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# FISHERY IMPROVEMENT PROJECTS: SUITABLE FOR THE DUTCH NORTH SEA FLYSHOOT FISHERY?

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# FISHERY IMPROVEMENT PROJECTS: SUITABLE FOR THE DUTCH NORTH SEA FLYSHOOT FISHERY?

A review on whether a comprehensive Fishery Improvement Project is a suitable option for the Dutch North Sea flyshoot fishery, in order to advance in receiving sustainability recognition

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## ABSTRACT

The demand for sustainable seafood has increased over the last few years, which has encouraged fisheries to apply for sustainability certification. Fisheries that are not able to apply for this type of certification, due to shortcomings in certain areas related to sustainability, have the opportunity to use a Fishery Improvement Project (FIP) as a tool to structurally work towards independent sustainability recognition. Therefore, it was examined to what extent a comprehensive Fishery Improvement Project would be suitable for the Dutch North Sea flyshoot fishery in the upcoming six months. Qualitative research, including a literature review and the conduction of interviews, indicated that the fishery would not be able to receive sustainability certification due to an overall lack of harvest management and managerial monitoring. However, the fishery would not have to meet any sustainability requirements to start a FIP. As a FIP would aim to improve both managerial as well as data collection aspects of the fishery, the fact that its target species are data deficient is not seen as a setback. However, it is unlikely that there would be a Dutch market for the target species of the fishery, as the Dutch population would have little to no interest in purchasing them.

It can be concluded that a FIP would be a suitable tool for the fishery to work towards independent sustainability recognition and therefore it is suggested that the fishery partake in such a project. However, the project would only be of added value in the long term, as it would provide an incentive to work towards independent sustainability recognition. In the short term, the added value will mainly depend on profit, but it is probable that short-term project costs will outweigh short-term benefits due to limited market access. As there would be no added market access for the fishery, the added value of a Fishery Improvement Project would only be realized at the end of the project. Therefore, it is suggested that further research take place regarding funding opportunities, as the costs of a Fishery Improvement Project could be substantial. Furthermore, it is suggested that the fishery scope out whether or not individual food retailers would be interested in selling their products to conclude whether or not the short-term benefits could outweigh the short-term costs.



## ABSTRACT IN DUTCH

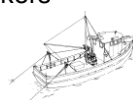
De vraag naar duurzame vis is in de laatste jaren toegenomen, waardoor visserijen zijn aangespoord om zich te laten certificeren op het gebied van duurzaamheid. Visserijen die zich niet kunnen certificeren, door tekortkomingen op bepaalde duurzaamheidsgerelateerde vlakken, kunnen gebruik maken van een visserijverbeteringsproject (FIP) als een hulpmiddel om structureel naar onafhankelijke duurzaamheidserkenning te werken. Hierom is onderzocht in hoeverre een omvangrijk visserijverbeteringsproject geschikt is voor de Nederlandse Noordzee-flyshootvisserij in de komende zes maanden. Met behulp van een literatuurstudie en interviews is een kwalitatief onderzoek verricht, dat aantoonde dat de visserij geen duurzaamheidscertificering kan ontvangen door een tekort aan bevissingsstrategieën en monitoring omtrent beheer. Een FIP heeft echter geen duurzaamheidscriteria waar de visserij aan moet voldoen om het project te kunnen starten. Aangezien het doel van een FIP is om zowel beheer- als informatieverzamelingsaspecten van de visserij te verbeteren, is het gebrek aan informatie, omtrent de doelsoorten van de visserij, geen tegenslag. Het is echter onwaarschijnlijk dat de Nederlandse markt geïnteresseerd is in het verkopen van de doelsoorten van de visserij, aangezien de Nederlandse bevolking weinig tot geen behoefte heeft aan het consumeren van deze soorten.

Geconcludeerd kan worden dat een FIP een geschikt hulpmiddel zou zijn voor de visserij om naar onafhankelijke duurzaamheidserkenning te werken. Hierom wordt geadviseerd dat de visserij dit ook daadwerkelijk doet. Het project is een drijfveer om naar onafhankelijke duurzaamheidserkenning te werken, hierom zal de visserij alleen op lange termijn kunnen profiteren van het project. Op de korte termijn zal de toegevoegde waarde vooral afhankelijk zijn van de verdiensten. Hierbij is het waarschijnlijk dat de korte termijnopbrengsten niet zullen opwegen tegen de projectkosten. Aangezien de markttoegang voor de visserij niet uit zal breiden op kort termijn, wordt de toegevoegde waarde van een FIP pas aan het einde van het project gerealiseerd. Het wordt daarom aanbevolen dat verder onderzoek wordt verricht op het gebied van financieringskansen, aangezien de kosten van een FIP aanzienlijk hoog kunnen oplopen. Verder wordt geadviseerd dat de visserij inventariseert of individuele groothandels geïnteresseerd zouden zijn in het verkopen van de producten. Hiermee kan bepaald worden of de kort termijnverdiensten eventueel toch op zouden kunnen wegen tegen de projectkosten.



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## LIST OF ABBREVIATIONS

CFP	Common Fishery Policy
DCF	Data Collection Framework
ETP species	Endangered, Threatened, or Protected species
FIP	Fishery Improvement Project
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
PSA	Productivity Susceptibility Analysis
RBf	Risk-Based Framework



# 1 INTRODUCTION

In the past few years, the theme 'sustainable seafood' has become increasingly popular. Overfishing and a recent increase in the demand for fresh seafood is leading to more requirements regarding the management of fisheries resources, resulting in quota, restrictions, and the acquisition of permits (Gaonkar, 2020; Houyvet *et al.*, 2018). These requirements set high standards and form new challenges for the fisheries sector. Since 2014, some of the fish stocks that are of importance to the Netherlands, have been managed to reach the target of a maximum yield, as required by the Common Fisheries Policy (CFP) agreements. The CFP aims to promote a dynamic fishing industry that seeks to ensure fair living standards for the fishing community and makes fisheries more catch selective (Ministerie van Economische Zaken, 2015; Borges & Lado, 2019). However, not all species have yet been examined, which means a significant amount of data is still needed to be able to establish management strategies for all species and reach the objective of Maximum Sustainable Yield (MSY). In fact, the general concerns about fish stocks and the consequences of overfishing are increased by this lack of data (Ministerie van Economische Zaken, 2015). One of the fisheries where data has been lacking for the past few years, is the Dutch North Sea flyshoot fishery.

In 2012, the UN reported a decline in the world's marine fish stocks and stated that roughly 29.9% was overexploited. Six years later, in 2018, the overexploitation had considerably increased up to 33% (Pauly & Froese, 2012; FAO, 2018). Experts agree that exploitation limits of marine resources have been reached and that overfishing, and poor management of fisheries are the main causes for this depletion (Hauge, Cleeland & Wilson, 2009). The consequences that follow a drastic decline in fish stocks will ultimately lead to a decrease in fish availability and reduced employment. It is estimated that forty million people directly depend on fisheries as a source of income and that over 1.3 billion people rely on seafood as a significant source of protein (FAO, 2018). Proper management strategies have the potential to gradually support the rebuild of fish stocks, mitigating the effects of poorly controlled fisheries. Yet, many countries still fail to develop effective management, due to poorly implemented controlling elements (Hilborn *et al.*, 2020).

A study on the effectiveness of worldwide management for marine fisheries indicated that there is a significant difference between the endorsement of management initiatives and the actual implementation of corrective measures (Mora *et al.*, 2009). This suggests that the implementation of proper policy often is not successful due to management insufficiencies. The study clarified that many governments were not able to successfully introduce management strategies that actually functioned. As the situation was not improving, various organisations started promotions for sustainable seafood. For the past twenty years, organisations have been confronting the issue on sustainable production and consumption of seafood, called the Sustainable Seafood Movement (Barclay & Miller, 2018). In 2007, the Netherlands was the first country where retailers committed to selling 100% certified fish. In the following year, the government ensured a budget of one million euros to assess and certify the fishing industry (Bakker & Brouwer, 2013). Since this progress, the Dutch government has become increasingly involved and fisheries are innovating to work towards an increased sustainability.

Dutch fisheries have also become more involved in applying for eco-labels, stating that the fish was caught in a sustainable way. In 2008, the Dutch market had a range of seven eco-labelled species of fish, which has increased up to approximately sixty certified species in 2020 (Bush *et al.*, 2013; Ward & Phillips, 2009; Civel & Dieleman, 2019). Eco-labels aim to incentivize fisheries to act in a sustainable way and hereby help consumers to distinguish between choices in the available seafood. Not only specific species can obtain certification but also fishing methods can be deemed as sustainable. Currently, there are seven Dutch fisheries that have been certified by the Marine Stewardship Council (MSC, 2019). Not all fisheries can enter an application process for certification, mainly due to not being able to meet sustainability requirements. In this situation, fisheries can choose to enter a program that can gradually help them to increase sustainability, which can then lead to certification. One of the most successful and leading trajectories for fisheries in transition to sustainability, are fishery improvement projects.



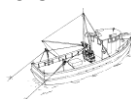
Fishery improvement has been around for a long time, with the first use dating back to 1989 (Doddema, 2012). Since 2002, fisheries improvement has become increasingly important, due to the decline of marine fish stocks. Due to a large global diversity of fishery improvement programs, it was decided to create one program that could be used worldwide. In 2008, this program received the term “Fishery Improvement Project” (FIP) (Conservation Alliance, 2012). FIPs are beneficial for fisheries as they can increase market accessibility for fisheries, prior to receiving an eco-label resembling that of the MSC (Ponte, 2012). The Dutch fleet currently has seven MSC certified fisheries, but as of now entails no Dutch fisheries that have entered a FIP. The reason for this absence of Dutch FIPs is not clear but a fact is that FIPs have been formerly used to maintain market access, and thus function as a greenwashing tool (Bush *et al.*, 2013; Packer *et al.*, 2019). The fisheries that have not applied for MSC labelling are either unwilling or unable to enter the application process. This is mostly related to insufficient management and the negative impacts the fishery generates. One of these fisheries being the Dutch North Sea flyshoot fishery (Rijnsdorp, Bos & Slijkerman, 2015). The flyshoot fishery is a mixed fishery, meaning that it does not have a target species but can adjust to a changing catch composition. The catch composition of the fishery consists of both quota species, such as whiting, mackerel, cod and plaice and non-quota species such as striped red mullet, tub gurnard and squid (Verkempynck, Overzee & Dammers, 2018).

*Text box 1.1 FIPs and the North Sea flyshoot fishery*

A FIP is described as a multistakeholder effort to improve a fishery. These projects are perceived as unique, due to the utilization of the private sectors’ influence to encourage positive changes concerning sustainability in fisheries (Conservation Alliance, 2012). Fisheries willing to enter a FIP have to choose between a basic and comprehensive program. The main difference between these FIPs lies in the level of pre-assessment, regarding the fisheries desires for sustainability recognition (Conservation Alliance, 2012). A basic FIP is considered as an entry point, in which specific challenges are addressed. Whereas, a comprehensive FIP addresses all the fisheries’ environmental challenges, aiming to achieve a certain level of performance consistent with that of MSC standards (Fisheryprogress.org, 2020). A fishery in a FIP is required to follow a set process, which consists of three stages: I) Scoping and pre-assessment, II) Workplan development and III) Implementation and tracking of progress (Conservation Alliance, 2012; Deighan & Jenkins, 2015).

Flyshooting originates from Denmark and Iceland but has been modernized and used in the Netherlands since 2005. Use of this technique begun when a few Dutch fishermen sold their quotas for sole and plaice to sequentially fish on non-quota species, to obtain more yield without having to take quotas into account (C. Absil, personal communication, March 12, 2020). Flyshoot vessels can be found in the North Sea during summer and spring and in the Channel during autumn and winter, to profit from the warmer waters. The fishing process consists of three main phases; I) the setting phase, II) the herding phase and III) the catching phase (Eigaard *et al.*, 2016; Noack *et al.*, 2019).

The flyshoot fishery has the image of being more sustainable than other trawling fisheries. It claims to be more energy efficient, have less impact on the demersal zone and have a lower percentage of discards due to selective fishing (McFedries, 2011). Furthermore, the fishery claims that the quality of the caught fish is higher than that of other fishing methods (Suuronen *et al.*, 2012). A study done by van den Burg in 2012, examined the energy consumption of two different fishing methods in the Netherlands and Denmark. The study compared cod caught by flyshoot and cod caught by trawlers, which indicated that trawling consumed 0.59 litres of fuel per kg of landed cod and flyshooting had a fuel consumption of 1.08 litres per kg of landed cod. This refutes the claim the flyshoot fishery makes on being more energy efficient. However, a similar study on fuel consumption shows that flyshooters consumed less fuel when fishing, in comparison to other fishing methods. It states that trawlers consumed an average of 0.42 litres per kg of catch and that flyshooting merely consumed an average of 0.20 litres per kg of catch (Polet & Depestele, 2010). This indicates that there is much controversy on the topic of sustainability, concerning the flyshoot method. The additional claims of sustainability have not yet been substantiated. Moreover, the sustainability of the fishing technique is under debate, as it may have significant impact on fragile sea beds with biogenic structures that undergo long periods of development (Rijnsdorp *et al.*, 2015).

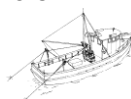




The Dutch North Sea flyshoot fishery desires to be acknowledged as sustainable. This is not yet possible due to the absence of management regulations for a large proportion of their target species. Moreover, under the Data Collection Framework (DCF) European fisheries are obligated to provide fishery data for the formulation of scientific advice, regarding the CFP (Kopp *et al.*, 2016). Despite this obligation to take part in the DCF, the fishery has delivered a limited amount of data. Which, to a certain degree, has facilitated the absence of proper management strategies. As the flyshoot fishery mainly targets non-quota species, it is highly necessary for policy makers to receive this type of data (Helmond & Steins, 2016). However, the North Sea flyshoot fishery has recently agreed to aid with data collection of unmanaged species. This initial step will provide transparency in essential information, regarding fish stocks and environmental impact. Although the fishery is taking its first steps towards proving its sustainability, it is unknown whether the fishery is able to enter a Fishery Improvement Project to possibly start receiving this sustainable recognition. Currently not much is known about the sustainability of the flyshoot fishery, as it has never been fully examined by an independent auditor. For this reason, it is unclear whether the fishery meets the requirements set by a FIP for entering. After a fishery has indicated to start a FIP, all required documents are expected to be submitted after the first six months. If the documents are approved, the fishery is given an official status on FisheryProgress.org. Therefore, the main question that is answered in this report is – *To what extent would a comprehensive Fishery Improvement Project be suitable for the Dutch North Sea flyshoot in the upcoming six months?* – and the following sub-questions are:

- I. What is the current situation, regarding sustainability assessments of the Dutch North Sea flyshoot fishery?
- II. Would the Dutch North Sea flyshoot fishery be able to meet the requirements needed to start and go through a comprehensive Fishery Improvement Project?
- III. What are the most common challenges the Dutch North Sea flyshoot fishery will face when starting a comprehensive Fishery Improvement Project?
- IV. To what extent are Fishery Improvement Projects successful, regarding completion, and what are the key factors which facilitate this success?

This report focusses on the requirements the North Sea flyshoot fishery has to meet, to sequentially enter a comprehensive FIP. A conclusion is made based upon relevant literature, regarding FIP procedures and regulations, and interviews conducted with parties of interest and investors of/in the flyshoot fishery. In addition to a conclusion an advice, regarding the suitability of a FIP, is formulated specifically for the Dutch North Sea flyshoot fishery. The main goal is to clarify the specific requirements of FIPs and establish whether a FIP process would be a good way for the Flyshoot fishery to move towards independent recognition of sustainability. It is expected that a comprehensive FIP would be a suitable tool for the Dutch North Sea flyshoot fishery, in order to move towards sustainable recognition. It is also likely that the fishery would be able to enter a comprehensive FIP in the upcoming six months. The FIP would provide an excellent opportunity for the fishery to work on data collection, which could then subsequently be useful in formulating policies for non-quota target species. It is expected that the main challenge will foremostly depend on the meticulousness of data collection and the level of transparency the fishery is willing to provide. Furthermore, it is expected that the fishery desires MSC certification to increase their share in the Dutch market, as this is currently not their main sales outlet due to lack of certification. As there are currently no MSC certified alternatives for the flyshoot fisheries' target species, there is a possibility that the Dutch market would be interested in purchasing these species under an 'in transition' label.



## 2 METHODOLOGY

An answer to the main question in this report was obtained by performing qualitative research. A literature review, on FIP guidelines and regulations, and interviews, with individuals involved in the flyshoot fishery and FIP processes, were carried out in order to formulate answers to all sub-questions. The literature review mainly focusses on the possibilities of FIP implementation within the North Sea flyshoot fishery, by using existing guidelines and regulations set by independent organisations. Furthermore, the interviews were conducted within the same time period. Information obtained from these interviews was used to substantiate whether FIP participation is a suitable option for the North Sea flyshoot fishery.

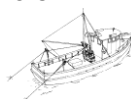
### 2.1 LITERATURE REVIEW

The literature review was conducted by using multiple search engines, as listed in Table 3.1.1. The search engine used most frequently throughout the review was Google Scholar, as scientific research was needed to assess the current state of the North Sea flyshoot fishery. Besides the use of Google Scholar, search engines such as Google and Wageningen University library were used to obtain information on FIP guidelines, regulations for the flyshoot fishery and data on catch and landing compositions. In order to incorporate FIP guidelines, a range of websites were assessed. These websites were sourced from either NGO's working with FIPs or NGOs that have formulated guidelines for FIPs worldwide (Table 2.1.1).

Four search topics were used to obtain an all-encompassing understanding of the research topic. These main topics were then divided into keywords to refine the search outcomes and used both in English and in Dutch to increase the amount of relevant search results. The four main topics and linked keywords were used in Google, Google Scholar, and the Wageningen University library. References to relevant studies, found in gathered literary sources, were also consulted to broaden the search results. Literature was assessed on relevance and age. As the Dutch flyshoot method has only been used since 2005, no earlier literature on this specific topic was used. However, literature based on Danish and Scottish seining, FIP processes and regulations were consulted dating back until the year 2000. Furthermore, the origin of the literature was continuously checked, and only used if it originated from scientific sources or publicised reports. Applicable literature was collected and applied accordingly into chapters three through four.

**TABLE 2.1.1 SEARCH ENGINES AND SEARCH TERMS USED THROUGHOUT THE COMPLETION OF THE REPORT.**

Search Engines	Main Search Terms Used	Keywords Used	
		English	Dutch
Google Google Scholar WUR library	I Fishery Improvement Project	I FIP guidelines	
	II Flyshoot fishery	FIP scoping documents	
	III Fisheries sustainability	FIP MSC pre-assessment	
	IV EU fishery regulations	II North Sea fisheries	Noordzee visserijen
		North Sea flyshoot	Noordzee flyshoot
		Danish Seine	
		Scottish Seine	
		III Flyshoot sustainability	Duurzaamheid flyshoot
		Flyshoot fuel use	Flyshoot brandstofverbruik
		Flyshoot target species	Flyshoot doelsoorten
		IV North Sea fishery regulations	Noordzee reglementen
		ICES species	
		Flyshoot fishery regulations	Flyshoot visserijreglementen
<b>Websites Used</b>			
Marine Stewardship Council			
World Wildlife Foundation (Species Database)			
FisheryProgress.org			
Conservation Alliance for Seafood Solutions			



## 2.2 INTERVIEWS

In addition to obtaining information from literary sources, semi-structured interviews were conducted to substantiate and complement the gathered information. The interviews were mainly used to acquire opinions from researchers and practitioners, who are in some way involved in the North Sea flyshoot fishery (Appendix A). Interviews were conducted face to face to ensure a more in-depth conversation and had a duration of 20-30 minutes, depending on the participants' answers. A total of six interviews were conducted with people from different establishments, all associated to the fishery or FIP processing (Table 2.2.1). Participants were chosen based on two aspects, I) the company they work for and II) their occupation inside said company. All conversations were recorded, if consent was given, for later playback and analysis. Prior to the interview, the participants were asked to sign a consent form, stating that given answers may be used in this report (Appendix B). After the interviews were conducted, intelligent verbatim transcription was used to transcribe the voice recordings. This method was chosen due to the relevance to note all statements by the participant, without transcribing irrelevant filters. Subsequently, the transcribed interviews were coded and analysed.

TABLE 2.2.1 PARTICIPANTS FOR INTERVIEWS, GIVEN PER ORGANISATION WITH ACCOMPANYING INTERVIEW TOPICS.

	Organisation/occupation	Topic of Interview
I	Good Fish Foundation	FIP process and suitability for flyshoot
II	Wageningen Marine Research	FIP suitability for flyshoot, fishery problems and habitat impact
III	FIP Consultant	Supporting FIP fisheries
IV	Cornelis Vrolijk	FIP suitability for flyshoot
V	Expert on the Dutch fish trade	MSC and market suitability for FIP labelling
VI	FisheryProgress	Information and statistics on FIP trajectories

## 2.3 DATA ANALYSIS

Data analysis was performed throughout the whole process of collecting literature. Two forms of literature analysis were performed within this report, according to Cope, 2016; a within-study and a between-study literature analysis. The result section mainly consisted of within-study literature analysis, as contents were analysed of specific work. If abstract and conclusion were presumed relevant to the subject, the rest of the publication was read. The second form of literature analysis was mainly applied in the discussion section. This involved the comparison of two or more literature sources and contrasting information to form valid discussion points. The interviews were analysed by coding the transcripts. First, an open coding was performed on all interviews, by labelling particular text fragments (Appendix C). This was performed by selecting specific fragments and associating them with labels. These labelled fragments were then coded axially, placing one or more fragments under a broader label. This step facilitated the discovering of fragments with resembling topics. These broader labels were then analysed to find correlations and contrasting statement that could be used to substantiate or complement previously acquired information from the literature review.

## 2.4 DATA VALIDITY

The internal validity of this research was upheld by the use of triangulation, as two methods were used to conduct the research. Next to conducting a literature review, interviews were taken to substantiate and or contrast information acquired from literary sources. Furthermore, the role of an external auditor has also played a part in maintaining the internal validity. Several appointments were made with both a thesis mentor and a supervisor active in this particular field of work, to ensure the internal quality of this report. The reliability was maintained as all interviews were conducted by the same person and recorded to subsequently be transcribed. All collected transcripts were then systematically processed and categorized to ensure no information was overlooked.



## 3 RESULTS

### 3.1 CURRENT POSITION ON SUSTAINABILITY

MSC assessments were consulted in order to assess in which areas the Dutch North Sea flyshoot fishery is presumably lacking in sustainability. Several flyshoot vessels have partaken in two MSC assessment over the last eight years. Both assessments evaluated the fisheries against all the performance indicators of the MSC. The performance of the fishery is assessed via a numerical system. If the score equals less than 60, the fishery does not meet the standard and fails, if the score lies between 60 and 80, the fishery receives a conditional pass. The fishery fully passes the evaluation if the score lies between 80 and 100. The first assessment was performed in 2012 and continued until 2018 which encompassed the Dutch North Sea plaice and sole fishery. The final assessment performed in 2018 indicated that the flyshoot fishery mostly needed to improve fishing practices in concurrence with principle 2, mainly regarding ETP species (Table 3.1.1; Acoura Marina, 2018). These scorings were based on flyshooters fishing on plaice.

TABLE 3.1.1 SUMMARY OF THE MSC SCORING ASSESSMENT IN 2018, INDICATING WHERE IMPROVEMENT WAS NEEDED. THE OVERALL SCORING CAN BE FOUND IN APPENDIX D (ACOURA MARINE, 2018).

	Performance indicator	Flyshoot	
		Mesh size	
		100 mm	120 mm
<b>1. Sustainability of stock</b>	1.2.2 Management – harvest rules & tools	75	75
<b>2. Ecosystem impacts</b>	2.3.1 ETP species – outcome	70	70
	2.3.3 ETP species – information	65	65

The second assessment assessed all demersal fisheries in the North Sea and adjacent waters in 2019. The flyshoot vessels that participated in this assessment also targeted tub gurnard, striped red mullet, and sepia as target species. The assessment resulted in nine conditional passes, mainly for performance indicators regarding principle 2 (Table 3.1.3; Sieben *et al.*, 2019). Similar to the scorings from the 2018 assessment, the fishery mostly needs to improve on ETP species performance indicators. Furthermore, the fishery received conditional passes for the managerial aspect of harvest regulation and the reinforcement of fishery specific management systems.

TABLE 3.1.3 SUMMARY OF THE MSC SCORING ASSESSMENT IN 2019, INDICATING WHERE IMPROVEMENT WAS NEEDED. THE OVERALL SCORING CAN BE FOUND IN APPENDIX D (SIEBEN *ET AL.*, 2019).

	Performance indicator	Flyshoot	
		Mesh size	
		70 - 100 mm	> 100 mm
<b>1. Sustainability of stock</b>	1.2.2 Management – Harvest control rules & tools	75	75
<b>2. Ecosystem impacts</b>	2.1.3 Primary species – information	75	75
	2.2.2 Secondary species – management	75	75
	2.3.1 ETP species – outcome	75	75
	2.3.2 ETP species – management	75	75
	2.3.3 ETP species – information	75	75
	2.4.1 Habitats – outcome	75	75
	2.4.2 Habitats – management	75	75
<b>3. Effective management</b>	3.2.3 Fishery specific management system – compliance and enforcement	65	65



### 3.1.1 TARGET SPECIES

As the flyshoot fishery mainly targets secondary species, it is also relevant to look at the individual scores of the species. There is a limited amount of scientific data for all three target species, especially for sepia. An evaluation of the species against performance indicator 2.2.1 and 2.2.3, secondary species outcome and information, resulted in a conditional pass for both tub gurnard and striped red mullet (Table 3.1.1.1). However, when the known data of striped red mullet was evaluated against indicator 2.2.2, management, it failed to receive a pass due to there being no stock management at all. For this reason, the partaking flyshoot fisheries were expected to improve their fishing practices regarding performance indicator 2.2.2 (Sieben *et al.*, 2019). Currently, there are no minimum landing size obligations for tub gurnard and striped red mullet, which implies that flyshoot fishermen are only regulated by the minimum allowable mesh size. EU regulations on technical fishing measures state that species not subjected to catch limits can be caught with a minimum mesh size of 80 mm in the North Sea (The European parliament, 2019).

TABLE 3.1.1.1 SCORING DATA FOR THE THREE MAIN TARGET SPECIES OF THE FLYSHOOT FISHERY (SIEBEN *ET AL.*, 2019).

<b>MSC indicator</b>	<b>Score 2.2.1</b>	<b>Score 2.2.2</b>	<b>Score 2.2.3</b>
<b>Tub gurnard</b>	RBF* - 89	70	80
<b>Striped red mullet</b>	60	FAIL	80

\* RBF – Risk-Based Framework

A Productivity and Susceptibility Analysis, PSA, that was completed for sepia, resulted in an unconditional pass for almost all indicators and resulted in a score of 1.75, which corresponds with an MSC score of > 80 (Moody Marine, 2011). However, a more recent PSA done for sepia indicated that the species would fail on almost all performance indicators, as a result of lack of information and management (Gascoigne & Collinson, 2019).

### 3.2 REQUIREMENTS FOR ENTERING

There are no requirements a fishery has to meet before starting a FIP, as all fisheries are encouraged to partake in such projects. Fisheries willing to remain in a FIP must be able to follow the issued guidelines and the set three-staged process. The first stage, scoping, and pre-assessment, consists of a thorough assessment of the fishery, including an evaluation against MSC performance indicators. The MSC pre-assessment is an important step in the FIP process, as it defines deficiencies in the fishery and gives a description of obstacles that need to be addressed to conform to the MSC standard (MSC, 2019). Fisheries are evaluated against the three principles of the MSC Fisheries Standard: I) Sustainability of the stock, II) Ecosystem impacts and III) Effective management. By performing MSC pre-assessments on fisheries entering a comprehensive FIP, it gives fisheries targeted initiative to work towards receiving MSC certification (Parkes *et al.*, 2016). MSC expects fisheries to have showed sufficient improvements and to have completed a comprehensive FIP within five years (Deighan & Jenkins, 2015). Initiatives to improve the fisheries' deficiencies are incorporated into stage two of the FIP. This second stage devises a workplan which includes all activities for improvement, a timescale indicating the timespan of these activities, and a budget for the implementation of the activities. Fisheries are considered to include milestones in this workplan to incentivize targeted improvement. The third stage, implementation and tracking of progress, describes how the activities will be implemented into the fisheries' daily activities. Furthermore, it also includes the development of a tracking plan to ensure transparency in all fishing activities (WWF, 2013).



In addition to the set process a fishery has to follow, there are several guidelines that need to be met. These guidelines can be divided into five categories, each stating the preconditions a fishery must meet to ensure a successful completion of the FIP (Table 3.2.1.1).

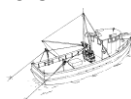
**TABLE 3.2.1.1 GUIDELINES THAT FISHERIES ENTERING AND/OR PERSUING A FIP ARE EXPECTED TO FOLLOW.**

<b>Main category</b>		<b>Description</b>
<i>Participation</i>	I	A FIP should draw upon market sources, to promote the sustainable improvements and motivate further fishery improvements.
	II	The fishery should include active participation by wholesalers, for local distribution and exporting.
<i>Preparation</i>	III	Fisheries must have a scoping document completed by an independent auditor who has experience with assessing fisheries against MSC standard.
<i>Workplan</i>	IV	Fisheries must develop a four-year action plan to address deficiencies in the fishery, which will help fisheries to achieve a certain level of performance consistent with that of MSC standards.
	V	The action plan must include measurable performance indicators, milestones which are hoped to achieve and a budget.
	VI	The action plan should include a system to track the fisheries progress against the performance indicators and milestones.
<i>Fishery tracking and reporting</i>	VI	Fisheries should include the development of a traceability system into the action plan. This traceability system will ensure transparency and corroborate whether fish identified as coming from a FIP is in fact part of the FIP.
	VII	The fisheries' progress is evaluated multiple times a year by an independent auditor, against the set performance indicators and milestones. These progress reports must be distributed to all parties leading and financing the FIP.
<i>Communication</i>	VIII	A FIP should have clear and frequent communications between all parties, to ensure transparency. Meetings should be held frequently to assess the fisheries' progress and to keep all involved parties informed.

### 3.2.1 ORGANISATION AND CAPACITY

The development and implementation of a FIP consists of several activities following a set process, as described in the previous paragraph. These activities can either be funded by the government through subsidies, by stakeholders, and/or by the fishery itself. A FIP has two main sets of costs, the process costs, and the implementation costs (Dimmlich, 2016). The process costs encompass all expenses regarding the preparation of a FIP, such as the development of the scoping document or workplan. The implementation costs are the expenses that result from activities targeting fishery improvement. A study performed by Levine *et al.*, in 2020, indicated that the cost of pursuing a FIP can range from €20.000 up to €1.500.000 per year, with an average yearly cost of €300.000. This study also states that most of the expenses are related to personnel costs. This involves the staff of the fishing company and consultants working on strategy development and data collection. These costs account for 44% of the total FIP expenses. Fisheries following a comprehensive FIP often have MSC certification as a final objective. Next to both the process and implementation costs, MSC also charges a fee for the process of MSC evaluation and labelling. This fee can range from €14.000 to over €110.000, which makes it a substantial additional expense for fisheries mainly relying on financial support (Bush *et al.*, 2013). The exact costs mainly depend on three different factors being I) the availability of information, II) the level of stakeholder involvement and III) the complexity of the fishery (MSC, 2019).

In order to successfully complete a FIP, all involved parties are obliged to participate and put in a certain amount of working hours. The amount of hours each party has to put into a FIP trajectory is unclear. A FIP consultant, who guides and aids fisheries in FIPs, stated that a minimum of five days a month was spent on guiding a FIP (Appendix C). This would mean that the minimum amount of hours a consultant would have to put in, amounts up to 480 hours per year per fishery. According to a data analyst at FisheryProgress.org, an independent author monitoring and reporting fishery progress, can spend days up to months of time working on progress reports. Again, this varies largely per FIP and mainly depends on what level of improvement a fishery has to achieve (Appendix C).



### 3.3 CHALLENGES FOR THE FISHERY

The challenges that fisheries will have to engage with when entering a FIP, can vary largely per fishery. These deviations mainly depend on I) the location of the fishery, particularly the macro-region, as governance and cultural differences play a significant role, II) the pre-existing relations the fishery has with the seafood industry and supply chains, III) the organisation and fleet type, and IV) the status of the fishery prior to entering the FIP (Cannon *et al.*, 2018; Doddema, 2012). The Dutch fleet currently has seven MSC certified fisheries, but as of now entails no Dutch fisheries that have entered a FIP. FIPs have been formerly used to maintain market access, and thus function as a greenwashing tool (Bush *et al.*, 2013). A second study analysing FIPs on being a governance tool for sustainable fisheries, provided the most common challenges that fisheries face when entering or going through the project. The first challenge describes the fact that there is a current lack of data collection for the target species of the Dutch North Sea flyshoot fishery (Crona, Käll & van Holt, 2019). Data collection is necessary to evaluate stock assessments and initiate management strategies. In addition, a well-developed management strategy is necessary to be able to receive sustainability recognition.

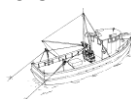
A second challenge that Crona, Käll & van Holt (2019) described was the lack of active fishermen's participation. After an examination of FIP progress reports, it was concluded that only 25% of the reports involved the participation of fishermen and retailers. Furthermore, it was concluded that a mere 7% of FIPs involved fishermen as one of the lead FIP actors. A third challenge, as described by Levine *et al.* in 2020, mentioned the fact that some FIPs do not have the ability to create sufficient improvements in the fishery. Around 38% out of 53 respondents, involved in FIP trajectories, indicated that this was a challenge the company had faced. A fourth challenge indicated that companies involved in FIPs thought that they were receiving inequitable market recognition, around 38%. Conversely, around 42% of the same respondents indicated that FIPs improved brand reputation and that respondents strongly agree that FIPs help fisheries achieve their goals towards sustainability (Levine *et al.*, 2020). A fifth challenge poses a potential risk for fisheries without MSC certification wishing to sell their products on the Dutch market. The Dutch retail only requires MSC labelling for wild caught fish, which makes other types of sustainability labels irrelevant. As there is no minimal standard of how sustainable a FIP should be upon entering, a 'FIP label' would be too general and would result in unfair market recognition (Appendix C).

#### 3.3.1 MARKET SOURCES

Besides looking at market recognition and the possibility of selling products under FIP labels, it is also important to research whether the target species can be sold on the Dutch market. An expert on the Dutch fish trade provided somewhat negative information, regarding market sources for these species. It was stated that there is a very small market for tub gurnard, striped red mullet, and sepia, which would make it harder for the fishery to sell its products on the Dutch market (Appendix C). Furthermore, it was mentioned that these species would definitely not be sold as retail food, as consumers would have no knowledge on these types of species. An interview with WMR also suggested that these species would not sell as whole fresh products on the Dutch market (Appendix C).

### 3.4 THE SUCCESS OF FISHERY IMPROVEMENT PROJECTS

To assess whether a FIP would be suitable for the Dutch North Sea flyshoot fishery, an overall evaluation needs to be carried out concerning the actuality of FIP completions. Currently, a global amount of 179 fisheries have entered a FIP, including both basic and comprehensive FIPs during all progress stages (FishChoice, 2020). Out of these 179 fisheries, no fisheries have completed a basic FIP and a mere ten fisheries have successfully completed a comprehensive FIP. The percentage of completed FIPs therefore accounts for 5.6% of all engaged FIPs. The success of FIPs relies on many different factors. Research done by Thomas Travaille *et al.* in 2009, determined the key factors for FIP effectiveness by examining the progress of 69 FIPs. 60% of the examined FIPs showed improvements towards sustainability, from which three key factors were derived; I) the duration of the FIP trajectory, II) the management agreements at regional level and III) the inherent vulnerability of the target species. Out of these three factors, the first factor was deemed as most important since improvements increased when a FIP had a duration of six years or more.



Both comprehensive and basic FIPs are expected to be completed within five years, as this is beneficial for acquiring secondary MSC certification (Dimmlich, 2016). Although in reality, the duration of FIP trajectories often exceeds this desired time period. According to FisheryProgress.org, the ten fisheries that have completed a FIP, as stated above, had an average FIP duration of 5.3 years. Comprehensive FIPs practically always have the intention of applying for MSC certification. As MSC expects fisheries to show significant improvements within five years of transition, the amount of FIPs that has led to MSC certification is also relatively low. Not only due to longer lifespans, but also due to lack of willingness or difficulties in improving fishing activities. The percentage of MSC certified FIPs coincides with the percentage of completed FIPs, 10, respectively 5.6% (FishChoice, 2020). Another study performed an analysis on the activity status of FIPs worldwide. The results indicated that 4 out of 77 active FIPs led to MSC certification, 5.2% respectively, which is also consistent with the percentage stated earlier (Crona, Käll & van Holt, 2019).





## 4 DISCUSSION

The primary purpose of this study was to examine to what extent a comprehensive FIP would be suitable for the Dutch North Sea flyshoot fishery in the upcoming six months. The data obtained from the literary review as well as data obtained from the interviews suggests that a comprehensive FIP would be a suitable option for the fishery. The results also indicate that it would be possible to start a FIP in the upcoming six months. While the fishery has the intention of applying for MSC certification, the amount of shortcomings, regarding MSC performance indicators, would mean that the fishery would currently not be able to receive certification. The fishery would need to minimize its negative impact on ETP species and habitats, improve data collection for both primary and secondary target species, and improve reinforcement of fishery specific management. A FIP cannot change the biological limits of the species, but it can influence the fisheries' fishing practices (Appendix C). The fishery is currently allowed to fish with mesh sizes of 80 mm, which allows them to catch relatively small fish as there is no minimum landing size for these species. As the catch determines the earnings, the fishery will almost always opt for the scenario which presents the most earnings. If the market is willing to buy these relatively small fish, the fishery has a drive to keep catching small-sized fish (Appendix C). To discourage the fishery from catching small-sized fish, either the market needs to stop facilitating this or a sufficient management plan has to be put in place.

Results regarding the capacity and organisation that a FIP require also provided interesting insight in the execution of a FIP. Estimations of time-usage were made for a FIP consultant and an independent auditor but cannot be seen as a full representation of all monthly tasks, such as onboard trips, workshops, and monthly meetings (Appendix C). Estimations for other involved parties, such as fisheries and stakeholders could not be found. An interview with FisheryProgress.org provided information stating that the extensive variation between FIPs makes it difficult to provide an average estimation of budget (Appendix C). This variation also results in differences in the extent to which a FIP is actively improving. As FIPs are solely used to obtain market access, an unknown number of fisheries misuse FIPs by not improving but still maintaining market access. Therefore, FIPs are often perceived as greenwashing tools, especially by scientific-minded people. An analysis done on the effectiveness of FIPs worldwide indicated that the largest amount of greenwashing claims has been directed towards basic FIPs (Levine *et al.*, 2020). As basic FIPs are not required to draft an extensive workplan, it is more common for these fisheries to take a significantly longer time to show sustainability improvements. In many cases the improvements are minor, which leads scientists and critical observers to believe the fishery is using the FIP model as a greenwashing tool. As the fishery would start a comprehensive FIP, it is suspected that the amount of greenwashing claims directed towards them would be minor. However, the overall negative perception regarding FIPs may pose a risk to the credibility of comprehensive FIPs.

One of the described challenges the fishery would have to engage with is that the target species are data deficient. For reasons unknown, the fishery has only shared a limited amount of data, even when under obligation to share a larger amount of fishery data by the DCF. However, as this challenge could be used as an incentive to start sharing and collecting data, this particular obstacle could also be seen as an opportunity. A FIP would aid the fishery in developing a data collection structure and maintaining a continuous course of improvement, which will sequentially make the application for MSC labelling easier. Statements made by both the Good Fish Foundation and Wageningen Marine Research suggest that they see a FIP as an opportunity for the fishery to both improve sustainable fishing activities and provide data for stock assessments (Appendix C). In response to this statement, an interview with a North Sea flyshoot fishery indicated that the fishery does see risks in sharing this essential data. The fishery hopes the initiative of sharing data would not come at the expense of their current success (Appendix C). Therefore, the underlying challenge is that the fishery might withdraw from the project if the required transparency results in negative outcomes for their fishing practices (Appendix C).

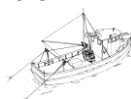


A study on the importance of including fishermen into decision-making processes concluded that involvement stimulated fishermen to improve both fishing practices and participation in market orientation (Tolentino-Zondervan *et al.*, 2016). It is therefore important to involve the fisherman in both the designing and planning of the FIP and the decision making during the FIP. One North Sea flyshoot fishery mentioned that the fishery would have little to no capacity to put effort into the design of the FIP, which would make it relatively difficult to include the fishery. However, it is uncertain if all flyshoot fisheries lack the capacity to provide this effort. If fisheries are able to provide sufficient effort to the project and are not included in the decision-making process, the problem often lies with more influential parties. It is presumed that influential parties only focus their attention on retailers when making decisions, without taking the fisheries needs into account (Coffey, 2005). While this may be a challenge for the fishery in a FIP, the responsibility of including the fishery in the decision-making falls upon the FIP leaders.

Market access might be an issue in the Netherlands, as there might be controversy about selling products under 'in transition' labels. As these products could be sold for a lower price than MSC certified products, it could reduce the added value of MSC certification. However, the fact that fisheries for striped red mullet, tub gurnard and sepia have as of yet not been MSC certified, provides an opportunity for the fishery to sell these species on the Dutch market (MSC, 2020). If Dutch wholesalers and/or supermarkets were to support the sale of these products under an 'in transition' label, they would be the only products for these species on the Dutch market. This would present multiple advantages for both the fishery and the market (Villeda, 2018). Nevertheless, market access is not guaranteed and does not always incentivize fisheries towards sustainability improvement. Levine *et al.*, 2020, described that there is often a lack of market differentiation between effective and ineffective FIPs, which could lead to unfair market recognition. This substantiates the statement made by a FIP consultant, stating that there is no minimal standard of how sustainable a FIP should be upon entering and that a 'FIP label' would be too general. The study also indicated that the importance of end buyers' decisions cannot be understated, as they decide what is sold and/or bought. (Ponte, 2012). Contrary to the hypothesis, fisheries in a FIP might not be able to sell their products on the Dutch market.

Again contradictory to the hypothesis, the Dutch market for these species might be too small to add value to a FIP. According to an expert on the Dutch fish trade, these species could not be sold directly to consumers, which makes the market for these species very small. This is substantiated by a report on sustainability labels and fish distribution in the Netherlands, as it indicates that tub gurnard is mainly sold to catering companies and wholesalers (Melissant, Vos & Zaalmink, 2014). Sepia and striped red mullet were not mentioned in this report. The ability to acquire market access therefore solely relies on the wholesalers and/or supermarkets. However, wholesalers and supermarkets depend on the consumers and it is unlikely that the Dutch population would purchase these species in food retail. Firstly because it is expected that the average consumer would not be familiar with such products and secondly because consumers in the Netherlands rarely purchase fish as a whole fresh product. These results build on existing evidence of papers stating that the Dutch population mainly consumes pre-processed fish and ready to cook fish meals (Dagevos & Zaalmink, 2014). Therefore, introducing a fish species that has a very distinct taste and is somewhat difficult to process, may prove relatively difficult in the Netherlands.

An interview with FisheryProgress clarified that the five-year timeframe was defined in the preliminary phase of the website. The respondent stated that this particular timeframe is not based on any statistical data, and therefore does not have to be adhered to (Appendix C). As this timeframe is not based on any data, it often occurs that this five-year timeframe is not attained. A report by Cannon *et al.*, in 2018, highlighted the performance of FIPs over the past decade, including improvements to fisheries, critical problems, and the overall duration of FIPs. The results indicated that an average FIP lifetime amounts up to six years, with an overall range of two to nine years. A second report suggested that FIPs may need up to ten years to reach their sustainability goals in accordance with the MSC (Thomas Travaille *et al.*, 2019). The attainment of the five-year timeframe is not a definite indication of the successfulness of a FIP. As timeframes aid projects in understanding budgets and continuously urging the project to deliver results, a time limit is seen as a suitable tool for a FIP. Not only to stimulate improvement but also to minimize the chances of greenwashing occurrences. Therefore, it may be beneficial for fisheries and all involved parties if each individual FIP designed its own timeframe.



Although the objective of this study has been reached, there were some unavoidable limitations. As this study relied on data obtained from interviews, as well as from literary sources, some of the gathered data could not be independently verified. Specific information, regarding capacity and market access, could only partially be found in literary sources and thus could only be obtained through interviews. Data obtained from interviews was not often used as the primary source of information, as it was mostly used to substantiate information found in literary sources. By using both literary sources as well as interviews, this research benefitted from both scientific sources and personal opinions to substantiate and refute the scientific data. However, the use of interviews made it relatively difficult to distinguish between data that could be used as results and data that leaned towards interpretations. Nevertheless, this difficulty did not have a significant effect on this research, as all data obtained from interviews was thoroughly analysed. An additional limitation, regarding time constrictions, led to the inability to gather relevant information from all possible sources, mainly focussing on information that could have been obtained from a larger range of interviews. The current study only took the most relevant sources into account, as specific information was needed to substantiate certain collected data. Furthermore, in combination with the fact that only specific respondents were selected, the study depended on acquiring and maintaining access to certain people and organizations. This also proved problematic in some instances, as several respondents did not respond to the interview invitations. Nevertheless, this limitation did not prevent the successful completion of this study, as extra respondents were selected in the initial stage of the study. Therefore, an unresponsive party would not have a significant effect on the outcome of this report.



## 5 CONCLUSION

This research aimed to identify to what extent a comprehensive Fishery Improvement Project would be suitable for the Dutch North Sea flyshoot fishery in the upcoming six months. The accompanying goal was to establish whether such a project would be a good way for the fishery to move towards independent recognition of sustainability. Previous assessments evaluating the sustainability of the Dutch North Sea flyshoot fishery indicated that the fishery displayed shortcomings in areas regarding ecosystem impact. Furthermore the assessments pointed out an overall lack of harvest management and of managerial monitoring. Nevertheless, the fishery would not have to meet any entry requirements, as there is no minimum to how sustainable a fishery should be. In order to remain in a Fishery Improvement Project it is necessary to follow the set guidelines and submit the required documents for all three stages. It is unknown to what extent the fishery would have to contribute, timewise, to successfully go through such a project, as it is not always the fisheries' task to write and submit the required documents.

It is uncertain whether a comprehensive Fishery Improvement Project would be beneficial to the fishery, as market access is not guaranteed. The data suggests that it is unlikely that the Dutch market would be interested in selling these products, as the Dutch population would have little to no interest in purchasing them. A second challenge the fishery would have to engage with is the fact that its target species are data deficient. However, as a Fishery Improvement Project would aim to improve this aspect of the fishery, it is not seen as a disadvantage but merely as an obstacle the fishery would have to overcome during the project. As the fishery would be starting a comprehensive Fishery Improvement Project, and not a basic project, it is unlikely that critical observers would make claims that the fishery is greenwashing. The results stated that a mere 5.6% of fisheries had completed a comprehensive Fishery Improvement Project and no fisheries had completed a basic Fishery Improvement Project. The success of Fishery Improvement Projects has been analysed into three key factors: I) the duration of the FIP trajectory, II) the management agreements at regional level and III) the inherent vulnerability of the target species. Although a five-year timeframe was set by FisheryProgress, the data suggests that fisheries often need an average of six years to show sufficient improvement. It was even stated that the five-year timeframe was not based on any scientific data and is not seen as a hard deadline.

This research provides insight for both the Dutch North Sea flyshoot fishery as well as other similar fisheries on what the advantages and disadvantages are to starting a Fishery Improvement Project in the Netherlands. Furthermore, this report gives an indication on what areas require improvement and where the focus of the Fishery Improvement Project should lie. Therefore, this document is not solely written for the fishery itself but also for fishery-related research institutes and organisations contemplating on whether this would be a suitable tool to stimulate sustainability improvements. Based on qualitative analysis of literary sources and interviews, it can be concluded that a Fishery Improvement Project would be a suitable tool for the fishery to work towards independent sustainability recognition. In addition, it would provide incentive to work towards a regulated data collection system, which would sequentially make stock assessments and the development of management strategies possible. However, as the project would not provide the fishery with any added value besides the fact that it can continuously work towards sustainability certification on a structural basis, the project will only be of added value in the long term. In the short term, the added value will mainly depend on profit, and as mentioned before, it is unlikely the Dutch market would be interested in purchasing these products, even with an 'in transition' label. As there would be no added market access for the fishery, the added value of a Fishery Improvement Project would only be realized at the end of the defined timeframe.



## 5.1 RECOMMENDATIONS FOR THE FISHERY

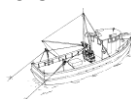
Based on these conclusions, it is suggested that the fishery partake in a comprehensive Fishery Improvement Project. Although the project would not be financially beneficial in the short term, it would ensure transparency of all fishing activities and therefore improve data collection systems. This improved approach to data collection would provide more data on the target species and sequentially make the development of management strategies possible. As the fishery is highly likely to fail on indicators relating to species management, a Fishery Improvement Project may aid the fishery to improve these aspects and make MSC certification less problematic. Furthermore, as this research only included an interview with an expert on the Dutch fish trade, it is suggested that the fishery scope out whether or not individual food retailers would be interested in selling their products. If so, this would be an added benefit of partaking in a Fishery Improvement Project. The fishery would have to actively contribute to the project, as they will be the party responsible for on the water improvement. Therefore, it is highly necessary to develop a clear and understandable communication strategy and budget, including costs and time-use. These types of documents should be outsourced to independent advisers. It is also suggested that further research take place regarding funding opportunities, as the costs of a Fishery Improvement Project could be substantial, depending on the areas where improvement is needed.

The fisheries' contribution to the FIP would be essential for successfully completing the project. As it is unknown how much the fishery would have to contribute. Therefore, it is recommended that further research take place regarding information on the capacity and organisation the fishery would need to deliver. This information would primarily be obtained from interviews with persons directly involved in FIPs, e.g. FIP facilitators, leaders and/or fishermen, as this data is hard to acquire from literary sources. Interviews conducted with these persons would provide more insight on the actuality of going through a FIP and what qualities are needed to successfully complete a FIP. This additional information cannot only provide a clearer understanding of the requirements but can also aid the concerning fishery in drafting a workplan. Therefore, it is also recommended that previous workplans, submitted by similar fisheries, be consulted. In order to obtain and process all the necessary information, it is suggested that the study take place over a longer period of time, preferably a period with a minimum length of six months.

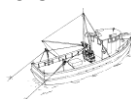


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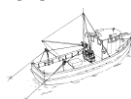
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# APPENDICES

## APPENDIX A INTERVIEW QUESTIONS

### I. Good Fish Foundation

- i. What are your overall thoughts regarding the Dutch North Sea flyshoot fishery?
- ii. How do you perceive the fact that they have not shared any essential data on catch compositions in the last years?
- iii. What is your opinion of FIPs?
  - a. Do you think the flyshoot fishery is a suitable applicant?
  - b. Who do you think the best organisation/party will be to lead this FIP?
- iv. Do you think that the flyshoot fishery entering a FIP would cause problems amongst other fisheries or the government, as it has never been applied for in the Netherlands.
- v. Do you see any potential risks in the Dutch North Sea flyshoot entering a FIP?
  - a. Do you see any way to minimize these potential risks?
- vi. Do you see any potential advantages in the Dutch North Sea flyshoot entering a FIP?
  - a. Do you think the Dutch market would be willing to sell products originating from a FIP?

### II. Cornelis Vrolijk

- i. What is the current drive for the fishery to get MSC certified?
- ii. How serious is this drive or wish for MSC certification?
- iii. Does the company see any risks in sharing their fishery data?
- iv. Do you know what a FIP is? → if 'no' then explain.
  - a) Would this be a suitable tool for the Dutch North Sea flyshoot fishery?
- v. Do you see market opportunities for the target species of the flyshoot?
  - a) If the fishery is not able to sell their products under an 'in transition' label, would the fishery still want to start a FIP?

### III. Expert on the Dutch fish trade

- i. If tub gurnard, striped red mullet and sepia were to be MSC certified, would there be a market for these species in the Netherlands?
- ii. Would a FIP or in transition to sustainability label be interesting for marketing purposes in the Netherlands?

### IV. Wageningen Marine Research

- i. Weten jullie wat een FIP is?
- ii. Wat vinden jullie van het FIP proces. Ze worden vaak gezien als greenwashing tool, hebben jullie deze zelfde mening?
- iii. Zou een FIP geschikt zijn voor de visserij?
  - a) Welke risico's zouden hieraan verbonden zitten? Hoe zouden deze risico's geminimaliseerd kunnen worden?
  - b) Welke kansen zou een FIP bieden voor zowel WMR als de visserij?
  - c) Aangezien de visserij zich tijdens de startmeeting al zorgen maakten over vertrouwelijkheid en samenwerking, denken jullie dat zij het FIP proces aan zouden kunnen en willen doorlopen, gezien de hoeveelheid informatie die gedeeld moet worden?
- iv. Hoe staan jullie tegenover het feit dat de visserij geen data gedeeld heeft in de afgelopen jaren? Wat was volgens jullie de motivatie om dit nu wel te doen?
- v. Op basis van de kennis van WMR. Waar kan de visserij verbeterstappen maken?
  - a) Is dit vooral op de geringe data beschikbaarheid? Gaat dit om data over bijvangst/vangstsamenstelling. Bijvangst van commerciële soorten en ETP soorten?
  - b) Of ook op bodembeschadiging en/of beheer?
- vi. Denken jullie, gezien organisatie en communicatie dat de visserij een FIP in de aankomende twee jaar zou kunnen starten?

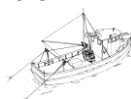


## **V. FisheryProgress**

- i. What is your role within FishChoice?
- ii. Looking on FisheryProgress.org in the FIP directory, what does it mean when fisheries do not have a progress rating?
- iii. Do you see a lot of differences in progress ratings between basic and comprehensive FIPs?
  - a) Do you know what percentage of basic FIPs eventually become comprehensive FIPs?
- iv. What are the most common issues FishChoice finds during the evaluation of FIPs?
- v. FIPs are often seen as greenwashing tools, especially in the Netherlands. How does the organisation deal with these types of allegations?
  - a) How do you deal with these types of fisheries? Do you terminate the FIP?
- vi. Are there any fees that have to be paid by a fishery willing to use the website?
- vii. When I was looking at different reports and at the FIPs on FisheryProgress, I saw that the projects often exceeded the expected 5-year timeframe. This happens quite often or not? What are your experiences with timeframes for FIPs?
  - a) One report suggested that a 5-year timeframe was unrealistic for addressing all of the issues required to achieve the required level of sustainability, do you agree?
- viii. I am researching whether the Dutch North Sea flyshoot fishery would be a suitable candidate for a FIP. The fishery mainly targets non-quota species and would like to pursue MSC certification.
  - a) My question is, do you think the fishery would be able to complete a comprehensive FIP within these five years, taking data collection and policymaking into account?
- ix. Do you have any insight in the amount of hours it takes to complete a FIP? And what the costs may be?

## **VI. FIP consultant**

- i. I read online that you guide fisheries through the FIP process, does this make you a FIP leader or an independent consultant?
  - a) What types of fisheries have you mostly guided?
  - b) Have you ever guided fisheries with data deficient target species? What was the main challenge with these types of fisheries?
- ii. I am researching whether the Dutch North Sea flyshoot fishery would be a suitable candidate for a FIP. The fishery mainly targets non-quota species and would like to pursue MSC certification. I read on the MSC website that they expect fisheries to show adequate progress within 5 years of a FIP. My question is, do you think the fishery would be able to complete a comprehensive FIP within these four years, taking data collection and policymaking into account?
- iii. When I was looking at different reports and at the FIPs on FisheryProgress, I saw that the projects often exceeded the expected 5-year timeframe. This happens quite often or not? What are your experiences with timeframes for FIPs?
  - a) One report suggested that a 5-year timeframe was unrealistic for addressing all of the issues required to achieve the required level of sustainability, do you agree?
- iv. I would like to know how much effort each contributing party has to put into a FIP to make it successful. Do you have estimates of how many hours it would take a FIP leader, a stakeholder, an independent party and the fishery itself?
  - a) (in case he does not know) – do you by any chance have these hours documented and are you willing to share these details?
  - b) How are the costs for a FIP divided over the contributing parties? What are the costs per party and who takes account for these costs?
  - c) Are there certain subsidies that can be used and are these used often?
- v. In a report by CEAconsulting, I read that going through a FIP can, on average, cost between 57.000 and 123.000 pounds per year. I could not find anything more specific; do you think these cost ranges are realistic when looking at your own projects?
- vi. What are the most common challenges that fisheries in a FIP have to face?
  - a) What is the most common reason for the failure of a FIP?



- vii. FIPs are often seen as greenwashing tools, especially in the Netherlands. How do you deal with these types of allegations?
  - a) Have you ever had the feeling that a fishery entered a FIP and did not have a realistic goal? And thus was using the project as a greenwashing tool?
  - b) How do you deal with these types of fisheries? Do you terminate the FIP?
- viii. What are the main reasons for a fishery to participate in a FIP? Does this mainly depend on market engagement or the desire for certification?
  - a) Do you have any experience in the marketing of FIP products?
  - b) Is this achievable? And how do you market the products to the wholesalers and consumers?
  - c) Which party is most involved in the marketing aspect of the FIP?



## APPENDIX B      CONSENT FORM FOR CONDUCTING INTERVIEWS

### Consent Form Interview

This letter is meant to inform you, the participant, about the goals and procedures of this research. This research will investigate the possibilities for the North Sea flyshoot if they should enter a Fishery Improvement Project. It is important for you to know how your information will be used in this research project.

I ask for your consent for the following:

- Interviews will be audio-recorded, and the content will encompass the suitability of a Fishery Improvement Project for the North Sea flyshoot fishery.
- The given answers will be used as a source in the concerning research.
- The given answers will be used in the report and referred to by the name of the company and/or the occupation of the participant. Specific names will remain anonymous.
- The finished report will be shared with Aeres University, in Almere for a review for the purpose of a thesis.

### Background information

The purpose of this study is to investigate what the possibilities are for the North Sea flyshoot fishery if they wish to enter a FIP. In combination with the use of scientific sources, a range of interviews will be used in this report. A conclusion will be drawn using these two information sources. The report will include recommendations, that have been specifically written for the North Sea flyshoot, regarding the options for pursuing a FIP trajectory.

### Distribution of the report

The report is written for the Good Fish Foundation and shall thus be distributed by this organisation. External distribution shall be conferred with the project consortium (Kennisproject 'VISwijzer en flyshootvis'). The report is also written as a thesis for Aeres University, in Almere, and shall be submitted for review.

### Procedures and privacy

The interview will be transcribed, from which relevant information shall be used in the report. The persons who will have insight into the obtained data are all members of the Good Fish Foundation. In case a supervisor from Aeres University wishes to read the transcripts, all names will be anonymized. After the interview has been conducted, the researcher will share a short interpretation of the interview with the participant. The participant can then check if their point of view has been interpreted correctly. Consent will be asked for the use of quotes in the report and sensitive information will not be used in the report, as it is intended for external distribution. The definition of sensitive information will be determined by Tatiana Lodder, Christien Absil and Adryan Rademakers from the Good Fish Foundation. If you have provided sensitive information during the interview and you would rather not have us use this information in the report, you are free to mention this at any given time.

### Voluntary participation

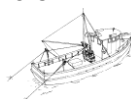
Participation in this study is voluntary. Participants may withdraw from this research at any time, without any consequences. If the participant wishes to withdraw, all data will be deleted.

### Consent

I hereby declare that I have read and understood the project information. My participation is voluntary, and I understand how my information will be used. Furthermore, I understand that I will receive a copy of this form.

Name respondent \_\_\_\_\_ Date \_\_\_\_\_

Signature respondent \_\_\_\_\_



## APPENDIX C CODING OF INTERVIEW TRANSCRIPTIONS

Open and axial coding of fragments obtained from interview transcripts. Full transcripts are not included in this report.

TABLE C1 CODING OF THE TRANSCRIPTION OF AN INTERVIEW WITH THE GOOD FISH FOUNDATION – 20/04/2020.

	<b>Text fragment</b>	<b>Open coding</b>	<b>Axial coding</b>
<b>I</b>	De voortgang wordt voor iedereen inzichtelijk op de site en daarom kan iedereen zich er ook aan houden en zien dat als ze geen stappen nemen dat ze zich er niet aan houden en niet duurzaam bezig zijn.	Transparency	FIP successs
<b>II</b>	Het aanbod in supermarkt is best beperkt. Het zou heel leuk zijn, als poon echt duurzaam is, dat die in de supermarkt zou komen te liggen, eventueel onder een speciale lijn.	Market	Market access
<b>III</b>	Misschien is het inderdaad eerst nodig dat zij MSC halen voordat ze in de supermarkt mogen liggen.	Market	Market access
<b>IV</b>	MSC is voor de horeca nu nog helemaal geen eis.	Market	Market access
<b>V</b>	Ik denk dat je naar een FIP voor alle flyshoot in Europa toe moet werken.	Encompassing FIP	Further research
<b>VI</b>	In NL zijn best veel wetenschappers die heel negatief tegen FIPs aankijken.	FIP opinion	Greenwashing
<b>VII</b>	Stel dat je MSC krijgt, dan verbeter jij en de rest van de vloot niet, dan zitten zij op een vier en jij op een zes met de FIP.	Flyshoot	FIP suitability
<b>VIII</b>	Het geeft markttoegang en als je nog geen MSC hebt en is het alternatief, maar het feit is dat je laat zien dat je werkt aan verbetering.	Market	Market access

TABLE C2 CODING OF THE TRANSCRIPTION OF AN INTERVIEW WITH CORNELIS VROLIJK – 15/05/2020.

	<b>Text fragment</b>	<b>Open coding</b>	<b>Axial coding</b>
<b>I</b>	De eerste reden is toch wel om aan te tonen dat veel van onze visproducten van de manier hoe wij onze visserij uitvoeren dat die wel duurzaam gebeurt.	Reason for MSC	FIP suitability
<b>II</b>	De wens is serieus om aan te tonen dat wij duurzaam zijn en dat we dat ook voor een groot deel al zijn. Ik denk dat het altijd goed is om te blijven werken naar verbetering.	Ambition	FIP suitability
<b>III</b>	De reden waarom het niet in NL verkocht wordt, is dat NL meer gewend is om panklare files te eten, met minder graten en dus zo min mogelijk vissige vis.	Consumers	Market access
<b>IV</b>	Daarnaast zal nog steeds aangetoond moeten worden of die markt er in NL is. Als wij de duurzaamheid van de flyshoot visserij kunnen aantonen, kunnen wij kijken naar meerdere markten.	Dutch markets	Market access
<b>V</b>	Ik denk dat de flyshoot visserij zich daar wel voor wil lenen. Ik zie dat daar een kennis lacune is en er ontbreken gegevens om beheer uit te kunnen voeren.	Lack of data	FIP suitability

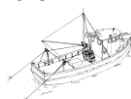


TABLE C3 CODING OF THE TRANSCRIPTION OF AN INTERVIEW WITH AN EXPERT ON THE DUTCH FISH TRADE – 28/05/2020.

	<b>Text fragment</b>	<b>Open coding</b>	<b>Axial coding</b>
<b>I</b>	Nee, ja er is wel een markt, maar heel klein. En bij food retail al helemaal niet. Hooguit dat ze een andere pootsoort zouden kunnen verkopen, maar die vangt de flyshoot niet volgens mij. Maar rode poot wordt nauwelijks voorverpakt. Het is een visje wat al heel snel bederft en een sterke geur afgeeft.	Species market	Market access
<b>II</b>	Je hebt zo weinig rendement en je kan het niet met de hand filteren. Dan wordt het hartstikke duur. In de food retail, klanten die echt van vis weten zijn heel schaars.	Species market	Market access
<b>III</b>	Sepia is wel een groot product maar niet hier in Nederland, het is 100% export ongeveer.	Species market	Market access
<b>IV</b>	Ze weten niet hoe ze het klaar moeten maken en ze hebben geen smaak perceptie van tevoren. Mensen koken volgens een recept en dat halen ze bij de retailer vandaan.	Consumers	Market access

TABLE C4 CODING OF THE TRANSCRIPTION OF AN INTERVIEW WITH WAGENINGEN MARINE RESEARCH – 13/05/2020.

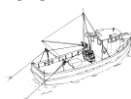
	<b>Text fragment</b>	<b>Open coding</b>	<b>Axial coding</b>
<b>I</b>	Kritische vraag – Hoe weet je zeker dat wat gecontroleerd is werkelijk op zee gebeurt.	Control	FIP criticism
<b>II</b>	Als zij dit traject succesvol doorlopen en daadwerkelijk MSC certificering hebben krijgen ze ook toegang tot de retail in NL.	Dutch retail	Market access
<b>III</b>	Misschien is het inderdaad eerst nodig dat zij MSC halen voordat ze in de supermarkt mogen liggen.	Market	Market access
<b>IV</b>	Er is nu ook niks MSC gecertificeerd van de doelsoorten.	MSC certified	Market access
<b>V</b>	Als ze nog maar net begonnen zijn en ze krijgen al een label duurzaam is het te snel, maar als stimulatiemiddel lijkt het me wel goed als dat hun onderscheidt van andere flyshooters.	Communication	FIP success
<b>VI</b>	De flyshooters onderling werken niet zoveel samen.	Flyshoot	Flyshooters relationship
<b>VII</b>	Dus deze FIP zou best irritatie op kunnen leveren bij die andere flyshooters.	Flyshoot	Flyshooters relationship
<b>VIII</b>	Ligt eraan als ze er allemaal beter van worden, als alleen één schip er beter van wordt, zal dit zeker irritatie opleveren.	Flyshoot	Flyshooters relationship
<b>IX</b>	In principe is transparant zijn en gegevens aanleveren, dat telt ook mee aan duurzaamheidsbeoordeling.	Transparency	Sustainability
<b>X</b>	Ze committeren zichzelf aan de controle.	Control	FIP success
<b>XI</b>	Aan onafhankelijk controleren hangt nog steeds wel een prijskaartje, dus dat kun je niet te vaak doen.	Money	Budget
<b>XII</b>	Ik denk dat het 'probleem' bij de flyshoot ligt bij de regelgeving. Er is geen minimum maat voor poot en mul en de verdiensten zijn leidend en daarmee de vangst, dan ga je gericht vissen op zoveel mogelijk van die vissoort met een kleine maaswijdte.	Management	Sustainability
<b>XIII</b>	Zolang de markt ze overneemt, kan je een verbetertraject ingaan, maar zolang je altijd meer verdient met het aanlanden van kleine visjes zal daarvoor gekozen worden.	Economic success	Market access
<b>XIV</b>	Dan zou je toch wel misschien kunnen stellen dat ze minder kleine vis moeten vangen en dat ze dus een verbetertraject ingaan waar bijvangst worden voorkomen of met grotere mazen vissen.	FIP adding to sustainability	Sustainability
<b>XV</b>	We weten niks van de vissoorten, er zou zoveel onderzoek en monitoring op gezet moeten worden, dat is een behoorlijk zware ingreep.	Management	Sustainability



<b>XVI</b>	Als je het management van de doelsoorten van de flyshoot beter doet, dan kan je veel makkelijker die schepen sturen op wat zij doen.	Management	Sustainability
<b>XVII</b>	Flyshoot vangt 9 ton vis per trek, als de groothandels dit niet kunnen wegleggen, verkopen ze het tegen een iets lagere prijs in het buitenland.	Economic succes	Market access
<b>XVIII</b>	Als hele vis zie ik weinig verkocht in NL.	Market	Market access
<b>XIX</b>	Als ik kijk naar mijn onderzoek en kennis, dan kun je zeker wat aan de tuigen doen, maar het komt allemaal terug op de regelgeving.	Management	Sustainability
<b>XX</b>	De minimum maat van poon en mul omhoog doen.	Management	Sustainability
<b>XXI</b>	Als je wil dat ze echt verbeteringen doen, moet je ze belonen dat ze selectiever en minder bijvangst hebben.	Driving factors	Succes of FIP

TABLE C5 CODING OF THE TRANSCRIPTION OF AN INTERVIEW WITH A FIP CONSULTANT – 19/05/2020.

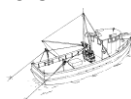
	<b>Text fragment</b>	<b>Open coding</b>	<b>Axial coding</b>
<b>I</b>	Obviously, like we also view a fip as a journey. And it's a perfect opportunity. Obviously, the fip journey is five years. It's the perfect opportunity to start building up your data. So when you are ready for MSc in five years' time, you've got all that data set and ready.	Data	FIP life span
<b>II</b>	The importance of being a FIP for the commercial side.	Participation	FIP success
<b>III</b>	It is often having to change the mentality and attitude of the fishers. To ask them to start reporting and proving that report of quality and quantity of data.	Mentality	FIP success
<b>IV</b>	Yes, a change of attitude, trying to get them to understand the importance of recording is quite tough.	Mentality	FIP success
<b>V</b>	The challenges for me that the. If people are on board with it and the data deficiency then runs away and the flag states and reporting Evidence is very open and on board, the five years is no problem. It's it's when you're having issues with national bodies, flag states, that's when things get tough.	FIP life span	FIP life span
<b>VI</b>	So you do have the benefit of some regulation and also, I mean, get people in there like you are a lot more used to filling in paperwork and compliance issues.	Management	FIP success
<b>VII</b>	And obviously can't change the biological limits. but you can change the fishing practice side of it.	Management	Sustainability
<b>VIII</b>	Obviously the more removals you have, so different people taking it, the harder it gets as well.	Management	FIP success
<b>IX</b>	We said the first two years data is just for us. Like where can I use this data to build and improve the fishery until we're in a position where like everyone's happy with it. The systems are working. Like non-compliance issues have been resolved.	Data collection	FIP success
<b>X</b>	I know that is obviously something we do is trying to engage with other fips, doing similar things. Look at the MSc Certified Fisheries. That is similar in a similar area. Look, or FIPs in the same area.	Similar FIPs	FIP success
<b>XI</b>	And a fip can be longer than five years like its fishery progress put a timescale on it because obviously when they first started everyone just joined a fip and just sat there to gain. So they have to put a timeline on.	FIP life span	FIP life span
<b>XII</b>	So it should be I mean MSC asked for five. So that's why a FIPs great. Yeah. I mean to a fip with no data and as long as you get on it, by the time he comes msc you'll have five years' worth of data.	Data collection	FIP suitability
<b>XIII</b>	I mean it's tough like a fip only succeeds with everyone.	Participation	Budget



<b>XIV</b>	It is an access to a market, a new market. They can stay in and it's a more stable market, price fluctuations don't vary as much within MSC certified product.	Economic drive	Market access
<b>XV</b>	Get more money. That's basically how you get through to them. The most, unfortunately, is the commercial aspect. It is obviously still a business. It seems that the money side is important.	Economic drive	Market access
<b>XVI</b>	so FIPs obviously need money as well. So, like quaff and we have all of the participants adding money into a pot and there's a fip pot. And we use that. Well, there are so many funding opportunities out there. And there are other we engage of ISAF once again on biodegradable fab projects. They pay for all of it. We give some of what we give our data in return, basically, and they can make papers and evidence and science. There are other ones where the fishery is just paying for everything. Another one's where there's also the the buyer is paying for everything.	Funding	Capacity
<b>XVII</b>	which covers consultation with people like me doing my work on a monthly basis, which could take like up to five days a month for me. And then obviously those actions and trips, things like that would take a lot longer. That changes every month.	Guidance	Budget
<b>XVIII</b>	And in reality, that the problem is that the guys that aren't joining these things.	Greenwashing	Greenwashing
<b>XIX</b>	But the guys that are just fishing out there illegally with no license landing wherever they want or illegally transshipping. That's why you're issues are. Yeah. So I think a lot of fish. I think FIPs get a bit of a bad rap for that.	Greenwashing	Greenwashing
<b>XX</b>	think that's why a Fip ecolabel never worked and never will work. I think it would be hard. For that very reason, because there is no limit on how bad you can be a fIP. You can be a terrible fishery progressing against a fishery that is a single step away from msc. So I don't and I don't think that would ever work. so been using it more as an in-transition tool because there aren't enough MSC certified fisheries to meet a lot like demand, basically. So they have to do something to increase the supply and give everyone and still not be in a position where they can lose all of their their fish. So that's the tool they're using together, basically.	FIP eco label	Market access

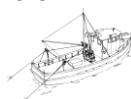
TABLE C6 CODING OF THE TRANSCRIPTION OF AN INTERVIEW WITH FISHERYPROGRESS – 19/05/2020.

	<b>Text fragment</b>	<b>Open coding</b>	<b>Axial coding</b>
<b>I</b>	The most common issue we have is that people state certain types of progress, which is not backed up by any type of evidence.	Issues	FIP suitability
<b>II</b>	Common issues are documents, data documents will not have an author. Documents are old, meaning that they were produced and published earlier than the stated outcome was achieved or earlier than the FIP was given the actual FIP.	Issues	FIP suitability
<b>III</b>	So we don't do any ground work. And if somebody really, really was determined to forge evidence and stated progress, it's pretty it's pretty likely that they could get away with it.	Greenwashing	Greenwashing
<b>IV</b>	And five years in in taking a fishery that's in bad shape and having it be in a place where it can be the msc certifiable, I think that was just kind of pulled out of the hat. And there was really no evidence to support that.	FIP life span	FIP life span
<b>V</b>	And so now we're we're getting to this next tier of fisheries that need improvement, but they're in the areas of the world that are complex and difficult. And I think that it's probably time to throw away that five-year timeframe of the model.	FIP life span	FIP life span





<b>VI</b>	Exceeding this five-year timeframe is not an issue.	Conditions	FIP life span
<b>VII</b>	It's it is definitely possible. Yeah. It is something that is becoming increasingly harder to do because of how we we push them to continue making progress.	Greenwashing	Greenwashing
<b>VIII</b>	we don't want to see greenwashing happening. We expect that out of the one hundred and sixty ish ships that are out there in the world right now. It's happening to a handful.	Greenwashing	Greenwashing
<b>IX</b>	I think it's very I mean, one of the easiest places for progress to demonstrate is improvements in data collection systems and how they how they feed into making improved management decisions.	Progress	FIP success
<b>X</b>	I think that that that drive is going to come from. I mean, often times we see an integrated supply chains that are interested in improving their public image. Yeah. You know, working for branding purposes. But I got to say that those integrated supply chains are not always that common. And then the other motivator is, is the economy and the jobs angle. When you have countries that really rely on these resources for kind of this social safety net of their people, you'll find that some governments are really providing that drive to support them people.	FIP drives	FIP success
<b>XI</b>	And I would estimate that, you know, that's a that's a half time to a full-time position, depending on the kind of the nature of the FIP and how big and complex it is. So how much time do they spend on history, progress? Again, it's it it's there's a lot of variability. I mean, there there's one coordinator on Fisher Progress that has 10 FIPs. And if he was to upload and try and publish a new FIP, he could probably do it in half of a day. For somebody who's coming onto our Web site for the first time. Often times it takes several months. You know, their time on our site is spread out over that.	Fishery progress reporting	Budget
<b>XII</b>	I mean, I, I tell I tell people this is if you're trying to minimize the resources in terms of human resources, that you work as recruitment project, the best thing that you can do is spend some time looking at other fishery improvement project profiles and their documents. I think that that could probably be reduced if people gave a serious effort into learning about what what they're supposed to be doing. Looking at examples.	Minimize costs	FIP success



## APPENDIX D OVERALL MSC SCORINGS FOR THE DUTCH NORTH SEA FLYSHOOT FISHERY

TABLE D1 OVERAL SCORES FOR THE DUTCH NORTH SEA FLYSHOOT FISHERY, BASED ON THE PERFORMANCE INDICATORS OF THE MSC. OBTAINED FROM AN MSC ASSESSMENT (ACOURA MARINE, 2018).

Performance indicator		Flyshoot	
		Mesh size	
		100 mm	120 mm
<b>1. Sustainability of stock</b>	1.1.1 Outcome – stock status	90	90
	1.1.2 Outcome – reference points	80	80
	1.1.3 Outcome – stock rebuilding	-*	-*
	1.2.1 Management – harvest strategy	90	90
	1.2.2 Management – harvest control rules & tools	75	75
	1.2.3 Management – information & monitoring	80	80
	1.2.4 Management – assessment of stock status	95	95
<b>2. Ecosystem impacts</b>	2.1.1 Primary species – outcome	80	80
	2.1.2 Primary species – management	85	85
	2.1.3 Primary species – information	80	80
	2.2.1 Secondary species – outcome	80	80
	2.2.2 Secondary species – management	80	80
	2.2.3 Secondary species – information	80	80
	2.3.1 ETP species – outcome	70	70
	2.3.2 ETP species – management	80	80
	2.3.3 ETP species – information	65	65
	2.4.1 Habitats – outcome	80	80
	2.4.2 Habitats – management	80	80
	2.4.3 Habitats – information	80	80
	2.5.1 Ecosystem – outcome	90	90
<b>3. Effective management</b>	2.5.2 Ecosystem – management	85	85
	2.5.3 Ecosystem – information	90	90
	3.1.1 Governance and policy – legal framework	90	90
	3.1.2 Governance and policy – consultation	90	90
	3.1.3 Governance and policy – long term objectives	100	100
	3.1.4 Governance and policy - incentives	80	80
	3.2.1 Fishery specific management strategy – fishery objectives	80	80
	3.2.2 Fishery specific management strategy – decision making	80	80
	3.2.3 Fishery specific management strategy – compliance and enforcement	90	90
	3.2.4 Fishery specific management strategy – research plan	85	85
	3.2.5 Fishery specific management strategy – evaluation	95	98

\* Not mentioned in 2018 assessment

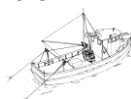


TABLE D2 OVERAL SCORES FOR THE DUTCH NORTH SEA FLYSHOOT FISHERY, BASED ON THE PERFORMANCE INDICATORS OF THE MSC. OBTAINED FROM AN MSC ASSESSMENT (SIEBEN *ET AL.*, 2019).

	Performance indicator	Flyshoot	
		Mesh size	
		70 -100 mm	> 100 mm
<b>1. Sustainability of stock</b>	1.1.1 Outcome – stock status		90**
	1.1.2 Outcome – reference points		80**
	1.1.3 Outcome – stock rebuilding		.* **
	1.2.1 Management – harvest strategy		90**
	1.2.2 Management – harvest control rules & tools		75**
	1.2.3 Management – information & monitoring		80**
	1.2.4 Management – assessment of stock status		95**
<b>2. Ecosystem impacts</b>	2.1.1 Primary species – outcome	80	85
	2.1.2 Primary species – management	85	85
	2.1.3 Primary species – information	75	75
	2.2.1 Secondary species – outcome	80	80
	2.2.2 Secondary species – management	75	75
	2.2.3 Secondary species – information	80	80
	2.3.1 ETP species – outcome	75	75
	2.3.2 ETP species – management	75	75
	2.3.3 ETP species – information	75	75
	2.4.1 Habitats – outcome	75	75
	2.4.2 Habitats – management	75	75
	2.4.3 Habitats – information	80	80
	2.5.1 Ecosystem – outcome	90	90
	2.5.2 Ecosystem – management	85	85
	2.5.3 Ecosystem – information	100	100
<b>3. Effective management</b>	3.1.1 Governance and policy – legal framework		95
	3.1.2 Governance and policy – consultation		100
	3.1.3 Governance and policy – long term objectives		100
	3.1.4 Governance and policy - incentives		.*
	3.2.1 Fishery specific management strategy – fishery objectives		80
	3.2.2 Fishery specific management strategy – decision making		85
	3.2.3 Fishery specific management strategy – compliance and enforcement		65
	3.2.4 Fishery specific management strategy – research plan		80
	3.2.5 Fishery specific management strategy – evaluation		.*

\* Not mentioned in 2019 assessment

\*\* No distinction between mesh sizes – assessed as a whole

