

**Supplementary submission from the Scottish Environment Protection Agency (SEPA) following meeting on 15 November 2016**

**SEPA Supplementary Evidence on the Draft Budget 2017-18**

During the Draft Budget evidence session on 15 November 2016 SEPA offered to provide supplementary information on a range of issues including commercial services, enforcement, fish farm regulation, research and development, education for air quality monitoring, nature-based flooding, land use planning and planning advice.

**1. Commercial Services**

We mentioned our new commercial work, the international aspects of which we highlighted. We noted that a Commercial Services Portfolio had recently been established and that the plans for this portfolio are at a very early stage. As requested, we will update the Committee when the work matures.

**2. Enforcement Report**

We said that we would provide the Committee with our most up to date Enforcement Report, once available. SEPA's 2015-16 Enforcement Report has just been published and is available on our website.<sup>1</sup>

**3. Fish Farming**

The Committee asked us about the role of monitoring and data in the regulation of fish farming and we have set out below our regulation of and aspiration for the sector.

**3.1. Driving up compliance**

Compliance has declined in the fish farming sector by 2% from 2013 and we are committed to working with the sector and our partner organisations to improve performance. There are a number of actions we can take to help sites comply. For example, we may seek changes in production patterns or the management of a site, extended fallowing or a reduction in the biomass of fish held in the cages.

We want to help the sector to turn this year's compliance results into an opportunity for the industry to not just comply, but go beyond compliance.

**3.2. A new regulatory framework under Controlled Activities Regulations**

We are about to consult on changes in the licensing framework for marine cage fish farms and will advise the Committee when the consultation is launched. At present, compliance is assessed against SEPA-derived environmental standards, rather than the more recently introduced UK standards. This method means that the area of seabed over which the standards may be breached is highly variable between sites.

Our consultation on 'Depositional Zone Regulation' (DZR) proposes a new regulatory method for marine cage fish farms. This would mean that fish farms would be authorised, and their impacts would be assessed, based on a measurement of the area of seabed impacted by fish farm operations on both an individual site and cumulative water body basis.

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<sup>1</sup> [http://www.sepa.org.uk/media/163496/enforcement\\_report\\_2014\\_2015.pdf](http://www.sepa.org.uk/media/163496/enforcement_report_2014_2015.pdf)

It puts responsibility for day-to-day management of sites into the hands of responsible fish farmers and ensures that at the correct locations, the regulatory framework more closely matches the growth agenda pursued by the industry by removing imposition of a limit on biomass, and enabling operators to increase biomass where environmental monitoring demonstrates that the location is able to cope. Given the critical nature of the monitoring and the removal of control imposed by a limit on biomass, monitoring will be undertaken by us, or a contractor operating on our behalf, and not by the operator.

As currently, we would strongly encourage operators to also undertake their own monitoring during a production cycle in order to ensure that the seabed is appropriately managed and to spot developing unsustainable impacts before they escalate. The proposed new licensing framework will include a system to alert farmers where the environment is beginning to come under stress allowing farmers to change management of the fish farm site and avoid circumstances which might precipitate action by us. We intend to consult widely on the proposals and will be listening very carefully to stakeholder views.

We would not, under any circumstances, issue a new DZR licence to a site which on the basis of modelling and/or monitoring appears unlikely to meet the standards set under the new regime.

As a general point, we recover the costs of regulating via our [charging scheme](#). This includes an additional charge for sites where we carry out monitoring.

### 3.3. Regulation of sea louse treatments

One method of controlling sea lice is the use of authorised medicines as an in-feed treatment, controlled by conditions included in our fish farm licences and set using the best available evidence. We carry out our own monitoring of the environmental impacts of such treatments and, where necessary, commission analysis of that monitoring to inform the conditions under which treatments are permitted by us through fish farm licences.

We are working in partnership with the fish farming industry, the Scottish Government, the Scottish Aquaculture Innovation Centre and other key partners, to explore alternative means of controlling sea lice, which minimise the risk to our marine environment.

### 3.4. SEPA laboratory capability

During the evidence session on 15 November we mentioned that we have in recent years consolidated our laboratory services into two centres of excellence, one in Aberdeen and one in North Lanarkshire. This has not only enabled us to reduce costs, but has enhanced our expertise by focusing specialist science work in centres of excellence. As outlined in our earlier written evidence this was part of a programme to drive a step change in delivery of our science functions aimed at driving operational savings and improving and rationalising our science services so that the best information is available to decision makers when they need it. This programme enabled 25% savings in delivery of our science functions, while providing better services and better outcomes.

#### 4. SEPA's role in Research and Development

A range of issues were of interest to the Committee and below we set out our direct and indirect roles in research and development.

##### 4.1 The Context

Our work in this area is carried out in the context of the co-ordinated agenda for marine, environmental and rural affairs science ([CAMERAS](#)), chaired by Professor Louise Heathwaite (Chief Scientific Adviser for Rural Affairs, Food and the Environment, Scottish Government). This is a subgroup of the Rural Affairs, Food and Environment (RAFE) Board and exists to ensure the portfolio's science needs are considered and delivered in the widest context. We also contribute to a number of fora which allow us to collaborate and influence the wider research agenda, including

Research and Innovation for our Dynamic Environment Forum ([RIDE](#)), is a gathering of all the UK research councils and agencies and government departments with an interest in environmental change research.

Shared Agencies Regulatory Evidence Programme (ShARE) enables the UK and Irish environmental regulators to collaborate on research and development projects.

We are also involved with topic-specific research groups and centres, for example [The National Centre for Resilience](#), [Scottish Aquaculture Research Forum](#) and [UK Carbon Capture and Storage Research Centre](#). In particular we work very closely with the Scottish Government funded Centres of [Expertise on Water](#) (CREW) and on [Climate Change](#) (ClimatexChange). These Centres have budgets to support policy-relevant research and evidence collation and we have proposed a number of projects which are currently underway.

##### 4.2 SEPA's Own Research

We have a £300k Research and Development budget which is used to ensure we can promote and facilitate research on key issues for our business. Many of these projects are run in partnership with other bodies, for instance the Scottish Government, Scottish Natural Heritage and other Environmental Regulators. **Annex 1** shows a list of projects funded by our research programme in 2016-17.

##### 4.3 SEPA's PhD Programme

We currently support 11 PhD students through a variety of funding mechanisms but none is directly funded by the European Union. We also have staff involved in a number of University-led projects as advisors and technical experts.

#### 5 Air Quality Monitoring and Education

The Committee asked us for more information on our work with schools on air quality in the context of closing the attainment gap.

We work with a range of partners on air quality education to change behaviour through education and citizen science.

##### 5.1 Learn about air

The website <http://www.learnaboutair.com/> is a partnership initiative between SEPA, Scotland's Environment Web and North Lanarkshire council which launched in September 2015 and has been a great success in engaging with the education sector. The site hosts three education packages: primary, secondary (science) and secondary (geography).

On a monthly basis the site has continued to increase in its use. The teaching package website has received over 94,000 hits this year alone, with the unique visitors continuing to rise to 7,500. However the more significant user indicator is the number of distinct users that are recorded as unique users that stay on individual pages for 15 minutes or more, since its launch the website has recorded just over 1,100 distinct users. This may underestimate the number of people interacting with the site as in some cases it could be full classrooms using the content, rather than individuals; however it does illustrate its general popularity.

## 5.2 Air quality sensors

Part of the package is the use of an air quality sensor, loaned by us to the school. The sensors were fully booked out during last year's school terms with demand outstripping supply.

The sensors enable the school to collect air quality data on a real-time basis. The air quality data is presented in a way that identifies the pick-up and drop-off times. This can then illustrate the direct contribution from vehicles that park and/or idle outside the school. The pollutants that are recorded are directly related to the Scottish Government's Air Quality legislation and to human health.

This year we have had requests from schools across Scotland, from the Highlands through to Dumfries, and from primary schools doing travel plans to secondary schools doing National 4/5 teaching, demonstrating the continued appetite for the teaching package and the sensors.

We are keen to replace the 10 existing sensors and supplier. We are in the process of looking at potential industrial partnerships or direct funding to acquire a significant number of sensors that would allow us to promote the teaching pack wider within local authorities linking in with campaigns such as:

- Vehicle idling outside schools in winter, which involves drivers being given opportunity to stop idling and if they don't they are served with a fixed penalty notice
- Vehicle Emission testing in Air Quality Monitoring Areas
- The promotion of School Travel Planning
- Other sustainable travel-to-school initiatives such as the Walk once a Week initiative

We have already had success with this on an individual authority basis, for example with East Renfrewshire Council and their active travel and engine idling campaign last year. With a greater number of sensors we could expand this work across more local authorities.

## 5.3 VentureJam

Following on from the success of the teaching package, SEPA (with funding from Scottish Government) worked in partnership with Glasgow City of Science and Young Scot to host this year's VentureJam – a series of events to develop fresh ideas to solve real-world challenges.

VentureJam's focus this year's was to develop novel solutions to protect and improve urban air quality that challenged decision-making whilst promoting behavioural change. We attracted participants from across a wide demographic background. The events this summer culminated in a spectacular PR campaign that provided building projections across Glasgow, whilst three development teams were given the unique opportunity to pitch their air quality themed next generation ideas to investor's at the national innovation summit, Venturefest.

## **6 Nature Based Flood Solutions**

The Committee requested further information on funding allocated to nature based flood management solutions.

### **6.1 SEPA role**

We have a statutory role to assess the potential for natural flood management. In preparing Scotland's Flood Risk Management Strategies we carried out this function, mapped the outputs and worked with local authorities to make them aware of what contribution natural flood management can make to their efforts on the ground.

Neither us nor the Scottish Government directly allocate funding to natural flood management actions as a matter of course, beyond pilot or demonstration projects designed to test methods and develop supporting evidence. However, local authorities do receive funding for flood risk management from the Scottish Government which is flexible and can be used for natural flood management. Additionally, Scottish Rural Development Programme agri-environment funding can be similarly targeted.

The funding and delivery of natural flood management solutions is the responsibility of local authorities.

### **6.2 Flood Risk Management Strategies**

The [Flood Risk Management Strategies](http://apps.sepa.org.uk/FRMStrategies/)<sup>2</sup> set out the most sustainable options for flood risk management across Scotland over the next three planning cycles. Of the 61 schemes and works proposed in Scotland's Flood Risk Management Strategies, 21% will incorporate natural flood management. There are four solely natural flood management works proposed and nine flood protection schemes / works which include a natural flood management element. These are all planned to commence within the next six years.

Of the 191 flood risk management studies proposed to start over the next 12 years (Figure 1), 46% will consider natural flood management. There are 23 natural flood management studies, and 65 flood protection studies that will also consider natural flood management options. These options include floodplain restoration, runoff

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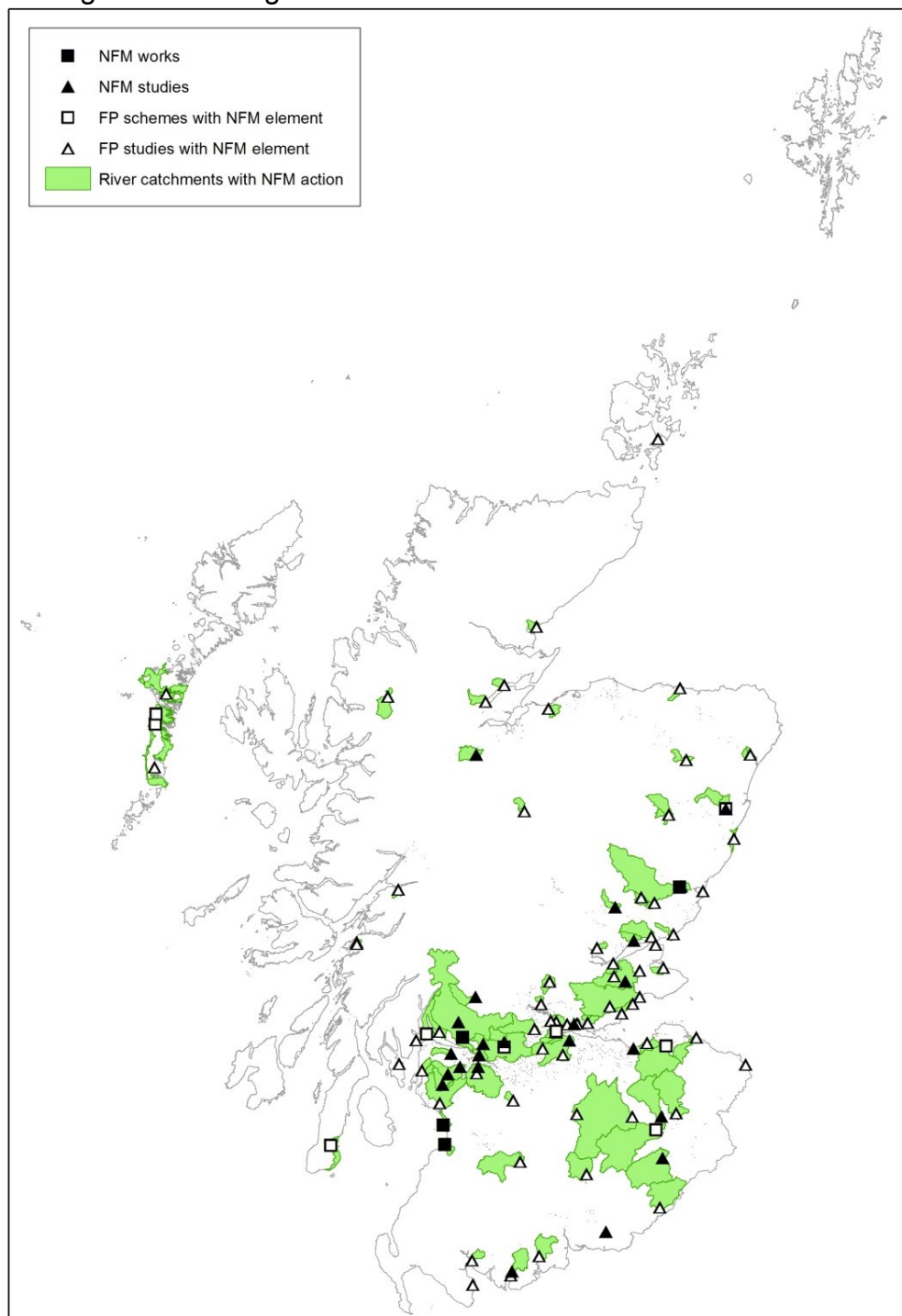
<sup>2</sup> <http://apps.sepa.org.uk/FRMStrategies/>

control and wave attenuation. These studies will provide the understanding to inform the funding of future natural flood management actions.

The natural flood management actions are estimated to involve consideration of 96 river catchments and subcatchments, which cover in total around 9,500km<sup>2</sup>, in addition to coastal reaches.

The natural flood management actions outlined above are taking place across 83 (33%) of the 254 identified Potentially Vulnerable Areas in Scotland. Within these 83 Potentially Vulnerable Areas there are estimated to be approximately 35,000 residential properties and 13,000 non-residential properties at risk of flooding during The 200 year flood.

Figure 1. Location of natural flood management actions within Flood Risk Management Strategies.



## 7 Land Use Strategy

The Committee asked about our interests in local schemes arising from the Land Use Strategy. We strongly support the value of regional land use plans and we would welcome participating in their development.

The River Basin Management Plan (RBMP) is a very helpful model for integrated regional planning. In our role as a regulator in delivering RBMP objectives, and through our Flood Risk Management duties, we plan and engage regionally with



businesses and land managers. We seek to align our regional priorities and plans for catchment based improvements to the water environment with other priorities including flood risk management, development planning, forestry creation, access and greenspace, and biodiversity protection. This co-ordinated approach offers substantial scope for multiple benefits, a clear principal of the Land Use Strategy.

One specific example of the value of regional planning and partnerships is our priority catchment approach. This is a regional process which works in partnership with the land sector to identify diffuse pollution hotspots, followed by the provision of advice leading to the targeting and implementation of mitigation measures. This regional targeted approach has been successful in ensuring changes are being made to farm practices in order to help make improvements in water quality.

## **8 Planning Advice Provided to Local Authorities and Government**

The Committee asked us for information in relation to planning advice on flooding. Our [Flood Maps](#)<sup>3</sup> are the most comprehensive national source of data on flood hazard and risk for Scotland and include information on different types and likelihoods of flooding. The maps show all types of flood risk, including river, coastal and surface water flooding.

They also show three likelihoods (high, medium and low) plus flood extent, depth and velocity information where available.

These maps include, but are not limited to, displaying flood plains (the generally flat areas adjacent to a watercourse or the sea where water flows in time of flood). They allow developers and local authorities to screen applications to determine if there is a risk of flooding from various sources. This includes localised flooding arising from relatively small watercourses or surface water flooding from heavy rainfall. For development outwith areas of potential flood risk this means that the applicant does not have to carry out a flood risk assessment for their proposal, which benefits a significant number of applicants. The maps are supplemented by advice and guidance for applicants and planning authorities.

### **8.1 Number of Consultations Annually**

The figures in **Table 1** show that we are consulted on upwards of 2000 applications per year where flood risk is an issue. We object to proposals where inadequate information is provided, but we then work with the applicant and the Planning Authority to mitigate flood risk on the site and drive appropriate development. This iterative process does take considerable effort and it could be streamlined by more developers recognising flood risk on their site and carrying out an appropriate flood risk assessment and submitting this with their planning application.

From the total number of consultations SEPA receives there is less than 1% where the applicant cannot mitigate the flood risk associated with their proposal. This is particularly the case for small scale development where the applicant may only be building a single house.



<sup>1</sup> <http://www.sepa.org.uk/environment/water/flooding/flood-maps>

However, in the majority of cases our advice can be used by applicants to successfully address flood risk on their sites, leading to housing and business development which should be free from flood risk.

**Table 1 – Number of consultations where flooding was an issue**

Year	2013	2014	2015	2016
Consultations	2139	2474	2233	2367

## 8.2 Applications Approved Contrary to SEPA's Advice

There are a small number of applications approved contrary to our advice each year (**Table 2**) and the planning authority may notify these to the Scottish Government. These are normally returned to the Planning Authority without any change to the approval as they do not meet the criteria of being in the national interest.

**Table 2 – Cases (and associated units) approved contrary to SEPA advice**

Year	2013	2014	2015	2016
Consultations	8	9	7	10
Units	8	14	11	11
Camping/Caravan plots		4	8	

## 8.3 Houses/Units Involved in Applications Approved Contrary to SEPA's Advice

In terms of the number of units (houses/business units etc.) represented by these applications, again, the number is small. The developments approved are small scale, typically less than 4 houses and often involve the change of use of an existing building e.g. an office building being converted to flats. There are no examples of essential infrastructure such as hospitals being approved nor of large scale residential developments.

## 8.4 Additional Factors for Planning Authorities or Reporter

It should be noted that there are other factors which the planning authority or Reporter may take into account when granting planning permission. For example, it may be to fill a gap site, to bring a derelict building back into use or to convert an otherwise empty building from commercial to residential use. A SEPA objection is not the only factor the planning authority must take into account and it may not be the determining factor.

## Annex 1 Projects funded by SEPA in 2016-2017

Project Title	Cost 2016-17	Project total value	Partner(s)
LIFE SMART Waste Project R&D – waste crime tools, approaches and techniques	£78,000	£300,000 (2015-2018)	Natural Resources Wales, ACR+, Northern Irish Environment Agency, Irish EPA, Brussels Institute of the Environment
Open-source single board PCs and their use in remote environmental data logging	£20,000	£20,000	
Environmental benefits from integrating land and water management – Strathard project	£15,000	£61,200	Forestry Commission Scotland, Loch Lomond & Trossachs National Park Authority, Scottish Natural Heritage, Stirling Council, The Community Partnership, Forest Research.
Lake Fish Classification methods	£25,000	£100,000	Environment Agency, Natural Resources Wales, Northern Irish Environment Agency
Application Of Revised River Morphology Typing Model	£7,000	£24,000	
Review/Survey of restoration achievements of open coal cast mines	£30,000	£40,000 (2016-2017)	
The Effect of Plastic Contamination on Agricultural Soils	£25,000	£25,000	
Develop an operational method to improve the robustness of Appropriate Assessment (under the Habitats Regulations) required in determination of permit applications	£20,000	£20,000	Scottish Natural Heritage

Project Title	Cost 2016-17	Project total value	Partner(s)
Evaluation of commercially available Enzyme-Linked ImmunoSorbent Assay (ELISAs) for the analysis of selected organic chemicals (pesticides, veterinary medicines and pharmaceuticals) in natural waters	£15,000	£15,000	
Simple Calculation of Atmospheric Impact Limits from Agricultural Sources	In-kind	£15,000	Environment Agency, Natural Resources Wales, Northern Irish Environment Agency, EPA Ireland
Updated PSI (E-PSI) and Acidification indexes into River Invertebrate Classification Tool	£5,000	£5,000	Environment Agency, Natural Resources Wales, Northern Irish Environment Agency