General advice

- Draw up a business plan and consult independent financial advisors.
- Identify your market(s) at the outset.
- How likely are you to receive planning permission from the competent authority (eg Local Council, Crown Estate)? Consult local aquaculture development plans, where they exist, and speak to the staff involved in granting licences.
- Is the local infrastructure (roads, piers etc) adequate to support your proposal, or will you have to construct them?
- Can a Crown Estate lease be secured? Consult them.
- Does the site have a conservation designation or conservation value (e.g. Site of Special Scientific Interest) near the surrounding area? Could it affect access to the area? Consult the appropriate conservation organisations, statutory (e.g. English Nature, Countryside Council for Wales, Scottish Natural Heritage, Environment and Heritage Service (Northern Ireland)) and voluntary, for the area.
- Is there likely to be any hazard to navigation or transport? Consult the Maritime & Coastguard Agency, Transport, the Department of Transport.
- Is the local infrastructure (roads, piers etc.) from any other marine-based aquaculture activity in the vicinity.
- How secure is the site? What is the risk from interference or other unwanted human activity? Can the site be secured if required?
- Try and establish whether the site has a history of algal biotoxin (PSP, DSP, ASP etc.) incidents or harmful algal blooms (red tides), although past track record is not always a predictor of future performance.
- What potential predators, competitors or fouling organisms are likely to be encountered?
- Are local inhabitants or other user groups of the marine environment likely to object? Can objections be overcome through dialogue, management agreements or design modifications? Consult them early on.
- Does the proposition require a grant aid or other assistance and how likely is it to be awarded? Consult the appropriate agencies administering grant and other business assistance and how likely is it to be awarded? Consult financial advisors.
- How likely are you to receive planning permission from the competent authority (eg Local Council, Crown Estate)? Consult local aquaculture development plans, where they exist, and speak to the staff involved in granting licences.
- Trial and establish whether the area has a sheltered cultivation or harvesting area classification from the local Environmental Health office or equivalent.
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- What potential predators, competitors or fouling organisms are likely to be encountered?
- There are strict regulations controlling the movement of molluscan shellfish around the UK. This is to prevent the spread of oyster diseases that may affect native oyster stocks. Seed and pre-grown stock may require checking by the competent authority before shipment. This minimises the risks from pollutants or other anthropogenic inputs. Potential inputs from the water catchment area (eg from farming, forestry, horticulture, chemical industry etc.) should be investigated.
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Mussels in the hold of a dredger

**Site selection**

- Before beginning any commercial activity, it is prudent to conduct small-scale trials for at least 12 months on the intended site. This will give an indication of its overall suitability.
- In the UK, mussels start to grow in the spring when seawater temperatures reach 8 - 9°C. Growth rate reaches a maximum in July or August when water temperature peaks (usually 16 - 18°C) and then falls off again as the temperature drops below 8 - 9°C in November or December.
- Salinity should generally be above 20 ‰.
- Many of the sheltered bays and estuaries around the UK are suitable for mussel cultivation.

** Cultivation techniques**

- **Obtaining seed:**
  - Seed mussels (15 - 30 mm shell length) are moved from higher parts of intertidal beds and from offshore sub-littoral beds where they do not grow well for relaying in other areas of greater productivity.
  - At small production levels (up to 50 tonnes per year), a 1:1 ratio (ie tonnes of harvested mussels per tonne of seed mussels relayed) is typical of many of our estuaries.
- **On-growing techniques:**
  - Once seed have been relayed, they will need relaying again before reaching maturity.
  - Mortalities may be required, particularly for the removal of predators.
  - Where seed are relayed at higher densities, and provided there has been little loss of the stock then they will need relaying again before reaching maturity.

**Harvest**

- **Seed mussels (15 - 30 mm shell length) are moved from higher parts of intertidal beds and from offshore sub-littoral beds where they do not grow well for relaying in other areas of greater productivity.**
- **On-growing techniques:**
  - Once seed have been relayed, they will need relaying again before reaching maturity.
  - Mortalities may be required, particularly for the removal of predators.
  - Where seed are relayed at higher densities, and provided there has been little loss of the stock then they will need relaying again before reaching maturity.

**Equipment**

- A mussel farmer will also need an assortment of smaller pieces of equipment and safety clothing in addition to the more specialised items. Examples of the equipment required include First Aid kit, Weymouth或其他 safety kit, especially when working from small boats, signal flares for boat work, pressure washer, gloves, knives, communication equipment (mobile phone or VHF radio).

**Markets**

- Although there are markets for mussels in the UK, much of the bulk production is exported to the continent, particularly France and the Netherlands.