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| **Impact** |  | **Impact Details** |  | **How to reduce impact** |
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| **Food supply impacts** |  | **Overfishing of wild fish to make pellets. This reduces populations of the fish and species that feed on hem such as seabirds.** |  | **Use of more plant products in food pellets or the cultivation of herbivorous fish, e.g. *Tilapia*.** |
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| **Habitat loss** |  | **Habitat destruction during construction especially lagoons in mangroves.** |  | **Careful site selection (difficult for very large scale developments).** |
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| **Pesticide pollution** |  | **The pesticides used to control weed and crustacean growth may kill wildlife.** |  | **Mechanical cleaning of cages and biological control with crustaceans reduced the need for pesticides.** |
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| **Development of antibiotic resistant bacteria** |  | **Antibiotics used to prevent or treat diseases may lead to the development of antibiotic resistant bacteria. The resistance may also transfer to human pathogens** |  | **Lower stocking densities lower the risk of disease lower the risk of disease so antibiotic use can be reduced.** |
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| **Control of wild predators** |  | **Culling predators such as seals and fish-eating birds reduced the predator populations so fewer fish are eaten.** |  | **Better cage designs to exclude predators** |
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| **Impacts of controlling lice** |  | **Parasitic lice reduce fish growth and increase the risk of virus and fungus infections. Lice spread to nearby wild fish populations. Lice may be controlled with chemicals e.g. hydrogen peroxide wash, azamethiphos (organophosphate pesticide), pyrethroid pesticides. These kill local wildlife.** |  | **Tanks should hold fish of a single age group so lice are not transferred from old fish to young unaffected fish. Biological control with wrasse that eat lice. However, this can reduce wild wrasse populations if the wrasse are caught and moved to the fish farm. Washing fish in warm water.** |
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| **Wild gene pool impacts** |  | **Fish that escape may breed with wild fish and introduce disadvantageous characteristics to the wild gene pool, e.g. bright colour** |  | **Better care designs to reduce escapes.**  **Eggs exposed to high pressure produce triploid fish which are sterile. (Sterile fish grow faster)** |
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| **Introduction of non-indigenous species** |  | **Escaped non-indigenous species may colonise and become predators or competitors.** |  | **Cultivation of species that cannot bred in the wild e.g. Japanese oysters in the UK (too cold to breed** |
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| **Organic waste pollution** |  | **Organic wastes from faeces or surplus flood causes deoxygenation as it decomposes.** |  | **Feeding is monitored to prevent over-feeding.**  **Cages can be located where currents disperse wastes.**  **Freshwater aquaculture systems may have effluent treatment works similar to sewage works.**  **Bacteria reed beds can also be planted to absorb nutrients and break down organic wastes.** |