

Omega Net Mesh Measurement Gauge

Mid-Atlantic Fishery Management Council Meeting

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Regulatory Requirements for Net Mesh Size

- Three Fishery Management Plans (FMPs) in the Greater Atlantic Region contain regulatory restrictions on net mesh size which affect most vessels:
 - Atlantic Sea Scallop FMP – 50 CFR 648.51(a)(2)
 - Northeast Multispecies FMP – 50 CFR 648.80(a)(3)(i) & 50 CFR 648.80(f)(2)
 - Summer Flounder, Scup, Black Sea Bass FMP – 50 CFR 648.108(a)
- These regulations:
 - Define the minimum net mesh size for vessels which have been issued relevant permits or are fishing in specific areas; and
 - Define the way in which net mesh size can be measured for enforcement purposes.

Current Net Mesh Measurement

- The weight and spade, or “wedge” gauge is the designated tool for measuring net mesh size for vessels using trawl gear.
- From the regulations:
 - “Mesh size is measured by using a wedge-shaped gauge having a taper of 2 cm (0.79 in) in 8 cm (3.15 in) and a thickness of 2.3 mm (0.09 in), inserted into the meshes under a pressure or pull of 5 kg (11.02 lb) for mesh size less than 120 mm (4.72 in) and under a pressure or pull of 8 kg (17.64 lb) for mesh size at, or greater than, 120 mm (4.72 in).”

Weight and Spade



Current Net Mesh Measurement (contd.)

- Advantages of the wedge gauge include:
 - Mechanical simplicity
- Disadvantages of the wedge gauge include:
 - Cumbersome operation
 - Requires two officers to use correctly
 - Risk of injury on heavy seas or in poor weather

Weight and Spade



Enter – the Omega Gauge



- The Omega gauge is an automatic, handheld electronic device for measuring net mesh size.
- Measurements are taken using the prongs at the end of the device, which slowly separate with a set amount of force. Once they are no longer able to separate, the gauge produces the measurement.
- Measurement data is stored internally and can be exported to Microsoft Excel for later review.

United States Coast Guard Testing

- Shoreside Testing
 - 19 boarding officers conducted comparative net mesh measurements with the wedge and Omega gauges
 - 80 measurements by each officer = 1,520 total data points
 - Officers possessed a range of fisheries experience from 3 months to 10 years
- Operational Testing
 - Two USCG Cutter Crews conducted 3 boardings, collecting 120 measurements with the wedge and Omega gauge
 - 6.5 inch and 5.5 inch nets were measured

Shoreside Test Results

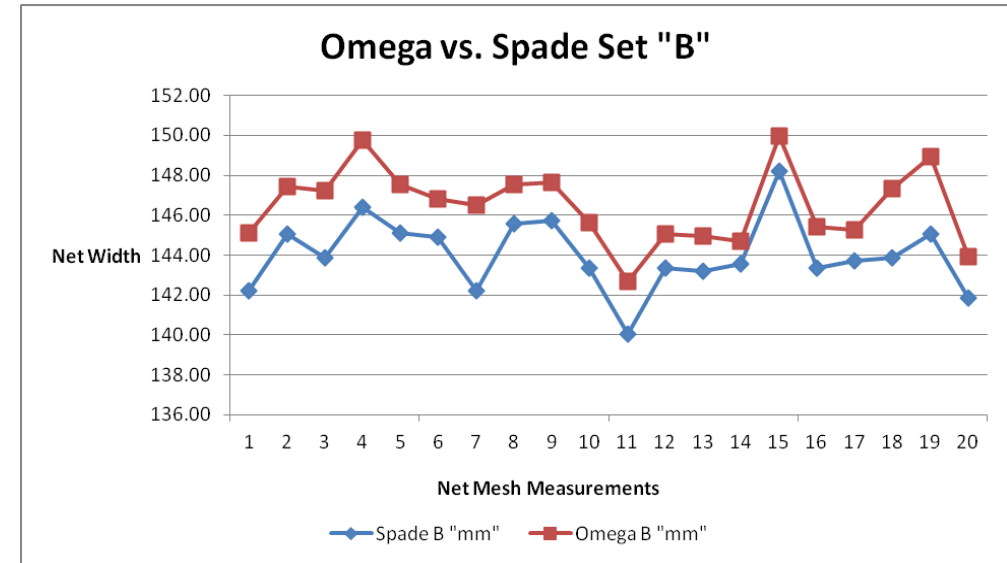
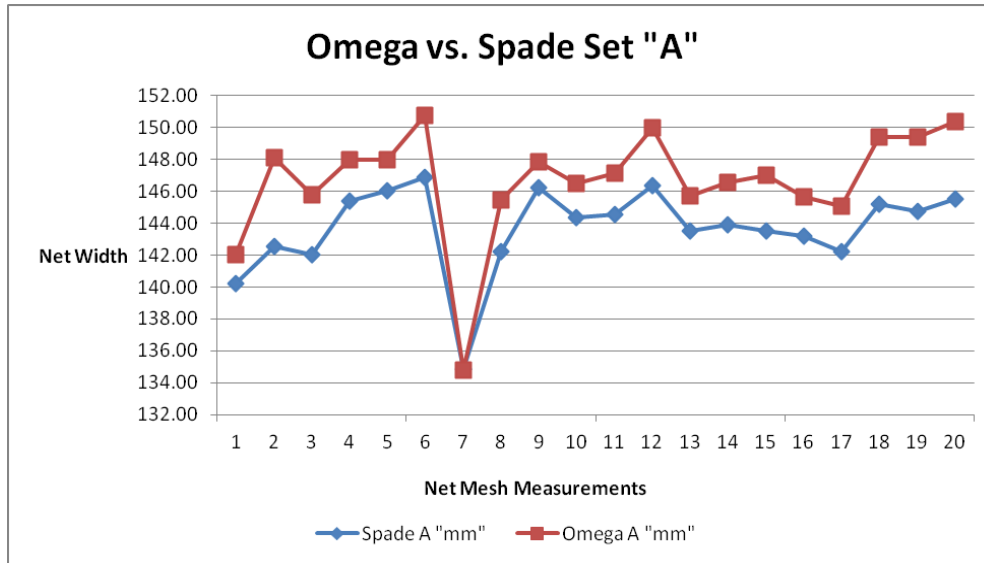


Table of Findings			
Data Set	Avg StDev	Average	Average Time (sec)
Spade A	4.45	143.68	237
Omega A	1.83	146.67	190
Spade B	3.78	144.03	199
Omega B	1.57	146.46	192

Operational Boarding Test Results

- Average mesh measurements were comparable between the two gauge types:
 - Omega Gauge – 6.14 inches
 - Wedge Gauge – 6.12 inches
- Measurements were taken with the Omega gauge 50% faster than measurements taken with the wedge gauge

Advantages of the Omega Gauge

Relative to the wedge gauge:

- Boarding team equipment weight reduced by 60 lb
- Omega gauge has precision to 1 mm (0.039 in)
- Time to produce measurement reduced
- Internal data storage reduces human error and improves recordkeeping

In general:

- Good durability & longevity
- Demonstrated no complications in the operational environment

Disadvantages of the Omega Gauge

- Cost per unit is greater than wedge gauge (\$4,500 vs \$3,000)
- Units must be calibrated on a regular basis

Rulemaking for the Omega Gauge

- On November 1, 2018, the New England Fishery Management Council's Enforcement Committee received a presentation and demonstration of the Omega gauge.
- On December 4, 2018, the NEFMC recommended that NMFS use its rulemaking authority to adopt use of the Omega gauge to enforce net mesh size.
- NMFS is authorized under section 305(d) of the Magnuson-Stevens Fishery Conservation and Management Act to make administrative changes to regulations that are necessary to carry out any FMP or amendment.

Rulemaking for the Omega Gauge (contd.)

- NMFS has been working on a proposed rule which would revise regulations for the Atlantic Sea Scallop, Northeast Multispecies, and Summer Flounder, Scup, and Black Sea Bass FMPs to codify the Omega gauge as an acceptable method for measuring net mesh size.
 - This would not eliminate the wedge gauge as a method of measuring net mesh size.
- It was realized that the MAFMC had not been properly informed of the development of this action; This presentation is intended to notify the MAFMC, as well as provide the opportunity for questions and comments prior to the publication of a proposed rule for the Omega gauge.

Next Steps

- Publication of the Proposed Rule could occur within the next 1 – 2 months, with a public comment period which would last for 30 days.
- A Final Rule would be published after the closure of the public comment period. Timing is based on the degree and nature of public comment that NOAA Fisheries receives.
- Phase-in period of 1-2 years.

Questions?

