheries policy to completion (Hegland 2004, Raakjær 2009). Relative stability has the merit of establishing a mechanism to distribute fishing opportunities (TACs) among Member States based on their historical landings to avoid conflict each time quotas are to be distributed (Union 2013). The principle has “survived” every reform of the CFP and is argued to be “path dependent” (Raakjær 2009).

To ensure stability the principle and its provision of fishery dependent areas is set to be in force until renewals of the CFP. Changes in the distribution of resources among the Member States shall be based on a report presented by the Commission, and decided by the Council based on majority voting (Jensen 1999). It is not enough that the Commission wishes to change this principle as they have argued for in the 2009 Green Paper, which show how nested governing institutions complicates the adaptation or change to the regulative pillar and fishing practices.

As argued by Raakjær (2009) and Hegland et al. (2008) development of the fisheries policies in the EU, seen in the light of this principle, is an interesting example of how a bureaucratic system has managed to neglect the practical reality of fishing activities and has become caught in its own routines, thereby creating a “path dependency”. This is due to the fact that after two decades of implementation and “reforming” the CFP, the TAC system, with the allocation principle of relative stability, have not ensured effective resource administration and has up to now, kept the system in deadlock (Raakjær 2009). As pointed out by the Commission it is after more than twenty-five years of policy and changes in fishing patterns a considerable discrepancy between the quotas allocated to Member States and the actual needs and uses of their fleets (Commission 2009).

The Commission argued in its Green Paper in 2009 that the principle should be considered to be removed or modified out of three reasons. Firstly it reduces the flexibility of the fishing sector to make efficient use of its resources and to adopt different fishing activities, techniques and patterns. Secondly it is one of the key reasons that have led national administrations to focus almost exclusively on increasing TACs and thereby their share of fish at the expense of other longer-term considerations. Thirdly the principle of relative stability contributes to discards because it creates national quotas that generate their own discarding constraints. For example one national fleet may not have exhausted its quota for a certain species yet whilst another national fleet which has exhausted its quota, or has no quota at all, is forced to discard it (Commission 2009). The regulative pillar i.e. the relative stability drives the institutionalization of discards and makes the discards a nested institution of the EU fisheries.

Despite the Green Papers invitation to consider rearranging or removing the concept of relative stability, the new CFP ensures relative stability is kept through Article 16, (1) “Fishing opportunities allocated to Member States shall ensure relative stability of fishing activities of each Member State for each fish stock or fishery” (Union 2013). This shows the glue and interests in keeping it despite all the criticism the conservation policy is getting both inside and outside the GS. The states that were present to introduce it are making sure it is kept through political alliances in the Council and try to ensure its “path dependency”. As mentioned earlier only with the majority of votes in the Council is it possible to modify the principle of relative stability.

### **3.1.6 The development of a discard policy**

The regulation of bycatches has presented great challenges to the fisheries governance in terms of its implementation (Gezelius (2008). Especially problems of non-compliance have received much attention in the fisheries management discourse. Concerns about economic outcome led for example to the establishment of individual catch quotas. Those are incentives for fishers to discard catch of low economic value (high grading) and misreport landings. The awareness of the non-compliance problem grew throughout the 1980s and led to the development of institutions for implementation and enforcement (Gezelius 2006). At the same time the focus on compliance grew (Anderson et al. 1986). The just described scenario of high-grading illustrates that the GS fails if there is no compliance.

The practice of discarding fish in EU fisheries can be said to have its root in the design of the regulative pillar, not addressing the fact that by-catch and discarding is a waste of natural resources. The EU has done this by regulating landings, what is brought ashore, as opposed to catch regulations, what is actually captured at sea (Raakjær 2009). The reason EU put focus on landings ensured that regulations were manageable in terms of enforcement. By choosing to regulate landing they also chose to regulate deliberate acts such as choice of fishing gear and fishing grounds. This simplifies the question of due care and incidental catches, which clarifies criteria for criminal liability. This again simplifies enforcement as catches are incidental and not criminally motivated, which let the EU circumvents the two-level problem of incidental catch. Targeting fish implies the intention of landing it and landings become connected to control and enforcement. This way enforcement are carried out on landings, rather than catches at sea where discards actually occur (Communities 1993).

The principle of relative stability and TAC system can, as pointed out earlier, be a driver for discards as the quota allocated to member states today is based on catch patterns and data from the 1970s. By ignoring to focus on catches at sea, the EU can sustain this principle without having to consider the implications it has on the ecosystem even if much however changed since the first CFP, including the fishing patterns of the EU fleet. Fishermen now catch a lot of certain species that they do not have quota for, or a low quota for, and has been required by law to discards the by-catch. According to all the CFP with the exception of the new CFP, European fishers have been legally required to discard all catches that cannot be landed legally. On the other hand the regulations that have been driving discards recognize that discards currently account for unacceptable wastage, and has established several measures aimed to reduce the problem (Gezelius 2008). This dual inconsistent message can be confusing for the SG leading to even less legitimacy for the CFP.

By-catch is mostly the natural outcome of the fishing process itself, and cannot be avoided in some mixed fisheries (Johnsen et al. 2011) as you cannot change the natural pillar. As they are unavoidable in EU mixed fisheries (Catchpole 2005) they should be dealt with. Instead of dealing with bycatch the EU has, as argued by (Raakjær 2009), institutionalized discards and made the practice a legal requirement instead in all previous CFP. Bycatch is not necessarily a problem in itself but becomes a problem when the catch cannot be landed due to the legal obligation to

discard everything that fishers do not have quotas for. This legal requirement consequently leads to discarded organisms, which in many cases are unable to survive when thrown back at sea (Catchpole 2005). Prohibition of landings is as expressed above related to the regulative pillar. Even if by-catch is unavoidable it can be utilized and viewed differently by working with fisher's behavior, gear selectivity and technical solutions (He 2011). Therefore the problem of discard has to be met both through regulative change, technical solutions, and behavioral change (Johnsen et al. 2011). In other words addressing the issue of discards is not as easy as it can be related to all four pillars of EU fisheries. In addition to being related to all pillars is the fact that discarding practices, and the reasons/motives for discarding, are fluid (Fernandes et al. 2011) adding more complexity to understanding the issue in an EU context.

One important problem with discarding, not having had a policy for by-catches and designing regulations on landings, is that it has been undermining the monitoring of fishing mortality (Gezelius 2008). The data used by ICES to provide TAC advice has until now been very uncertain in terms of what is actually captured at sea since the regulations has been on what is landed. As survival rates of different species differ based on handling, exposure etc. it has been hard for ICES to get good TAC estimates without the catch data (grey numbers). With catch data now to be collected under the landing obligation on all commercial species, that is supposed to be brought ashore, science could improve and conservation as well. The improved data is only gathered given fishers actually comply with the CFP and the landing obligation. (OT: Again it does not help conservation of resources however that ICES gets better information, provided fishers adhere to the landing obligation, if the advice is not followed. This will harm legitimacy further and reduce compliance with the landing obligation.)

In relation to the EU now moving towards a landing obligation other countries such as Norway, has had a focus on catch regulations since they first came about, introducing a discard ban gradually. As a result fishers are legally obliged, but also see legitimacy and reasoning in the obligation to land their total commercial catch today (Johnsen 2014, Gullestad et al. 2015). It is likely due to this fact that in preparing of the Commission's communication paper on the new CFP, the Commission had to some extent drawn on experiences from Norway, which has attempted to build a system capable of responding to the two-level problem of incidental catch (Gezelius 2008) (Personal Communication Gullestad P.). Another important factor pointed out by

(Gezelius 2008) is that other fisheries systems with discard bans are by and large supported within their respective governments and industries, and are generally perceived as reasonably useful resource management tools. In contrast, the EU's top down management regime has caused severe difficulties in monitoring and controlling fishing mortality (Hegland 2008), as well as failed conservation schemes through its CFPs (Green Paper 2009). Due to the political and ecological differences between systems it is hard to adapt the discard policy from for example Norway, with its own nested institutional framework, to a completely different system with its own nested institutions as the EU.

Acknowledging the fact that regulating landings and not catches is not good governance the EU is now implementing the landing obligation. The practice of discarding commercial species shall be gone by 2019. Adapting to a catch regulation policy means the need to deal with the two level problem of incidental catch. First is the problem of establishing principles of criminal liability that take the randomness of fish kill properly into account. Second is the challenge of doing so without generating incentives to deliberately exceed catch limits or conceal fish kill (Gezelius 2008) through practices such as high-grading which is currently an issue in EU fisheries. (OT: Reducing effort through the capacity ceilings of the new CFP will maybe avoid to a certain degree the incentives generated)

The two level problem of incidental catch is the most serious implementation problem of catch regulations as it is not related to any criminal intent by fishers. It is embedded in an inherent problem of fishing and natural pillar—unintentional fish kill (Gezelius 2008). Incidental catch may be defined as catch which is taken unintentionally, as distinct from target catch (Clucas 1997). As argued by Gezelius (2008) a typical cause of incidental catch is that several year classes or species of fish share the same habitat so that targeting a species leads to catch of juvenile fish or different species. There is complexity in the natural pillar. Incidental catch is mostly a problem in demersal fisheries, but is also experienced to some extent in pelagic fisheries because schools of fish are often followed by predators. Incidental catch is an implementation challenge in any system regulating fishers' catches (Gezelius 2008). However as argued by (Gezelius 2008) struggles of the EU reflects that it faces by far the most complex and difficult conditions for applying an efficient resource management model, because it lacks the Faeroe



Islands' simple setting for distribution and Norway's capacity for implementing catch regulations.

### **3.1.7 The Landing Obligation**

The new CFP of 2013 states in Article 15 that a gradual approach towards banning discarding of all commercial species shall be implemented by 2019. "All catches of species which are subject to catch limits, caught during fishing activities in Union waters or by Union fishing vessels outside Union waters in waters not subject to third countries' sovereignty or jurisdiction, shall be brought and retained on board the fishing vessels, recorded, landed and counted against the quotas where applicable" (Union 2013). This is the evidence that the EUs GS is bound to face the two level problem of incidental catch as the obligation includes a ban on discards and the change of focus to catch limits, not landings.

For the North Sea fisheries the landing obligation first applies to pelagic fisheries from 1 January 2015, and has in other words been implemented for this fleet. The next step for the discard ban in the North Sea is a ban on discards for the demersal trawl fisheries for 6 commercial species by 2016 (Personal Communication Marine Scotland Compliance). As implementing the landing obligation and dealing with the issue of incidental catches is complex, the plan for 2016 is according to Marine Scotland Compliance debated to be adjusted to only two commercial species by 2016.

The fact that the policy starts with the pelagic fisheries is likely due to the fact that this fishery has the "simplest" part of the natural pillar to adapt the new reformed regulative pillar to. The EU can learn by choosing the easiest fisheries to start and evaluate the implementation process including what can be improved and learned from the start, as they need to enforce and implement the LO in much more complex mixed fisheries, where the natural pillar is more complex to adapt to the new regulative pillar. In addition to learning the "simpler fisheries" knowledge is gathered from discard ban trials with remote electronic monitoring (REM), for example in Scotland.

Not all species shall be landed according to Article 15 and one of the exceptions is catches falling under de minimis exemptions (Union 2013). This exception is there in order to cater for unwanted catches that are unavoidable even when all the measures for their reduction are applied.

Exemption shall apply where scientific evidence indicates that increases in selectivity are very difficult to achieve; or to avoid disproportionate costs of handling unwanted catches (Commission 2013). In other words the CFP recognizes that the process of fishing itself is what drives the by-catch, not necessarily criminal actions of fishers (alone). This will make implementation of the landing obligation a somewhat easier for the fishers. The de minimis exemptions only apply to fisheries affected by the landing obligation and the exemptions shall be up to 5 % of TAC of species subject to the landing obligation.

Regarding all the landed commercial species under the obligation the use of catches of species below the minimum conservation reference size shall be restricted to purposes other than direct human consumption, including fish meal, fish oil, pet food, food additives, pharmaceuticals and cosmetics (Union 2013). A common organization of the markets in fishery and aquaculture products (the common market organization) shall be established to contribute to the achievement of the objectives set out in Article 2, including where necessary the CFP shall make the best use of unwanted catches, without creating a market for such of those catches that are below the minimum conservation reference size (Union 2013). In other words there are possibilities to create markets for catches that are above the minimum conservation reference size.

Flexibility for easing transition to the landing obligation is introduced as “quota uplift” for the species subject to the obligation. This is the difference between the TAC awarded under a landing obligation and the TAC that would have been awarded in the same period under the business-as-usual baseline (with the old landings focus and its institutionalized discards). Overall fishing opportunities will undergo a transition from representing a fixed landings quota to a catch quota. Based upon the assumption that under the landing obligation all TAC species caught will be landed, the TAC change will accommodate the landing obligation, for species where discarding has occurred, consistent with MSY commitments. This effectively results in the transfer of a proportion of the fish previously in the discard column of ICES advice into the catch column (Stewart 2014).

Stewart (2014) argue that the effectiveness of the uplift will be spoiled by its allocation between Member States on the basis of Relative Stability, and that difficult policy decisions will need to be taken regarding how the uplift is allocated at a national level. In reality, the allocated TAC will not distinguish between “business-as-usual TAC” and “uplift TAC” but will be expressed as a

single tonnage figure. The nested GS and its complexity could likely hinder the effectiveness of the quota uplift if the “wrong” decisions are made on EU level on how to divide the uplift quota among the member states.

It is important to acknowledge that implementation of the landing obligation will look very differently across fleets, or even inside the same fishing grounds such as the North Sea. This is due to the fact that some fisheries on certain species, or fishing gears with high survival rates, will not have to abide by the landing obligation the same way as those more directly affected. Naturally selective gears such as creels (or pots) that already produce little by-catch, will have a much easier time to implement the discard ban compared to mixed demersal trawl fishers. These differences can create a feeling of unfairness which could cause friction amongst EU fishers.

In line with the two level problem of incidental catch it is largely unclear how undersized catches will be handled at different landing sites under the discard ban. As argued by the (Commission 2007) the disposal of by-catches needs to be considered under a discard ban – whether they will be sold through normal market systems, for human consumption (if above minimum market size), for reduction to fish meal and oil or otherwise. It has to be decided if and how a part of the proceeds of such sales could be dedicated to cover the new expenses brought in by the implementation of no discards measures, either those incurred by public authorities or by fishers themselves.

The CFP is now changing from the institutionalized practice of discarding, to land all catches. This means norms, knowledge and new images of oneself (both as fisher and manager) need to be developed to match the change. It should not be forgotten that to understand the new discard ban and its background better, it is important to go into detail on who was for and against the ban, how different interest groups were represented during counselling on the topic etc. This is however outside the scope of my available time for the thesis but it should not be ignored to have this in mind.

### **3.1.8 Enforcement and Control**

Control and enforcement of the CFP is very important but also large and complex and for the scope of the thesis with limited time and space, I have no detailed description of rules and regulations. Only aspects relevant to my thesis in respect to the landing obligation are mentioned.

As argued by Gezelius (2008) the challenge for the EU enforcement and control is that regulations must be shaped in a manner that makes them feasible for all EU member states. The EU depends on having regulations that are enforceable within the administrative and judicial systems of all member states. It is most important to have regulations that are easy to enforce, preferably with some degree of consistency throughout the union. Consequently, practicality in terms of enforcement has taken priority over principles of resource management in the EU. This is seen in the fact that no by-catch policy has been adapted until the recent CFP, and that the principle of relative stability has been kept for the ease of allocations, despite it driving and institutionalizing discards among fishers.

The EU SG is complex and hence the top down approach has been adopted from the beginning of the CFP and it is known that monitoring and control of fishing activities play a central role in ensuring compliance with policy and management regulations in the EU (Raakjær 2009). The SG is now much larger including more stakeholders and diverse ecosystems. There is a need to put enforcement and control down in the system to member states and fishers so that the Commission can focus on conservation and compliance with the CFP (Raakjær 2009). Allowing more responsibility to the industry, fishers and member states will likely increase legitimacy, and likely lead to governmentality which can improve governability of the CFP and landing obligation.

With the intention of ensuring compliance of the conservation policy of the first CFP, the European Community implemented a control policy (Jensen 1999). The competence to undertake the control was given to the Member States to inspect the vessels from the Member States within their zone of jurisdiction and to control that the landed quantities of the vessels in the Member State was not exceeding the TAC of the Member State (Jensen 1999). States were also responsible for sanctioning violators of EU regulations through administrative action or criminal proceedings such as forfeiture of the proceeds derived from the violation, typically the value of the illegal catch, and an additional cost such as a fine. Forfeiture of the value of the illegal catch, which was supposed to remove the incentive to break the law, was a minimum requirement for implementation of fisheries regulations (Communities 1993, Union 2002). As argued by Raakjær (2009) giving all the responsibility to member states has undermined the effectiveness of the management regime.

One of the biggest problems with EU enforcement and compliance is that the Commission has merely had the position of controlling that Member States fulfil their obligations to control and monitor their fisheries. The Commission has not been allowed to implement sanction against the Member State (Jensen 1999). Without the political will or coercive measures at Community level to guarantee compliance with the CFP, the situation of failure to allow stock recovery will not improve (Raakjær 2009). Despite the critics the enforcement policy has received it is important to acknowledge that the EU has established an organizational and institutional wonder, but it is not working at the moment (Personal Communication Johnsen, Jahn P.).

Moving towards the previous CFP 2002 reform, the conclusion was that there was poor control and monitoring, and that a level playing field could not be reached with the current regime. The challenge was to create collective compliance with collective decisions to avoid “free riding” which had been common, demonstrating a lack of commitment from member states (Raakjær 2009) (Union 2002). An attempt to try gain control of the failed top-down GS was seen with the establishment of the EU Fisheries Control Agency (EFCA) with the 2002 CFP. This was to strengthen the important control and enforcement that was asked of the Commission to improve the management of EU fisheries (Raakjær 2009).

Despite previous effort of the CFP control and enforcement is still not good enough today and it has become too expensive. There is micromanagement, generally weak controls, penalties that are not dissuasive and inspections not frequent enough to encourage compliance. Moreover, no checks have been built into the system to ensure that Member States only access Community funding if they fulfill their basic control and conservation responsibilities. These are all drivers for non-compliance as highlighted by the Commission and has created a legitimacy crisis for the GS (Raakjær 2009). There are simply no incentives for complying with the regulations or for member states to ensure the compliance (Commission 2009). Persistent overfishing and non-respect of the CFP rules have led to a dramatic situation of depleted stocks and poor economic performance of the sector. This has been recognized by both the Member States and by the fishing sector itself, who both broadly favored a proposal for reforming the enforcement and monitoring policy.

Raakjær (2009) argues that by delegating the surveillance to member states, EU creates a situation comparable to a “Tragedy of the Commons” (Hardin 1968) as the incentive to refrain

from enforcing strict control on their citizens occur because of the perception that none of the other member states do. Raakjær (2009) argues that due to illegal fishing, fishers have in the past been able to sustain catches at a higher level than the quotas and thereby generate enough income to stay in business. This has contributed to the overcapacity that has been an issue for the EU fisheries throughout the decades of the CFP (Commission 2009).

Non-compliance also lies in the legal framework (regulative pillar) for the control policy (and CFP) itself. The legal framework has been amended several times over the last years and is now far too complex and spread across several Regulations. This complexity and incoherence has led to a lack of clarity and legal certainty which makes it difficult for Member States or the fishing industry to accept the concept and comply with the rules (Union 2009). Non-compliance has caused negative impact on social stability and in turn there is strong resistance to implementing the CFP and a feeling that enforcement is not applied across the board in a uniform manner (Commission 2009).

Controlling and enforcing the EUs SG is costly, enforcers cannot be everywhere at all times. There is a need to create compliance by member states to control their fishers following the fact that Commission does not have the capacity to ensure fishers comply with the CFP. Creating governmentality by working with the SG normative and cognitive pillar could ensure that member states and fishers follow the landing obligation and CFP. The normative pillar needs to change norms from harvester to steward, which will enable cognitive development of how fishers view the fish stocks and images of themselves in relation to fish stocks.

To address the urgent immediate in-depth reform of the control and enforcement system and the culture of non-compliance, the EU passed a new control and enforcement policy in 2009. Most of the emphasis is put on control and enforcement and it was an important goal to clearly define the roles and responsibilities of Member States, the Commission and EFCA. This can let the Commission adhere to its core activity of controlling and verifying the implementation by member states of the rules of the CFP, including the landing obligation, without any longer carrying out micromanagement. It is stressed in the new regulation that control and monitoring need to happen on a level playing field for all member states, but that it is adapted to the differences across segments of the fleet. In addition power and capacity was given to the Commission to ensure that Member States comply with rules and regulations (Union 2009).

The Commission can now close a fishery concerned on its own initiative after consultation with member states where there are strong indications that a Member State does not take applicable measures to stop fishing after the exhaustion of fishing opportunities. If a Member State has overfished its quota, the Commission has the competence to deduct overfished quantities from the annual quota of the following years. The Commission shall further control and evaluate the application of the rules of the common fisheries policy (such as the landing obligation) by the Member States. The Commission shall also facilitate coordination and cooperation between them. In addition the Commission can now suspend all, or part of, Community financial assistance for up to 18 months where there is evidence that the non-compliance is directly attributable to the Member State concerned or where the non-compliance may lead to a serious threat to conservation of living resources such as the practice of discarding.

To make the landing obligation governable the Commission may now through Article 96 (a) make sure detection and proceedings of infringements regarding the CFP actually occur. Where the Commission finds that a Member State has not complied with the obligation to notify the monthly data on fishing opportunities it may set the date on which 80 % of the fishing opportunities of that Member State are deemed to have been exhausted. The Commission is now in the driving seat to ensure that the CFP conservation policy is nurtured. Member States are required to take a more active role in the control policy through Article 80 stating that they can and should control one another in their Community waters. Responsibility is placed on the member states at the same time as more capacity is freed up for the Commission.

The new control policy has finally given capacity and sanction rights to the Commission to ensure compliance. There was simply no punishment that caused member states to comply with the regulations if they did not see the need to comply with the conservation set out by the CFP. However there is no focus on legitimacy which was also seen to be one of the challenges with the old enforcement system (Raakjær 2009). In the new policy very little focus is put on working with the fishers to educate them to generate governmentality from harvester to steward. The word legitimacy is not mentioned once. As with the other control reforms emphasis is still on top down control which can be very costly, or even impossible to ensure that the landing obligation is followed as there now needs to be control with the catches, i.e., what happens at sea. Compliance with the CFP without legitimacy can be very difficult to ensure even with the best of technologies

as fishers that are less likely to believe in rules and regulations they have not been part of shaping. They are likely to break regulations when “nobody is watching”.

Despite the control policy not addressing cooperation (or means to improve legitimacy) the new CFP does, expressing that Compliance with the CFP rules shall be ensured through an effective Union fisheries control system and the development of a culture of compliance and co- operation among all operators and fishers. The CFP also address the compliance issue through an expert group on compliance grounded in Article 37 stating that: “An expert group on compliance shall be established by the Commission to assess, facilitate and strengthen the implementation of, and compliance with, the obligations under the Union fisheries control system. The expert group on compliance shall be composed of representatives of the Commission and the Member States” (Union 2013).

It is important that fishers in the EU feel that there is a level playing field among the other nations that fish in waters with shared resources. By everybody adhering to a ban on discards fishers among themselves might be more willing to cooperate if they speak the same language, that discards are not sustainable and should avoided. By speaking the same language you can obtain better management of shared resources such as North Sea stocks. When all shared resource users have the same view on management of a stock it should increase the governability of the system to be governed.

The enforcement of the CFP is made harder by the fact that it is difficult to adjust the other pillars in accordance with EUs regulative pillar. The regulative pillar itself is, as argued earlier, very complex with some institutionalized regulative barriers affecting EU fisheries deeply (nested) such as the principle of relative stability (Raakjær 2009). The regulative complexity can be seen from the Commission addressing the need for omnibus regulations to be adopted, and the process of getting the amendments adopted. So-called omnibus regulation sets out to remove inconsistencies in current regulations that would be contradictory to for example the discard ban, thereby creating a coherent legal framework.

Hence to make the landing obligation more operational an amendment in the form of an omnibus regulation was adopted in February 2015 to amend seven regulations that was in conflict with the landing obligation that entered into force January 1<sup>st</sup> 2015. The accountability point system is



now changed for the enforcement policy to work better with the landing obligation as there shall be no practical impact to registering infringements or not into the point system, due to potential delay in classifying an offence as a serious infringement or not. In other words one can apply infringement points right away to ensure violators registered to improve the overview of those not adhering to rules in the SG (Marine Scotland 2015 site, Jane- Accessed 08.04.15).

The process to amend the conflicting regulative pillar started with the Commission addressing the need to adjust laws to the discard ban in the end of 2013 to remove legal contradictions and make sure that it was legally clear how fishers and authorities should handle catches under the discard ban. A vote in the fisheries committee took place on December 3<sup>rd</sup> 2014 to try and smooth out the inconsistencies but did not come through. Some members of the Parliament wanted to do a number of changes to the proposed amendments, which show that the CFP is now being used for political means. The committee should not have tried to modify what is already law under the CFP (ClientEarth 2015). The long time frame to adopt the amendments was a result of last-minute haggling taking place, even though it has been clear for one and a half years that the discard ban will be implemented in the beginning of 2015. The legal framework necessary for the landing obligation was almost half a year too late. This could likely hurt legitimacy and trust of the EU GS as is seen with previous confusions around the CFP regulative pillar (Raakjær 2009).

### **3.1.9 Regionalization**

As argued by Symes (2012) the complex physical and political geographies of the European seas dictate the need for a future policy that must make provision for the transfer of responsibility for much of the detailed management of the regions, partly to relieve central management of some of the burden of micromanaging the fisheries, but also to bring decision making closer to those most directly affected and with the knowledge and experience of specific fisheries. According to Symes (2012) regionalization can be inferred from common usage as the process of decentralizing through the transfer of significant areas of decision making from central government institutions to the regions. Some element of devolved responsibility is necessary. To Hegland et al. (2012) regionalization is strongly associated with decentralization of CFP governance.

In the context of fisheries and their management, regions can be both formal and functional. It can be formal in the sense that the region may describe a particular marine ecosystem, such as the North Sea, but also functional in that it may be designated as an administrative unit to manage

fish resources, such as the CFP established for protection of the North Sea fisheries under the new EEZ constraints. In marine space boundaries tend to be quite literally fluid and fish stocks move between regions (Symes 2012).

According to Symes (2012) the EU policy has failed to recognize regions as part of the executive process. Only the Governing System's institutions have had a mandate to act in the formulation and implementation of the CFP. Regions have had a role to play in EU policy making but only with an advisory capacity through Regional Advisory Councils (RACs) composed of stakeholders from industry, local authorities, NGOs and consumers. These seven RACs cover the 5 geographical regions, one of them being the North Sea. The RACs is in line with Symes (2012) view of regionalizing the CFP through a geographical framework synonymous with the major marine ecosystems (regions) in the European seas is seen as an essential element of the reform process. It is important to recognize that the CFP was originally designed and set up with the North Sea in mind, not as it is today with many different regions and seas (Raakjær 2009). Hence EU fisheries are much larger now with diversity and increased complexity, both in the ecological and political aspects, and that without proper delegation of power and making to the correct regions, it will hinder good management of the EU fisheries (Commission 2009).

As I outline in the previous chapter the process for adopting legislation or changes to them can be lengthy in the GS. It can take up to two years to reach an agreement when there are wide differences of opinion between the GS institutions and this delayed process could potentially cause serious problems. It is after all fish stocks that reacts to fishing practices the SG consist of, hence measures need to be agreed in a timely way. By regionalizing these adaptations can happen faster for example where there is a need to change or remove a type of fishing net to prevent a decline in fish stocks. With the top down micromanagement a delay of a year or at worst two, could create a dangerous setback in the fish stock.

In addition to a more efficient system of the CFP Symes (2012) argue that the devolved government (regionalization) can enhance local democracy and create a more solid basis of legitimacy for the actions of the state. This could be the solution to EU fisheries culture of non-compliance and legitimacy crisis (Commission 2009). However it is not enough that the RACs have an advisory role. They should have a say in decision making to make the members feel like that they contribute. When they feel included and listened to, there is room for them to see

legitimacy in the GS. Compliance can be introduced through collaboration and not through control, sanctions and fear. In addition the regions will have a better idea of how to implement the landing obligation of the new CFP as they know their fisheries best. When fishers and enforcers from the member states are included in this process, the regulations that come out of it will be more operational and easier to enforce as they have local relevance and legitimacy. Without legitimacy and regionalization it will be very difficult (or even impossible) to have full control and ensure compliance of the landing obligation.

### **3.1.10 Managing EU fisheries based on total allowable catch**

The use of TACs is an integral part of EU conservation and CFP. The TAC process starts with the Commission presenting the EU Council with a proposed TAC for each fish stock based on advice from ICES through its Advisory Committee for Fisheries Management (ACOM) and from the EU body Scientific, Technical and Economic Committee for Fisheries (STECF). It is in other words ICES that defines the natural pillar. The EU Council accepts, requests a new proposal or requests adjustments to the proposal, and it is all decided by a final vote in the Council where majority is needed to pass the TAC for the coming year. Before the “TAC quota dance” inside the EU an agreement must be reached with Norway and other non-EU member states on quota shares in shared waters as the North Sea. Fixing the level of fish TACs that can be caught is a complex process, not only politically but also ecologically. As emphasized by Degnbol (2005) it is very difficult to make meaningful predictions of a very complex and complicated system in an uncertain environment and fisheries biology cannot deliver numerical predictions of sufficient accuracy or prediction.

As argued by Gezelius (2008) managing fish stocks through total allowable catches (TAC) represented a fundamental change in how fisheries were managed when they were established in the North Atlantic fisheries in the late 1970s. Previous resource conservation measures focused on technical aspects such as mesh-size regulations, regulating the fisher’s input into the fisheries. The new management regime, however, focused on regulating the output from fishing through restrictions on catch quantities and catch composition. Hence catch quotas, by-catch regulations and small-fish regulations, all of which restricted the fisherman’s catch, became the core of the new management regimes established.

One ecological issue with the TAC system of the EU is found in the regulation of landings and not catches. As mentioned earlier this has led to uncertainty in the data collected by ICES as accurate bycatch data from most fisheries is not available. Discarding driven by the regulative pillar has created uncertain input to future management undermining the basis for good resource conservation. The landing obligation should improve the TAC conservation of fish stocks through more accurate data input of what is captured, which hopefully creates trust and compliance with EU GS again by fishers and member states. Raakjær (2009) therefore argues that the previous focus on landings determined by the EU has contributed to the crisis, rather than bringing a solution to the present problems of over-fishing and poor economic performance. Due to overcapacity of the fisheries and poor status of fish stocks, fishermen have taken up practices such as high-grading to cover up their high costs that too many boats in a fishery leads to. The EU has ignored this by not having a catch regulation, focusing on what is actually captured at sea including discards.

In addition to the ecological complexity there is political complexity in the EU using the TAC as a conservation measure. During the 12 months of the draft/proposal period member states have the opportunity to influence the Commission in the drafting of the TAC regulation. TAC is strongly influenced by politics and has generally not been recommended by scientists as the appropriate management measure for demersal stocks (TheScottishGovernment 2014). The TAC advice by the Commission is sometimes followed, but it is not unusual for ministers to agree on levels that are different, usually higher, than the scientific advice. As mentioned earlier the Council adopted TACs during the period 2003-2007 that were, on average 42-57% higher than those recommended by the ACFM (Now ACOM) (Raakjær 2009). In other words the TAC system has not been conserving EU stocks, but instead had the prevalence of a decision-making process of a predominantly political nature (Villasante et al. 2011). Villasante et al. (2011) argue that the GS fails to include an evaluation of its potential impact on resource degradation and that it fails to consider the interests of stakeholders affected by these decisions. The fact that the Commission does not have more power in the overall resource conservation measure, TAC, shows that the GS is geared towards political and not ecological interests (Raakjær 2009).

### 3.1.11 Summary

With the nested institutions inside both the GS and SG with different values, images and interests reaching agreements on principles of relative stability has not been easy. Hence there has been a need to implement “simpler” conservation measures such as relative stability to get somewhere in managing EU fisheries in such a nested and complex environment. It is give and take, winners and losers and you need simple mechanisms. How the EU was able to bring all this diversity into one policy in 1983, is admirable, and likely due to the pressure from outside prospective members with fishing “power” as argued by Hegland (2004). The pressure led to accepting the principle of relative stability bringing, or gluing, all the EU diversity together.

However new diversity has been added to the CFP that make it cover much more than what it set out to cover. This has implications for the complexity of managing EU fisheries today under one policy. As argued in the regionalization chapter it should be considered to split up the CFP and involve more stakeholders, making the regulative pillar more in line with the diversity present for each NSG and SSG by creating smaller management units with more homogeneity, as opposed to the large heterogeneity that the EU CFP has to deal with at the moment. This allows involvement of the right users and hopefully creates local legitimacy and compliance with the rules, which can bring about the change needed to the current pattern of the CFP failing at conserving the fish stocks, and increase governability of the landing obligation.

It is not necessarily so that TAC does not work as a management tool, but that TAC does not fit into the system it is trying to be used in with (Fernandes et al. 2011) including the principle of relative stability. The path dependency seen in the CFP today was not considered when a policy was set up to reach agreement and distributes quotas between members. It has become so important to preserve the interests by the initial member states agreeing on the CFP, that they have lost sight of the fact that the principle of relative stability is not preserving resources. Instead the principle drives discards that has led to poor resource conservation as the fishing and stock patterns have changed since 1983 and the distribution does not fit the reality of today. With a landing obligation now in place the principle will surely be tested as fishers will need to deal with all the fish that has to be landed due to the misrepresentation of what fishers catch and have quotas for based on this old principle.

The path dependent principle that is kept in the new CFP will be driving discards if the landing obligation was to have no legitimacy and low compliance. As argued by Jentoft (2004) the SG loses faith in the GS when it does not deliver what it is supposed as is the case for EU conservation of fish resources. EU fishers have lost the ability to feel committed to values and respect rules set out by the GS, resulting in a legitimacy crisis (Raakjær 2009). Legitimacy and the willingness to follow rules and norms set out by the CFP have vanished as a result. In other words a complete rearrangement in the GS is likely needed to get out of the crisis of legitimacy. First of all the GS need to agree on that the CFP has the goal to preserve resources and not work against one another. Having one GS institution with the same nested goals, images and interests that communicates and educates the SG to develop the new necessary images for conservation and institutionalizing of the landing obligation could be the way forward.

## **3.2 The North Sea and Scottish fisheries - The social and natural system-to-be-governed**

### **3.2.1 The North Sea ecosystem and fish stocks**

The topography of the North Sea can be broadly described as having a shallow (<50 m) southeastern part, which is sharply separated by the Dogger Bank from a much deeper (50–100 m) central part that runs north along the British coast. The central northern part of the shelf gradually slopes down to 200m before reaching the shelf edge. Another main feature is the Norwegian Trench running east along the Norwegian coast into the Skagerrak with depths up to 500m. The temperature of surface waters is largely controlled by local solar heating and atmospheric heat exchange, while temperature in the deeper waters of the northern North Sea is influenced largely by the inflow of Atlantic water (ICES 2008).

The North Atlantic Oscillation of the North Sea sees changes in water flow that have been related to changes in plankton abundance and fish composition in the North Sea. Oscillation can either be characterized as cold-biological and warm-biological events. This means that changes in abundance of plankton and fish have a large seasonal and inter-annual variability which adds to variance in recruitment or distribution of the five major North Sea fish populations having available data for the period 1971–1991 (ICES 2008).

Most fish stocks in the North Sea are depleted beyond biological limits due to heavy exploitation and/or low numbers of mature fish. It is not only the fish stocks but the entire ecosystem of the North Sea that is endangered. There still is not a large enough abundance of species in the North Sea foodweb (Calanus, sandeels, and Norway pout), which is expected to have considerable impact on growth, maturation, and possibly recruitment of a range of fish species, and on the breeding success of seabirds (ICES 2008).

Pollution and climate change in the marine environment caused by industrial and other human actions have a negative impact on the availability of fish and on the quality of the ecosystem in general. It is a serious concern that the fishing in the North Sea is a driving factor to evolutionary pressure changing fish size and time of maturity (Raakjær 2009). Fisheries interact with sea bird populations both in a positive and negative way. A discard ban could have serious implications for this interaction (Raakjær 2009, Heath et al. 2014).

The North Sea roundfish stocks have fluctuations with some years producing strong year classes. For example haddock, cod, and saithe were at high biomass levels in the late 1960s and early 1970s (the gadoid outburst). Then followed a subsequent declines to low levels in the early 1990s (ICES 2008). This means that the fisheries contain large quantities of certain sizes of fish. Especially concerning small cod this has been an issue that has led to more bycatches and discarding of small cod that has been part of a strong year class.

The cod stocks try to recover in the North Sea (Fernandes et al. 2011), but fails due to the bycatch and discarding driven by the old CFP landings regime and relative stability. The ecological complexity of North Sea species is partly what makes understanding of discarding and management of a landing obligation in the North Sea more complex since discarding is different between species and for the same species over time (Fernandes, Coull et al. 2011). This shows the complexity of fishers' interaction with the natural pillar, in relation to complexity of fish stock dynamics, combined with the rigid regulative pillar of the EU. As argued by Johnsen et al. (2011), mixed fisheries produce unavoidable bycatch due to its nature. Species considered as mixed in the North Sea are cod, haddock, whiting, saithe, plaice, sole and Norwegian lobster (TheScottishGovernment 2014).

Warming sea temperatures have been connected to changes in the distribution of fish stocks such as shifts towards the poles or deeper waters (Dulvy et al. 2008). In the northeast Atlantic, several species expand reportedly their distribution. The hake is now for example distributed in larger numbers in the North Sea and west of Scotland (Baudron et al. 2014). In addition to the growth in biomass due to its expansion, the hake “invades” the North Sea seasonally in the summer through migrations, driven by both temperature and depth. The North Sea, Skagerrak and Kattegat only contribute to 7% of the hake biomass in the first half of the year, with 34% of the biomass in the summer, and are granted only 7% of the TAC (Baudron et al. 2014).

There is a change of mind in The International Council for the Exploration of the Sea (ICES) about how the council should give advice on individual stock assessment and mixed stocks complexity, all in respect to the ecosystem. In collaboration with the European Commission the ICES aspires to adapt the mixed-species fisheries management to adapt to an ecosystem-based approach. The implications of the new mindset however are not part of the theses.

Nature has to pay the bill for mismanagement of nested GS. The TACs are mostly too high, the principle of relative stability encourages discards and the landing obligation has the fishers bring in bycatch. The 2015 TAC setting is a recent example for mismanagement that endangers the livestock of the Northern Sea. Although catches in the Northeast Atlantic will be reduced by several stocks, fisheries ministers ignored 56% of the scientific advice by ICES. This results in a drop of stocks exploited at MSY from 27 to 18 (Madina 2014). The same mismanagement is also proven for previous years by (Salomon et al. 2013).

### **North Sea stocks of the roundfish fishery**

Dominating gadoid species in the North Sea are cod, haddock, whiting, and saithe. The main flatfish species are common dab, plaice, long rough dab, lemon sole, and sole (ICES 2008) with hake stocks becoming a larger part of the ecosystem (Baudron et al. 2014). Roundfish stocks biology for cod, haddock and whiting is important to consider in relation to reasons for discard and what challenges they promote to the landing obligation. The paper addresses only the biology of European Hake and fisheries of the mixed fisheries species hake and cod.

Fisheries of the northeast Atlantic were heavily exploited throughout the second half of the twentieth century, and many commercial fish stocks experienced a severe decline in biomass by



the early 2000s. Hence the 2002 CFP reform includes long-term management plans to protect healthy stocks from depletion. Among the stocks showing signs of recovery, the northern stock of European hake (*Merluccius merluccius*, *Merluccidae*) seems to have experienced one of the largest and fastest biomass increases over the last five years. The latest assessment of this stock undertaken by ICES shows a dramatic increase in biomass since 2006, and the spawning stock biomass is now above the recommended level. Reported landings have consequently increased, especially for the northern part of the stock (Baudron et al. 2014).

European hake is a large demersal gadoid species found at depths between 70 and 200 m, with a preference for depths between 70 and 100 m. The species prefer temperatures of 13.8 °C +/- 2.9 °C. European hake has the most extensive distribution of all gadoid species in the northeast Atlantic and ranges from the tropical coast of Mauritania to the cooler waters of Norway, expanding eastwards to the Mediterranean Sea, the North Sea, and the Skagerrak and Kattegat. In northeast Atlantic waters European hake is managed as two distinct stock units, a southern and northern component, separated by the Capbreton canyon in the Bay of Biscay (Pitcher et al. 1995, Baudron et al. 2014). Hake is a predator, so its abundance influences the survival of conspecifics (cannibalism) and other species, e. g. blue whiting, horse mackerel, and sardine (ICES 2014).

### **3.2.2 Fisheries and history of the North Sea**

The demersal fisheries of the United Kingdom developed reasonably rapidly. Technological, political and economic factors drove this particular development (Kerby et al. 2012). In England a large mechanized trawling fleet exploited fish stock severely during the nineteenth century and first half of the twentieth century. A growing domestic market caused England to direct most of its fishing activities towards distant water fishing to ensure sufficient and ongoing supply of fish.

Scotland underwent a different development in the North Sea fisheries in contrast to England. Scotland focused their trawler fleet closer to the UK Islands fishing on local North Sea demersal stocks. Due to the establishment of the 200-mile exclusive economic zones (EEZs) for fisheries by neighboring countries, the EU Community vessels lost fishing grounds. The UK had been fishing in distant waters for some time before the introduction of the EEZ. As the other previously non-regulated areas closed in, fishing effort now had to be directed to the Community water EEZs. As a result of this change the pressure on the local stocks in the North Atlantic and North Sea increased (Kerby et al. 2012).

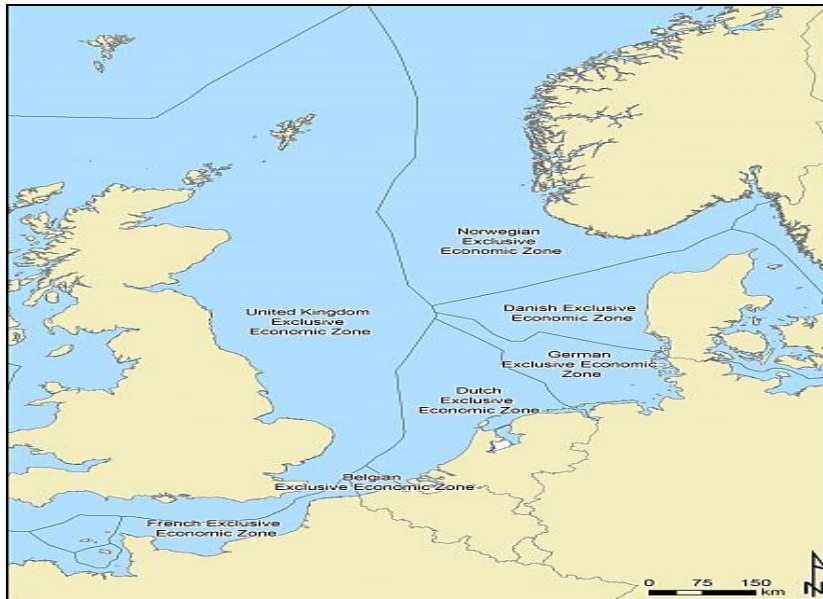
The establishment of the EEZs and the first CFP in 1983 brought along the principle of relative stability. Relative stability allocates fishing rights via total allowable landings (TAL), among the EU Member States. The calculation of TAL bases on historical landings (including composition of landings) of each Member State. England's fishing industry suffered a setback from the introduction of TALs, because its vessels had been fishing in distant waters for a considerable amount of time before the establishment of CFP in 1983 and EEZ in the late 1970s (Kerby et al. 2012). England's fixed percentage of TAL remained low due to the historical quota allocation.

Scotland however had maintained steady fishing in the North Sea during the 1970 and 1980s and this ensured higher TAC based on the principle of relative stability (Kerby et al. 2012). According to Kerby et al. (2012) the UK shifted their orientation markedly northwards to the north-east and north-west of Scotland. Peterhead became the leading UK port with a landings increase of 159% between 1975 and 1986 and in 2009. It is still the port with the largest quantity and value of fish landed. The fleet structure changed due to EU regulations and the EEZ. England and Wales lost most boats of their "over 10 m" fleet. Scotland's fishing capacity however increased by 70% in the same period (Kerby et al. 2012). The Scottish demersal fisheries surmounts the English in the North Sea in the following decades due to the principle of relative stability (Kerby et al. 2012).

Today demersal fisheries takes place inside UK's exclusive economic zone as shown in figure 6. Circa 3 million tons of fish or marine organisms are landed annually with almost 1 million tons of marine organisms discarded every year (Catchpole 2005). The most important demersal commercial species for Scottish fleets are haddock, monkfish and cod. The species contribute to 32% of the overall landed value of species in 2013. The fishery uses prevalently demersal trawl gear. Shellfish also contributes significantly with 30% of the overall fisheries value in 2013, Norwegian Lobster alone contributing to 47% of the shellfish value (TheScottishGovernment 2013).

In 2013, the UK fishing industry had 6,399 fishing vessels compared with 7,096 in 2003, a reduction of 10 per cent. The fleet in 2013 comprised 5,036 10 meter and under vessels and 1,363 over 10 meter vessels (Organisation 2014). Scotland's fleet had 2,020 active Scottish based vessels in 2013, the lowest recorded number of vessels with 26 less than in the previous year.

These vessels employed a total of 4,992 fishermen, an increase of five per cent from 2012 (TheScottishGovernment 2013).



**Figure 6 - Marine regions and EEZs in the North Sea**

The North Sea commercial demersal species are all captured in mixed demersal fisheries where one haul can bring half a dozen or more quota species (TheScottishGovernment 2009). According to Catchpole (2005) there are three fisheries in the North Sea that are considered responsible for most of the discarded material due to them being mixed fisheries? All are EU managed demersal trawl fisheries: the flatfish beam trawl fishery (targeting plaice and sole), the Nephrops otter trawl fishery (targeting Norwegian lobster) and the roundfish otter trawl fishery (targeting cod, haddock and whiting). The flatfish beam trawl fishery is concentrated in the southern North Sea while both otter trawl fisheries are concentrated in the north. All of these target species are important commercial species. Their stocks except nephrops and haddock are categorized as have been (or being) outside safe biological limits. The paper will further only focus on roundfish otter trawl. The high economic value of the roundfish otter trawl fisheries, the discard caused by the type of fishery and the path dependent principle of relative stability leading to regulatory discards due to bottleneck species such as hake, make the roundfish otter trawl fisheries a demonstrative example for the research of the paper.

The roundfish otter trawl (which is mostly used in demersal trawling) fishery for cod, haddock and whiting takes place primarily in the UK Exclusive Economic Zones (EEZs) of the North Sea. TACs for these species are allocated to the Scottish fleet based on the principle of relative stability. The population of the different species is in critical or just above reference levels of exploitation according to ICES. ICES states that the North Sea roundfish otter trawl fishery faces challenges related to its discard rates (TheScottishGovernment 2013). In addition to the demersal fisheries important pelagic fisheries for herring and mackerel take place in the North Sea but these are for the most part single species fisheries where the catch consists of the target species only (TheScottishGovernment 2013).

Hake is captured in the North Sea mixed demersal fisheries including cod, haddock, and whiting Baudron et al. (2014). The composition of hake as bycatch species is dependent on the area fished and the gear used. Spanish and French fishers, historically accounting for 85% of the landings, fish hake primarily. The UK has a small part of the quota allocation based on the principle of relative stability. TAC of hake in this area is very small compared with other species, because it was not abundant when catch shares were calculated. Discards of juvenile hake are substantial in some areas and fleets.

Stock discards increased substantially all over the world during the last five years. The increase counts all fleets (ICES Advice 2014) which is in line with the growing abundance by Baudron et al. (2014).

### **3.3 The governing interactions between the EU and North Sea fisheries**

#### **3.3.1 Management of the North Sea**

Most of the Scottish fisheries are managed under the CFP administered by the European Commission. Enforcement and communication with fishers are handled by Marine Scotland (TheScottishGovernment 2013). The Commission sets the TAC's for each species drawing conclusions from stock surveys and the estimates provided by ICES. The EU Council either follows the advice from the ICES or adjusts it to its wishes. Member states share the TAC based on fixed allocation keys established early in the history of the CFP as mentioned earlier.

Scotland as part of the UK interacts with fishers by handing the management of their fixed quota share to the producer organizations (POs). This is a principle of subsidiary and an old tradition in

the UK (including Scotland). POs run by fishers manage fisheries and keeps them running the whole year around. All Scottish fishers are part of producer organizations in order to get fishing quotas (TheScottishGovernment 2013). The largest PO, Scottish Fishermen's Federation has control over 90% of the total Scottish quota (ScottishFishermen'sFederation 2011) Aside from quota distribution, member states also carry out technical and spatial management, such as mesh size regulations and seasonal closures on their own initiative or enforced by EU regulations.

North Sea demersal fisheries are mixed fisheries (Catchpole 2005) (TheScottishGovernment (2014)). Ignoring the mixed fishery aspect can mean for example that the quota for once species may be exhausted, but due to the continued quota availability for other species, vessels continue to fish and inevitably catch the species whose quota is exhausted. This drives regulatory discards (Uhlmann 2013) as has been the case in the EU fisheries. For each Scottish fishery the factors that have been shown to influence the discard rates are highly species-specific that make management challenging. Discard rates are species specific for cod, plaice and Norway lobster (Feekings 2012).

As outlined in the introduction there are many reasons for discarding. There are three types of discarding in Scottish waters (Fernandes et al. (2011): undersized discarding (fish discarded because they are below the MLS); regulatory discarding (fish discarded as a result of lack of quota, or because they do not meet certain catch-composition rules) and discretionary discarding, e.g. high grading or slippage (fish discarded to maximize profit, either because of their size or because of some other selection criterion based on quality).

Discarding small cod either by legal requirement or to get a better economic output such as high-grading leads to unreported catches (Fernandes et al. (2011)). The unreported catches lead to poor data input for the next year stock assessments, which impedes conservation and recovery of North Sea stocks. The outlined problem illustrates the complexity of fish stock dynamics and the way they interact with the rigid regulative pillar set out by the GS.

An example of relative stability driving regulatory discards in the North Sea is pointed out by Fernandes et al. (2011). When the quotas for species such as haddock are large in relation to quotas of cod, fishing for other species continues and cod may also be caught. Without sufficient quota to land it however, the discard of cod is an example of regulatory discarding in

consequence of poor resources conservation of a species that has been struggling to recover in the North Sea.

Hake is one of the species that due to relative stability is a key driver of discarding across European fleets. Relative stability produces a gross imbalance between Scottish national quota and catch compositions given the changing nature of relative abundances of the hake (Baudron et al. 2014, Stewart 2014). A general objective within the CFP is that if a Member State has too few quotas for some species it can swap quotas with other Member States. The management of the objective is often regarded as inefficient (Stewart 2014). In Scotland there is currently a key issue concerning hake stocks, which have recently recovered and are currently more abundant (Baudron and Fernandes, 2014). While a hake quota uplift was awarded in autumn 2013 on the basis of relative stability, Scotland receives a relatively small share of the total TAC, and swaps from other countries are generally infrequent given the species “high value” (Stewart 2014).

In general pelagic fisheries are considered to suffer from much smaller bycatch and discard rates than the bottom trawl fisheries, since they are largely single-species fisheries (Diamond et al. 2011). Pierce et al. (2002) found that about 11% of the herring caught in the Scottish “maatje” herring fishery are subsequently discarded, mainly because they are too small. This high grading obviously drives fishing mortality up and is a reason why the landing obligation also applies to the pelagic fleet.

In 2011, all mixed species were the subject of multiannual management plans apart from nephrops. These plans all consist of harvest rules evaluated and adopted on a stock-by-stock basis, and derive from the annual TACs depending on the biomass of the stock relative to biomass reference points and a target fishing mortality (TheScottishGovernment 2014). The goal of the plans is to create a long-term governing perspective on North Sea stocks to help them recover. The long-term focus can lead to a more realistic picture of North Sea stocks and propagates the attitude among fishers that they are stewards of resources, as opposed to the shortsighted policy of unnecessary stock exploitation driven by economic interests.

International management plans and agreements exist for several stocks in the North Sea that stipulate suitable harvest control rules. In many cases, these rules align closely with MSY and good governance principles. Examples include North Sea haddock and cod

(TheScottishGovernment 2014). It is essential to ensure that fishers from all member states have a level playing field when it comes to principles of good governance. Resource conservation must happen in all EEZs. Poor governance in one place can easily offset good governance in another place.

### Management of relevant North Sea stocks

The management of North Sea cod has been challenging in the last 10-15 years with a historical low spawning stock biomass in 2006. For 2013, this was estimated to be just above Blim (limit as to what biomass should be at) at 71970 tons. Fishing mortality is well above the level which is consistent with achieving MSY (TheScottishGovernment 2014). In April 2014, the Council of Ministers decided that the European TAC for North Sea Cod should be 23073 tons. The UK quota for 2014 was set to 10827 tons. The quota is consistent with the long-term management plan for cod. The plan affects a number of cod stocks, including an effort management scheme, which limits the effort available to the main cod catching gears. Boats can get more of their quota back if they fish more selectively which mean new gear development, testing and introduction (TheScottishGovernment 2014).

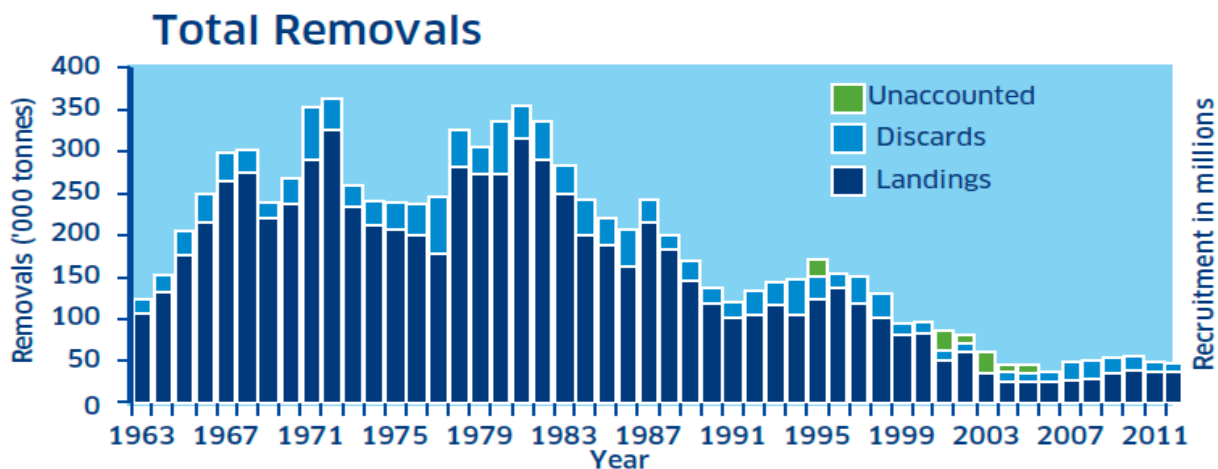


Figure 7 Yearly Cod Removals in the North Sea (<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2013/2013/cod-347.pdf>)

Cod has a high discard rate within the Scottish fleet due to an abundance of cod in the northern part of the North Sea. Discards are driven in accordance to catch composition rules, limited individual quota and high quota lease prices (Stewart 2014). To provide for recovery of North Sea cod stocks Scotland implemented the “Conservation Credit Scheme” in 2008 with a certain

amount of fishers of its roundfish fleet. The principle of this two-part scheme involves additional time at sea for fishers, in return for the adoption of measures, which aim at reducing mortality on cod and leading to a reduction in discard numbers. Examples of measures are real time closures (TheScottishGovernment 2014) and installation of square mesh panels in trawl nets (Personal Communication Marine Scotland Compliance). ICES noted that from the initial year of operation (2008), the discard rate of cod in Scotland has gone down from 62% to 24% (in weight) by 2012.

Tracking Scottish vessels show that vessels did indeed move from areas of higher to lower cod concentration following real-time closures during the first and third quarters of fishing season (TheScottishGovernment 2014). This is likely a shift in how fishers relate to nature where they begin to regard themselves as stewards, not hunters. They need to think about their fishing practices by adapting to less discarding of fish either by changing area or gear. Their image of nature may change in relation to this scheme.

Other management measures adapted in the North Sea to diminish the discard of small fish is an increased minimum mesh sizes of codends in the demersal fleet increasing from 80mm in the late 1980s to 120mm in 2009. Technical measures introduced over the period include the use of square-mesh panels, limits on twine thickness, and the banning of lifting bags (Fernandes et al. 2011).

Marine Scotland and the Scottish Government have been opposed to the practice of adapting higher TAC by the European Council than what is recommended by the Commission based on advice from ACOM. This has been the case for cod before the long-term management plan and is still occurring for other North Sea whitefish stocks. This is not ensuring the conservation and recovery of stocks, as the CFP and GS is supposed to provide (TheScottishGovernment 2013).

### **Hake:**

The European Commission agreed on a recovery plan for hake in 2004. The aim of the plan is to increase the SSB to above 140 000 t with a fishing mortality of 0.25, constrained by a year-to-year change in TAC of 15% when SSB is above 100 000 tons. The spawning biomass has been increasing since 1998 and has been very high in recent years. Fishing mortality, while still above FMSY, has decreased significantly over the last decade. After low recruitments in 2009, 2010, and 2011, the recruitment in 2012 is estimated to be the highest in the time-series (ICES 2014).



TACs have been ineffective in regulating the hake fishery in recent years. Landings exceeded the TACs to a large scope. Discards of large fish have increased in recent years because of quota restrictions in certain fleets (ICES 2014). This shows that the principle of relative stability is driving discards of hake and other species in mixed fisheries. The regulative pillar makes it hard to adopt good fishing practices and patterns. Hake has also been a bycatch in cod fisheries, because it is abundant in the North Sea, or is discarded due to quota restrictions, a lack of quota and a lack of international swaps (Stewart 2014). Being of similar size like other target species and fished using the same gear, it is extremely difficult for fishermen to avoid catching hake; especially if this species is present in large quantities as it is the case today (Baudron et al. 2014).

In 2014, a quota of 1935 t, corresponding to 4% of the northern hake TAC of 55 105 t, was allocated to the North Sea, 348 t of which were distributed to the United Kingdom (ICES 2014). By acquiring quotas from other areas, Scottish fleets alone were able to land 3035 t of hake caught in the North Sea, corresponding to almost nine times the quota allocated for all British fleets. Despite the trading of quotas, the large mismatch between low quotas and higher biomass still results in extensive discarding occurring in the North Sea. While Scottish fleets landed 3035 t of hake in the North Sea in 2011, 4993 t were discarded, bringing the total catches to 8028 t which is more than four times the TAC allocated to the whole North Sea and over 20 times the UK quota (Baudron et al. 2014).

As argued by Cheung et al. (2012) changes in an area occupied by a fish stock can result in changes to the potential catch and can offer new fishing opportunities depending on the area and/or the species considered given that quotas are adjusted. In the North Sea this has happened for hake as shown in figure 8 where the abundance has been changing in the last years. In the EU with the principle of relative stability quotas have not been adjusted. Figure 8 actually shows a substantial expansion of hake from 2001 to 2011 in the North Sea and west of Scotland and it has mostly been discarded, as quotas have not been adjusted according to the natural pillar changes. For UK fisheries hake will likely be the species that chokes up the system for roundfish trawlers as argued by fishermen themselves, (Personal Communication Marine Scotland and Bruce, P) and by scientists (Baudron et al. 2014).

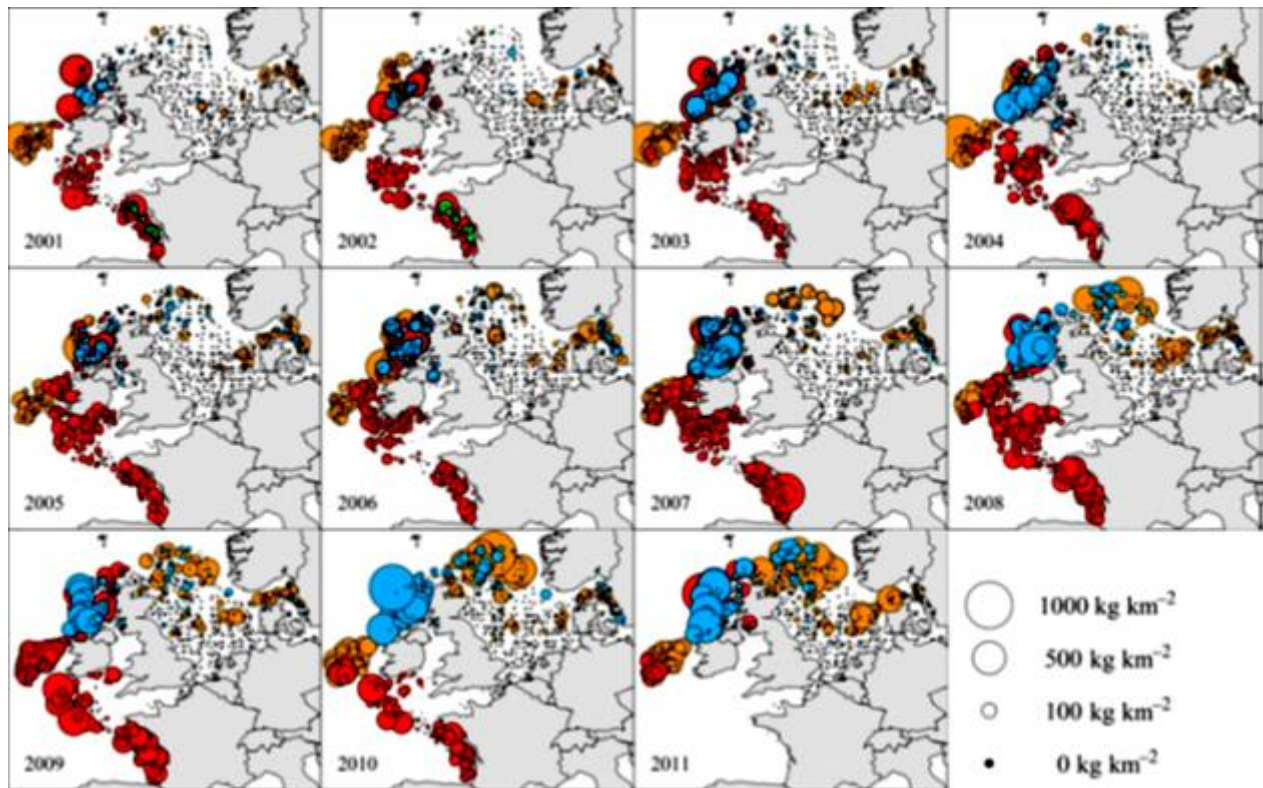


Figure 8 - Estimated densities of European Hake from 2001-2011 (Baudron et al. 2014)

### 3.3.2 Management of the landing obligation in the North Sea

Discard varies between species and for a particular species over time. Discard motives also differ by fleets in Scotland, most obviously between the Nephrops and demersal fish fleets. At a fine resolution, one would anticipate that a vessel exhausting its quota for a species is likely to shift from discretionary (high-grading) to regulatory (over-quota) discarding. This is supported by evidence in Fernandes et al. (2011) data on the seasonal discarding effect. Discard rates increase towards the end of the year as quotas become exhausted. The amount of bycatch varies within Scottish fisheries inasmuch fish stocks, e.g. a school of small undersized cod (Fernandes, Coull et al. 2011), move around and do certainly not respect human-made borders.

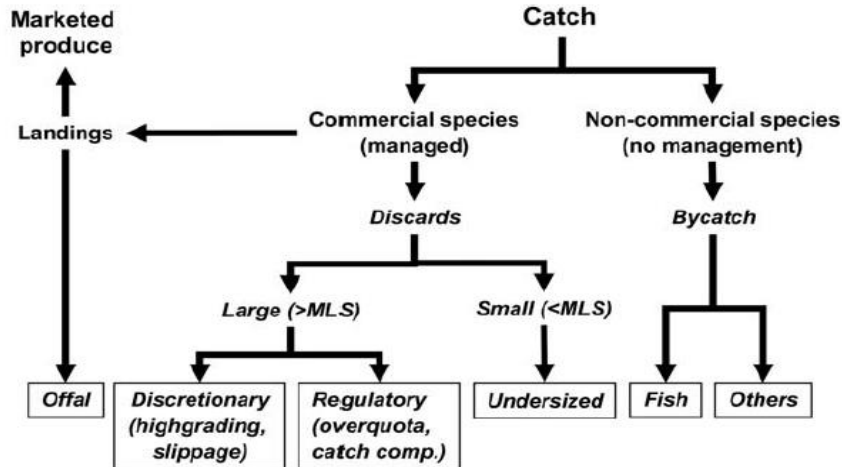


Figure 9 - Discards in a Scottish mixed demersal trawl fishery under the CFP – (Fernandes et al. 2011)

As seen in figure 9 the focus of the EU on landings fuels discretionary discards such as high-grading and regulatory discards such as over-quota catch composition. The institutional framework has hindered fishers from landing valuable fish without a quota (Johnsen et al. 2011). With the CFP moving from a ban to an obligation on discards, Scottish fishermen have to change their practices. Fishers do not like discarding under any circumstances. According to them it feels wrong and it is even worse since it happens by legal requirement (Personal Communication Bruce, P.).

The discard problem is related to all four institutional pillars (Johnsen et al. (2011)). The description of the discard policy in the Nordic countries by Johnsen et al. (2011) illustrates that discard can be a material problem, caused by natural conditions in form of age group and species composition, which must be seen in relation to the regulation system in the form of effort and output regulations. Wrong age group composition in a quota system might result in high grading, while effort regulation can motivate the fishers to increase the fishing yield by using less size-selective gears. The discard issue also concerns culture, because it is related to norms and values and to identification and group formation among fishers and communication structures and processes. The landing obligation in the North Sea should base on of all four pillars. An analysis by Johnsen et al. (2011) on the EU country Denmark has shown that the discard problem is multifaceted. The natural conditions make it difficult to avoid bycatch (Johnsen et al. 2011).

Recent regional management efforts, such as the Conservation Credits scheme in Scotland, have introduced measures that aim for the reduction of discards (Holmes et al., 2009). Under this

scheme fishers get more quota allocated to them by adapting certain management measures such as square mesh panels, increased mesh size in nets etc. The incentive for obtaining more credit (quota) has led to popularity in adopting more “good measures”. It spurs fishers to come up with new selective inventions such as the “Gamrey Bay Trawl” (Personal Communication Bruce P.)

If successful, such schemes will help to reduce discards and incentivize skippers to avoid areas where they would expect to find fish for which they have no quota and they would have to discard. Pilot REM schemes conducted in Scotland and Denmark show that sensor and video data document fishing events in considerable detail. The audiovisual data verifies retained and discarded parts of catches. The costs of implementing and operating EM systems are small compared to the costs of the traditional observer schemes (Kindt-Larsen et al. 2011).

The decline in discard rates of cod since 2007 indicates that these measures may contribute to successful governance. Remote electronic monitoring (REM) schemes supplement the Conservation Scheme. The boats get a higher catch quota for cod if they accept REM onboard and do not discard any commercial species captured during operations, irrespective their size. Scotland has via the offer to the fishermen already contributed to the understanding of the discard problem for the demersal fleet and the implications it has for fishers in their home waters through the REM trials and scheme. Scotland plans to provide more boats with REM (Scotland 2013). Yet the amount of boats on the schemes is limited by the amount of quota given to them for cod stocks in the North Sea.

Article 15 commands a timeframe for the landing obligation with relevance to the North Sea a) b) c) and d) as follows:

“From 1 January 2015 at the latest: small pelagic fisheries (i.e. fisheries for mackerel, herring etc.), large pelagic fisheries (i.e. fisheries for bluefin tuna, white marlin etc.) and fisheries for industrial purposes (i.e. fisheries for capelin, sandeel and Norwegian pout)”

“From 1 January 2016 at the latest for the species which define the fisheries and from 1 January 2019 at the latest for all other species in: (i) the North Sea fisheries for cod, haddock, whiting, saithe; fisheries for Norway lobster; fisheries for common sole and plaice; fisheries for hake; fisheries for Northern prawn” (Union 2013).

The landing obligation is already implemented for the pelagic fleet. The next step for the discard ban in the North Sea is a ban on discards for the demersal trawl fisheries for six commercial species by 2016. The goal of six commercial species by 2016 is now under debate and adjusted to only two species starting 2016 (Personal Communication Marine Scotland Compliance). Trials carried out by demersal trawlers and Marine Scotland, adopting fishing to the landing obligation including the quota uplifts (as it is supposed to be implemented in the demersal sector) show that there are likely significant challenges in operating under a landing obligation due to choke species. Even where current quota levels were increased by current discard rates relevant to the specific fishing fleet hake choked the system. The researchers were surprised as to how quickly that could happen – particularly due to a lack of available quota to lease/swap in (Scotland 2013).

The implementation of the landing obligation will be challenged by “choke species”. This represents a situation wherein a lack of quota for one species – the choke- may prevent vessels from going to sea despite plenty of quota being held for other stocks. In many cases, firms may be unable to continue operating, with large quantities of quota uncaught after the choke species binds. Faced with the prospect of going out of business, incentives for non-compliance with the landing obligation emerge (Stewart 2014). The natural pillar does not correspond with the regulative pillar because there is a mismatch between the allocated quotas and the regional abundance (Baudron et al. 2014).

The landing obligation affects each Member State differently, inter alia owing to the diversity of ecosystems within the EU. The landing obligation will also affect the fleets of one single Member State differently. In Scotland as some fleets will have to deal with bottleneck species such as hake that chokes their system, hence they cannot fish. Other fleets such as creel (pots) have a much more selective practice and will not have the same issues of losing the opportunity to bring back catches (Stewart 2014). There is already a feeling that there is not a level playing field among fishers as some have inherently less bycatch in their fishing operations (Personal Communication Bruce P.). The landing obligation will likely strengthen this unfair viewpoint given that the obligation effects fishing operations differently (Stewart 2014).

The Scottish pelagic and demersal trawl fleets have individual discarding and bycatch patterns. The region in which they operate often influences this. Though the pelagic fleet will be financially affected by the landing obligation in the short to medium-term, the prevalent concern

of the people interviewed was the impact of the landing obligation on the demersal trawl fleets in the North Sea and West Coast of Scotland (Stewart 2014).

From interviews in the Scottish fishing sector, it is clear that the major concern is in what way the landing obligation will affect the fleets in the North Sea and on the West Coast. Both fleets discard various species for different reasons, with several of these likely to become choke species under the landing obligation. For the North Sea demersal fleet, cod, hake, dab, saithe and whiting have the potential to constrict operations, while for the West Coast fleet problems will arise with cod, haddock, hake and whiting (Stewart 2014).

Marine Scotland Compliance and Secretariat (2014) both have the impression that Member States may not be sufficiently prepared for the landing obligation and the additional control efforts that the enforcement requires. Among the vessels in the Scottish credit scheme is also a feeling that Scottish fishers are not geared up for the tight timeframe in Article 15, and that many fishers will be out of business within two months after the implementation of the landing obligation in the mixed demersal sector (Personal Communication Bruce, P.).

This is undermined by Stewart (2014) arguing that a key issue is the extent to which Scottish mixed fleets will have access to a full year fishery, even with quotas increase under the uplift. Marine Scotland Science modelling forecasts in 2013 depicted that the North Sea would be closed to 60% of the Scottish fleet from the end of August if vessels maintained current fishing practices with only cod, haddock and whiting subject to a discard ban and a quota uplift equivalent to 75% of current discards (Stewart 2014). This shows how skewed the path dependent principle of relative stability is. Fishers that have already adapted to the practice of landing commercial species through the Scottish CCTV schemes say that other fishers will likely be out of business in no time (Personal Communication Bruce, P.).

In addition to dealing with the compliance of the landing obligation the member states and their industries need to address the disposal and/or utilization of the landed by-catch. The industry is not sure how to deal with all landings that are brought ashore. This is part of the two level problem of incidental catch, which makes the governability of the landing obligation rather complex.

Marine Scotland feels left out from the implementation process and the enforcement of the landing obligation. It would have been beneficial to the new CFP if the EU commission had sought advice from Marine Scotland. They can in fact really judge what is possible to enforce, because they know the fishers and the environment of the system in Scotland (Personal Communication Marine Scotland). The Common Fisheries Policy of the EU is still managed top-down (Symes 2012). The fishers have to deal with unworkable regulations and the Member States have to enforce an obligation, which might not be possible to enforce in their country. Stakeholders and user groups refute the legitimacy of the new CFP. The effort of the EU to regionalize her fisheries policy and to extend the scope of co-management at all levels of the GS and the SG seems to fail.

### **3.3.3 Summary**

The historical allocation quotas do not match the fishing patterns of today and catch-composition is “off”. The principle of relative stability is the driving force behind discards in the North Sea. It conflicts the new CFP that fathers a landing obligation. The European Commission and Member States such as Scotland that deal with choke species discern the need to remove or redesign the principle of relative stability in order to make the discard ban work (Stewart 2014)(Personal Communication Bruce P.). Hake seasonally moves to North Sea during the most gainful periods for demersal mixed fisheries, and is on top of it in general in larger abundance (Baudron et al. 2014). Scottish fishers embrace a lower income, because they bring in a great amount of hake as bycatch they do not get paid for.

Taking into consideration the complex ecosystem of the North Sea, a diverse fleet including the mixed demersal fisheries, highly specific discard rates, and a landing obligation that is supposed to work with choke species such as hake, it is of question if the landing obligation is too ambitious for its timeframe and scope of implementation. However the EU has highlighted the necessity to immediately improve the conservation of the CFP and has now started to implement the landing obligation (Union 2013).

## **4.0 Research findings and discussion**

The EU has acknowledged that the CFP needs a discard policy to change from a regulative “short-cut” practice that manages landings to a focus on catch including bycatch. Hence the

regulative pillar has been designed to ease management of the complex EU fisheries. The cognitive development which has institutionalized discards has followed the same path for fishers to parts of the GS through members of Member States represented in the Council, from the hunters they have been, and not stewards they should have become by now. The waste of marine resources that the discard obligation has been driving is not acceptable as pointed out by FAO, countries that has adapted discard ban, as it is part of good governance and the “FishFighters”. The new CFP bans the practice of discarding and should be replaced with another practice with new normative and cognitive basis, that discarding is a waste of precious marine resources and against good fisheries governance. The management challenges has for some time been to develop appropriate institutional structures with the right values to make the EU system think like stewards including not only fishers, but also administrators and enforcement agencies (Raakjær Nielsen et al. 2003) but the need is now there more than ever to ensure success of the landing obligation.

#### **4.1 Legitimacy and the CFP: What has been and what is to come**

If rules are legitimate, breaking them is considered unethical (Jentoft 2004). Therefore legitimacy for the CFP and landing obligation is important to ensure governance of the system, hence governability. So far the EU governing system and CFP with its top-down focus have challenges related to the lack of legitimacy or with a legitimacy crisis (Raakjær 2009). This has resulted in a culture of non-compliance (Raakjær 2009). As the GS has failed at resource conservation, EU fishers have lost faith and are now less likely to follow future laws and regulations now that the CFP is about to undergo a large change with the landing obligation.

One of the reasons the EU has failed to ensure conservation of stocks is much due to the path depend principle of relative stability that has ensured rigidity of the regulative pillar. This allocation tool for TACs, which is still based on historical catch data from the 1970s, have been driving discards and institutionalized the practice in EU fisheries. The political complexity inside the GS with the Council opting for higher quotas than what is recommended by the Commission through ICES advice has led to nature taking the bill, hence leading to fishers not believing the CFP and Commission can provide resource conservation. As argued by Raakjær (2009) the Ministers (of the Council) cannot be unaware that by constantly accepting a higher fishing



mortality than what is scientifically recommended, the EU is contributing to deepening the long-term crisis for both fish stocks and fishing sector and fishing communities.

When Council members come to their home states communicating “victory” of their increased quotas (Raakjær 2009), this will likely send out signals to Member State fishers that the stocks should be harvested, not conserved, and you have no development towards the fishers looking at themselves as harvester, not stewards. This is an example of institutional failure as identified by Jentoft (2004) that complexity of governance and institutional failure may well result from conditions outside the institution. The Commission is trying to ensure resource conservation, as it is their mandate to be unbiased of their Member States interest. In the EU the GS consists of many intuitions and the Commission is the one failing at implementing the CFP partly due to the actions taken by the Council, which is another institution outside the Commission. This drives the lack of legitimacy for the CFP (Raakjær 2009).

As Villasante et al. (2011) and (Salomon et al. 2013) has shown TACs have largely been adapted in favor of the industry harvest over what has been recommended by ICES, and this is driving the legitimacy crisis further. Images and values inside the GS needs to match one another so that the GS sends out the same signals through their governing interactions, that fish stocks needs stewards on all levels. That could potentially help fishers change their images and help them see legitimate reasons for why they should adopt a landing obligation in their practices.

The principle of relative stability could be argued to force this because of the large misrepresentation between what fishers are catching today and what they have quotas for. The only way to increase quotas with this principle is to apply for a larger community quota (Commission 2009). This has caused alliances to build up inside the council to ensure higher quotas than what is recommended are the basis for “resource harvesting”, and not “resource conservation”. The reason for the increased quotas can be many but one of them is likely the overcapacity present in EU fisheries (Union 2013). With the overcapacity fishers need higher quotas to cover up the costs of operating in an environment with low stocks and many boats.

Another likely reason the CFP has failed at conservation, leading to the legitimacy crisis, can be argued to be the “match” between relative stability and a focus on landings. The EU has circumvented the two-level problem of managing catches by focusing on landings. There has not

been a requirement then to enforce and punish fishers that accidentally catch species at sea that they do not have quotas for, as they have been legally required to discard these catches. This is in line with Gezelius (2008) argument that the EU's reasons for maintaining the discard ban have received comparatively little attention in the public discourse due to the inevitability of incidental catch. Dealing with this problem demands a lot from the EU, especially when the regulative pillar keeps the principle of relative stability.

It now has to be dealt with under the new LO, with the EU now regulating catches on what actually happens out at sea. However the EU, nor any country, has the budget or technology to be everywhere at all times to control that fishers comply with bringing in all catches at sea. Therefore the new landing obligation needs legitimacy to ensure compliance. This way it is likely fishers will even govern one other if they accept the new ideals of fish stocks needing stewards, not harvesters. With the principle of relative stability behind this new obligation it must be confusing for fishers how to relate to this rigidity, as they now need to bring in lots of fish, which they do not know if will be paid for. Nonetheless addressing catches and not landings is a step in the right direction for CFP to conserve resources to gain back legitimacy of the CFP as a conservation policy. Managing catches will enable the governing system to collect data on bycatch, which can help ICES produce good estimates for next year's TAC that can provide better conservation. The opposite has been the case until now as argued by Gezelius (2008) as focusing on landings arguably reinforces the resource management problem because it becomes nearly impossible for managers to monitor fishing mortality (Gezelius 2008). Whether there is compliance or not with the landing obligation will not change the fact a shift is needed for how "guilt" and liability is distributed to fishers.

The landing obligation and change of the institutionalized practice of discarding will likely impact legitimacy as it is carried out top-down through compliance by enforcement, and not by gaining legitimacy among fishers. The 2009 reform of the Control Policy that is supposed to bring compliance to the CFP does not mention legitimacy once. The CFP does mention that compliance is a key issue and needs to be present; in fact the CFP demands that a working group on compliance must be established to ensure that compliance is achieved. How the EU GS sees compliance however is difficult to say, not to mention how to get to a culture of compliance (Union 2013). It may seem as if they are planning to ensure compliance by enforcement and

control based on the new point system for infringements, and the demand for Member States to implement this (Union 2013). Compliance through sanctions and control is the answer then. However the point system was recently postponed 2 years before entering into force due to the political complexity in the EU GS as amendments were proposed and agreed on inside the GS (Secretariat 2015). Without the point system and little emphasis put on establishing compliance through legitimacy it is likely that fishers could keep on with the old institutionalized practice of discarding.

Legitimacy has likely been lost for the landing obligation given that the right users, namely the fishers, were included in how to solve the issue of discards. As argued by Jentoft et al. (1995) fishers have more at stake than do consumers and cannot shift as easily to other occupations as consumers can shift among goods. Fishers should hence have more influence on management decisions than consumers. However, there are more consumers than producers of fish, and this should indicate a stronger representation of the former than the latter. In the Fish Fight campaign the 700 000 consumers likely had a larger say on the regulative changes than what the fishers had when it came to addressing the issue of discards. This could likely lead to lack of legitimacy as fishers were not included. Nested institutions as part of systems make it complex to see where the pressure is coming from and that the right users get their say, which is essential to improve their legitimacy that will lead to increased governability. Therefore the EU needs to analyze the institutions and their external environment carefully to understand who one should include and interact with.

Given that there already is a culture of non-compliance and lack of legitimacy for the CFP, implementing the landing obligation could be challenging in the North Sea for the mixed Scottish roundfish fleet. As argued by (Raakjær Nielsen et al. 2003) it is not possible to have 100% control, hence focus should be on gaining legitimacy through promoting understanding and collaboration with fishers which likely enables development of the normative and cognitive pillars which is essential in the creation of governmentality (Johnsen 2014). Scotland has done this partly through their cod credit conservation schemes and CCTV monitored fisheries, both on the commercial basis that operate today and through science schemes. This has led fishers to adapt patterns that avoid bycatch of small cod and other species which they do not have quotas for.

The fishers currently in these schemes does see legitimacy in the avoidance of bycatch, but as research of Stewart (2014) has shown, and as fishers are also aware of, the possibility is there that species such as hake could choke up the system. This will likely lead fishers to discard catches even if they see legitimacy in the landing obligation, as they do not see legitimacy in the principle of relative stability (Personal Communication Bruce, P.). This principle hinders them in getting paid for all the work and risk they are presented with out at sea. In addition to the fact that the relative stability makes it hard for the landing obligation to see legitimacy there is a feeling of unfairness among fishers since the impact by the obligation on different fleets will differ greatly. The fact that a creel fisher with pots sees much higher selectivity, compared to roundfish trawl that can have 10 commercial species in one haul, including species that might choke up the operations and potentially economic deficit, will create friction (Personal Communication MSC staff). Relative stability is also partly reason to this unfairness as it is the principle that is driving what fishers have quotas for, and the fact that this is not aligned with their fishing patterns today.

Last but not least it should be said that not all fishers have the opportunity to see the same legitimacy and “point of departure” for the creation of governmentality in the new CFP with the focus on catches. The quota is simply not large enough for the UK to give out extra quotas in the North Sea cod fishery those interested in the CCTV scheme. There is in fact a long waiting list of skippers interested in getting on the scheme (Personal Communication MSC staff). As mentioned earlier there should be some incentive for fishers to adapt their practices to help them shift their normative and cognitive pillars to enable governmentality (Johnsen 2014) and this is limited by the fact that there is simply no more extra quota to give.

The limitation on quotas has to do with the complex external environment the GS and SG is part of and an example of institutions not operating in a vacuum (Jentoft 2004). The reason no more quotas are available to the Scottish roundfish fleet, is that there is a disagreement between Norway and the EU on quota allocation for cod (Personal Communication Bruce, P.) Scotland wants higher quotas as this means more boats can be on the scheme, which means that fewer boats are discarding their catches as they have to agree to CCTV monitoring during operations to get this increased quota. As argued by Scottish skippers boats have been catching 100 tons and discarding 100 to reach a high quality of catches (due to the economic overcapacity in the North Sea driving low profits) but under the scheme they get 30 tons extra as an incentive to not discard

any fish have their operations monitored. This way they are only catching 130 tons and are not discarding 70 tons as they could have been doing before. With Norway agreeing to increased quotas more boats could be landing what they are supposed to be landing and the poor data that goes into ICES to help recover cod stocks could increase. Norway does not share the same view and therefore no more extra quotas are available, which is a bottleneck to the creation of governmentality, governability and good resource conservation, which in reality should contribute to all nations fishing in the North Sea.

It is possible that fishers not included in the Scottish scheme can as a make the landing obligation less legitimate. This could have negative influence of those in the scheme and in a process of changing their normative and cognitive pillar. It could therefore harm the creation of new practices needed by the landing obligation. However there is a need to start somewhere and this is a good point of departure for Scottish fisheries to gain legitimacy for the landing obligation and create governmentality among fishers as stewards of their resources which again improves governability of the landing obligation and CFP.

One challenge to legitimacy of the landing obligation relates directly to dealing with the two level management problem of incidental catch, namely that the GS is faced with the administrative challenge of handling the mandatory landings of illegal catch. Each member state will have to respond to this challenge separately according to its national conditions for implementation (Gezelius 2008). Scottish fishers are afraid that the discards at sea now will become a waste ashore as the discards at sea went to the ecosystem through seagull predation and other bottom dwelling organisms.

#### **4.2 What are the factors impacting governability of the landing obligation?**

Governability without legitimacy has implications for enforcement, and EU enforcement of the SG has certain practicalities of what is possible, not possible, and as to how much it can afford. To achieve governability without legitimacy requires power to control and enforce, and is also costly. In practice it is impossible, because EU cannot have total control of their fisheries. Control and command systems simply have limitations (Gezelius 2008). The complexity present in EU fisheries with different types of fisheries, huge areas of operation, different culture makes enforcement difficult and expensive which is why legitimacy is so essential to aim for to help governability of the landing obligation and resource conservation. As argued by Johnsen et al.

(2011) fishers have the opportunity to cheat even if the fisheries are strongly regulated. Whether it is a widespread practice or not depend more on if the fishers see meaningfulness and reasoning in the rules and if legitimacy is there. For Scottish fishers to accept and embrace the change of norms and images of discards there has to be a normative and cognitive reform that goes in-depth and width-wise where all four pillars need to correspond with one another. Working on all levels will likely increase the governability of the landing obligation (Johnsen et al. 2011).

If there is to be no legitimacy then compliance with EU regulations has to come through control. This is not possible to control 100% as pointed out by Gezelius (2008) but one option that the North Sea can use is the data from the Scottish CCTV schemes and bycatch trawls. The bycatch trials that has been carried out in the North Sea in combination with the cod CCTV schemes currently in place, has helped to understand what the landing obligation means for Scottish roundfish fleets (Stewart 2014) (Needle et al. 2014). It adds to the knowledge of the financial and practical impact the obligation has on roundfish trawling and has discovered that hake will choke the system with relative stability in place, regardless of trading of quotas between member states. The principle simply does not allow for fishers to see legitimacy in the new obligation when it drives them out of business. The option to try deal with this lack of legitimacy then is to somehow ensure compliance through control. The data from these schemes can help with that. Marine Scotland has an indicator of how much bycatch the roundfish fishery produces. That information can be compared with the landed composition of catch by fishing vessels, to control that compliance is present for the discard ban in certain fisheries. It is very unlikely that the necessary capacity, hence governability, is there to control all vessels that come ashore so it is not a foolproof solution to compliance but it is an attempt to try create governability of the landing obligation. If this is the right way to ensure compliance however can be debatable and will likely drive fishers and the GS further apart which is already an issue as pointed out by Raakjær et al. (2003).

Confusion or misunderstanding can make honest fishers lawbreakers, as they do not have an overview of all the exceptions and amendments that are being made. Making sure rules are communicated clearly under such a big change in practices as the landing obligation is key and is in line with Jentoft (2004) argument that *fishers sometimes break the rules because they do not know them. Fisheries management rules are complex, diverse and dynamic, and therefore often*

*hard to understand. If the problem is that those who fish are not aware of the rules or do not understand them, the problem is basically a matter of communication: managers are not getting their message through. Neither penalties nor moral condemnation will do the job then. Rather, more effective communication is the answer.* Fishers are currently worried about the new CFP and discard ban as result of EUs complex regulative pillar. For example fishers are unsure whether any illegal discarding action will be classified as a serious infringement or not (Personal Communication MSC) considering the new point system. Compliance should come through legitimacy, not fear. Lack of legitimacy can be the outcome, which will make governability of the landing obligation more difficult. The fact that the regulative pillar is so complex can be seen in relationship to the complex natural pillar that the CFP tries to govern. If regionalization was actually carried out and not only talked about in the CFP, then the complexity could likely be reduced, and the EU could gain local legitimacy, relevance and knowledge, making governability of the landing obligation easier. In addition the more responsibility given out by the GS through regionalization, likely leading to increased legitimacy, the less costs are spent on ensuring compliance through control and monitoring.

In Scotland an example of this is related to Marine Scotland not being included in discussions on the landing obligation for how it should be implemented. The enforcers here are the ones who know the industry, the North Sea and its fishers the best (Personal Communication MSC). They will have more knowledge on what is a workable regulation or not, which could lead to less frustration and improved governability of the landing obligation. When the fishers are met with unworkable regulations the legitimacy of the GS is decreased and they are more likely to adapt the culture of non-compliance (Raakjær 2009). This is also in line with Raakjær Nielsen et al. (2003) research demonstrating that compliance is influenced by fisher's perception of the meaningfulness and efficacy of the regulation, e.g. effects on the protection of stocks or confidence in biological recommendations. Fishers are not right now seeing how a landing obligation together with the principle of relative stability sets up a regulative framework that fishers will adhere to (Stewart 2014).

As argued by Johnsen et al. (2011), Gullestad et al. (2015) the use of the market as an instrument appeals to the fishers' economic motivation. There have been incentives to help ensure that fishers comply with the discard ban in Norway. The Common Market Organization established

by the new CFP could establish such benefits. As expressed by commission, one should consider giving some reward to fishers that are complying with the landing obligation and CFP regulations (Commission 2009). Ensuring this market and benefits to Scottish roundfish trawlers will help create governability for the system as they will over time see the incentives as in Norway, to become stewards and reap the rewards of a natural SG that is better governed.

For the Scottish fisheries governability could likely be improved if the catch capacity was reduced as suggested by the new CFP. This has however been suggested many times without probably dealt with (Commission 2009). If fishers operating in the North Sea are pressed financially due to overcapacity resulting in high costs because of low catches, they will likely discard to try and keep their boat “alive” in the fisheries (Stewart 2014). Until now boats have obtained profit by high grading at sea and will try stay in the fishery this way (Stewart 2014). Dealing with the overcapacity can reduce the incentive to cheat or drive fishers to discard, meaning improved governability of the landing obligation.

In addition to dealing with the overcapacity you get fewer boats in the fishery that is more similar, referred to as the process of making the fisheries cybernetic (Johnsen et al. 2009). This means that there are fewer fishers to work with to enable governmentality for the North Sea fisheries that could improve the capacity for governance. However one should be aware of the fact that it is uncertain how “cyborgs” with quotas viewed as property leads to sustainable or unsustainable practices (Johnsen et al. 2009). These could also adapt to practices such as high grading, as the costs increase with increasing size. Increasing size and cost may expand capacity not reduce it. Controlling cybernetic fisheries should become easier as there are fewer vessels in the fishery, which are also quite similar. However it is important to control all the vessels in the North Sea nonetheless (Raakjær Nielsen et al. 2003, Stewart 2014)).

The issue that will likely impact governability of the landing obligation in the North Sea the most, is the fact that the principle of relative stability and landing obligation are to go hand in hand with fishers and the fact that the hake population is expanding rapidly in the North Sea demersal fisheries. Roundfish fleets will experience the hake choking up their operations, forcing them to land catches they do not have quotas for, due to the principle of relative stability. Regardless of the trading that can take place between member states to ensure a more “accurate” representation of what is captured at sea and what fishers have quotas for (Stewart 2014) the hake



will be one of the bottleneck species. Given that fishers do not see legitimacy in the CFP already, in fact there is a legitimacy crisis (Raakjær 2009), makes it unlikely that fishers will comply with a regulation that could put them out of business. The capacity is still high, and fishers will likely discard fish, for example through high grading, to keep themselves in the fishery.

Since many North Sea fishers likely keep the practice of discarding, and that it is impossible to monitor and control all North Sea fishers, the conservation policy could likely fail again as the unreported catches will undermine the resource conservation (Gezelius 2006) as with the previous CFP. This will test the patience and new normative and cognitive pillars that are about to undertake changes among Scottish fishers on the CCTV scheme. Maybe the lack of legitimacy of a failed CFP even with a landing obligation leads them back into the groups of fishers that are in this legitimacy crisis towards the EU GS. The species with the lowest quota in the mixed North Sea fishery ‘chokes’ the opportunity to catch the quotas fishers have of other species (Baudron et al. 2014).

The natural complexity and change of the increased densities of hake, reaching the largest estimated values in 2010 and 2011 ever recorded in the North Sea (Baudron et al. 2014), makes the implementation of the landing obligation challenging. The figures presented by Baudron et al. (2014) emphasize the difficulties created by the quota allocation scheme, including relative stability, put in place under markedly different ecological conditions. The principle of relative stability will put the governability of the landing obligation and fishers in the North Sea to trial. This shows EUs complexity of governability of the SG, as the natural pillar is partly changed, but mostly in the ways the SSG interacts (fish) with this pillar. The regulative pillar has not changed to match the natural pillars changes by keeping the principle of relative stability, with discarding likely occurring due to the fact that one has not worked on designing all pillars to work together which should have been the goal to make the landing obligation governable. As a result the CFP as an institution with its landing obligation, stands crooked “resting” on uneven pillars.

To try and end the failed resource conservation of the CFP and make the landing obligation help turn this practice around the EU GS can make use of data from CCTV schemes to ensure that what is supposed to be landed by the North Sea roundfish fleet, actually is landed. This way one can likely detect some of those now complying with the CFP and landing obligation. However it

is not possible to control all landings of fish at the moment for enforcers in the North Sea (Personal Communication MSC).

Nonetheless data input to ICES from the North Sea roundfish fleet will be improved by these schemes for what the fleet is capable of discarding, legitimacy or compliance being there or not. This way the EU avoids some of the poor data collection with the old CFP where it was basically “rubbish in, rubbish out”. This has been a problem driving the failed conservation of the old CFPs. If the new policy is not to see legitimacy and hence discarding still occur there will still be improvement to ICES TAC advices, regardless of the governability the landing obligation sees or not. By improving resources conservation it is likely that quotas set are more accurate of what is supposed to be captured and the CFP could bring about some change to the conservation of fish stocks.

This conservation will however be improved significantly if fishers of the North Sea sees legitimacy in the landing obligation through development of all 4 pillars. This will change how fishers governing interactions with fish stocks, making them stewards and not hunters in their practice. Only then can they enjoy the benefits of being a steward with increased stock sizes and a healthier ecosystem. You can then gradually move more responsibility from the governing system to the system to be governed as governmentality develops and could be the solution forward through development of “incremental governmentality” for each fleet. The idea here is to start out with development of small groups of fishers, which can possibly influence other fishers in the same sector. This is seen in Scotland where skippers are now wanting in on the scheme, in fact there is even a waiting list to get on a scheme where fishers allow themselves to be monitored 24/7 but with increased quotas and advice from Marine Scotland Compliance on how to improve their fishing practices to get cleaner catches. The only issue being that there is not enough quotas to ensure further creation of governmentality at the moment.

Last but not least it is important to say that success of the landing obligation does not only come from it sees governability. All parts of the GS needs to play on the same team to see the benefits from the landing obligation and the new CFP. Inside the GS there will always winners and losers if the goals are different either inside GS. The burden of this complexity will eventually fall down on the fishermen when there is no more quota to give out by the Council if they do not change their view of EU fish stocks. It is after all what stakeholders are willing to abide by and accept

that will determine the degree to which a governance system will work or not (Jentoft et al. 1995, Bavinck et al. 2013). One of the challenges with a nested GS institution such as the EU is that not everybody have the same interests, values and goals but effort should be put towards trying to educate the GS to make sure all institutions inside have the same view on the natural pillar and the same norms as stewards, not hunters. This will surely improve governability of the future CFP and the landing obligation. If fishers notice this change towards a common view inside the GS on resource conservation it could further incentivize resource conservation for them as stewards, allowing them to reap the benefits of their efforts.

#### Summary:

When looking at the creation of governability for such a radical shift from not giving the discarding practices attention at all, to now implementing a ban on all discards, two extremes for how this could be possible becomes obvious. The first extreme follows the legitimacy crisis and poor compliance present in EU fisheries where the EU will have to enforcement control and monitoring 100% of all activities. This is financially and practically impossible for the EU, or for any country. The other extreme is to ensure development of governmentality to make fishers “religious” believers and followers the landing obligation, as it was the only right thing to do in fisheries regardless of that leading them to economic deficit and had to exit the fishery. The reality is found somewhere in between these two extremes where there is a need to ask what is possible to control and enforce following the nature of the natural and regulative pillar, and their interaction, as well as playing on developing fishers normative and cognitive pillars by developing an understanding and inclusion of fishers so that they see reasoning in the landing obligation. However all pillars need to be adapted towards the landing obligation to ensure its governability and that is not the case when the EU only changes one of the two major drives for institutionalizing discards with all its previous Common Fisheries Policies.

## **5.0 Conclusion and recommendations**

### **5.1 Conclusion**

In the EU fisher’s quotas have simply not matched what fishers are capturing. The principle of relative stability has hindered a change in the discard policy and has been driving discards. There

is now a change made to only one of the two fundamental principles of the CFP, namely the ban on discards, and not on the principle of relative stability. This could lead to the discard ban clashing heavily with the old principle, which as I have mentioned could affect governability for the Scottish roundfish fishery. One option to ensure that the discard ban is realized is to close the entire fishery when the quota of a given stock is reached such as hake which could affect a premature closure of the entire demersal mixed-fishery in the North Sea (Baudron et al. 2014). This is however very unlikely given the Councils favor of the industry. What is likely more effective to make the landing obligation more governable is Scotland's initiative of including fishers on the CCTV schemes. This could enable them to see legitimacy in the ban which could improve governability.

If the landing obligation is to see legitimacy will, as I have discussed, largely dependent on whether the North Sea fishers see that resource conservation is improved. This should not only come from the new CFP, but also from the GS both working to ensure resource conservation. Further fairness inside the North Sea fisheries in terms of the landing obligation will impact if fishers see it legitimate or not. Last but not least the legitimacy will depend on if fishers are included in schemes such as the CCTV scheme to help establish new cognitive and normative connections to how they should interact with their resources.

As argued by Johnsen (2014) the question may therefore be not what the limits of governability are, but what they should be. How far will one and can one go in terms of introducing devices and arrangements to expand governability and governmentality? That the EU is keeping the principle of relative stability might not show much willingness to expand governability by introducing new devices. As I have discussed the principle of relative stability is an obstacle to governability and governmentality when the system changes to a landing obligation. Changing the principle on the other hand may be a too heavy task. As I have outlined before it is complex to remove or even redesign such a simple mechanism that were implemented to deal with the EUs complexity and bring the nine countries together on how to protect stocks and divide quotas between one another. However it should be dealt with some way or another as it has been part of the legitimacy crisis. For the landing obligation to be governable, it will need legitimacy as the EU cannot control and monitor the entire North Sea.

After the establishment of the CFP it has certainly not become less complex as more countries and stakeholders are included in the system. Given that the path dependent principle sticks around resource conservation will, as I have mentioned, have to come primarily through governmentality development inside member states, as the Common Fisheries Policy as an overall top down policy, seem to fail at delivering conservation. For this to happen all pillars of the system to be governed, here the Scottish roundfish fleet, has to be addressed and seen in relation to one another. The regulative change is now provided by the new CFP. The process is about to start for the majority of the roundfish fleet to changing their ideals of fish stocks, normative grounds and institutionalized practices of discarding non-quota species to now bring them all in, making them stewards and not hunters.

How to create governability for the Common Fishery Policy's landing obligation in the case of Scotland in the North Sea will largely depend on what type fishery one looks at. It is the roundfish fleet that will deal with the bottleneck species and hence compliance will be a much bigger issue for them as it affects their operations significantly compared to a fisher with pots that is much more selective. The governability of the landing obligation with respect to the roundfish fleet will likely depend on how many fishers that can be included in the CCTV scheme. Not only will this ensure cognitive development of the fishers if such a scheme is no longer possible to operate but it ensures that fishers comply with the landing obligation as long as it is in place. The amount inside the scheme is as mentioned limited at the moment, and could likely cause those outside the system to see no legitimacy in the landing obligation. This could lead to non-compliance actions by the fishers, which enable them to stay in the fishery such as high grading which will impact governability. Therefore capacity reduction will be essential to create governability of the landing obligation. Fewer boats mean less economic pressure on those inside the roundfish fleet, which likely lowers the incentive to partake in illegal discarding to sustain operations.

Therefore the CCTV scheme is a point of departure for getting out of the legitimacy crisis, which can create governability for the landing obligation. The scheme starts the long process of institutionalizing the obligation to land all catches for Scottish fishers, looking at the fish stocks as something that needs stewards, not harvesters. The move from total allowable landings to total allowable catch, including the landing obligation is essential for the management of fishing

mortality and resources conservation of EU fish stocks. Addressing this problem should hopefully lead to the EU and North Sea stocks to recover so that fishers regain their legitimacy back to the Common Fisheries Policy. The success of the new CFP will have an impact of whether fishers will see legitimacy in the landing obligation.

## **5.2 Recommendations**

Given that the principle of relative stability is maintained (unless voted to be removed) dealing with bottleneck or so-called choke species will be essential to the implementation of the landing obligation also pointed out by (Fernandes et al. 2011, Stewart 2014). Development of the CCTV schemes will help fishers cope with the new reality of landing all commercial catches and further effort should be put into increasing the quota available to these schemes. This means more boats can be included and be part of the development of governmentality, as well as providing the EU with more information on catch composition including bycatch that before would have been discarded. The information can be used to ensure that other boats are complying with the landing obligation, controlling landings at port rather than at sea.

Further regionalization should be taken more seriously where decision making power, and not only advisory capacity, should be handed down from the top-down EU system to the regions. Then rules and regulations regarding the landing obligation for each specific area gain local relevance and local legitimacy. This has been seen as an issue recently in Scotland where Marine Scotland was not even advised on how to implement the landing obligation in their waters.

A market for trade of quotas between Member States so that fishers are able to match the catch composition with their actual quota should be considered implemented on a mandatory basis for the North Sea. It is only an option under the current framework of the CFP. This should be done in order to establish a way around the rigid path dependent glue of relative stability. Fishers will likely try staying in the business for as long as possible and exhibiting discretionary discarding such as high-grading to stay in the fishery. In addition the bottleneck species of hake will likely be discarded to the benefit of bringing fish back that fishers will get paid for and could be discarded if they do not have quotas for this species.

Last but not least it is important to make sure all institutional pillars are connected as good as possible with the new change from a discard obligation to a landing obligation as to ensure

governability. In the EU fisheries there are regulative barriers (relative stability), normative barriers (relative stability driving norms of fairness in distribution), cognitive barriers (institutionalized discarding practice) and natural barriers (from the complexity present in the mixed fishing produces discards). What the EU GS might not have considered is that this process will take time. Normative and cultural changes, including how fishers look at nature needs time to change. The many years of institutionalizing a discard practice is after all what is about to be changed.

### **5.3 Future research**

Future research should be considered on the analyzing if and what the North Sea recovery impact on species subject to CCTV schemes is, to provide evidence if this benefits the North Sea. This can be an important piece in obtaining higher “compliance” quotas for fishers that want to be part of the CCTV scheme in the North Sea.

Research on what capacity reduction needed to lower the incentives for high-grading (breaking with the landing obligation) should also be considered. This could lead to an understanding as to how governability of the landing obligation can be achieved by adjusting capacity for the North Sea fleet.

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