Observed Changes to the Northumberland Fishing Industry over the Past 25 Years

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Introduction

During the last quarter of a century many changes in local fishing patterns have occurred off the Northumberland coast, with a shift from a predominantly trawl based fishery targeting white fish to a more locally based fishery targeting Europen lobster (*Homarus gammarus*) and edible crab (*Cancer pagurus*). Whilst trawling does still occur, it now primarily targets prawns (*Nephrops norvegicus*) and the size of locally based trawlers has reduced considerably with most local trawlers now below 12 metres. With regards to the potting fleet, while the overall number of vessels has declined (there are currently about 115 permit holders, of which 84 are active), the number of pots in the sea has significantly increased, with ~40,000 fished within the district in 2015 (NIFCA, 2015).This data is obtained from NIFCA monthly shellfish returns forms, submitted by commercial shellfish permit holders.

The purpose of this project is to look at how these changes have affected the fishermen directly in terms of what stocks are now being targeted and how this supports local economies. The age structure of past and current fishermen is to be assessed to establish the potential long term viability of Northumberland's local fishing fleet and to determine whether or not a new generation is taking up fishing. Both fishing individuals and non-fishing individuals were included within the project to include a greater range of opinions.

Method

Questionnaires were conducted over a period of five days between the 16th and 25th of March 2015. A total of forty-eight questionnaires were completed, 38 by fishermen (skippers, boat owners and crew) and 10 by non-fishing individuals (wholesalers, agents and harbour masters/assistants). Questionnaires were completed through one-to-one interviews with each individual. The questionnaire comprised of 24 questions split into two sections, a section for all respondents and a section specifically aimed at fishing individuals (Annex 1). Individuals involved in the fishing industry from the ports of Amble, Berwick, Seahouses, North Shields, Holy Island, Boulmer and Blyth were included.

Results and Discussion

i. Changes to Target Species and Fishing Mode over the Past Twenty-Five Years

The responses from the fishermen interviewed indicate that the Northumberland fishing industry over the past 25 years has been dominated by the lobster/crab fishery (Fig. 1). The results of the questionnaire also indicate a decline in demersal fisheries in particular, with 10 interviewees (24%) prosecuting the demersal fishery 25 years ago, dropping to just 1 (3%) at the present time. The survey also indicated a decline in fishers targeting *Nephrops norvegicus* off the Northumberland coast over the past 25 years. The majority of interviewees claimed that the decline in trawling activity is a result of the increasing number of rules and regulations surrounding white fish stocks and a lack of quota. It was also the opinion of some fishers that an increase in the presence of larger visiting vessels such as twin-rig trawlers, freezer trawlers and "Danish vessels targeting sandeels" are having a detrimental effect on fish stocks off the Northumberland coast. It must be noted however that NIFCA Byelaw 1 (Trawling) restrict vessels of this description from fishing within the district, while only vessels from Member States with historic rights are entitled to fish within 6-12nm of the UK coast; off Northumberland this applies to vessels targeting herring from Germany, France, Belgium and the Netherlands, as well as Irish vessels.

The results of the survey indicate that the number of vessels targeting lobster and crab stocks increased from 25 years ago to 10 years ago and then remained stable from 10 years ago to the present day (Fig. 1). Several interviewees showed concern over the dramatic increase in the number of pots in the sea with the view that as a result, the wild population of lobsters and crab may decline. There was little change in the number of fishermen interviewed who target migratory fish between 25 years ago to the present day (Fig. 1), with a number of fishermen continuing to annually target salmon in the summer to supplement income from other regular target species. .

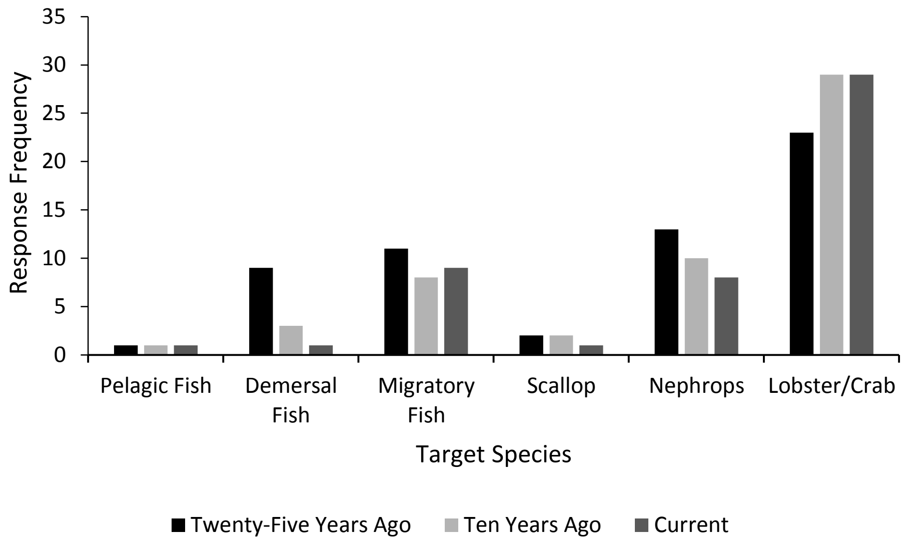

Figure 1. The primary target species of Northumberland fishermen twenty-five years ago, ten years and currently according to fishermen interviewed.

With regard to vessel size, out of the 38 fishermen interviewed, 28 (74%) were owners of vessels within the <10m sector. The results of the survey indicate that smaller vessels make up a larger proportion of the fleet today, compared with 25 years ago when just 18 (47%) fishers interviewed owned vessels <10m. This apparent downsizing of vessels represents the transition from trawling to potting over the past 25 years.

ii. Impact on Local Societies

Two main patterns emerged from the survey. Firstly the majority of viewers have observed an increase in tourist numbers locally, and secondly, every individual surveyed has observed a decline in the number of local boat builders (Figs. 2 & 3). The views of fishermen and non-fishing individuals were similar with regard to the decline in boat builders and increase in tourist numbers. All non-fishing individuals reported a decline in the number of local gear suppliers. Fishing individuals also reported a decline, but the responses of fishermen varied. The main difference applies to the number of local wholesalers; while the majority of fishermen believed the number of wholesalers in the district had remained stable over the past 25 years, the majority of non-fishing individuals interviewed reported a decline in the number of local wholesalers. Overall the views of fishermen and non-fishing individuals were generally consistent, though the validity of this conclusion is limited due to the difference in sample size number between the two categories of viewers.

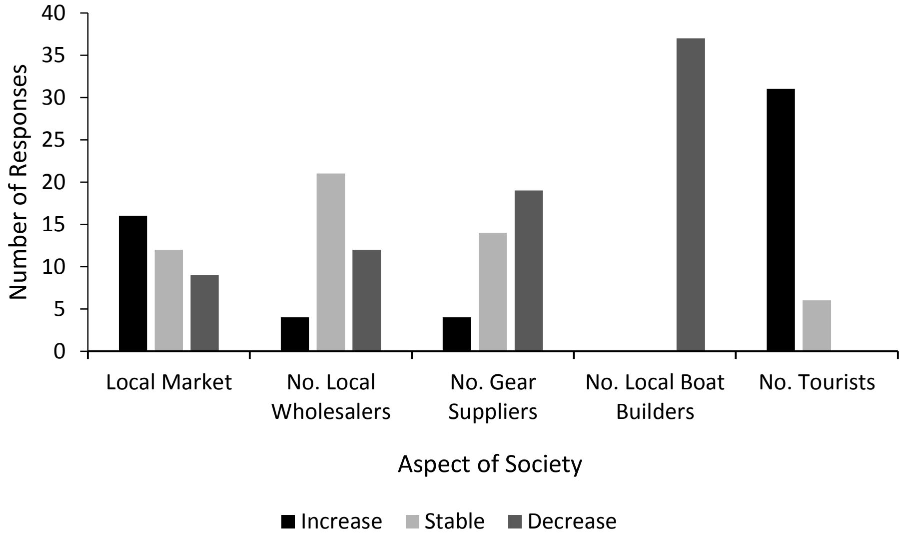

Figure 2. Observed changes to the local market for seafood and the number of local wholesalers, gear suppliers, boat builders and tourists in Northumberland over the past 25 years observed by fishermen interviewed.

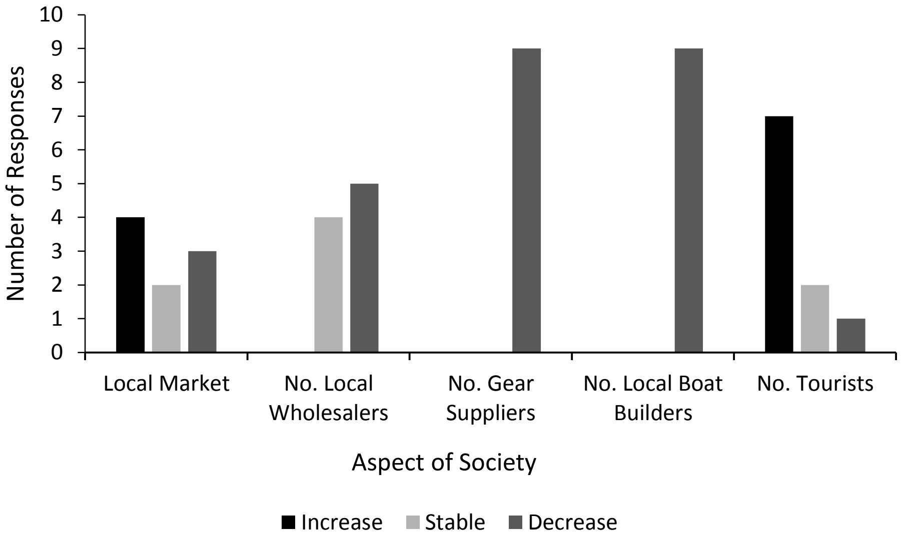

Figure 3. Observed changes to the local market for seafood and the number of local wholesalers, gear suppliers, boat builders and tourists in Northumberland over the past 25 years observed by non-fishing individuals interviewed.

The survey results have suggest that over the past 25 years, the destination of catches from the district (i.e. local outlet/wholesaler/processor, national processor or international market) has stayed relatively consistent, implying that changes to target species and fishing modes have not had a distinct effect on catch destination. Fishers reported that the majority of their landings are transported to local wholesalers and a lesser extent to local processors. Results of the survey indicated an increase in the volume of landings transported to the international market over the past 25 years, with 9 interviewees (24%) sending catches to the international market 25 years ago increasing to 14 (37%) who are currently sending catches to the international market. This is attributed to the increased accessibility of the international market.

When viewers were asked to state reasons attributing to the above changes, the rise in tourism was commonly connected to television advertising through series such as '*Tales from Northumberland*' and a higher proportion of the English population opting to holiday around the British coast. The decline in the number of local boat builders operating in the district as observed by all interviewees is attributed to a transition from traditional wooden coble boats to more durable and powerful steel boats. The decline in local gear suppliers was largely attributed to the internet, with many fishers now ordering supplies online from elsewhere in the UK and Ireland.

iii. The Future of Northumberland Coast's Fishing Industry

The future of Northumberland's fishing industry is dependent on the net influx of young people coming into the industry to become boat crew, skippers and owners; the quality of the environment; the overall sustainability of fish stocks and the amount of governmental support and funding. Concerns over all four factors were reported by the majority of respondents, some even claiming that they could see no future for Northumberland's fishing industry (Fig. 4). This view was shared by both fishing individuals and non-fishing individuals alike, although a higher majority of non-fishing individuals believe in a future, but this may be due to the significantly lower sample size of non-fishing individuals.

A big concern for many was the aging population of fishers and lack of young people entering the industry to compensate (Fig. 5). The majority (45%) of fishermen interviewed were aged between 45 and 59, with only one respondent aged below 35 (Fig. 6). Given that the survey results imply that the majority of the previous generation entered the industry due to fishing being a family trade (Fig.7), the high proportion of fishermen interviewed with no young family members planning on entering the industry suggests that the next generation of fishermen will be reduced. Many fishers reported that young people are unwilling to enter the industry because of the difficult and long working hours, inconsistency of income and the huge starting expenses. Fishers quoted that the cost of purchasing a boat, appropriate licenses and fishing gear would cost between £120,000 and £130,000. Some interviewees suggested that schemes aimed at influencing young people to enter the industry should be developed (such as providing free training) and financial support should be made available to help young people with starting costs.

The state of the North Sea environment and target stocks, particularly lobster and crab, are of concern to Northumberland's fishers. Technological advances have seen fishing gear become more efficient and fishing boats more capable of hauling more pots. The overall number of pots in the sea and the subsequent impact for shellfish stocks is a worry to many fishers. One interviewee stated that 25 years ago, just 40 pots were needed to generate a liveable income, compared to an average of 560 pots per vessel that are fished today (NIFCA, 2015). The Northumberland Inshore Fisheries & Conservation Authority Byelaw 4 (Crustacea and Molluscs Permitting and Pot Limitation) limits commercial shellfish permit holders to a maximum of 800 pots within the district. It was suggested that schemes to improve stocks, such as enhancing the on-going v-notching scheme or establishing a lobster hatchery, would benefit fishers by improving future catchable stock. Since 2000, NIFCA have run a v-notching scheme whereby every year NIFCA purchase, v-notch and release hen lobsters within the district. NIFCA Byelaw 3 (Crustacea Conservation) prohibits landing a v-notched lobster, thereby protecting it from the fishery and contributing to the spawning stock. This equates to approximately 1000 lobsters per year, and since 2000 a total of 18,274 lobsters have been v-notched and released as part of this scheme (Rae, 2016). Local fishermen are generally supportive of the scheme and many get involved through v-notching themselves and financial donations.

However, despite these concerns, the vast majority of both fishing and non-fishing individuals believed that Northumberland's fishing industry does have a viable future (Fig. 4). Many interviewees were optimistic and acknowledged that the industry will face challenges and will have to adapt if it is to continue, although more government support and appreciation is critical.

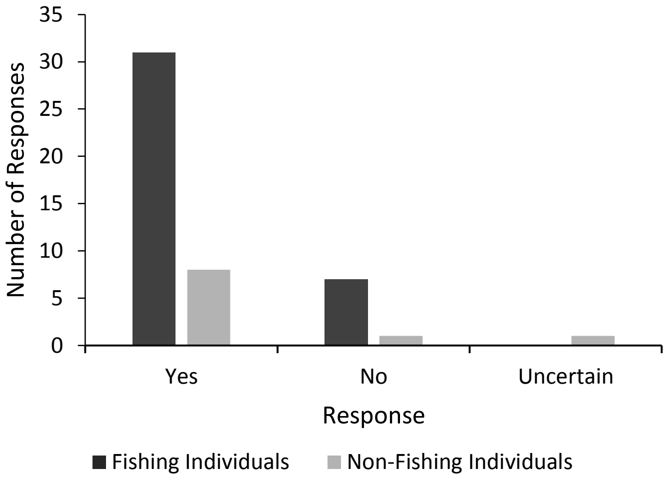

Figure 4. Response of Northumberland Coast fishermen and non-fishing individuals when asked their opinion on whether the Northumberland fishing industry has a viable future.

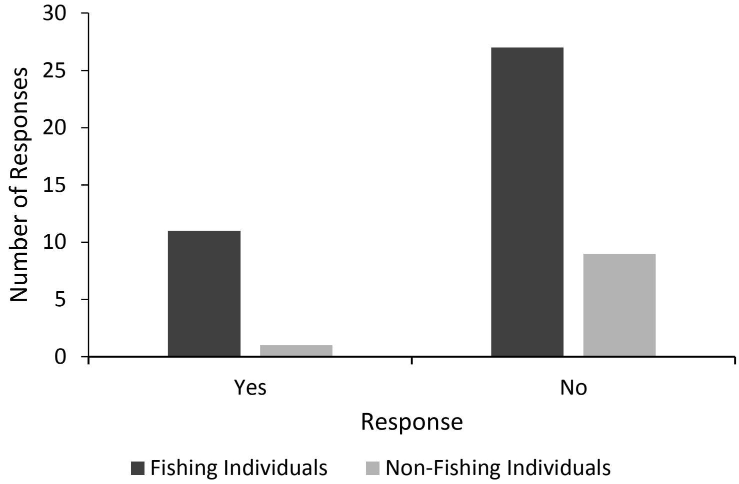

Figure 5. Response of Northumberland Coast fishermen and non-fishing individuals when asked whether younger family members were entering the fishing industry.

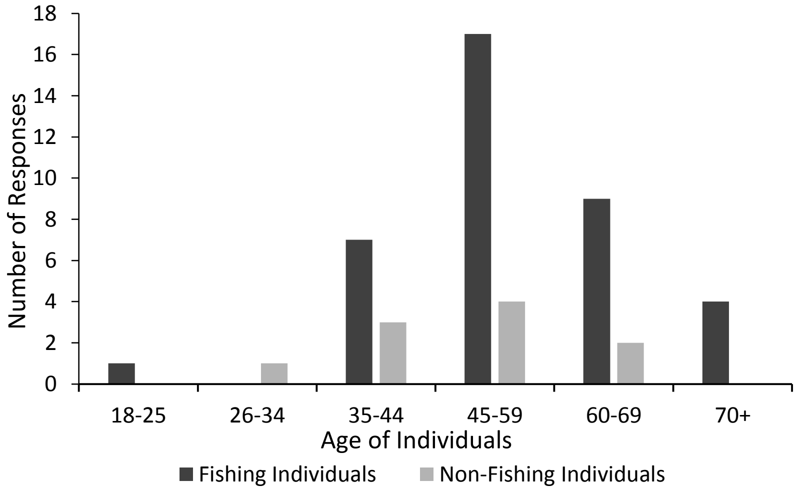

Figure 6. Age structure of past and current fishermen and non-fishing individuals of the Northumberland Coast interviewed for this survey.

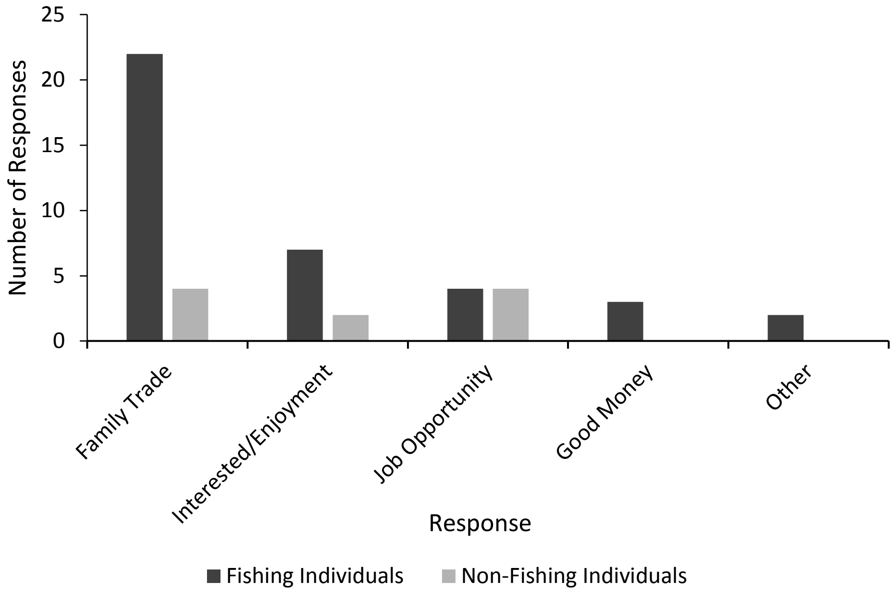

Figure 7. Reasons why fishermen and non-fishing individuals of the Northumberland Coast interviewed entered the fishing industry.

Conclusions

The fishing industry of Northumberland's coast has experienced a lot of change over the past 25 years, from shifts in target species, advances in technology and shifts in the structure of local communities. This survey has highlighted the many challenges that face the fishing industry; however this does not mean to suggest that the industry has no feasible future. In order to continue the industry will have to diversify to increase income, perhaps targeting the growing tourism sector. Quotas, rules and regulations will need to be appropriately controlled in a way that advantages the fishers, the North Sea environment and target stocks. Finally, and arguably most importantly, a new generation of local fishers need to be encouraged and supported in order for the industry to succeed.

References

Northumberland Inshore Fisheries & Conservation Authority (NIFCA), 2015. NIFCA Shellfish permit holders monthly returns database.

Rae, V. L. 2016. Northumberland Inshore Fisheries & Conservation Authority 2015 Lobster v-notching report.

ANNEX 1

SECTION A (For all respondents)

Name______________________________________

Hometown__________________________________

1. Into what age band do you belong?

18 – 25 ☐

26 – 34 ☐

35 – 44 ☐

45 – 59 ☐

60 – 69 ☐

70+ ☐

2. Which of the following describes your involvement with the fishing industry:

	Boat owner	Boat skipper	Crew	Wholesaler	Supplier	Producer organisation	Other (please specify)	Retired
a. Currently								
b. 10 years ago								
c. 25 years ago								

3. How long have you been involved with the fishing industry?

0 – 5 years ☐

5- 10 years ☐

10-25 years ☐

>25 years ☐

4. **What made you enter the industry?**

____

SECTION B (For fishermen only)

5. **What length of fishing vessel have you owned/worked on:**

	<10m	10-12m	12-15m	15-20m	>20m
a. Currently					
b. 10 years ago					
c. 25 years ago					

6. **What reasons do you attribute to the change (if any) in vessel size in the past 10-25 years?**

____

7. **For boat owners and skippers only:**

   i. **How many crew work or have worked on your vessel:**

	0	1	2-4	4-6	>6
a. Currently					
b. 10 years ago					
c. 25 years ago					

   ii. **What reasons have influenced the number of crew working on your vessel in the past 10-25 years?**

Crew availability ☐

Financial constraints ☐

Vessel size ☐

Fishing mode ☐

Other (please specify) ☐

iii. Where do you purchase your supplies/fishing gear:

	Locally	National supplier	Trade magazine	Internet	Manufactured at home
a. Currently					
b. 10 years ago					
c. 25 years ago					

8. Which primary modes of fishing do you or have you taken part in

	Trawling	Potting	Dredging	Migratory fish	Gill netting	Other (please specify)
a. Currently						
b. 10 years ago						
c. 25 years ago						

9. What are/have been your primary target species:

	Pelagic fish	Demersal fish	Migratory fish	Scallop	Nephrops	Lobster/crab	Other (please specify)
a. Currently							
b. 10 years ago							
c. 25 years ago							

10. What are the main reasons behind any changes in fishing mode or target species in the last 10-25 years?

Tighter regulations ☐

Crew availability ☐

Price of fuel ☐

Vessel size ☐

Quota restrictions ☐

Status of target stocks ☐

Market value of target stocks ☐

Market demand for target stocks ☐

Other (please specify)____

11. What are the main destinations of your catch:

	Local outlet	Local processor	Local wholesaler	National processor	International market
a. Currently					
b. 10 years ago					
c. 25 years ago					

SECTION C (For all respondents)

12. What changes have you observed in your area over the past 25 years?

	Increase	Stable	Decrease
Local market for fish/shellfish			
No. of local wholesalers			
No. of local fishing gear suppliers			
No. of local boat builders			
No. of tourists			

13. What do you attribute these changes to?

____

14. Are any younger members of your family likely to enter your sector? YES / NO

15. What do you consider to be the main restrictions to new entrants into your sector?

____

16. Do you think the fishing industry in your local area has a viable future? YES / NO

Any further comments?