

# Independent Aquaculture Consultancy from Xodus



**Our aims are to deliver our aquaculture clients' goals, to ensure compliance with environmental legislation, and to reduce environmental impact.**

## Environmental Impact Assessment

Xodus is recognised as a provider of high quality, robust assessments to support planning applications. The cornerstone to this success is ensuring Environmental Impact Assessment (EIA) is an integral process to design and operation, and that client teams are fully integrated in the environmental issue identification (ENVID) and EIA process. Consultation with stakeholders and the public is an important aspect of any EIA and Xodus has excellent working relationships with government departments, their statutory consultees, and a wide range of non statutory stakeholders. Our consultants also assist with the site selection of

aquaculture sites from assessments on the local receiving environment and can aid with the initial liaison with statutory consultees during pre-screening. Xodus has undertaken EIAs for a wide range of aquaculture developments, including cod and salmon, throughout Scotland.

## Environmental Management Systems

Environmental Management Systems (EMS) are essential in ensuring an organisation operates in an environmentally responsible manner. Xodus supports the development of such systems for a range of clients. We can also provide accredited auditors to review any EMS that you have in place. To support

Xodus Group calls on experience gained from 17 years working in the aquaculture industry to provide a wide ranging consultancy service to the industry. Our team has extensive knowledge of environmental issues relating to offshore and coastal industries and is ideally suited to support all areas of the aquaculture sector. The national and international nature of our business allows experience to be drawn from local industries as well as wider experiences outside the UK.

We offer a range of services:

- › Environmental Impact Assessments (EIAs) including screening and scoping
- › Environmental survey (seabed, water column and hydrographic) planning and management
- › Environmental consent applications
- › Modelling studies (AutoDEPOMOD)
- › Site-selection and pre-screening
- › Environmental Management Systems (EMS), auditing and reporting
- › Environmental awareness and compliance training
- › Environmental performance review
- › Environmental management plans
- › Environmental research and development
- › Electrofishing and river habitat surveys.

those who are involved in conducting or participating in EMS audits, we offer three-day EMS Auditor training courses that can be tailored to your requirements.

## Environmental Survey

Xodus provides a range of survey services from baseline surveys as part of environmental impact studies, to the design and implementation of ongoing monitoring programmes. Capabilities include: survey design and planning, coastal and sub-littoral habitat surveys, otter surveys, hydrographic and meteorological surveys, and the collection of seabed and water column samples for chemical and biological analysis.



### Electrofishing and River Habitat Surveys

Electrofishing survey is one of the few methods of providing reliable data on the status and stocks of juvenile salmonids in rivers and burns – a common data gap in aquaculture EIAs. Our electrofishing team carries out baseline surveys for EIA and post-EIA monitoring. Electrofishing surveys can also provide data on the prevalence and severity of louse infestation in returning wild adult fish, addressing concerns of potential links with aquaculture. Our surveys can also be used to assess the presence and population size of lamprey species.

### Environmental Consent Applications

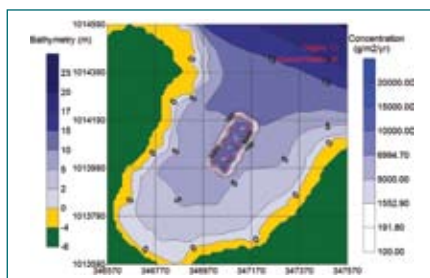
Specialist input into environmental permit and consent applications can be provided in support of operational licences. These include local planning applications and SEPA Controlled Activities Regulation (CAR) applications.

### Aquaculture Management Plans

Xodus Group assists in the development of aquaculture management plans to meet organic standards (e.g. Soil Association).

### Modelling Studies

AutoDEPOMOD is a computer modelling system developed by SEPA to allow for the prediction of effects of fish farms on the environment and to determine where monitoring around sites should take place. It is also used for setting the limits on the biomass and quantities of sea lice chemicals allowable at the fish farm site which are assessed against Environmental Quality Standards (EQS).



AutoDEPOMOD software output.

Xodus has extensive experience in using this software programme and are registered with SEPA to undertake modelling. Exploratory modelling can be run at sites and equipment characteristics altered in order to maximise the site's potential in terms of biomass and minimise environmental impact.

### Environmental Awareness and Compliance Training

Xodus has extensive experience of undertaking environmental awareness training, with a preferred joint approach of raising awareness of environmental sensitivities at operational sites, and through identifying practical measures that employees can understand and implement. Course content and delivery methods vary – options include presentation and workshop sessions, intranet or CD-based modules.

### Environmental Performance Review

Many organisations in the aquaculture industry have realised benefits by commissioning an independent statement of environmental performance. This statement can be used to assist in client audits as well as for PR and marketing material. In addition to reporting on performance indicators and trends over time, an independent statement from Xodus can be used as a means of reporting qualitative issues, for example, a focus on wildlife seen around the sites or reports on management and operational initiatives.

### Environmental Research and Development

Innovation is an important aspect of our approach and Xodus undertakes research and development as required.



Xodus is proud to sponsor The Crown Estate Scottish Marine Aquaculture Awards 2011

### Case Study

#### Green Island Organics Ltd Environmental Impact Assessment (EIA)

#### Background

Green Island Organics Ltd. sought to establish three additional sites at North St Magnus Bay, Shetland. An EIA was required for each site so Xodus suggested a combined EIA and Environmental Statement (ES) to reduce costs and ensure robust consideration of cumulative impacts.

#### Consultation and Scoping

Xodus believes the EIA process should be as transparent as possible focusing on 'perceived concerns' as well as scientifically demonstrable risks to the environment. To this end, Xodus recommended and undertook an informal consultation with local stakeholders in addition to statutory formal scoping. All issues raised were incorporated into the overall EIA process.

#### Potential Impacts, Baseline Surveys and Mitigation

Scoping responses highlighted environmental sensitivities ranging from seals, cetaceans and sea trout to scenic value and Xodus identified data gaps to be addressed. Otters, a European Protected Species, were known to inhabit the area so an otter survey was completed to assess their distribution and potential impacts. Hydrographic surveys were completed and Xodus conducted biomass and chemotherapeutant modelling in line with SEPA requirements. A landscape/seascape and visual impact assessment addressed proximity to a National Scenic Area (NSA). Benthic surveys assessed the presence/absence of sensitive species. All survey data was fed into the EIA process, ensuring an accurate assessment of potential impacts. Xodus discussed mitigation and design measures throughout the process with Green Island Organics Ltd, ensuring full ownership of commitments made.

#### Production of an Environmental Statement (ES)

Wide consultation and supporting surveys ensured a robust and accurate ES which was favorably received by the regulators.

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