Final Report

Brixham Fish Market Study

April 2005

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CR206

Working with the seafood industry to satisfy consumers, raise standards, improve efficiency and secure a sustainable future.

The Sea Fish Industry Authority (Seafish) was established by the Government in 1981 and is a Non Departmental Public Body (NDPB).

Seafish activities are directed at the entire UK seafood industry including the catching, processing, retailing and catering sectors.

SEAFISH

Seafish Technology CR206

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Summary:

For a number of years Torbay Council and its partners have been working to put in place an effective plan for the regeneration of the town of Brixham, including the provision of fisheries infrastructures that would ensure the long-term viability of the local fleet and fish-related businesses.

Previous studies identified major problems in the port relating to lack of space, poor road access, insufficient parking and inadequate and unhygienic facilities for the landing and sale of fish, its processing and onward distribution. As a first step to the regeneration of the town, Torbay Development Agency (TDA) is planning a new fish market and landing quay to be built on reclaimed land and for the existing fish market to be upgraded to provide modern hygienic facilities that will accommodate fish processing and storage.

Seafish was requested by TDA to provide detailed specialist advice with regard to the specification, design and construction (outline), layout and scale of a new fish market and offices.

The advice contained within this report is intended for use by architects/consultant engineers, yet to be appointed, who would prepare plans and engineering /structural design and tender documents.

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1. Background and Objectives

For a number of years Torbay Council and its partners have been working to put in place an effective plan for the regeneration of the town of Brixham, including the provision of fisheries infrastructures that would ensure the long-term viability of the local fleet and fish-related businesses.

Previous studies by Seafish and others (Appendix I) identified major problems in the port relating to lack of space, poor road access, insufficient parking and inadequate and unhygienic facilities for the landing and sale of fish, its processing and onward distribution. As a first step to the regeneration of the town, Torbay Development Agency (TDA) is planning a new fish market and landing quay to be built on reclaimed land and for the existing fish market to be upgraded to provide modern hygienic facilities that will accommodate fish processing and storage.

2. Purpose and Scope

Seafish has been requested by TDA to provide detailed specialist advice with regard to the specification, design and construction (outline), layout and scale of a new fish market and its functional elements to ensure operational efficiency, quality standards and food safety. Likewise to provide advice with regard to the refurbishment of the existing fish market and offices. The study considers only fisheries related activities (including the service sector) and not commercial cargoes, leisure or tourism etc (except where there is potential conflict or synergy).

The advice contained within this report is intended for use by architects/consultant engineers, yet to be appointed, who would prepare plans and engineering /structural design and tender documents. It is not intended to restrict or constrain the designs of the appointed architects/consultant engineers and the provisional specifications in section 7 will be subject to further discussion and confirmation with the appointed architects/engineers, the Harbour Authority and local trade interests. This is particularly true in the case of businesses that might be required to relocate and where commercial decisions would be subject to negotiated terms and conditions.

The description of existing operations and infrastructures given in section 3 is intended to provide an understanding of the process of landing and sale etc only and not quantitative data on which to base design.

3. Summary Description of Existing Operations and Infrastructures

The existing fish market, shown in figure 1 is located on a pier in the MFV basin and permits landings by vessels on either side direct to the market. At the head of the pier there is a chill for the storage of fishery products, a box-washing and storage area, toilet facilities, loading bay and a number of small units used for fish processing/storage, bait storage and the supply of chandlery goods. At first floor level there are offices of administration and staff facilities. On the seaward end of the pier there are two fish processors and an ice plant that supplies ice to vessels and merchants.

Fish is landed from vessels by crew members in 70 litre plastic boxes having been sorted by species at sea. The operations are conducted late in the day using the vessels own landing equipment or by one of two fixed quayside cranes in the case of the smaller vessels. The fish is then transferred to the market by Brixham Trawler Agents staff using fork-lift trucks where it is then de-iced, size-graded, re-boxed, weighed, labelled and re-iced as necessary and displayed for sale or put into chill. The operations involve a total of twelve staff. A further six staff are required for handling of cuttlefish. Depending on the species and size of fish, the grading may be conducted by hand on tables or by machine. Graded fish is then placed in clean market boxes, spent ice disposed of and the dirty vessel boxes collected for washing and storage. These operations are undertaken in the early hours of the morning. Because of the mess created by ink, cuttlefish are handled in the area next to the loading bay and chill store. Only a very small volume of fish is currently delivered by road from other ports for sale at Brixham market. Other than scallops and some cuttlefish, most of the fish is sold through the auction.

A market is held every weekday with Monday and Friday markets being the largest. On Mondays and Fridays the sale commences at 06:00hrs and on other weekdays at 07:00hrs. The sale process may typically take from two to four hours depending on landings. Handling of boxes on the market may be by fork-lift truck, hand-pallet truck or by dragging with a steel hook. After the sale, buyers must tip their purchases from the market boxes to their own boxes. The market boxes are then collected for washing and storage. As many as six large articulated vehicles may be involved in collection of fish from the market and up to thirty rigid trucks/panel vans etc. Once the market is clear, cleaning of the market and equipment may be undertaken. Fork lift trucks and grading tables are stored in the market and weighing equipment next to the box wash area where there are battery-charging units. Four staff are employed in the box washing operation.

4. Summary Critique of Existing Operations and Infrastructures

Brixham fish market was built in 1971 and designed and equipped to service the requirements of a fishing fleet and port users, based upon demands, practices and standards of operation (including statutory requirements) that have changed significantly since that time. The market and associated infrastructures are now toward the end of their economic life and no longer provide for efficient or acceptable standards of operations. A detailed assessment of the problems of the harbour and market is contained in reports by EPD Consultants (August 1997), Nautilus Consultants (March 2000) and Seafish (February 2000). (Appendix I).

In summary the current problems are identified as;

- poor road access to the harbour and market building
- lack of space for parking
- inadequate loading bay facility
- the requirement for all handling operations to be conducted along a narrow quay apron or through the market
- a chill store of inadequate capacity and unacceptable hygienic standard
- inadequate facility for the storage of clean boxes (both market and vessel boxes)
- lack of facilities for market staff
- poorly designed and maintained mooring, fendering and quay lighting
- exposure to NNE winds that affect discharge operations and lay-by on the outer market quay
- inadequate and unhygienic provision for the handling and storage of cuttlefish
- the need to handle whitefish landings through areas contaminated by cuttlefish ink
- absence of any mains drainage to box-washing facility, market floor and the processor units on the end of the pier
- inadequate space and hygienic condition of merchants units
- inadequate protection of the market and cuttlefish handling areas from pests and wind-born contaminants
- inadequate provision for storage of gear and for working on gear

5. Outline of the Proposed Development

To address the problems identified in the earlier studies and to provide opportunity for business growth, both of existing businesses and new businesses, the TDA plan to sheet-pile and reclaim an area outside the MFV basin between the existing market pier and Oxen Cove. It would provide the site for a new fish-landing quay, market building and associated infrastructures. Vehicular access to the proposed new market would be provided over the redundant slip to the rear of the existing market. Access would also be provided to Oxen Cove that would permit development of fish-related businesses (processing and engineering) either new or relocated from the existing market building or from the 'Lanes' area of the town. On completion of the new market the existing market would be refurbished to provide further facility for fish-related businesses. The proposed development is shown in conceptual form in Figure 2. The plan is independent of, but concordant with, future plans for further non-fish related developments beyond Oxen Cove and a north-arm breakwater that would provide greater shelter to water-based activities within the breakwater.

6. Industry Dynamics that might affect future use

6.1 Current Structure and Recent Trend in Vessel Numbers by Method

Currently 25 beam trawlers, around 20 are company owned and the remaining 5 family owned independent operators. The number of beam trawlers has reduced by 20% over the last 5 years. The number of inshore (day boats) has remained steady over this period.

Table 1 – Fleet Structure

Numbers of licenced vessels at Brixham - by main gear type used						
		As at 31/12/2000	As at 31/12/2001	As at 31/12/2002	As at 31/12/2003	As at 31/12/2004
Beam Trawl	10-15m	4	5	6	3	6
	15-20m	2	1	1	0	0
	20-25m	8	5	5	4	3
	25-30m	14	14	12	14	11
	>30m	6	7	10	6	6
Scallop	10-15m	2	4	4	4	1
	15-20m	0	0	1	1	0
	20-25m	0	0	0	0	2
	25-30m	0	0	1	1	1
	>30m	4	4	4	4	4
Otter Trawl	10-15m	16	15	12	12	13
	15-20m	6	6	5	6	5
	20-25m	0	0	0	0	0
	25-30m	0	0	0	0	0
	>30m	0	0	0	0	0
Netters	10-15m	0	0	0	0	0
	15-20m	0	0	0	0	0
	20-25m	0	0	0	0	0
	25-30m	0	0	0	0	0
	>30m	0	0	0	0	0
Potters	10-15m	7	7	8	9	9
	15-20m	7	7	7	5	6
	20-25m	2	2	2	2	2
	25-30m	0	0	0	0	0
	>30m	0	0	0	0	0
Total No. >10m		78	77	78	71	69
Total No. <=10m		171	169	156	172	173
Total No. Vessels		249	246	234	243	242

Source: DEFRA

6.2 Future Fleet Trends

The number of beam trawlers is expected to decline to 15-20 vessels in the next five years. Multiple-vessel owners have invested recently in quota and modernisation of vessels. These owners have shown a long term commitment to the local industry. The remaining independent beam trawl owners are likely to leave the industry or downsize their vessels. Surplus quota and vessel licences may be purchased to facilitate the business growth of the company owned fleet. The number of inshore (day boats) is likely to remain similar in number in the near future. Concentration of ownership and consolidation in the local fleet is expected to continue.

Changes in fishing patterns are impossible to predict (e.g. the local queen scallop fishery collapsed suddenly), however those surveyed do not expect current fishing patterns to change significantly in the short term. Any future changes will be driven by fisheries management measures at a local and EU level. The recent increase in Sole VIIe quota is welcome. Days at sea restrictions are not expected to restrict the fleet this coming year. Future quota, compliance, and days at sea will influence the future fleet structure.

6.3 Financial Performance

All vessel owners interviewed were optimistic about the future and appeared to be in a relatively healthy financial position. The top beam trawlers are grossing £1m+, with the smaller beam trawlers grossing £500k. Scallopers also reported a good year. Profit levels were mixed. Net profit margin ranged from a breakeven position to 20%. The high fuel and steel costs in the second half of 2004, and quota costs had an impact on profit margins.
The majority of recent investment appears to have been acquiring quota, although some modernisation has taken place. Inshore vessel reported to be "ticking along"

6.4 Landings and Stock Data

Stocks are believed to be stable for the main species (Dover Sole, Scallops, Cuttlefish, and Plaice). Once of the main strengths of the local fishing industry is the diversity of species landed. This mix of species (quota and non-quota) contributes to the viability and reduces the risk to the fleet. The recent increase in Sole VIIe, and healthy advice on scallops point to a positive future for the fleet. Some concern has been expressed by fisheries biologists for cuttlefish stocks, as they have to be caught prior to spawning (they die thereafter) but the stocks show no sign of collapse at current levels of fishing. Days at sea are unlikely to affect the fleet greatly and should not have an impact on landings this year. The expected reduction in the size of the fleet is expected to slightly reduce the volume of landings into the port.

Despite the increase in Sole quota, of some concern is illegal landings at the port. If quotas were to be strictly enforced, this would have a serious impact on the viability of many vessels. This is the case for the majority of the UK fleet. As noted above, some vessel owners are however improving their quota entitlement.

6.5 Brixham Fish Industry - SWOT Analysis

Strengths	Weaknesses
• Loyal fleet – core group of 5-6 multiple vessel owners • Large mix of species (quota and non-quota) therefore lower risk business • High quality product • Proximity to market • Good mix of buyers • Good mix of vessels (large beamers and day boats) • Tradition	• Very poor harbourside infrastructure • Limited quayside space • Lack of storage gear, bait and boxes • No local vessel repair facilities • Very few young crew and owners entering industry • Little value added locally • Cuttlefish and whitefish sales mixed • Fleet disproportionately affected by fuel increases • Ageing fleet of 2nd hand and less efficient Dutch beam trawlers • Ageing crew (most in late 40's and 50's)
Opportunities	**Threats**
• Attract landings from other ports • Improve link between fishing and tourism • Electronic auctioning • New proposed development (improved market facilities, gear, bait, box and ice facilities...	• Fisheries management restrictions (combination of quotas and days at sea) • Frustration due to poor facilities turning away buyers and visiting boats • Crew shortages • High running costs • High cost of quota • Displacement of boats to Plymouth • Ageing fleet with little sign of replacements

6.6 Conclusions

Overall the industry is positive about the future of Brixham and no major changes are foreseen, either in fleet numbers or vessel characteristics that would significantly affect the design of the proposed market or landing quay. The number of beam trawlers may contract slightly but only a slight reduction in volume of landings is expected. Improvement in port infrastructures could even attract new vessels to the port.

7. Provisional Specification

7.1 Generic Advice

Generic advice on the design, layout and construction of fish markets and statutory requirements specific to the activities of landing and sale of fish is contained in Seafish 'Guidelines for the landing and sale of fishery products' (Reference Appendix I). The information contained therein with regard to the fabric and materials of construction etc of the building forms part of the specification and is not repeated here. Similar advice with regard to primary processing is contained in Seafish 'Guidelines for the handing of chilled finfish by primary processors' (Reference Appendix I). It should be noted however that these guidelines were published in 1989 since when there have been changes in legislative requirements and modern materials of construction have become available.

The advice in this section relates to the design requirements specific to the scale and nature of operations at Brixham taking due account of industry dynamics, particularly with regard to standards of hygienic operation, quality control and marketing systems. It does not specify BSI standards of construction or IEE wiring regulations etc.

Legislation governing and specific to the activities of landing and sale of fish may be broadly classified as that relating to regulation of; Food Safety, fish Marketing, Fisheries Control, Trading, Health and safety and Environmental Protection.

The Food Safety (Fishery Products and Live Shellfish)(Hygiene) regulations 1998 prescribe the requirement and standard of hygienic construction of buildings, equipment, services (water, lighting, drainage), temperature control of product, handling and disposal of wastes and competent authority accommodation. Note however that this regulation is due to be replaced by European Regulations that are intended to consolidate and simplify existing food safety legislation. The principle EC Regulation 178/2002 on the general principles and requirements of food law is already in force, with three further regulations due to come into force on the 1st January 2006. They are;

- Proposed Regulation on the hygiene of foodstuffs (2004/C 48 E/010
- Proposed Regulation on specific hygiene rules for food of animal origin (2004/C 48/02)
- Proposed Regulation on official controls on products of animal origin (2004/C 48/03)

The proposed Regulations cover broadly the same aspects as the Food Safety (Fishery Products and Live Shellfish)(Hygiene) Regulations but are somewhat less prescriptive.

The 'Loading and Unloading of Fishing Vessels Regulations 1988' define requirements for safe quayside working operations. The 'Workplace (Health, Safety and Welfare) Regulations 1992' establish the requirements for sanitary, washing and changing facilities at workplaces. The Seafish (Marketing Standards) Regulations, Fisheries Control Regulations and Weights and Measures Legislation requires sorting and weighing of fish that necessitates the provision of equipment. The Merchant Shipping (Port Waste

Reception Facilities) Regulations 1997 and Food Safety Legislation requires facilities for the storage and disposal of ships-generated trade wastes. The Water Industry Act 1992 and the Water Resource Act 1992 regulate the discharge of wastes to drains, sewers and controlled waters.

7.2 Recommendation for the Partial Demolition of the Existing Fish Market Building and Relocation of Merchants

Due to the poor condition and gross inadequacy of the facilities provided in the first section of the existing building (that provides for merchants units, bait store, chandlery, toilets, loading bay, cuttle-handling area, chill and box washing/storage it is recommended that this section of the market (and the offices over it) be demolished.

The units used by the merchants were designed for use as fishermen's gear stores and are too small and of unacceptable hygienic standard. Businesses trading from these units should be offered the opportunity to relocate to Oxon Cove into purpose-built units that meet modern standards and offer opportunity for business growth. Likewise it is recommended that the processors/merchants, Perkes and Lawrence and Rae, that operate at the other end of the market also be relocated or that their premises be brought up to standard by expanding into the existing market to provide staff facilities, offices, dry-stores etc (and connection to mains drainage).

Demolition of the above mentioned section of the existing market would also significantly improve access to the harbour and provide greater space for quayside operations or parking.

7.3 Landing Quay Specification

Length: The length of the new quay to be created by sheet-piling and reclamation (X-X in Figure 2) should be a minimum of 75metres (straight line) to cater for two large beamers with due allowance for mooring and manoeuvring. Likewise the reclamation should leave a minimum of 75metres of the existing pier quay (X-Y in Figure 2) to cater for two large beamers.
Depth of water: Depth of water at the landing quay should be a minimum of 3.5metres at MLWS (*to be confirmed*)

Width: There should be clear access along the quay of 8metres (between market structure and any quay curb/bollards etc).

Access ladders: Access ladders should be provided spaced at approximately 5meters with handrails protruding above quay level.

Fendering: 'D' section vertical fendrring should be provided spaced at 5metres (suitable for both beamers and day boats).

Drainage: The landing quay should have a slight fall (1:75 max) to mains drainage to cater for wash-down.

Services: There should be provision of potable water and shore power (3ph) for use by vessels at the quay. There should be no provision for taking fuel oil on the landing quay.

Bollarding: Bollards should be provided, spaced at approximately 5metres, but not close to access ladders.

Safety equipment: The quay must be equipped with the necessary statutory life saving equipment (life buoys/lines). The quay edge should be equipped with a substantial guard rail or curb to prevent handling equipment going into the harbour.

Lighting: Should be of high standard, evenly distributed without glare or shadow and so directed not to confuse with navigation lights. Lights should be fully water-proof with shatterproof plastic diffusers.

Unloading Equipment: The quay should be equipped with two cranes suitable for use by day boats for the landing of fish.

7.4 Fish Market

The principle functional areas of the proposed infrastructures for landing and sale are:

- *Fish reception*: For the reception of fish landed by boats or delivered by road, for sorting, grading, boxing, weighing, icing, labelling and entering of data into system
- *Storage and display*: For holding and display of fish prior to sale for inspection by buyers
- *Sales Room:* For the electronic sale of fish (?).
- *Despatch:* For the accumulation of buyers purchases and despatch by road transport
- *Staff Facilities:* Toilet facilities, changing rooms, drying room and canteen for use by staff
- *Offices of administration*
- *Box Washing and Storage:* For the cleaning of boat and market boxes and their hygienic storage
- *Waste Storage:* For the storage of dry and waste fishery products prior to removal
- *Storage of Cleaning Equipment and Materials:* Secure storage of cleaning equipment and chemicals etc.

To improve the standards of hygiene and cleanliness and to minimise capital costs, it is suggested that the existing market sale area, suitably upgraded, be utilised for those activities of a 'dirty' nature, including cuttle handling operations, box-washing and storage, bait storage and general storage (see 7.5). Landing of cuttles and whitefish to two separate market areas would not involve any more handling than existing practises and would eliminate the contamination of the whitefish market with black ink that creates such a poor image.

The following outline specification is based upon a maximum of 2,500 boxes being handled and displayed for sale. Note however that the throughput of fish will be somewhat less than the total of boxes multiplied by the nominal sale unit (40kg) due to the high number of part-boxes landed by day-boats.

It is assumed that handling from the quay to the market and within the market will be by fork-lift truck. Other than for scallops and some large fish, pallets are not required for handling.

Fish Reception:
Landings from boats or deliveries by road transport will be size/weight graded either by machine or by hand depending on size/species. Whether by hand or by machine there must be means of entering the data required for trading or statutory purposes into the back-office system of the sales agents (BTA). Machine grading systems typically comprise of a de-icing section, in-feed conveyor, weigh deck, grading conveyor and hoppers. They are programmable for different species of fish. Compliance with point of sale weighing requirements is usually by separate weighing machine/s that incorporates touch-screen data entry and a bar-coded/human readable ticket printer. The grading machines require power, water and pneumatic services. The space requirements of the machines or tables for manual operation and the data collectors etc is relatively small compared with the space required for reception of fish, supply of clean market boxes, removal of dirty vessel boxes and disposal of dirty ice etc. A twin lane automatic grader would occupy a space of approximately 10 x 4.5metres. Two machines or twin and single would likely be required. Estimated total floor area required is 400sq. metres. Because the time that fish is held within the reception area is relatively short a holding temperature of +10degress C is acceptable and is more comfortable for staff to work in. To minimise air exchange, temperature gain and to exclude wind-born contaminants and pests there should be a minimum number of doors compatible with efficient handling operations. Two quayside doors and one side door for road deliveries should be adequate. Automatically-activated quick-acting power doors are recommended designed for fork-truck operations. Door frames and vulnerable surrounding structures etc should be well protected from damage by substantial kerbs or posts etc.

Fish Storage and Display
The holding area for storage and display of fish prior to sale should be maintained at a temperature of 0 to +4 degrees centigrade. The refrigeration system should not freeze or dry fish out. Based on a display of 2,500 boxes stacked on average two boxes high, with due allowance for access to boxes for viewing, an area of 1,010 sq metres would be required. The point of access by personnel should be equipped with hand-wash and boot-wash facilities. Because of the variable nature of supplies to the market it is suggested that the storage/display area be divided into two interconnected enclosed areas so that on days of low landings it would be possible to operate from one and save on running costs.

Sales Room/Meeting Room
Although a decision to move from the traditional 'shout' auction to electronic sale is a commercial one, it is most likely that within the lifespan of the proposed market that this change will be made. It is probable that the move will be made with the opening of the new market. Plymouth and Looe have already gone electronic and Newlyn are considering it in the design of their new market. A choice has to be made however between a mobile sales 'clock' that operates on the market floor and one located in a room remote

from the market floor. Local preference would appear to be for a mobile 'clock' that allow buyers to stand before lots of fish on offer, who can make a bid using a hand-held transmitter. Experience elsewhere however suggests that where mobile 'clocks' are introduced they are eventually replaced by fixed 'clock' systems when buyers become accustomed to buying electronically (and standards of weighing and grading are reliable). Even if a mobile 'clock' system is chosen, it is recommended that allowance is made for a sales room in the design of the new market. Such a room could also be used as a lecture or meeting room. An area of 140 sq metres would accommodate 60 seated buyers plus a salesman's console and sales equipment. The sales room could be located on the first floor. If a mobile sales system is chosen it is likely that two mobile units would be required. They would each need to be kept in a dry 'garage' area that could also provide for battery charging. An estimated area of 15 sq metres would be required.

Despatch

A maximum of six large articulated vehicles and thirty rigid/panel vans need to be catered for. It is recommended that docking bays are provided for the articulated vehicles incorporating mechanical dock levellers, power supply and a transfer corridor of 5 metres minimum width between docking stations and the fish display area. A covered loading bay of 5 metres minimum width should provide end loading for the rigid trucks/panel vans etc. If the loading bay connects directly with the storage/display area then the connecting doors should be fitted with clear strip curtains. The docking and loading bays should be provided with drainage and water for wash-down.

If the site constraints cannot accommodate the total number of vehicles at docking stations or the loading bay, then a holding park area should be provided close to the docking stations/loading bay for vehicles waiting to make collections (or to which small volumes of fish might be taken). Depending on the design and layout of the proposed market, a turning circle or banjo beyond the market, at the start of Oxon Cove might help large articulated vehicles in accessing the docking bays.

Staff Facilities

Toilet facilities, locker room (and laundry collection), drying room (heated and well ventilated) and a small mess room should be provided for BTA market staff (twelve male). On arrival for work staff should be able to access changing rooms without passing through fish handling or storage areas. The toilet facilities could also serve visiting buyers. Male (predominantly) and female facilities would be required. Total area required for staff facilities is estimated at 100sq metres. Subject to the design and layout of the market a separate toilet facility might be desirable to serve boats crews or lorry drivers etc.

There may also be a requirement for a separate facility for Local Authority Environmental Health Officers (2 persons). The room should be equipped with hand-wash basin, power supply and provision for telephone connection. The room should be able to take a desk and filing cabinet, clothes locker and a small chill/freezer for the holding of fish samples.

Offices of Administration

Above the existing market there are currently 723 sq metres of office accommodation (including access and shared toilet facilities). If, as suggested, this section is demolished for development then it will be necessary to relocate most of these offices to the new market.

From preliminary discussions however some tenants have expressed doubt over whether they would relocate to the new market. One of the merchants currently operating from premises on the end of the pier, Lawrence and Rae (P. Blower) would prefer their office to be incorporated in an upgrade/expansion of their existing process area, or if they were to relocate to Oxon Cove, to consolidate the offices and the processing operations there. The other merchant on the pier, I M Perks would prefer to relocate his office to the new market. DEFRA are considering a relocation from the harbour area altogether. Devon Sea Fisheries Committee is also considering a relocation off the harbour but the local Pilots Office currently on Overgang Road is considering a move in.

Table 1 summarises the current office space of existing tenants and their likely future requirements. Note that no assessment has been made of the potential to attract other tenants to the new market building. Note also that no account has been taken of possible change to the structures of harbour management.

Table 2 – Office Accommodation

Offices	Existing Area (sq. m.)	Future Requirement (sq. m.)	Comment
Harbour Master	94	100	
SWOP	12	12	
I M Perks	23	23	
Langdon & Phhilip	17	17	
Lawrence & Rae	12	?	Would prefer to relocate
BTA	210	210	
Devon SFC	74	?	Possible relocation
DEFRA	104	?	Likely to relocate off harbour
Brixham 21	61	?	Temporary accommodation
Access	95	95	
Staff Facilities	21	40	
Pilots Office	-	74	Possible move in
Total	**723**	**571 sq. metres**	

Box Washing and Storage

It is recommended that box washing and the bulk of storage of clean boxes, both vessel and market, be within the existing market (see section 7.5). An allowance is made in the area of fish reception of the new market for storage and working supply of clean market boxes.

Waste Storage
Although provision is already made for ships landed wastes, separate provision should be made within the new market for solid waste associated with market operations, including the offices. Two in number, leak-proof containers of 660 litres capacity should be adequate, one for general garbage and one for waste fishery products (that under normal circumstances would be little).

The containers should be enclosed in a hygienic and well ventilated, but pest free, enclosed area, separate from fish handling areas, convenient for collection. The area should be drained and serviced with water for wash-down.

Storage of cleaning equipment and chemicals
Secure storage should be provided for equipment and chemicals used in cleaning the fabric of the market building and plant/equipment. Manual methods currently used involve sweeping with brushes and wash-down with a hose or pressure washer and do not require great space. 15 sq metres should be adequate.

7.5 Conversion and Use of the Existing Market Building

If it is accepted that the first section of the existing market building is to be demolished to improve access, increase parking and to provide a better standard of infrastructures than currently provided for, it is recommended that the rest of building on the pier be converted and upgraded to provide:

- cuttlefish handling, storage and despatch
- box washing and storage
- frozen bait store
- chandlery
- staff facilities
- expansion of Perkes and Lawrence and Rae processing premises (if they are not to be relocated)
- BTA general store
- DEFRA store
- Waste storage

Cuttlefish handling, storage and despatch
Provision should be made for the reception of cuttlefish landings in fish boxes, transfer to bulk bins, weighing, recording of data into the sales system, icing and holding prior to sale and despatch. It is recommended that an area of 200 sq metres be allocated for reception, handling and weighing etc and that it be refrigerated to +10 degrees C. A further 200 sq metres of chilled storage should be provide at an operating temperature of 0 to +4 degrees C. Handling operations would be by fork lift truck.

Box washing and storage
For reception of dirty fish boxes, washing of boxes and the storage of 6,000 clean boxes (0.80 x 0.45 x 20 high) an area of 280 sq metres is recommended (including tunnel washer, soak tank and due allowance for handling). The area needs to be mechanically ventilated and provided with mains drainage. There should be secure storage for cleaning chemicals.

Frozen bait store
On the basis that the existing bait store (10 ft x 20 ft approximately) is too small, it is recommended that provision be made for 40 sq metres of storage. Storage temperature should be -18 degrees C. Handling within the store would be manual.

Chandlery
Gundry Marine provide a chandlery service to fishing vessels from two sites in Brixham, one on the market that retails small ancillary items (clothing, gloves, knives, needles and twine etc) and another on the Northfield Estate that provides for more substantial items of gear (chain, warps etc) that are delivered direct to vessels. The store on the market is small and managed by a single staff member. Initial discussions with the company suggest that they would be interested in a unit of twice the existing size that would incorporate a small office and toilet facility. A quayside site, convenient to servicing the needs of fishing vessels, is preferred to relocation to a more remote site at Oxon Cove due to concerns that such a move would have a adverse affect on business. Provision should be made for 40 sq metres.

Staff facilities
Toilet facilities, locker room and drying room similar to that proposed for the new market should be provided for BTA staff involved in cuttlefish handling and staff involved in box washing (total of eight males). The toilet facilities could also serve the ice plant and transport staff etc and should include for females.

Expansion of merchants premises on the pier (If not relocated to Oxon Cove).
In order to comply with statutory requirements and to provide greater business opportunity the merchants' premises on the pier (Perkes and Lawrence and Rae) should be extended into the existing market to provide staff facilities, offices, dry storage, waste storage and increased processing capacity. Perkes employs 6 staff and Lawrence and Rae employs 4 staff. Further discussion is required with the companies to agree relocation or a specification for an upgrade and expansion of the existing facilities. It is likely that the existing facilities would need to be two to three times bigger to provide for the above and would require connection to mains sewerage.

BTA general store
At present there is no facility for temporary storage of miscellaneous items of vessel gear, spare parts etc delivered to the harbour, usually care of BTA. As a consequence it is often put into the market. For reasons of hygienic practise and the security of the gear etc it suggested that within the development of the existing market provision be made for a small secure store of 20 sq metres to meet this need.

DEFRA store
Even if DEFRA relocate off of the harbour it is likely that they would still require a store for equipment associated with their fish grading, weighing and collection of otoliths etc. Replacement of their existing store would require provision of 15 sq metres.

Council/Harbour Master stores
Replacement of the stores currently used by the Council/Harbour Master would require provision of approximately 50 sq metres.

Waste Storage
Similar provision should be made to that suggested for the new market, of two, lidded, leak-proof containers of 660 litres capacity for general garbage and waste fishery products. They should also be held in an enclosed hygienic and well ventilated area adequately protected from pests and conveniently sited for ease of collection. They area should be drained and serviced with water for wash-down.

7.6 Conceptual Layout
Figure 3 provides a suggestion as to the layout of the main functional areas of the proposed new and upgraded existing market and how they would work together (It is not to scale and is not a design. The new market could be of a different shape or be located closer to the existing market etc.).

7.7 Development of Oxon Cove
Within the proposed plans of the TDA (Section 5), Oxon Cove is designated for the development of fish-related businesses, both existing and new. It would allow merchants/processors, both on and off the dock, to upgrade and expand to meet statutory requirements and to develop their businesses.

With regard to those merchants/processors currently operating from the small stores that would be affected by demolition of the first section of the existing market, all (with the exception of M Smith who could not be contacted) have expressed an interest in relocation to Oxon Cove. The following table lists the size of the units of existing merchants and their expressed requirements for allocation of unit space in a possible relocation to Oxon Cove. Note that it relates only to the area of the units and not to provision for waste storage, access and parking etc. *(It is likely however that in some cases the merchants have underestimated their space requirements necessary to comply with the requirements of Food Hygiene Regulations).*

Table 3 – Merchant Units (Space)

Merchant	Existing Unit (sq. m.)	New Unit (sq. m.)
D. Sowerby	19	40
D. Walker	38	80
L. Harvey	15	40
R. Simonetti*	19	100
M. Smith	19	(?)

*note that Simonetti is interested in providing for the holding of live shellfish that could involve pumping of seawater from the harbour.

There is also positive interest in a relocation to Oxon Cove by I Browse, a fish and shellfish merchant/processor currently operating from premises in the 'Lanes' area of the town. In the high season Browse can employ up to 30 staff and operates a fleet of 2 panel vans and 2 trucks (3.5 and 7.5 tonne). The existing floor area (estimated) is in the order of 200 sq metres on four floors. Any new unit would need to be bespoke as it involves production of cooked products that will require segregation of low and high risk production and product storage areas etc. Gas is required for shellfish boiling. Browse would also like to be able to hold live shellfish in tanks. It is likely that in order to comply with Food Safety and Hygiene Regulations and to provide live shellfish holding that a minimum unit of 400 sq metres would be required.

Also located in the 'Lanes' area of the town are two engineering businesses, Brixham Steel Construction and Hubbard Engineering. Both provide services to fishing vessels but neither expressed any desire to relocate.

No attempt was made at this stage of the study to gauge potential interest from other local merchants or ancillary service providers or from further a field.

If the two merchants/processors currently operating from the end of the pier and with offices above the market were to be relocated to Oxon Cove then to provide them with similar capacity but to include staff facilities, dry storage, waste storage and offices etc would require a unit of 300 sq metres for Perkes and 200 sq metres for Lawrence and Rae.

Appendix I

Appendix I

References

1. 'Quality Audit of the Port of Brixham' Seafish Report No. CR176, February 2000.

2. 'Brixham Harbour Regeneration' Nautilus Consultants March 2000.

3. 'Brixham Harbour Development Feasibility Study' EPD Consultants August 1997.

4. 'Guidelines for the Landing and Sale of Fishery Products' Seafish December 2002.

5. 'Guidelines for the Handling of Chilled Finfish by Primary Processors' Seafish May 1989.

6. 'Guide to Good Practice for Wholesale Markets Authorities within European Union' World Union of Wholesale Markets