



WORK SCIENCE

The crew for Queen's Reach "brail" their catch (remove the fish from the net) following a fishing expedition for chum salmon in Barnard Cove.

Photo by Gina Johansen

Sea change

By Gail Johnson



B.C. fishers are on board with a safety course designed to prevent capsizing caused by vessel instability.

“[The fishing vessel stability program] should be required learning...We don’t need any more lives lost to get motivated.”

— veteran B.C. fisher Fred Hawkshaw



A crab fishing vessel heads for home in Masset Inlet, Queen Charlotte Islands.

Photo by Gina Johansen

For Fred Hawkshaw, the chance to become a fisher was a boyhood dream. So when the Terrace resident was 30, he sold the farm – literally – and dived into the fishing industry.

That was in 1978. Since then, Hawkshaw has fished for salmon along B.C.’s rugged north coast. Life at sea for the *Tricia Lynn* skipper and crew, along with the province’s other 3,500 commercial fishers, is fraught with danger, with vessel instability being a top threat. It’s also one of the most commonly overlooked risks they face every day.

If stability is compromised because of improperly stored equipment, overloading, water on deck, or other factors, an ocean voyage can turn treacherous – even deadly – within minutes.

Consider some of the province’s recent tragedies. Two perished in 2005, for instance, with the *Ocean Tor* capsizing, and three died aboard the *Hope Bay* in 2004. In 2002, the *Cap Rouge II* capsized. Of the seven people on board, five died. Two were children.

Along with many other incidents, capsizings like the *Cap Rouge II*, the *Hope Bay*, and the *Ocean Tor* have had one thing in common: a lack of vessel stability.

Such tragedies hit close to home for Hawkshaw.

“It sends shudders up your spine,” Hawkshaw says. “We’ve gotten away with it for years, but one day you’re not going to get away with it.”

To raise awareness, Fish Safe – an industry-driven program to improve fishing vessel safety – launched its Fishing Vessel Stability Education Program (FVSEP) in 2005. Administered by the B.C. Seafood Alliance through program manager Gina Johansen, the voluntary four-day course is funded in part by WorkSafeBC and Transport Canada.

To date, more than 700 fishers have taken the program, which presents vessel stability principles in a user-friendly manner,

blending technical aspects with practical application. The course appears to be opening participants’ eyes to the potentially catastrophic effects of vessel instability.

A WorkSafeBC research secretariat Innovation at Work grant worth nearly \$50,000 was awarded to Quinte Marine Services in 2008 to evaluate the program. The results, released in May 2009, are overwhelmingly positive.

Ninety-four percent of fishers recommended the course to others. More than 60 percent said they made changes to their boats and/or to its operations to improve stability, including lowering the centre of gravity, stowing gear in lower positions, and better informing crew of safety concerns. Plus, 97 percent of participants said they learned something from the course.

Safety course relies on fishers’ first-hand knowledge

Barbara Howe, owner of Quinte Marine Services and program designer, subcontracted the evaluation to the University of B.C.’s Applied Research and Evaluation Services (ARES) for quantitative results, and to Lynda Griffiths and Associates, which conducted focus groups for the qualitative data.

“An independent perspective is vital to people supporting the program financially,” Howe says. “They need to know the money is being well spent, to determine whether the program is doing what it was designed to do.”

Of 574 fishers invited to complete a survey on the course, 164 took part – a response rate of just under 30 percent. According to ARES, the typical rate is about 12 percent. “Part of the reason the response rate was so high is that the guys were enthusiastic about it,” Howe says. “It indicates a sense of ownership.”

Howe says the use of adult education principles is central to the program’s success. Adults at an average age of 52, with roughly 30 years’ experience at sea benefit from classroom participation-style learning, rather than a lecture format. So the curriculum

Gina Johansen, Fish Safe program manager, aboard the FV Kynoc in Steveston harbour.



incorporates case studies, activities, simulation, and a field trip to create a relaxed, interactive atmosphere. “It respects and builds on the experience of fishermen,” Howe says.

Furthermore, the course is taught by peers – Transport Canada-funded fishers who’ve been trained as course facilitators.

Industry supports push to prevent losses at sea

WorkSafeBC industry specialist Ellen Hanson says the program has been so effective, in fact, it could be a template for safety initiatives in other industries. “It conveys practical knowledge,” she says, noting the course might be replicated in other parts of the world: this September’s World Fishing Exhibition in Spain presented program highlights.

Stability issues strike a chord with Johansen, who was a driving force behind the program. She lost her dad and other family members when the 18-m (60-ft.) *Bravado* capsized in 1975. Johansen says fishers’ response to the program has been gratifying. “We’ve had people say, ‘I’ve been fishing for 40 years and I learned something from this course.’”

A fisher herself, Johansen explains that several factors can affect vessel stability. For one, boats are often modified to take advantage of multiple fisheries by using additional, heavy equipment, which can raise a boat’s centre of gravity. As well, constant weight changes accompany the loading and unloading of different catch sizes and gear configurations.

Overloading is another component. “Often vessel masters don’t fully understand their vessel’s operational limit, or how it’s affected by weather or wave patterns under different load conditions,” says WorkSafeBC occupational safety officer Shane Neifer.

Finally, “free surface” – the presence of freely-moving liquid aboard a vessel – has the effect of a virtual rise in a boat’s centre of gravity, thereby reducing the vessel’s ability to right itself. Free surface proved to be one of the most misunderstood factors affecting stability. “Almost everyone said they didn’t realize how dangerous it was, and many went back and made changes to lower their centres of gravity to address free surface issues,” Howe explains.

Regulations play a role in ensuring vessel stability. WorkSafeBC

requires on board, stability-related data for all fishing vessels, and Transport Canada has stability-assessment requirements. The Fish Safe program includes a section on writing stability procedures to help fishers meet regulatory requirements.

Program success puts vessel safety at the forefront

The program illustrates how regulatory bodies and industry can work together, Neifer says, noting that its lessons have led to a sea change in the industry.

“What we’re seeing now is different as opposed to seven or eight years ago,” he says. “People are taking safety to heart. They’re formalizing processes on board. Everyone’s sitting at the same table, agencies and industry, talking openly...The Fish Safe stability course has been a catalyst for a shift in culture; people are keeping safety front-of-mind.”

Vietnamese fleets and First Nations communities have taken part in the program, but Johansen would like to extend it to every fisher on the water.

“The challenge is in reaching fishers who aren’t generally part of the mainstream – who go out to fish, then go home,” she says. Howe says most participants are boat owners or skippers. “A true safety culture has to involve the whole crew.”

Furthermore, many fishers still consider risk a part of the business.

Nonetheless, fishers like Hawkshaw are determined to spread the word about the program.

“It should be required learning,” he says. “If not, we’re just looking at more deaths. I’ve seen trawler men in that course who’ve fished for years shaking their heads, almost in tears at how naive they were. We don’t need any more lives lost to get motivated.” 