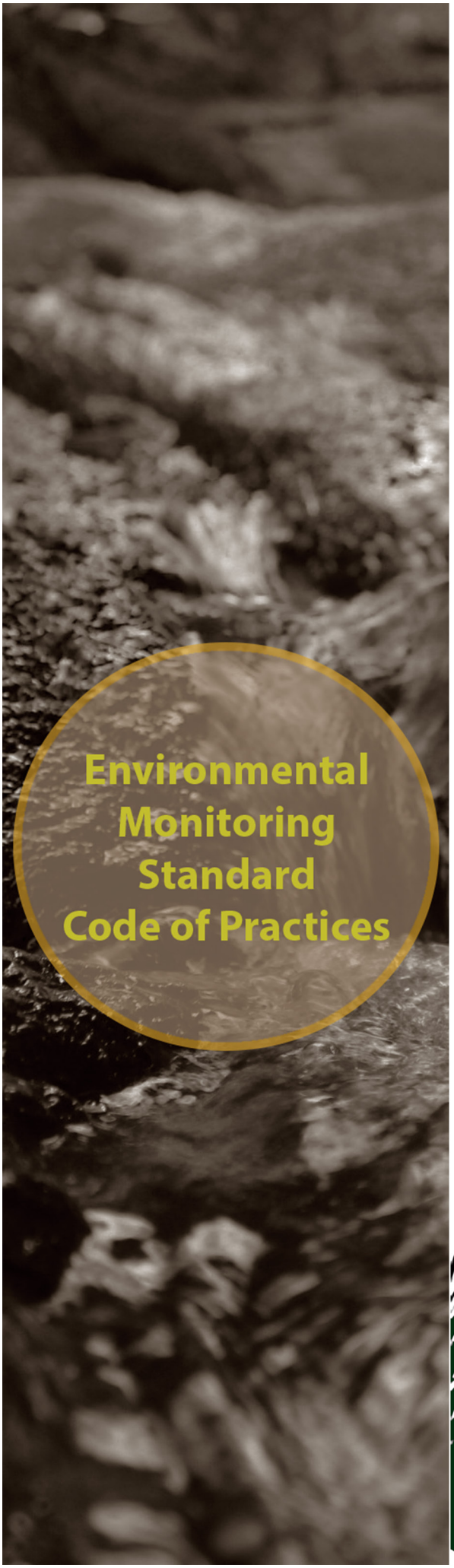


Environmental Monitoring Standard Code of Practices

Gaea
LIVE . LEARN . MAKE A DIFFERENCE

JRS Biodiversity Foundation

RIVER HEALTH AND SAFETY TRAINING MANUAL





Gaea Seychelles is a research and citizen science-based organisation launched in 2018. Its mission is to empower and mobilise actions by local actors to undertake impactful environmental community-based projects which create significant and sustained change for the betterment of people's lives and their environment.

Introduction

Gaea Seychelles has been awarded a project funded by the JRS Biodiversity Foundation to develop a freshwater biodiversity information system for long-term conservation and management in the Seychelles.

The project aims to achieve a comprehensive freshwater database to address conservation and management issues in Seychelles. It will notably target freshwater fish and aquatic invertebrates.

This project requires a health and safety protocol for research, citizen science and education outreach programmes.

Consequently, Gaea Seychelles has developed this code of best practices for health and safety procedures to minimise accidents and other potential dangers.

Purpose and objectives of the manual

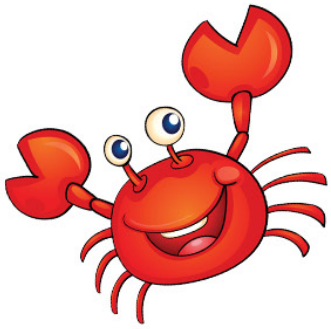
1. Mobilise, collate and contribute to aquatic biodiversity data to the local 'Bio Database' and global databases like GBIF.

2. Establish a long-term monitoring programme based on Fifteen rivers to monitor ecosystem changes mainly due to climate change.

3. Build the capacity and interest of local teams to advance the understanding of freshwater systems.

4. Conduct an outreach and citizen Science programme for different target groups to raise their awareness of the importance of freshwater ecosystems.

5. Conducting analyses of environmental samples in wetlands and rivers or handling aquatic specimens requires ensuring health and safety guidelines.





Fieldwork is research and educational activities outside the traditional classroom, lab setting, and discovery centres, but precautions must be taken to ensure a safe

Many of the procedures included in aquatic monitoring require specialised equipment, such as electro-fishing, and it is important to know how to use these equipment safely. Before collecting aquatic data, all investigators and users must familiarise themselves with the standard field research etiquette and safety procedures.

This manual provides helpful information regarding health and safety issues in the field and how they should be dealt with.

It is a general guide to assist researchers, students, volunteers, community members and others in fieldwork planning.

It is not intended to be all-inclusive, and individuals are encouraged to investigate further the specific hazards associated with their research or fieldwork.

Some essential tips:

• Planning for work in the field should include local emergency contact information, appropriate communication equipment (radio, cell, mobile phone), personal protective equipment, first aid supplies, transport and emergency kits.

• Training, standard operating procedures, insurance, permits and COVID-19 vaccination certificates should be obtained where required.

• A Field Research Plan containing all participants' names and emergency contact information must be supplied to a person outside of the field team who will communicate with the team and be responsible for acting on their behalf should an emergency arise.





RIVERS, STREAMS AND WADING SAFETY!

Working around waterways is one of the most potentially hazardous activities that researchers, scientists, students, and local people from the community will do, so health and safety hazards should be considered very seriously.

Hazardous rivers are found in the forests and mountains and in all the waterways in coastal lowlands and urban environments.



✔ **Drowning**



✔ **Slipping (losing footing and control).**



✔ **Polluted water.**



✔ **Caught by whirlpool currents**





✔ **Trapped in muddy areas.**



✔ **Hypothermia/malaria/cholera/ sunstroke/yellow fever.**

- **Stay calm.**
- **Most entrapments are only knee-depth.**
- **Avoid moving too much. Agitating the sand and mud can liquify it and cause further entrapment.**
- **Spread your weight by sitting down; this will stop you from sinking further.**



✔ **Researchers, scientists, students, and community residents must follow the Environment Field Safety Guide requirements for all fieldwork and other educational field activities. Health and safety instructions should always be a priority to inform participants before they start work and other activities under the Gaea / JRS project.**

Attention!

All participants should be registered and in good health condition.

Medical conditions like allergies, asthma, etc should be put to the attention of the Project Coordinator.

- Be able to swim or float.

Avoid working alone in the rivers and wetlands with muddy soil.

Always check the weather forcast.

Assess and identify hazards and manage them appropriately.

Not eat while working in the water because there might be harmful bacteria.

Always wash hands and use hand sanitisers at all times after all activities.

Use mosquito repellent and wear long sleeves.

Ensure that there are mobile phone networks on project sites.

Wear booties and waders that are one size bigger.

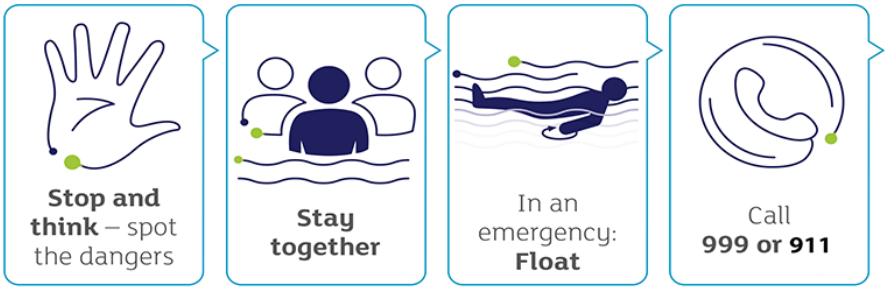
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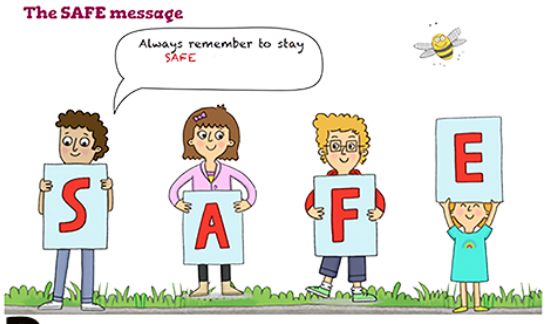
Water Safety Code



FIELDWORK CHOOSE THE SAFEST PLACE TO WORK.



You will first need to assess the river and decide on the safest place to undertake the activity.





POTENTIAL CHANGES IN WEATHER CONDITIONS

1. Be careful of changing conditions such as rainfall, hide tide, flooding and stream flows, mainly in coastal areas and in narrow valleys between hills or mountains, typically with steep rocky walls and a stream running through them and other highly confined flow channels.

2. Check weather reports and plan accordingly. Evacuate the project site if a sudden downpour occurs.



3. If you are working under a proximate reservoir and dam, check with Public Utilities (PUC) for the possibility of dam-controlled waters and obtain a schedule of spill times.



ASSESS THE RIVER'S SPEED: Ensure there are no fast currents and keep pace with them, walking along the bank. If this is more than a walking pace, entering the deep water is potentially dangerous. **DO NOT WORK IN HEAVY RAIN.**

ASSESS THE WATER DEPTH: Consider carefully entering the water above thigh depth. Consider the height of other members of your group. Do not enter turbulent water or areas where you cannot see the bottom.



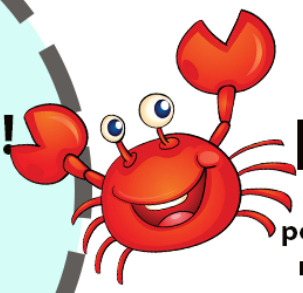
"If you find yourself in deeper water."

- Do not attempt to swim.
- Immediately tuck your knees up to your chest (this traps air into the waders) and roll onto your back.
- Either tread water or float in an upright position.
- You should be able to use a back-sculling action to return to shore.
- If being carried by the current, face downstream (feet first).



PREPARATION!







1. PHYSICAL ABILITY



Ensure you and your group have the knowledge, ability and strength to cope with the task and potential hazards. How well can you and your group members swim? Attending a river safety course is highly recommended.

2. CLOTHING



Wear warm, reasonably snug-fitting, and sensible outdoor clothing that does not restrict mobility. Wear shorts or tight-fitting longs – NO baggy trousers! Pack a towel and a warm, dry clothing. If appropriate, wear a wetsuit or waders.

3. FOOTWEAR



Wear sturdy footwear with thick, rugged grip soles, such as boots or comfortable sneakers. These should protect you from slippery surfaces and sharp objects and provide sturdy support for your feet and ankles—no bare feet or sandals.



4. RESCUE EQUIPMENT

Consider what kind of rescue equipment may be useful (e.g., rescue rope, rescue tube, etc).





WADER SAFETY - It is highly recommended that you try wearing a set of waders in a swimming pool and submerging yourself to test your ability to cope in an emergency.

Neoprene waders can be used for shallow-water activities. These waders are suitable for keeping you warm, dry and clean. However, they are bulky and can pose a hazard because some can become heavy if you fall into the water and fill your waders. This makes the risk of drowning much higher. Carry a pocket knife to punch hole in wader or cut the strap in case one falls into deep water to avoid drowning.



Wader rules

1. Waders are for shallow water work ONLY (up to waist depth max.). Be very careful when working around deeper water.
2. A lifejacket must be worn when wading in water above knee depth. A wading belt should be worn over waders at waist level or higher to restrict the amount of water that enters them should you fall in.
3. Some waders have positive buoyancy when full of water and used with a belt.

"If you find yourself in deeper water."

- Do not attempt to swim.
- Immediately tuck your knees up to your chest (this traps air into the waders) and roll onto your back.
- Either tread water or float in an upright position.
- You should be able to use a back-sculling action to return to shore.
- If being carried by the current, face downstream (feet first).

Table 1: Rivers and criteria of selection

River ID		
Rivière Fond Boffay	Praslin	National Park, Large Catchment, easy access throughout the course. Provide good accessibility from the mouth to source and can serve as good reference rivers for the distribution of species/communities. Flows into the mangrove.
Rivière Nouvelle Decouverte	Praslin	National Park, Large Catchment, easy access throughout course. Provides good accessibility from the mouth to the source and can serve as a good reference river for the distribution of species/communities. Flows into the mangrove.
Rivière Kerlan	Praslin	Large Catchment, relatively long river. Flows through un-protected but well-preserved forests. Exits through degraded mangroves.
Rivière Pasquière	Praslin	Flows through degraded ecosystems under restoration. Flows into the mangrove. Difficult access from mid-course to source.
Rivière Petit Cour	Praslin	Flows through degraded ecosystems under restoration, easy access. Flows directly to the sea.
Rivière Salazie	Praslin	Flows through degraded ecosystems. Flows into the mangrove. Difficult access from mid-course to source.

Table 2: Rivers and criteria of selection

River ID		
Rivière Grand Anse	Mahe	National Park (mid-upper course), Large Catchment, relatively long river. Easy access from mouth to mid-course. Targeted for dam construction. flows into mangrove.
Rivière Caiman	Mahe	Relatively long river. Flows into the mangrove. Difficult access from mid-course to source.
Rivière Dauban	Mahe	Relatively long river. Flows into the mangrove. Difficult access from mid-course to source.
Rivière Royale	Mahe	Anthropogenic river. Impacted by anthropogenic factors
Rivière Grand Saint-Louis	Mahe	National Park (mid-upper course), Large Catchment, relatively long river. Flows directly to sea.
Rivière Mare aux Cochons	Mahe	National Park (mid-upper course), Very large Catchment, relatively long river. Difficult access from mid-course to source. Flows into mangrove.
Grande Rivière	Silhouette	National Park, Large Catchment, no major development. Flows into the mangrove. Difficult access from mid-course to source.
Rivière Anse Mondon	Silhouette	National Park, Large Catchment, no development
Rivière Grande Barbe	Silhouette	National Park, Large Catchment, no development. Flows into the mangrove. Difficult access from mid-course to source.

Member Declaration

I hereby declare that I have read the Gaea Health & Safety Manual, understand its contents, and will comply with its requirements.

Name (Block Capital	Signature & Date:	Comments / Remarks

Annex A – List of Referenced Documents

Transit NZ Code of Practice for Temporary Traffic Management

Health and Safety in Employment Act, No 96 (1992).

Health and Safety in Employment Regulations, SR 1995/167 (1995).

Hazardous Substances and New Organisms Act, No 30 (1996).

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RIVER HEALTH AND SAFETY TRAINING MANUAL MONITORING STANDARD

CODE OF PRACTICES

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