



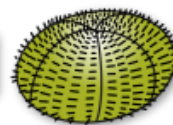
**Northern Periphery and
Arctic Programme**
2014–2020



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URCHIN
Utilising the Arctic Urchin Resource



URCHIN project 30 month newsletter

Welcome to the 30 Month URCHIN newsletter describing the project activities between (and including) May 2017 and October 2017. The contents of the newsletter include the activities of the various project partners over the last 6 months and a brief summary of what to expect in the URCHIN project over the upcoming final 6 months.

The previous 6 month period has been a busy period for dissemination with the URCHIN project being presented at the following events:

- The Arctic Clustering Event held in Skelleftea, Sweden (May 2017)
- The World Aquaculture Conference in South Africa (July 2017)
- The NPA annual conference in Galway, Ireland (September 2017)
- The World Seafood Congress in Iceland (September 2017)
- The European Aquaculture Conference in Croatia (October 2017).

We hope you enjoy the newsletter and as always please do not hesitate to contact the project co-ordinator and/or the project partners in each of the participating NPA countries for further information regarding the URCHIN project (contact details are listed at the end of the newsletter).

Best regards,

Phil James (Nofima)

URCHIN Project Co-ordinator



The Arctic project clustering event held at Quality Hotel Skellefteå 10-11th of May was attended by Nofima, Matis and GMIT. The project clustering event identified how clustering projects with similar outputs can be beneficial.



Presenting the URCHIN Project at the NPA Lead Partner seminar at the Marine Institute, Oranmore, Co. Galway, Ireland in September.



The URCHIN Project was presented by Dr Colin Hannon of GMIT at the World Aquaculture Society Conference in Capetown, South Africa in June.



Project partner activities during the last six months:

Norway, Nofima:

A combined Norwegian Sea Urchin Stakeholder Workshop between the EU URCHIN project and the ECOURCHIN project funded by Framsender (coordinated by the Norwegian Institute of Water Research, NIVA) was organised and held on Tuesday 3rd October at Forskningsparken, Oslo. The workshop was titled 'Possibilities and pitfalls in the development of a sea urchin industry in Norway'. The aim was to determine *'why Norway does not have an established sea urchin fishery and what are the effects of the potential industry on ecosystem services and socio-ecological system including the economic and associated kelp ecosystem restoration benefits of establishing such a fishery'*. The workshop brought together a range of different stakeholder groups who are interested in developing a sea urchin industry, ecosystem restoration and ecosystem services from kelp recovery in Norway.

A full report from the Workshop is posted on the URCHIN website:

[Home](#)

Norwegian Stakeholder Meeting held in Oslo



Norwegian sea urchin stakeholder workshop – Nofima/NIVA Report

Date/Time: Tuesday 3rd Oct (08:00am – 17:00pm)
Location: [Framsenderparken, Oslo](#)

Introduction

This was a combined workshop between the EU URCHIN project funded by the European Union and Arctic Program (coordinated by Nofima) and the ECOURCHIN project funded by Framsender (coordinated by NIVA). The workshop was titled 'Possibilities and pitfalls in the development of a sea urchin industry in Norway'. The aim was to determine 'why Norway does not have an established sea urchin fishery and what are the effects of the potential industry on ecosystem services and socio-ecological system including the economic and associated kelp ecosystem restoration benefits of establishing such a fishery'. The workshop brought together different stakeholder groups who are interested in developing a sea urchin industry, ecosystem restoration and ecosystem services from kelp recovery in Norway. The workshop theme was to explore the possibilities and pitfalls in the development of a sea urchin industry in Norway. In addition, the core aim of the URCHIN project is to shape NIVA's Government agenda and assist government to develop urchin fisheries in remote areas of the UK, through increased innovation and transfer of new technology in remote, sparsely populated areas, and the core aim of ECOURCHIN is to provide a knowledge base for a sustainable urchin harvesting in the north and study the effects of the industry on kelp restoration, coastal ecosystem services, and socio-ecological system. The benefits of ecosystem restoration and ecosystem services from kelp recovery in terms of kelp and ecosystem recovery, kelp recovery and value of ecosystem services including the increased value in sea urchin, potential carbon storage value from recovered kelp forests and value for supporting services provided by kelp forests. The workshop agenda are in Appendix 1 below. Attendees at the meeting included NIVA, representatives of large business, research institutes, higher education institutions, government regulatory bodies and funding bodies (see list of attendees in Appendix 2).

Session one: 09:00 – 12:30

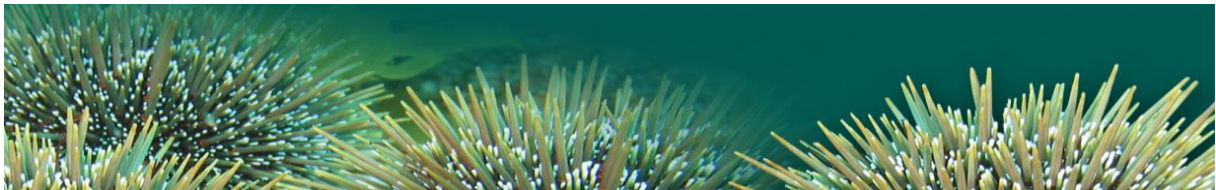
Current projects & Research and examples of successful urchin industries:

After a welcome and general introduction, NIVA and Nofima presented the aims, activities and outcomes of the ECOURCHIN and URCHIN projects respectively. A presentation of the funding opportunities available from the Norwegian Research Council followed. URCHIN partners (NIVA and Ocean and Fisheries Canada) presented a description of the successful urchin industries in both Canada and Norway. The benefits of ecosystem restoration and kelp recovery in terms of kelp and ecosystem recovery, kelp recovery and the sea urchin and a simulated projection of future kelp forest in the north of Norway were presented. A short general discussion/question session from the morning's presentations followed before lunch.





Dr Phil James Presenting the Urchin Project at the joint stakeholder's workshop in Oslo.



Ireland (Marine & Freshwater Research Centre, Galway Mayo Institute of Technology and SME partners):

The last 6 months of the URCHIN Project have been very busy in Ireland. Activities have included monitoring the ongoing reseeding trials at both Mullaghmore in Co. Sligo and Achill Island in Co. Mayo. After several unsuccessful attempts to establish a roe enhancement trial in Ireland it was possible to get a trial up and running in September. The trial is being run in conjunction with the Bantry Marine Research Station Ltd and Atlantic Sea Urchins (see photos below).



Taking advantage of the spring tide and the nice weather to monitor ranched sea urchins in Co. Sligo with Philip Waters of Mullaghmore Seafarm.



Measuring ranched sea urchins at Achill Island, Co. Mayo.




Dr Colin Hannon, Luke Wilson and Dave Evans using the raft to lift and feed cages of sea urchins in West Cork. The trial should be completed in December 2017



Greenland (Royal Greenland):

Royal Greenland and Nofima organised a **Greenland Mini Stakeholder Workshop** at the Greenland Institute of Natural Resources on June 22nd in Nuuk, Greenland. The workshop was very directed towards the opportunities in Greenland and how Royal Greenland can utilise the results from the URCHIN project. The meeting was well attended and the Agenda was as follows:



URCHIN Project Seminar
Nuuk, Greenland
June 22nd, 2017
(08:30 – 15:30)

Location: Greenland Institute of Natural Resources, main building, Nuuk, Greenland


The URCHIN Project (funded by the Northern Periphery and Arctic Program) will hold a one-day open seminar in Nuuk, Greenland. There will be presentations and discussion on sea urchin fisheries with a focus on fisheries development in northern periphery countries. This is an open seminar for any stakeholders, or interested groups in the development of a sea urchin fishery/industry in Greenland.

The agenda for the meeting is as follows:


- Introduction to URCHIN project (Phil James, [Nofima](#))
- Summary of current situation in Norway (Phil James, [Nofima](#))
- Summary of current situation in Iceland ([Guðmundur Stefnsson, Matis](#))
- Summary of current situation in Ireland and an example of the impact of poor management (Colin Hannon, GMT)
- Sea urchin management and legislation, the Icelandic experience (Gudrun Thorarinsdottir, MRI)
- Sea urchin fishing and roe enhancement (Phil James, [Nofima](#))
- Possibilities, potential and pitfalls in Greenland for developing an urchin industry (Nikoline Ziemer, Royal Greenland)
- OPEN DISCUSSION

If you require any further information, please contact Nikoline Ziemer at Royal Greenland (nikz@royalgreenland.com) and/or the project coordinator Phil James (philip.james@nofima.no). For current project updates and events, please visit www.urchinproject.com.


The URCHIN team look forward to seeing you in Nuuk.



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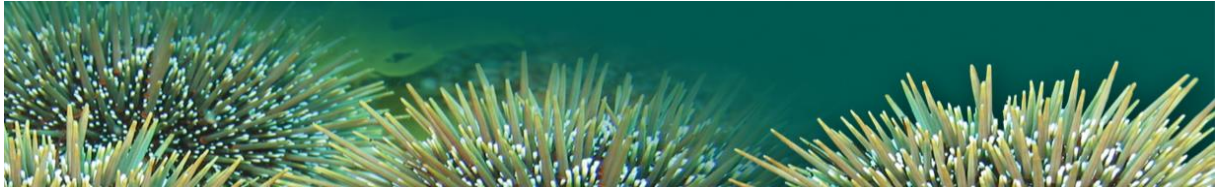
The URCHIN Project team at the Greenland Institute after a successful meeting



View from the Greenland Institute of the town of Nuuk, Greenland



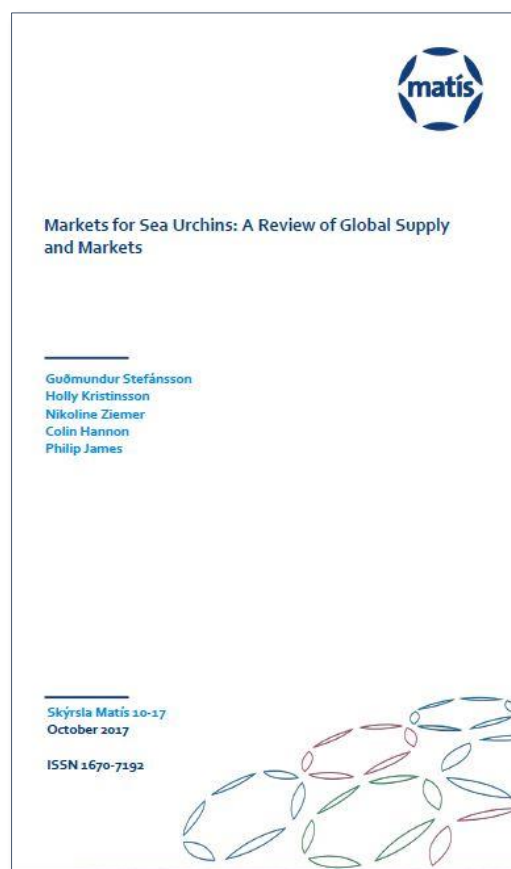
Nuuk, Greenland



Iceland:

Matis:

An extensive report on the worldwide markets for sea urchins titled 'A review of global supply and markets' was published by Matis at the end of October and has attracted substantial interest from sea urchin stakeholders within the NPA and throughout the world (a full version of the report can be found on the URCHIN project website).



Hafrannsóknastofnun (Marine and Freshwater Research Institute) and Thorisholmi:

The investigation of roe yield, gametogenesis and spawning of the green sea urchin at two different sites in Breidifjörður west Iceland continued throughout the last six months. This ended the one year sampling period. Thorisholmi has collected 30 samples each month from September 2016 - September 2017 at two different fishing sites in Breidifjörður (area B at 32 m depth and area A at 60 m depth) (no sampling were conducted in June and July 2017). The samples were sent to MFRI in Reykjavik for analysis. At the MFRI the urchin test diameter, whole and drained wet weight was measured to calculate the Gonad Index (GI) each month at each site.

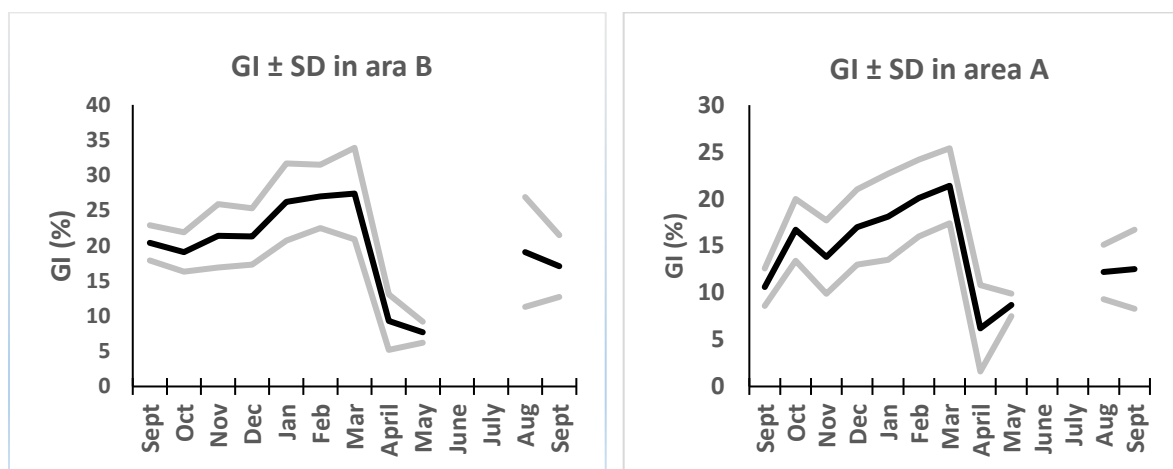


Sea urchin samples being prepared at the MFRI laboratory (top left), an example of the roe content inside the sea urchin (top right) and examples of the roe from various sea urchins within a sample (Bottom)

The results indicate a relatively high GI at both sites throughout the whole investigation period. One spawning season in April was observed at both sites. The GI decreased from 27%

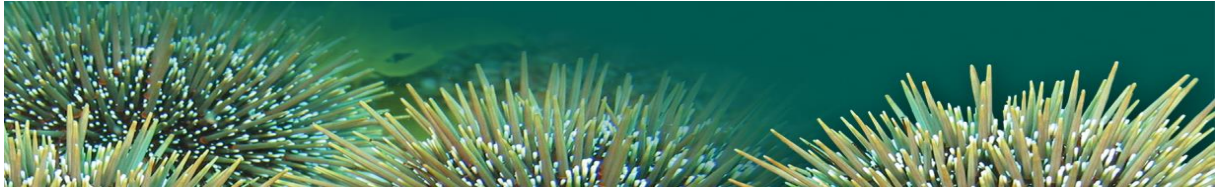
in late March to a minimum of 9% in late April at site B (32 m) and 21% to 6%, at site A (60 m). After spawning the GI increased again, reaching 17 and 12% in September 2017, respectively (See Figure).

After each sampling month histological slides of the gonads were made. In the last 6 month period the investigation of these slides started, utilizing 4-10x magnification. The preparations will be staged into four different developmental stages: Stage I: post spawning, Stage II: NP growth, Stage III: Development of reproductive cells (gametogenesis) and NP utilisation, Stage IV: Spawning and pre-spawning (end of gametogenesis, NP exhaustion and spawning).



Gonad Index (GI) from September 2016-September 2017 at two different fishing sites (Site A at 32m and Site B at 60m) in Breidafjörður.

The results will give monthly volume fractions for gonial cells, nutritional phagocytes (NP) and residual and new gametes. The relative proportion of different cell types within the germinal epithelium of each gonad will be evaluated by stereology after over-laying photographs of sections with a grid. Primary oocyte long diameter will be measured where the nucleolus is evident. The results of this study will deliver valuable information on the reproductive cycle of sea urchins in Iceland's most productive sea urchin fishing areas.



Six months to go!

The last six months was a busy period in the URCHIN project and we now look forward to the final six months of the project and the continuation of the dissemination and implementation of the project results in participating NPA countries.

If you have any queries related to the project, please contact one of the following national contact points to discuss possible involvement in the URCHIN project and the sea urchin fishery in the Northern Periphery and Arctic area.

Norway:	Phil James	philip.james@nofima.no
Ireland:	Collin Hannon	colin.hannon@gmit.ie
Iceland:	Guðrún Þórarinsdóttir	gutho@hafro.is
	Guðmundur Stefánsson	gudmundur.stefansson@matís.is
Greenland:	Nikoline Ziemer	nikz@royalgreenland.com

(If you are outside of these NPA countries, please do not hesitate to contact Phil James at Nofima, Norway for further information)

Final URCHIN Project event:

URCHIN final project meeting

Where: Galway, Ireland
When: Mar 2018
Theme: Final project reporting and closure

