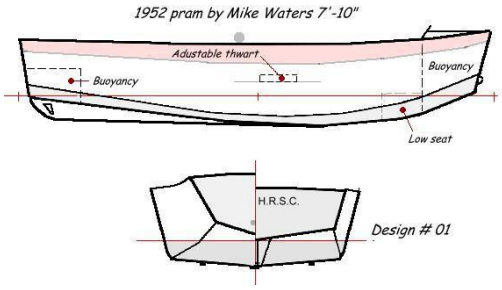
*Not a huge number …. but a fun variety ;) …enjoy!*

**My first Pixie 8ft pram (1952)**

My first design was a mini-contract to design a replacement Pram dinghy for a colleague of my father. I was 17 at the time and just learning how to use 'Simpsons Rule' to calculate displacement volume. (www.smalltridesign.com/Trimaran-Articles/design/simpsons-rule.html)




The boat was built quickly and the client very happy saying *'it rows great'*. I was paid 15s (~$3) and was quite happy too ;) She could be shortened or lengthened by changing the frame spacing. The design, that I later called *'Pixie'*, had a rear skeg with a hand grip incorporated. It used Aerolite 300 glue that had been developed for wood aircraft wings.

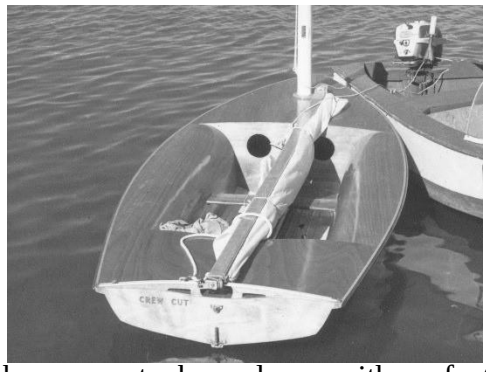
**14ft Venturer Race/Cruising Dinghy (1952-4)**

The next design was more enterprising. I was in my final year at *Canford Public School* in Wimborne when I drew up the lines for a 14ft double-chine dinghy that I called '*Venturer'*, my head still full of the exciting adventures of *'Swallows & Amazons'* that I first read at 10. In the school carpentry class we were allowed mahogany and oak to make anything we wished, with the teacher expecting cabinets, book cases or coffee tables etc. You can imagine the problem I had to justify using their prime wood for boat frames! But I was finally allowed to bring them home and later built the boat in my back yard. I styled *Venturer* somewhat after the *Merlin'*s I'd seen. With lots of stops and starts, she took me 3 seasons to finish, but found it interesting that Ian Proctor (for whom I had done some ink tracing) came up with the similar but larger and beamier *Wayfarer* design a few years later in '57. By then, I was studying naval architecture in Southampton, UK and learning about the value of waterline length etc, so I was happy that my *Venturer* had a more vertical straight stem and less keel rocker. She also had deck seats to cover the coaming edge for more sitting-out comfort ;)

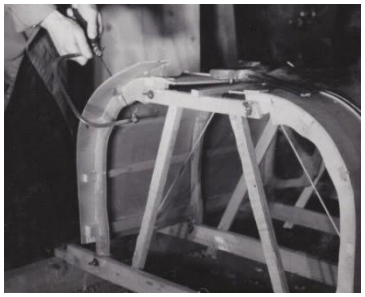

**Flying Moth**, **International Moth** boat, Mk l, ll, lll (1953-7)

In '53, I designed my first single hander .. a boat for the *11ft International Moth* class and the Mark 1 *Flying Moth* plans were first sold to a fellow in Cowes, Isle of Wight for £2, where it was built for a young son. The unique feature was that it had extended gunwales, an idea I took from John Westell, after seeing his moulded *Coronet* design competing in the now famous *'53 Coronation Race around the Isle of Wight* ..,. that I was also proud to sail in. (At the request of the French, the *Coronet* was later shortened to become the 5-0-5). My *Flying Moth* was not moulded though, but of plywood, still using Aerolite 300 glue. The extensions were about 5" so

gave a relatively narrow waterline beam After sailing the prototype, I raised the freeboard 1" and lowered the weight after finding that with such a small size of boat, structural parts get very close to each other resulting in the boat becoming heavy. This Mark ll still weighed about 100 lbs, the average Moth weight for that time period, but I was learning.

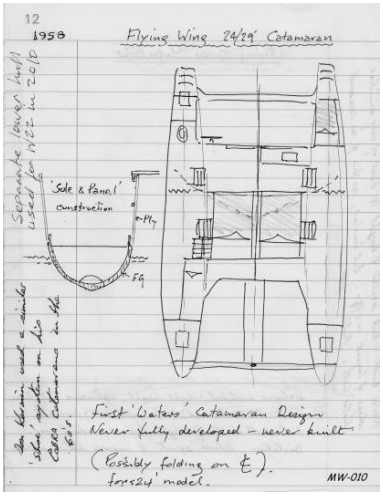



With the Mark ll, I was able to interest a couple of old schoolmates (Doug Henderson and Chris Barlow) and we started a company called *Single Handed Products* to build these …exhibiting at the *London International Boat Show (Earls Court)* in 1955 where orders for 12 were taken. We set up a building site under the crude cover of medieval 13th century rafters in the ruins of Netley Abbey .., now a protected historical site. [Google: "Netley Abbey UK" if interested]



I developed a special building system to incorporate the side buoyancy tanks early on with perfect end joints. Including some amateur builds, 28 were built in all (about 15 by Doug & Chris) and in the early 60's, one took 4th overall in the European Moth Championship, with the skip saying, *'it was a windy series but she was the fastest boat upwind, though now too heavy to match the newer, lighter boats off wind. Sadly, all the races finished downwind'.* My part of the business was *'Design, sales and publicity',* so to help the business, I campaigned my own FM#6 called *Flying Enterprise,* taking a 4th and 2nd at the *International Moth Championship* with 70+ boats on the Welsh Harp, London in 1957, and you can even get a glimpse of my close finish behind champion Ted Hicks at 1.07 in this 80 second clip of film history recorded by **Pathe News**, after they were assigned to film 'Around Britain Events' when their stalwart WWll work ended. [Google: YouTube "**Capsize-not likely!"]** or go here
https://www.youtube.com/watch?v=m-zVxEBgfRQ (right click to'open hyperlink')

About 6 years later I built a Mark lll (*Crew Cut),* with a Finn-like unstayed rig ..,and she weighed less, but by then, I was in Canada and away from the competitive UK Moth fleets. This one also had an experimental *'variable attack centerboard'* that went into my Record Book as Entry #023 dated 1962.




**Flying Wing 24-28ft catamaran**, (1958)
Not long after arriving in Canada, I drew up concept drawings for a folding 26ft catamaran that could be sized 24-28ft in length. Her hull lines were conventional for the time, but her hybrid construction was not. The hulls were to be built using pre-moulded semi-circular fiberglass 'shoes' with rabbeted top edges to accept her vertical sides of flat plywood.
She was hinged down the middle with a strong hinge and latches, with a central jacking system built into the trailer to help fold her up. But due to lack of both funds & space, she was never built.

**Flying Gnat 12.5ft** (1959)

Called the 'Gnat' as a hard-chine competitor to the *12ft National* in the UK, she was basically the latest *Flying Moth* model with an added 18" for a separate helmsman's cockpit … aft of a self-draining crew space, reminiscent of the *YW Hornet* layout but without the sliding seat etc. She also had extended gunwales that were now a little more pronounced than on the earlier *Flying Moth*. Just one was built, but she was sailed on the Saint Lawrence River and raced on Lac St Louis et Lac Deux Montagnes in Quebec. One special feature was a bendy mast of very simple BC fir construction, basically made with one length of 3 x 1 and another of 2 x 1, glued at 90 degrees to each other, with the front rounded off.. Although giving a very faired leeward side, it proved more noticeably effective downwind than up.

**Fisherman 12ft** (1961)

In 1961 I had just started a small boat kit company called *Kitcraft of Canada Reg'd* and was asked to design and build a light, plywood sharpie, primarily for fishing. The boat was to be either rowed or motored and also have built-in compartments for both bait and landed fish. These were built-in under the rear thwart and the boat proved light enough to be car-topped. (no pic ;-(

**Mosquito 11ft** (1973)

This was designed to be easily and inexpensively built as a project for the designers' 12 year old daughter. Built from 3 sheets of 3mm birch plywood, this 11ft sailboat was a stitch and glue boat using wires, polyester resin and automobile body-filler for the joints. The unique part was that ¾" thick PU foam sheets were bonded to the floor with contact cement to stiffen the ply to create a system subsequently named *Plifoam*. The yellow inside was just painted paper but proved remarkably durable. The boat was 'sailed to death' with frequent capsizes by the novice sailors as they slowly *learned the ropes* and had a ball. She was history after 3 seasons.


**Flying Spray 14ft** motor runabout (1958)

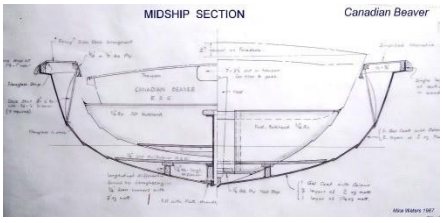
This fiberglass hard chine boat featured a low, bow-reversed chine line and a cambered bottom with a small reverse lip at the chine for more efficient planing. The boat proved able to tow two water-skiers with a 25 hp Evinrude.


**Micmac canoe 15ft** (1979)
This canoe was designed for my son to build - also at 12, and was also built with the *Plifoam* system using 3mm birch ply plus PU foam, polyester resin and filler, but lasted way longer than the earlier *Mosquito* due to a layer of glass cloth over the floor foam to seal it in from water intrusion. When the canoe was finally cutup and scrapped some 26 years after being built, the joints made of CSM, polyester resin & body-filler were still 100% sound, even though the 3mm birch it was once joining had totally rotted away.
The canoe itself had relatively high buoyancy in the ends (giving a 'high prismatic') and was very easy to paddle with the sides having about 1" tumblehome and the gunwale being fitted totally inside to not scratch the paddlers knuckles. The high ends (to aid sleeping-under on a river bank), were cut down after two years, due to causing too much windage for a large open lake.

**Canadian Beaver 13.5ft** family dinghy (8 built) (~1975)
This boat was specifically designed for members of the newly formed *Richelieu Sailing Club*, located at that time on the St Lawrence River near the mouth of the Richelieu River at Tracy, Quebec.


The boat was to be able to be sailed alone but also sometimes carry a family of 4. The rig was simple with a mainsail rig on a Finn-like flexible, tapered, unstayed mast of spruce but uniquely could also carry a small jib that was tensioned upwind by the mainsheet bending back the mast,


She was of round-bilge design but the prototype was built using plywood with two small strakes at the bilge, creating an attractive form similar to the *British Osprey* that is much longer at 17ft.
Using this wood boat, a master female mould was built from which 7 fiberglass hulls were molded, each having foam-cored stringers and the centerboard case fitted. The boats were distinguished by a **CB** and a green flash on the sails and raced at the Richelieu S.Club for several years. But as the area population fluctuated constantly with contracts won and lost, most owners finally left the area and took their boats with them to other parts of the country. Ultimately the hull mould was destroyed due to its storage space being lost following a property sale.



**Ships** .. of little interest here, but this explains the few small boat designs during this period ;)

*From 1958 to 1988, I was mostly involved in ship design, having served an apprenticeship at J.I.Thornycroft Shipyard in the UK starting in 1951.*
*My first 'full ship' design was in 1963 .. for two 1300 ton Coasters. (Coastal cargo vessels)*
*Other responsibilities followed between 1963 and 1988, involving some 12 specific designs, mostly fishing vessels, tankers and cargo liners, from which 57 ships were built.*

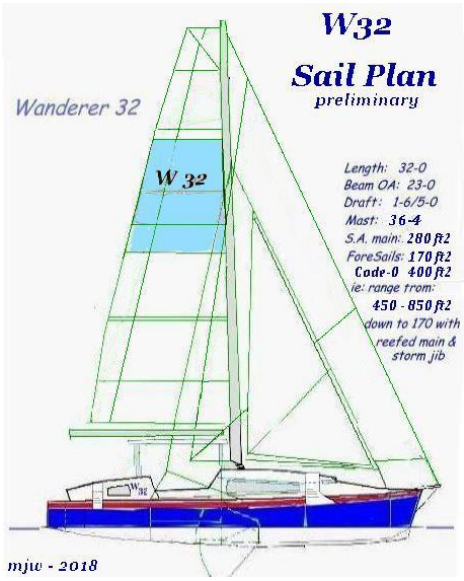

**W22 trimaran** (1 built, 4 others building (2008)
After a 28 year gap in small boat designing, during which time I switched interest, ownership and experience to several multihulls, I was persuaded to design a smaller version of my 25ft demountable Dragonfly *"Magic Hempel".* I also designed a rotating carbon fiber wing mast for the W22. The prototype W22 was built in Belgium in foam-core and then trailed to Portugal where it still sails, reportedly the *'fastest boat with a cuddy or cabin in the port of Portimao'.* She has a top speed of around 20kts. Other boats are now building in Scandinavia and Australia but progress has been slow.
The carbon-fiber wing mast design has become very popular.

**W17 trimaran** (2009) ~20 built so far, but many more building.


This trimaran was designed and built for my personal use during retirement and incorporated many features that one only sees collectively on an ocean racer … namely, *long sleek amas, elegant arched beams, flat-top mainsails, rotating wingmasts, curved mainsheet tracks, self-draining cockpit, under-hull spade-rudders and fine plumb stems.* The W17 has all these and more.
The overall performance success of the W17 has led to other larger boats using the same general form and lines - see below.. Technical papers have now been published to explain 'how and why' the simple shape works so well, and the box form is now getting more public acceptance. The gains are not necessarily in the top speed as this is driven more by very low weight, but the main advantages are in an easier, lower-resistant passage through waves, giving a quieter and drier boat than normal, plus less pitching and less leeway than with traditional rounded shapes. To this one can add the efficiency of its rotating wing mast.
Plan sales are now approaching 200 and boats are building all over the globe with excellent reviews continually coming in.

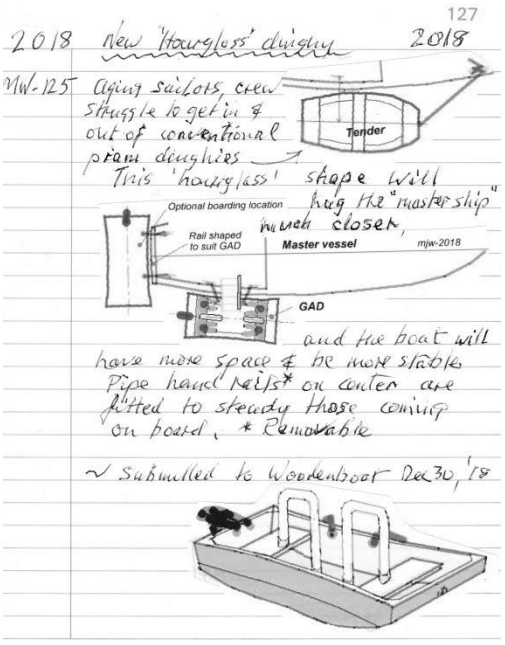
**W32 –** under development (2017-2020)

The overall success of the W17 hull shapes, has led to the concept being applied to a 10 meter trimaran with extended-cruising potential. The design being developed will have many unique safety features and carry with it an ability to get to windward in rough water that many monohulls struggle with. This boat design incorporates a new swing-arm folding system with the pivot supports being bolted in place. This system enables the boat to be reduced in width to 50% of its sailing beam while afloat, but also offer the ability to reduce to the limiting width for road or container transport. The boat features a very protected central cockpit with a rig mounted quite aft, permitting a smallish mainsail behind a wing mast, that will be easy to reef from the cockpit and carry two large foresails that will be easy to deploy and furl. Many more features will be announced and explained in future articles.




**Hourglass dinghy (10ft Snuggy**) for the elderly (2018)

This is a new concept design to correct the difficulties presented by existing 'tenders' .. small service boats (generally pram dinghies) that ferry crew members the short distance from the dock to their main vessels, afloat out in the bay on a mooring.




The author has often noted the ill-fit of the small rounded pram dinghy and the resulting difficulty of boarding the main boat. The rounded dinghy rocks from end to end, as the rounded gunwale meets the rounded gunwale of the master vessel ..and also, with this contact amidships, the person (often of ripe age) is prevented from getting close enough to the master vessel to climb out either safely or elegantly. This new *Hour-Glass* (HG) design was created to solve these issues. (MW-125)

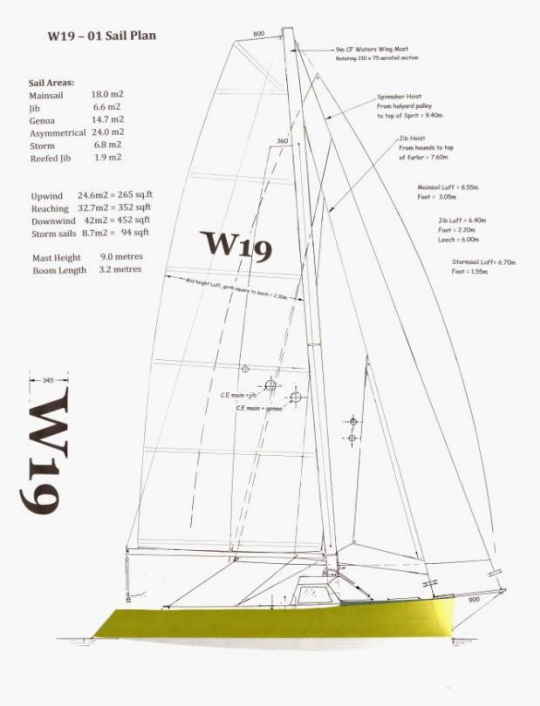
This HG design will lay quiet and close to the master boat and no longer rock around, as it contacts the master-vessel at the ends, rather than amidships. It also has substantial rails on the centerline to hold on to and a ladder can be lowered into the stable center of the boat, to permit the person to simply step up or down.

The sketch shows the concept. As the concave gunwale shape only applies to the gunwale, the water line will be straight like a jon-boat or scow. For short distances, such a shape will also scull well with a simple oar if a motor is not available.

**W19 trimaran** (building - 2020)

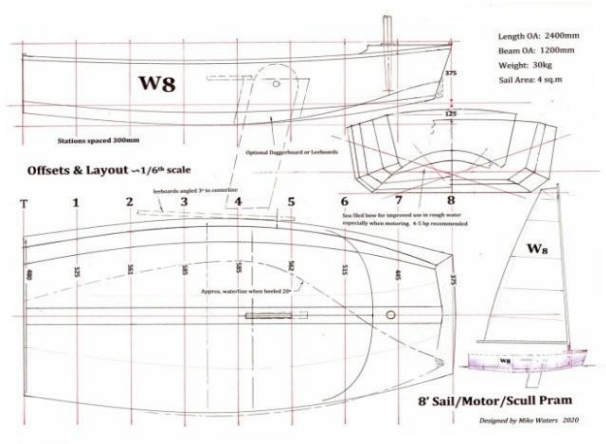
Early in 2020, I was approached by a Canadian adventurer. He was looking for a competitive RAID boat. RAIDS were originally *'adventure camping-cruises of several days, in company with other small boats, all propelled manually or by sail'.* Over time, a competitive aspect has been added, so as they say, *'the race is on'*. 'J' had already competed in the 300 mile *Everglades Challenge* (in a catamaran) and was also eyeing the ultimate coastal competition, the R2AK (800 mile race to Alaska) up the northern Pacific coast. Because he wanted the option to compete alone, he wanted *'the most boat for the under 20ft class'*, so he asked me about a 20ft version of my W17 that already interested him.

Initially, I had to refuse him as I had cruising plans of my own in the US, but then COVID swept in, the border was closed and I was locked-down in Quebec… finally for the whole of 2020.




So I reached out to J and was soon *'back on the drawing board'*, churning out 12 detailed plans for his special boat that is 19.9'long but now called a *W19*. Building has already started but as J is a paramedic during these busy COVID days, he's understandably not had a lot of free time.

Due to being 17% bigger, the *W19* cannot use the 'up & over' folding system of the *W17*, so she will use the new swing-arm system already in development for the *W32* noted above. The *W19* also needed an enclosed single berth so that she can be sailed through the night with one crew resting, and due to sailing in shallow and sometimes rocky areas, she will have a kick-up centerboard rather than the pivoting daggerboard. Her sail plan was expanded to give a good performance in light airs that are not uncommon during these events.




**W8 pram** (new design, none built to date) (2020)

While in COVID shut down, I was also approached by a fellow who wanted to build a small boat for his daughter to learn to sail in. As I was already playing with a small Sea Sled concept, I decided to complete the lines of this boat as a *SeaSled Pram* of just 8ft.

But it soon became apparent that the whole family (2 adults and 2 children) all wanted to get on the water, so this project was put aside and work began on a boat with more load capacity. See below.

**W-Scow 12ft** (building) (2020-2)

This boat is basically 12ft x 4ft to use plywood sheets efficiently. She was designed as a *'Swiss-Army-Knife'* boat that can do everything pretty well. The Sea Sled concept of the W8-pram was also adapted to this scow and should help the boat in all propulsion modes.

The 'bra' as we now call it, lengthens and improves the waterline entranc up forward when sailing at 15-20 degrees heel, as well as collecting air to ride on when planing level under either sail or motor. The extended 'bra' waterlines also adds directional stability to the boat that makes hand sculling more efficient and also improves the waterline entrance when rowing.

The boat has two large 9ft buoyancy tanks P&S so can be righted almost dry after any capsize and these large tanks can be accessed for storage via large round hatches in the transom. This means that oars can be placed out of sight while sailing, or sails & spars can alternatively be slid away while rowing, keeping the relatively roomy cockpit always clear for the family. Storage is also available under the foredeck. The boat feels very stable, especially as the side tanks keep most of the crew weight closer to the centerline. Two sail rigs are proposed with the spar parts for both, not needing to exceed the length of the storage tanks.

This boat is now complete and also has a custom Roll'R Rack (MW-082) for car-top loading.

More information can be made available if needed.




*Roll'R Rack ---*

*More to come ?*

*maybe*

*Mike Waters … 2021*