

In response to the Neil Patterson's vision on the future of Paralympic Sailing, as published by him on November 6th I would like to make below comments and remarks.

Although I applaud his efforts on this subject, it is my opinion that his views are wrong on several points, and misleading on quite a few others. In his paper he compares the models which were present during the equipment evaluation trials and the current boats that have a Paralympic status. Throughout the paper he describes how the Weta would be a suitable boat for disabled sailing, and concludes with the recommendation that the 2.4m and Skud18 retain their status and that the Weta will be added as a new one-person paralympic class.

However, nowhere in this paper does he mention the WindRider AS1 / AS2. It appears he wishes it didn't exist. And I think for a good reason, being that the WindRider AS1 / AS2 ticks all the boxes that the Weta ticks, while at the same time can also cater to those sailors who in his setup can only be accommodated by the current Skud18 class. Furthermore, the described disadvantages of the Weta are not present in the WindRider.

As such I would like to first introduce this WindRider AS1 / AS2 to those who are not yet familiar with this model, and afterwards address several points made in Neil's paper. Finally I will present my conclusion on how disabled sailing can grow from a grass roots level, up to Paralympic inclusion, at the lowest cost, with the highest chance of success.

The WindRider AS1 / AS2 Trimaran

The WindRider AS is a series of trimarans based on the very popular WindRider 17, an open trimaran with rotomolded polyethylene hulls, and two forward-facing cockpits and added seating space on the trampolines. Of this model there are currently over 1,500 boats in active use, many of those by disabled sailing clubs and Sailability organizations. To address the requirements from these clubs and disabled sailors who would like to compete on a high level in an exciting boat, WindRider introduced the AS and AS1 / AS2 models. They combine all the advantages of the very popular WindRider 17, such as its performance, low-cost, durability, safety and comfort, with some added features which allow the widest variety of people to enjoy sailing in an exciting, yet safe way. Either solo, with two or in a group.

Compared to the WindRider 17, the new WindRider AS sports foot steering in both front and aft cockpit, interchangeable joystick steering in either front, or aft cockpit, and a bilgepump in the front cockpit. Furthermore its polyethylene hulls, sturdy aluminium beams and a fully flat floor make it easy to add individual customized adaptations or seats if required. Its price is set at just over \$ 10,000.

The WindRider AS is fully 'AS1 and AS2 ready', meaning with minimal time and effort it can be upgraded to become a race-ready full-performance WindRider AS1 / AS2. So a boat can be used for daily recreational activities, rentals and club racing and with a specially designed upgrade kit it is possible to use the same boat to compete in regional, national and international one-design WindRider AS1 and AS2 races.

The WindRider AS1 and AS2 are specifically designed and equipped to allow racing at the highest level, either solo (AS1), or with two (AS2). Like the standard WindRider AS, the AS1 / AS2 version sports footsteering in the front cockpit (AS1) or aft cockpit (AS2), and all control and trim lines are routed to an ergonomic cleat console on the front cockpit. This allows a solo sailor to control everything from the front cockpit, or the crew to adjust the sheets and trim, while the helmsman is in the back cockpit. In addition to the WindRider AS, included with the AS1 / AS2 are a furling reacher on a carbon bowsprit, mid-boom sheeting with traveler control, adjustable backstays, trim-able mast rotation, cunninghamhole and outhaul without getting up, and a safety package which includes buoyancy bags in the amas and an automatic mast flotation device in the mast. This last bit is important as in the very unlikely event of a capsize, the boat will remain afloat on its side with the sailor well above the waterline, and thus cannot be trapped under an

overturned boat, which is a serious risk with multihulls. Hardware is top of the line Harken and most control lines are lightweight Dyneema. Optional extras include joystick hand steering and barberhaulers for both the jib and reacher. During the trials we could not find a single sailor who was not able to control the boat, either solo or with two. For example, two Skud18 sailors (who sail together on the Paralympic level) tested the boat together as AS2 version, and both individually as AS1 version without any problems. The price for this well equipped and fully adapted version is just below \$ 14,000. An upgrade kit is available to turn existing WindRider 17's and basic WindRider AS's into this sportier AS1/AS2.

Address of several sections written by Neil

On page 1:

"The best solution for Para sailing equipment is the 2.4mR, Weta Trimaran and SKUD with hiking crew. These three class will place sailing in the best position to meet our objectives:

- 32+ nations competing at an elite level at worlds or regional championships*
- Cater for all levels of disabilities include 1s and 2s*
- Provide an affordable and accessible platform for developing nations*
- Provide a sustainable platform*
- High level of racing that is expected at an Olympic/Paralympic level*
- Provide modern boats that are exciting for the sailors*
- Provide a sport that inspires youth, appeals to non-sailors (new disabled);*
- Engage with spectators*
- Provides a marketable product that appeals to the IPC and sponsors*
- Reinstate sailing in 2024 Paralympics."*

The first objective is not in line with the IPC requirements. IPC does not only require 32+ nations to compete the sport at a world or regional championships. The IPC Handbook states only team sports widely and regularly practiced in a minimum of 24 countries and three IPC regions will be considered for inclusion in the Paralympic Games and for individual sports a minimum of 32 countries in three IPC regions. Hence just having a few athletes from 32+ nations sail in a particular class at large events will not satisfy this requirement. There needs to be active class sailing and racing in each individual country. That means at least 32 countries (24 in case of one-person class boat), will have to acquire 6 boats of a class at the minimum.

The second objective is already met by the current Skud18 and 2.4m class. The Weta does not add to this, in stead will be catering the current 2.4m sailors, possibly even limiting them, as sailing a Weta with a single arm or hand will be a severe disadvantage.

The third objective is not met by introducing three different boats to developing nations. The cost will just be higher than it is now The proposed solution to sell 'poorer' countries used boats is unfair, plus there will not be enough used Skud18's and 2.4m's available to meet the first objective.

On page 1:

"The future of Para sailing needs to cater for all levels of disability this includes highly disabled sailors (1 and 2 pointers). There has been the conversation of bringing in the 303 to ensure we get the country numbers at the expense of removing a boat that would cater for 1 and 2 pointers. The argument for the case is we would ensure the sport is back in 2024 and bring in a boat that caters for 1 and 2 pointers in 2028. That is 12 years away and an unacceptable outcome. There are only three boats available that allow our highly disabled sailors to compete, the Liberty, RS Venture and SKUD. Below is details as to why the SKUD is the most suitable of these three boats."

There are not only three boats available that allow highly disabled sailors to compete. The WindRider AS1 / AS2 allows sailors with a classification of 2 and higher to compete, and in most cases on an even level with sailors with a much higher classification, or even able-bodied sailors. This has been proven during the equipment trials in Italy and The Netherlands. As a two-person version with added servo control the WindRider AS1 / AS2 can also allow sailors with a 1 classification to sail on a competitive level.

On page 2:

*“Change of SKUD format (Physically challenging crew position):
Majority of the current Sonar sailors have pointed out the need for a physically challenging boat. Having the crew of the SKUD move from inline seating to hiking from side-to-side will allow the boat to sail up wind more true to its skiff lines. The physical role of the crew position will increase the demographic of sailing by entice people that do not have a sailing background but enjoy the fast pace and physical challenge into the sport.”*

One could accomplish the same by introducing a WindRider AS3 class, where the third person can hike out, or in an alternative AS2 class, where the helmsman controls the boats as in the AS1 from the front cockpit, with one crew member hiking out.

On page 3:

*“There are already 90 SKUD’s around the world and sailors in Australia and New Zealand have pledged that they would donate their older mark one boats to developing nations. There is a market for second hand Mark 1 and 2 boats. Developing nations can purchase these boats to start their campaigns. Yes they may not be competitive to win medals but with 8 years to the next games this gives them time to develop their sailing program and raise funds to replace their boat with a newer hulls. Comparison of the cost of 32 nations purchasing RS venture ($32 * 21,00 = 672,00$) compared to increasing the number of nations sailing the SKUD from 16 to 32 ($16 * 36,000 = 576,00$), even with the lower RS Venture price, does not measure up.”*

First of all to admit the fact that developing nations will not be competitive with these used boats goes against everything the Olympics stand for. Furthermore the calculation of the costs involved are not correct as each developing nation would need to purchase at least 6 boats to be able to set up a national class and be in line with IPC regulations (see page 1 comment). The calculation also does not include the excessive cost involved with shipping a boat like the Skud18. The only thing that makes financial sense for developing countries is to scrap the costly Skud18 and Sonar classes, and go for smaller more affordable boats. The Hansa boats, Weta and WindRider all tick this box, except that the Hansa is not attractive on a high level, and the Weta does not allow higher levels of disability to use it. The WindRider is the only boat offering both excitement and accessibility at low cost.

On page 4:

“Something must change if we are going to move forward. We need to provide an option for developing nations and be more engaging with spectators and marketable. Developing nations need a platform that can be:

- launched off a beach, not requiring the infrastructure our current fleet needs;*
- Is an easy progression from Sailability and the HANSA fleet;*
- Cost effective; and*
- Inspire potential athletes to the sport of Para sailing. “*

Three points are very well formulated. The one about the progression from the Sailability fleet is moot though. Why not use boats currently in use by Sailability if they tick all the boxes for growing Para Sailing? That certainly saves a lot of money in purchasing new boats and shipping boats around the world for regattas. The WindRider 17 currently in use by many Sailability organizations can be upgraded to an AS1 / AS2 at a fraction of the cost of any new boat. It also

allows many more regional races to be held, by using local boats, and not wasting time and money shipping them around.

On page 4:

"The Weta cost \$18,500. This is cheaper than the 2.4mR which cost around \$25,000 once setup at a Paralympic games level. There are 1200 Weta's world-wide. Over 50 in Australia alone and the class is growing. There is a healthy second hand market (second hand price as low as \$9,000 with most \$12,000 - \$14,000). The simple design and sail material reduce the ongoing cost compared to a 2.4mR."

The WindRider AS1 / AS2 costs less than \$ 14,000, which includes many features to increase the accessibility and performance. The cost for the Weta is in its standard form, in which it is severely limiting the types of sailors who can use it. With mods the price will rise. Also the durability of a fiberglass / carbonfiber boat is much lower than the rotomolded polyethylene WindRider. A quick look at the price of parts will show this. For instance a new daggerboard and rudderblade for the Weta cost respectively \$ 650 and \$ 530, whereas the WindRider doesn't have a daggerboard, but in stead uses a molded-in skeg, which is unbreakable. A WindRider replacement rudder comes in at just under \$ 100.

On page 4:

"Yes, nations are already invested in the current fleet. They still have the option to sail the SKUD and 2.4mR. Developing nations need to purchase new boats as they have nothing. The Weta is that cheaper option for them. We could have developing regions like Africa, South-East Asia, Pacific Islands and South America all start the new Weta fleet. There are strong Weta fleets in North America, New Zealand and Australia. I see disabled sailors in these regions easily accessing the second-hand Weta market and starting to sail Weta's."

So the proposition is that one separates the developed and developing world when it comes to sailing classes. The developed world can use existing high-cost classes at no further investment, whereas developing nations can make the investment in another lower-budget class, in the hope that one day the lower-budget option also becomes popular in the developed nation or the developing nations will have saved up enough to purchase a couple of "developed nations class" boats. Talk about segregation!

On page 4:

"The boat with its versatility means it appeals to Sailability clubs. Already since my videos there has been interest and discussions with sailability clubs and Weta. As I mentioned in my previous paper the transition from HANSA 303 to a Weta can be taken in increments. A sailor can start their journey sailing the Weta two-up with smaller sails, eventually working up to single handed Neil Patterson 06 Nov 12016 Paralympic competition. Sailability clubs could use their Weta in their learn to sail days and give potential athletes the starting point of their sailing career. In the USA, Spain and UK sailors already sail Weta's in a 2 person configuration with a centreline seat and a highly disabled sailor seated and steering. I do not believe this is the right configuration for the Paralympic games but it shows the versatility of the boat and its appeal to grass route sailing."

There is a much easier and cheaper solution: Adapt the current fleet of WindRider 17's in use by Sailability to AS's at a few hundred dollars. Some of these boats can be used for high level racing by installing the AS1 / AS2 upgrade package. Sailability can use the standard AS's for daily activities and instruction, whereas athletes competing at a higher level can add there own AS 1 /AS2 upgrade kit to such existing WindRider AS's. The costs will be reduced dramatically for all involved, and there is a clear path from beginner to Paralympic athlete.

On Page 5:

"The Weta can capsize. From what I've seen on You Tube it can round up and go over sideways or stick the nose in and cartwheel. When I had the Weta I tried to capsize the boat with no success. I have sailed in 20+ knots with gusts up to 25 and Melbourne's rough sea state (1.5m swell). The boat is very stable and forgiving. In conditions where I would be worried about swamping in a 2.4mR the weta is still very easy to sail and manageable. Downwind when I pushed the boat you get fair warning before you reach the limit. The leeward outrigger starts to dig in first, then the centre hull will start spraying up water and if you do stick the nose in the boat slows-down but never seemed like it was ready to cartwheel. I have heard similar stories from the New Zealanders.

The boats will be capsized during races, just like sailor swamp 2.4mR's when pushing the limit in competition. This will mean the end of your race as some sailors will require outside assistance to right the boat. I see the likelihood of capsizing a Weta similar to swamping a 2.4mR if not less likely."

Unfortunately your account on how stable the Weta is in the condition described, while not being able to fully use ones body weight, could not be validated during the equipment evaluations. During the times with winds over 15 knots no disabled sailor could test the boat, and only fully-abled sailors did the demonstrations on the water.

The risk of flooding a 2.4m is not a large safety concern, as the sailor will still have his or her head above the water, and in case of coming lose from the seat, the sailor wears a life jacket. The risks associated with capsizing a multihull are many times greater. If a multihull capsizes it will turn upside down, and can trap anyone not able to swim free from under the boat. The use of a lifejacket actually increases this risk. For disabled sailors who will have limited dexterity, motion or strength this is a too great risk. In order to be safe during matches as well as training or recreational use a follow boat needs to be very close at all times. This again adds to the cost and goes against the proposal from World Sailing to limit follow-boats on the water.

The WindRider AS trimaran on the other hand is virtually uncapsizable, and in the very unlikely event it does occur, the floats will have enough buoyancy to keep the main hull –in which the sailors are seated) well above the water line. The AS1 / AS2 will not turn upside down thanks to an automatic flotation device which is hoisted in the mast and works similar to an automatic life jacket. No matter what happens, the sailors face will always stay above the water.

On page 6:

"For example if say the Weta was selected as a single person class we could have 9 – 11 races over 3 days for males followed by 3 days of racing for females. This would really help to include more females in the sport, for developing nations and those on tight budgets they could use one boat for 2 events. By having the first medals decided after only 3 days it would create much more media interest over the entire week rather than all the media interest being on the sixth day of sailing."

This is a format that could be applied to any of the classes and does not favor the Weta. In addition to using one boat for two events, a single WindRider allows the same boat to be used in two different classes, being the one-person AS1 and two-person AS2. The changes to boat to switch classes can be done in a few minutes.

On page 7:

"I believe moving racing close to shore in conjunction with a larger number of short racings will be more engaging for spectators."

This is an excellent comment, as are the other proposals in the same paragraph. Unfortunately none of the classes proposed by Neil can race in shallow waters very close to shore. Both the 2.4m and Weta have a draft of 1 meter, with the Skud18 even more. Then there is the issue that for the Skud18 and 2.4m class the beach is not accessible, so a venue still needs to provide a docking solution (pier or marina) and crane. The Weta furthermore needs assistants in the water to help retrieve the boat near the beach to prevent damage to the hulls, daggerboard and rudder.

Easily done oneself if fully-abled, not so easy when one is disabled. The WindRider AS on the other hand has a draft of less than half that of the 2.4m and Weta, and there is no risk of damaging any part of the boat when landing. The boat can be sailed right onto the beach, without having to make any adjustments.

On page 8:

“There has been discussion on the Para Athletes Facebook Group about if we should have two or three classes. In RIO we were allocated 80 athletes for sailing that could go to the games. Having two fleets would mean more country spots per fleet. I agree two fleets would be ideal but there are no options with two fleets that meet all our needs. The three classes that should be selected are:

- 2.4mR: has the largest fleet numbers, wide disability range, and best chance at getting our 32 nation requirement.*
- SKUD: best option for 1s and 2's, enticing to the media*
- Weta: Appealing, exciting, innovative and the most ideal solution for emerging nations”*

It is correct that less classes / fleets makes it easier to help grow the sport. The conclusion that there are no options with two fleets is incorrect. By having only the Skud18 and 2.4m most of the needs that are emphasized in this paper are already met. The Weta as a second one-seater option adds very little to the other two classes combined, and will not address the requirements of cost, durability and accessibility as laid out by Para World sailing. On the other hand the WindRider AS1 and AS2 classes do meet all requirements. Furthermore these classes use one and the same boat, and the downgraded version of this boat can be used outside of races by both disabled and able-bodied sailors for both recreational and training purposes. So instead of a developing nation needing to spend in excess of \$ 70,000 for the proposed 3 boats (of which they would require at least 6 each to meet IPC requirements), a single Windrider AS1 / AS2 including all options and adaptations will be had at a cost of under \$ 15,000. Add the cost of shipping, and for the price of one 2.4m, one Skud18 and one Weta, a developing nation can easily purchase 6 WindRider AS1 / AS2's, allowing it to setup a national program with two classes / fleets.

On a side note, thanks to the many trade agreements the USA (manufacturing location of WindRider) has, WindRiders can be imported cheap into many of the regions IPC and Para World Sailing are specifically targeting. Compared to WTO agreements there are 17 more countries which have 0% or near 0% import-duties levied when the boat comes from the USA (in stead of 10% to 25% under WTO rules). Notable are most Middle- and South American countries and several African and Middle Eastern countries.

Neil's proposal:

	<i>Countries In 2024</i>	<i>Athletes per fleet</i>	<i>Total</i>
<i>SKUD</i>	14	2	14
<i>2.4mR</i>	20	1	20
<i>Weta</i>	32	1	32
<i>TOTAL</i>			80

An alternative proposal:

	<i>Countries In 2024</i>	<i>Athletes per fleet</i>	<i>Total</i>
WindRider AS1	32	1	32
WindRider AS2	24	2	48
TOTAL			80

On page 10:

"The outcome of Barcelona should be:

- Business case for reinstating Para World sailing to be presented. We need clear direction in Barcelona on what is required for our submission to IPC, key dates and what is required of sailors/MNA's.*
- 2.4mR, SKUD and Weta put forward as equipment for Paralympic classes with final decision in Feb/March. Assuming they go with these three classes we will need time to work on potential changes to SKUD and develop Para class rules for the Weta for Feb/March meeting.*
- Confirm date and location for Para Worlds"*

Apart from all the earlier mentioned reasons why adding the Weta as a class to the current Skud18 and 2.4m Paralympic class is not a solution, this is another reason this is not a safe way forward when it comes to changing IPC's mind. Submissions to IPC for the 2024 Paralympics will have to be made by the end of 2017. By that time they will want to see that the sport meets all requirements. If it is estimated that the current Skud18 and new Weta will need until February or March 2017 before they can be introduced as a class, then that leaves only 8 months to work it all out. This includes the manufacturing and shipping of the boats, allowing the clubs and MNA to find the funds to purchase them, and then to set up the national and international classes. I don't see any of that happening in such a short time frame. Again, the perfect solution is the WindRider AS1 / AS2. This boat including the specific adaptive options and modifications is ready for production, and the factory can build and ship more than 150 boats per month, fitting 6 at a time into a single container.

Conclusions:

Apart from all the points already addressed above, there is one more solid reason to choose the WindRider, and that is that the boat is nearly 100% recyclable. Nowadays marinas all over the world are littered with abandoned polyester and fiberglass boats. Incinerators refuse to process the hulls due to the fibers, so these hulls all end up as landfill eventually. If World Sailing is serious with their aim to be sustainable, then the only option available is the WindRider. Near zero-maintenance on its hulls (no scraping, sanding, coating, etc), and the hulls will not reduce in stiffness after a couple of seasons of use, allowing a boat to be competitive for many years, and even used boats can compete fairly with just a new set of sails.

So, we have given this quite some thought, and recognize the pressure (Para) World Sailing must be feeling from the sailors and clubs who invested in the existing Paralympic class boats, the need to conform to the tradition of sailing in old-fashioned polyester or fiberglass keelboats, and its wishes to move to a lower-cost, more exciting, modern and durable type of boat.

A safe compromise could be reached by maintaining the 2.4m Norlin class for now, and adding the WindRider AS2 as the two-person class. Clubs / MNA's then only need to find the funds to purchase the low-cost AS version for their daily sailing activities (4 AS's for the price of one Skud18 for example), whereas sailors with (inter)national aspirations can independently acquire the kit (low-cost and easily sponsored) to convert the AS into a race ready AS2 two-person boat. That keeps the cost down for all parties involved.

After the 2024 Paralympic Games, depending on the popularity of the 2.4m vs. the WindRider a decision can then be made to make the WindRider AS1 version the new official one-person class. This will be a zero-cost change to the clubs already having WindRider AS boats, as the AS2 configuration is nearly identical to the AS1 setup, so sailors can share a single boat even during regattas. In stead of the current situation where 3 different boats will have to be shipped at high cost to a regatta venue, in this proposal, only a single boat needs to be shipped (or in most cases a local boat can be used, and the competing sailors themselves only have to bring the parts to convert the boat to their own 1-person or 2-person race configuration). This also allows sailors to compete in many more regattas during the season as there is no time and money lost shipping boats from venue to venue.

For further information I would suggest the following links:

Future of Paralympic Sailing – Equipment and Format, Update prior to World Sailing Conference, by Neil Patterson, 6 November 2016:

<https://drive.google.com/file/d/0BxvIrctJw5pNT1RcnRKOWptbIU/view>

Experiences during the Equipment Evaluations:

<http://www.windrider.com/blog/windrider-as1-at-the-paralympic-trials/>

Spreadsheet describing the differences between the boats that have joined the Equipment Evaluation Trials, along with the current Paralympic class boats:

<http://www.asia-hydrosail.com/WindRider-AS/Para-comparison.jpg>

Summary of the major advantages of the WindRider AS and the AS1 / AS2 program:

<http://www.asia-hydrosail.com/WindRider-AS/WindRider-AS-Program.pdf>

Brochure of the WindRider AS, AS1 / AS2

<http://www.asia-hydrosail.com/WindRider-AS/WindRider-AS-flyer.pdf>