1st meeting of the Seaweed Review Steering Group

Paper 5 – Research requirements

Context

The Cabinet Secretary for the Environment, Climate Change and Land Reform committed to a review that would gather evidence on the environmental implications of removal of kelp by any method and consider the sustainable development of the seaweed sector. The proposed scope of the review includes:

- establish the locational evidence base to better understand where seaweed resources are and the broader ecosystems which exist within and around them;
- outline the research and evidence-base requirements to identify and assess potential environmental impacts of seaweed harvesting and on recovery / regrowth of harvested stocks so that we are better informed on the environmental impacts of further developing a harvested and cultivated seaweed sector in Scotland; and
- consider the need for a pilot project, on an appropriate scale and design and at an appropriate location, to collect evidence on the potential environmental impacts of seaweed harvesting and on regeneration potential.

The first stage would be a desk study conducted in parallel with the scenario mapping and socio-economic studies which will provide a broader picture of environmental and socio-economic factors to help determine feasibility of conducting subsequent field trials, which will have time, resource and cost pressures and identify species of interest

Mechanical harvesting / kelp bed function desk study
This desk study would potentially include:
1. a review of current scientific literature and of available information including evidence of international harvesting activity and monitoring; and the biological and environmental function kelp and other seaweed species play;
2. identify current knowledge gaps;
3. identify field trials that can address knowledge gaps;
4. estimate resource needs to deliver the field trials identified;
5. identify the most appropriate delivery partners, funding sources and mechanisms for the field trials.

Mechanical harvesting pilot study
It is for the group to agree on an appropriate pilot study approach. However, it is suggested a harvesting pilot should only be progressed once the desk studies have been concluded and supplementary investigations such as expert judgement and supporting modelling work carried out. A panel of experts drawn from steering group member recommendations would be able to provide that input on the scientific and technical issues.

A subsequent pilot could consider targeted and small scale field studies to monitor the extraction efficiency, recovery rate, impacts on non-target species, communities, commercial fish stocks, harvesting strategies, wave exposure and physical characteristics of the seabed. As well as stock recovery, assessments should also consider biodiversity, habitat recovery and climate change.

Research would require any necessary permissions and consents in place and subject to legal clarification regarding the Scottish Crown Estate Act kelp provisions and implications on harvesting kelp in a commercial trial even if for research purposes.

Data derived through the pilot will be used to examine ecological effects at the site level, parameterise hydrographical models investigating coastal impacts, and to inform policy development and licensing. Any pilot would be subject to ongoing review and control measures to allow termination of the trial if emerging evidence suggested negative impact

Key questions
- Do the proposed studies and the proposed chronology seem appropriate?
- Which species of kelp should we be focusing on first? Or should early focus look at non-kelp species too?
- Are there better ways of undertaking the work?
- Is there anything missing?
- Do members know of any relevant research/ evidence which could feed into the study?
- What other research is underway or planned both on wild harvesting but also cultivated?
- How will the research be funded?
- What permissions and licenses will be required? And how will the Scottish Crown Estate Act kelp provisions affect potential research?