

# Managing Hand Working Fishing Activity

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## A Focus on Hand Gathering



**Supplementary Report for the B&PSC – Information & Evidence**

Version 01:

30<sup>th</sup> July 2019

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## Version Control

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|         |                            |                        |  |

## 1. Aim of this Supplementary Report

This supplementary report has been prepared for members of the Devon and Severn Inshore Fisheries and Conservation Authority (D&S IFCA) Byelaw and Permitting Sub-Committee (B&PSC). This supplement contains embedded information (hyperlinks) to additional information and is therefore best suited for reading in electronic format. This supplementary report forms part of the [overarching plan](#) for the review of the management of Hand Working Fishing Activity. The overarching plan highlights why the review is being conducted and over what time frame.

### Different Phases of Work

1. The first phase of the overarching plan was to focus on the use of crab tiles. Information and evidence were documented in a [supplementary report](#) presented to members of the B&PSC in February 2019. A [revised report](#) was re-presented in May 2019.
2. The second phase of the overarching plan was to focus on the activity of bait digging. Information and evidence were documented in a [supplementary report](#) presented to members of the B&PSC in May 2019.
3. The third element of the overarching plan is to focus on the multiple other activities that at this time D&S IFCA have considered to be hand gathering methods and examine their current and potential future management.

### **Process and Decision Making:**

This supplement report summarises the D&S IFCA baseline information (as recorded on 30<sup>th</sup> July 2019) and has been compiled to assist members with discussions and decision making throughout an on-going process. Members can review and discuss any elements of the collated information and evidence relating to hand gathering. Some **bold blue text** has been added to clarify some aspects of the presented information. The report sets out information and evidence that may be of use for members to:

- **establish a position on how the activity potentially could or should be managed**

The observations and discussions of members will be recorded and will be referred to when more formalised discussions relating to “options for management” take place in November 2019. It is envisaged that the duties (153 and 154) as set out in the Marine and Coastal Access Act 2009 can act as discussion drivers. The exact wording has been simplified and set out below:

### **153 Management of inshore fisheries**

- a) **Seek to ensure that exploitation is carried out in a sustainable way**
- b) **Seek to balance social and economic benefits of these fishing activities with the need to protect the environment from the effects of the fishing activities**
- c) **take any other steps considered necessary by the Authority to contribute to the achievement of sustainable development of the fishing activities**
- d) **seek to balance the needs of the different people who conduct hand gathering in the District**

### **154 Protection of Marine Conservation Zones**

- a) **The authority must seek to ensure that the conservation objectives of any MCZ are furthered**

## 2. An Overview of Hand Gathering Methods

There are many methods that fall under the term “Hand Gathering”. It is important to clarify that activities already managed via Regulating Orders granted under the Shellfish Act 1967 do not form part of this review. Regulating Orders remove the “Right of Public Fishery” from the area of the designated fishery and provides D&S IFCA with the powers to manage the area.

However, as set out in sections 158 of the Marine and Coastal Access Act 2009, where a private fishery exists within a designated Marine Protected Area (MPA) then the management (if it was set out for example in a Byelaw or permit conditions) can apply across the private fishery area without the consent of the private fishery. This could apply to some of the estuaries in Devon, such as the Exe and Dart.

### The Defined Hand Gathering Methods

For this phase of the review, D&S IFCA have defined a selection of activities that fit this category of fishing activity.



These activities, with the addition of some photographs, were all highlighted in the [Call for Information Campaign](#) that was conducted in June and July 2019.

#### **Comments:**

**Some of the responses collected during the recent Call for Information campaign questioned the explanations provided for some of these methods.**

**The responses from stakeholders are set out in Section 7 of this report. Since the campaign was conducted, the activity of drop netting has been determined to be another hand gathering type of activity.**

### Bait pumping

Bait pumps are mainly used for black lugworms (*Arenicola defodiens*). At the low water mark on spring tides the pump is placed over the newly produced lugworm cast, then suction used to withdraw a thin column of sand, including the lugworm, to the surface.

### Hand gathering for mussels, cockles, clams, winkles, limpets and other molluscan species

At low water mussels, cockles, clams, winkles, limpets and other molluscan species are collected by hand.

#### **Comments:**

***Due to a lack of mussel on the public beds within the Teign and the Exe Estuaries, these beds have been subjected to a temporary closure. From 1<sup>st</sup> May 2019, and until further notice, it is prohibited for any person to remove mussels from the areas defined in both locations. The removal of shellfish species from both the Teign and Exe estuaries has over time prompted stakeholders to submit several intelligence reports to D&S IFCA. A transcript of the intelligence reports is included in this report on pages 6, 7 and 8.***

### Raking for cockles and clams

Garden rakes are used on the intertidal to collect cockles and clams which are just under the surface of the sediment. Once raked up to the surface they are collected by hand.

### Hooking for crab and lobsters

This is carried out at low water on spring tides. A long stick, such as bamboo or old fishing rod, will have a hook attached to one end which is poked under rocks and in holes in the shallows. The crab or lobster grabs hold of this hook and they are pulled out and collected.

### Prawning with hand net

This is carried out at low water on spring tides usually during the summer months. A small hand net is used in gullies and rock pools to collect prawns and shrimp from under the seaweed.

### Salting for razor shells

Salting for razor clams, which involves pouring table salt down the burrows and when the razor clams come to the surface, they are collected.

### Spear fishing

Spear fishing is carried out by snorkelers or divers, using either a spear gun or a spear to shoot and capture various sea fish while underwater.

### Seaweed harvesting

Seaweed is collected by hand from the intertidal zone of the shore for consumption.

### Drop Netting

A drop net is a device used for one-man bait collecting. It can be easily deployed from a bridge, pier, and boat. They can be square- frame drop nets or umbrella/ circular drop nets. They normally have a spring-loaded bait trap to secure the bait to attract crabs and fish into the net. They are often used by anglers to catch bait for fishing.

***Comments: Although this is a form of netting, it is not managed by the D&S IFCA Netting Permit Byelaw. Nets that do not exceed an area of more than four metres squared (2 metres x 2 metres) can currently be used without the need for a permit.***

## **3. Intelligence Reports**

Enforcement work conducted by D&S IFCA is intelligence led. Stakeholders are encouraged to report activity that in their view may be suspicious and potentially illegal. D&S IFCA has an out of hours duty phone number (07740 175479) to help collect the information. The tables on pages 6, 7 and 8 demonstrate intelligence received from stakeholders between 2017 to 2019 that mainly relates to shellfish gathering in the Teign and Exe Estuaries.

### ***Comments:***

***Many stakeholders who report hand gathering activity have the expectation that D&S IFCA would have a byelaw or byelaws in place to restrict or manage aspects of the activity they observe. Although intelligence is collected, some of the activities reported are often not in contravention of a D&S IFCA Byelaw and as a result no enforcement work can be undertaken by D&S IFCA.***

| Date       | Activity                            | Quantity   | Information on gatherers   | Bed               | Location      | Classified / unclassified for Harvesting |
|------------|-------------------------------------|--|--|-------------------|---------------|--|
| 18/04/2017 | oyster collecting                   | Large scale activity. Oyster collected into buckets, many being shelled on site and shells left on foreshore | Group of 8 people.   | Starcross         | Exe Estuary   | classified                               |
| 27/04/2017 | oyster shucking                     | oyster shells on foreshore in 1.5m2 area   | unknown  | Starcross         | Exe Estuary   | classified for some species              |
| 02/05/2017 | oysters and cockles being collected | Commercial quantity being taken  | Group pf people.   | Salty             | Teign Estuary | unclassified                             |
| 22/06/2017 | cockles collecting                  | 1 bucket   | 1 person - said they were for personal consumption                           | Salty             | Teign Estuary | unclassified                             |
| 24/07/2017 | cockles and winkle picking          | large amount at least 2 sacks full   | group of people of people. 2 males collecting large amount also at low tides | Salty             | Teign Estuary | unclassified                             |
| 08/09/2017 | Cockle gatherers                    | large amount collected   | large group of gatherers   | Cocklemouth sands | Avon Estuary  | unclassified                             |
| 23/10/2017 | shellfish collection                | dustbins full of oysters, containers of mussels, winkles   | Group of people  | Starcross         | Exe Estuary   | classified                               |
| 23/10/2017 | shellfish collecting                | large amounts of cockles, winkles, oyster, mussels   | Group of people - males, females, children                                   | Starcross         | Exe Estuary   | classified                               |

| Date       | Activity                                | Quantity   | Information on gatherers                   | Bed                  | Location      | Classified / unclassified for Harvesting |
|------------|---|--|--|----------------------|---------------|--|
| 24/10/2017 | shellfish collecting                    | large amounts of cockles, winkles, oyster, mussels   | Group of people - males, females, children | Shaldon              | Teign Estuary | unclassified                             |
| 24/10/2017 | shellfish collecting                    | large amounts of cockles, winkles, oyster, mussels. Working all day as the tide drops - 3 vehicles involved.   | Group of people - males, females, children | Cocklemouth Sands    | Avon Estuary  | unclassified                             |
| 24/10/2017 | oyster and cockles                      | 3 dustbins full of oysters- on occasion 6 large shopping bags of oysters in one day. 4/5 days of the week and weekends. Some shucking on shore leaving shells behind. No vehicle seen - dropped off and collected at end of day. | 2/3 people increasing to 4/5 men           | Starcross & Cockwood | Exe Estuary   | classified                               |
| 25/10/2017 | manila clam gathering                   | unknown  | unknown                                    | Dawlish/ River Exe   | Exe Estuary   | not classified for clams                 |
| 29/05/2018 | shellfish collection - large quantities | shellfish  | 4 people                                   | Salty                | Teign Estuary | unclassified                             |
| 27/06/2018 | shellfish collecting                    | cockles, mussels, small oysters collected & transported into 2 vehicles  | Gang of people.                            | Shaldon              | Teign Estuary | unclassified                             |

| Date       | Activity  | Quantity  | Information on gatherers | Bed             | Location                      | Classified / unclassified for Harvesting |
|------------|---|---|--------------------------|-----------------|-------------------------------|--|
| 27/06/2018 | shellfish collecting - systematically operating across the bed raking | cockles, mussels, oysters - large poly sacks filled then transported to 2/3 vehicles              | 20 people.               | Shaldon         | Teign Estuary                 | unclassified                             |
| 29/06/2018 | winkle picking  | winkles collected into large sacks and loaded into 3 vehicles                                     | 5 people seen            | Wembury Beach   | Plymouth Sound/ Yealm Estuary | unclassified                             |
| 25/07/2018 | oysters   | buckets of oyster being brought to Chinese restaurant processing oysters in back yard near Exeter | unknown                  | unknown         | unknown                       | unknown                                  |
| 09/10/2018 | shellfish collection  | large quantity of juvenile cockles  | Group of adults.         | Salty           | Teign Estuary                 | unclassified                             |
| 03/04/2019 | Oyster collection   | oysters   | Groups of people.        | Mount Batten    | Plymouth Sound                | unclassified                             |
| 19/07/2019 | Cockle picking  | cockles   | Group of adults.         | Salty / Shaldon | Teign Estuary                 | unclassified                             |



## 4. How is Hand Gathering Currently Managed?

Hand gathering is managed in D&S IFCA's District via different [Byelaws](#). Many of these legacy measures are relevant to different hand gathering methods as they apply to any person, rather than focussing on a fishing activity or the equipment used. Some of the measures set out below have been used to help develop permit conditions that are issued to fishers conducting different methods such as potting or diving for crab, lobster or scallops. Many of the legacy measures are species rather than activity based.

### 4.1 Reviewing Byelaws and Inherited Weakness

There are some potential weaknesses associated with the legacy byelaws and these weaknesses can be addressed if the B&PSC consider that there is a need to maintain or strengthen the restrictions for the management of any of the hand gathering methods.

- **For example, other than a temporary closure of shellfish beds Byelaw, the quantity of shellfish that can be taken by recreational fishers for their own use or consumption in areas such as the Teign and Exe is not restricted.**

Many of the legacy Byelaws are relatively old and this is reflected in the wording used within each Byelaw and the use of imperial rather than metric measurements. Some of the Byelaws relate to the whole D&S IFCA District and some are only applicable to the Taw Torridge Estuary. One Byelaw is only applicable to the River Yeo.

All the Byelaws need to be reviewed and it is possible that this review will enable some of them to be revoked.

### 4.2 The Byelaw Technical Working Group

The role of the BTWG is to prepare suitable legal documentation on behalf of the B&PSC. The BTWG have no delegated decision-making powers but can be tasked in due course to amend existing byelaws or develop a new byelaw or byelaws based on the management requirements identified by the B&PSC. There will be "options for management" (including potential introduction of a new Byelaw or Byelaws) discussions that is scheduled for November 2019.

#### **Comments:**

***If a byelaw or byelaws is identified in due course by the B&PSC as the most suitable option to manage different Hand Working Fishing Activities, complications would exist regarding an activity, site or a species-based approach.***

***Communicating restrictions or good practice, either in a D&S IFCA Permit or a voluntary code/s is a challenge. It is impossible to be completely accurate in assessing how many recreational hand gatherers operate within the District, where they operate, how often they operate and who they are.***

***If legislation, and potentially permits, were introduced, communicating the requirements for users to obtain a permit would be difficult. If permits were implemented for all users, it is unknown how many would require a permit.***

***If a Byelaw (and potentially a series of permit condition requirements) becomes the chosen option to manage different hand gathering activities (or any other hand working***

*fishing activity), a threshold concept may be more appropriate, however it will still have to be combined with increased communication and awareness campaigns.*

*An example of a threshold concept is the Cornwall IFCA Lobster, Crawfish and Crab Fishing Permit byelaw 2016. This byelaw limits a take of species for any person, that does not have a permit, to a specific level.*

*This approach separates the needs of different users. It allows hobby or occasional fishers to remove a determined quantity of resource for their own use without the need to be faced with a permit application process or more defined restrictions of use that may be suitable for more regular fishers or commercial operators. Although the level of activity, in terms of total numbers of persons conducting an activity, would be unknown, the advantage to the Authority is that it reduces the burden on the Authority to issue a potentially large number of recreational permits. The same concept can be applied if there is any fishing gear required, for example the managing of crab tiles.*

*It should be noted that fishers (below a threshold) without a permit would not be bound by flexible permit conditions that could be placed within a permit. Examples would include minimum conservation reference sizes listed in Catch Conditions. Either a stand-alone Byelaw or Byelaws or the provisions section of a Permit Byelaw could potentially be used to regulate all persons that may not have a permit by introducing fixed elements that would not alter during the life cycle of the Byelaw.*

#### **4.3 The Legacy Byelaws**

##### Shellfish – Re-deposit of (26<sup>th</sup> February 1998)

This Byelaw means that any person who takes any shellfish, the removal of which from a fishery is prohibited by any of the Byelaws, or the possession or sale of which is prohibited, shall re-deposit them without injury in the water as near as possible to the place where they were taken from.

##### Temporary Closure of Shellfish Beds (26<sup>th</sup> February 1998)

This Byelaw allows D&S IFCA to close areas to help aid recovery of the beds or to protect stocks of immature or undersize shellfish. The Byelaw applies to all persons taking shellfish but is restricted to defined species which include mussels, oysters, clams and periwinkles.

##### ***Comments:***

***This Byelaw has been used recently (1<sup>st</sup> May 2019) to prohibit any person from taking mussel from the public beds in the Teign and Exe Estuaries. A weakness that D&S IFCA has already identified is that cockles are not included in the definition of shellfish.***

##### Winkles (26<sup>th</sup> February 1998)

This Byelaw applies to all persons and prohibits the removal of any winkle which will pass easily through a gauge within a square opening of 16mm measured over each side of the square.

#### Crabs (26<sup>th</sup> February 1998)

This Byelaw prohibits any person from removing edible crab (brown crab) below the specified sizes as measured across the broadest part of the shell, regardless of what method is being used. The sizes in this Byelaw are specified as being 140mm for female crab and 160mm for male crab.

#### **Comments:**

*The sizes within this Byelaw for female brown crab that apply to any person is different to the 150mm carapace size specified within the Potting, Netting and Diving (for shellfish) Permit Byelaws.*

#### Prohibition of Spear Fishing in Lundy Marine Conservation Zone (MCZ) (16<sup>th</sup> October 2009)

This Byelaw prohibits any person from using a harpoon spear or like instrument to catch fish or shellfish from within the specified site at Lundy Island.

#### Parts of Edible Crab (16<sup>th</sup> February 1993)

This Byelaw prohibits any person from removing any part of an edible crab (brown crab) which is detached from the carapace of the crab, regardless of what method is being used.

#### Harvesting of Shore Crab (18<sup>th</sup> July 2008)

This Byelaw applies to all persons and prohibits the taking of shorecrab (*Carcinus maenas*) from a defined area in the Exe Estuary.

#### **Comments:**

*Although this Byelaw is species related, it does have relevance to the use of crab tiles within the Exe Estuary.*

#### Protection of V-Notched Lobsters (15<sup>th</sup> September 1998)

This Byelaw prohibits any person from removing any v-notched or mutilated lobster (*Homarus Gammarus*) from a fishery and requires that any such lobster to be returned immediately to the sea.

#### Protection of Undersize and Berried Lobsters (15<sup>th</sup> September 1998)

This Byelaw applies to any person. It prohibits the removal of berried lobsters (those carrying eggs) and lobsters that are below 90mm in length (as measured along the carapace).

#### Lundy "No Take Zone" (11<sup>th</sup> February 2003)

This Byelaw prohibits any person from removing any sea fish from a defined area at Lundy Island.

#### Shellfish – Minimum Sizes

This Byelaw applies to any person, but it is limited to the Taw Torridge Estuary. It prohibits the removal of:

- Any oyster that will pass through a gauge having a circular opening of 2 ¼ inches in diameter
- Any mussel of less than 2 inches in length
- Any cockle that will pass through a gauge having an aperture of ¾ inch square

- Any edible crab measuring less than 4 ½ inches across the broadest part of the back
- Any lobster or crawfish measuring less than 9 inches from the tip of the beak at the end of the tail when spread as far as possible flat

***Comments:***

***This old legacy byelaw uses imperial, rather than metric sizes.***

Lobster, Crawfish and Crabs

This Byelaw applies to any person, but it is limited to the Taw Torridge Estuary. It prohibits the removal of any berried edible crab, lobster or crawfish or any soft-shelled crab or crawfish.

Shellfish – Re-deposit of

This Byelaw applies to any person, but it is limited to the Taw Torridge Estuary. This Byelaw means that any person who takes any shellfish, the removal of which from a fishery is prohibited by any of the Byelaws, or the possession or sale of which is prohibited, shall re-deposit them as nearly as possible in the place they were taken from. If cockles are re-deposited, they should be spread thinly and evenly over the beds.

Regulation of Shellfish Beds

This Byelaw is very similar to Temporary Closure of Shellfish Beds (26<sup>th</sup> February 1998) but is limited to the Taw Torridge Estuary. It allows areas to be closed to help aid recovery of the beds or to protect stocks of immature or undersize shellfish.

Prevent Sea Fishing in the Tidal River Yeo (Barnstable)

This Byelaw applies to any person, but it is limited to a specific area of the tidal River Yeo. It prohibits fishing for sea fish by any method.

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## 5. Our Research and Assessment Work

D&S IFCA has undertaken several studies looking at the levels and intensity of hand gathering activity at two locations throughout the District. The results of these surveys are available on our website and have been used to feed into the MPA assessments that D&S IFCA has undertaken and submitted to Natural England for formal advice.

The individual reports are embedded (hyperlinked) below:

- [Bait Digging & Hand Gathering in the Torbay Marine Conservation Zone \(January 2019\)](#)
- [Hand Working on the Exe Estuary EMS – Summary of Results from the Hand Working Survey 2016](#)

Other reports produced by D&S IFCA include:

### Cockles

- [Exe Estuary Cockle Stock Assessment 2010 – 2018](#)

### *Comments:*

*D&S IFCA are in the process of preparing a cockle stock assessment report for the Teign Estuary which will be published and presented to members of the B&PSC in due course and prior to options for management discussions.*

### Mussels

- [Exe Estuary Mussel Stock Assessment 2016](#)
- [Exe Estuary Mussel Stock Assessment 2017](#)
- [Taw Torridge Mussel Stock Assessment 2012](#)
- [Taw Torridge Mussel Stock Assessment 2016](#)
- [Taw Torridge Mussel Stock Assessment 2017](#)
- [Teign Estuary Mussel Stock Assessment 2012](#)
- [Mussel Stocks on the Teign & Exe Estuaries Report \(November 2018\)](#)
- [Exe Estuary Mussel Stock Assessment 2018](#)

The reports above are posted in [Section H](#) of the D&S IFCA website resource library.

## 5.1 Shellfish Hygiene and Safety

It is often difficult to determine the intent of the collectors – whether recreational or commercial - as D&S IFCA currently has no limit on the amount that can be collected recreationally, and on occasion large quantities are removed by individuals or groups that state this is on a recreational basis. Concerns have been raised about the inability to discern between commercial and recreational gatherers and that shellfish collected from unclassified shellfish harvesting areas could find their way into the food chain via restaurants and other food outlets. Not only could this cause human health concerns and issues from shellfish that has not been microbially tested or purified, but also from shellfish toxins that can accumulate in the shellfish.

Shellfish production come under official control rules as they are live bivalves under the EC Regulation No. 853/2004, which lay down the specific hygiene rules for the hygiene of foodstuffs. All shellfish from classified harvesting areas are tested monthly for microbial quality and for toxins. Beds are closed if there are any elevated levels and retested regularly until the levels return within safe limits. If shellfish from unclassified harvesting area reach the food chain this could cause potential health hygiene issues as they do not undergo a purification process before going on the open market. The potential unregulated unlicensed activity could also undermine the legitimate shellfish businesses both economically and reputationally.

## **5.2 Habitats Regulations Assessments and Marine Conservation Zone Assessments**

To date 15 MPA assessments have been undertaken to assess the likely significant effect of commercial hand gathering on the designated features and site integrity of eight of the MPAs in D&S IFCA's District, where hand gathering is known to occur. The Tables on pages 19 to 22 summarises the conclusions of the assessments and the formal advice received from Natural England (NE). Hand gathering has been found to have a range of impacts on both the sediment it occurs on, and the shellfish stocks. Bird disturbance by hand gathering activities is also a concern in areas designated for their bird populations. D&S IFCA's Environment Officers undertook a literature review on the impacts of hand gathering and it is summarised below. The impacts are largely influenced by the level of activity, the sediment type and the amount of shellfish that is removed.

## **5.3 Research**

The following literature review has been undertaken, to gather information on the impacts of hand gathering and has been used to inform the MPA assessments undertaken.

### **Impact on Birds**

The hand gathering of shellfish can have a detrimental effect on the supporting features of the SPA. Intertidal fishing activities have the potential to alter the distribution and composition of intertidal sediment communities through abrasive impacts of the activity or access. Mussels and winkles are usually collected by hand from the substrate surface (no digging/raking), therefore any abrasion would likely be caused by trampling when walking out to, and around, the shellfish areas.

If all mussels were to be removed simultaneously there would be a physical change from mussel bed to a sediment community. This would represent a reduction in the structure, function & supporting processes associated with the supporting habitat. The responses of shorebird species to insufficient food supplies during the overwinter period include reduced individual body condition, increased mortality and reduced population sizes (Stillman et al., 2015). The study by Stillman et al. (2015) found that even if no mussel lays were available, the model predicted 0% starvation among overwintering oystercatcher populations of  $\leq 1500$  individuals. For the maximum population size tested in the model (6000 individuals), overwinter starvation was predicted to cause the deaths of  $35.9 \pm 0.2$  % (mean  $\pm$  SD) of the

total population. The latest WeBS data (Holt et al., 2015) estimates the oystercatcher population on the Exe Estuary to be 2,151, showing a slight increase over the last 5 years.

Several studies have found that disturbance can have an effect on population levels and distribution of species. Liley et al. (2011) states that increased disturbance can lead to reduced breeding success. Disturbance can also result in otherwise suitable habitat being unused. This is further explained in Hockin et al. (1992), which shows disturbance can have an effect on breeding success through several factors e.g. nest abandonment, increased mortality of eggs due to predation & increased mortality of young through reduced feeding. Disturbance can reduce use of sites by birds, and can affect nest site choice, having a negative effect on population density. It can also have a negative effect on energy budgets – time spent flying, reduces time spent feeding.

However, Goss-Custard & Verboven (1993) observed, on the Exe Estuary, “local winkle and mussel pickers usually move rather little; having found a suitable place, they remain there for much of the tidal cycle. After the initial disturbance, the Oystercatchers settle down and even feed nearby”. The study also suggested that, for the low levels of disturbance that typically occur from these activities on the Exe, the effects on most birds might be insignificant because they can adapt their foraging behaviour.

The Exe Estuary Disturbance Study (Liley, et al., 2011) lists “bait digging, crab tiling and other shellfishing” as the fourth highest cause of bird disturbance on the estuary, with birds exhibiting some level of response to the activity during approximately 35% of encounters. Responses varied between “walk/swim”, “short flight” and “major flight”. This category of activities was shown to account for 16% of all major flight events witnessed during the study. However, it should be noted that as this category also includes bait digging and crab tiling, the percentage of major flight events caused by intertidal handwork alone will be much lower.

Goss-Custard (2012) noted that the Disturbance Study gives an exaggerated impression of the impact that activities of people actually have on the shorebirds that feed on the exposed intertidal flats, due to a number of factors in the study. Therefore, less than 1-2% of bird foraging occurs at times/places where birds are at risk of being disturbed by people. The bird usage areas can be seen in the Exe Estuary Recreational Framework (EEMP, 2014).

### **Impact on Shellfish and Sediments**

Several research studies have shown the impacts of hand gathering of shellfish. Smith & Murray (2005) studied the effect of trampling on the mussel beds in California and found that visitor foot traffic and removal of mussels by fishers can significantly reduce mussel cover, density, biomass, and size. They found that removal for bait of only two mussels per month in a 0.35m<sup>2</sup> area can result in a shift in the size structure of the population if larger mussels are targeted for extraction. While mussel mass, density, and cover were more strongly impacted by trampling, fisher activity has been shown to be negatively related to mussel cover at southern Californian sites. Here mussel beds exposed to a high level of recreational fisher use had more gap space and less mussel cover than beds at sites with lower fisher use. Smith & Murray (2005) found mussel mass decreased by 80% in areas of removal and trampling (300 steps). Reductions in mussel cover ranged from 57.5% in removal only areas to 78.9% in removal and trampling areas. However, natural disturbance to mussel communities is also relatively common (e.g. gaps in mussel beds created by strong waves). Despite this, removal and trampling areas lost 20-40% more coverage than controls. An average of 6% of the loss

of mussel cover in removal areas attributed to the immediate effect of removing two mussels per month and 15% of the loss in trampled plots due to the crushing of mussels. Only a proportion of total cover loss during the study was immediate, direct results of the experiment. The remaining losses occurred during intervals between the treatments.

Smith and Murray (2005) suggested that there was an indirect effect of trampling, weakening the byssal thread attachments between adjacent mussels which increases their susceptibility to wave disturbance. Brosnan and Crumrine (1994) similarly suggested that trampling may weaken areas of a mussel bed, resulting in losses that would not normally occur during winter storms. In addition, they observed that mussel cover continued to decline for almost a year after their experimental trampling finished. Natural disturbance to mussel communities is relatively common (e.g. gaps in mussel beds created by strong waves). Small disturbance gaps produced by the removal of a few individuals can recover quickly due to the encroachment of adjacent mussels. However, larger gaps must be recolonised, so can take several decades to fully recover. Brosnan and Crumrine (1994) found more severe mussel cover losses in Oregon during a non-ENSO period. Plots with single-layered mussels lost up to 65% cover from the more extreme trampling treatment (4,167 steps m<sup>2</sup>) used in their study. They also found that plots with multi-layered mussels lost most of the top layer when trampled but showed no decrease.

Indirect effects of trampling could remove species that interact through competition, predation or habitat provision. Natural predation of mussel beds can be from a range of crab, starfish, fish and bird species. Brosnan and Crumrine (1994) found barnacle and algal epibionts on mussels were significantly reduced by trampling.

#### **5.4 D&S IFCA Evidence Gathering and Survey Work**

D&S IFCA Officers have undertaken survey work to gather information and data on the hand gathering effort in MPAs in the District.

##### **Exe Estuary SPA**

Currently commercial hand gathering of mussels is limited to the classified areas which are part of the private fishery leased from the Earl of Devon. Recreational gathering of mussels takes place on the public unclassified beds although the stock of mussels in these areas has deteriorated dramatically possibly due to several factors (Stephenson & Thomas 2018 - Exe Estuary Mussel Stock Assessment) and little hand gathering for mussels currently takes place. In the past D&S IFCA has received multiple reports of large groups of hand gatherers operating in particularly on the Bull Hill Bank, Cockle Sands and at Cockwood/Starcross collecting mussels and cockles. When approached they have always explained it was for their personal consumption, but the large amounts taken from the estuary suggest this may be more of a commercial activity. The beds here are not classified for shellfish harvesting and this could raise public health issues. The Local Authorities Environmental Health officers have been involved in many of the reports and worked with D&S IFCA. D&S IFCA has issued temporary closure notices to the public shellfish beds on the Teign and Exe Estuaries due to the severe depletion of mussel beds and stocks in these areas. Stock levels have declined from 1933 tonnes in 2013 to 12 tonnes in 2018. In previous years when the stock level of



some of these public beds such a Bull Hill Bank were high, many hand gatherers were seen regularly on the Exe.

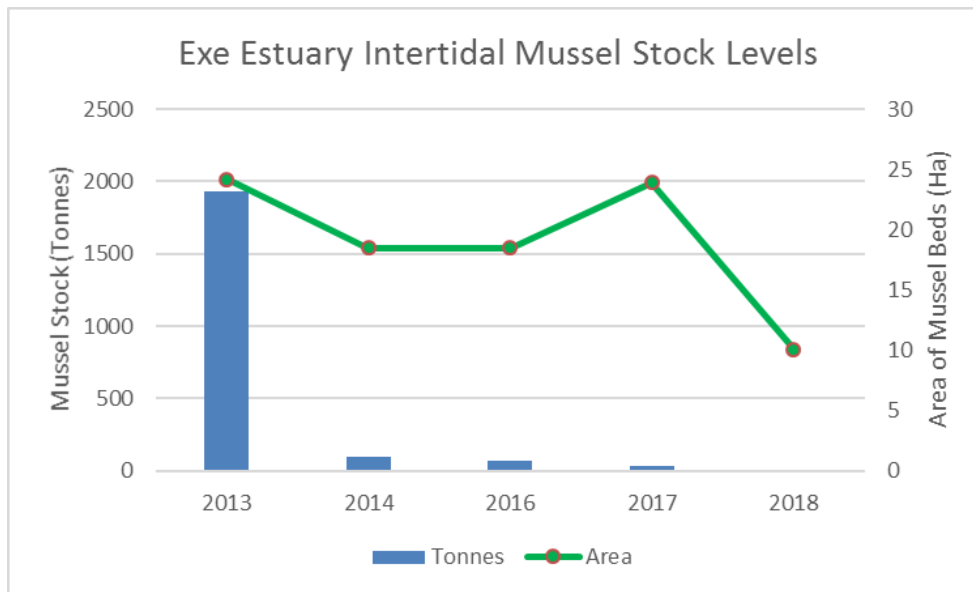


Figure 1 Graph of mussel stock and area of beds - Exe Estuary

Hand gathering for cockles continues on the Exe Estuary in particular where access to the beds is easy, from the Imperial Recreation Ground at Exmouth onto Cockles Sands and Shelly Beach. On most spring tides large groups or families can be seen collecting many buckets full of cockles from these unclassified beds. Cockles are collected either by hand or raking. Concerns have been raised as to whether this is commercial gathering rather than recreational gathering as discussed above, which could be a public health issue when such large amounts of shellfish are taken from beds which are not tested under the Shellfish Hygiene directive and are not monitored for human health safety. The concern is that they might be going, untested and untreated, straight into the food chain, in particular to restaurants. Commercial winkle collection does take place on the Exe Estuary at a fairly low level involving just a couple of individuals.

D&S IFCA's Intertidal Handwork Survey carried out in 2016 found that shellfish collection made up approx. 1/3 of the "bait digging, crab tiling and other shellfishing" activities, but this included recreational activity.

Figure 3 shows the split for recreational and commercial hand gatherers observed during the hand gathering survey of 2016.

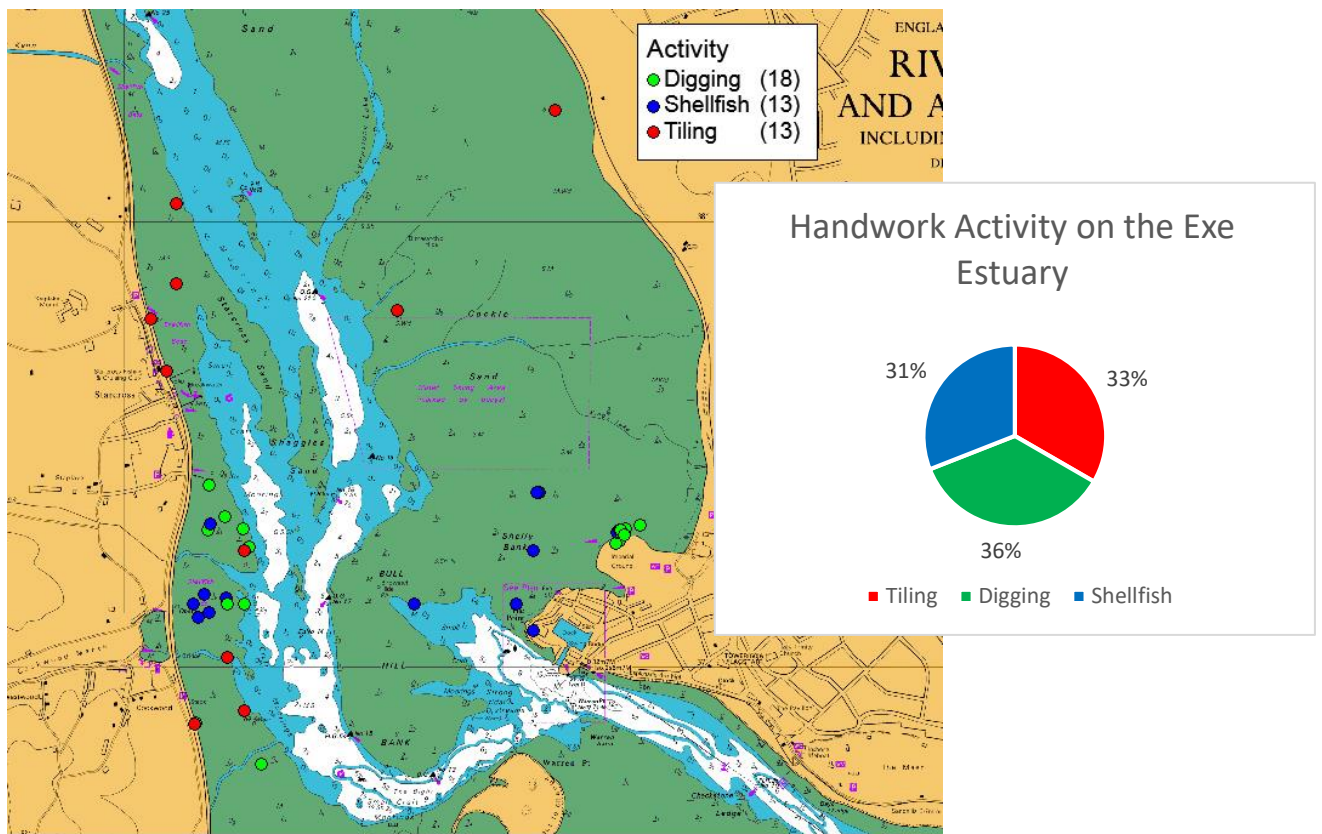


Figure 2 Hand Working Activity on the Exe Estuary 2016

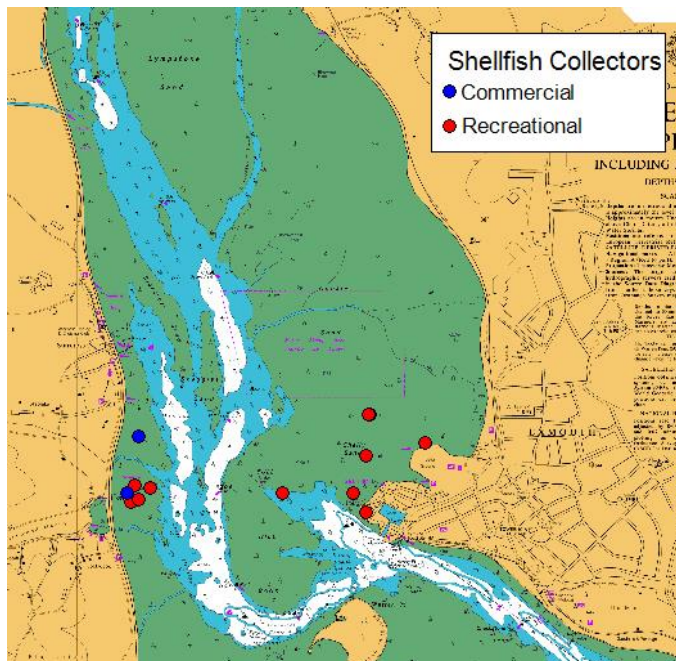


Figure 3 Commercial / recreational intent of hand gatherers on the Exe 2016

## **Braunton Burrows SAC**

The qualifying features for the Braunton Burrows SAC include the intertidal mudflats and sandflats not covered by sea water at low tide. Braunton Burrows SAC overlaps with part of the Taw-Torridge Estuaries SSSI. Under the protection of the SSSI, Natural England manages the collection of mussels due to their importance as a food source for bird species. From previous surveys, the tonnage of mussels on the Taw Torridge Estuary, as a whole, has fed into a bird food model. This model is used to quantify the amount of mussel that could be removed by commercial hand gatherers from the mussel beds in the estuary. The current management conditions which apply to the whole estuary and not one single mussel bed, are:

1. No more than 500kg of mussels should be removed from the SSSI per month.
2. Any business wishing to remove mussel must notify NE and D&S IFCA of their intentions to do so by 23rd of the month prior to the month when mussel harvesting is proposed. This will allow NE and D&S IFCA to advise if your planned removal will, in combination with other planned activities, be likely to result in the 500kg limit being exceeded. If this is the case, planned removal by all individuals will need to be reduced accordingly.
3. Applications to remove mussels after the 23rd of the month prior to the month when mussel harvesting is proposed will not be considered for the following month's harvesting.
4. In addition, the business must inform D&S IFCA and NE by phone on the day of mussel removal prior to harvesting taking place. This will allow inspection of the catch.
5. Records of quantity of mussel removed (including location) together with copies of movement documents should be submitted to NE & D&S IFCA no more than 14 days after harvesting.

Surveys have undertaken place annually on the Taw Torridge mussel beds since 2011/2012.

Figure 4 shows the change in tonnage assessed on all the beds in the estuary. There was some loss of mussels during and following the storms of 2013/2014 however all, but one bed remains. Annual surveys are undertaken to assess mussel stocks and the availability of mussels as a food source for the qualifying feature of the Taw Torridge SSSI. Whilst the beds are currently managed under the conditions of the SSSI there is the potential for this to be managed under a byelaw or a permitting byelaw.

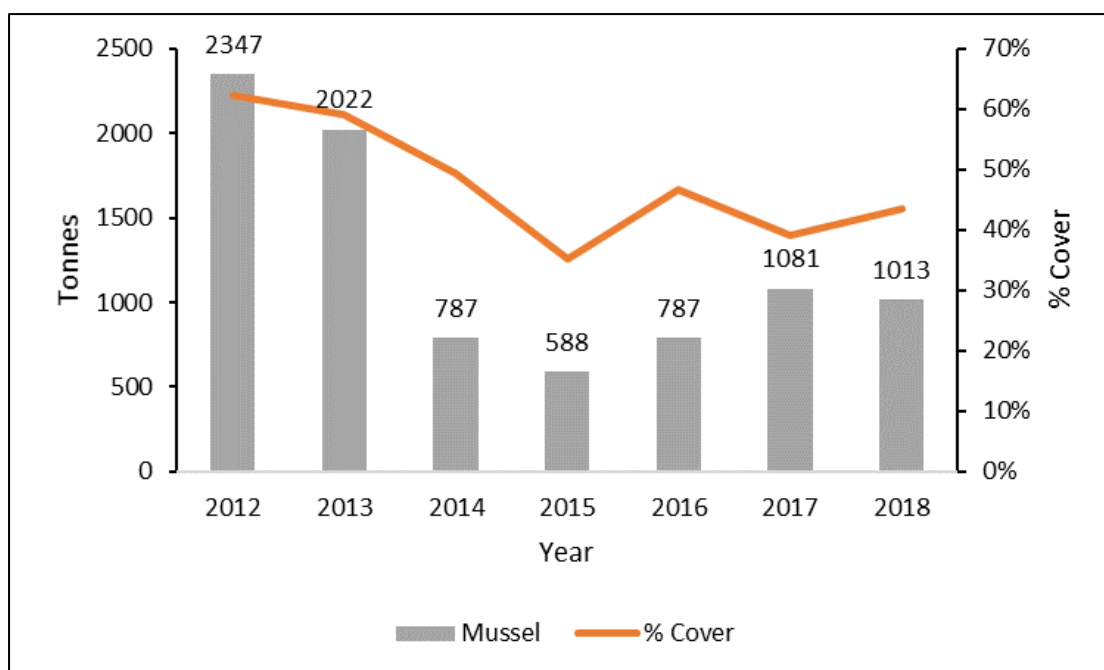


Figure 4 Taw Torridge Estuary mean mussel density data for patches and total area plotted over total area surveyed for all sites 2012-2018.

### Plymouth Sound and Estuaries EMS

The Plymouth Sound & Estuaries EMS is made up of the Plymouth Sound & Estuaries SAC and the Tamar Estuaries Complex SPA. Hand gathering (access from vessel & land) is thought to be occurring at a low level and is predominantly for recreational purposes, as there are few shellfish beds to gather from on this site and no classified shellfish harvesting areas. There are no sightings data for this activity and D&S IFCA is not aware of any commercial hand gatherers operating within Plymouth Sound and Estuaries EMS. D&S IFCA carried out a yearlong bait collection survey in 2014/2015 and during which found no evidence of hand gathering activity within the site. The only known activity is in the River Yealm where winkle gathering occasionally takes place. Other fishing activities within the Plymouth Sound and Estuaries EMS are described in the [Fishing Activity Report \(Gray, 2015\)](#).

### Bideford to Foreland Point MCZ

A small area of the classified, Pulleys mussel bed, is within the MCZ. Hand working (access from vessel) is thought to be occurring at very low levels for mussels. Hand netting for prawns and hooking for lobsters occurs recreationally at a low level on the intertidal rocky shore. No other hand working is believed to be carried out.

| Site                 | Habitat / Feature and bait digging Interaction Assessed  | Date sent to NE | Conclusion of Assessment   | Date of Formal Advice from NE | Summary of NE Formal Advice   | Links  |
|----------------------|--|-----------------|--|-------------------------------|---|--|
| Braunton Burrows SAC | Intertidal mudflats & sandflats  | 28/06/2016      | No likely significant adverse effect as SSSI management measures in place.   | 18/07/2016                    | Agreed that hand gathering is not likely to have a significant effect on features and adverse effect on the integrity of the EMS.   | <a href="#">HRA</a><br><br><a href="#">NE Formal Advice</a>  |
| Exe Estuary SPA      | Supporting habitats for the bird features:<br>1. intertidal rock & stony reef<br>2. saltmarsh & coastal grazing marsh<br>3. seagrass                   | 17/10/2016      | No adverse effect on bird features and these supporting habitats.  | 25/11/2016                    | Agreed with conclusion of assessment of no significant effect. NE supports the IFCA's intention to create a permitting byelaw for Hand Working to allow for future monitoring of activities and create a mechanism to bring in mitigation measures in the future if required.     | <a href="#">HRAs:</a><br><a href="#">1</a><br><a href="#">2</a><br><a href="#">3</a><br><a href="#">NE Formal Advice</a> |
| Exe Estuary SPA      | Supporting habitats for the bird features:<br>1. Intertidal biogenic reef; mussel beds<br>2. Intertidal mixed sediment, mud, sand and coarse sediments | 05/10/2018      | Concluded that whilst currently the activity level is very low and is unlikely to have a significant effect. However, hand gathering could have detrimental effect on the bird feature and intertidal mussel beds due to the current | 30/10/2018                    | Agreed with conclusion of assessment that at the current level of activity there is no likely significant effect. NE supports the IFCA's intention to create a permitting byelaw for Hand Working to allow for future monitoring of activities and create a mechanism to bring in | <a href="#">HRAs</a><br><a href="#">1</a><br><a href="#">2</a>   |

| Site   | Habitat / Feature and bait digging Interaction Assessed  | Date sent to NE | Conclusion of Assessment   | Date of Formal Advice from NE | Summary of NE Formal Advice  | Links   |
|--|--|-----------------|--|-------------------------------|--|---|
|  |  |                 | depleted mussel stocks in the estuary and the concern for stock recovery. Therefore, potential management of the activity might be considered. |                               | mitigation measures in the future if required.   | <a href="#">NE Formal Advice</a>  |
| Plymouth Sound and Estuaries SAC & Tamar Estuaries Complex SPA | SAC<br>1. Intertidal sediments<br>2. Saltmarsh<br>3. Seagrass<br>4. Rock<br>SPA<br>1. Intertidal sediments & birds | 23/06/2016      | No likelihood of significant adverse effect on the interest features.  | 18/07/2016                    | Agreed that the activities are not likely to have a significant effect on features and adverse effect on the integrity of the EMS. | <a href="#">HRA:</a><br><a href="#">SAC</a><br><a href="#">1, 2, 3, 4</a><br><a href="#">SPA</a><br><a href="#">1</a><br><a href="#">NE Formal Advice</a> |
| Tamar MCZ  | Intertidal biogenic reefs; Intertidal coarse sediment  | 05/12/2016      | Activities are not believed to be occurring and therefore there is no significant risk of the activities hindering the                         | 21/12/2016                    | Agreed that the activities are not likely to hinder the conservation objectives of the features of the MCZ.                        | <a href="#">MCZ Assessment</a>  |

| Site                           | Habitat / Feature and bait digging Interaction Assessed  | Date sent to NE | Conclusion of Assessment  | Date of Formal Advice from NE | Summary of NE Formal Advice   | Links  |
|--------------------------------|--|-----------------|---|-------------------------------|---|--|
|                                | Blue mussel ( <i>Mytilus edulis</i> ) beds; Native oyster ( <i>Ostrea edulis</i> )   |                 | achievement of the conservation objectives.   |                               |   | <a href="#">NE Formal Advice</a>                                       |
| Torbay MCZ                     | Intertidal coarse & mixed sediments; intertidal mud, mud and muddy sand; Low energy intertidal rock; Moderate energy intertidal rock; Intertidal underboulder communities; Peat and clay exposures; Native oyster ( <i>Ostrea edulis</i> ); Seagrass beds; Long-snouted seahorse ( <i>Hippocampus guttulatus</i> ) | 10/04/2019      | The assessment concludes there is no likelihood of significant adverse effect on the interest features. | 25/04/2019                    | Agreed that the activities are not likely to hinder the conservation objectives of the featured of the MCZ. | <a href="#">MCZ Assessment</a><br><br><a href="#">NE Formal Advice</a> |
| Bideford to Foreland Point MCZ | Intertidal rock; intertidal coarse, mixed sediments; intertidal sand and   | 17/12/2018      | The assessment concludes there is no likelihood of significant adverse effect on the                    | 06/02/2019                    | Agreed that the activities are not likely to hinder the conservation objectives of the featured of the MCZ. | <a href="#">MCZ Assessment</a>   |

| Site                           | Habitat / Feature and bait digging Interaction Assessed   | Date sent to NE | Conclusion of Assessment  | Date of Formal Advice from NE | Summary of NE Formal Advice   | Links  |
|--------------------------------|---|-----------------|---|-------------------------------|---|--|
|                                | muddy sand; intertidal under boulder communities; littoral chalk communities; <i>Sabellaria</i> reefs |                 | interest features due to the very low level of activity.  |                               |   | <a href="#">NE Formal Advice</a>                                   |
| Hartland Point to Tintagel MCZ | Intertidal Rock; coarse sediment' sand and muddy sand; <i>Sabellaria</i>                              | 17/12/2018      | The assessment concludes there is no likelihood of significant adverse effect on the interest features, due to the absence of the activity. | 06/02/2019                    | Agreed that the activities are not likely to hinder the conservation objectives of the featured of the MCZ. | <a href="#">MCZ Assessment</a><br><a href="#">NE Formal Advice</a> |

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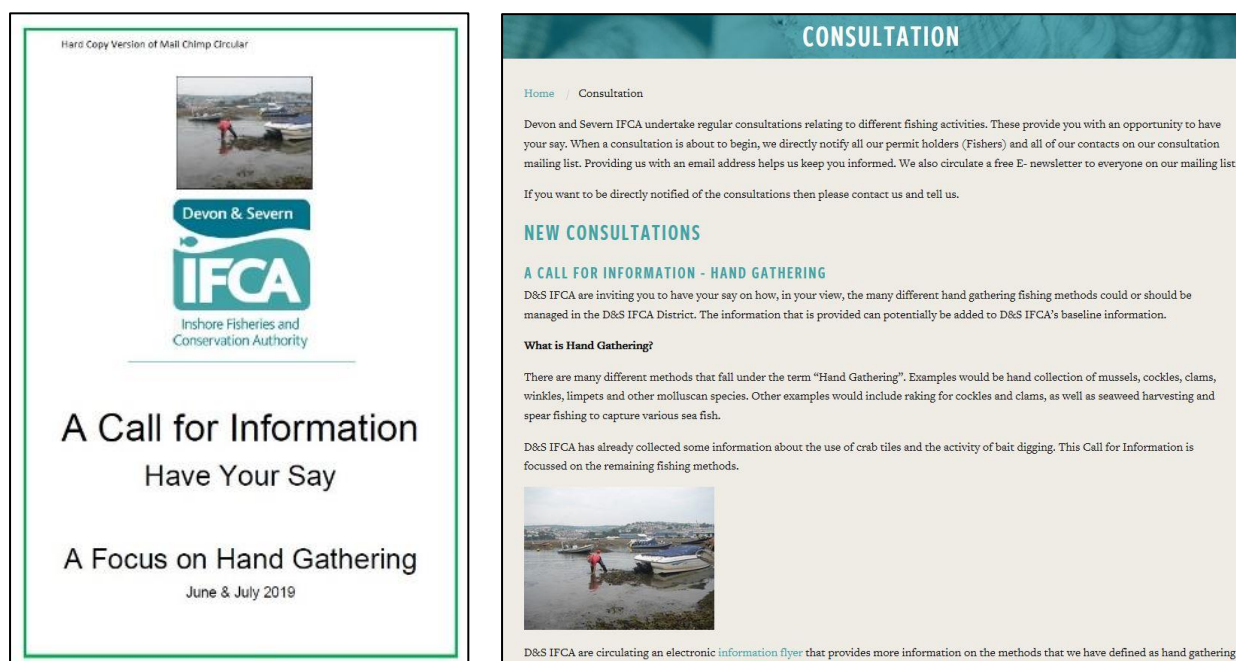


## 6. Engagement with Stakeholders

Officers selected elements of the D&S IFCA communications strategy to engage with stakeholders between 28<sup>th</sup> June and 26<sup>th</sup> July 2019. The Call for Information campaign had the intention of highlighting the review of management (Phase 3 – Hand Gathering) and getting stakeholders and interested parties to engage in the process.

Electronic engagement formed the basis for communication. An electronic (Mail chimp) email was directly circulated to over 1100 D&S IFCA email contacts (including members) with a request for it to be forwarded to others that may also have an interest in the subject matter. The information provided an overview of the methods, how they are currently managed and an overview of the type of information being requested. Hard copies of information were not circulated and were not requested by any stakeholders.

- [Mail Chimp \(PDF\) Have Your Say Campaign](#)



The D&S IFCA website was utilised to support the campaign and the consultation page was used to display the information. In addition, officers created a [news item](#) blog for the home page news scroll highlighting the Call for Information campaign. The blog was also posted on the D&S IFCA Facebook page.

Stakeholders had the opportunity to use different options provided to have their say. A dedicated email response address was provided along with the opportunity to attend four dedicated “surgery sessions” for one to one interaction with officers via visits to the D&S IFCA offices in Brixham.

To meet GDPR requirements, the D&S IFCA Privacy Policy was highlighted along with options to un-subscribe from future Hand Working mail shots.

## 7. Summary of Response - A Call for Information – Hand Gathering

### 7.1 Overview

638 stakeholders opened the Call for Information Mail Chimp email circular. A total of 48 responses were examined for use in this report. This section of the report includes summarised information, tables and some of the responses have been transcribed almost in full (*purple bold italic font*), with some minor editing.

The responses have been categorised as follows:

| Topic  | Number |
|--|--------|
| Cockle & Other Species Hand Collection (Teign)     | 33     |
| Mixed Methods including Spear Fishing              | 9      |
| Queries, Complaints and Information of Limited Use | 6      |

### 7.2 Cockle Hand Collection (Teign Estuary)

The topic of hand collection of cockles within the Teign Estuary accounted for nearly 70% of the responses. The collection of cockles at a level that has been described as a commercial scale was strongly highlighted by a Shaldon Parish Councillor and many residents from the Shaldon area of Teign Estuary. The responses were all similar in their content and many resembled the type of information in the intelligence reports received by D&S IFCA in a two-year period.

Estimations regarding the frequency of the activity, the numbers of people hand collecting on the beds and photographs of their activity were included in many of these responses. The current lack of regulation is a concern for these stakeholders, and they have encouraged D&S IFCA to act. The responses indicate that there is not necessarily the desire to see the activity prohibited completely, rather it should be managed in a sustainable way to reflect the needs of recreational pickers, to protect stock levels, and provide a food source for birds.

The following is a selection of responses that have been partially transcribed.

*Several of our parishioners have expressed a profound concern over the exploitation of the shellfish reserves found within the Teign estuary. It is my understanding that a considerable amount of people are being bused into our community and are removing substantial quantities of shellfish at an alarming rate. This is clearly already having a detrimental impact on the local marine and avian wildlife, as native animal species once common to the area are now rarely seen. I understand from your website that their already exists a temporary closure of Shellfish beds for the harvesting of mussels within the Teign and I would request that you impose a further extension to this to prevent the removal of cockles. It is imperative that the Byelaw & Permitting Sub-Committee act now to prevent further damage and the entire depletion of this shellfish. As you are already aware, the natural mussel beds that were once abundant within the river Teign are now all but extinct. A temporary closure of hand-gathering will allow Shaldon Parish Council to work in conjunction with D&S IFCA to establish a baseline of the current stocks whilst preventing further reductions in stock. This will give us the breathing space required to investigate the effects that the current level of hand-gathering has on the local environment. Shaldon Parish Council will happy assist in the policing of this policy in our limited capacity; this may include such things as additional signage at the beach access points to indicate the temporary closer of hand-gathering. We currently have parishioners approaching hand gathers and demanding the return of their catch; such is the appetite for the*

*protection of these shellfish within our community. This is obviously not ideal, and I believe that hand gathers are currently permitted to seize as much shellfish as they can carry. Some taking three or four large sacksful of cockles which could never sensibly be considered as a quantity suitable for personal consumption.*

.....

*For at least the past five years I have seen an increase in cockling on the Teign estuary during the summer months. Many of these people are dropped off at low tide from vans and picked up some hours later with net sacks full of what appear to be cockles. The quantities taken every day can't possibly be for personal consumption. We have noticed a decline in seabirds for a while now - Turnstones and Oystercatchers in particular - and are very concerned that all this cockling is changing the Eco system on the estuary.*

.....

*Can something be done to stop people taking advantage of the now depleting supplies of cockles on The Salty. I was walking along there today and saw 4 people carrying 6 buckets. People carry them away in sacks and it's evidently not for their own consumption. This is not good for 2 main reasons:*

- 1. they take cockles all year round which is bad for stocks and also there are months where you shouldn't take cockles or mussels it can lead to upset stomachs etc*
  - 2. the number of cockles are rapidly depleting I know people that say there normal spots are now completely empty as a result of the 'same' people coming down every week to remove them".*
- .....

*I regularly walk on the Salty at low tide. There are always several small groups of people, maybe 3 to 5 with rakes and large buckets, taking quantities of shellfish, mainly cockles, from the riverbed. They are there for several hours and must take huge quantities of shellfish in this time, as each person fills a bucket holding a couple of gallons.*

*It is clear that these quantities are far greater than could possibly be used for family consumption. I am very concerned that the shellfish will be depleted to the extent that they are no longer viable. I would like to see reasonable limits placed on the quantity of shellfish that can be taken, for personal consumption, and periods when no fishing is allowed, in order that the colonies can regenerate.*

.....

*I have witnessed weekly over a number of years teams of people on Salty, West of Shaldon Bridge on the River Teign raking up sack loads (est 20kg x6) of cockles on any single harvesting session. This has been challenged before but only to be told there's nothing that can be done which seems ridiculous as they are profiteering from this practice using in their restaurants or selling them commercially.*

*If this is legal then I guess not much can be done but it's now so regular with more people, it's not long before the cockles will not naturally replenish.*

.....

*Last week, we approached approximately 8 people on the Salty who had rakes and containers and were filling them with cockles. They had come up from Plymouth and admitted they were in the restaurant business and that the cockles were for selling and agreed to put 1 of the containers back on the beach...they knew what they were doing was wrong apologised and left. We have a serious problem here with collectors allegedly coming from as far as Bristol and South Wales in minibuses and just clearing the Salty of mussels and cockles...they have also been seen with weighted nets between 2 stantions of the bridge in the tide dredging for cockles but also catching baby bass and anything else unfortunate enough to get caught in the net.*

*I feel very strongly that we have to protect what we have here for the sake of the birds and wildlife we have here...Many beaches have implemented a 3 to 5-year ban in order for the areas to restock and certainly a 2 year ban would be beneficial to the Salty.*

*Residents of Shaldon have been very supportive of action I and a friend have started to do, but we need clear grounds on what action can be taken and who these people can be reported to if they are breaching any ban.*

*It's a shame it has come to this as we have lots of local fishermen who are very responsible in what they take from our rivers and will put back any fish too small...we have holiday makers with their children and a small sandcastle bucket who collect mussels for their tea which is acceptable.*

---

*As a resident of Shaldon, I have witnessed loads of people taking bags and bags of cockles and, more importantly OYSTERS from the river Teign bed the other side of ShaldonBbridge (Dartmoor side) on an almost daily basis. When these people are asked if they have permission to take these shellfish they refuse to answer and "scuttle" away loading their booty into their cars. There can be as many as 8/10 people sometimes.*

---

*Over the past years I have witnessed groups of people ranging from 5 to 15 in number collecting large quantities of Cockles, Mussels, Oysters and Small Crabs from the Salty on the River Teign.*

- They are taken away in large buckets or sacks.*
- Loaded into small vehicles normally SUV's.*
- They are collecting normally for several hours at a time.*
- They are coming very early in the season and are here on a weekly basis.*

*I have contacted Teignbridge DC and the Harbour Master. I have lived in Shaldon for over 60 years and can see a complete change in the appearance of Salty. Local people and visitors have always raked for cockles, but normally in very small quantities. Unless a check is carried out soon the shellfish will be decimated, and the ecology of the river will be gone.*

---

*Over the last few years we've seen a massive increase in groups of people gathering enormous amounts of cockles. They park locally, several to a vehicle and fill large buckets, return to the vehicle to drop them off, then refill the bucket again and again. I stopped a group on Tuesday night, making them put one large bucket back onto the beach. They admitted they owned a restaurant in Plymouth and the cockles were for there. In addition to cockles they are taking mussels, oysters and baby crabs. Our wildlife is starting to really suffer now, particularly the oyster catchers once so abundant but now hardly seen.*

### 7.3 Mixed Methods

Several responses were identified as commenting on mixed hand gathering methods, other than collection of cockles. It confirmed that activities such as prawning, seaweed collection, hooking for crabs and lobsters, razor clam collection, hand netting and winkle picking are being conducted in different areas of the District, but it would appear at a low level and are often very weather dependent. Five of these responses took the view that regulation would be excessive for recreational activity, especially if there was a lack of clear environmental rationale for additional restriction. Some responses in this category grouping took the view that the focus of D&S IFCA should be to regulate commercial rather than recreational activity. Extracts from different responses applicable to different methods and species are set out below:

#### General Response

*The Wembury Marine Conservation Area Advisory Group (WAG) has been very concerned for some time about the potential impact of hand gathering on shore wildlife and ecology, particularly at a location like Wembury. There are occasional reports of groups gathering large numbers of animals such as limpets and winkles locally, and we worry that this could intensify or diversify at any time.*

*Wembury receives a lot of human pressure yet is a very special place for wildlife which people rely on for enjoyment, learning and science. It must continue to be a sanctuary for that wildlife. At the same time, Wembury is very vulnerable to hand gathering because of easy access, including for large vehicles close to the beach. We would therefore welcome restrictions on hand gathering at Wembury (and other vulnerable locations), with any collection requiring a permit and/or strict limits on quantities.*

*Another concern is that unregulated collection of shore crabs as bait could threaten this species that is so important to intertidal ecology. Shore crabs may also be an essential bulwark against invasive crab species.*

*We note the statement in your call for information that 'Good quality information from you can reduce the need for D&S IFCA to be overly pre-cautionary in its approach to managing this and other fishing activities.' While we appreciate that this aims to encourage transparency, we would actively encourage a precautionary approach to management as a sound environmental principle.*

#### Razor Clams

*I have salted for them but not in your jurisdiction. I know they are particularly favoured by the Portuguese but I have not come across anyone doing so around North Devon.*

.....

*Hand gathering of razor clams at Tore Abbey (and other local beaches including Whitsand Bay) is not limited to recreational anglers and foragers. I have seen a number of commercial gatherers taking huge numbers (hundreds) of razor clams at a time, and elastic banding them ready for sale at local restaurants by the bunch. There are a couple of regular people that do this, one is circa 50 years old and can be seen throughout the year, I've seen him have to take his first catch to the car as it was too heavy to carry on, then return and take more. As such, a simple maximum number rule would definitely be appropriate for all forms of shell fish hand gathering and is easily enforceable. Something like 12 - 20 razors per person per day would be more than sufficient for a weekends fishing.*



## Winkles and Limpets

## North Devon (Hele Bay)

*Not a particularly desirable pair of molluscs for the dinner table but both are available here. I know limpets are a regional speciality in Madeira (although a different, flatter species) but I've not seen anyone collect any here. Winkles have been collected here more recently. A friend of mine from Suffolk tried some a few years back but never came back for more. Regulation would be unnecessary and pointless I feel.*

### Comments on existing Byelaw, winkle size gauge of 16mm square.

*My comment for the review is that this seems quite a large size. It may be worth looking at what sizes actually pass through a grid of the specified size. Gentle rotation of the shells will allow them to pass through with the spire upright and the shell height as the limiting dimension. A shell height of 16 mm is a length of about 26 mm based on morphologies I have measured locally in Ireland. Winkles for sale are generally from 20 mm long to larger sizes in domestic markets where we sampled. Obviously, I don't know about compliance in the IFCA region, but it seems that there is a danger that the byelaw may be being ignored. Our study suggests that just above 20 mm shell length may be a reasonable lower size limit for harvest. Surveys of size and density may be used to look for potential harvest impacts and to confirm relevant year class sizes.*

## Prawning

Two responses referenced prawning and explained how challenging it can be to collect any significant quantity and the conditions have to be favourable such as a large spring tide. A response from North Devon stated that an outstanding haul from a custom shaped net would be 300 prawns, with a more typical catch in the region of 100 prawns.

*In the 40 or so years I have been doing this, I can say that there has been no significant variation in catches and no trends to observe. I decide which to keep and which to throw back purely based on a size I feel is right. The only other people I see are 'grocks' with inferior nets and no understanding of where to look for them! If anyone went prawning with the net in your picture, they would go hungry – it's a landing net. I do not feel there is any requirement whatsoever to introduce regulation.*

## Hooking for Crab

Three responses referenced hooking for crab with one questioning how the method had been explained in the D&S IFCA circulated information. Two responses confirmed that this activity is done in the Hele Bay, Clovelly areas of North Devon and on the South Coast of Devon on a small scale.

*I can quite easily claim to have knowledge second to none about crabholes between Watermouth and Ilfracombe. I do still go now, usually with a prawning net on decent tides. Catches now are a fraction of what they used to be. It is not unusual to return home empty handed. Lobsters of keepable size have always been a rarity. In your piece, it claims that crabs or lobsters hold on to the hook. That is nonsense by the way. Crabs need to be turned sideways on and hooked under the 'armpit'. They will almost always let go if they just grab hold of the hook with their claw. My elderly gentleman friend from Morte will have more success with lobsters as his ground is more suitable for them than mine.*

## 7.4 Spear Fishing (Diving)

Amongst the responses that focussed on a mixture of hand gathering methods, four responses referenced the activity of spear fishing. The shortest response didn't raise concern about the activity in general but did suggest that all forms of recreational activity that could catch bass, should be prohibited from Bass Nursery Areas.

A second response was received from the Wembury Marine Conservation Area Advisory Group (WAG) that, although commented on several forms of hand collection, did include some comments about the activity of spear fishing and has been transcribed below as follows:

*We note that spearfishing is one of the listed activities and would be pleased to see it included. The use of Wembury for spearfishing is a long-running worry for us; it contradicts the perception of an MCA as somewhere people go to watch and enjoy wildlife. We are also concerned that spearfishing activity appears to be intensifying in the Wembury area.*

A third response, with mixed content highlighted the following about Spear Fishing on the South Coast of Devon:

*I do know other people that go spearfishing. Activities are highly dependent on state of the sea and visibility underwater and there are often months when spearfishing is not possible.*

*In regard to existing bylaws I see that there is one grey area: hooking for lobsters has no restrictions to my knowledge whereas diving for lobsters does. I hook for lobsters while spearfishing and as spearfishing is not classes as diving but gathering, I am confused as to why I needed to buy the permit at the end of last year. The same with gathering scallops.*

*I believe that spearfishing and hand gathering is very sustainable and does not need regulations. There is very few people doing that in the region, the amount of fish and shellfish removed from the sea is extremely low (I rarely hear about people taking more than 1-3 fish per person, lobsters are extreme rarity in catches amongst my friends mainly because it is so difficult to take them from their holes while breath holding!). Those activities are highly dependent on season and weather and it is a handful of times that we can go out in a year.*

*Now speaking not only about my opinion but general opinion amongst spearfishermen, it is the more popular fishing activities and the ones that remove larger stocks in less selective way that should be regulated as first: commercial fishing in coastal waters and angling.*

*As I said above spearfishermen and people who gather shellfish are able to go out very rarely, the difficulty associated with the activities makes us catch minimal amount of fish and shellfish and I do not believe that it makes any significant decline in stocks of any species.*

The forth response that focussed on the Hele Bay area in North Devon stated:

*Although I have never been myself, I do see fishers from time to time. I do see them here at Hele and also down towards Lee when out potting. I gather Baggy Point is also popular. I have never seen a successful catch, but when I speak to them, they were always more successful the last time they went out! Bass seems to be the target species most of the time but a Pollack or two will also suffice, so they say. I do not feel there should be regulation, other than the existing catch limits and size restriction.*

## 7.5 Queries, Complaints and Information of Limited Use

Two responses were submitted seeking further information only. The remaining four responses have been set out below as follows:

| Response no. | Topic/Area               | Comments  |
|--------------|--------------------------|---|
| 1            | Dunster Beach            | Response from the Director of Dunster Beach Holidays to confirm that no hand gathering activities take place on their section of the beach. |
| 2            | Not specified            | "Get a real job".   |
| 3            | Hand Gathering (Mussels) | "If you had done your job properly then you wouldn't have had to shut a public shellfish bed".  |

Another response was set out in more detail and has been partially transcribed below as follows:

- *Enforcement is not the solution.*
- *Secondly you are not trusted*
- *You are not fair or balanced*

*You interpret rules as you see fit e.g. Exmouth marine and sea horses. You cannot be challenged a home office ombudsman is difficult to instigate. You are also allowed to come to an unlawful decision. Therefore understand that your organisation is being monitored*

*However, bait shellfish is covered under the public right to fish your or any new bylaws cannot override this.*

*My opinion is you have officers who are not to enforce to come with us fisherman and bait collectors to spend time and question us. This gives you the chance to get your opinion over to us with no barrier (and limits) our chance to explain to you what we know.*

*You can talk to (others) who are harvesting from our shores. These people have a lack of understanding. I believe they are taking undersized and excess amounts thus harming our stock which we and our fathers have managed before us.*

*I personally do not rake. It is not natural. I don't like to harm the bed. The mussels have gone in the Teign and I believe the water has been harmed by the dredging which I have photos of being done outside of guidance, for example on an incoming tide.*

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**End of Report**