Review of existing management and development of new management for KEIFCA District cockle fisheries

Results of Consultation 1 – Management options for consideration and decision-making by Members

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General comments from industry applicable to all management options

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within? (b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in? (c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

- VMS should be compulsory in KEIFCA area, for all vessels.
- Too much paperwork will discourage new entrants
- Adding extra licences to the fishery would have a detrimental effect to overall investment in our coastal communities and add extra pressure in terms of administration and management to the KEIFCA officers. It would undoubtably bring more conflict with Natural England and add pressure to the Army who need to alert each vessel about firing orders on the Maplin Sands.
- Boundary lines should not go through sands
- Merge the Essex and Kent areas, make sure it is open to all Kent and Essex fisherman that have a permit In the new management zone Gear is suction dredging which is easy to monitor and check
- Whatever option chosen Rules that are made will always be adhered to if a fair penalty system is in place.
- overall I think most fishers comply with the rules that an IFCA makes.

Creating an environmentally responsible fishery

(a) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock? (b) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (c) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

- Breakage rules and gear size should be adhered to for all vessels that take part in the fishery
- In the new management zone, it needs to be kept at 14 licenses initially until the tac is considerably higher than it currently is, otherwise this will have a detrimental effect on the investment within the industry and shoreside operations

Helping to support a successful and resilient local coastal economy

(a) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (b) Will the option help support local skilled employment? (c) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains? (d) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

- You aren't limiting licences when there are only 14 existing now. Increasing licences will not work when you are decreasing the area and would be detrimental to the cockle industry by causing lack of investment and becoming unviable financially.
- There has been the option to issue more than 14 licenses for the entirety of the existing regulating order. To date, this has not been deemed a feasible option as it would make the fishery unviable. We struggle to find the rationale for it increasing.
- Too many licences for reduced area
- More vessels means more competition. More competition means higher prices. At the moment you have two companies setting the price. More employment.
- Maintaining MSC is totally aligned with the objectives of this consultation.
- We believe keeping the MSC accreditation is crucial to ensure the product is sellable at a retail level (this is industry standard).
- fishery to be awarded the MSC world recognition which is now of major importance for the sale of the finished product. This is now a requirement by most major retailers worldwide.
- To make investment worthwhile, daily quota should go up to two tons.

Strengthening and supporting our dynamic local coastal community

(a) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers? (b) Does the option help encourage businesses to invest in a safe and skilled workforce? (c) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

- The TECFO fishery historically has larger TACs than the Wash fishery where 61 entitlements are issued. Each year in the Wash 45 to 55 Fishers take part sharing a smaller TAC than the TECFO shares with 14 fishers. Fishers in the Wash do make a living in a fair and proportionate manner and some Thames fishermen also take part in the Wash fishery so it must be viable for them to travel and take part.
- No as issuing 15-20 licenses will cut down the prospect of investment as the tac would have to be reduced with consequent negative effect on economies of scale. 20 licenses would make the fishery unstable for investment in anyway
- the purpose built cockle boats do not have any other entitlement to fish for other species
- The Current CFFPB to be limited to no more than 20 vessels with limited TAC suggesting maximum of 2 tons per trip. The current CFFPB allows for any gear type as long as criteria regarding damages and minimum sizes are met. By default the current CFFPB makes it possible for local fishers to get involved and try fishing methods that suit there vessels. Although 2 tons is not enough to sustain a business that targets cockles as its only source of income it would be enough to supplement a local boat's income and also is enough, if vessels combine their fishing activities, for a processor to be willing to accept the cockles.
- Cockling is specialised, and we do not have knowledge of other fisheries, where we have invested our time (and resources) into the cockle industry.
- Small scale should refer to catch limits not vessel size or gear.
- Modern under 10's are bigger than my boat. Small traditional under 10 metre vessel are at risk from the weather, define their days? they aren't used to working Monday Friday. The boats have got bigger due to safety and efficiency.
- Allowing for small scale investment which will lead to long term gain and employment opportunities.
- Small boats cannot catch and process their cockles. They are so weather restricted they will need to go out and random times in the week, most fishermen do not land Monday- Friday, as the weather and tides don't let them. if 3 boats land 1 tonne in Kent who is going to cook them, if they try and proc
- Small scale should refer to catch limits not vessel size or gear. Small scale as follows less than 14 metres, less than 5 metres wide, any gear type, try maximum catch 4-6 tonne for suction dredging maybe reduce for drag dredging as smaller boats cant carry the weight
- It will only help training and safety if the vessels are capable of working the CMZ, otherwise people will go out single handed, this isn't a small boat fishery, as the gear is heavy and the processing will have to be carried out in line with other fisheries.
- MCA have made no room for unsafe unskilled labour
- Vessels, not using present gear, must have stability book.

VOTE 1 Officer recommendation

It is **RECOMMENDED** that the Authority vote for suction dredge and small-scale framework options, which would mean the CAYMAN and the CAYMAN 28 outline frameworks would be discarded from the process.

Choose between two types of options

Options that include a small-scale fishery

Options that are suction dredge only and don't include a small scale fishery

VOTE 1

Recommendation

Chose suction dredge and small-scale framework options.

Discard **CAYMAN** and **CAYMAN** 28 options.

CAYMAN



CAYMAN 28



CAYMAN management option

Option Summary

CAYMAN had limited support with only a few respondents picking this option as a second or third choice. This option was strongly opposed by most of the current TECFO fleet, some of the current permit fleet and the local inshore fleet as it, in any real terms, denies the inshore fleet and any permit holder unable to get a licence, the ability to fish for cockles for the length of a new Regulating Order (20-30 years). Respondents did highlight the simple and straightforward nature of this option which built on the success and well-established practices of the current Regulating Order.



Key comments and thoughts from Authority members on this option:

Members reflected that this was the simplest option as it managed all the Thames cockles under one system. There would be obvious advantages in developing one piece of legislation that would be easier to administer and enforce whilst giving the maximum flexibility to the fishers involved in the fishery.

The original industry proposal suggested 28 suction dredge licences could be issued for this new area. Authority members reviewed this proposal and felt that a range of 15-20 licences was a more realistic range taking into consideration feedback from the listening phase, the economics of the fishery and the potential impact of more suction dredges working on cockle beds.

However, members also reflected that this option could be challenging for the inshore fleet that are not currently part of the cockle industry and might not meet their desire to be involved in the fishery but in a less intensive way.

Option Description

The CAYMAN option manages the cockles across the District under one management regime, encompassing all the key historic Thames cockle beds in a Thames Management Zone, with management provided by a new Regulating Order. Under this option, management would be set up and run for cockle suction dredging gear as used currently in the TECFO and CFFPB fisheries.

Reviewing feedback from the Listening Phase as well as considering the history, experience and environmental impact of suction dredge cockle fisheries, Authority members concluded that a large increase in suction dredges could have a significant negative impact on the long-term sustainability of the Thames cockle fishery. In response to this, members agreed that it was important to cap or limit the number of suction dredge licences that would work in the Thames Management Zone.

The areas outside the Thames Management Zone would retain an amended cockle fishery permit byelaw, so that a management system would be in place in the event of new cockle beds being found outside the Thames Management Zone. While this is unlikely, with virtually all the cockles harvested in the KEIFCA district over the last 30 years coming from the Thames, patches of cockles have been found outside the Thames from time to time.

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available to the licence holders over the last 11 years under this option. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.





Summary of feedback on CAYMAN from Consultation 1

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in?

(c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

• The CAYMAN option is definitely the simplest and most straightforward option to administer and enforce as there would be one set of stakeholders with similar wants needs and business models.

• Smaller chance of poaching or IUU

[•] Would be a lot more efficient as there would be one set of stakeholders, management meetings, meeting papers etc. rather than having to set-up two very similar systems that duplicate effort TECFO and Permit system.

[•] All the gear would be the same and would build on the tried and trusted enforcement regime we currently use. More vessels would have a proportionate impact on additional enforcement costs however additional costs could be reclaimed from the licence fee and there would be enforcement cost savings from not policing the permit fishery.

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

Industry comments	
Advantages	Disadvantages
• Environmentally it is not too bad as the TAC will control the fishery.	 If there's more suction dredge licences issued it will need to have better management More dredges mean more ground exploitation More boats, more effort, more fuel more emissions, less management Concern from industry regarding future MSC accreditation under proposed framework
Officer comments	
All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the	

• All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the CAYMAN option the TAC for all the cockle beds in the Thames would be divided evenly between 15-20 licences.

• Issuing more licences could put more pressure on the high yielding cockle beds as fishers compete for the most profitable fishing.

• Would make impact assessments/ appropriate assessments more straight forward and accurate as all the gear would be the same and VMS gives us a high degree of pression on impact.

• Initial discussions with the MSC accreditation team indicated the MSC accreditation would probably not be impacted as same general management systems would remain in place. However, until the detail of a final proposal is produced it would be difficult for the MSC team to make a definite comment

Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

 Disadvantages Very significant concern from a large number of respondents currently working in the TECFO that issuing more than 14 licences would make the fishery unsustainable. Track record has shown that 14 is sustainable over time. Additional licenses, without additional TAC will mean 	
respondents currently working in the TECFO that issuing more than 14 licences would make the fishery unsustainable. Track record has shown that 14 is sustainable over time.	
 that the existing workforce will have less work. The beds included to make the area larger have never produced any quantities of cockles on a regular basis, if any at all. This would lead to an increase in fishing activity on the main beds and reduce commercial viability. This will result in a culture of temporary unskilled workers. 20 licenses would see skilled employment move to other sectors for a better income. More licences would be detrimental to long-term investment and growth it would not encourage people to invest long term and growth in the industry as entry costs into the industry are huge. This will only assist the existing cockle fishermen 	
Officer comments	
 Introducing more licences would change the current status quo and could affect the profitability of the companies currently working in the TECFO. Significant increases in licences could be a risk to the long-term viability of the business currently working in the TECFO fishery. This option would however create new opportunities for companies that have worked in the permit fishery or have fished in the Thames and over the period of the new Regulating Order would set up a new set of opportunities for companies to adapt to. Increasing the number of boats would increase the demand for skippers and crew but could lead to less trips per boat or to the same number of trips but each trip landing less cockles and being less profitable, which could impact the professionalism and expertise in the fleet. Shore side infrastructure for unloading is already at a premium and would be a logistical issue that would need to be 	

Shore side infrastructure for unloading is already at a premium and would be a logistical issue that would need to be
overcome with more boats in the cockle fleet. More boats could mean more shore side logistics.

Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?(I) Does the option help encourage businesses to invest in a safe and skilled workforce?

(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Industry comments		
Advantages	Disadvantages	
 This option should encourage long term investment in all areas. It may increase employment This option will sustain a viable long-term cockle fishery. I think that this option offers the framework to provide all involved with a sustainable fishery in the district. It will help support local skilled employment but should also support the current skilled cockle fishers that work in the outside permit fishery, that are not all local boats but rely on the Thames fishery and are committed to it. 	 Additional licenses, without additional TAC will mean that the existing workforce will have less work This will result in a culture of temporary unskilled workers. This option does not offer fair opportunities to individuals or business and certainly would be cost prohibitive to the young or new fishers. Does not provide fair opportunities as there will be lots more fishers that want to be involved in the fishery and will be happy with a smaller daily catch to be involved in the fishery It doesn't support existing Fisherman working outside the current Regulating Order. It should be remembered the independents who have to work 6/7 days a week, to be able to work the poor current outside area. We have spent and wasted lots of money trying to fish outside the area. Not good for long term, other than 15-20 licenced boat no one makes any money. Only helps the select few existing cockle fishermen; same as it is now and doesn't help North Essex/Mersea now. If you are a current permit holder and you get a new licence great, if not you miss out altogether. The fishery would be too volatile for young fishers to consider a long future within in it 20 licenses would see skilled employment move to other sectors for a better income This will only assist the existing cockle fishermen Shore side this year there are only probably going to be three processing factories. I think it will soon be two Fruits of the sea and Osbornes. Both have made massive investments and are working very hard for the local industry and employment. Hopefully the other boats within the current TEFCO will serve these local processors and help the local infrastructure etc. But at present it is very non-committal. Even though the existing system has been so successful for the fishery there has still been a steady decline in shorebased activities over the last 30 years. An increase in license numbers creating a less profitable fishery will only hast	
Officer comments		

• The cost of setting up a suction dredge cockle boat is significant and could practically exclude a large number of the local fishermen that expressed an interest in fishing for cockles, and especially any new or young fishers.

• Would have a very large impact on the current suction dredging vessels and business fishing in the permit area if they did not get a licence under the new regulating order, as it would completely exclude them from the cockle fishery and its income.

- Current TECFO operators have generally well-maintained cockle boats and experienced skippers and the current industry retains a lot of its skills and experience with some fishers working in the industry over their whole career. Reducing the profitability of the licences could impact the amount companies could invest in training their staff.
- Current TECFO fleet has a higher proportion of younger fishers than the other fisheries in the district. Reducing the profitability of the licences could impact the amount companies could pay younger staff and reduce their longer-term prospects.
- Although there would more licensed boats working under this option the high likelihood is that they would still land and support the current ports like Leigh-on-Sea and Whitstable at is associated tourism. Potentially with more vessels new ports might also emerge as focal points for the cockle industry.

CAYMAN 28 Management Option

Option Summary

CAYMAN 28 was initially suggested in the Listening Phase and then reviewed and discarded as an option by the Authority, as a result it was not included the Consultation 1 document. However, this option was proposed again during Consultation 1 by a handful of stakeholders who felt that issuing 28 licences could be a viable option and would provide a lot more fishers with the opportunity to take part in the fishery. As this specific option was not discussed as part of Consultation 1 it is difficult to precisely say what the stakeholder response would be to this, however it would be fair to say that many of the objections and criticisms of the CAYMAN option would be repeated if not magnified for this option.



Key comments and thoughts from Authority members on this option:

Members reflected that this was the simplest option as it managed all the Thames cockles under one system. There would be obvious advantages in developing one piece of legislation that would be easier to administer and enforce whilst giving the maximum flexibility to the fishers involved in the fishery.

The original industry proposal suggested 28 suction dredge licences could be issued for to fish in this new area. Authority members reviewed this proposal and felt that a range of 15-20 licences was a more realistic range taking into consideration feedback from the listening phase, the economics of the fishery and the potential impact of more suction dredges working on cockle beds.

However, members also reflected that this option could be challenging for the inshore fleet that are not currently part of the cockle industry and might not meet their desire to be involved in the fishery but in a less intensive way.

Option description

The CAYMAN option manages the cockles across the District under one management regime, encompassing all the key historic Thames cockle beds in a Thames Management Zone, with management provided by a new Regulating Order. Under this option, management would be set up and run for cockle suction dredging gear as used currently in the TECFO and CFFPB fisheries.

Reviewing feedback from the Listening Phase as well as considering the history, experience and environmental impact of suction dredge cockle fisheries, Authority members concluded that a large increase in suction dredgers could have a significant negative impact on the long-term sustainability of the Thames cockle fishery. In response to this, members agreed that it was important to cap or limit the number of suction dredge licences that would work in the Thames Management Zone. Whilst the Authority considered the initial 28 licences as originally proposed for this option during the Listening Phase, Authority members felt more confident in consulting on an initial range of suction dredge licences between 15 and 20. However, 28 licences was proposed again during Consultation 1 by a handful of stakeholders.

The areas outside the Thames Management Zone would retain an amended cockle fishery permit byelaw, so that a management system would be in place in the event of new cockle beds being found outside the Thames Management Zone. While this is unlikely, with virtually all the cockles harvested in the KEIFCA district over the last 30 years coming from the Thames, patches of cockles have been found outside the Thames from time to time.

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available (see ** for method and assumptions) to the licence holders over the last 11 years under this option. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.



Figure 2 Retrofitted TAC for CAYMAN option based on 2011-2021 KEIFCA stock surveys.

Summary of feedback on CAYMAN 28 from Consultation 1

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in? (c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

Industry comments	
Advantages	Disadvantages
 Simpler system with clear rules that apply to everyone and easy to understand Would be most cost-effective solution proposed. Suction dredge fishery is relatively easy to monitor, check and enforce. Would reduce amount of paperwork for fishers and KEIFCA as only one set, however, also view that current paperwork system is quite straight forward and lots of help available. 	 More dredges means more catches to be inspected meaning more scope for illegally landed or 'black' cockles
Officer comments	
As with the original CAYMAN option, CAYMAN 28 option is definitely the simplest and most straightforward option to	

- As with the original CAYMAN option, CAYMAN 28 option is definitely the simplest and most straightforward option to
 as there would be one set of stakeholders with similar wants needs and business models.
- All the gear would be the same and would build on the tried and trusted enforcement regime we currently use. Managing 28 licences would be a doubling of our enforcement workload as more biosecurity checks, damage rate checks and landing inspections would need to be undertaken, however some of this increase would be mitigated by not running a permit fishery.
- Smaller chance of poaching or IUU

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

Industry comments	
Advantages	Disadvantages
• Environmentally it is not too bad as the TAC will control the fishery.	 If there's more suction dredge licences issued it will need to have better management More dredges mean more ground exploitation More boats, more effort, more fuel more emissions, less management Concern from industry regarding future MSC accreditation under proposed framework The carbon footprint might be slightly higher with this option
Officer comments	

- Issuing more licences would put severe pressure on the high yielding cockle beds as fishers compete for the most
 profitable fishing. Officers would have serious concerns about the impact on the seabed of increasing the number of
 dredgers to 28 even under a TAC system where effort per licence was halved. At the very least officers would
 recommend a staged increase in licenses rather than a jump straight to 28 so that environmental variables can be
 monitored as licences/ vessel numbers increase.
- Would make impact assessments/ appropriate assessments more straight forward and accurate as all the gear would be the same and VMS gives us a high degree of pression on impact.
- Initial discussions with the MSC accreditation team indicated the MSC accreditation would probably not be impacted
 as same general management systems would remain in place, however additional evidence might need to be
 supplied to the MSC assessors to show them that additional licences/ vessel numbers have not had an impact on the
 principle 2 Ecosystem criteria.

Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

Industry comments	
Advantages	Disadvantages
 Would employ more people. One person at sea supports fifteen ashore. More vessels means more competition. More competition means higher prices. At the moment you have two companies setting the price. More employment. View from members of the cockle industry outside the current TECFO fishery that this option could sustain a viable long-term cockle fishery. "I think that this option offers the framework to provide all involved with a sustainable fishery in the district " This option will help support local skilled employment but should also support the current skilled cockle fishers that work in the outside permit fishery, that are not all local boats but rely on the Thames fishery and are committed to it. If fishers are to remain and invest in the cockle fishery they must have security and a guarantee to invest long term and be assured they can take part every year there is stock available. This option should encourage long term investment in all areas and offers the chance for all involved to invest into the fishery, leading to growth in the economy and supporting local infrastructure and supply chains. It won't increase employment; everything will remain the same. 	 Very significant concern from a large number of respondents currently working in the TECFO that issuing more than 14 licences would make the fishery unsustainable. Track record has shown that 14 is sustainable over time. Additional licenses, without additional TAC will mean that the existing workforce will have less work. The beds included to make the area larger have never produced any quantities of cockles on a regular basis, if any at all. This would lead to an increase in fishing activity on the main beds and reduce commercial viability. This will result in a culture of temporary unskilled workers. 20 licenses would see skilled employment move to other sectors for a better income. More licences would be detrimental to long-term investment and growth it would not encourage people to invest long term and growth in the industry as entry costs into the industry are huge. This will only assist the existing cockle fishermen
Officer comments	
 Doubling the number of licences would change the current status quo and would significantly affect the profitability of the companies currently working in the TECFO. Doubling the number of licences would be a risk to the long-term viability of the business currently working in the TECFO fishery. This option would however create significantly more opportunities for new companies that have worked in the 	

- In the opportunities for new companies that have worked in the permit fishery or have fished in the Thames and over the period of the new Regulating Order would set up a new set of opportunities for companies to adapt to.
- Increasing the number of boats would increase the demand for skippers and crew but could lead to less trips per boat or to the same number of trips but each trip landing less cockles and being less profitable, which could impact the professionalism and expertise in the fleet.
- Shore side infrastructure for unloading is already at a premium and would be a logistical issue that would need to be overcome with more boats in the cockle fleet. More boats could mean more shore side logistics.

Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?
 (l) Does the option help encourage businesses to invest in a safe and skilled workforce?
 (m) Does the option help support the basinesses and culture of the cockle fishers, including supporting local tourism acceptation.

(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Industry comments	
Advantages	Disadvantages
It may increase employment	 This option does not offer fair opportunities to individuals or business and certainly would be cost prohibitive to the young or new fishers. Does not provide fair opportunities as there will be lots more fishers that want to be involved in the fishery and will be happy with a smaller daily catch to be involved in the fishery It doesn't support existing Fisherman working outside the current Regulating Order. It should be remembered the independents who have to work 6/7 days a week, to be able to work the poor current outside area. We have spent and wasted lots of money trying to fish outside the area. Not good for long term, other than 15-20 licenced boat no one makes any money. Only helps the select few existing cockle fishermen; same as it is now and doesn't help North Essex/Mersea now. If you are a current permit holder and you get a new licence great, if not you miss out altogether. The fishery would be too volatile for young fishers to consider a long future within in it
Officer comments	

• The cost of setting up a suction dredge cockle boat is significant and could practically exclude a large number of the local fishermen that expressed an interest in fishing for cockles, and especially any new or young fishers.

- The CAYMAN 28 option would provide an opportunity for the current suction dredging vessels and business fishing in the permit area to get a licence in the new regulating order.
- Current TECFO operators have generally well-maintained cockle boats and experienced skippers and the current industry retains a lot of its skills and experience with some fishers working in the industry over their whole career. Reducing the profitability of the licences could impact the amount companies could invest in training their staff.
- Current TECFO fleet has a higher proportion of younger fishers than the other fisheries in the district. Reducing the profitability of the licences could impact the amount companies could pay younger staff and reduce their longer-term prospects.
- With double the number of licensed boats working under this option the high likelihood is that they would need to find additional places to land. Potentially with more vessels new ports might also emerge as focal points for the cockle industry.

VOTE 2 PART 1

Officer recommendation

It is **RECOMMENDED** that the Authority vote to take **NEW JAMAICA** and **NEW HAITI** framework options through to the Consultation 2 stage.



NEW JAMAICA management option

Option Summary

JAMAICA was one of the most strongly supported options especially by fishermen that don't currently work in the TECFO fishery, as well as some fishermen that work in the current permit fishery. Including Area 15 (North Margate Sands) in the permit fishery area provides cockle beds for Thanet fishermen to access and earn an income from. Conversely the importance of this area and the impact of the loss of this area, from what is currently in the TECFO, was expressed strongly by the current TECFO licence holders. Most replies did not support an increase in issuing more licences in a new regulating order, instead the large majority of both current licence holders, permit holders and inshore fishers currently not working in the cockle fishery supported limiting the number of licences issued to 14. However, the choice made by the Authority was to consult on a range of licences from 15-20, the revised option varies this range to 14-20 licences to reflect the feedback from Consultation 1 and gives the Authority scope to look at and consult on different possible future access arrangements.



Key comments from Authority members on the original JAMAICA option:

Members felt it was important to include Area 15 in the new 'outside' permit fishery as this ground provided Kent fishermen with access to a high yielding stock.

Other boundary options that reduced the area of a new Regulating Order significantly or created a small-scale only fishery were discussed by Authority members. Although cockle fisheries like the Wash run on this basis, on balance members felt that this would have a significant detrimental impact on the current local cockle industry.

Members did feel that the range of licences within the proposed new Regulating Order should be increased and suggested a proposed range of 15-20 licences.

Members reviewed cockle harvesting in other UK fisheries and discussed the Listening Phase feedback from the inshore fleet that are not currently part of the cockle industry. Members strongly supported setting up a small-scale fisheries trial.

NEW JAMAICA description

A number of changes have been made to this option building on the feedback and suggestions from the consultation process. The first significant change was to replace the small-scale fisheries trial in the areas outside a new Regulating Order with a proposal to develop a small-scale permit fishery. The plan would be to use Consultation 2 to consult in more detail on adapting our current cockle fishery permit byelaw to create a long-term opportunity for the inshore non-cockle sector that seeks to better mirror their needs. Based on the overwhelming feedback from the consultation process the second change was to modify the number or range of potential licences issued in the Regulating Order to include the potential to issue 14 licences (new range 14-20 licences).

The boundaries of the management zones remain the same as outlined in Consultation 1 and move away from the historic TECFO boundaries, creating a larger area outside the new Regulating Order off the Kent coast, including the potentially high yielding but highly variable cockle beds in the Margate Sands (Area 15). The Northern and Eastern boundaries are similar to the previous TECFO boundaries, enclosing the main cockle beds of the Maplin Sands complex and managing these beds as a coherent biological unit. Off the North Essex coast, and outside the new NOTFO, area 7 contains both consistent and productive beds of the Buxey and the Dengie, with the potential of an emerging clam fishery, providing an additional opportunity for boats in the small-scale fisheries trial to explore.

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available to the two proposed fisheries over the last 11 years. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.



Figure 3 Retrofitted TAC for JAMAICA option based on 2011-2021 KEIFCA stock surveys.

Summary of feedback on JAMAICA from Consultation 1

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in?

(c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

Industry comments	
Advantages	Disadvantages
 "It's simple, I like it." "Yes its simple, its an existing fishery with some modifications, gear type in TMZ is already set and managed. Suction dredging in CMZ will be the same." "Other gear types is up to KEIFCA, but will struggle to make it viable KEIFCA have vast experience already in these rules so yes" 	 Enforcement will be a key issue 14 boats hemmed into a smaller area would make the impact disastrous.
Officer comments	
 The framework builds significantly on the current Regulating Order/ permit byelaw framework which has been running in its current form since 2014 and is well understood by the cockle industry. However, compared to the CAYMAN option, administering, and enforcing two different management systems would be less efficient than managing one system. Although the southern boundary change impacts in the economics of a new regulating order and permit byelaw area, from the perspective of the simplicity of the framework, the amount of administration and enforcement the changes would be minimal. 	

• Enforcement a new small-scale fishery will bring its own new challenges, especially as new gear types or methods will need to be developed. Vessel monitoring (IVMS) will be an important tool in keeping track of more smaller boats in the fishery and coordinating efficient enforcement.

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

Industry comments	
Advantages	Disadvantages
	 "Currently Area 15 is a sporadic bed not giving constant stock and it is hard to survey as a lot of these areas dryout and are too shallow to survey. " "Area 15 requires collection of classification samples which has cost the current cockle industry *** as local authorities won't fund it and the PLA don't have the manpower or vessel availability" "Concerns that in experienced fishermen with new dragged cockle gear could "smash both the seabed to pieces and damage lots of cockles in the process, gaining nothing. Especially bad on good high yielding ground" "Increasing effort and removal of cockles in the area outside the Regulating Order that are currently rarely fished could impact the cockle stocks inside the Regulating Order as at present these areas are a source of brood stock for future years " "Very concerned about MSC status. Some new cockle harvesting gear types and methods could put this in jeopardy"
Officer comments	

All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the
JAMACIA option the TAC for all the cockle beds in the Thames would be calculated and a TAC set for each area which
would then be divided by the number of licences or permits issued for that area.

• Any new type of cockle harvesting would need to have a riddling system or sorting system that can efficiently sort and return cockles below the minimum size to the same accuracy as the current 1.75m mechanical riddle.

- HRA submitted and passed every year since the mid 90's for the TECFO suction dredge fishery. Since 2017, the high
 report rate vessel tracking (position point every 5 minutes) and a standard fixed dredge width allows an accurate
 quantifiable assessment of impact on the seabed.
- Historic cockle dredging effort outside the TECFO area over the last decade has been limited to area 7 and to a
 handful of days fishing, leaving nearly a year for beds to recover. More regular and intense dredging in a wider range
 of MPAs outside the TECFO area will require a new HRA. It is high likelihood that Natural England would require
 significant controls similar to those currently used in the TECFO for the fishery to pass an HRA (vessel tracking,
 number of fishing trips per boat per season and size and setup of gear etc).
- Any new type of cockle harvesting gear would need to pass a very thorough assessment of its impact on the seabed and its damage rate on cockles as part of the harvesting activity.

Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

Industry comments	
Advantages	Disadvantages
	 "It would clearly see the demise of investment and skilled workforce and be catastrophic to the coastal community" "Some years the Maplin simply doesn't produce and the fleet will look for cockles elsewhere to ensure the Maplin's future. These boundaries would mean that in years where the Maplin is struggling, the cockle fleet would have to decide whether to risk the Maplin's future or simply not sail." A total misconception of area 15 when the bed does not open regularly and who is going to pay for the collecting of the classification samples, as local authorities won't fund it and the PLA don't have the manpower or vessel availability
Officer comments	

• Areas 15, the North side of the Margate sands are high yielding beds and have provided an income to the current TECFO licence holders in 2020 and 2022 however prior to 2020 these beds were neither fished or surveyed and did not contribute to the income of the TECFO licence holders. The combination of changing the boundaries of the Regulating Order and introducing more licences, would change the current status quo and could affect the profitability of the companies currently working in the TECFO. Significant increases in licences in combination with losing the income from areas 1-3 could be a risk to the long-term viability of the business currently working in the TECFO fishery.

• Creating a reliable small-scale fishery outside the Regulating Order rather than an intense and intermittent suction dredge fishery in the area outside a regulating order could create a small but reliable income and potentially new seasonal income for local fishermen not currently working in the cockle industry. Whist not specifically creating new jobs, this could help support current fishers, help make their businesses more resilient by providing a new income in the summer, whilst also taking pressure from other fisheries in the Thames and helping support the shore side facilities and local infrastructure.

However, setting up a small-scale fishery using gear that has not been used in the district would require a significant
amount of time and investment from a new entrant in both making and setting up the gear to work efficiently and
sustainably (meeting damage rate requirements).

 This option could also create the potential for new processing and marketing opportunities in low volume high value cockles.

Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?(l) Does the option help encourage businesses to invest in a safe and skilled workforce?(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Industry comments	
Advantages	Disadvantages
 "This is the best option for <10m boats using alternative methods for cockles." "This will reduce the 'monopoly effect' of the current fishery " "I agree with the option of 15-20 for local able boats within the Thames Estuary" "10-12 would be enough licences to fish the reduced area" "Looks good and workable for <10metre new entrants to the fishery." "I would like the opportunity to fish the Margate area small-scale fishery." "small boat as used in Solent good open up better returns for small boat fishermen when weed or spider crabs make other fisheries unviable" "Jamaica is easier to access from Margate harbour where I moor my boat and I am more familiar with the ground. No other areas are of interest to me." "New licences/permits must only be given to local Thames estuary fishermen." 	 "The increase in licenses would see the end of investment in the workforce, vessels and premises and be catastrophic to the coastal community." "Please think about two under 10 metre boats landing in Kent 1 ton each, how are they going to get them processed?"
• "The fairest yet"	omments
fished as a suction dredge fishery in large industrial volum scale fishery which could be accessed by other members of fishing business rather than the current cockle fleet that i additional high yielding but historically sporadic cockle be this would open up a new opportunity to the Thanet fishe Within the proposed new regulating order the cost of set practically exclude a large number of the local fishermen especially any new or young fishers. Current TECFO operators have generally well-maintained maintains a lot of its skills and experience with some fishe the profitability of the licences could impact the amount of	ed in the area that could be fished by the small-scale fleet, ermen. ting up a suction dredge cockle boat is significant and could that expressed an interest in fishing for cockles, and cockle boats and experienced skippers. Current industry ers working in the industry over their whole career. Reducir companies could invest in training their staff.
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• Provides opportunities for new capable entrepreneurs to enter the market and try new ideas.

NEW HAITI management option

Option Summary

The NEW HAITI option maintains the current TECFO boundaries and received a significant amount of support, although most fishers currently in the permit fishery and inshore fishermen supported the JAMAICA as their first option and most fishers currently working in the TECFO supported the NEW BERMUDA as their first option. The NEW HAITI option builds on the current cockle management framework providing opportunities for both the small-scale fishery in the permit area and a larger scale suction dredge fishery in a new Regulating Order. However, the choice made by the Authority was to consult on a range of licences from 15-20, the revised option varies this range to 14-20 licences to reflect the feedback from Consultation 1 and gives the Authority scope to look at and consult on different possible future access arrangements.



Key comments from Authority members on the original HAITI option:

The management boundaries suggested for this option, like the Bermuda and Grenada options, reflected an option that was commonly suggested by the industry, especially fishers involved in the current cockle industry, during the Listening Phase both in oral and written evidence.

Other boundary options that reduced the area of a new Regulating Order significantly or created a small-scale only fishery were discussed by Authority members. Although cockle fisheries like the Wash run on this basis, on balance members felt that this would have a significant detrimental impact on the current local cockle industry.

On balance members felt that maintaining the current boundary was a strong option, members did however feel that the range of licences within the proposed new Regulating Order should be increased and suggested a proposed range of 15-20 licences.

Members reviewed cockle harvesting in other UK fisheries and discussed the Listening Phase feedback from the inshore fleet that are not currently part of the cockle industry. Members strongly supported setting up a small-scale fisheries trial.

On balance although reducing the area of a new Regulating Order did create a larger area with more cockle beds for a potential permit fishery the difference was not significant.

NEW HAITI description

A number of changes have been made to this option building on the feedback and suggestions from the consultation process. The first significant change was to replace the small-scale fisheries trial in the areas outside a new Regulating Order with a proposal to develop a small-scale permit fishery. The plan would be to use Consultation 2 to consult in more detail on adapting our current cockle fishery permit byelaw to create a long-term opportunity for the inshore non-cockle sector that seeks to better mirror their needs. Based on the overwhelming feedback from the consultation process the second change was to modify the number or range of potential licences issued in the Regulating Order to include the potential to issue 14 licences (new range 14-20 licences). The boundaries of the management zones remain the same as outlined in Consultation 1 and The NEW HAITI option would keep the boundary of the current Thames Estuary Cockle Fishery Order 1994 (TECFO 1994).

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available to the two proposed fisheries over the last 10 years. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.



Figure 4 Retrofitted TAC for HAITI option based on 2011-2021 KEIFCA stock surveys.

Summary of feedback on NEW HAITI from Consultation 1

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in? (c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

Industry comments	
Advantages	Disadvantages
 These boundaries will help the current TECFO fleet to stay sustainable, continue to invest in their industry and the wider fishing community, whilst supporting new permit holders to the Kent and Essex management zones (050802) Maintaining current boundaries will keep the fishery at the sustainable level that it has held for many years 	 Would like to see a larger area Area 6 could taken out of the Thames management zone and put into the Essex coast management zone because of the reluctance of licence holders to fish the area. This would make The Essex coast management zone a more viable proposition.
Officer comments	
its current form since 2014 and is well understood by th	der/ permit byelaw framework which has been running in e cockle industry. However, compared to the CAYMAN gement systems would be less efficient than managing one

• Enforcement a new small-scale fishery will bring its own new challenges, especially as new gear types or methods will need to be developed. Vessel monitoring (IVMS) will be an important tool in keeping track of more smaller boats in the fishery and coordinating efficient enforcement.

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

Industry comments	
Advantages	Disadvantages
 I believe a tow dredge would be the most effective form of small-scale cockle fishing. The break rate would be a concern depending on the type of ground fished. Yes, as long as limited tonnage and method of fishing and all criteria are adhered to. 	 No, you are increasing the effort in the management zone. No, too much effort in the management Zone.
Officer comments	
 All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the HAITI option the TAC for all the cockle beds in the Thames would be calculated and a TAC set for each area which would then be divided by the number of licences or permits issued for that area. Any new type of cockle harvesting would need to have a riddling system or sorting system that can efficiently sort and return cockles below the minimum size to the same accuracy as the current 1.75m mechanical riddle. HRA submitted and passed every year since the mid 90's for the TECFO suction dredge fishery. Since 2017, the high report rate vessel tracking (position point every 5 minutes) and a standard fixed dredge width allows an accurate quantifiable assessment of impact on the seabed. 	
• Historic cockle dredging effort outside the TECFO area over the last decade has been limited to area 7 and to a handful of days fishing, leaving nearly a year for beds to recover. More regular and intense dredging in a wider range of MPAs outside the TECFO area will require a new HRA. It is high likelihood that Natural England would require	

- significant controls similar to those currently used in the TECFO for the fishery to pass an HRA (vessel tracking, number of fishing trips per boat per season and size and setup of gear etc).
 Any new type of cockle harvesting gear would need to pass a very thorough assessment of its impact on the seabed
- Any new type of cockle harvesting gear would need to pass a very thorough assessment of its impact on the seabed and its damage rate on cockles as part of the harvesting activity.

Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

Industry comments	
Advantages	Disadvantages
	• it needs to be kept at 14 licenses initially until the tac is considerably higher than it currently is, otherwise this will have a detrimental effect on the investment within the industry and shoreside operations
Officer comments	

- Introducing more licences, would change the current status quo and could affect the profitability of the companies currently working in the TECFO. Significant increases in licences in combination could be a risk to the long-term viability of the business currently working in the TECFO fishery.
- Creating a reliable small-scale fishery outside the Regulating Order rather than an intense and intermittent suction dredge fishery in the area outside a regulating order could create a small but reliable income and potentially new seasonal income for local fishermen not currently working in the cockle industry. Whist not specifically creating new jobs, this could help support current fishers, help make their businesses more resilient by providing a new income in the summer, whilst also taking pressure from other fisheries in the Thames and helping support the shore side facilities and local infrastructure.
- However, setting up a small-scale fishery using gear that has not been used in the district would require a significant amount of time and investment from a new entrant in both making and setting up the gear to work efficiently and sustainably (meeting damage rate requirements).
- This option could also create the potential for new processing and marketing opportunities in low volume high value cockles.

Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?(l) Does the option help encourage businesses to invest in a safe and skilled workforce?

(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Industry comments	
Advantages	Disadvantages
 Advantages More equal opportunities allowing more fishers into the fishery A slightly smaller daily quota would allow more vessels to enter the fishery Allows new entrants in to the permit fishery to supplement their income against their historic targeted fisheries. 	 boats for a tonne isn't practical the catch probably won't be cooked, unless it can be tied in with processing within Thames management zone, or other processors. Small boats cannot catch and process their cockles. They are so weather restricted they will need to go out and random times in the week, most fishermen do not land Monday- Friday, as the weather and tides don't let them. if 3 boats land 1 tonne in Kent who is going to cook them, if they try and process themselves, we will have all sorts of health problems (x2: 050605, 050606) it is difficult to evaluate this at such an early stage,
	depending on the methods of fishing employedimpossible to tell at this stage

Officer comments

- This option provides a balance between the different needs of the fishing community, with the highly productive beds fished as a suction dredge fishery in large industrial volumes and areas where there is the potential to create a small-scale fishery which could be accessed by other members of the local fishing community and targeted as part of their fishing business rather than the current cockle fleet that is highly specialised. The Haiti option maintains the same historic boundary as the current regulating order offering continuity to stakeholders.
- Within the proposed new regulating order the cost of setting up a suction dredge cockle boat is significant and could practically exclude a large number of the local fishermen that expressed an interest in fishing for cockles, and especially any new or young fishers.
- Current TECFO operators have generally well-maintained cockle boats and experienced skippers. Current industry maintains a lot of its skills and experience with some fishers working in the industry over their whole career. Reducing the profitability of the licences could impact the amount companies could invest in training their staff.
- Current TECFO fleet has a higher proportion of younger fishers than the other fisheries in the district. Reducing the profitability of the licences could impact the amount companies could pay younger staff and reduce their longer-term prospects.
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• New opportunities could encourage the development of new skills and techniques and give fishers outside the current businesses the opportunity to develop these skills independently.

• Provides opportunities for new capable entrepreneurs to enter the market and try new ideas.

VOTE 2 PART 2

Members **VOTE** on one of either **NEW BERMUDA, NEW ARUBA, ARUBA+CAYMAN** to take into Consultation 2 or none of these options and **VOTE** for **ONLY DEVELOP 2 OPTIONS**.

Choose which options to take through to **Consultation 2 process** VOTE 2 – PART 2 Choose one of either NEW BERMUDA, NEW ARUBA, ARUBA+CAYMAN to take into Consultation 2 or none of these options and ONLY **DEVELOP 2 OPTIONS ARUBA + CAYMAN** NEW BERMUDA 28 **NEW ARUBA** Only develop 2 options 14-20

NEW BERMUDA management option

Option Summary

The NEW BERMUDA option is a new option that was not included in the consultation but was strongly supported by all the current fishers working in the TECFO and nearly half the written consultation replies. The option looked to keep the current Regulating Order boundary, fix the number of licences at its current number of 14, and modify the current permit byelaw to make it work better for a small-scale fishery. As part of developing the options for Consultation 1 the Authority members reviewed different ranges of licences and chose the range 15-20. As this option was not consulted on specifically in Consultation 1 it is difficult to outline what the response would have been, however local inshore fishermen currently not working in the cockle industry did express a consistent concern that if there were more than 14 suction dredges they could damage both the seabed and their fishing grounds. However, this approach would severely limit opportunities in the Regulating Order over its 20-30 year term.



Key comments from Authority members on the original BERMUDA option:

The boundary options of a potential new Regulating Order in both the Bermuda and the Grenada options reflected an option that was commonly suggested by the industry, especially fishers involved in the current cockle industry, during the Listening Phase both in oral and written evidence.

Other boundary options that reduced the area of a new Regulating Order, creating boundaries tighter to high producing beds were discussed by Authority members. Although these were sound options, on balance members felt that maintaining the current boundaries was a stronger option, members did however feel that the range of licences within the proposed new Regulating Order should be increased and suggested a proposed range of 15-20 licences.

Feedback, in the Listening Phase, on the current Cockle Fishery Flexible Permit Fishery was generally a lot less positive than for the TECFO fishery, with most fishers feeling that it did not work very well in its current state. Members discussed at length the viability of different fleet sizes working in the area outside the proposed new Regulating Order with the aim of creating a reliable fishery and reliable income for those involved. A range of 10-14 potential permits was an attempt to create a generally reliable fishery whilst maximising the number of permits that could be issued.

Members reflected that creating a permit fishery that replicated much of the proposed new Regulating Order, added a further level of complexity to cockle fisheries management in the Thames.

Members also reflected that this option could be challenging for the inshore fleet that are not currently part of the cockle industry and this option would not meet their desire to be involved in the fishery in a less intensive way.

NEW BERMUDA description

A number of changes have been made to this option building on the feedback and suggestions from the consultation process. The first significant change was to replace the small-scale fisheries trial in the areas outside a new Regulating Order with a proposal to develop a small-scale permit fishery. The plan would be to use Consultation 2 to consult in more detail on adapting our current cockle fishery permit byelaw to create a long-term opportunity for the inshore non-cockle sector that seeks to better mirror their needs.

Based on the overwhelming feedback from the consultation process the second change was to modify the option to fix the number of licences issued within a new Regulating Order at 14 rather than a range from 15-20 as had previously been outlined. The boundaries of the management zones remain the same as outlined in Consultation 1 and The NEW BERMUDA option would keep the boundary of the current Thames Estuary Cockle Fishery Order 1994 (TECFO 1994).

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available to the two proposed fisheries over the last 11 years. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.



Figure 5 Retrofitted TAC for NEW BERMUDA option based on 2011-2021 KEIFCA stock surveys.

Summary of feedback on NEW BERMUDA from Consultation 1

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in?(c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

Industry comments	
Advantages	Disadvantages
 I believe it encompasses all of the requirements of a fully managed and sustainable fishery You will be using the existing frameworks The framework is already in place, so there is lower costs involved to administer the scheme. The rules are already clear to all licence holders. The additional suggestions would not need any additional resources. 	
Officer c	omments
 The framework is the same as the current Regulating Order/ permit byelaw framework which has been running in its current form since 2014 and is well understood by the cockle industry. However, compared to the CAYMAN option, administering, and enforcing two different management systems would be less efficient than managing one system. Issuing licences 14 licences for the period of the regulating order would replicate the current management of the TECFO, which is well understood by stakeholders. This option replicates the current level of administration and enforcement, which was seen by many stakeholders in the Listening Phase as successful. Enforcement a new small-scale fishery will bring its own new challenges, especially as new gear types or methods will need to be developed. Vessel monitoring (IVMS) will be an important tool in keeping track of smaller boats in the fishery and coordinating efficient enforcement. 	

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

DisadvantagesNo, you are increasing the effort in the management	
zone.No, too much effort in the management Zone.	
nments	
 Officer comments All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the NEW BERMUDA option the TAC for all the cockle beds in the Thames would be calculated and a TAC divided by 14 licences in the new Regulating Order in the same way as in the TECFO. Outside in the permit fishery the TAC would be divided by the number of permits issued. The NEW BERMUDA option would maintain the current HRA which has been submitted and passed every year since the mid 90's for the TECFO suction dredge fishery. Since 2017, the high report rate vessel tracking (position point every 5 minutes) and a standard fixed dredge width allows an accurate quantifiable assessment of impact on the seabed. Any new type of cockle harvesting would need to have a riddling system or sorting system that can efficiently sort and return cockles below the minimum size to the same accuracy as the current 1.75m mechanical riddle. Historic cockle dredging effort outside the TECFO area over the last decade has been limited to area 7 and to a handful of days fishing, leaving nearly a year for beds to recover. More regular and intense dredging in a wider range of MPAs outside the TECFO area will require a new HRA. It is high likelihood that Natural England would require significant controls similar to those currently used in the TECFO for the fishery to pass an HRA (vessel tracking, number of fishing trips per boat per season and size and setup of gear etc). Any new type of cockle harvesting gear 	
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Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

Industry comments	
Advantages	Disadvantages
 This option supports the local coastal community and local economies, it allows for small scale investment for long term gain and gainful employment bringing the younger generations in to the fishery encouraging growth and general wellbeing of the local communities of the KEIFCA district without the massive financial burdens that are seen in all types of fishing, Yes, we have already shown this in the existing fishery, this plan proposed does not really alter that much from that. Yes by allowing other vessels to apply for permits to fish cockles. Yes, a 30 year Regulating Order in the TMZ will help this and limiting tonnage will help support this and create opportunities in the CMZ. Yes, the whole fishery will still be limited by TAC, which will help to keep demand high and minimise a fall in prices. 	 it needs to be kept at 14 licenses initially until the tac is considerably higher than it currently is, otherwise this will have a detrimental effect on the investment within the industry and shoreside operations
Officer co	omments
 the listening phase highlighted as critical to the successful per licence, ability to survive and ride out low TAC years investment in the fishery). Creating a reliable small-scale fishery outside the Regula 	ain many of the aspects a large number of respondents in ul viable running of the fishery (reliable supply of cockles and the capability of making significant long-term thing Order rather than an intense and intermittent suction and create a small but reliable income and potentially new ing in the cockle industry. Whist not specifically creating take their businesses more resilient by providing a new other fisheries in the Thames and helping support the thas not been used in the district would require a entrant in both making and setting up the gear to work ements). essing and marketing opportunities in low volume high rent TECFO area process their cockles within the local value by developing new processing techniques. A has been developed as part of the Leigh-on-sea FLAG
Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?
(l) Does the option help encourage businesses to invest in a safe and skilled workforce?
(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Industry comments		
Advantages	Disadvantages	
 More equal opportunities allowing more fishers into the fishery A slightly smaller daily quota would allow more vessels to enter the fishery Allows new entrants in to the permit fishery to supplement their income against their historic targeted fisheries. It will encourage young fishermen into the industry. As the workforce are the most valuable asset to making the fishing a success. It most definitely does. Keeping the heritage and knowledge for many more generations will help maintain the industry which in turn will help to keep the local tourism buoyant. 	 boats for a tonne isn't practical the catch probably won't be cooked, unless it can be tied in with processing within Thames management zone, or other processors. 	
Officer co	omments	
Keeping the number of licences fixed at 14 for the length of the Regulating Order would create a greater sense of ownership and help long term investment, however it would deny any operators who did not get a licence the opportunity to have one for the length of the next regulating order (the next 20-30 years). This option provides a balance between the different needs of the fishing community, with the highly productive beds fished as a suction dredge fishery in large industrial volumes and areas where there is the potential to create a small-scale fishery which could be accessed by other members of the local fishing community and targeted as part of their fishing business rather than the current cockle fleet that is highly specialised. The NEW BERMUDA option maintains the same historic boundary as the current regulating order offering continuity to stakeholders.		

- Current TECFO operators have generally well-maintained cockle boats and experienced skippers and the current industry retains a lot of its skills and experience with some fishers working in the industry over their whole career. Reducing the profitability of the licences could impact the amount companies could invest in training their staff.
- Current TECFO fleet has a higher proportion of younger fishers than the other fisheries in the district. Reducing the profitability of the licences could impact the amount companies could pay younger staff and reduce their longer-term prospects.
- New opportunities could encourage the development of new skills and techniques and give fishers outside the current businesses the opportunity to develop these skills independently.
- Provides opportunities for new capable entrepreneurs to enter the market and try new ideas.

NEW ARUBA management option

Option Summary

Out of all the options NEW ARUBA received very minimal support with only a couple of stakeholders selecting this option as their first choice. The hand raking element was supported by a handful of replies however a large number of replies contained very strong objections to this proposal for a range of reasons including impact on safety concerns, possible detrimental effect on tourism at Leigh and Southend-on-Sea and possible impact on the cockle stocks and the seabed from 'prop' washing. Some consultation replies suggested that hand raking could provide a cockle fishery that is easy and low cost for more of the local inshore fleet to access, providing new opportunities for more fishermen.



Key comments from Authority members on the original ARUBA option:

Members discussed the option of hand raking cockles on Southend Foreshore (Areas 1-3) and felt that creating a hand worked fishery in this area could provide a significant new opportunity for the local fishing industry. Apart from this new area the rest of the new Regulating Order boundary followed the current TECFO boundary.

Members did feel that the range of licences within the proposed new Regulating Order should be increased and suggested a proposed range of 15-20 licences.

Members reviewed cockle harvesting in other UK fisheries and discussed the Listening Phase feedback from the inshore fleet that are not currently part of the cockle industry. Members strongly supported setting up a small-scale fisheries trial.

NEW ARUBA Description

A number of changes have been made to this option building on the feedback and suggestions from the consultation process. The first significant change was to replace the small-scale fisheries trial in the areas outside a new Regulating Order and the Southend Shores Management Zone with a proposal to develop a small-scale permit fishery. The plan would be to use Consultation 2 to consult in more detail on adapting our current cockle fishery permit byelaw to create a long-term opportunity for the inshore non-cockle sector that seeks to better mirror their needs.

The boundaries of the two other management zones would stay the same as outlined in Consultation 1 with the Areas 1-3 making a hand raking Southend Shores Management zone, while a new Regulating Order would follow the current TECFO boundary and manage the remaining area. Based on the overwhelming feedback from the consultation process the second change was to modify the number or range of potential licences issued in this new Regulating Order area to include the potential to issue 14 licences (new range 14-20 licences).

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available to the two proposed fisheries over the last 10 years. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.



Figure 6 Retrofitted TAC for ARUBA option based on 2011-2021 KEIFCA stock surveys.

Summary of feedback on NEW ARUBA from Consultation 1

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in?

(c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

Industry comments		
Advantages	Disadvantages	
Advantages	 Disadvantages Too Complicated and does not meet the evaluation criteria It would require a huge number of gatherers to collect a commercial quantity of cockles. We have problems with illegal oyster gatherers and policing them has proven next to impossible. Advertising a hand rake fishery in these areas would only make the illegal gathering problem worse. I do not believe a hand worked fishery at Southend would work. It would need a huge amount of controls to prevent the rise in illegal hand gathering currently present nationwide, and take up too much officer time to regulate efficiently. This will create havoc and undue pressure on the KEIFCA, the Police and the local EHOs, and could jeopardise the fishery's reputation. This option would be hard to administer Poaching could become a huge threat to the fishery as a whole. Area 3 is still MOD land and you do not always have 	
	access to it.	
Officer comments		
Simple boundaries could be agreed for each harvesting method to work in with the hand raking boundary using		

- shore-based landmarks as well as lat and long coordinates as boundaries.
- Administration of the fishery would be more complex for the fishery as there would be two very different stakeholder groups and hand raking involves a lot more people that would need to be registered to take part in the fishery.
- Enforcement of both hand working and suction dredging would prove very challenging as the different harvest methods would be working and landing on different states of the tide, making inspections on the shore, at sea and landing inspections harder to coordinate, less efficient as officers can't be at two places at once.
- Evidence from the ** report highlights the challenges and manpower needed to enforce a hand worked fishery with lots of people spread out and working over a large area of Southend foreshore.
- Enforcing a cockle minimum size would be especially challenging in a hand worked fishery. As fishers would need to sort their catch, and return undersized cockles as they hand raked, with enforcement officers then required to check both that this was happening and that no undersized were being retained.

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

Industry comments	
Advantages	Disadvantages
	 The reason the industry changed to a dredge system in 1969 was because cockle stock densities dropped to the point where hand raking was no longer financially viable. For unknown reasons cockle stock densities have never returned to the levels that sustained hand raking. This is all well documented. Reintroducing hand raking raises all kinds of problems. Would there be a minimum cockle size? Not a good idea. Hand working destroys the grounds as with prop washing you take every cockle and it takes years for the ground to recover. I have fished for years away from home in the wash and how we fish with prop washing we are destroying the grounds. Dredging is the only way a cockle fishery works properly. Studies have shown it takes six months plus for the ground to recover. The private fishery which is dredged usually have a fishery every year. The public fishery (which is hand worked) has only had a small fishery three years ago. The Wash cockle fishery will not qualify for an MSC. Areas 1-3 are not good ground to undertake hand raking as stock from this area migrates and seeds some of the very high production grounds in areas 4, 5 & 6.
Officer comments	
All the options proposed would use the current (Total Allo	

- All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the ARUBA option the TAC for all the cockle beds in the Thames would be calculated and a TAC set for each area which would then be divided by the number of licences or permits issued for that area.
- Any new type of cockle harvesting would need to have a riddling system or sorting system that can efficiently sort and return cockles below the minimum size to the same accuracy as the current 1.75m mechanical riddle.
- HRA submitted and passed every year since the mid 90's for the TECFO suction dredge fishery. Since 2017, the high report rate vessel tracking (position point every 5 minutes) and a standard fixed dredge width allows an accurate quantifiable assessment of impact on the seabed.
- Hand raking like suction dredging would have an impact on the seabed, as commercial hand raking has not taken
 place in the Thames for more than 20 years, and the exact nature or intensity has been defined it is difficult to
 accurately comment on the relative impact of these two types of harvest methods. The ** report does give an
 overview of how hand raked fisheries work in other parts of the UK.
- The Southend foreshore is part of an SPA *** and although most of the species covered by this designation use the site in the winter, increased activity at low tide in areas of high food density could have a bigger impact on some bird species than the current suction dredging that takes place when the tide covers the sands.
- Historic cockle dredging effort outside the TECFO area over the last decade has been limited to area 7 and to a
 handful of days fishing, leaving nearly a year for beds to recover. More regular and intense dredging in a wider range
 of MPAs outside the TECFO area will require a new HRA. It is high likelihood that Natural England would require
 significant controls similar to those currently used in the TECFO for the fishery to pass an HRA (vessel tracking,
 number of fishing trips per boat per season and size and setup of gear etc).
- Any new type of cockle harvesting gear would need to pass a very thorough assessment of its impact on the seabed and its damage rate on cockles as part of the harvesting activity.

Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

Industry comments	
Advantages	Disadvantages
 I feel very strongly that there should be a small scaled handwork fishery in areas 1,2,3. Yes – hand raked 	 The current TECFO fishery relies heavily on areas 1/2/3, for annual TAC. The drop in landings under this option would be disastrous to the current cockle industry and lead to under investment and could causing the whole fishery to become a part time occupation. When there are cockles in these areas they are important to the Leigh boats as it gives us somewhere to work if the weather is bad and the Leigh on Sea boats cannot afford to lose these areas. From a commercial standpoint, dependant on quota available, the small-scale fishery may not be able to supply processors with enough cockles to start up their production lines. The small-scale fishery will be strongest if run alongside the suction dredge fishery. It's true that hand raked cockles are paid a premium price, but the overall impact of a hand raked fishery would outweigh any financial benefit. No unless processors do not get licences
Officer of	omments

- Areas 1-3 provide a regular income to the current TECFO licences, the percentage of income varies considerably with amount of stock available each year and as with introducing more licences, would change the current status quo and could affect the profitability of the companies currently working in the TECFO. Significant increases in licences in combination with losing the income from areas 1-3 could be a risk to the long-term viability of the business currently working in the TECFO fishery.
- This option would however create new opportunities for companies. The capital costs to invest in hand raking relative to setting up other gear are low, however the long-term cost of labour could be higher overall.
- A hand worked fishery could lead to more employment as a work force is needed to harvest the cockles however the jobs created could be regarded as less skilled and participants would probably be on or near the minimum wage.
- Creating a reliable small-scale fishery rather than an intense and intermittent suction dredge fishery in the area
 outside a regulating order could create a small but reliable income and potentially new seasonal income for local
 fishermen not currently working in the cockle industry. Whist not specifically creating new jobs, this could help
 support current fishers, help make their businesses more resilient by providing a new income in the summer, whilst
 also taking pressure from other fisheries in the Thames and helping support the shore side facilities and local
 infrastructure.
- However, setting up a small-scale fishery using gear that has not been used in the district would require a significant
 amount of time and investment from a new entrant in both making and setting up the gear to work efficiently and
 sustainably (meeting damage rate requirements).
- This option could also create the potential for new processing and marketing opportunities in low volume high value cockles.

Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?(l) Does the option help encourage businesses to invest in a safe and skilled workforce?(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Industry comments		
Advantages	Disadvantages	
 The TECFO fishery historically has larger TACs than the Wash fishery where 61 entitlements are issued. Each year in the Wash 45 to 55 Fishers take part sharing a smaller TAC than the TECFO shares with 14 fishers. Fishers in the Wash do make a living in a fair and proportionate manner and some Thames fishermen also take part in the Wash fishery so it must be viable for them to travel and take part. More vessels means more competition. More competition means higher prices. At the moment you have two companies setting the price. More employment. I strongly agree that these areas should be made into a handwork fishery, it creates more opportunity and could benefit anyone who wishes to take part I agree with the option of 15-20 for local able boats within the Thames estuary 	 This option is a very poor option which would not allow the cockle industry to survive. Not for me, unsafe and impossible to manage The positive economic impact for a small number of new hand rakers vs the huge detriment to Southend's tourist industry cannot be overlooked. Any investigation into the impact groups of hand rakers have on local communities and villages of a few hundred locals around the country will give sufficient evidence as to why this would be completely unacceptable on the shores of a city whose lifeblood is tourism. This is something local councillors will be very keen to avoid, as it will sit squarely on their shoulders to fix. You can imagine photos of destruction, rubbish and waste on Southend & East Beach on the front page of the Echo. The mess that is left behind from hand raking, which is very evident in other parts of the country, would have a significant the effect on the Southend tourism and leisure businesses. Southend foreshore is covered with boat moorings and bait diggers routinely turn over cockles and bury them. Hand raking would not help support the heritage or tourism 	
Officer comments		
• Hand raking could provide new opportunities for individuals and businesses to enter the fishery without having to make really large capital investment, this could make it a good 'entry' level fishery for young or new fishers to work in the industry.		

• While hand raking is a skill, experience from other cockle fisheries suggests that labour in this fishery can be quite transitory. Hand working is dangerous as the water on the sands rises quickly and hand working from shore is not covered by Marine Coastguard Agency safety legislation in the same way as vessel safety is.

• Hand raking was the traditional method of fishing in the Thames until the suction dredge took over.

ARUBA+CAYMAN management option

Option Summary

ARUBA+CAYMAN had a small minority of support, mainly from stakeholders based in the Wash, that drew on comparisons with how the Wash fishery was successfully run with more fishers included in the fishery. This option was not suggested in the Listening Phase, and thus was not discussed by the Authority or included in the Consultation 1 documentation. The option notably, and significantly, moves away from the current cockle management system but provides the most opportunity of any of the options suggested in Consultation 1, combining the opportunities to the inshore fleet of hand working in Areas 1-3 on Southend-on-Sea foreshore with doubling the number of licences working in a Regulating Order that covers the whole Thames.



Key comments from Authority members on this option:

This specific option was not discussed by Members as it has been proposed through Consultation 1.

However, Members discussed the option of hand raking cockles on Southend Foreshore (Areas 1-3) for the ARUBA option and felt that creating a hand worked fishery in this area could provide a significant new opportunity for the local fishing industry.

Members reflected that CAYMAN was the simplest option as it managed all the Thames cockles under one system, but this ARUBA+CAYMAN option then changes that to two system management.

However, members also reflected that the CAYMAN option could be challenging for the inshore fleet that are not currently part of the cockle industry and might not meet their desire to be involved in the fishery but in a less intensive way.

Option description

The ARUBA+CAYMAN option divides the cockle fisheries in the Thames into three zones which would be run and managed in three different ways. Under this option the area within the Thames

Management Zone (TMZ) would be managed under a new Regulating Order (North Thames Fishery Order (NOTFO) which would replace the current TECFO. The boundaries of the proposed new Regulating Order would in general follow the current TECFO boundaries however, the area along Southend Foreshore (Areas 1-3) would not be included in the new Regulating Order and would instead form the Southend Shores Management Zone. This option is derived from a Listening Phase proposal where the cockles in Areas 1-3 could be harvested by hand raking rather than by any form of cockle dredging. The proposal from the industry during the Listening Phase that the option was based on suggested allowing hand raking for a few of the smaller boats – "like the old days".

Reviewing feedback from the Listening Phase as well as considering the history, experience and environmental impact of suction dredge cockle fisheries, Authority members concluded that a large increase in suction dredges could have a significant negative impact on the long-term sustainability of the Thames cockle fishery. In response to this, members agreed that it was important to cap or limit the number of suction dredge licences that would work in the potential NOTFO area. Members also agreed to consult on an initial range of suction dredge licences, 15 to 20, and use the feedback from this consultation to help inform more detailed proposals in Consultation 2 if the option is selected for further development.

The area outside the NOTFO would be setup to allow greater access and opportunity to the active Thames inshore fleet. As this will be a completely new small-scale fishery, it is proposed to run a trial, potentially over a number of years, to assess different cockle harvesting methods and help inform how this fishery could be run in the future. Off the North Essex coast, and outside the new NOTFO, Area 7 contains both consistent and productive beds of the Buxey and the Dengie, with the potential of an emerging clam fishery, providing an additional opportunity for boats in the small-scale fisheries trial to explore.

Retrofitted TAC comparison

Using historic management data it is possible to illustrate the potential adult cockle stocks that could have been available to the two proposed fisheries over the last 10 years. The illustrative TAC values presented in this analysis would be divided between the number of licences or permits issued to work in the fishery.



Figure 7 Retrofitted TAC for ARUBA+CAYMAN option based on 2011-2021 KEIFCA stock surveys.

Summary of feedback on ARUBA+CAYMAN from Consultation 1

As this specific option was not discussed as part of the consultation it is difficult to precisely say what the stakeholder response would be to this, however it would be fair to say that many of the objections and criticisms of both the ARUBA and the CAYMAN option would be repeated if not magnified for this option (See ARUBA and CAYMAN overviews for specific details). However, this option would provide a wide range of new opportunities for the inshore fleet and current permit holders.

Creating a well-managed fishery

(a) Does the option provide a simple framework that is easy for fishers, Authority members and other stakeholders to understand and work within?

(b) Will the option be easy and cost-efficient to administer, and not create too much paperwork for applicants to fill in?

(c) Will the option help create clear rules and regulations and be straightforward for KEIFCA officers to enforce and fishers to comply with?

Officer comments

- As with the other suction dredge and small-scale options the framework would be more complex than the CAYAMN
 option however shore-based landmarks as well as lat and long coordinates could be used to clearly demark the hand
 ranking boundaries.
- Administration of the fishery would be more complex for the fishery as there would be two very different and large stakeholder groups and hand raking involves a lot more people that would need to be registered to take part in the fishery.
- Managing 28 licences would be a doubling of our enforcement workload as more biosecurity checks, damage rate checks and landing inspections would need to be undertaken, this would have to be done in conjunction with running a new hand raked fishery.
- Enforcement of both hand working and suction dredging would prove very challenging as the different harvest methods would be working and landing on different states of the tide, making inspections on the shore, at sea and landing inspections harder to coordinate, less efficient as officers can't be at two places at once.
- Evidence from the Comparison of National Cockle Fisheries Report highlights the challenges and manpower needed to enforce a hand worked fishery with lots of people spread out and working over a large area of Southend foreshore.
- Enforcing a cockle minimum size would be especially challenging in a hand worked fishery. As fishers would need to sort their catch, and return undersized cockles as they hand raked, with enforcement officers then required to check both that this was happening and that no undersized were being retained.

Creating an environmentally responsible fishery

(d) Does the option help ensure the cockle stock population is fished within clear limits that consider stock assessments and breeding stock?

(e) Does the option help assess and monitor the impact of the fishery on the seabed, and strive to make the impact as small as possible? (f) Does the option help consider the impact of the cockle fishery management on the wider ecosystem (including carbon footprint) and support internationally recognised accreditation systems (e.g. Marine Stewardship Council)?

Officer comments

- All the options proposed would use the current (Total Allowable Catch) TAC assessment system, however under the ARUBA+CAYMAN option the TAC for all the cockle beds in the Thames would be calculated and a TAC set for each area which would then be divided by the number of licences or permits issued for that area.
- Issuing 28 licences would put severe pressure on the high yielding cockle beds as fishers compete for the most
 profitable fishing. Officers would have serious concerns about the impact on the seabed of increasing the number of
 dredgers to 28 even under a TAC system where effort per licence was halved. At the very least officers would
 recommend a staged increase in licenses rather than a jump straight to 28 so that environmental variables can be
 monitored as licences/ vessel numbers increase. Making this change at the same time as introducing a new and
 untried fishing impact in hand raking would be very challenging and we would need to work very closely with Natural
 England and might need to run some trials before we could get the fishery to pass an HRA.
- The Southend foreshore is internationally designated for a range of species of birds and although most of the species covered by this designation use the site in the winter, increased activity at low tide in areas of high food density could have a bigger impact on some bird species than the current suction dredging that takes place when the tide covers the sands.
- Any new type of cockle harvesting would need to have a riddling system or sorting system that can efficiently sort and return cockles below the minimum size to the same accuracy as the current 1.75m mechanical riddle
- We would need to talk to the MSC assessment team about this specific option as it is significantly different to the current cockle management system.

Helping to support a successful and resilient local coastal economy

(g) Does the option provide a framework that will help sustain a viable long-term cockle industry in the KEIFCA district? (h) Will the option help support local skilled employment?

(i) Will the option help assist long-term investment and growth in the local economy, supporting local shore side infrastructure and supply chains?

(j) Will the option help to 'add value' to the cockles that are caught in the cockle fishery?

Officer comments

- Doubling the number of licences and removing the income from areas 1-3 would dramatically change the current status quo and would significantly affect the profitability of the companies currently working in the TECFO. Doubling the number of licences would be a risk to the long-term viability of the business currently working in the TECFO fishery.
- This option would however create significantly more opportunities for new companies that have worked in the permit fishery or have fished in the Thames and over the period of the new Regulating Order would set up a new set of opportunities for companies to adapt to.
- The capital costs to invest in hand raking relative to setting up other gear are low, however the long-term cost of labour could be higher overall.
- A hand worked fishery could lead to more employment as a work force is needed to harvest the cockles however the jobs created could be regarded as less skilled and participants would probably be on or near the minimum wage.
- Increasing the number of boats would increase the demand for skippers and crew but could lead to less trips per boat or to the same number of trips but each trip landing less cockles and being less profitable, which could impact the professionalism and expertise in the fleet.
- Shore side infrastructure for unloading is already at a premium and would be a logistical issue that would need to be overcome with more boats in the cockle fleet. More boats could mean more shore side logistics.
- This option could also create the potential for new processing and marketing opportunities in low volume high value cockles.

Strengthening and supporting our dynamic local coastal community

(k) Does the option provide fair opportunities for individuals and businesses, and help support young or new fishers?
(l) Does the option help encourage businesses to invest in a safe and skilled workforce?
(m) Does the option help support the heritage and culture of the cockle fishery, including supporting local tourism associated with the Thames cockle fishery?

Officer comments

- The cost of setting up a suction dredge cockle boat is significant and could practically exclude a large number of the local fishermen that expressed an interest in fishing for cockles, and especially any new or young fishers.
- This option would not only provide an opportunity for the current suction dredging vessels and business fishing in the permit area to get a licence in the new regulating order but hand raking could provide new opportunities for individuals and businesses to enter the fishery without having to make really large capital investment, this could make it a good 'entry' level fishery for young or new fishers to work in the industry and provide a new opportunity for a wide range of fishers.
- Current TECFO operators have generally well-maintained cockle boats and experienced skippers and the current industry retains a lot of its skills and experience with some fishers working in the industry over their whole career. Reducing the profitability of the licences could impact the amount companies could invest in training their staff.
- Current TECFO fleet has a higher proportion of younger fishers than the other fisheries in the district. Reducing the profitability of the licences could impact the amount companies could pay younger staff and reduce their longer-term prospects.
- With double the number of licensed boats working under this option the high likelihood is that they would need to find additional places to land. Potentially with more vessels new ports might also emerge as focal points for the cockle industry.
- While hand raking is a skill, experience from other cockle fisheries suggests that labour in this fishery can be quite transitory. Hand working is dangerous as the water on the sands rises quickly and hand working from shore is not covered by Marine Coastguard Agency safety legislation in the same way as vessel safety is.
- Hand raking was the traditional method of fishing in the Thames until the suction dredge took over.