Safe Passage Planning – Risk Assessment James Ng



Introduction

Former Naval Officer | Marine Pilot
 | Certified PPCDL Instructor | Avid
 Boater

"A well-planned passage is not just a route on a chart – it's a mindset that anticipates danger, manages uncertainty and ensures that safety leads every decision."



- Safety First lives depend on it
- Risk assessment helps identify potential hazards before they become real dangers. Whether it's unexpected weather, mechanical failure, or a crowded traffic separation scheme, foreseeing risks can prevent accidents and save lives.



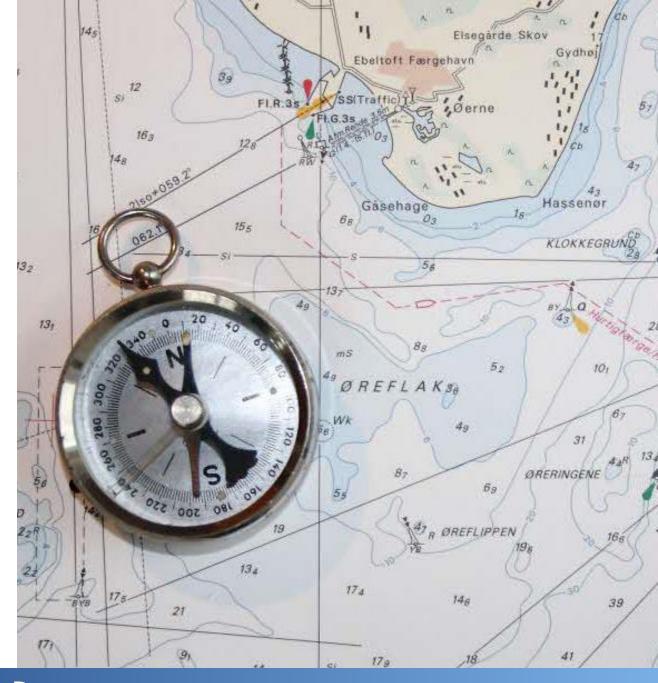
- The sea is unforgiving
- Unlike land-based travel, the sea offers little room for error. A small oversight can escalate into a major incident – grounding, collision, or loss of propulsion – often far from help. Risk assessment builds a buffer between you and disaster.



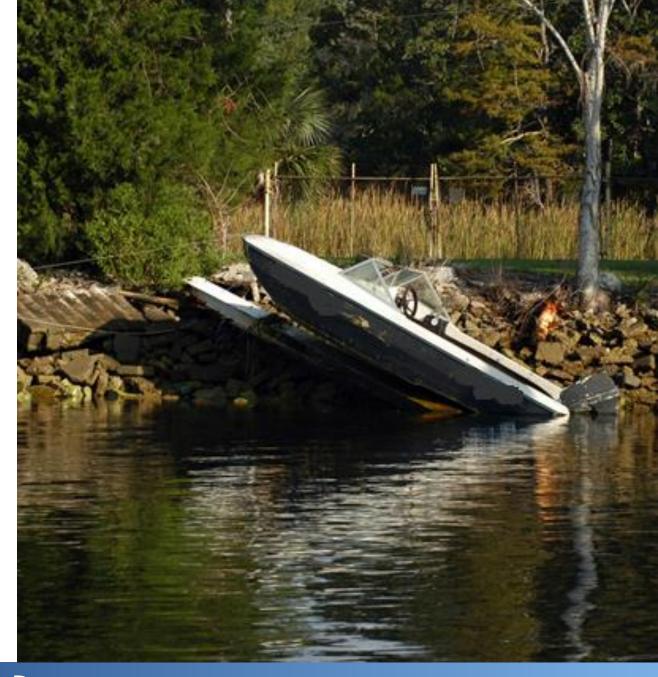
- Supports better decision-making
- By evaluating risks, skippers make informed choices:
 - Should we delay departure due to approaching squalls?
 - Is this narrow channel too risky at low tide?
 - Do we have a plan if the autopilot fails?
- It moves decision-making from guesswork to judgment.



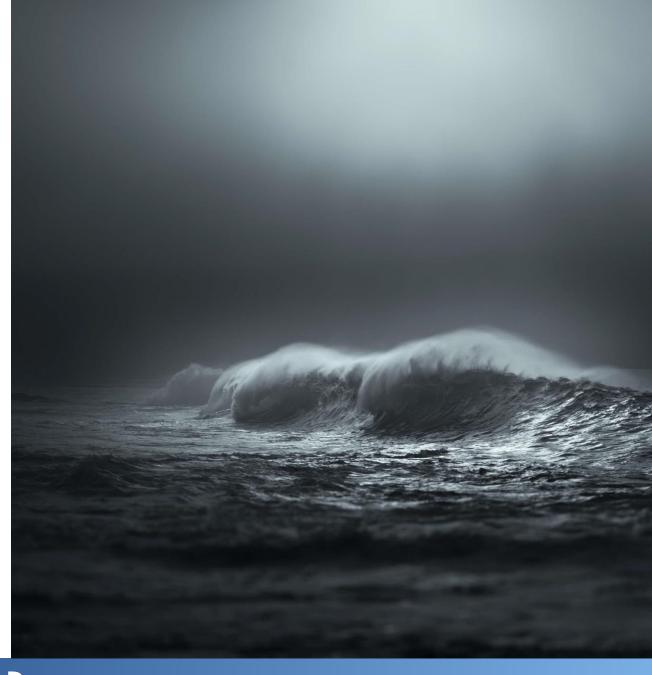
- Enhances situational awareness
- Doing a proper assessment forces you to:
 - Look at charts in detail
 - Review equipment condition
 - Think through "what if" scenarios as this prepares your mind for the voyage ahead.



- Reduces the likelihood of incidents
- Most maritime accidents stem from human error. Risk assessment is a mental safety net that helps prevent:
 - Navigational mistakes
 - Overconfidence in marginal weather
 - Underestimating fatigue or inexperience



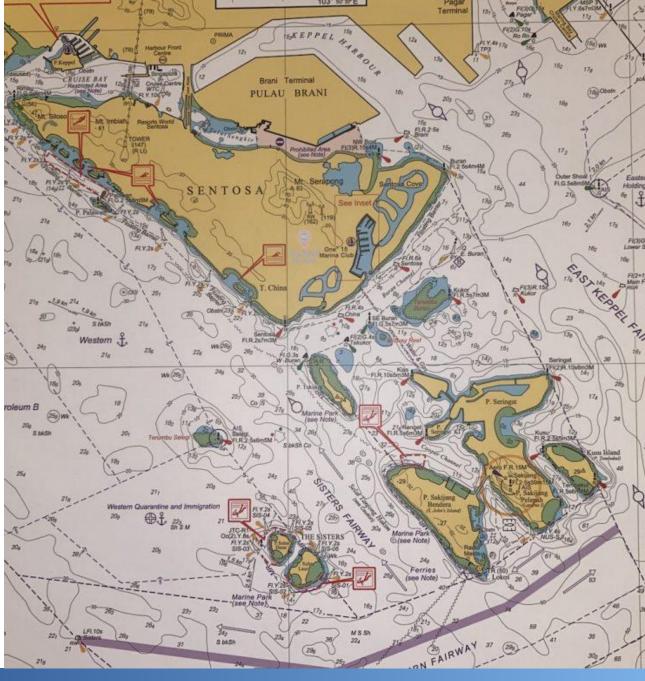
- You can't control the sea But you can control how prepared you are
- You can't stop a squall, but you can:
 - Know where to seek shelter
 - Ensure the bilge pump works
 - Brief your crew
- That's risk assessment in action



- Weather-related risks
- Sudden storms, squalls, or high winds
- Poor visibility due to fog or heavy rain
- Inaccurate interpretation of forecasts
- Mitigation: Check multiple weather sources, understand local patterns, and plan safe shelter options.



- Navigational Hazards
- Grounding on unmarked shoals or rocks
- Collisions in high-traffic areas or with floating debris
- Poorly maintained or missing navigation aids
- Mitigation: Use updated charts,
 GPS + visual checks, avoid night-time passage in unfamiliar waters.



- Mechanical & technical failures
- Engine breakdowns
- Steering or electrical system failure
- Dead batteries or fuel issues
- Mitigation: Pre-departure checks, carry spare parts/tools, routine maintenance, backup power.



- Human factors
- Fatigue or inexperience
- Poor communication or crew coordination
- Alcohol or complacency
- Mitigation: Assign roles, brief crew, stay alert, follow safety protocols, never operate impaired.



- Emergency preparedness gaps
- Missing or malfunctioning safety equipment (lifejackets, EPIRB, flares)
- Lack of VHF radio knowledge
- Mitigation: Carry all required safety gear, practice emergency drills.



- Overloading or improper loading
- Excessive passengers or gear
- Poor weight distribution affecting stability
- Mitigation: Respect the vessel's load limits, secure gear properly, avoid sudden weight shifts.



- Operating at night or in low visibility
- Difficulty seeing hazards or identifying other vessels
- Increased risk of disorientation or navigational error
- Mitigation: Use radar / lighting where appropriate, slow down, have a clear lookout, avoid if not necessary.



The risk assessment process

- "A simple method to think ahead, identify what could go wrong, and take steps to prevent or prepare for it."
- 5-step approach to make risk assessment approachable and effective



Identify the hazards

- Ask: What could go wrong? Look for anything that might cause harm or lead to an incident:
 - Bad weather
 - Shallow waters
 - Equipment failure
 - Fatigued crew
 - High-traffic zones
- Tip: Walk through the planned route and think through each phase departure, transit, arrival.



Assess the risks

- Ask: How likely is it to happen and how serious would it be?
- Use a simple risk matrix (Probability vs Impact):
 - Low: Unlikely and minor consequence
 - Medium: Possible and moderate consequence
 - High: Likely or serious consequence
- Focus on high and medium risks these need action.

Probability

	Low 1	Medium 2	High 3
Low 1	1		3
Medium 2			6
High 3		6	9

Decide on control measures

- Ask: What can I do to reduce the risk?
- Examples:
 - Avoid sailing during approaching storms
 - Carry spare fuel and tools
 - Brief the crew on roles
 - Set clear waypoints to avoid hazards
- This is where preparation and good seamanship make all the difference.



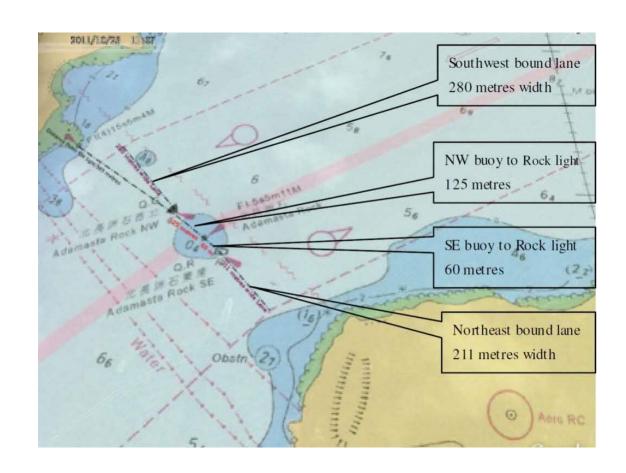
Record and communicate the plan

- Note down your plan (especially for longer passages)
- Brief your crew (even for small boats)
- Let someone ashore know your voyage plan
- Communication is part of the safety plan – don't skip it.



Review and adapt during the voyage

- Risk assessment doesn't end when you cast off
- Monitor weather and traffic
- Stay alert for equipment or crew issues
- Be ready to change course or abort the trip if conditions worsen
- A good skipper adapts risk awareness is continuous.



Passage Planning Fundamentals (APPROACH)

A: Assemble Information

P: Prepare Route

P: Provisions and Fuel Check

R: Risk Assessment

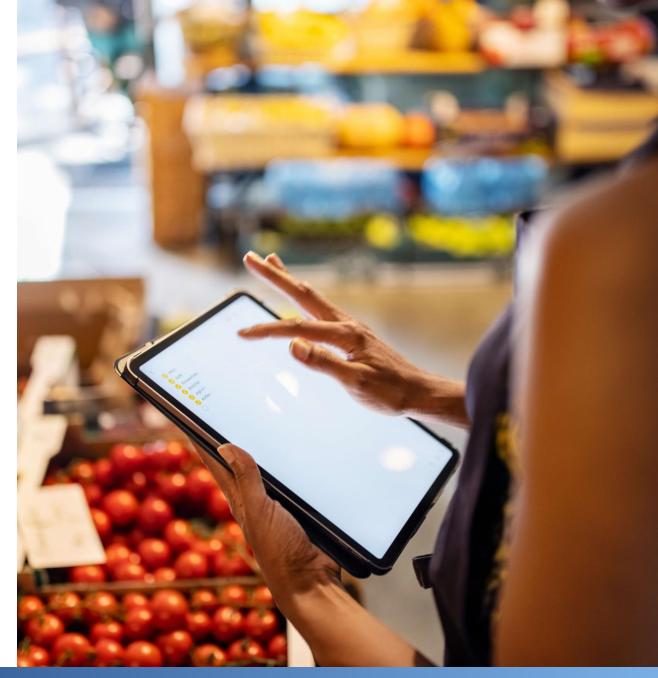
O: Observe Rules

A: Alternatives & Emergency Plans

C: Checklists

H: Human Factors

"Risk assessment is not paperwork – it's mindset, awareness, and preparation that keeps you and your crew safe."



Loss Prevention publications

- Risk Watch (Operational)
- Crew Watch
- Loss Prevention guidance, updates, circulars, insights, posters

- https://britanniapandi.com/knowledge/
- https://britanniapandi.com/publications/



BRITANNIA P&I CLUB TRUSTED SINCE 1855







X: @britanniapandi | Instagram: @britanniapandi

LinkedIn: https://www.linkedin.com/company/britannia-p-i-club/