



The
Lobster
NEWSLETTER

EDITORS' NOTE

Following our trial of the Mailchimp format last issue we have decided, for the time being, to revert to the two-column format sent directly to subscribers by email. We didn't receive a lot of feedback about the new format and producing this issue using a different format was taking way too long, so in the interest of bringing an issue to you this month we decided to carry on with the old familiar style.

There's plenty of interesting reading inside, regardless of format!

Don't forget, we're always happy to receive articles for publication so why not send us a short article to tell us about your work or current interests in the lobster world.

Articles, comments or questions can be sent to the editors,

Rick Wahle: richard.wahle@maine.edu, and

Nick Caputi: Nick.Caputi@dpird.wa.gov.au

ANNOUNCEMENTS

12th International Lobster and Crab Conference

22-27 October 2023 in Fremantle, Western Australia



The Organising Committee of the **12th International Conference and Workshop on Lobster and crab** is pleased to announce the go ahead of this workshop that was originally planned for October 2020 for the **22-27 October 2023**. Please check the website (<https://icwl2023.com.au>) for updates on the conference. This workshop is being planned solely as a face-to-face meeting. Please note that:

- Abstracts opened on 24 January and have been extended to 6 April 2023.
- Early bird registration is available until 8 June 2023

The overall theme for the 2023 workshop is ‘**ecosystem-based fisheries management (EBFM)**’ as this generally represents best practice for fisheries management and reflects that fisheries research and management focus is now broader than just sustainability. Therefore we hope to attract presentations that cover a wide array of subjects under the EBFM banner. There are currently 24 session topics proposed:

1. Behaviour and Behavioural Ecology
2. Physiology and Neurobiology
3. Reproductive Biology
4. Diseases and Parasites
5. Recruitment processes
6. Fisheries Science and Stock Assessment
7. Population Dynamics, genetics and connectivity
8. Aquaculture
9. Climate Change and Oceanic Processes
10. Trap Design, Ghost Fishing and Gear Conflicts
11. Ecosystem Based Fisheries Management (EBFM)
12. Economic Assessments

13. Compliance
14. Recreational Fishing
15. Ecosystem Effects of Fishing
16. Marine Stewardship Council & Third Party Certification
17. Social Issues
18. Invasive species
19. Habitat / Dietary preferences
20. Anthropogenic impacts e.g. Seismic surveys
21. Industry Day: Industry Issues
22. Industry Day: Management
23. Resource sharing
24. Marine Parks and closed areas

We will be holding a **2-day EBFM workshop** which will be sponsored by the OECD Co-operative Research Programme: Biological Resource Management for Sustainable Agricultural Systems. This will occur on the first two days of the 5-day conference.

While this conference comes back to Western Australia where the 1st International Lobster Workshop was held in 1978, we have adopted the approach of the 2nd lobster conference in St Andrews in 1985 where **crab presentations** were welcome. We look forward to their participation in this conference.

An **industry day** is also planned for Thursday 26 October and this is an important component of the program so we are looking forward to strong support from lobster and crab industry participants around the world. We are also keen to attract papers on **lobster and crab aquaculture** as this has been an important developing industry in Asia.

Students can apply for the **Paul Kanciruk Student award** for financial support to attend the conference.

The Fremantle Blessing of the Fleet occurs on the afternoon of Sunday 22 October (2-5pm), day of the Welcome Reception, so hopefully you can plan to be around for this. It all occurs within walking distance of the conference hotel. You might be able to sneak a ride on a lobster boat in the Fremantle Boat Harbour during the blessing and there will also be a fireworks display.

The Department of Primary Industry and Regional Development (DPIRD) and the Western Rock Lobster (WRL) council are looking forward to hosting scientists, managers and industry participants in Western Australia in 2023. Don't hesitate to contact us or the conference organisers, Arinex, if you have any questions.

Co-hosts of the workshop

Nick Caputi

DPIRD (nick.caputi@dpiird.wa.gov.au)

Nic Sofoulis

WRL (sofs1@bigpond.com)

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Building Bridges through Collaborative Research: Updates from the Sea Grant American Lobster Initiative

From: Amalia Harrington

On February 6-7, lobster researchers met with resource managers, industry partners, Sea Grant extension professionals, the general public, and other end-users to share their progress on work funded by the American Lobster Initiative (ALI) at the initiative’s first [Regional Research and Outreach Summit](#) in Portland, Maine. Hosted by Maine Sea Grant, the summit provided an opportunity for research teams to receive feedback from partners and to engage in new collaborations

across the wider lobster community in the Northeast.

Over the course of the two-day event, participants discussed a variety of topics related to the lobster industry, including the influence of environmental change on larval development and early life history, pelagic food web dynamics, monitoring and modeling, American lobster stock dynamics, range expanding species, social-ecological coupling in the lobster fishery, alternative bait sources, and best practices for industry engagement. Maine Sea Grant staff are in the process of compiling notes into a summary document for attendees and the wider American Lobster Initiative network.

Since 2019, the National Oceanic and Atmospheric Administration’s (NOAA) National Sea Grant College Program has invested at least \$2 million USD annually into the [Sea Grant American Lobster Initiative \(ALI\)](#). The ALI supports both a nationally competed American Lobster Research Program, as well as a Northeast Regional Lobster Extension Program that includes Sea Grant staff from six states (Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, and New York) and is coordinated by Maine Sea Grant. These two programs work together to better understand how a changing environment affects the American lobster and its fishery with the ultimate goal of increasing the industry’s resilience to new challenges through collaborative research. The ALI has continued to build a network of researchers, state and federal resource managers, students, industry partners, members of nonprofits, and Sea Grant extension staff from Maine to New York that is focused on not only understanding and communicating the science of lobster in a changing environment,

but also on co-developing solutions to emerging challenges the industry is facing.

The ALI currently supports [24 research projects](#) that involve more than 40 contributing institutions and over 20 industry and management partners across the Northeast. The fourth research cohort was announced in fall 2022 and includes the following projects, which focus on the development of alternative gear technologies as well as potential barriers to bringing gear to commercial scales in the fishery:

- **Integrating and evaluating non-traditional gear technologies to reduce the risk to whales from fixed-gear fisheries** Kevin Staples (Maine Department of Marine Resources)
- **Providing the lobster industry new gear technology in response to regulatory and environmental changes** Erin Pelletier (Gulf of Maine Lobster Foundation)

Members of the research teams have continued to work with Sea Grant extension associates to develop outreach products and provide research updates through [blog posts](#) and webinars. Several projects from the second and third research cohorts were highlighted during the third season of the [Collaborative Chats](#) webinar series in an effort to showcase the diversity and breadth of partners involved with the ALI. Many research projects are now at the stage where researchers are able to present and share their work through peer reviewed publications and scientific meetings, and have started working with Sea Grant staff to develop products and materials that communicate information directly to industry and management partners. The network will continue to share the findings of the ongoing

research projects and we encourage readers to follow along on social media via [#SeaGrantLobster](#).

The [regional extension program](#) has continued to build strong partnerships with both industry and management partners across the Northeast. Representatives from the major lobster industry associations and state and federal management agencies serve on the ALI's Regional Steering Committee. This Committee provides feedback on both the extension program (via input on industry and management needs and partner engagement) and emerging research needs across the region. Working with the Committee ensures that the industry and management sectors in the Northeast benefit from ALI research and extension. This group has facilitated relationship building and cross-sector connections within the region that have proven particularly useful in the development of workshops, educational products, and outreach materials. The extension program continues to rely heavily on this group for guidance on how best to address the intersection of lobstering and offshore wind energy development, and the ongoing conflict between lobstermen and regulations to protect the critically endangered North Atlantic right whale. The extension program has continued to adjust its regional work plan to better respond to the emerging needs impacting the economy and ecology of the lobster fishery in the Gulf of Maine. For example, the extension team will use feedback received during the ALI Summit and the summary document to inform future directions for the extension program. As the ALI continues to evolve, the regional extension program aims to build bridges across all groups harvesting, researching, and/or managing lobster in the region to

address and collaboratively develop solutions to new challenges the industry is facing while continuing to communicate the results of the research program to effectively deliver the science to end-users across the Northeast.

We also anticipate a fifth funding opportunity through the research program. Although the timeline for that announcement is unclear at this point, the regional extension team is eager to collaborate with any researchers and industry groups interested in submitting a proposal. If you would like to join the ALI email list and/or talk more about the research and extension programs, please contact Amalia Harrington.

Amalia Harrington, Ph.D.
Marine Extension Associate
Northeast Regional Lobster Extension Program
Coordinator
Maine Sea Grant College Program at the
University of Maine
5741 Libby Hall Room 121, Orono, ME 04469

Email: amalia.harrington@maine.edu

List of links:

1. Regional Research and Outreach Summit: <https://seagrant.umaine.edu/extension/american-lobster-initiative/resources/2023-summit-materials/>
2. Sea Grant American Lobster Initiative (ALI): <https://seagrant.umaine.edu/extension/american-lobster-initiative/>
3. 24 projects: <https://seagrant.umaine.edu/extension/american-lobster-initiative/research-projects/>
4. Blog posts: <https://seagrant.umaine.edu/category/blog-entry/>
5. *Collaborative Chats*: <https://seagrant.umaine.edu/extension/american-lobster-initiative/collaborative-chats-2022/>
6. Regional extension program: <https://seagrant.umaine.edu/extension/american-lobster-initiative/extension-projects/>

Overview of the French Spiny Rock Lobster (*Palinurus elephas*) Fisheries in Finistère, Brittany.

From: Erwan Quemeneur and Serge Gomes da Silva

Since the end of the 19th century, the European [spiny lobster](#) (*Palinurus elephas*) has been caught by French fishermen on seafronts of the Channel and the Atlantic in the Gulf of Biscay (from Cherbourg to Saint Jean de Luz).

Since then, the French landings plummeted from over 5,000 tons in the 1950s to less than 10 tons per year in 2010.

By the mid-2000's, in order to avoid the complete decline of the species and ensure the restoration of local populations of this high commercial value species, the French and more particularly the Finistère fishermen decided to put in place strong management measures and conduct studies on this emblematic species which, for several decades, ensured the wealth and livelihoods of several coastal and insular communities of Finistère.

Quick facts about the Finistère Fisheries Committee (Comité des Pêches Maritimes et des Elevages Marins du Finistère)

- Professional Organisation – private body with public service missions
- All professional fishermen from Finistère (département, sub regional level)
- 600 boats and 2500 fishers, 8 auctions, over 30 landing harbors.
- +11 500 jobs and tributary activities
- First French département for fisheries economy, 25 % of live catch in France

Diversity of professional fisheries in Finistère region

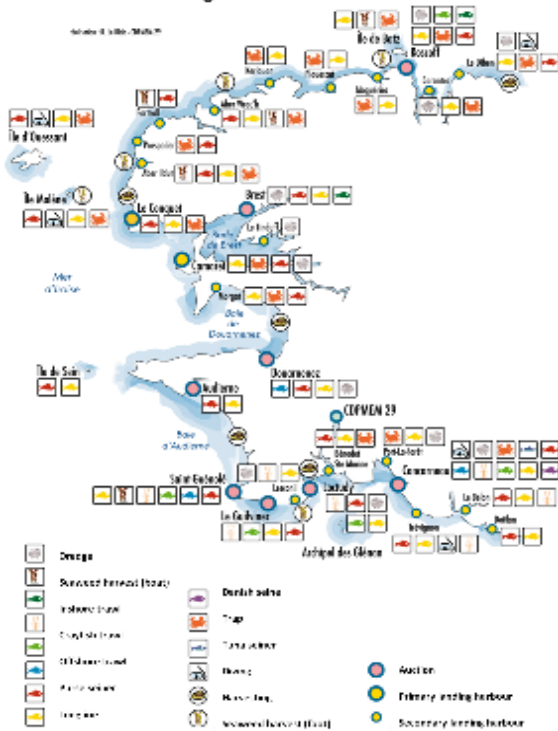


Figure 1. Overview of the fishing industry in Bretagne Region

With this mindset, a small number of fishermen from Finistère decided in 2004 to organize a study trip to Corsica to understand the local management of local lobster populations (species *Palinurus elephas* and

Palinurus mauritanicus). Returning from this trip, they decided to set up a lobster sanctuary zone, a no take zone where cast nets, pots, traps, or any other passive gear or any capture by dragged gear would be forbidden (passed into law: 17/12/2007). Following the establishment of this sanctuary area, several other measures were soon implemented over the following years.

Timeframe of management measures decided and implemented by the industry for spiny lobster catches in France on the Channel and Atlantic seafronts.

- In 2007, the establishment of the no take zone on the Chaussée de Sein sandy and rocky banks. In association with the design and enforcement of the [Iroise Marine Park](#), a state operated MPA managed at regional level by the French Biodiversity Office. The ambition of the industry and local fisheries committee was for Marine Park to ensure the control enforcement, scientific and financial monitoring of the area.
- In 2009, through the national [French Crustacean Commission](#), the French fishers collectively decided to increase size limit of spiny lobster from 95 mm to 110 mm (cephalothoracic length). This measure was implemented to ensure a minimum of one reproduction cycle for female individuals.
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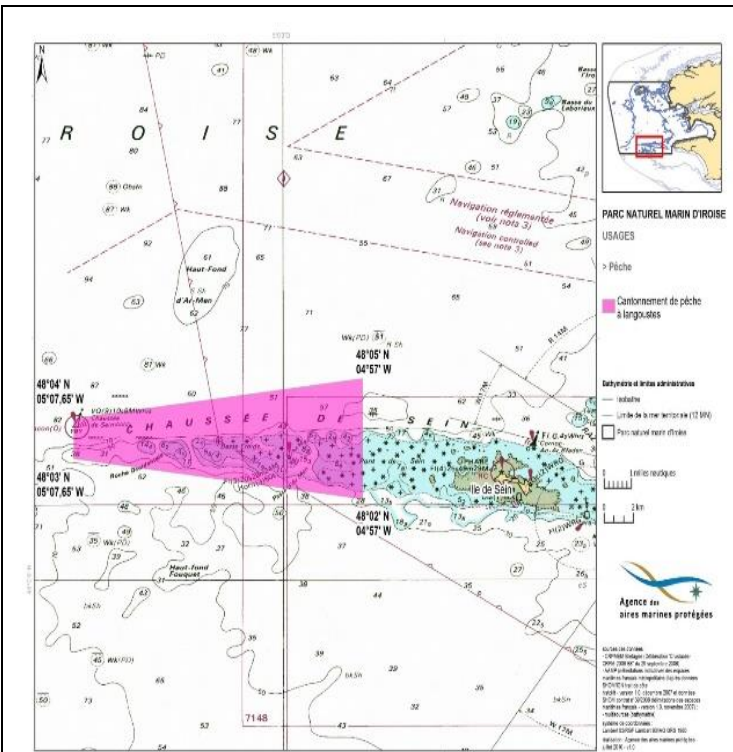


Figure 2. Map of the Iroise Marine Park and the *No take area* (pink) selected by the fishers in connection with the Iroise Marine Park - GIS and details available at: <https://eunis.eea.europa.eu/sites/FR5302007>

- From **2011**, French fishers decided to close fishing season for three months each year from January to March. Since this period of the year was typically of lower demand and market values.
- From **2016**, berried females must be released when caught.
- In **2019** mandatory individual tagging is implemented for all landed individuals, this measure was decided to establish a fine grain level tracking of landings as well as to prevent poaching and undeclared catches.

Study programs led by the fishers.

In 2015, fishermen from Finistère wanted to better understand the distribution and mobility of small size lobsters and the effects of management measures put in place. To do

this, they decide to set up a tagging-release campaign. This campaign based on voluntary effort by fishermen was widely advertised across the French Atlantic seafloor in cooperation with other regional Fisheries Committees. Fishermen were trained and invited to tag undersize lobsters and release them directly on site of capture, alerting the Finistère Committee whenever an individual was recaptured and communicating size and place of recapture. This program, carried out over two years, allowed to tag over 12,000 individuals and showed as a first result that for a majority of individual lobsters were relatively sedentary. The collected data also made it possible to establish a reliable growth curve. However, for juveniles, a cephalothoracic growth of about 10 mm per moult with several moults per year was observed.

Tag-release campaign

- **55** boats equipped with tag guns.
- **3285** recorded individuals in database.
- Rock lobster movements observed: migratory pattern between deep zones and coastal zones (between France and UK).

Programme de marquage de langoustes rouges

COMITÉ DÉPARTEMENTAL DES PÊCHES MARITIMES ET DES ÉLEVAGES AQUICOLES DU FINISTÈRE

Afin de mieux connaître et de reconquérir le stock de langoustes rouges présent sur les côtes françaises, le Comité Départemental des Pêches va marquer en 2015 près de 2500 langoustes.

Le signalement de capture de langoustes marquées permet de mieux connaître les déplacements, les stratégies de reproduction et de croissance des langoustes.

Si vous pêchez une langouste marquée, notez :

- le numéro de la marque
- la date de capture
- la position de capture
- la longueur du céphalotorax*

Si la langouste peut être commercialisée, récupérez la marque à envoyer au Comité des Pêches, sinon remettez à l'eau sur la même position géographique en lui laissant sa marque.

Devenez acteur de la restauration du stock de langoustes rouges !

Prévenez le CDPMEM 29 :
 02 98 10 58 09
 06 30 30 55 23
 22 avenue du Rouillen
 29500 ERGUE GABERIC

Partenaires techniques et associatifs

Figure 3. Promotional poster shared across the industry to engage with fishers.

Ongoing monitoring in the Iroise Marine Park no-take zone area: facts and figures

Monitoring campaigns with nets - 3 to 4 times/y

- 2 *1000 m set for 48h
- large mesh net (monkfish)
- counting & measuring captured rock lobsters, (also lobsters)
- physical & electronic tagging
- hemolymph sampling

Monitoring campaigns with traps

- models: Croisic square traps / conquetois traps

- night/day sampling
- bait salted gurnard
- 2009, 2014, 2017, 2021, 2022

Monitoring campaigns by dive - 1 to 2 t/y

- transects, counting
- visual habitat description

sampling map in no take zone

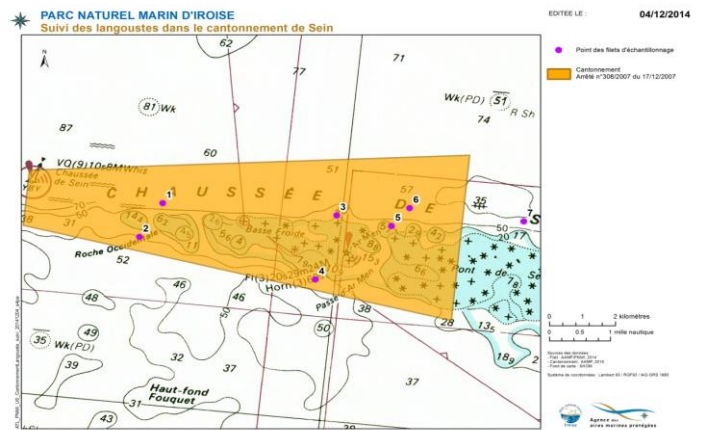


Figure 4. Points of catch, tag and release in the Iroise Marine Park No Take area.

Facts about production

In 2017, the Finistère Department accounted for 77% of lobster landings. The maritime district of Brest alone accounted for 47% of landings on the Channel - Atlantic coast. Over the last few years, fishermen are witnessing a surge in juvenile specimens.

The data collected over a decade on a specific boat are presented on the following chart (Fig. 6). Trend prior to 2018 showed a stability with a slight regular increase since 2014, picking up in 2018. In 2019 the COVID crisis impacted production as boats were forced to stay in harbour (and the featured boat was stopped for engine works).



Figure 5. Sampling and monitoring examples

Then since 2020, a surge in catches is observed without increased fishing effort or significant technical alteration.

Fig. 7 shows the evolution of landings on the largest spiny lobster landing harbour in France, [Le Conquet](#) (Fig. 8).

The collected data show that the fishery is in a very strong dynamic period.

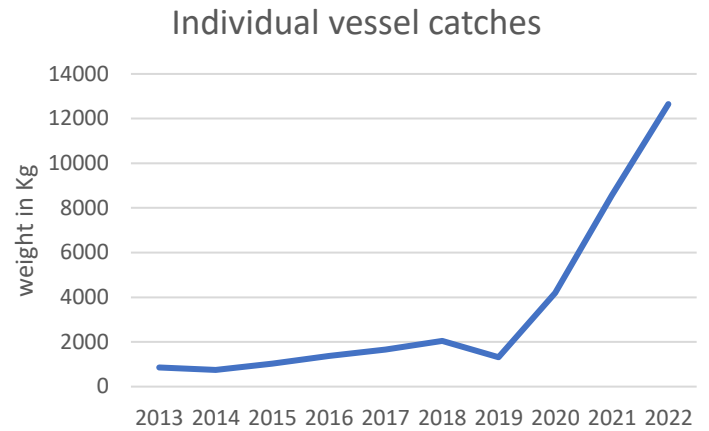


Figure 6. Catches from an individual vessel

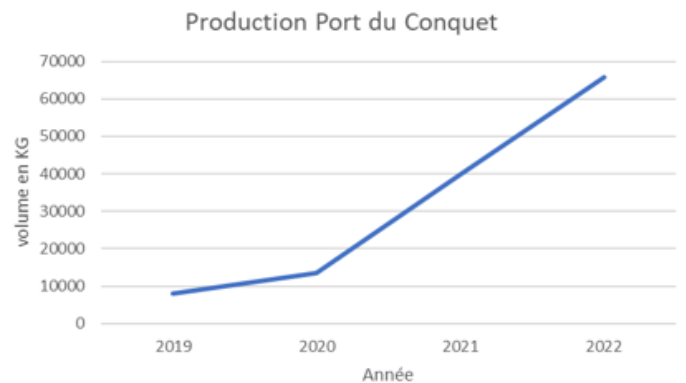
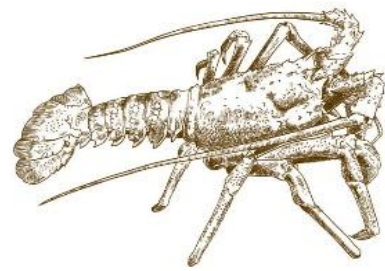


Figure 7. Volumes landed at Conquet harbour between 2019 and 2022.



Figure 8. Conquet harbour (photos Gildas Priol)

At the moment, the production is still small on a global scale, hence with strong added value given its niche marketing and product quality. Average sales price for the fishermen are of 40€¹ (62 AUD) / kg, which can rise up to 100€ (155 AUD) around Christmas season.

Valuing management efforts and results through cooperation for continuous and mutual improvement: cooperation between Australian and French fishers supported by European Union

Lobster fishermen from Finistère area are lead actors for the development of management measures for this species in France. They have been pioneers in this fishery management since the end of the

nineties in the objective of growing the fishing stock and achieving Maximum Sustainable Yield (MSY). It is in this context that French fishermen are hoping to share their experience, ideas and questions regarding management techniques with other fishermen targeting this species in other areas; in the objective of continuous learning and transforming this fishery into a profitable, sustainable and attractive activity for younger generations of fishermen.

Today, fishers from Finistère as well as other French regions want to go further. They are hoping to successfully inspire and transpose the management methods they developed and implement into European regulation, which would upgrade management policies to higher standards across Europe, and ensure harmonized and coordinated efforts in sustainably managing the resource.

To inspire at European level, the Finistère fishers decided in 2019 to compare their management methods with two of the most recognised rock lobster fisheries in the world, the Western Australia (WA) and Tasmanian (TAS) rock lobster industries. After several challenges to organise this ambitious visit, a delegation of eight fishers was able to eventually travel to Australia for two weeks with the financial support of the Région Bretagne and the European Maritime and Fisheries Fund. Between October and November 2022, this group of fishermen aged between 24 to 65, led by fisheries and cooperation expert Serge Gomes da Silva from Eellogic consultancy, explored Fremantle WA and Hobart TAS with the support of the Department of Primary

¹ average price to consumer is around 70€/kg (outside Christmas season)

Industries and Regional Development (DPIRD), the Western Rock Lobster Council, Fremantle Lobster and Geraldton Fishermen's Cooperative, but also the University of Tasmania (UTAS), the Tasmanian Rock Lobster Fishers Association (TRLFA) and many more stakeholders who hosted the French group and gave their time to meet, discuss and share their own knowledge and experience.

Fishers came back very motivated and grateful from this cooperation visit where their hosts showed great kindness and availability, opening doors to all levels of industry from capture to control, processing and marketing and scientific studies. All generations of fishers involved were inspired by this trip and came back home with clear objectives and ideas on how to proceed and transfer these lessons in improved management at home on specific aspects of the fishery. For instance with catch and release protocols, or monitoring of *Palinurus* larvae (puerulus stage) monitoring, which could be adapted following the examples seen in Western Australia; or other innovative techniques such as new designs of lobster measuring tools developed by TRLFA and UTAS which inspired the French fishers.

Research priorities with French research partners were also influenced by those exchanges with Australian partners, and efforts in analysing specific datasets from current and climate monitoring will receive further attention in analysing the reasons behind the spiny lobsters population evolutions in Brittany.

As a next step from this visit, the Finistère fishermen are already preparing to welcome a delegation of WA and TAS fishers and

researchers in Brest in May 2023, inviting them to explore the French fishing industry as well as to take part to the [European Maritime Days](#), a series of workshops and conferences hosted this year in Brest by the European Commission where state of the art European projects in Maritime, Aquaculture and Fisheries will be presented and discussed. An event where this fisher-led cooperation project will be brought to attention of a wide European audience and will hopefully inspire other lobster fishing nations to move forward on the path towards sustainability.

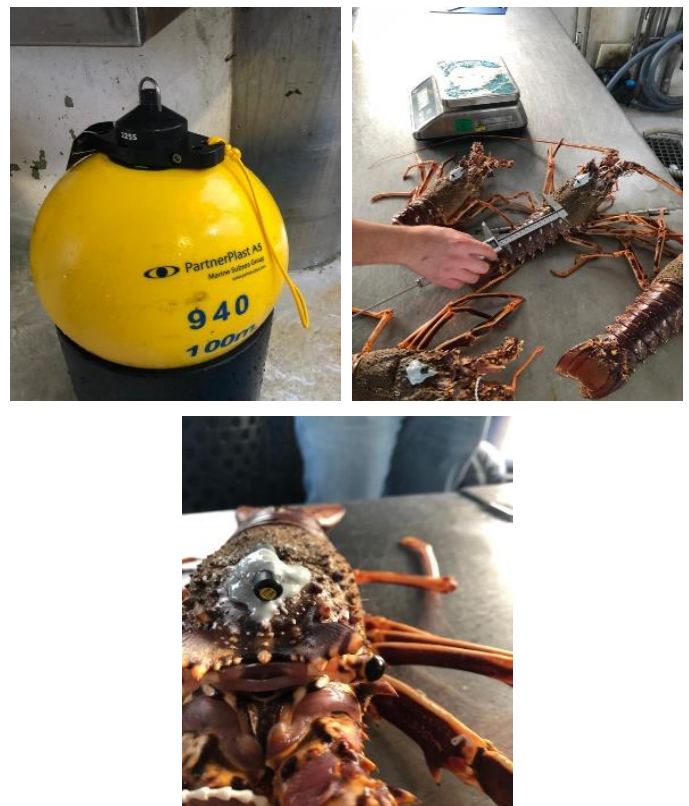


Figure 9. New tracking methods used in France include radio-acoustic tagging and monitoring/ [Project Interreg Fish Intel](#)

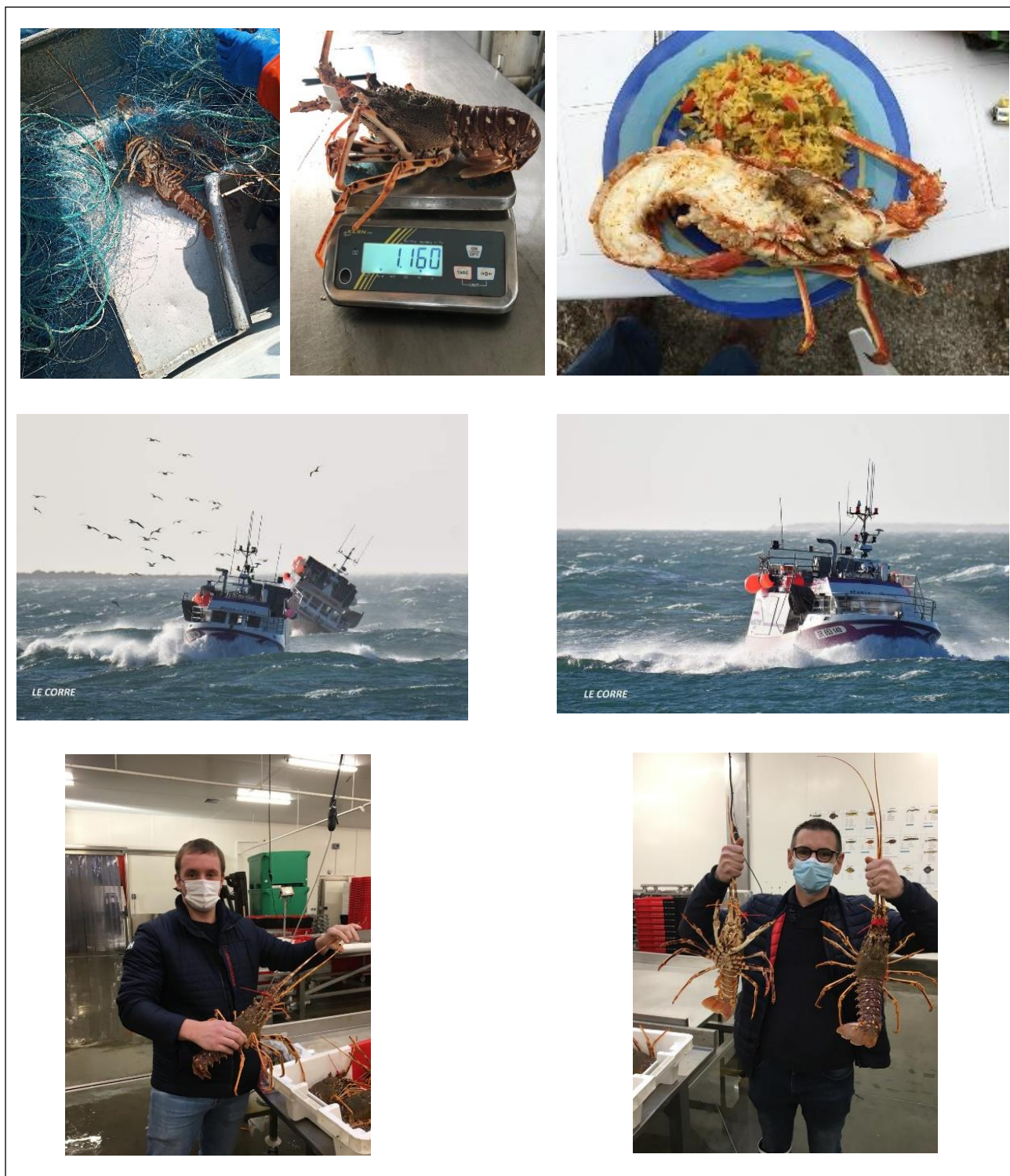


Figure 10. Details of *Palinurus elephas* fisheries in Finistère, France. Spiny lobsters are caught with nets; catches are sold live on the French market year round but experience peak demand around Christmas season.



Figure 11. Some of the very welcoming Australian partners met in October 2022 in Western Australia and Tasmania.

*Serge Gomes da Silva
Manager
Eellogic
45 Alée des Bouvrouils
33870 Vayres, France*

Email: serge@eellogic.com

Maine lobster fishery still under threat

From: Melissa Waterman

In 2023 Maine lobstermen and the \$1 billion industry that depends on them remain deeply concerned about the future. Families along the coast worry that a centuries-old fishery long regarded as an example of sustainability could vanish. Despite a six-year reprieve authorized by Congress in late 2022, federal regulations designed to protect the endangered North Atlantic right whale could still cripple the state's lobster fishery.

The ramifications of these regulations threaten to dismantle a vital economic sector which keeps Maine's small coastal towns alive. Because every Maine lobster boat is owned and operated by an individual lobsterman, the dollars earned by these men and women flow into the local grocery stores, restaurants, school systems, and other entities. The industry's demise would have profound effects on the state's economy, on hospitality and tourism, and on communities throughout Maine.

Background

Right whales have been protected under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) for decades. In 1998, the federal National Marine Fisheries Service (NMFS) organized a coalition of federal and state agencies and private fishery and environmental organizations to help develop a plan to protect right whales from unintentional harm from commercial fisheries. The plan has required fishermen from Maine to Florida to modify their fishing gear to help

prevent whale entanglement and minimize injury should an entanglement occur.

Since the plan was first implemented, Maine lobstermen have made multiple changes to their fishing techniques. Because right whales could get tangled in rope, lobstermen have removed more than 30,000 miles of rope from the water by replacing rope that floats between traps on bottom with rope that sinks, removing buoy lines by fishing more traps on each line, and fishing sinking line below the buoy to protect whales feeding at the surface. The remaining buoy lines have been weakened to ensure that if a whale swims into a line, it can break free. In addition, Maine lobstermen annually remove all gear from a large area of the Gulf of Maine and uniquely mark all buoy lines.

These efforts have worked. Over 20 years the right whale population doubled to approximately 483 whales, as of 2010. The last known entanglement of a right whale in Maine lobster gear took place in 2004 and that whale survived. In fact, there has never been a documented right whale death attributed to Maine lobster gear.

However, in recent years, ocean conditions have changed dramatically. Temperatures in the Gulf of Maine have warmed rapidly in the last two decades. As the Gulf's temperatures have risen, certain marine species have exited the region. Key among them is the right whale's favorite food, a tiny cold-water species of copepod called *Calanus finmarchicus*. Right whales feast on this copepod because of its high fat content. Until recently, the Gulf of Maine was bursting with *Calanus finmarchicus*. But as the Gulf warmed, the copepods retreated to cooler waters.

By 2010, hungry right whales began to follow the copepods into the unregulated waters of the Gulf of St. Lawrence in Canada, leaving their previous spring and summer grounds in the Gulf of Maine. Researchers now find more than 40% of the known right whale population in the Gulf of St. Lawrence each year. Individual whales return every year and stay for up to five months feeding and socializing.

As right whales transitioned into this new Canadian habitat, they found themselves in waters that lacked the safety protections that were in place in U.S. waters. The results were devastating. In 2017, twelve right whales died in Canadian waters, followed by ten more in 2019. Necropsies of the whales showed that the majority examined died from vessel collisions and entanglement in Canadian snow crab gear.

As right whales struggled to find a new, stable food source, the number of right whale calves born each year declined, reaching a historic low in 2018 when no calves were born. Fortunately, calving rates have begun to rebound, with 20 calves born in 2021.

Enter the environmental organizations and the court

The tenuous state of the right whale population prompted four national environmental organizations to file suit against NMFS in 2018, arguing that the agency was not complying with the ESA or the MMPA. The plaintiffs sought to force NMFS to require the lobster fishery to do more to protect right whales. The Maine Lobstermen's Association intervened in the

case, arguing that Maine's lobster fishery is not driving the right whale decline and the data do not support requiring the lobster industry to make drastic changes to their fishing practices.

The court required NMFS to reassess the impacts of the lobster fishery, as required under the ESA, in 2021. The agency determined that the lobster fishery could continue to operate only if it implemented a phased-in 98% risk reduction over ten years. To reach that goal, the Maine lobster fishery would largely be dismantled.

The first phase of this plan, implemented in 2022, included an immediate 60% risk reduction that required Maine lobstermen to further remove rope from the water and modify remaining gear. In addition, a large offshore area was closed annually to lobstering, from October through January, a severe economic blow to the lobstermen who fish there.

Still, the environmental organizations were not satisfied and went back to court asking for more stringent risk reduction measures to be instituted. In November 2022, the court gave NMFS until the end of 2024 to implement additional sharp risk reductions in the fishery.

The lobster industry fights back

In September 2021, the Maine Lobstermen's Association (MLA) filed a legal case of its own against NMFS. The MLA lawsuit challenges the arbitrary fashion in which NMFS treated science in crafting its risk reduction plan for the lobster fishery. The MLA also objects to NMFS's unsupported finding that the lobster fishery is harming

right whales and contends that NMFS has grossly overestimated the lobster fishery's risk to right whales. The MLA's lawsuit describes how NMFS cherry-picked the science, often using unsupported assumptions to justify its mandate for Maine's lobster fishery to reduce its already minimal risk to right whales by 98%. In addition, the MLA argues that NMFS also wholly neglected mandatory legal requirements to assess the economic and social costs of its actions.

In September 2022, the U.S. District Court of Washington, D.C. ruled against the MLA in an opinion that did not rule on the substance of MLA's claims about NMFS's misuse of the science, and instead simply deferred to NMFS on all counts. Unfortunately, the validity of the MLA's concerns was not addressed. This meant that the lobster fishery would be required to implement the next round of deep cuts by the end of 2024.

Action by Congress late in 2022 delayed implementation of new regulations until 2028. In addition, Congress specifically stated that the fishery was in compliance with the ESA and MMPA during that time. Congress also authorized \$50 million for research during those six years on right whale distribution and on practical measures that lobstermen could use to avoid harming the whales.

The MLA hired Paul Clement, former U.S. Solicitor General and renowned Supreme Court litigator, to represent the organization in an appeal of the September court ruling. Clement promptly filed, and was granted, a request for an expedited appeal of the court's decision. All briefs were submitted in January of this year and oral arguments

were held in late February. Additional briefs will be submitted in March.

The six-year pause before NMFS's whale protection measures go into place does not give lobstermen time to relax. Proving that NMFS's regulatory actions were not based on the most relevant science and in fact used only worst-case assumptions is critical to ensuring that both the lobster fishery and the whales themselves survive in the future. At the moment no one can predict what this year may bring.

Melissa Waterman

Maine Lobstermen's Association

melissa@mainelobstermen.org

The Lobster Institute's U.S.-Canada Lobster Town Meeting tackles the lobster-right whale issue head-on

From: Evelyn Layand, Chris Cash, and Rick Wahle

After a two-year COVID-induced hiatus, UMaine's Lobster Institute hosted its 18th U.S.-Canada Lobster Town Meeting in Portland, Maine, February 3-4, 2023, at the city's historic Mariner's Church event center. This was the biggest Town Meeting ever. The venue was sold-out as we welcomed over 200 attendees hailing from eight U.S. states and five Canadian provinces.

This year's theme: *The U.S. – Canadian lobster fishery and the North Atlantic right whale*. Attendees included harvesters, researchers, fisheries managers, dealers, processors, political delegates, gear manufacturers, non-profit representatives and more. The

meeting consisted of four sessions over two days, spanning the gamut from new regulation and funding opportunities to future technology and innovations. Each session hosted a balanced cross-border panel of experts who shared their perspectives.

Panel I, on the status of U.S. and Canadian regulations and new federal funding on the U.S. side, included Brett Gilcrest, Director of Canada's Department of Fisheries and Oceans (DFO); Melanie Giffin, Marine Biologist and program planner for the Prince Edward Island Fishermen's Association; Patrice McCarron, Executive Director of the Maine Lobstermen's Association; and Molly Ryan, legislative assistant in U.S. Senator Susan Collins' office. A lively discussion provided insight on measures taken by Canadian and U.S. fisheries management to mitigate whale entanglement risk.

A lively discussion among the panelists and meeting attendees covered protection measures taken by Canada and the U.S. fisheries to reduce whale entanglement risk, and as well as how new federal funds included in the 2022 Omnibus bill will be distributed in the U.S. There was palpable relief on the U.S. side over the recently granted 6-year delay in implementing NOAA's whale conservation regulations, but also a sense of urgency that much work needs to be done. Panelists highlighted the importance of collaboration and communication across borders as the lobster industry moves forward under the new management constraints and rapidly changing policy landscape.

Panel II discussed market impacts of the lobster-whale controversy. Panelists

included Marianne LaCroix, Executive Director of the Maine Lobster Marketing Collaborative; Curt Brown, marine biologist at Ready Seafood; Christina Ferranti-Clift, Director of Marketing at East Coast Seafood Group; Geoff Irvine, Executive Director of the Lobster Council of Canada; Owen Kenney, Vice President of Sales at Downeast Specialty Products; and Adam Morris, General Manager of the lobster division at Clearwater Seafoods.

During this session, panelists discussed the Marine Stewardship Council (MSC) certification of both the U.S. and Canadian fisheries, as well as whether the newly implemented six-year pause in regulations brought Maine lobster back into MSC compliance. They also highlighted the importance of carried inventory and concern around cold storage space, particularly in New England, as we move into the spring. Processors shared that they had to pull back on production in 2022 to adjust for market conditions, but that the market is in much better shape now than it had been. On the international stage, high tariffs on U.S. lobster have made it difficult for China to import, especially when compared to Canadian lobster. The discussion then turned to promotions intended to counter the Seafood Watch red-listing of lobster and whether or not it was important to differentiate between lobstering regions (Massachusetts, Maine, or Canada). Panelists stated that from a marketing perspective they view lobster from both Canada and the U.S. as a single industry and see no reason to differentiate between region of origin when promoting products overseas.

Panel III dealt with shifting lobster and whale distributions in a changing climate. It featured panelists Nick Record, Senior Research Scientist at Bigelow Laboratory for Ocean Sciences; Andrew Goode, Postdoctoral Fellow at the University of Maine's School of Marine Sciences; Moira Brown, Senior Scientist at the Canadian Whale Institute; and Lydia White, PhD Candidate at the University of New Brunswick.

The conversation examined the impact of warming waters on the primary planktonic prey of right whales and the resulting changes in right whale distribution. Researchers are using oceanographic indicators, in particular change in the relative influence of the Gulf Stream and Labrador Current, and the abundance of the tiny, but energy-rich, planktonic crustacean, *Calanus finmarchicus*, to refine right whale habitat suitability models. Warmer waters are also leading to a net northward shift in lobster distributions with noteworthy increases in the Gulf of St. Lawrence.

On day two of the meeting, the fourth and final panel considered future technology and innovations to help both the industry and researchers address the thorny challenges of tracking whales and alternative lobster fishing methods. Panelists were Kristan Porter, President of the Maine Lobstermen's Association; Noah Oppenheim of Homarus Strategies LLC; Jeremy Willey, lobsterman and CEO of Maine Fish Tech; Luc Le Blanc, fisheries adviser for the Maritime Fishermen's Union in New Brunswick; Kenneth Le Clair, Vice President of the Prince Edward Island Fishermen's Association; and Bernie Berry,

President of the Coldwater Lobster Association.



Figure 1. Maine Lobstermen's Association President, Kristan Porter, (left) chats with Canadian Whale Institute Senior Scientist, Moira Brown (right) over a beer.

The panelists discussed testing of new gear technology. There was uniform concern expressed over the prohibitive pricing of new gear. Conversation turned to safety considerations surrounding new ropes, weak links, and "trawling-up" (adding traps to a single trawl). Presentations highlighted differences between Canadian and U.S. management efforts. The session concluded with a discussion on the current gear testing efforts taking place on both sides of the border.

Town Meeting fostered a much-needed conversation between U.S. and Canadian stakeholders about current and future challenges facing the lobster industry. In an [opinion piece published in the Portland Press Herald](#), Canadian Consul General, Roger Cuzner, who attended the meeting, captured the sentiment well: "We're all in the same boat."

We extend a special thank you to our moderator Paul Anderson, our panelists,

and all attendees. Next year's U.S.-Canada Lobster Town Meeting will be hosted in Canada, in keeping with the tradition of alternating venues between the two countries. Stay tuned to the [Lobster Institute website](#) for updates.

*Evelyn Layand, Chris Cash, Rick Wahle
University of Maine, Lobster Institute*

Email: lobsterinstitute@maine.edu

(This article is an adaptation of a previous article appearing in the March 2023 issue of *Landings*, the Maine Lobstermen's Association's monthly newsletter).

Launch of new *Panulirus cygnus* website

From: *Emma-Jade Tuffley*

Website: Behaviour, Biology and Ecology of *Panulirus cygnus*
(www.panuliruscygnus.org)

As part of a five-year Fisheries Research and Development Corporation (FRDC) research program, the Western Australian Department of Primary Industries and Regional Development (DPIRD) recently launched a [website](#) on the Behaviour, Biology and Ecology of the western rock lobster, *Panulirus cygnus*. The site aims to condense over 50 years of scientific research into an accessible and easy to understand format, so that this knowledge can be disseminated throughout the wider community.

The site is funded by the FRDC through the Western Rock Lobster Industry Partnership Agreement. The information contained within the site has been drawn from

published scientific journals and compiled by scientists from DPIRD, in conjunction with the Western Rock Lobster Council. The structure of the site follows the life cycle of the western rock lobster, from [Juveniles](#), through the [Whites](#), to [Adults](#), and finally the [Larval](#) stages.



The site will be a valuable resource to lobster students and researchers. In addition to more widely broadcasting the current state of knowledge of western rock lobster biology, behaviour, and ecology, it is hoped that the site will generate future research priorities through the identification of current knowledge gaps.

*Emma-Jade Tuffley
Western Australian Fisheries and Marine
Research Laboratories
Department of Primary Industries and Regional
Development
PO Box 20, North Beach, WA 6920, Australia*

Email: Emma-Jade.Tuffley@dpiird.wa.gov.au

New Research on Rapid Arctic Change and its Impacts on Lobster Fisheries and Fishing Communities of the Western North Atlantic

From: Rick Wahle

The University of Maine is leading a new \$3 million research award from the US National Science Foundation's Navigating the New Arctic Program (NNA) in a three-year study to evaluate the connection between the warming Arctic Ocean and the rapid changes in New England's and Atlantic Canada's lobster fisheries (Fig. 1). The project launched January 1st, and includes scientific collaborators from the Gulf of Maine Research Institute, Columbia University, Florida State University and Memorial University of Newfoundland, along with industry and government agency partners from both sides of the border. The study hopes to bring a better understanding of the current and future effects of these changes on the Northwest Atlantic marine ecosystem, the lobster fisheries and the communities that depend on them.

Rapid Arctic warming and melting ice are altering ocean circulation in the North Atlantic, triggering ecosystem changes likely to undermine regional fisheries along the coasts of New England and Atlantic Canada. For example, in recent years, the Labrador Current, which moves cold, nutrient-rich water from the Arctic from the north into the Gulf of Maine, has weakened, while the influence of the warm, salty and nutrient poor Gulf Stream has strengthened. These changes will challenge coastal communities, presenting new threats and

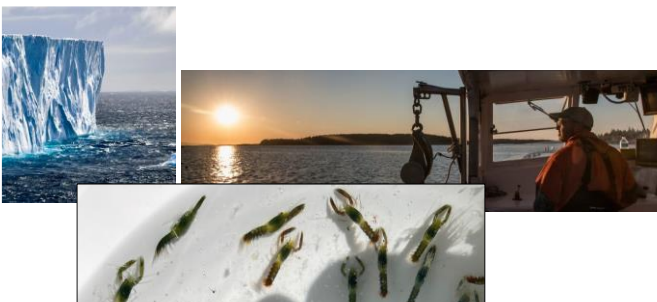
opportunities. This new research focuses on links between Arctic change and the iconic American lobster fishery, the most valuable single-species fishery in North America, and a well-studied socio-ecological system. As the species' geographic range shifts northward in a warming ocean, regional dependencies on this fishery will be affected.



Figure 1. Arctic links to lower latitudes via the Labrador Current. Red Area: American lobster fishery domain.

The newly formed *NNA Lobster Network* builds on long-standing cross-sector and cross-border partnerships and grew out of recent workshops on lobster fishery climate vulnerability assessment. It represents an unprecedented opportunity to scientifically advance understanding of the links among climate induced Arctic change, its influence on lower latitude marine ecosystems, resources, and one of the most productive fisheries of the Northwest Atlantic. It will create capacity to evaluate impacts of future environmental change on fisheries over a range of space and time scales.

The overarching hypothesis is that *climate-driven Arctic change will affect the distribution and abundance of American lobster stocks, and in turn, the fishing industry and coastal communities that depend on them.* Project objectives address *Natural Environment* and *Social Systems* elements of the NNA program priorities. Under the *Natural Environment*, oceanographers and ecologists on the project will develop a coupled atmosphere-ice-ocean-ecosystem model to evaluate how changes in the Arctic cryosphere and ocean circulation will affect ecosystem and fishery productivity at the lower latitudes of the Northwest Atlantic. Model outputs will be validated using existing field datasets, some of which are co-produced by the fishing industry. Improved predictive models resulting from this effort will be used for forecasts and scenario analysis of lobster population distribution. Under *Social Systems*, social scientists on the team will develop a bio-economic model of the fishing fleet and evaluate economic reliance on this fishery.



We anticipate these outcomes to set the stage for the development of a second phase proposal with greater focus on how these research products can be made most useful to decision makers. The resilience of coastal communities to change will depend on their early access to and use of salient information

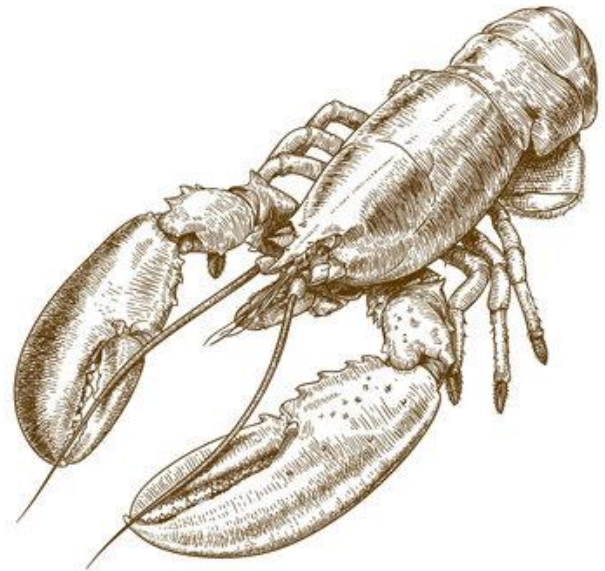
in their decision-making processes. The *NNA Lobster Network* aspires to a broadened understanding of physical, biological and socio-economic conditions at varying scales of interest under past and future climate and management scenarios.

Richard Wahle, Ph.D.

University of Maine

School of Marine Sciences and Lobster Institute

Email: Richard.wahle@maine.edu



Help Wanted: Identifying key research achievements and themes for new review of American lobster science since 2003

From: Jason S. Goldstein, Benjamin C. Gutzler, Win Watson, Steve Jury, Josh Carloni, Andrew Kough, Jessica Brunacini, Chloe Pearson

As part of ongoing research efforts associated with the U.S. National Sea Grant American Lobster Initiative, our research team has been commissioned to write a review of the last 20 years of American lobster (*Homarus americanus*) science. Our review is intended to result in a peer-reviewed publication identifying key themes and existing knowledge gaps, while summarizing the status of knowledge to help guide decisions about future research avenues. Given the broad scope of the work, we will inevitably be unable to cover everything. However, to ensure the final product is as valuable as possible to the broader research community, we are inviting input from our colleagues in the field. Anyone is welcome to submit comments on key themes, foundational papers, or topics that they feel are important. If you have PDFs or other materials you would like to share from some of that work, so much the better!

Please send any input to either Jason Goldstein (jsgoldstein2@gmail.com) or Ben Gutzler (bgutzler@gmail.com). Any feedback will be valuable in maximizing the final review's utility for all researchers engaged in work on American lobsters!

Funding for the review was provided by Connecticut Sea Grant, under NOAA award NA19OAR4170116 to The University of

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Full Project Team:

- Jason Goldstein (Wells National Estuarine Research Reserve)
- Benjamin Gutzler (Wells National Estuarine Research Reserve)
- Win Watson (University of New Hampshire)
- Steve Jury (Saint Josephs College of Maine)
- Josh Carloni (New Hampshire Fish and Game Department)
- Andrew Kough (Shedd Aquarium)
- Jessica Brunacini (Maine Sea Grant)
- Chloe Pearson (University of New Hampshire)



Illustration from Herrick (1895)

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*Jason Goldstein, PhD., Research Director
Wells National Estuarine Research Reserve
342 Laudholm Farm Road
Wells, ME 04090*

Email: jgoldstein@wellsnerr.org

Benjamin Gutzler, PhD., Postdoctoral Research
Fellow
Wells National Estuarine Research Reserve

Email: bgutzler@wellsnerr.org

Win Watson, Professor Emeritus
University of New Hampshire

Email: winsorhaysiii@gmail.com

Steven Jury, Professor
Saint Joseph's College of Maine

Email: sjury@sjcme.edu

Joshua Carloni, M.S., Senior Fisheries Biologist
New Hampshire Fish & Game

Email: Joshua.T.Carloni@wildlife.nh.gov

Andrew Kough, PhD., Research Scientist
Shedd Aquarium

Email: akough@sheddaquarium.org

Jessica Brunacini, Coastal Community
Resilience Extension Associate
Maine Sea Grant – University of Maine

Email: jessica.brunacini@maine.edu

Chloe Pearson, Graduate Student
University of New Hampshire

Email: Chloe.Pearson@unh.edu

A Tribute to Jim Acheson

With the passing of Jim Acheson, we lost a revolutionary anthropologist who chose to focus on the culture of lobstering community along the coast of Maine. By mingling with lobstermen, asking them endless questions, and wading through archives of letters to commissioners of Maine's Department of Marine Resources, he started to see something unique in Maine's lobster fishery. Rather than viewing fishermen (a term he and Maine harvesters of both genders preferred) as reckless hunters, he saw them as having evolved a conservation ethic that preserved both the fishery and the coastal communities that depended on them. He traced that ethic to territoriality. When you can't overfish your front yard and move on to your neighbor's, you begin to see your future tied closely to local sustainability.

His ground-breaking book *The Lobster Gangs of Maine* strongly impacted the public and scientific communities. Among the scientists who saw his contributions as important was 2009 Nobel laureate Elinor Ostrom, who drew upon Jim's analysis of Maine's lobster fishery as a rare example of fishermen policing their own waters – sustainable fishery management at the local community level. After all, sustainability is job security of folks who depend on local marine resources.

To help codify and broaden the collective actions, Jim Acheson, Jim Wilson, Robin

Alden, and others initiated Maine's lobster zones in 1995. Formalizing zones was a way to democratize the fishery - to give lobstermen a voice and a vote about how the fishery is regulated in their zone. This unique form of co-management all grew from the seeds Jim Acheson planted decades ago.

We'll miss Jim's perspectives and foresight as the lobster fishery and management try to navigate the myriad current challenges, but his legacy lives on in all those he touched over the years.

Robert S. Steneck, Ph.D., Professor
James A. Wilson, Ph.D., Professor Emeritus
Joshua S. Stoll, Ph.D., Assistant Professor
School of Marine Sciences, University of Maine



Jim Acheson (left) and Jim Wilson (right) in 2015 at Wilson's retirement party.



Editors:

Nick Caputi

Western Australian Fisheries and Marine Research
 Laboratories, Department of Primary Industries and
 Regional Development
 PO Box 20
 North Beach WA 6920 AUSTRALIA
Nick.Caputi@dpird.wa.gov.au

Richard A. Wahle

School of Marine Sciences and the Lobster Institute
 University of Maine
 Darling Marine Center
 Walpole, Maine 04573 USA
Richard.Wahle@maine.edu

Assistant Editor - This Issue:

Jenny Moore

Western Australian Fisheries and Marine Research
 Laboratories, Department of Primary Industries and
 Regional Development
 PO Box 20
 North Beach WA 6920 AUSTRALIA
Jenny.Moore@dpird.wa.gov.au

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Contact Nick Caputi (southern hemisphere) or Rick Wahle (northern hemisphere) about article submissions and inquiries or corrections to the Lobster Newsletter mailing list.