

As an environmental charity, Fidra recognise that Scottish salmon farming has the potential to have significant impacts on the marine environment. This briefing makes policy recommendations needed to minimise these impacts through transparent enforcement of stringent regulation. Our 'Best Fishes' project highlights the environmental impact of Scottish salmon farming and encourages traceability and transparency throughout the supply chain, specifically through the creation of a dashboard (see the increasing transparency briefing for more detail), to promote best practice across the sector and act as a vital tool in supporting Scotland's Green Recovery.

## **We ask that MSPs urge the government to bring in policy and legislation to:**

- limit expansion of the industry unless, and until, performance of the farms can be improved;
- prevent siting of salmon farms in Scotland's Marine Protected Areas and Highly Protected Marine Areas;
- increase compliance enforcement, and monitoring of farms after an 'Unsatisfactory' benthic survey result;
- increase transparency of mandatory reporting through development of a fully accessible central dashboard, in particular on the use and discharge of chemical treatments.

## **Impacts of salmon farming**

Scottish salmon farms use **open net pens** for both juvenile freshwater and adult marine stages of the salmon. The use of these structures is associated with several environmental issues of concern<sup>1</sup>:

- **Diseases and parasites**; Open net pens (ONPs) enable infection of farmed salmon by diseases and parasites from the surrounding waters<sup>2</sup>.
- **Chemical treatments**; Pesticides and treatments used in ONPs to combat sea lice and other diseases may affect wild marine life especially crustaceans.
- **Food waste and faeces**; Waste from uneaten food and fish faeces under and near ONPs can create anoxic conditions and affect wild marine habitats and organisms.
- **Fish escapes**; Damage to ONPs from predators (i.e. seals) and bad weather can result in escaped farmed fish interacting with wild populations.

To address these environmental impacts **Fidra asks that MSPs support policy and legislation to improve salmon aquaculture through innovation, best practice and effective enforcement of stringent regulations**. In 2018, the Scottish Parliament's Environment, Climate Change and Land Reform (ECCLR) committee's Report on the environmental impacts of salmon farming<sup>3</sup> and the subsequent Salmon farming<sup>4</sup> report from the Rural Economy and Connectivity (REC) Committee, call for:

- restraint on industry expansion until the present challenges are adequately addressed;
- increased investment in Scottish research and innovation;
- better regulation of salmon farms.

The 2022 Review of the Aquaculture Regulatory Process<sup>5</sup> calls for a 10 year framework for finfish aquaculture, with sites unable to operate within the framework ceasing production. Fidra supports these recommendations and asks for Scottish Government to progress with this commitment.

### Increased enforcement action

The REC Committee report also called for regulation to be in line with accreditation, which often has stricter parameters than present legislation, and stronger enforcement actions. Fidra <https://www.bestfishes.org.uk/fidra-report-dives-into-the-burden-on-the-benthos/><sup>6</sup> examined benthic (seabed) surveys conducted to comply with farms' Scottish Environmental Protection Agency (SEPA) Controlled Activity Regulations (CAR) licences. A significant finding was that a farm can have repeated 'Unsatisfactory' benthic surveys yet still have a 'Good' overall compliance rating. Despite this, lack of compliance is predominantly due to poor benthic survey results. **Compliance of salmon farms in Scotland could be significantly improved by addressing poor benthic survey results with stronger enforcement action, such as, reducing the salmon produced (biomass) or implementing fallow periods or site closures.** Further work<sup>7</sup> highlighted a lack of transparency and regulation around the use of the chemical treatments formaldehyde and hydrogen peroxide, in freshwater lochs.

### Government interventions

Positive environmental change is achieved through collaborative dialogue with NGOs, government and industry. This can be enhanced through effective government legislation and support. Since the parliamentary inquiries in 2018 and the 2022 regulatory review, Fidra is seeking detail of how regulatory processes will improve and a committed timetable to put forward supporting legislation.

### Conclusions & recommendations

Information flow and transparency is one of 7 cross cutting workstreams of the Scottish Government's 10 Year Farmed Fish Health Framework<sup>8</sup>. In line with this, Fidra believes there is an urgent requirement that the subsequent Vision for Sustainable Aquaculture<sup>9</sup> being developed by the Scottish Government ensures that the processes involved in the farmed salmon industry are effectively regulated and transparently communicated in real time to all stakeholders.

#### To achieve increased information flow and regulatory compliance Fidra is asking MSPs to call for:

1. No further expansion of the industry, unless, and until, poorly performing farms can be improved, and better performance sustained to limit damage to the benthic environment;
2. No additional salmon farms in Scotland's Marine Protected Areas (MPAs) or planned Highly Protected Marine Areas, or freshwater lochs in Protected Areas, and consideration to commit to moving those already in protected areas by 2025;
3. Increased monitoring of farms from 2022 after an 'Unsatisfactory' benthic survey result and stricter enforcement actions such as a clear set limit of 3 consecutive failed or non-compliant assessments, after which reduced biomass, a fallow period or site closure is enforced;
4. Commitment to the development of a single central online database by 2025 with data on a wide range of environmental parameters displayed to farm level, including: details of chemical treatments; benthic survey reports; action taken for 'Unsatisfactory' results or compliance failure.

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<sup>1</sup> Fidra (2022). Best Fishes: Know your Scottish salmon <https://www.bestfishes.org.uk/>

<sup>2</sup> Bouwmeester, M. M., Goedknecht, M. A., Poulin, R., & Thielges, D. W. (2021). Collateral diseases: Aquaculture impacts on wildlife infections. <https://doi.org/10.1111/1365-2664.13775>

<sup>3</sup> ECCLR Committee (2018). [Report on the environmental impacts of salmon farming. 81pp.](#)

<sup>4</sup> REC Committee (2018). [Salmon farming in Scotland. 146pp.](#)

<sup>5</sup> Griggs, R. (2022). [A Review of the Aquaculture Regulatory Process in Scotland, pp 50. Scottish Government](#)

<sup>6</sup> Fidra (2020). [The impacts of Scottish salmon farming on the benthic environment. 17pp.](#)

<sup>7</sup> Fidra (2021). [Formaldehyde Use in Scottish Salmon Farms. 26pp.](#)

<sup>8</sup> Scottish Government (2018). Strategic Framework for farmed fish health. <https://www2.gov.scot/Topics/marine/Fish-Shellfish/Strategic-Framework>

<sup>9</sup> Scottish Government (2022) Next steps to improve regulation of aquaculture. <https://www.gov.scot/news/next-steps-to-improve-regulation-of-aquaculture/>