

# INSITE

Influence of  
man-made  
structures in  
the ecosystem

The INSITE Science day

The Great Hall  
Imperial College  
1 December 2016

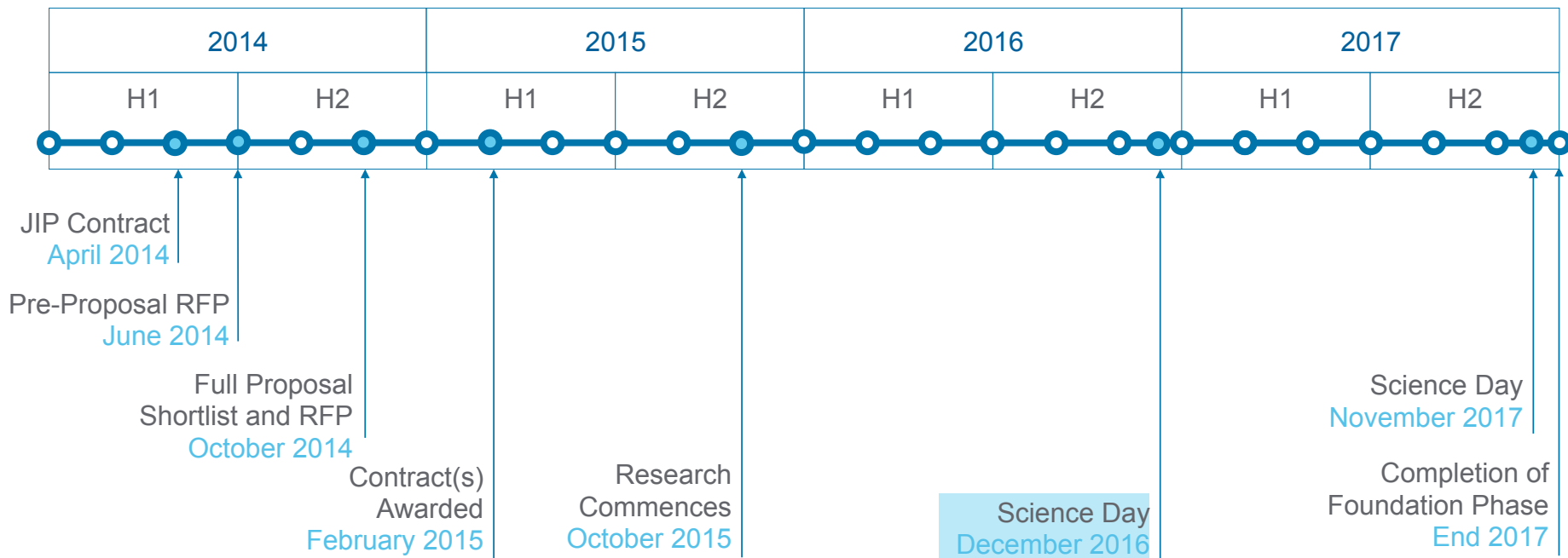


Time	Agenda	Lead
09:30	COFFEE AND REGISTRATION	
10:00	Welcome and Programme for the Day	Richard Heard and Prof John Shepherd
10:30	Assessing the Ecological Connectivity between man-made structures in the North Sea (EcoConnect)	Dr Kieran Hyder, CEFAS
11:00	Coupled Spatial Modelling (COSM) – trophic effects due to structures and habitat change in the North Sea	Dr Chris Lynam, CEFAS
11:30	Appraisal of network connectivity between North Sea subsea oil and gas platforms (ANCHor)	Prof Murray Roberts, Edinburgh University
12:00	UNDERstanding the INfluence of man-made structures on the Ecosystem functions of the North Sea (UNDINE)	Dr Jennifer Dannheim, Alfred Wegener Institute
12:30	BUFFET LUNCH	
13:30	Reef effects of structures in the North Sea: Islands or connections? (RECON)	Mr Joop Coolen, Wageningen Marine Research
14:00	Influence of Man-Made Structures in the ecosystem: is there a planktonic signal? (Signal)	Dr Pierre Helaouët, SAHFOS
14:30	Measuring the shadow effect of artificial structures in the North Sea on the surrounding soft bottom community (Shadow)	Dr Furu Mienis, NIOZ
15:00	Man-made structures and Apex Predators: Spatial interactions and overlap (MAPS).	Dr James Grecian SMRU
15:30	Concluding Remarks	Prof John Shepherd
16:00	CLOSE	

INSITE	INfluence of man-made Structures In The Ecosystem
Funding	8 Sponsoring organisations, made up of oil and gas operators Foundation Phase £2.4M (£1.8M net) over 3 years (BP, Centrica, CNRI, ExxonMobil, Marathon Oil, Shell, Repsol-Sinopec, Total)
Scientific Direction	Independent Scientific Advisory Board (ISAB) Sets objectives and builds the programme to deliver the objectives
Outcomes	Papers and articles published in the scientific media (requirement) Stakeholder symposia at end of years 1 and 2 of Programme
Timeframe	<ul style="list-style-type: none"><li>• 'Long-term Environmental Study' conceived 2012</li><li>• Industry agreement signed: April 2014</li><li>• RFP: 2 stages during 2014</li><li>• Research Commenced: Q4 2015</li><li>• Research Concludes: ~Q4 2017</li></ul>

# INSITE Timeline

INSITE





- The INSITE Programme – Foundation Phase:
  - Delivering high quality, independent science from leading research institutions from across Europe. Science that can be used to inform stakeholders on the influence of man-made structures in the North Sea ecosystem
  - Completion of Foundation Phase at end of 2017, with second Science Day planned for November 2017
  - Outcomes will be publicly available from late 2017 – INSITE web-site, peer reviewed journals and on-line data centres
- The INSITE Programme – Future Phases:
  - New funding model currently under development: Industry-Science Collaboration building on the INSITE governance model, leading to:
    - Data Collection Phase(s)
    - Further Analysis/Research Phase(s)

*More information, abstracts and presentations available on: [www.insitenorthsea.org](http://www.insitenorthsea.org)*

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**The Role of ISAB**

ISAB Representative,  
Professor John Shepherd



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- **Dr Graham Shimmield (Chair)**, Bigelow Laboratory for Ocean Sciences, Maine
  - **Professor John Shepherd**, National Oceanography Centre, University of Southampton
  - **Professor Jan de Leeuw**, Royal Netherlands Institute for Sea Research and University of Utrecht
  - **Professor Karen Wiltshire**, Alfred Wegener Institute and University of Bremen
  - **Professor Torgeir Bakke**, Norwegian Institute for Water Research
  - **Professor Henk Brinkhuis**, Royal Netherlands Institute for Sea Research and University of Utrecht
  - **Professor Steve Thorpe**, School of Ocean Sciences, Bangor University (Retired 2015)

- Provide scientific leadership to the INSITE Programme:
  - Set and agree Programme objectives with Sponsors
  - Carry out an auditable *Request for Proposal (RFP)* process
  - Build a research programme to deliver the INSITE Objectives based on RFP submissions, within available budget
  - Provide guidance and input to researchers during the research phase
  - Develop scope for further phases of the Programme

Overall:

*“To provide stakeholders with the independent scientific evidence-base needed to better understand the influence of man-made structures on the ecosystem of the North Sea”*

## **OBJECTIVE 1: ‘EFFECTS’**






*Investigate the magnitude of the effects of man-made structures compared to the spatial and temporal variability of the North Sea ecosystem, considered on different time and space scales.*




## **OBJECTIVE 2: ‘CONNECTIVITY’**

*To what extent, if any, do the man-made structures in the North Sea represent a large inter-connected hard substrate system?*

# INSITE Objectives: Key Definitions

Objective Area	Key Definitions
<i>Influence</i>	Ecosystem approach Cumulative effects compared to other stressors Coupled ecosystem modeling is an important aspect
<i>Man-made Structures</i>	Anything which has an 'Environmental Impact ' Plus shipwrecks Marine litter is excluded
<i>Ecosystem</i>	Thematic areas Impact of fisheries will not be considered Influence of man-made structures on fisheries and fish stocks will be included
<i>North Sea</i>	May include east Irish Sea, but not West of Shetland UK, Norway, Netherlands and Denmark included

Primary Institution		Countries	Title of Research
Alfred Wegener Institute (AWI), Helmholtz Centre for Polar and Marine Research		Germany, Belgium, UK, Netherlands	UNDERstanding the INfluence of man-made structures on the Ecosystem functions of the North Sea ( <b>UNDINE</b> )
CEFAS Laboratory		UK	Assessing the Ecological Connectivity between man-made structures in the North Sea ( <b>EcoConnect</b> )
CEFAS Laboratory		UK	Coupled Spatial Modelling ( <b>COSM</b> ) – trophic effects due to structures and habitat change in the North Sea
IMARES		Netherlands	Reef effects of structures in the North Sea: Islands or connections? ( <b>RECON</b> )
Royal Netherlands Institute for Marine Research (NIOZ)		Netherlands Norway	Measuring the shadow effect of artificial structures in the North Sea on the surrounding soft bottom community ( <b>Shadow</b> )

Primary Institution		Country	Title of Research
University of Edinburgh		UK	Appraisal of network connectivity between North Sea subsea oil and gas platforms ( <b>ANCHor</b> )
Sea Mammal Research Unit (SMRU), University of St Andrews		UK	Man-made structures and Apex Predators: Spatial interactions and overlap ( <b>MAPS</b> ).
Sir Alistair Hardy Foundation for Ocean Science (SAHFOS)		UK	Influence of Man-Made Structures in the ecosystem: Is there a planktonic signal? ( <b>Signal</b> )

# Mapping the Programme to the INSITE Objectives

## Objective 1: EFFECTS

## Objective 2: CONNECTIVITY



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Thank You!

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