



Mental Health and Wellbeing at Sea Strategy

Background

CSIRO Marine National Facility (MNF)

The CSIRO Marine National Facility (MNF) provides a keystone element of the nation's research infrastructure by providing the only dedicated blue-water research capability available to Australian marine researchers and their international collaborators for work in Australia's vast marine estate.

The MNF has been funded by the Australian Government since 1984 and is operated by CSIRO, Australia's national science agency, under direction of an independent Steering Committee. Access to MNF infrastructure is provided through an independent and peer reviewed [applications process](#) focussed on scientific and/or technical excellence, the potential to contribute to Australia's National Benefit and the capability of the research facility.

The MNF comprises:

- an ocean class research vessel (RV) *Investigator*, Australia's only dedicated blue water research vessel and mobile atmospheric platform operating across our vast marine estate and beyond
- a suite of scientific equipment and instrumentation
- publicly accessible large-scale integrated datasets, some collected for over 40 years, that contribute to continental-scale observations, and improved accuracy of remote sensing and Australia's shore-based weather radar network
- operational, technical and policy expertise required to manage an ocean-going research platform and support vessel users
- an independent Steering Committee and Advisory Committees to oversee the fully funded grants of sea time onboard RV *Investigator*.

The following table illustrates the key teams that you may work with, or alongside, throughout voyage planning as well as during the voyage. These teams will be a significant part of your experience both pre, onboard and post voyage. It is important to take time to understand the teams and their roles to ensure you get the most out of your time onboard RV *Investigator*.

Knowing who to turn to for assistance, will help reduce stressors around planning processes and the voyage itself.

ONSHORE VOYAGE SUPPORT TEAM			
<p><u>Voyage Delivery Coordinator (VDC)</u></p> <p>The VDC is CSIRO's on shore representative and plays a critical function in the delivery of research voyages. They work collaboratively to safely and effectively plan and support the voyage's objectives from onshore support for the Voyage Manager.</p> <p>This role is incredibly complex spanning the voyage planning management from planning commencement to completion of the voyage. To ensure SMP are continually providing efficient and effective voyage management.</p>		<p><u>MNF HSE (Health, Safety, and the Environment) Voyage Support</u></p> <p>MNF HSE Support are allocated to each voyage, as with the VDC the HSE Support will be the HSE point of contact through the voyage planning process all the way through to completion of the voyage.</p> <p>They support both health and safety as well as wellbeing. The HSE Team will provide information and training to ensure the science party understand all safety requirements as well as understand all supports and tools available to assist with your health and wellbeing throughout the voyage.</p>	
ON BOARD MANAGEMENT TEAM	CSIRO SCIENCE OPERATIONS SUPPORT	VESSEL OPERATIONS	SCIENCE PARTY
<p>CSIRO Voyage Manager (VM)</p> <p>Chief Scientist (CS)</p> <p>Vessel Master (Master)</p>	<p>Leader: VM</p> <p>MNF Technical Support Team</p>	<p>Leader: Master</p> <p>MMA Crew</p>	<p>Leader: CS</p> <p>Science Party</p> <p>Principle Investigators (PI)</p>
<p>These three positions make up the onboard management team.</p> <p><u>VM</u></p> <p>The Voyage Manager (VM) is CSIRO's onboard representative and plays a critical function in the delivery of research voyages. They work collaboratively to safely and effectively deliver the voyage's objectives and ensure the safety and wellbeing of science and support staff onboard.</p> <p>This role is incredibly complex with duty-of-care responsibilities across multiple stakeholders and involves the efficient delivery of multi-million-dollar voyages in extremely challenging environments.</p> <p><u>CS</u></p> <p>The Chief Scientist (CS) is responsible for the science program detailed in the Voyage Plan. The CS will coordinate the science party to ensure their safety and wellbeing. The CS will also work with the VM and Master to safely plan the science operations each day of the voyage.</p> <p><u>Master</u></p> <p>The Master is responsibility for the safety of all</p>	<p>The CSIRO Science Operations Support Team designs, maintains, and operates the MNF owned science equipment onboard. This team is responsible for the following equipment services while onboard:</p> <p>Seagoing Instrumentation (SIT)</p> <p>The electronics team keep all science systems operating. Priority is to keep MNF equipment operational.</p> <p>Data Acquisition and Processing (DAP)</p> <p>Manage and provide general support for the onboard IT & communication systems.</p> <p>Assisting scientists and crew with general issues.</p> <p>Managing the ship's data acquisition systems and the data management for onboard science equipment</p> <p>Geophysical, Surveying and Mapping (GSM)</p> <p>Operate the acoustic and geophysical instruments onboard (multibeam echosounders, single beam/fisheries echosounders, gravity meter, sub-bottom profiler, XBTs).</p> <p>Provide geographical support for voyage execution.</p> <p>Hydrochemistry</p> <p>Specialise in sampling and</p>	<p>The vessel crew is made up of several departments and assist with operating the vessel.</p> <p>Bridge Officers</p> <p>The Bridge Officers are the senior crew. Stationed on the bridge to support the Master in fulfilling their responsibilities.</p> <p>Engineering Crew</p> <p>The Engineering Crew are charged with the responsibility to keep the ships systems functioning and maintained. The Engineering Crew will work with the onboard management team to co-ordinate the vessel operation to support the science objectives.</p> <p>Deck Crew</p> <p>The Deck Crew report to the Bosun. They is responsible for maintaining the ship and managing the deck operations. The Deck Crew is responsible for onboard deployments and managing the operation of the onboard auxiliary equipment (i.e. – winches, cranes etc).</p> <p>Cooks/ Caterers</p> <p>The Interior Team is responsible for maintaining the accommodation areas onboard. This team includes the galley team and the stewards who maintain stores, cooking, shared accommodation spaces, laundry, cleaning and hygiene standards.</p>	<p>The Science Party is made up of scientists and students from science organisations nationally and internationally.</p> <p>Principle Investigators (PI)</p> <p>The PIs are the voyages senior project leaders who are responsible for delivering the voyage science objectives. This may be within the voyage's primary project or be a separate project (either Supplementary or Piggyback Project).</p> <p>Scientist/ Students</p> <p>This makes up the majority of the science party. This position supports the science objectives, assisting in sampling, identification, and carrying out any aspects of the science detailed in the Voyage Plan.</p>

<p>personnel, equipment onboard and the integrity of the vessel. The Master will manage the crew and work with the onboard management team to co-ordinate the vessel operations to support the science objectives.</p>	<p>measurements from the CTD Niskin bottles for nutrients and samples collected from the underway water intake and experiments.</p> <p>Field Operations (FO)</p> <p>Field Operations manage the blue-water science equipment that typically is industrial in size and mechanical, deployed off the deck via machinery and technical in the execution of these methodologies.</p>		
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Mental Health at Sea

The MNF recognises a healthy working environment is one with not only an absence of harmful conditions, but also with an abundance of health promoting conditions. To achieve this, the MNF collaborates with CSIRO’s Employee Assistance Program (EAP) and the medical services provided by Aspen Medical, such as Telemedicine, to deliver a healthy working environment on all MNF voyages.

CSIRO has engaged Converge International as their EAP provider. Converge International also offers ship-specific confidential counselling, coaching and support for workplace and personal issues at sea.

Aspen Medical has been contracted to provide a range of medical services on board RV *Investigator*. On predetermined voyages, a specialised medical clinician will accompany the voyage providing medical services including the management of RV *Investigator*’s medical facility equipped with a surgical suite and 24/7 link to a telemedicine capability. In addition, the Ship Management Contractor have trained maritime crew, who hold the role of medical officer to assist with medical treatment and compliment the above capabilities.

Together with this support, the MNF is proactively tackling the challenges associated with mental health and wellbeing at sea and will seek to cultivate an environment on board RV *Investigator* that delivers a positive and productive working environment.

Purpose and scope of this strategy

Building on existing CSIRO policies this strategy aims to support the positive management of mental health and wellbeing at sea. The strategy primarily targets scientific voyage participants, who typically include project specific scientific and technical personnel from a range of Australian or international research organisations, as well as CSIRO technical staff who manage MNF scientific equipment and data acquisition on RV *Investigator*. This strategy also targets the families and friends of scientific voyage participants, as they play a key role with the voyage participant before, during and after the voyage.

Other than scientific voyage participants, the professional marine crew that operate and maintain RV *Investigator* are also part of the larger voyage team and contribute significantly to the working

environment onboard. Marine crew are contracted to RV *Investigator* and are supported by their parent organisation's policies and programs, including those in support of mental health and wellbeing, which complement the MNF approach. Marine crew are therefore not specifically covered by this strategy.

MNF Mental Health and Wellbeing at Sea Strategy

The MNF acknowledges that successful voyages on RV *Investigator* depend on the wellbeing of voyage participants. Strategic actions to maintain positive mental health and wellbeing are therefore outlined across the following three stages:

- pre-voyage planning and preparation
- onboard RV *Investigator* at sea
- post-voyage transition back to family, colleagues and friends.

Pre-voyage

The decision to commit to a voyage should not be taken lightly and it is essential that voyage participants are thoroughly prepared for their time at sea. Life onboard an ocean-going vessel can be challenging on many fronts:

Isolation: Being away from your support network.

Communication: Whilst there are several ways you can communicate with your loved ones, there are risks that communication channels may not always be available or in the form you are used to.

Stress: There are many things that can impact the capacity to complete science including weather, and equipment issues placing significant stress on participants to deliver the science objectives.

Fatigue: The ship operates 24 hours a day and as such the team is split into two 12-hour shifts. Shiftwork for extended periods of time means that fatigue is inevitable and can be further exacerbated by length of the voyage.

Moving Platform: Most people will experience extreme ocean conditions, which will likely result in periods of seasickness and down time for the science operations.

Relationships: Whilst onboard the workplace and accommodation space will be shared with many people from different backgrounds with varying levels of experience onboard a research vessel. This will provide a great strength but also great challenges within and between teams. Living and working so close with and people away from support networks will test everyone at some point.

MNF Health and Wellbeing at Sea eLearning Module

Three months prior to an RV *Investigator* voyage, participants are required to complete and return mandatory pre-voyage documentation to the MNF VDC. This process provides important safety information including a medical assessment, medical declaration, emergency contact details and a behavioural commitment to the voyage. This is also the time to provide the VDC with any special dietary requirements which can be accommodated at sea to enhance life at sea.

The *MNF Health and Wellbeing at Sea* eLearning Module, is part of the pre-voyage requirements for the voyage team. The Module has been designed for both the voyage participant and for their nominated onshore personal contact (partner, family member or friend).

The eLearning Module provides contact details for MNF onshore support available to the family of voyage participants. These modules provide an insight into life at sea, for all participants and their families to proactively commit to mental health and wellbeing at sea for the duration of the voyage and the various ways to seek assistance as required.

During this pre-voyage period, participants are able discuss the voyage with the Chief Scientist and VDC and raise any concerns in relation to any aspect of the voyage and provides an opportunity for participants to make the VDC aware of any religious or cultural considerations, that may require additional consideration in the voyage planning.

Wellbeing Hub

In the pre-voyage period, all voyage participants will be provided with access to this *Wellbeing Strategy*, and additional resources through the online *Wellbeing Hub*, this hub is centred around the 7 pillars of Mental Health and wellbeing:

Emotional: This is how we feel within our bodies.

Mental: This is how our brains function and think.

Physical: Immunity and bodily health resulting from nutrition, exercise and other factors.

Spiritual: This is how we see our purpose and reason for being.

Social: This is how we exist within the community, with family and at the workplace.

Self: This is related to self-esteem. It is how we see ourselves and affects how others see us.

Love, Relationships and Sexuality: This is how we interact with ourselves and others at an intimate level.

Along with the 7 Pillars, there is a Wellbeing Survey. The intention of this short survey is a self-assessment tool to provide a snapshot of one's current health and wellbeing levels and is completed at the beginning, middle and end of each voyage. It. With ongoing education and positive actions towards optimal wellbeing, the concept is to sustain or increase these levels during the time at sea.

Based on the results of the Wellbeing Survey, the person completing the survey will be guided to participate in wellbeing workshops, classes and activities that are in alignment with their values and survey results. The voyage team can either participate in these workshops, sessions and activities in small groups, or individually. The team bonding activities are designed to be done in a group setting.

Fatigue Management

Fatigue is recognised as a significant risk to all personnel working shift work and increasingly so, for personnel working at sea, with difficult weather conditions, changes in sleep patterns and the impact of sea sickness; those onboard RV *Investigator* will be working with all these challenges. Considering this, the MNF has put together a fatigue awareness toolkit made up of several different items to assist with managing fatigue whilst onboard. There are some resources that

can be used in isolation or with other resources, which are designed to support fatigue management throughout the voyage.

The fatigue toolkit contains:

Eye mask: Sleep is a big contributing factor in a person's level of fatigue. The average adult needs approximately 6 hours of good sleep each night to ensure fatigue remains at bay, although this may vary from person to person. The eye mask aims to assist with personnel whose sleep may be impacted by unfamiliar lighting and surroundings.

Ear plugs: As above, a lack of sleep is one of the main contributing factors to fatigue. Earplugs have been included in the toolkit to assist personnel whose sleep may be impacted by unfamiliar surroundings and sounds from the adjoining hallways etc.

Drink bottle: Dehydration can contribute to fatigue, which is an aspect that is easily managed. Whether working outside or working at a desk, the body needs water to work well and keep cool. If you are thirsty, you are already dehydrated. It is important to drink water throughout the day, so your urine stays light in colour. A loss of just 1–2% of body weight as water is enough to cause body systems to slow down, causing a person to feel sluggish, tired and irritable.

Fatigue risk assessment: The Fatigue Risk Assessment Tool is included in the kit as a personal way of gauging how you are rating on a very basic fatigue risk assessment. The tool provides some controls if a score of moderate or high (orange or red) is scored on the fatigue rating scale. Where this is the case, onboard management should be alerted to ensure works are planned to take this fatigue risk into consideration.

Sleep / sunrise alarm clocks: The toolkit also provides instructions on how to utilise the sleep lamps provided in each cabin. People are sensitive to light levels and produce the hormone associated with sleep, melatonin, as it becomes dark. It's only recently been established that there are photosensitive cells in the eye that initiate this crucial process. Exposure to blue light or light of high colour temperature interferes with this natural response and keeps people from getting enough sleep. Similarly, people who get very little exposure to natural daylight have their circadian rhythms disturbed. Many sleep experts recommend that you avoid using devices that emit cool light in the hours before bed. The sleep lights will assist in providing the eyes the appropriate lighting (outside of 'natural' hours) to prepare the body for sleep.

In addition to these items, a mandatory fatigue risk management training module is provided to all voyage personnel in the lead up to the voyage. The Voyage Manager (VM) is available to discuss any issues that may arise regarding fatigue.

During Voyage

Employee Assistance Program

The Employee Assistance Program (EAP) is a free, confidential, independent, and professional support service that is available to all CSIRO staff and affiliates. They are available 24/7, 365 days a year and is a wholly Australian owned company, is focussed on holistic wellbeing, who employ a range of experienced professionals, mainly psychologists. It provides short term assistance for a range of work related and personal issues that may impact your performance at work or your overall wellbeing.

This service extends to non-CSIRO voyage participants and provides an avenue to chat confidentially with an experienced professional on any issue or concern they may have.

The MNF has developed a tool to assist with operational planning to reduce the impact of fatigue. This fatigue planning tool has been developed to align with industry and legislative standards for managing fatigue.

Wellbeing Hub

Whilst the Wellbeing Hub access is provided pre-voyage, the Hub will provide access to key resources that will assist you in managing your health and wellbeing throughout the voyage.

The Wellbeing Survey should be utilised throughout the voyage, as the results may vary depending on where you are in the voyage and how your mental health and wellbeing is impacted by life at sea. You are encouraged to complete the survey at the beginning, middle and end of the voyage. It. With ongoing education and positive actions towards optimal wellbeing, the concept is to sustain or increase these levels during the time at sea.

The Wellbeing Hub has resources and activities that can be completed individually, but also features several fun group activities. The VM assists in this by encouraging positive and healthy interaction amongst scientific party and marine crew, this may include weekly games and movie nights, science and photography presentations, footy tipping and pedometer stepping competitions.

Fatigue Planning Tool

The fatigue planning tool was developed by using legislative metrics around break requirements and optimal working conditions, which you will find detailed within the spreadsheet. Whilst the tool provides guidance on what the 'optimal working day' looks like, it has formulas that will generate a risk rating based on hours of work and rest for each day, allowing a team to forecast fatigue and 'plan' it out. A team may not be able to eliminate fatigue, but they will understand where the team may be most vulnerable and plan additional breaks etc. into the work week.

This planning tool is an effective way of illustrating what success may look like for you or your team and work within the predetermined controls. Everyone is different, however, and tolerances may vary, so this tool should be used in conjunction with a fatigue self-assessment tool.

Working with Fatigue

As noted above, given the challenges of working onboard RV *Investigator*, the science team will be working with fatigue. Team leaders and management have significant influence on how fatigue is perceived and in the development of a safe workplace to speak up if fatigue is impacting individuals or groups onboard. All personnel do have a responsibility to manage their own fatigue and must utilise all resources and processes to identify and manage fatigue. The below points provide general guidance to help manage fatigue within teams.

Work Design

- Monitor hours of work
- Ensure the activities planned have sufficient resources to complete the task safely. If not, possible science activities may need to be reduced to a safe level (This is considered and finalised in the planning phase).

- Limit use of standby and on-call duties.
- Ensure work demands gradually increase towards the middle of the shift and decrease towards the end.
- Avoid safety-critical tasks early in the morning and late at night (Which is the start and end times of the onboard shifts).
- Plan working day to allow for sufficient meal break and workplace breaks.
- Reduce the amount of time workers need to spend performing sustained physically and mentally demanding work.
- Allow workers to reassess tasks if fatigue becomes a problem, the onboard work plan is defined, however there is flexibility to ensure personnel can complete the task safely.

Work Behaviours

- Promote regular breaks.
- Where working during periods of extreme temperatures cannot be avoided, ensure sufficient breaks.
- Control exposure to hazardous substances and environments.
- Redesign jobs to eliminate tedious, repetitive tasks or rotate those tasks within work team.
- Improve communication.
- Use alarms and monitors, particularly for solo work.
- Use plant, machinery and equipment to eliminate or reduce the excessive physical demands of the job.

Health Support Cabins

RV *Investigator* also has Health Support Cabins available as part of our onboard fatigue management framework. These cabins can be booked via an onboard booking system for periods when participants need to have a sleep or refresh during shift and cannot return to their cabin due to cabin sharing arrangements. These cabins are available throughout the voyage and the VM will brief all participants on how to book and use these spaces once onboard.

Onboard Management Daily Meeting

The Voyage Manager, Chief Scientist, Master and other relevant senior parties meet daily to discuss the operational plan for the following 24 (or more) hours. These daily meetings, conducted on the Bridge, provide an opportunity for the management team to monitor health and wellbeing and address any operational stressors or emerging issues. During this discussion the management team should consider the following, noting there may be other points that arise:

- If there is a need to exceed the 12-hour shift for any planned operation.
- The fatigue levels of the team (has anyone reported fatigue to the management team?).
- If the current operational plan is impeding on people's ability to have sufficient breaks throughout their shifts.
- Recent weather or operations that may have had a cumulative impact on fatigue.

If any issues are raised, the onboard management team will implement operational changes to address areas of concern.

Health and Wellbeing Incidents

Any health and wellbeing incidents that arise during the voyage will be confidentially addressed by the onboard management team, who are responsible for the safety of all on board. An example of a health and wellbeing incident may occur when a person is unable to work due to impact to their wellbeing by another person's actions or the workplace (i.e. heightened stress, anxiety, bullying etc). The VM will communicate the issue with the shoreside team through the confidential communication channels. Depending on the severity, the onboard management team will take appropriate action in consultation with onshore support in alignment with *CSIRO RV Investigator Emergency Response Plan*.

Participants have the option to discuss concerns with the CS, VM, Ship's Medical Officer (or a clinician when they are onboard) or a trusted colleague. If medical intervention is required, this can be provided via telemedicine or EAP services. If medical treatment is provided, it is given aligning with CSIRO privacy requirements. Whilst the clinician is required to report this to the Master, who will report to MNF in alignment with the *CSIRO RV Investigator Incident, Hazard, Near Miss Reporting Process*, all health and wellbeing incidents will be handled confidentially.

Post voyage

The transition back into domestic and professional life, particularly following a long voyage, can be a difficult one. Being away from loved ones and close colleagues for extended periods can be difficult and participants may have enjoyed or endured experiences at sea which they find difficult to relate with family and friends onshore. During an extended absence, participants may have developed high expectations around their return home and become disappointed or depressed with the reality of life back on shore.

Families and partners at home will be looking for assistance with the many issues of modern life, which can feel overwhelming for a voyage participant after a long absence in the relatively isolated social environment on *RV Investigator*. This is commonly known as 'post-voyage blues' among experienced seagoing personnel.

Wellbeing Hub

The Wellbeing Hub provides a Returning Home module with some consideration for that next phase of the voyage. The module covers off on:

- Understand the phases of reintegration.
- Understand the challenges faced when returning home after a long trip.
- Investigate strategies for promoting positive re-integration.

Employee Assistance Program (EAP)

To assist through this transitional process, voyage participants can reference the information made available through the eLearning module. If required, the EAP provider is available to provide professional support and counselling to assist participant's transition safely back into domestic and professional life.

Conclusion

Through a strategic approach to mental health and wellbeing at sea the MNF prepares scientific participants for voyages, provides monitoring and support during a voyage and assists with the science party's reintroduction back to life on shore. In doing so, the MNF delivers CSIRO's commitment towards a healthy, safe and productive working environment on RV *Investigator*.

To all voyage participants, safe travels and we wish you fair winds and following seas.

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