Risk Calculation Worksheet – Calculating Risk Using The GAR Model

(Green-Amber-Red)

To compute the total level of risk for each hazard identified below, each crew member assigns a risk code of 0 (For no risk) through 10 (For maximum risk) to each of the 6 elements bolded below.

The Coxswain will go through each of the 6 elements with the crew before departing on the vessel. By using fingers, each crew will identify their personal risk number for each of these elements. The highest score given by any crew member will be the risk number for that element.

By adding the risk score numbers together, the sum becomes the "Total Risk Score" and can be matched with the GAR Evaluation Scale below.

SUPERVISION:

Supervisory Control considers how qualified the Coxswain is and whether effective supervision is/will be taking place. Even if a Coxswain is qualified to perform the task, supervision acts as a control to minimize the risk. This may simply be the Coxswain checking what is being done to ensure it is being done correctly. The higher the risk, the more the Coxswain need to be focused on observing the crew and checking. A Coxswain who is actively involved in a task (doing something) is easily distracted and should not be considered an effective safety observer in moderate to high-risk conditions.

PLANNING:

Planning and preparation should consider how much information you have regarding the on-water activity. How clear are the directives? How much time have you had to plan the evolution or evaluate the task at hand?

CREW SELECTION:

Crew Selection should consider the qualifications and experience level of the crew being used for this specific on-water activity.

CREW FITNESS:

Crew Fitness should consider the physical and mental state of the crew. This is a function of the amount and quality of rest a crew member has had. Is the member tired? Are they fatigued from work, family or life style events? Fatigue normally because a factor after 18 hours of without rest; however, lack of quality sleep builds a deficit that worsens the effects of fatigue.

ENVIRONMENT:

Environment should consider factors affecting personnel performance as well as the performance of the vessel. This includes, but is not limited to, time of day, temperature, humidity, precipitation, fog, wind and sea conditions, proximity of hazards to navigation and other possible exposures (e.g. chemicals, smoke, fire, toxicity, or possible injury to crew members)

EVENT/ACTIVITY:

Event or Activity complexity should consider both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater are the risks. However, each circumstance is unique. For example, more iterations of an evolution can increase the opportunity for a loss to occur, but may have the positive effect of improving the proficiency of the team, thus possibly decreasing the chance of error. This would depend upon the experience level of the team. The situation includes considering how long the environmental conditions will remain stable and the complexity of the work.

Assign a risk code of 0 (For no risk) through 10 (For maximum risk) to each of the 6 elements below.

SUPERVISION: _____

PLANNING: _____

CREW SELECTION: _____

CREW FITNESS: _____

ENVIRONMENT: _____

EVENT/ACTIVITY: _____

TOTAL RISK SCORE: _____

The mission risk can be visualized using the colours of the traffic light. If the total risk value falls in the GREEN ZONE (0-23), the risk is rated as low. If the total risk value falls in the AMBER ZONE (22-44), risk is moderate and you should consider adopting procedures to minimize the risk. If the total value falls in the RED ZONE (45-60), you should implement measures to reduce the risk prior to starting the on-water activity or DO NOT GET UNDERWAY.

0-23 Score GREEN ZONE (Low Risk)	24-44 Score AMBER ZONE (Caution)	45-60 Score HIGH RISK (High Risk)

The total is not the important part of risk assessment. What is critical to this step is team discussions leading to an understanding of the risks and how they will be managed.