



Swan Yacht Club

Boat Repair and Maintenance Procedures Manual

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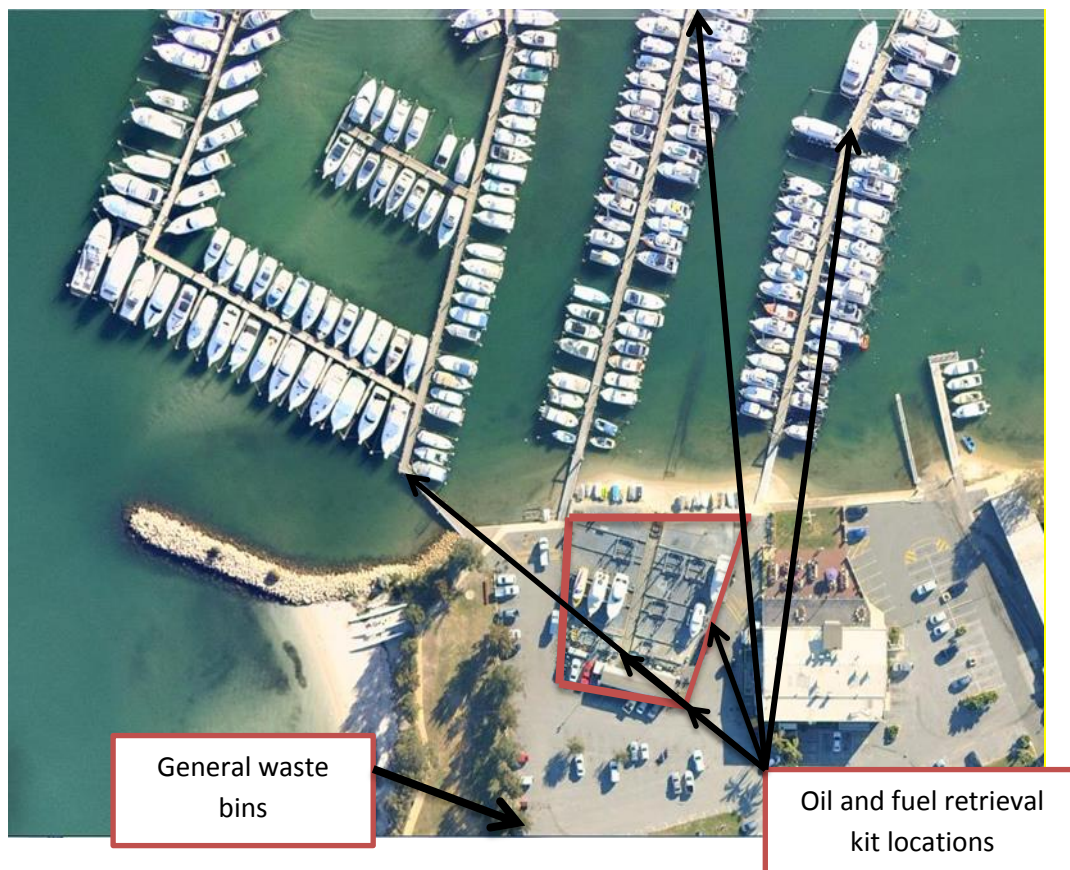
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1. Introduction and General Requirements

The Swan Yacht Club Management, Club members and Contractors have a duty of care to ensure the Swan River is used responsibly, as well as being managed and protected for the enjoyment of future generations of Western Australians.

This Manual outlines the required procedures for boat repair and maintenance works at the Swan Yacht Club to comply with the applicable standards and regulations.

Procedures and recommendations in this document apply to the Club's Boat Repair and Maintenance work area, which includes the slipway, marked slip area and shed. The trailer boat wash down area does not form part of the Club's Boat Repair and Maintenance work area and is for tap water boat washing only.



Map highlighting the outline of the slipway area, shed and retrieval kit locations

Members and contractors must ensure that any repair and maintenance work undertaken on their boats does not pollute the environment and comply with the applicable Occupational Health, Safety and Welfare requirements. This includes works undertaken by voluntary helpers and/or paid workers. In these cases members must note that they assume the responsibilities of an employer.

All out of water boat repair and maintenance work on the Club's premise must be undertaken in the marked slip area. Failure to comply with this requirement may result in actions taken against the member and or contractor engaged to carry out works on behalf of the member concerned by the various government bodies, which control these matters.

The Club may have residual environmental and occupational health and safety responsibility for all persons working on the Club's premises and may undertake any control and clean-up operation required. Any related cost to the club or other member/person of such operation will be claimed directly from the responsible member. The *Environmental Levy* charged to the member prior to the use of the facility may cover part of such operation.

During any works (progressively) and after finishing any works, the member and or contractor concerned is responsible for cleaning the facility (sweeping and collecting of all debris and rubbish) and dispose of all waste in accordance with the Club rules. Members and or contractors are asked to leave the facility in such a state as they wish to find it for their own use and ready to be used by the next member.

Minimising the effect on members of the public using the adjacent public walkway must be a high priority when undertaking any work in the slip area.

All Club members are encouraged to report any failure to comply with the requirements outlined in this manual to the Club Management.

Any pollution incident shall be immediately reported to the Club Management who will take the appropriate action.

2. Boat Washing

Any boat washing activities must only be undertaken in the designated areas where appropriate drainage systems are provided and run off water can be properly treated, being the:

- slip area (no washing permitted on the slipway itself), and the
- Trailer boat wash down area (only washing of boat hull and outboard flushing with tap water permitted, limit of 10 minutes allowed to use the station with max boat size of 25ft).

Boats with antifouling material applied to the hull must only be washed down on the marked slip area. The slip area is not accessible with boat trailers.

The following measures must be undertaken to prevent pollutants from discharging into the marine environment from the cleaning of boats and motors, engines or mechanical equipment:

- Oil, fuel and dirt must be wiped from the engine as much as possible before cleaning.

- Where possible, boat decks to be rinsed with water only.
- It is recommended that environmentally sensitive detergents only are used.

3. Surface preparation and cleaning

3.1 Removal of antifouling paint

The removal of antifouling paint must only be undertaken in the marked slip area. No removal of antifouling paint is allowed in the trailer boat wash down area. Antifouling coatings are applied with the aim of either inhibiting the settlement or the attachments of marine biota to the vessel hull, which is achieved by coating vessel hulls with silicon or other chemicals containing non-stick surface bound properties (note that application of tributyltin (TBT) and Irgarol is banned on recreational vessels). Conventional antifouling paints contain biocides that are harmful to marine life if leached into the water column. In addition, the removal of antifouling paints results in paints debris, sludge, dust and other particles that may contribute towards water, soil and /or other air pollution. Therefore, antifouling coating and the removal of antifouling paint must be undertaken within a controlled environment and using the appropriate equipment for collection of potentially contaminated runoffs and wastes.

The following regulations apply to the general removal of anti-fouling paint:

- Paint removal activities must always take place in the marked slip area to ensure that the paint residues are collected and disposed of properly.
- It must generally be assumed that any removed antifouling coating is contaminated with biocides. Note that
- Vessels constructed before the 1970's may possibly comprise a variety of hazardous chemicals including arsenic, mercury and Dichlorodiphenyltrichloroethane (DDT). Before removing antifouling paint, the person undertaking the work must be aware of the formulation and type of antifouling paint to be removed, as the paint wastes may be considered hazardous, and must familiarise himself with the disposal requirements. Any paint wastes must be disposed of in accordance with the Australian Standards and the product's safety sheet provided by the manufacturer. Disposal may be required by a licensed chemical waste collector.
- Members are directed to manage this waste disposal themselves off-site
- Bins for solid waste are provided at the south west corner of the car park (refer to map). No oils, batteries or fuels are allowed to be disposed of in the waste bins
- Antifouling coatings must not be burnt off as this may generate highly toxic emissions.

3.2 Removal of biological hull foulants and marine biota

Marine pests are often present on the hull of vessels and when marine biota is removed can result in odours. There may be a water quality impact if disposed of in the marine environment.

The following regulations apply to the removal biological hull foulants and marine biota:

- The removal activities must always take place in the marked slip area to ensure that the removed biological material is collected and disposed of properly.
- Bins for solid waste are provided at the south west corner of the car park. No oils, batteries or fuels are allowed to be disposed of in the waste bins.

3.3 Manual and mechanical scraping, scrubbing and cleaning

Hull and deck sanding and scraping produces a range of solid wastes, including paint chips, dust and other hull and deck sweepings. Pollution prevention and control measures must be adopted to avoid the release of contaminants into marine waters, bottom sediments, soil and air.

The following regulations apply to sanding and scraping:

- Hand sanding only is permitted on boats in pens.
- Mechanical buffing and manual scraping methods are recommended before pressure water blasting for hull cleaning as they allow the solid wastes to be swept for disposal. These activities must always take place in the marked slip area.
- The work area must be swept regularly during the works. Be aware of weather and tidal conditions to avoid waste dispersed by wind, rain or water run-off.
- When hull repair and maintenance works are completed, the work areas must be cleaned up by the owner or contractor and wastes must be stored /disposed of in accordance with the Club rules.

The following regulations apply to scrubbing and using chemical cleaners:

- Detergents, degreasers, strong acid or alkaline cleaning agents can be toxic to marine life. These chemicals must only be used for severe staining that cannot be removed by water or biological sensitive cleaners.
- Chemicals must not be used where they can directly enter the water. Wherever possible, rags or a brush shall be used.
- Corrosion and rust removers are strong acids and application must follow manufacturer's recommended instructions. Refer to manufacturer's data sheets.
- Use of degreasers shall be avoided as emulsified oils are harder to trap and treat.
- It is recommended that:
 - Water-based or biodegradables strippers, cleaners and degreasers are used;
 - Phosphate free detergents are used wherever possible and scrubbed with a soft brush to absorb the detergent; and
 - Biodegradable spray-type cleaners that do not require rinsing are used.

3.4 Grit Blasting

Grit blasting is not permitted at the Swan Yacht Club.

3.5 Pressure water blasting

The use of water-based pressure cleaners to clean the exterior of boats has the potential to cause environmental harm. High-pressure water blasting also presents containment problems caused by the wide wind dispersion of biological and physical materials removed from the vessel hull during

the cleaning process. Pollutants and contaminants originating from pressure water blasting activities may include:

- Chemicals and additives, including detergent, solvents, caustic or acids, used in the cleaning solution;
- Materials removed from the cleaning surface including biological hull foulants, antifouling paint sludge, dirt, oil and grease; and
- Compounds produced as a result of reactions between the cleaning solution and the materials removed from the boats.

It is therefore important to prevent pollutants originating from pressure water blasting activities from entering the environment to the maximum extent practicable.

The following regulations apply to pressure water blasting activities:

- Before commencing with pressure water blasting activities, the work surface must be clean (i.e. free from loose material) and all solids must be swept up and binned.
- Moveable screens (available on site) must be located alongside and behind the people operating the hull water blasting in order to prevent spray drift from escaping from the work area and setting on freshly completed work on vessels or motor vehicles in the car park, or to potentially effect members of the public using the adjacent public walkway. A few screens are available at the Club for members to use. If more screens are required, these must be provided by the boat owner / contractor.
- Pressure water blasting operations must not proceed during windy conditions (i.e. wind speed exceeding 5 knots).
- High temperature water rather than chemicals shall be used for cleaning activities.

3.6 In-water hull cleaning

Only non - abrasive hull cleaning is permitted at the Swan Yacht Club.

4. Surface coating

Painting vessel hulls and applying topside coatings may result in the concentrated release of harmful vapours and liquids. Wastes generated by painting activities are considered hazardous where they contain solvents and/or heavy metals.

4.1 Manual painting

The following regulations apply to reduce the potential for paint products, including the release of harmful vapours, from entering the environment.

- Hand painting only is permitted on boats in pens.
 - The application of TBT or Irgarol is banned. This ban applies from 1991 in WA. Note the attached policy on use of TBT. The ANZECC Code of Practice for Antifouling and In Water Hull Cleaning and Maintenance is available from the club office.
 - All out of water surface coating work must be carried out in the marked slip area.
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- Before applying antifouling paints, consideration should be given on using alternative technologies, particularly those that rely on the coatings physical properties rather than its toxicity to prevent fouling.
 - Paints must be mixed in drip trays and in a sealed well-ventilated area.
 - Spilt paint (particularly water based paints) must be cleaned and the remaining paint shall be allowed to dry rather than washing it into the waste water collection system.
 - When cleaning up after painting, as much paint as possible shall be wiped / squeezed from the brushes, trays and rollers back into the paint tin for future use.
 - Excess paint must be painted out onto an absorbent material such as old rags or newspaper, and it shall be allowed to dry before disposal.
 - When using containers filled with water to clean water based paint from brushes and rollers, the paint solids must be allowed to settle by leaving the container overnight. In the morning, water shall be poured out onto the collection facility and the solids from the bucket shall be wiped out by an old rag or newspaper.
 - Empty paint and thinner containers must be allowed to air dry before disposal.
 - All paint waste, particularly antifouling waste, must be disposed of properly and in accordance with the Club rules. Refer to manufacturer's data sheet for disposal requirements. Disposal may be required by a licensed chemical waste collector.
 - Members are directed to manage this waste disposal themselves off-site.
 - It is recommended for the boat owner to keep the product's safety sheet on record for later reference.

4.2 Spray Painting

Spray painting is not permitted at the Swan Yacht Club.

5. Fibre glassing

Fibre glassing activities are a source of hazardous volatile emissions to the environment. Acetone (a solvent used to clean tools and other surfaces contaminated with resin) and styrene (the volatile component of the polyester resin) are the largest contributors of volatile emissions caused by fibre glassing activities. Fibre glassing trimming, grinding, sanding, and drilling activities may also give rise to air pollution in the form of dust and other particulate emissions.

5.1 Fibre glassing activities

The following regulations apply to protect air quality and minimise volatile solvent and particulate emissions, and to protect water quality and prevent landfill contamination by ensuring proper disposal of hazardous wastes:

- Hand lay-up methods only are permitted.
- Methyl Ethyl Ketone Peroxide is often used as a catalyst and must not be stored anywhere near flammable liquids or other dangerous goods.

The amount of sanding must be reduced as much as possible by trimming with a knife or mechanical cutter when articles have solidified but not yet hardened. All fibre classing activities, especially surface finishing (sanding and wash-down), must be carried out in the marked slip area, to avoid resultant waste (fine dust particles) contaminate soil, storm water or the marine surface waters

5.2 Fibre glassing waste management

The following regulations apply to Fibre glassing waste management:

- All sanding dust must be securely wrapped prior to disposal
- All contaminated and spent solvents used to clean equipment must be collected in a sealed drum or container prior to disposal.
- Under-cured resin material, from the cleaning tanks, must be hardened by adding an appropriate amount of catalyst prior to disposal.
- No fibre class waste is allowed to be disposed of in the waste bins.
- All waste resulting from fibre glassing activities must be disposed of by a licensed chemical waste collector.
- Members are directed to manage this waste disposal themselves off-site.

6. Welding and metal fabrication

Welding activities may contribute towards air pollution and cause metal contamination of soil, storm water and marine waters through the generation of airborne dusts and the emission of fumes and smoke. **No** welding and or metal fabrication is permitted without the prior approval of the Mooring Committee.

7. Engine maintenance and repair activities

Engine maintenance and repair activities can cause human hazards, result in spills and leaks that are costly to clean up, degrade water quality and threaten the aquatic plant and animal life.

The following regulations apply to prevent or minimise the adverse environmental impacts associated with engine services and repair activities. Note that **NO** refuelling at all is to take place within the marina.

7.1 General engine maintenance

- Absorption materials must be placed in bilge/under motors to trap oil/fuel leaks particularly in vessels with automatic bilge pumps.
- Engines must be maintained regularly to prevent oil and fuel leaks to the bilge.

- A drip tray or ground sheet must be used under the engine to collect oil, grease, solvents or detergents.
- When cleaning the drip tray or ground sheet, methods that do not result in water or soil contamination must be used.
- Adequate supplies of absorbent materials and other rags must be kept for cleaning up small fuel spills.
- Fuel/oil spill retrieval kits are also available on site and are provided as described on the map. Any incidents must be immediately reported to the Club Management who will take the appropriate action.

7.2 Cleaning engine parts

- All engine parts cleaning and degreasing works must be carried out in the marked slip area.
- Where possible, engine parts shall be cleaned with a brush rather than with solvents or aqueous degreasers such as alkaline or caustic soda.
- Water based or bio-degradable strippers, cleaners or degreasers shall be used wherever possible.

7.3 Replacing engine parts and oils

- Bilge water must not be pumped into a waterway or onto soil if it contains high concentrations of hydrocarbons or other wastes including sanitary and detergent wastes.
- All waste grease, sump oil, contaminated bilge water and waste oil filters must be collected for recycling or disposal by a licensed chemical waste collector
- Members are directed to manage this waste disposal themselves off-site

The Swan Yacht Club

Incident / Injury Report Form

DATE _____

Please print clearly and tick the correct box

STATUS	<input type="checkbox"/>	Employee	<input type="checkbox"/>	Contractor	<input type="checkbox"/>	Other
OUTCOME	<input type="checkbox"/>	Near miss	<input type="checkbox"/>	Injury	<input type="checkbox"/>	Damaged Vessel

1. DETAILS OF INJURED PERSON

NAME _____

HOME PH NO _____ WORK PH NO _____

HOME ADDRESS _____

POST CODE _____

SEX M / F

DATE OF BIRTH _____

POSITION _____

EXPERIENCE IN THE JOB (years/months) _____

START TIME _____ AM / PM WORK ARRANGEMENT Casual Full Time Part Time Other

2. DETAILS OF INCIDENT

DATE _____ TIME _____

LOCATION _____

DESCRIBE WHAT HAPPENED AND HOW

3. DETAILS OF WITNESSES

NAME _____

HOME PH NO _____ WORK PH NO _____

HOME ADDRESS _____

_____ POST CODE _____

4. DETAILS OF INJURY or DAMAGE

Nature of Injury (e.g. burn, cut, sprain)

Cause of injury (e.g. fall, grabbed by person)

Location on body (e.g. back, left forearm)

Agency (e.g. lounge chair, another person, hot water)

Nature of Damage (Fallen from slip, jetty damage)

5. TREATMENT ADMINISTERED

FIRST AID GIVEN YES / NO

FIRST AIDER NAME _____

TREATMENT _____

REFERRED TO _____

6. DID THE INJURED PERSON STOP WORK?

YES / NO If yes, state date: _____ Time: _____

OUTCOME	<input type="checkbox"/>	Treated by doctor	<input type="checkbox"/>	Hospitalized	<input type="checkbox"/>	Workers Compensation Claim
	<input type="checkbox"/>	Returned to normal work	<input type="checkbox"/>	Alternative Duties	<input type="checkbox"/>	Rehabilitation

7. INCIDENT INVESTIGATION (comments to include causal factors):

LIKELIHOOD OF RECURRENCE _____

SEVERITY OF OUTCOME _____

LEVEL OF RISK _____

9. ACTIONS TO PREVENT RECURRENCE

Action	By Whom	By When	Date Completed

10. ACTIONS COMPLETED

SIGNED (Manager) _____ TITLE _____
DATE _____

Feedback to person involved _____

11. REVIEW COMMENTS

OHS committee / staff meeting _____

Reviewed by site Manager (signed) _____ Date _____

Reviewed by Health & Safety Rep. (signed) _____ Date _____