

Goin' **BIG**

Longliners and trawlers take center stage at the nation's yards

By Michael Crowley

For the past few years, new boat construction for the West Coast and Alaska fisheries has been defined by gillnetters and 58-footers. But in the past year builders have seen a surge in the construction, rebuilding or extensive modifying of large boats for those fisheries. It's a case of upgrading older boats to make them more efficient and safer, sticking with proven designs, or in one case, jumping way ahead of the pack in terms of propulsion choices.

These four boats are perhaps an example of what other boat owners will be doing in the near future.

BERING DEFENDER

In early 2011 the 164-foot Dona Martita was working the East Coast's herring and mackerel fisheries. Then the boat's owner, Global Seas in Seattle, decided to bring the boat back to Alaska, where she had been a crabber until 2001, and use her in the pollock fishery.

On the way to the West Coast, the Donna Martita pulled in to **Patti Marine Enterprises in Pensacola, Fla.**, to be hauled out and rigged for her new fishery. When the boat left, she had a new name, Bering Defender, was longer by 10 feet, and had had a lot more work than originally planned.

The initial work order was pretty straightforward. The shipyard would cut off the bulwarks and deck gear. They would move up the trawl deck about 10 feet and install full-height bulwarks to provide the crew some shelter. Bringing the fish holds up to the new deck would increase hold capacity by 40 to 50 percent. They were to build two gantries and install new Rapp-Hydema winches. Up forward they would add a bulbous

bow and back aft a stern extension.

The stern extension was one way to lower the boat's fuel consumption and maybe help gain a little speed. A few years ago Global Seas was putting bulbous bows on its boats. The company hired Jensen Maritime Consultants in Seattle to run model tests to see which bulb worked best and what the payback period was. That's when they learned the importance of the stern extension.

The tests showed that the transom "hindered much more than the bulb would help," says Jonathan Parrott of Jensen Maritime Consultants, which also did the design work on the Dona Martita to convert her to a pollock boat.

The Dona Martita had 2 feet of flat transom in the water when the boat was loaded. That immersed surface pulled in a lot of water, adversely affecting fuel consumption and speed.



STEVE KENNEDY



Patti Marine Enterprises turned the Dona Martita (below) into the Bering Defender, giving her 10 more feet and a lot more steel in the process.

PATTI MARINE ENTERPRISES

The transom “hindered much more than the bulb would help.”

— Jonathan Parrott

JENSEN MARITIME CONSULTANTS

The work also added 4 feet to the bow.

The additional work combined with what was done before the fire put a lot of new steel on the boat. Parrott admits that “stability was definitely a concern,” but when it came time for lofting the redesigned portions of the boat, “we knew the steel weight pretty closely and ran the numbers. It turned out fine.”

Those numbers were aided by the fact that the trawler’s first life was as an offshore supply vessel when she was built at Louisiana’s Leevac Shipyard in 1982 as the Champion Express. “As an OSV, it was a good platform for this. They are pretty inherently stable, given the amount of liquid mud and bulk mud they normally carry,” Stone says.

NORTHERN LEADER

In the spring of 2013 when Alaska Leader Fisheries’ Northern Leader steams into the Bering Sea, after being launched at **J.M. Martinac Shipbuilding in Tacoma, Wash.**, she’ll be the newest and most innovative addition to Alaska’s aging freezer-longline fleet.

The difference won’t be so much in her façade, for here the 184’ x 42’ x 18’ 9” boat resembles other longliners

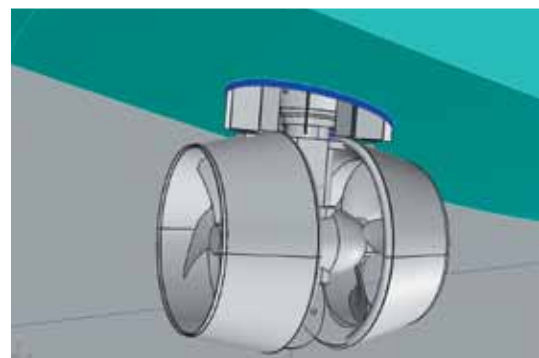
operated by Alaska Leader Fisheries — the Bristol Leader, Bering Leader and Alaska Leader.

What is hanging below the stern and what is in the engine room will set the Northern Leader off from most if not all other boats in U.S. fishing fleets.

Instead of the usual prop and rudder arrangement, she will have a pair of Schottel Z-drives. While Z-drives are common in the workboat industry, especially on tugs, you’d be hard pressed to find any on an American commercial fishing boat.

The benefit of Z-drives is maneuverability. When hauling in a longliner’s groundline, “it’s important to be able to stay on the groundline, but boats are getting so big, and they have such a high-profile wind area” it’s difficult, says Parrott with Jensen Maritime Consultants, which designed the Northern Leader.

Since Z-drives rotate 360 degrees, the skipper can change the direction of thrust quickly to keep the boat on the gear. The Northern Leader also has a bow thruster that can be used in con-



JENSEN MARITIME CONSULTANTS

The Northern Leader will have diesel-electric power and Z-drives (right, shown in both fore-and-aft positions).



JENSEN MARITIME CONSULTANTS

So Jensen Maritime Consultants added 6 feet to the stern. “It gets rid of the flat area on the stern, so you get a lot better water flow off the back end of the boat,” says Parrott, who believes the Bering Defender will get better fuel consumption and might pick up a knot or two in speed.

The Patti crew installed props and nozzles with deflector rudders below the lengthened stern.

Then in August a fire swept through the boat, causing \$3 million in damages. Using a little extra Global Seas seed money and the reimbursement from the insurance company, the boat owners decided “to expand everything. So we cut the whole deck house off, raised the deck up one level, extended the deck house from side to side,” says Patti Marine Enterprises’ Ashley Stone.

Once the shipyard raised the deckhouse and finished the bow and the wheelhouse, with an electronics room below it, Stone says it “gave a modern European look to the boat.”

junction with the Z-drives.

One possible issue with a Z-drive, says Parrott, is that "in a relatively short space you have the engines down low and the Z-drives are up high, and how do you get the power to the Z-drive through mechanical means?"

Of course, if you have diesel-electric for power it's a simple matter to run wires, instead of shafting, up to the Z-drive's electric motors. The Northern Leader's engine room does have diesel-electric power — with a 1,000-kW motor for each Z-drives — which is incredibly rare for a fishing boat in this country.

The first diesel-electric power went into an American fishing trawler around 1928, but it is a form of propulsion that was never widely accepted in U.S. fleets.

What made diesel-electric drives a viable option for the Northern Leader is improvements in power management systems. "Now a lot of the stuff is done automatically, so you are op-

timizing the efficiencies of the units," Parrott says. "Motors have gotten better. Things are smaller than they used to be and are more efficient all the way around."

While the initial cost for a diesel-electric drive is more than the conventional diesel setup, it reduces fuel consumption and better distributes the power load among the generators. "You don't have a pair of 1,200-horsepower engines running when you only need 300 horsepower to each propeller," says Parrott.

The Northern Leader will target several species, including Pacific cod and blackcod. She will have more than 38,000 cubic feet of refrigerated fish hold space, with an estimated capacity of 1.8 million pounds.

OCEAN PEACE

On Feb. 19, when the Ocean Peace left **Vigor Marine in Portland, Ore.**, and headed for the Gulf of Alaska's H&G fishery, she was a very dif-

ferent boat. Then she measured 220' x 36' 6". Now her beam has been pushed out to 50 feet.

"It's the biggest full sponsoning job we've done, widening the whole boat from the keel to the upper deck. Basically it's building a new boat around the old one," says Jensen Maritime Consultants' Bob Horsefield, who did the design work.

The additional beam increased the Ocean Peace's fuel supply and hold capacity while improving stability. Now with new fuel tanks aft of the engine room, the Ocean Peace should be able to make two trips without having to go to the fuel dock.

And the fish hold capacity grew by 55 percent to 1.66 million pounds. That allows the Ocean Peace to fish longer "because the cargo capacity has gone way up," Horsefield says.

Equally important is the improved stability. "She'll be able to operate over a full fuel range and full cargo range with almost no limitations on stability



McDermott Light & Signal

Our LED Floodlights provide durability with a low amperage draw that maintains the lifespan of your alternator.

Avoid damaging your charging system by replacing your high power consumption halogen with our green, low-energy consumption LED lights.



30 Watt



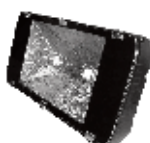
50 Watt



10 Watt



100 Watt



140 Watt



McDermott Light & Signal



718.456.3606 | www.mcdermottlight.com
fishing@mcdermottlight.com

NET Systems Supplying the Ultimate Trawl Gear & Services To the Fishing Communities of the World.



ULTRA CROSS KNOTLESS NETTING – DYNEEMA, PE, NYLON



TRAWL DOORS; GULL WING, S2000, FISHBUSTER



MIDWATER TRAWLS



BOTTOM TRAWLS



CODENDS SELECTIVELY THROUGH MESH SIZE WIRE ROPE



NETsystems

Toll Free: 1.800.722.5568
 Tel: +1.206.842.5623
sales@net-sys.com
www.net-sys.com



Vigor Marine's Portland, Ore., crew hauled out the 28-year-old, 220-foot Ocean Peace for a sponsoring job. She also got a rebuilt bow with a bulb.

at all," Horsefield says.

Up forward, the bow was cut off about 28 feet back from the stem and rebuilt to match up with the new sponsoring — gaining a bulbous bow in the process. Leaving the bow in place would have meant matching up the new outside shell plating with the old bow's plating. "It would have ended up at a narrow angle. You'd end up with a seam and it would look terrible," Horsefield says.

This wasn't the first time the Ocean Peace has undergone major renovations. Built in 1984 as the Amfish, she was the largest catcher-processor on the East Coast before Ocean Peace purchased her in 1991 and then added \$5.5 million dollars of H&G and freezing equipment.

PROTECTION IS IN THE BAG

FULL WATERPROOF PROTECTION

The company that keeps you dry and protected under the worst conditions now does the same for all your important gear. New Gage Gear Bags from Grundéns USA, ask for them at your local Grundéns dealer.

- Rugged 500 Denier PVC Tarpaulin Fabric
- RF Welded Seams Throughout
- Roll-Top Closures & Compression Straps for a Watertight Seal
- Professional Grade Construction For Every Adventure

ROOMY 105-LITER
SHACKELTON DUFFEL
(WITH HIDEAWAY BACKPACK STRAPS)



30-LITER
RUMRUNNER
BACKPACK



SCAN W/
QR APP
TO VIEW
A SHORT
VIDEO



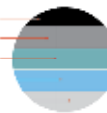
NO NONSENSE • PURE PERFORMANCE
WWW.GRUNDENS.COM

Shock Mitigating, Marine-Coated Seating for Comfort and Performance

Made in the USA



TGIC Polyester Powder Coat
E-Coat Primer
Non-Chrome Sealant
Zinc Phosphate Coating
Water-based Cleaning of Bare Metal



Multi-coat Marine Finishing System

- All SeaPost® seats include superior protection against corrosion, abrasion and impact
- 1000-Hour Salt Spray test proof



H.O. Bostrom Company
TEL 262-542-0222 • FAX 262-542-3784
Waukesha, WI USA • Hamburg, Germany • Shanghai, China

sales@hobostrom.com

www.hobostrom.com

ARCTIC PROWLER

In early April, **Alaska Ship & Drydock in Ketchikan** started building some of the modular units for the 136' x 40' x 15' factory longliner Arctic Prowler. Built for the Alaska Longline Co. in Petersburg, the Arctic Prowler is the first fishing boat to be constructed by Alaska Ship & Drydock.

When the Arctic Prowler is completed in the spring of 2013, she will be longlining for Pacific cod, blackcod and turbot in the Bering Sea and Gulf of Alaska with the Mustad autoline circle-book baiting system.

The twin-screw longliner's aft-located engine room will house a pair of 1,000-hp MTU main engines plus three 330-kW gensets. A lot of that generator power will go to keep the temperature down in the 16,300-cubic-foot freezer hold and the processing equipment operating.

The Arctic Prowler resembles three



JENSEN MARITIME CONSULTANTS

Jensen Maritime Consultants designed the 136-foot Arctic Prowler. The factory longliner, with two 1,000-hp MTU diesels, is being built at Alaska Ship & Drydock.

other longliners operated by Alaska Longline Co. — the Prowler, Bering Prowler and Ocean Prowler — in that she's built with a house-aft design.

Jensen Maritime Consultants designed the Arctic Prowler. It is similar to the Bering Leader, another house-aft longliner Jensen Maritime Consultants de-

signed, says the company's Sean Testa. NF

Michael Crowley is the Boats & Gear editor for National Fisherman.

For contact information on companies mentioned in this article, see page 49.



USE LESS FUEL • REDUCE EMISSIONS



Captain Phil Schenck says "Fitch Fuel Catalyst works"

"I use less fuel, my engines run cleaner and quieter since installing Fitch."

Manufactured by: Advanced Power Systems Inc
— 339 Main St. — Torrington, CT 06790
Direct: 860-496-7776 Toll free: 888-881-2774
Info: info@fitchfuelcatalyst.com — www.fitchcatalyst.com

Winches and Capstans



Designed for Outstanding Performance and Dependability

Best Value in Hydraulic Marine Cable Winches



BLOOM Mfg. Inc.
Winch Division

1443 220th Street, Independence, Iowa 50644
FAX 319-827-1140 PHONE 319-827-1139

www.bloommfg.com

1-800-394-1139 Ext. 164

"Custom Engineered Solutions"