



AMATEUR BOAT BUILDERS' ASSOCIATION

April May 2021

Building of the Paradox Micro Cruiser - Planktos

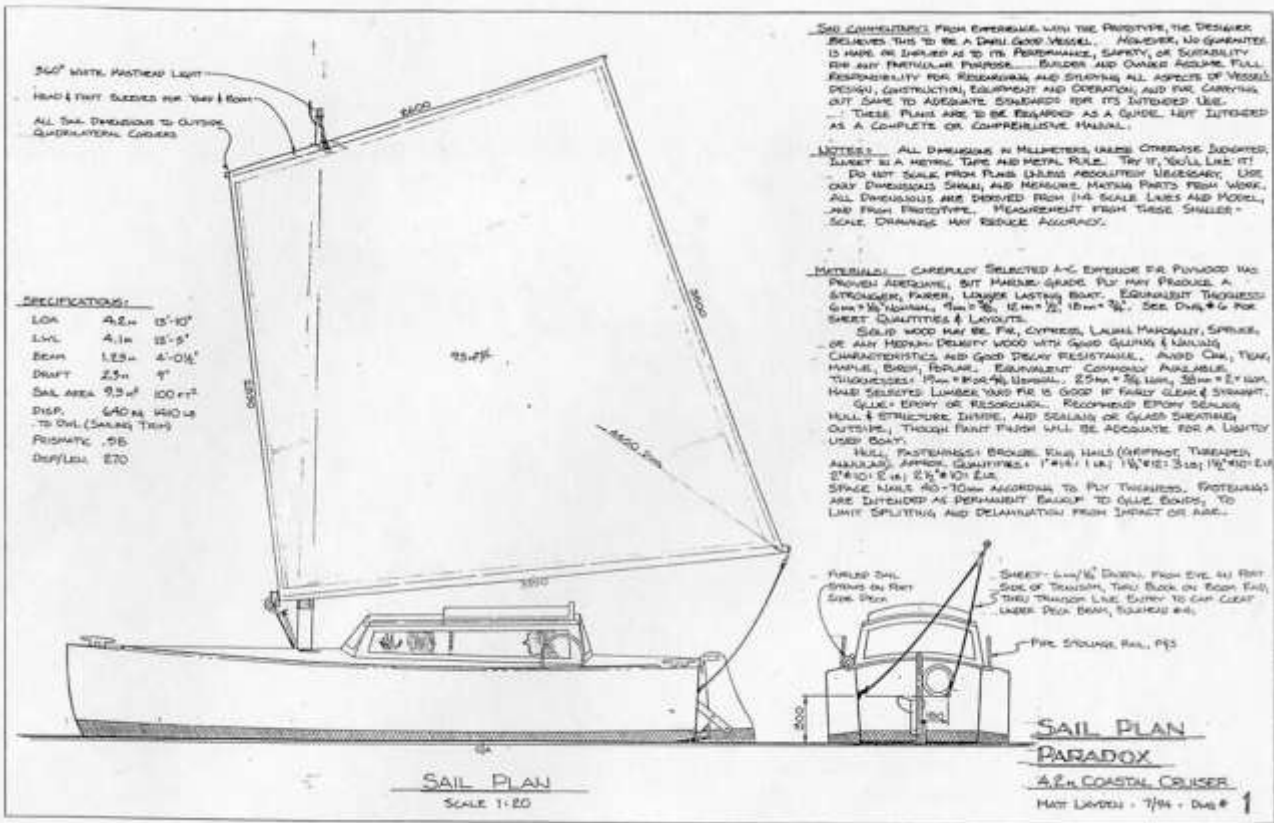


The presenter of our April meeting was Roselt Croeser who told us of his latest amateur boat building adventure and of the shakedown cruise to Shark Bay. Read about Roselt's past projects in our June-July 2014 and April-May 2015 newsletters in the "Library" tab of our website, ABBA.ORG.AU. Roselt also included many great photos to demonstrate the steps in the construction of "Planktos" and of his trip to Shark Bay.



The Paradox story

- Designed by Matt Layden – eccentric small boat designer, builder and sailor, participant in Everglades challenge raid event
- Flat bottom for shallow waters of Everglades, Florida coastline
- Very rugged, coastal cruiser, internal ballast
- Foam flotation
- Chine runners can sail in 12 inches of water
- Can steer and control sail from inside
- Lug rig with roller furling – changed to junk rig



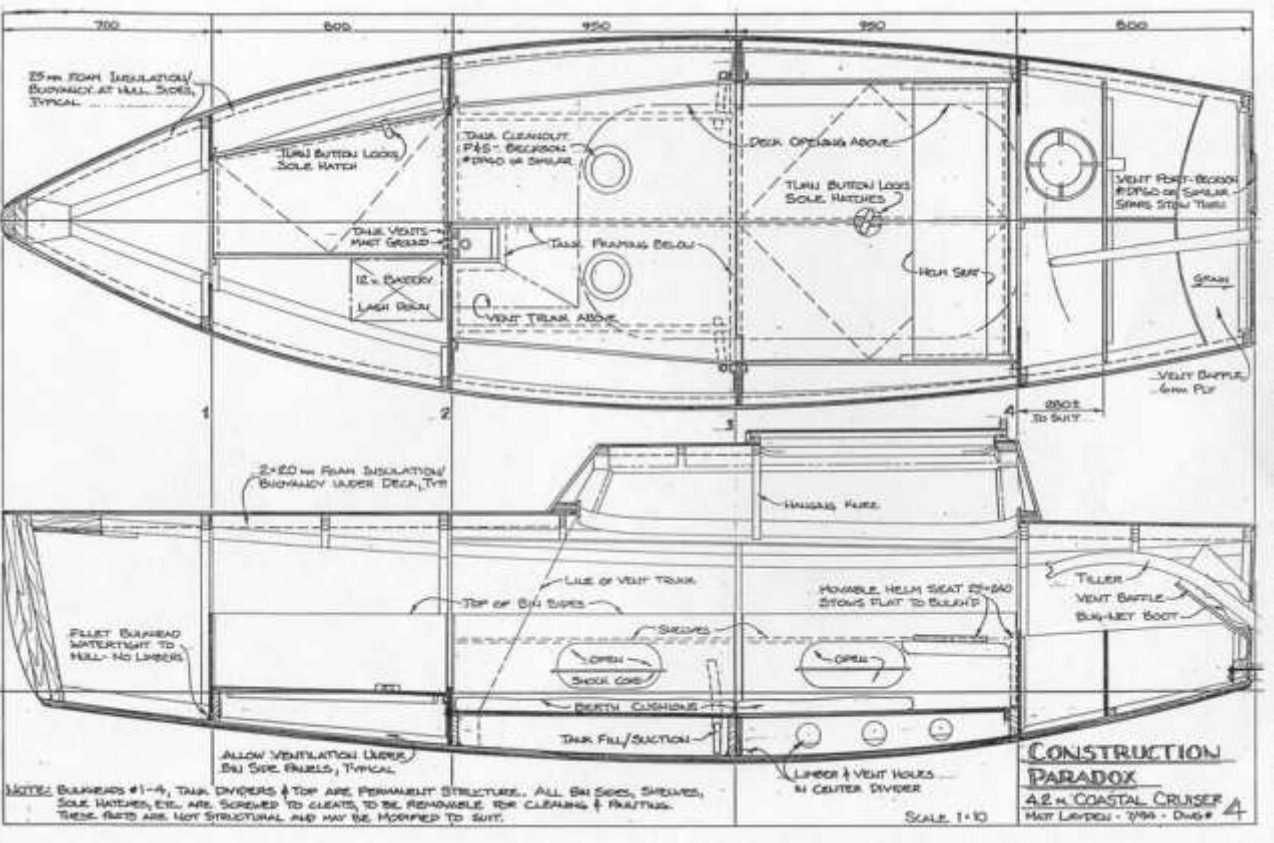
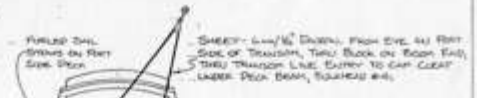
SAIL CONSTRUCTION: FROM EXPERIENCE WITH THE PROTOTYPE, THE DESIGNER BELIEVES THIS TO BE A DEEPLY GOOD VESSEL. HOWEVER, NO GUARANTEE IS MADE OR IMPLIED AS TO ITS PERFORMANCE, SAFETY, OR SUITABILITY FOR ANY PARTICULAR PURPOSE. BUILDER AND OWNER ASSUME FULL RESPONSIBILITY FOR RESEARCH AND SHIPING ALL ASPECTS OF VESSEL DESIGN, CONSTRUCTION, EQUIPMENT AND OPERATION, AND FOR CARRYING OUT SAME TO ADEQUATE STANDARDS FOR ITS INTENDED USE. THESE PLANS ARE TO BE REGARDERD AS A GUIDE, NOT INTENDED AS A COMPLETE OR COMPREHENSIVE MANUAL.

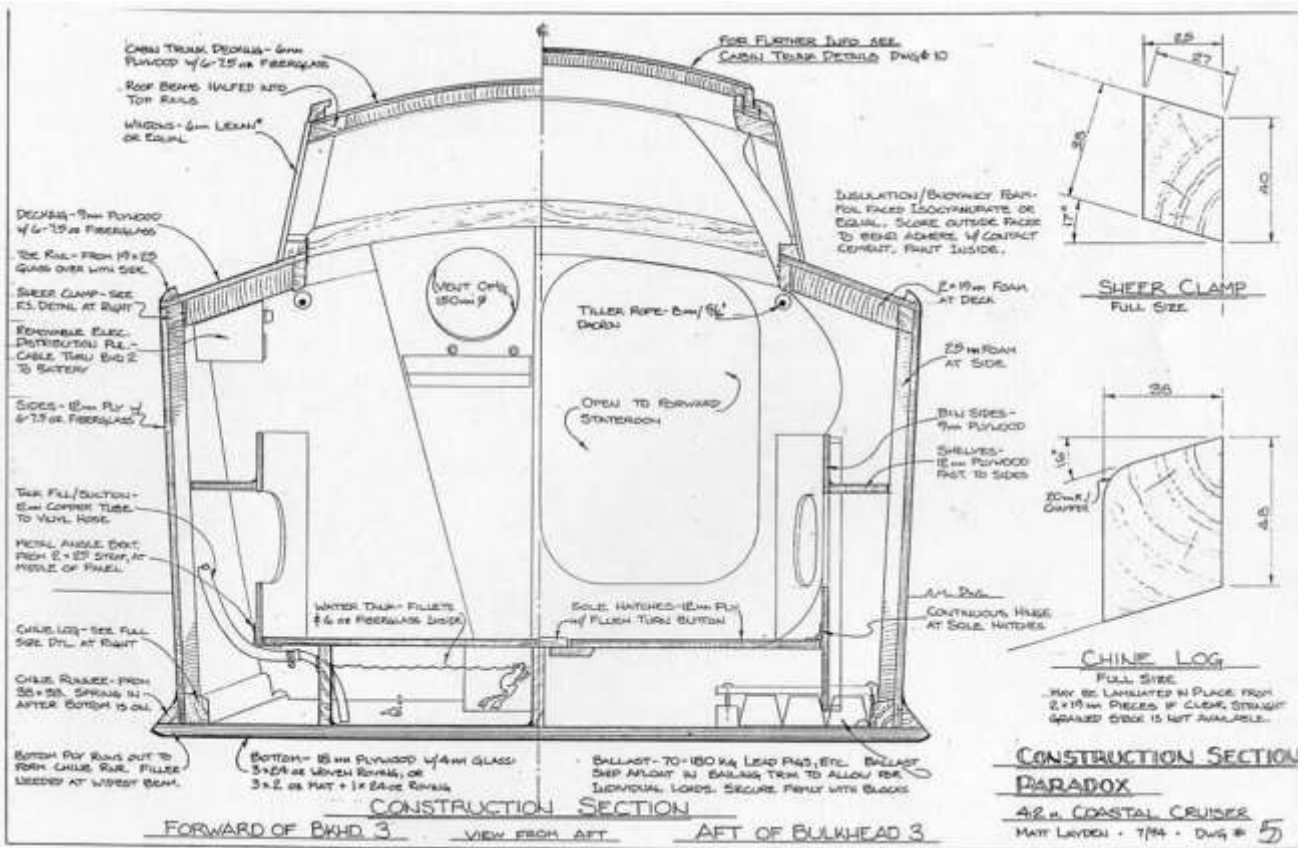
NOTES: ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE INDICATED. CHECK BY A METRIC TAP AND METAL RULE. TRY IT, YOU'LL LIKE IT!
DO NOT SCALE FROM PLANS (USING ABSOLUTELY NECESSARY). USE ONLY DIMENSIONS SMALL AND MEASURE MATCHING PARTS FROM WORK. ALL DIMENSIONS ARE DERIVED FROM THE SCALE LINES AND MODEL, AND FROM PHOTOGRAPHS. MEASUREMENT FROM THESE SHALL SCALE DRAWINGS MAY REDUCE ACCURACY.

MATERIALS: CAREFULLY SELECTED A-C EXTERIOR GRADE PLYWOOD HAS PROVEN ADEQUATE, BUT MARINE-GRADE PLY MAY PRODUCE A STRONGER, FASTER, LONGER LASTING BOAT. EQUIVALENT THICKNESS GRAPHS AVAILABLE. PLY 30, 18mm x 25, 18mm x 30. SEE DUB # 2 FOR SHEET QUANTITIES & LAYOUTS.

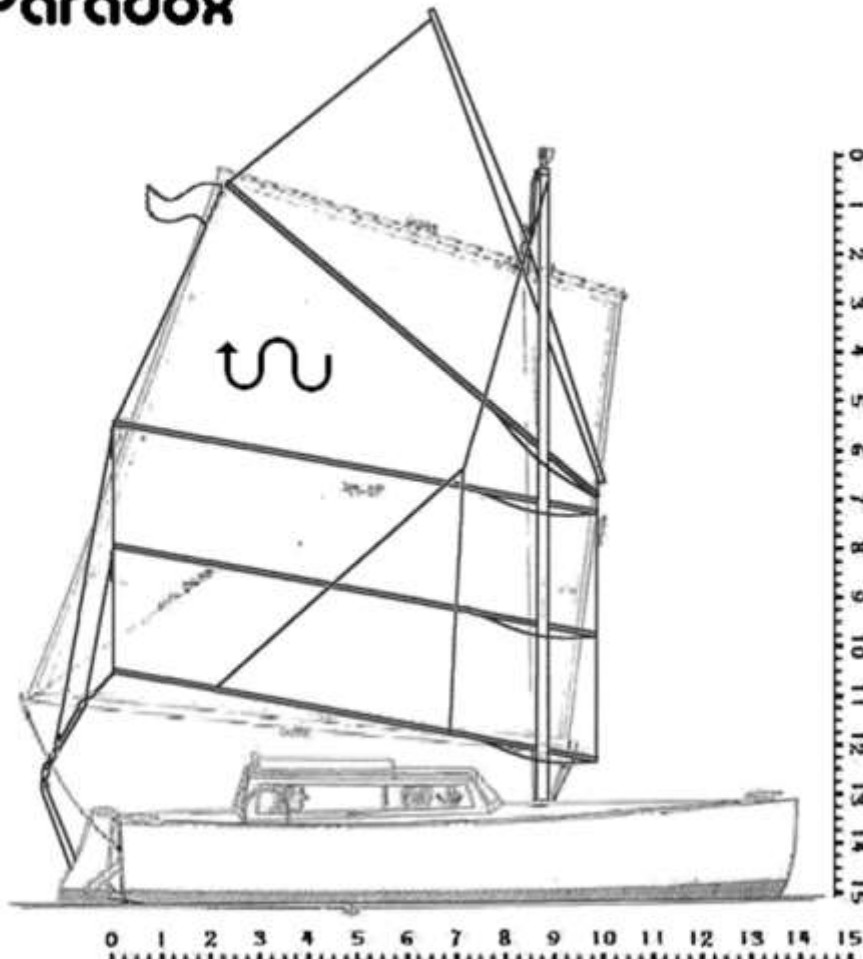
SOLID WOOD MAY BE PINE, CYPRESS, LAUREL, MANILAN, SPRUCE, OR ANY MEDIUM-DENSITY WOOD WITH GOOD GLUING & NATURAL CHARACTERISTICS AND GOOD DRYING RESISTANCE. AVOID OAK, TEAK, MAPLE, BIRCH, POPLAR. EQUIVALENT COMMONLY AVAILABLE THICKNESSES: PINE 18mm x 18mm, 25mm x 25mm, 30mm x 25mm. HARD SELECTED LUMBER 10mm TO 100mm IF FINELY CLEAN & STRAIGHT. GUMMI, EPOXY OR RESORCINOL. RESORCINOL EPOXY AND FIBER GUMMI & STRUCTURE DIVIDE, AND SEALANT OR GLASS SHEATHING OUTSIDE, THOUGH FINIT FINISH WILL BE ADEQUATE FOR A LIGHTER USED BOAT.

HULL FASTENINGS: BRIDGE PINE NAILS (OPPOSITE THREADED ANCHORS) APPROX. QUANTITIES: 1" x 1/4" (10); 1" x 1/2" (10); 2" x 1/2" (10); 2" x 1/4" (10); 2" x 1/4" (10). SPREAD NAILS 40-70mm ACCORDING TO PLY THICKNESS. PROTECTIONS ARE INDICATED AS PERMANENT BATHS TO GIVE BOATS TO LIMIT SPLITTING AND DELAMINATION FROM IMPACT OR AGE.





Paradox



Build process

- It took from early 2013 to end 2016 – Roselt was also owner building a house at the same time
- Build process included 4 different locations
- Working boat finish, very strong, very simple, using what he had where possible - mast repurposed from sunken boat, sail from SS18









Conclusions

- Must be the easiest type of boat to build, quality plans and builders group
- Overall build cost approximately \$2500 – mostly wood, epoxy, glass and paint
- Mast and sail were repurposed
- Additional \$2300 for trailer – some modifications to trailer approximately \$200
- No electrical system – hand held GPS, Navionics on mobile phone, power bank batteries and 10 Watt solar panel
- Flat bottom and shallow draft is excellent for carefree sailing and anchoring – overnight in knee deep water and jump off into ankle deep water, dry out level, no running aground anxiety, easy to push off the beach
- Easy to launch and retrieve
- Very forgiving sailing, easy motion
- Limits – around 20 knots, beyond that it is survival

Pros and cons as built

- Sail from inside – no frying in the cockpit on hot days, instead you bake
- Flat bottom means very little hobby horsing, easy anchored motion
- Junk rig works very well – easy and very quick reef / unreef, very good sail twist control, cheap light-weight fittings
- Like all small boats going to windward in rough water is challenging
- Definitely a 1 person boat except for very short outings

And if you are really brave

- Sail to Shark Bay from Perth
- Abrolhos and back
- Cape Leeuwin and back



Electric Propulsion - New and Old



For our May Toolbox meeting, ABBA member Barry Skinner kindly showed us over his 18' Gentlemen's Day Sailer on a fine and sunny Saturday afternoon. The large turnout was an indication of the increasing interest in this subject. Barry wanted an electric boat so started with the purchase of a very attractive clinker-look fiberglass hull from Sydney. The remaining fit out was done locally.



Barry chose an E-Tech 48 volt 4.3 kW Pod engine from local agent, Solar Boats. These Polish made units are an in-water motor in a watertight aluminium casing. They are equipped with an installation flange for fixed mounting under the hull. The brushless, permanent magnet electric engines are designed to work underwater and are claimed to be well suited to salt water immersion. The engine is fully maintenance free and has a heavy thrust bearing installed. The standard f 25mm shaft allows the use of a standard propeller.



The Motor Controller adjusts the engine speed and direction so no gearbox is required. The other main component are the batteries. Barry has 2 banks of 4 x 200 AH lead acid batteries. Each bank should last 5 hours at full load operation but cruising at 6 knots at 1500 rpm, Barry has never had to access the second bank. On a good day, Barry can motor down the river then cruise home under sail alone.

Barry was advised that lead acid was the best choice at the moment but likely technology improvements and cost reduction will likely favour Lithium batteries when these original batteries require replacement. The boat weights around 500 kg and the batteries, another 500 kg. The smaller and lighter lithium batteries would significantly increase the usable space on the boat.



Barry also explained the operation of the floating dock. To assist launching the boat, water is added to some of the dock compartments to lower the stern section. After the boat is driven back onto the dock, a Wet & Dry vacuum and a manifold of valves is used to remove water from the compartments allowing the dock and boat to be raised until the motor and propeller are completely out of the water.

Our afternoon continued with a look at the H28, Swiftsure Saga, owned by Bill Richards. The boat was built by Master Shipwright, Brian Phillips in 2010-11 and was the subject of an ABBA Toolbox Visit at the time. See ABBA November-December 2010 Newsletter.



Swiftsure Saga

The very neat and simple electric propulsion system was installed when the boat was built and has performed well for over ten years. Bill said that any problems he has had were caused by himself. For \$2,000 Bill was able to put together a golf cart motor, controller and 4 x 200 AH 6-volt batteries. Despite a thorough man-look, we couldn't find the motor controller on the day but later I found out that it is located under one of the lockers covers in the cockpit. After about 10 years, the batteries required replacement.



ADMINISTRATION NOTES

ABBA COMMITTEE

President	Rob Bingham	0419 995 422
Secretary	Bruce Cadee	0419 508 785
Treasurer	Andrew Minto	0415 852 333
Library	Rosemary Nayler	0427 717 050
Newsletter Editor	Bruce Cadee	0419 508 785
Website	Bruce Cadee	0419 508 785
General Committee	Chris Davis	0418 954 602
	Luis Gouveia	0477 172 881
	Bob Harrap	0407 991 901

FUTURE MEETINGS

Our next Technical Meeting will be held on Wednesday June 2nd in the Heritage Room at the South of Perth Yacht Club. 7:00 pm for a 7:30 pm start. Note that we are now starting meetings 30 minutes earlier than previously. This will allow more time for socialising and discussion over a tea or coffee after the meeting.

The topic is "Everything You Want to Know About Standing Rigging" presented by Edgar Vitte, owner of Yacht Rigging Solutions. Edgar provides the following services,

- Rig inspections and reports.
- Supply and service standing and running rigging.
- Furling systems supply, installation and service.
- Supply install or service winches.
- Complete mast, boom and pole service.
- Supply and fit aluminium and carbon mast and spars.
- Supply and install all deck hardware. (winches, clutches, travellers etc).

The basis of Edgar's talk is "Standing rigging inspection, replacement and tuning" but please take advantage of Edgars wide experience and knowledge and come prepared with all those rigging questions you were afraid to ask.

All are welcome to attend this informative presentation. If you are not a member of the association, feel free to just show up at the venue.

Our next Toolbox Visit will be on Saturday 3rd July from 2:00 to 4:00 pm. The location will be the home of ABBA member, Mick O'Shea at Grandis Cottages, 45 Casuarina Place, Henley Brook. ABBA has enjoyed a number of visits to Mick's Mighty Workshop in the past to view two boats and steam engines built by Mick. On our last visit in 2017, Mick showed us a solid block of cast iron. He told us that this would be turned into a steam engine for the next boat he would build. True to his word, Mick has completed building both the engine and the boat and we are privileged to enjoy another visit to see then both. Also on display will be Mick's earlier steam boats as well as the timber pilot boat "Princess Royal", awaiting restoration.

ADMINISTRATION NOTES (Cont'd)

ABBA LOGO

Members are reminded that Bruce Cadee has made arrangements with Shaun Luong of Image Embroidery at 26 Tulloch Way, Canning Vale (Phone 9456 2324 Mobile 0403 250 389) for an embroidered ABBA logo. The logo can be applied to your own clothing (assuming it can be accommodated in their equipment) or to shirts, caps or hats purchased through Image Embroidery. Feel free to call in on Shaun to look at the limited range of clothing he has on site or visit the following web sites to choose your preferred style, size and colours. The weblinks below are only examples of the wide range available. Half chest measurements are included on the web sites to help ensure you select the correct size. Ladies styles are also available.

Clothing (excluding Logos)

Style 1300 – Aussie Pacific Mens Murray Polo, Navy/White/Ashe or White/Navy/Ashe - **\$20.00 + GST each**

Weblink: http://www.aussiepacific.com.au/the-murray-polo-navy-white-s?color=Navy%2FWhite%2FAshe&primary_color=Navy&secondary_color=White

Style 1304 – Aussie Pacific Mens Eureka Polo, Navy/White/Ashe or White/Navy/Ashe - **\$21.00 + GST each**

Weblink: http://www.aussiepacific.com.au/mens/polos/eureka-polo-sky-navy-s?color=Sky%2FNavy%2FAshe&primary_color=Sky&secondary_color=Navy

Hats/Caps (excluding Logos)

Style 4199 – Headwear Brushed Heavy Cotton Cap, White/Navy (many other colours available too) - **\$6.50 + GST each** **Weblink:** <http://au.headwear.com.au/productDetails.cfm?&prodID=53&prodCatID=2&pageNumber=1>

(Also refer poly/cotton legionnaires hats Styles 4057 or 4126 for maximum sun protection under website sub heading 'Hats, Visor & Beanies' <http://au.headwear.com.au/productList.cfm?&pCategoryID=7>)

Style 4199 – Headwear Brushed Heavy Cotton Cap, White/Navy (many other colours available too) - **\$6.50 + GST each (includes poly/cotton legionnaires hats for maximum sun protection under website sub heading 'Hats, Visor & Beanies')**

Weblink:

Style 4223 – Brushed Sports Twill Bucket Hat, White/Navy (many other colours available too) - **\$8.00 + GST each**

Weblink: <http://au.headwear.com.au/productList.cfm?&pCategoryID=7&page=2>

To make your annual membership even more value for money, ABBA will pay for up to 2 logos per financial year to be applied to your items of clothing. The current cost to ABBA is \$7.15 per logo. There is no intention for this to be an ABBA uniform so the choice of style and colour is totally yours. If you are seen wearing the logo while building, working on or using your boat or anywhere for that matter it might get people asking questions and wanting to join our association. You are free to deal direct with Image Embroidery but please ensure you get an itemised invoice showing a separate price for the logo and present this to our Treasurer for reimbursement. Bruce Cadee is happy to take orders and liaise with Image Embroidery if you wish.