



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543-1026

December 16, 2011

MEMORANDUM FOR: A.I.S., Inc Northeast Fisheries Observer Program (NEFOP) Observers

FROM: Amy Van Atten
Branch Chief, Fisheries Sampling Branch (FSB), Northeast Fisheries Observer
Program

SUBJECT: 2012 Northern Shrimp Fishery Information

The Northern Shrimp fishery is a quota based fishery that takes place in the winter months in the northern waters of the Gulf of Maine. Participating vessels generally utilize Bottom Otter Trawl gear and sail from ports in Maine, New Hampshire, and Massachusetts. The 2012 Northern Shrimp season starts January 2nd, and is expected to last roughly 6 weeks, depending on available landing days, until the quota is harvested. The purpose of this memo is to: Review shrimp trawl gear and how it should be properly recorded; provide clarification on some common confusion on identifying and documenting Northern Shrimp species; and to introduce and provide a new cheat-sheet for proper shrimp identification.

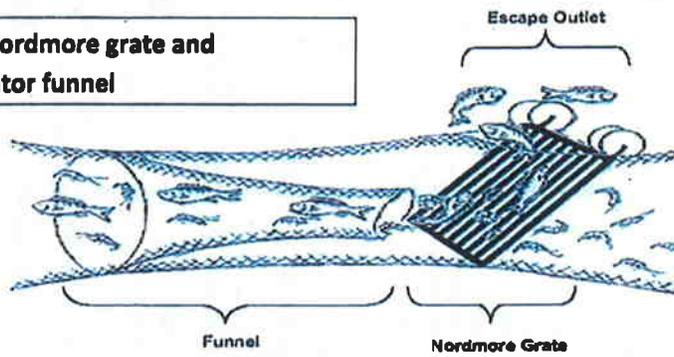
It has come to our attention that in the past, observers have misinterpreted species identification information located on page 15 of the NEFOP Biological Sampling Manual and have used it as their only source to identify shrimp. This has resulted in incorrect species identification on shrimp directed trips. The intent of page 15 is to serve as a supplement to the Peterson's *Atlantic Seashore* guide. The 2 species of shrimp described in the Biological Sampling Manual, Royal Red and Scarlet may occasionally be seen and have been targeted further south (CT). The shrimp species that is targeted in the Gulf of Maine Northern Shrimp fishery is *Pandalus borealis*. Other *Pandalid* species may be occurring less frequently in the catch. Be aware that captains may not be familiar with the different species and therefore indicate they are targeting Maine shrimp, pink shrimp, or simply shrimp. In the future, the Biological Sampling Manual will be improved in this area and shrimp will be added to the fish identification session in observer trainings. Enclosed with this memo is a cheat-sheet that better illustrates the various shrimp species, please include this as part of your cheat sheet package. Although there is not a species verification requirement, observers should send in whole samples or pictures for verification if unsure of species ID.

Fishing vessels participating in the Northern Shrimp fishery have specific gear modification requirements they have to adhere to in order to harvest and land shrimp. Observers deployed on tasked shrimp trips should be familiar with the gear modifications and how to properly document them in the NEFOP T



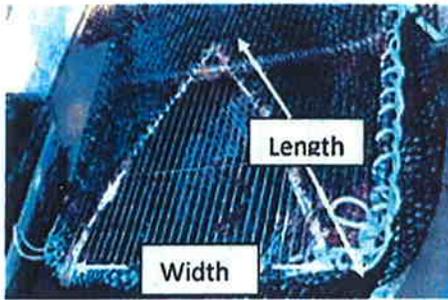
Gear Characteristics Log. Shrimp trawls should be equipped with a Nordmore Grate (Fig 1) located in the extension of the trawl and forward of the codend. The grate will be orientated at a 45 degree angle with a triangular escape outlet located at the apex of the grate to facilitate the exclusion of finfish and other large non-targeted species (refer to Fig 2 on how to record escape outlet dimensions). The grate and escape outlet can be orientated towards, and located at either the top, or bottom of the net. Often a mesh accelerator funnel (Fig. 1) will be used with the Nordmore grate to concentrate the catch at the base of the grate to maximize shrimp retention; it is important to note that an accelerator funnel is considered a "guiding device" and has a separate excluder/separator device code. When an accelerator funnel is used in conjunction with a Normore grate, the Excluder/Separator Device Type code should be marked 98 (combination), with a comment made indicating that the device is a "Nordmore grate with accelerator funnel." Some Shrimp Trawls may be equipped with a double Nordmore grate system (Fig. 3): The second grate will be located between 6 and 10 feet behind the Nordmore grate toward the codend and acts as a grading device to allow small, non-marketable shrimp to escape before entering the codend. It is important to note that escape outlet and excluder information fields on the Trawl Gear Characteristics Log should be filled in with the dimensions of the **first grate and escape outlet system**. A comment should be made indicating that the trawl is equipped with a "Double Nordmore grate system". We strongly encourage observers to photograph or sketch any gear configurations they are not familiar with to upload with trips. Please refer to this memo, the accompanying example gear log for shrimp trawl, and shrimp ID cheat-sheet when deploying on Northern Shrimp targeted trips. Please contact Tad Beagley with any questions at (508)-495-2383 or 774-392-2735.

Fig. 1: Nordmore grate and accelerator funnel



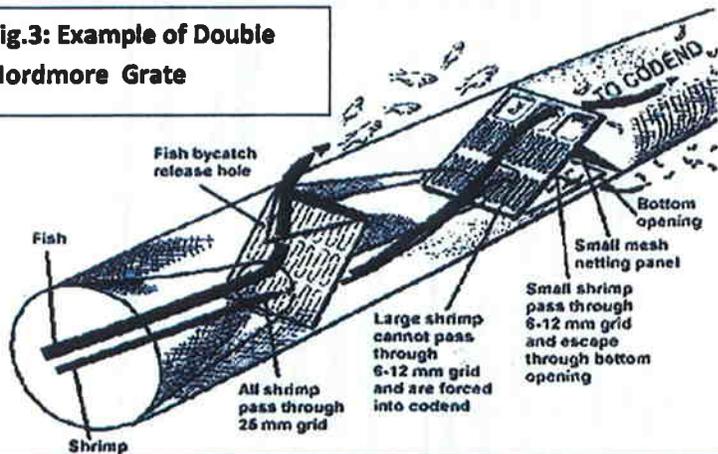
Source: 2010 NEFOP Program Manual

Fig. 2: Triangular escape outlet



Source: <http://www.seagrant.unh.edu/necfrnordmore.html>

Fig.3: Example of Double Nordmore Grate



Source: <http://www.crimond.com/twintrawlreport.htm>

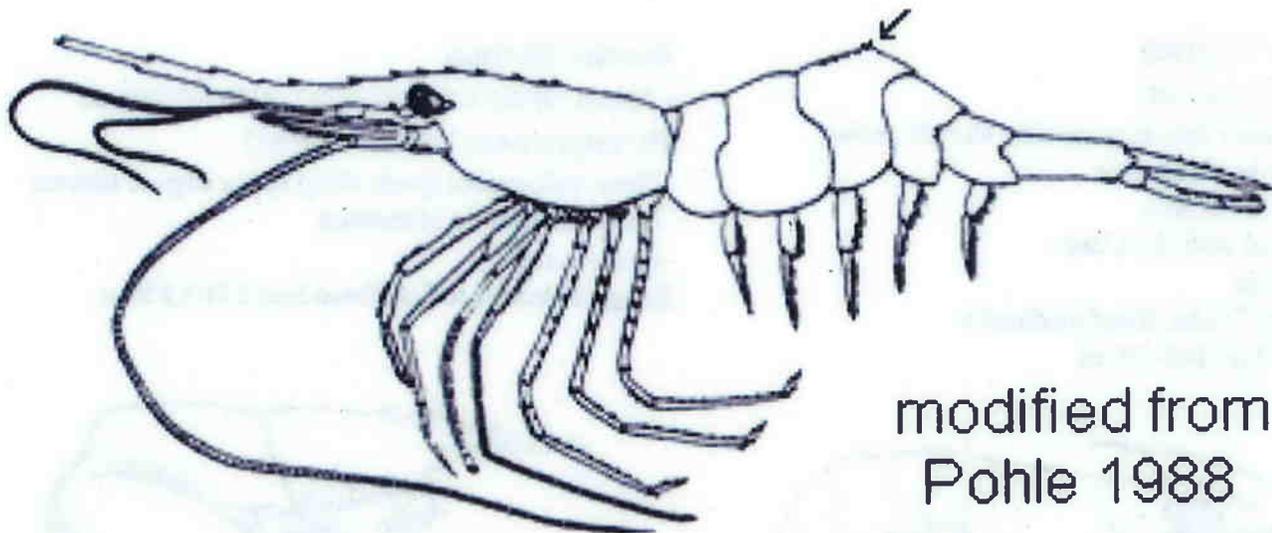
TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSOBS 01/01/10

GEAR CODE 058	GEAR NUMBER 01	NET NAME Bottom Trawl	NET TYPE 2-Stream	NET BUILDER Shrimp Trawl	NET WORKS Trawlworks
LINER USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	CONSTRUCTION MATERIAL TYPE Unknown 00 Nylon 01 Poly 02 Kevlar® 03 Spectra® 04 Tenax® 05 Nomex® 06 Combination 98 Other 99	NET BODY	CODEND LINER	LENGTH MEASUREMENTS Headrope 60 ft Footrope/Sweep 80 ft Ground Cable _____ ft Widde _____ ft	CHAFFING GEAR USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
DOORS USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	WEIGHT OF ONE DOOR kg _____	FISHING CIRCLE # MESHES 300	GROUND GEAR TYPE Unknown 00 Chain 01 Cable / Wire 02 Wrapped Cable 03 Rock Hopper 04 Roller 05 Rubber Cootie 06 Bobbin 07 Plate Gear 08 None 98 Other 99	BRIDLE/LEG	SWEEP
KITE PANEL KITE USED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>	Number _____ Width _____ in Length _____ in	MESH SIZE 1.8 in	GROUND CABLE	SWEEP GEAR Number 40 Diameter 10 in	FLOATS Number 30 Diameter 8 in
<p>COMMENTS- Excluder/Separator device is a Nordmore Grate with an Accelerator funnel combination Trawl was equipped with a double Nordmore grate system . second grate was used to separate small shrimp.</p>					
CODEND/LINER HUNG		CODEND LINER	GEAR MOUNTED ELECTRONICS USED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>	EXCLUDER/SEPARATOR DEVICE USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	DATE LANDED mm/yy / /
TWINNED TYPE		CODEND LINER	NUMBER OF TRANSDUCERS	ESCAPE OUTLET (circle one) A / E USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	PAGE #
TYPE Unknown 0 Wired 1 Wireless 2 Both 3		TYPE Unknown 0 Diamond 1 Square 2 Square, wrapped 3 Combination 8	TYPE Unknown 0 Wired 1 Wireless 2 Both 3	TYPE Unknown 0 Panel 1 Opening 2 Single Flap 3 Double Flap 4 Other 5	OF
BRAND		LOCATION (check all that apply)	LENGTH # MESHES OR _____ in	WIDTH # MESHES OR _____ in	SHAPE Type Code _____
Unknown 0 Funnel® 1 Sirtad® 2 Nordstar Tech 3 Norus 4 Scanner 5 Other 6		Unknown 0 Headrope 1 Wings 2 Footrope 3 Door 5 Codend 6 Other 9	LENGTH # MESHES OR _____ in	WIDTH # MESHES OR _____ in	LOCATION Type Code _____
MESH SIZE _____ in		LOCATION (check all that apply)	LENGTH # MESHES OR _____ in	WIDTH # MESHES OR _____ in	LOCATION Type Code _____
MESH SIZE 2 in		Unknown 0 Headrope 1 Wings 2 Footrope 3 Door 5 Codend 6 Other 9	LENGTH # MESHES OR _____ in	WIDTH # MESHES OR _____ in	LOCATION Type Code 1

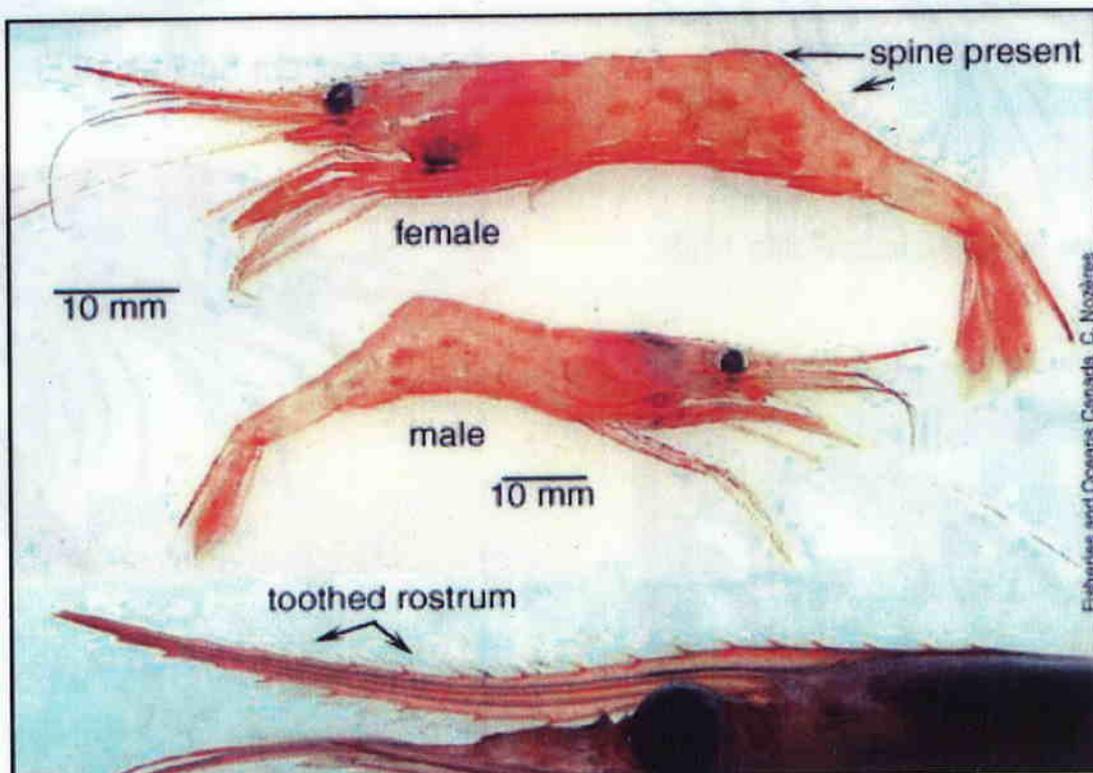
SHRIMP, PANDALID, NK (NORTHERN SHRIMPS)

Defining Characteristics:

- Second tail segment overlaps both 1st and 3rd segments
- Long rostrum (at least as long as carapace)
- Claws very small
- Usually pink or reddish in color
- Only species targeted in Gulf of Maine is *Pandalus borealis*



modified from
Pohle 1988



Pandalus borealis (Northern Shrimp)

PENAEIIDS

Defining Characteristics:

- **NOT** targeted by Gulf of Maine vessels
- **DEEP** water continental shelf species
- Second tail segment does not overlap forward
- First 3 pairs of legs have claws
- Can reach large sizes

Note: Other penaeiid species may also be encountered.

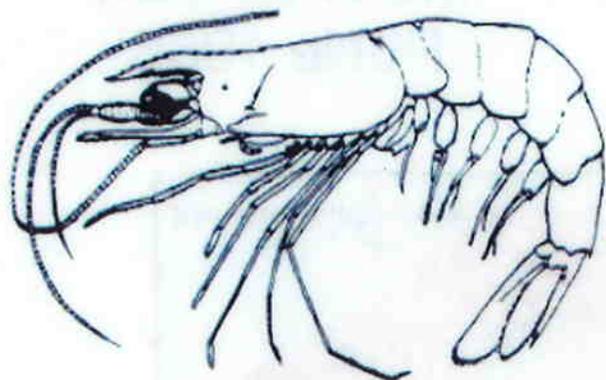
See other resources for more complete species listings.

Royal Red Shrimp

(*Pleoticus robustus*)

- Rostrum shorter than in pandalids, slightly arched
- Spines on side of carapace
- First 3 legs have claws
- Body covered with short hairs
- Deep red color

Range: Grand Banks, Newfoundland to Caribbean Sea; 140-730 m



modified from Pohle 1988

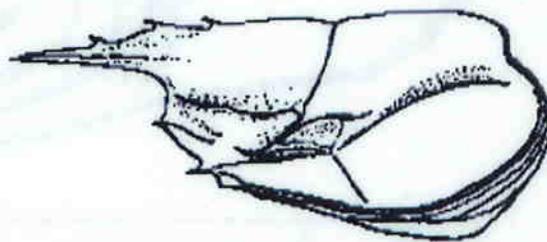


Scarlet Shrimp

(*Aristaeopsis edwardsiana*, also known as *Plesiopenaeus edwardsianus*)

- Three well-spaced spines along upper edge of rostrum
- No spines near tip of rostrum
- Crimson red

Range: Labrador to Caribbean Sea; 274-1,850 m



modified from Squires 1990

