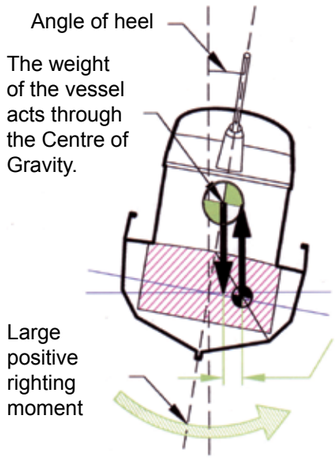
Fish Harvesting Alert: Vessels Capsizing and Lives Lost

Why do slack tanks make your vessel unstable?

Slack tanks and free surface effect

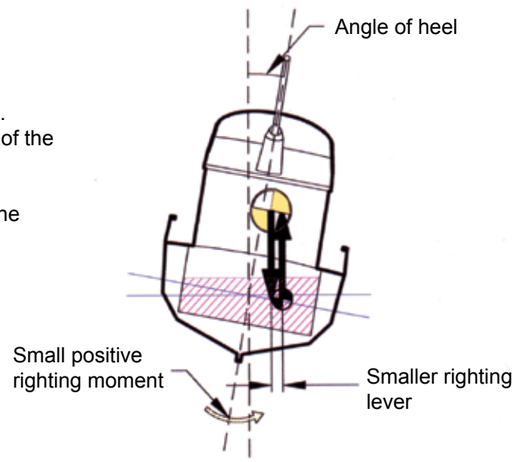


Full tanks have no free surface. The Centre of Gravity remains fixed as the boat heels.

Slack tanks have a free surface. As the vessel heels, the weight of the liquid shifts to the low side.

The Centre of Gravity shifts in the direction of heel.

The righting lever is reduced.



- Keep scuppers and freeing ports clear to allow water to quickly drain from the deck.
- Manage tanks to minimize free surface and its impact on stability.
- Be aware that packing fish wet compared to packing dry increases the total cargo weight by almost 30%. This might mean your fish tank volume should be reduced accordingly to ensure adequate freeboard and stability.
- Wherever possible, and certainly when in transit or when loading over the side, fish tanks should be either fully pressed or completely empty. Avoid slack fish tanks whenever possible.

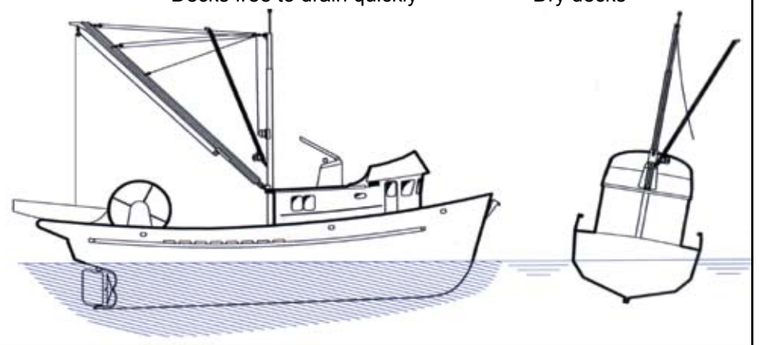
How stable is your vessel when you modify it for the same fishery?

As Designed Seiner

The AS DESIGNED SEINER (shown at right) meets the Transport Canada STAB 4 requirements with some margin of safety.

The MODIFIED SEINER does not (see picture at bottom).

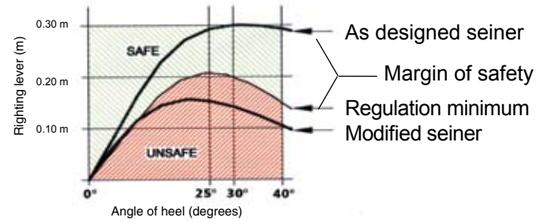
- Even trim
- Decks free to drain quickly
- Adequate freeboard
- Dry decks



Margin of Safety

The modified seiner does not have enough righting energy, and the vessel is unsafe. The operating environment and conditions can also reduce your margin of safety.

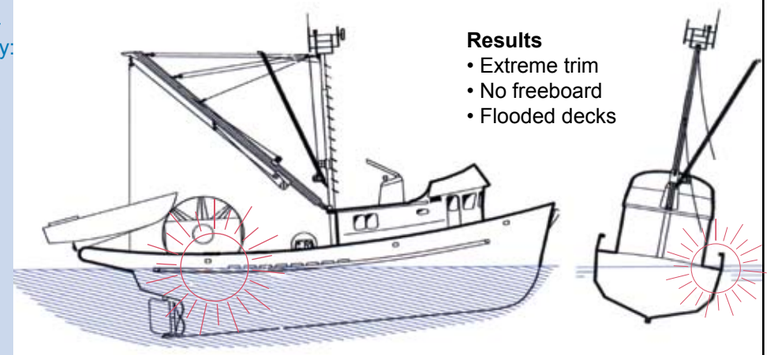
Seiner: Righting Energy Diagram



Modified Seiner

The following are typical of modifications and additions that affect stability:

- Larger seine drum
- Heavier seine net
- Raised drum to provide more deck clearance
- Larger seine winch
- Extended stern ramp
- Holds converted from dry to wet stowage
- Outfitting weights added high on mast or superstructure
- Shifting from dead skiff to power skiff



Results
- Extreme trim
- No freeboard
- Flooded decks

If you have questions on workplace safety, call the WorkSafeBC Prevention Line at 604 276-3100 in the Lower Mainland, or toll free 1 888 621 SAFE (7233) for the rest of B.C., or visit www.WorkSafeBC.com for health and safety information.

WORK SAFE BC
WORKING TO MAKE A DIFFERENCE

Instruct all crew members in vessel characteristics — including stability.

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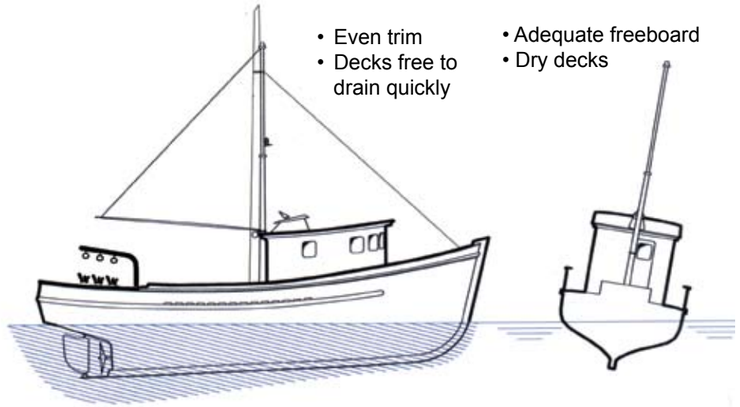
How stable is your vessel when you modify it for another fishery?

Designed as a Troller and Modified for Trap Fishing

As Designed Troller

The AS DESIGNED TROLLER meets Transport Canada STAB 4 requirements with some margin of safety.

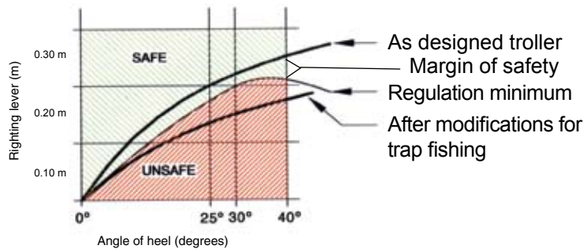
The TROLLER MODIFIED FOR TRAP FISHING does not (see picture at bottom).



Margin of Safety

The troller modified for trap fishing does not have enough righting energy, and the vessel is unsafe. Can you *really* feel how much righting energy is left?

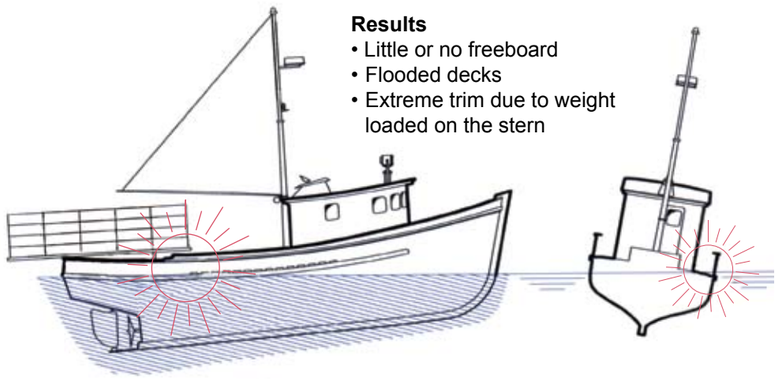
Vessel: Righting Energy Diagram



Troller Modified for Trap Fishing

The following are typical of modifications and additions that affect stability:

- New platform on deck for traps
- Live tanks added
- Full load of traps on deck
- Outfitting weights added high on mast or superstructure

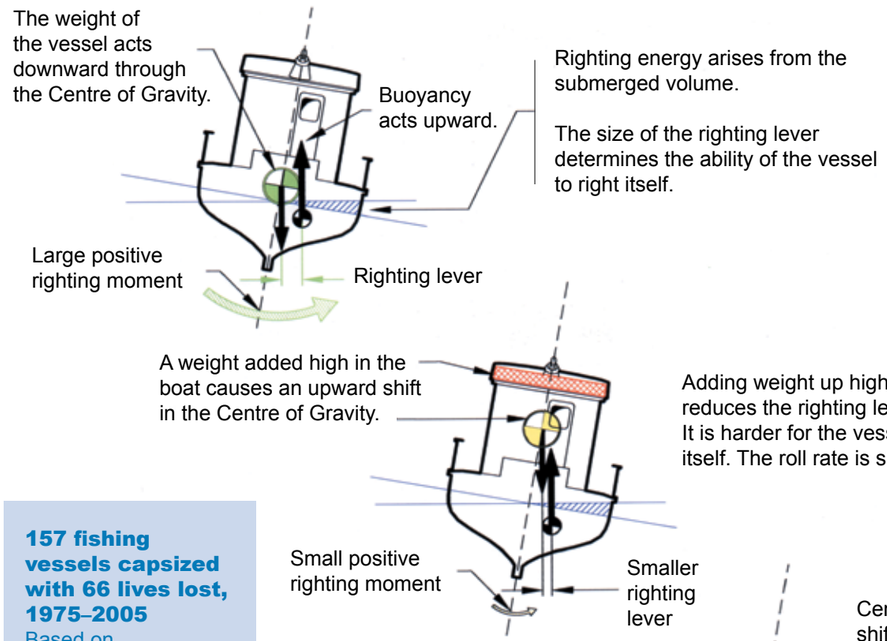


Instruct all crew members in vessel characteristics — including stability.

Why do weight changes make your vessel unstable?

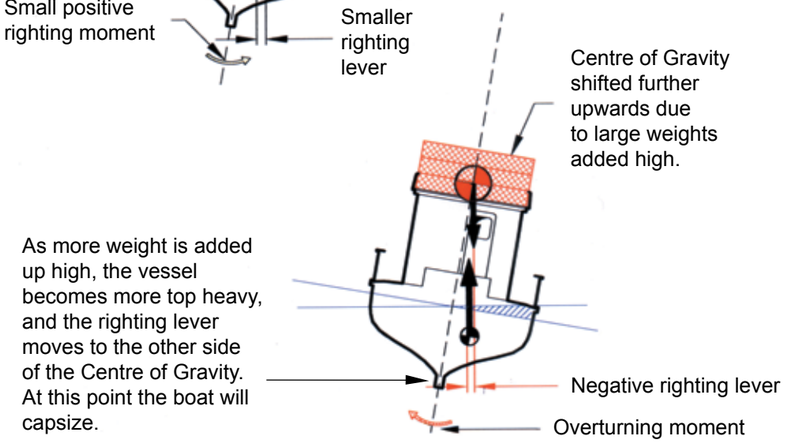
Can you *really* feel how added or redistributed weight affects your boat's stability?

- **A slow roll may feel comfortable, but this may not reflect a safe level of stability.**
- **Combined with a full cargo load, the added effects of wind, waves, current, and your boat speed may result in a no-return point being reached suddenly and without warning.**
- **Learn to recognize how your boat reacts to various loads, and be alert to any changes in this behaviour.**



157 fishing vessels capsized with 66 lives lost, 1975–2005

Based on Transportation Safety Board statistics; includes fishing vessels, skiffs, and open boats.



How stable is your vessel? Check with a qualified naval architect.