

# West Wind

## The Newsletter of the NZ Zephyr Owners' Association

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### Editorial

This issue of the West Wind has been “stuck in production” for a few weeks while I have been side tracked by a range of issues, some of them related to the Zephyr class. Opposite I have included the minutes from the Worsler Bay National Contest forum, as some of the work I have been doing relates to the issues raised there.

In addition, owner Brian Peet asked for clarification on the use of carbon fibre to sheath an old hull. At the same time, Andy Knowles, who has been critical of some of the potential loop holes in the class rules for some time, produced (at my request) a number of suggested clarifications and amendments. As a result, a number of broadly similar issues have come together for the class to consider.

**Weight and “Personalisation” of new hulls:** The ZOA Committee noted the concerns raised in Wellington and it may be that we do ultimately need to restrict the amount of allowable lead “make weights”. However, we are hopeful that an increase in the veneer thickness will allow the hulls to be finished pretty close to the required weight. In addition, a rule change (if passed) making the supply of hulls with side buoyancy tanks installed will mean more of the weight of the hull is determined by the ZOA appointed builder.

**Use of Carbon Fibre;** This area proved more challenging. Andy Knowle’s rule amendments proposed fairly free use of carbon fibre, a reflection of the current state of the class. However, it was clear, when this rule was circulated to the Executive for comment, that there was quite a diverse range of views on the subject. Don Currie has offered his perspective and I am hopeful that others with views on the matter will put them forward too.

Grant Beck offered the comment that the perceived advantages of carbon fibre are improved panel stiffness, however sheathing only on one side (whether it be canvas, glass or carbon) has little effect on the overall stiffness of the total wood panel. For the fibre laminates to offer the panel global stiffness they both need to be on both sides

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National Champions, Nick Oxborrow, Catherine Bridges, Greg Wright, Tim Snedden, Grant Beck, Murray Sargisson

### Zephyr Owners' Association Worsler Bay National Contest Forum 2<sup>nd</sup> February, 2012

**Attendance:** M Sargisson, (Chair) and approximately 28 members.

**Financial Report:** Tim Snedden (Treasurer) circulated an interim financial report. He indicated an overall healthy financial position, with members funds of around \$46k and some \$30k in cash reserves. Four hulls have been completed, with three hulls sold and one on hand as a stock item. Six masts and booms and 11 sails have also been sold. An order for four masts had been placed to replenish stocks. Membership is slightly down, but a number of subs are still to be received.

#### General Business:

**Weight and Construction of New Hulls:** Members expressed concern that new boats were now significantly underweight and required the addition of considerable amounts of lead to bring them up to weight. It was suggested the amount of “allowable” lead be restricted. This prompted a discussion in which the background to the issues of hull weights was outlined. Much of this has been detailed in past West Winds. Broadly, though the current 57kg weigh limit is hard to achieve during restoration of an “old” boat and requires changes to the boat as supplied by the builder, in contravention of current class rules. A recent rule change to raise the weight limit in the class closer to the median weight, did not reach the required two thirds majority required for a rule change. It was suggested that this issue could be put to the class again, either in the same, or revised format if it was thought that members thoughts had changed.

**Use of carbon fibre:** The meeting commented on the increased use of carbon fibre on Zephyrs and the absence of a formal ZOA “position” on its use. Concerns were that carbon fibre was not a “traditional” material and that increased use could lead to stiffer hulls – a development option at odd with the one design philosophy of the class. In discussion it was pointed out that carbon fibre was not always more “efficient” than plywood panels. Restricting carbon fibre, but not various types of fibreglass would be problematic and enforcing a restriction would be difficult. The importance of carbon fibre and fibreglass in restoring older Zephyrs was recognised too though. The ZOA undertook to review the class rules with respect to carbon fibre use and report back.

**Personalised hulls:** The meeting inquired as to the prevailing standard for the supply of hulls, concerned at an apparent degree of “personalisation”. It was suggested that the ZOA clarify the standard for the supply of hulls.

## 2012 New Zealand Zephyr National Championships

Rank	No	Helm Name	R1	R2	R3	R4	R5	R6	R7	R8	Total	Nett
1	309	T Snedden	1	2	3	5	12	2	5	5	35	23
2	511	G Beck	(48.0 DNC)	11	1	1	10	4	1	1	77	29
3	512	S Pyatt	7	8	4	11	7	1	2	2	42	31
4	82	M Sargisson	5	4	5	2	8	6	7	6	43	35
5	514	G Wright	(48.0 OCS)	3	7	6	13	3	4	3	87	39
6	502	P Williams	(48.0 OCS)	1	2	8	17	8	6	4	94	46
7	301	C Maddren	11	35	8	3	1	16	8	10	92	57
8	155	Rob B	(48.0 OCS)	9	9	10	18	17	3	7	121	73
9	171	D Blair	15	7	21	4	30	5	14	9	105	75
10	160	T Gable	16	5	11	12	14	13	19	11	101	82
11	519	Peter Dawson	3	14	25	15	2	18	11	21	109	84
12	256	D Le Page	8	10	14	17	9	20	16	24	118	94
13	331	S Smith	2	17	16	21	28	14	20	8	126	98
14	54	N Oxborrow	19	28	17	16	3	9	12	23	127	99
15	145	M Hood	4	36	22	22	22	11	10	13	140	104
16	46	R Dreverman	10	30	6	13	6	15	31	34	145	111
17	88	B Smyth	9	38	18	19	4	29	15	19	151	113
18	182	A Neyle	(48.0 OCS)	34	13	7	11	23	13	14	163	115
19	504	G Beckman	20	18	12	14	24	10	17	37	152	115
20	308	S Novak	23	12	19	24	5	26	21	18	148	122
21	508	C Moss	6	41	24	18	16	22	22	32.5	181.5	140.5
22	517	B Linton	24	22	15	30	26	7	18	41	183	142
23	304	Rob Ebert	12	23	20	27	15	21	25	28	171	143
24	109	H Eichholz	14	6	32	29	25	27	28	20	181	149
25	86	D Lyford	13	26	28	25	20	33	9	29	183	150
26	257	B Baker	17	13	26	9	27	34	34	25	185	151
27	75	C Bridges	25	42	27	20	32	19	23	12	200	158
28	130	Ian Cook	32	29	10	23	31	25	27	26	203	171
29	29	T Bird	18	19	37	32	21	37	26	30	220	183
30	221	P Wilkin	26	27	35	31	35	24	30	15	223	188
31	126	M Lantz	(48.0 DNF)	15	30	28	19	28	32	39	239	191
32	524	A Allison	28	24	23	38	34	12	37	(48.0 dnf)	244	196
33	501	D Knott	22	25	36	37	23	(48.0 dnf)	40	27	258	210
34	516	T Crew	(48.0 DNC)	48.0 DNC	29	34	29	32	24	22	266	218
35	107	G Bird	30	16	34	35	37	36	41	31	260	219
36	6	N Lloyd	29	31	33	(48.0 DNF)	36	30.5	29	35	271.5	223.5
37	313	C Hargreaves	21	40	38	26	41	30.5	38	32.5	267	226
38	147	A Aitken	34	(48.0 RAF)	31	36	40	38	35	38	300	252
39	312	H Garside	35	20	42	41	38	41	39	44	300	256
40	515	K Tonks	31	21	44	44	45	39	44	36	304	259
41	307	C Bridges	27	37	41	40	39	40	43	40	307	264
42	192	R Carpenter	(48.0 DNF)	33	39	33	42	35	36	48.0 dnc	314	266
43	311	K Henderson-Ashby	(48.0 DNC)	48.0 DNC	40	39	33	42	33	45	328	280
44	87	C Taylor	36	32	43	42	43	43	42	43	324	281
45	185	T McGlennon	33	39	45	43	44	44	45	42	335	290
46	513	P Hanns	(48.0 DNC)	48.0 DNC	48.0 DNC	48.0 DNC	48.0 DNC	48.0 DNC	48.0 DNC	16	352	304
47	522	M Berry	(48.0 DNC)	48.0 DNC	48.0 DNC	48.0 DNC	48.0 DNC	48.0 DNC	48.0 dnc	17	353	305

### Zephyr National Championship Winners, 2012

Zephyr Championship Trophy	Tim Snedden	Zephyr Masters Trophy 60 years and over	Murray Sargisson
Zephyr Championship Runner-Up Trophy	Grant Beck	Zephyr Masters Trophy 50 - 59 years	Tim Snedden
Zephyr Handicap Trophy	Nick Oxborrow	Zephyr Masters Trophy 40 - 49 years	Greg Wright
Zephyr Championship Trophy - Female	Catherine Bridges		

## 2012 National Championships Report

Well, that was different ! Wellington put on a light weather for almost a whole contest, most unusual for such long period. Normally we would get a light day, a moderate day and a windy one as well, over four days. Gone were the myths about Wellington being having a contest blown away, gear breakages and bodies smashed about. Gone was the “local knowledge” as the light tending Easterly winds zephyred in patchy scraps through the course. With Wellington mustering 22 boats, Auckland 13, Hamilton 2, Tauranga 2, and Canterbury 7, the contest was well attended and the fleet in total of 47 boats was the largest since the Nationals at Manly in 2008.

Some of the standout placings from the Wellington group included Richard Dreverman two 6<sup>th</sup>, Rob Bryant a 3<sup>rd</sup>, Marty Lantz a 15<sup>th</sup>, Greg Wright three 3<sup>rd</sup> placing, Mike Hood a 4<sup>th</sup>, Phil Williams 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, Simon Novak a 5<sup>th</sup>, Brett Linton a 7<sup>th</sup>, David Lyford a 9<sup>th</sup>, Peter Wilkin a 15<sup>th</sup>, and Andy Allison a 12<sup>th</sup>.

Due to the ongoing controversy over boat weights the Wellington group decided to run a “super heavy weight competition” being the combined weight of boat and sailor. The “all you can stick in a bread stick for five bucks” lunches greatly enjoyed, helped move more competitors unwittingly into heavy weight condition. However the results of the competition in the big picture showed that there was only a 0.2 correlation of finishing position v weight ( correlation of 1 being a full correlation). Now that was unexpected, but in the fickle conditions, quite understandable. The competition was won by Tony Gable in Blue Rinse, clocking in at 151.6kg, one of the lighter heavy weights.

The timing of the contest seemed to be about right in terms of the time between the North Island, Christmas and the Nationals. The organisers were keen for the travellers to have a holiday day to travel home rather than another day off work. Now that was different! However most competitors travelled straight after the prize giving, and coupled with the difficulty of securing helpers on a Thursday, this turned out to be not such a great idea.

The age group competition was fiercely fought and in hindsight the display of progressing results of these sub groups might have hotted up the competitive instincts of the participants. Certainly did for the 60+ after a casual during race discussion set the match racing tone of the remaining races. Well done Murray Sargisson #82 for a well deserved win there. Murray was the only competitor to have a top ten (actually top 8) place in every race. Second was Phil Williams #502, third Colin Maddren #301 and Rob Bryant #155, fourth.

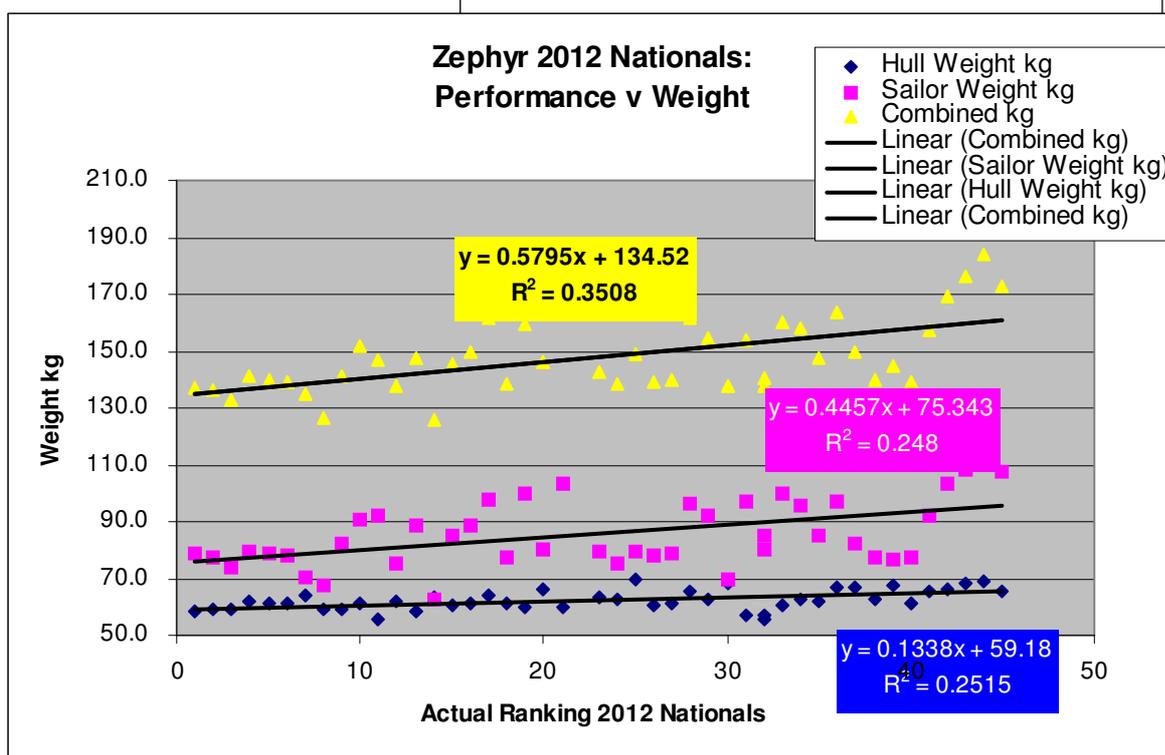
The 50+ group was extremely closely

fought and although Tim Snedden #309 sailed beautifully throughout, to win the overall contest with Grant Beck #511 second. The 40+ group was an all Wellington affair taking out the first four places. Won by Greg Wright jockey for Kereru #514, with Brett Linton having just returned from winning the Sunburst Nationals jockey in *Gramps* #517 in second, Mike Hood, jockey for *Zeppelin* #145 third and Andy Allison in his brand new *Flotsam* #524 bringing in fourth place. The handicap section was clearly won by Nicholas Oxborrow sailing #54 *Philomena* well above his pre contest expectation by a massive 28 places. Andy Neyle in #182 *Ziggy* second 19 above, and Richard Dreverman in #46 *Sparkles*, 15 places better than expected. Feedback from competitors generally indicates that we enjoy the sub group competitions as, there can only be one winner of the overall competition. We would like to win, but actually come for the camaraderie, being “part of it” and racing others of similar position in the fleet.

One of the special things helping develop the Wellington fleet is that we focus on the fun part of the racing, the “who dun wot!”, and greatly enjoy the many “lies” that are told in the clubhouse afterwards. Who won is not important, unless it really is unusual - a significant who. Although this is a National Contest and winners get cups and trophies to take home, generally competitors do not get a mention let alone a prize. Hence, the idea of a special Zephyr Nationals 2012 vintage bottle of wine for each competitor and presented to each in handicap order, finishing with the handicap winner. The “also sailed” were greatly appreciative of this. The dinner at the Roxy was a special “do” with great food and excellent company in the beautifully finished art deco surroundings. Now that was really different !

Overall, congratulations to Tim Snedden in *Pilatus* #309 for his third win of the National contest, Grant Beck #511 second place and Steve Pyatt in *Mickey Finn* #512 third. Thanks to the many sailors turning up to the contest and the many who expressed their enjoyment to our organising team. You guys n gurls from all parts of the country, make the event a success. See you in Auckland 2013

*Phil Williams #502*



## **Perspectives on Carbon**

*Don Currie*

In discussing the use of carbon fibre in the Zephyr class, we need to bear in mind that the objective is keeping the Zephyr class healthy and ensuring that our rules give practical effect to the objective of “restricting the hull form and sail plan, while allowing a certain freedom of finish and equipment, so as to ensure that all boats have the same potential speed”. A generally accepted, though not documented objective is to ensure that existing well kept boats do not become outdated by the appearance of any new category of “super boat”.

So when we are communicating in this forum about materials like carbon fibre, we are doing so with our “guardian of the Zephyr class” hat on, not our “I’d like to have a really cool go fast Zephyr” hat on.

In my view what sets the carbon fibre discussion apart from other discussions about finishing materials is that carbon fibre skins can, depending on how they are used, change the strength to weight ratio and bending characteristics of a wooden structure very significantly. Different species of timber and/or skinning with glass fibre did offer a bit of room for optimizing structures, but the effects were quite subtle - carbon fibre could be used to make changes of an entirely different magnitude, so we should be much more careful about how we allow for its use. If the rules allow the construction of super boats, real or imagined, that will seriously damage one of the best things about the Zephyr class – the existence of a fleet of boats that are competitive, old or new.

In order to generate some clarity I think we should try to split the argument into what is acceptable in brand new hulls, and what is acceptable for repairing/restoring old ones.

### **New hulls**

I would suggest that the use of carbon fibre on the outside of the hull skin and the inside of the cockpit floor is clearly banned. I buy Grant Beck’s argument that a carbon skin on one side of a wooden laminate does not significantly change the bending characteristics of the panel (though intuitively I’d question whether this still holds good for panels with significant compound curvature?) – but specifically allowing brand new boats to have a cockpit floor that is in practice a carbon/wood/carbon sandwich is a step too far, and I’m strongly opposed to such a change.

The Zephyr has proven to be an unusually robust boat, with 40 and 50 year old hulls proving to be competitive and strong. The Townson Mistrals used exactly the same hull construction for a 12 foot, 2 person dinghy with spinnaker, and they have stood up to loads that are way in excess of what a Zephyr is subjected to. The argument that a skin of carbon fibre will assist longevity does seem to be a solution in search of a problem.

If the reasoning behind allowing carbon outer skins is its superior print through characteristics then I suggest any rule give effect to that idea, and be worded along the lines of:

- Any protective covering is allowed on the external surface of the hull, deck, the internal surface of the cockpit, including the side tanks and the centrethwart provided that:
  - Where a protective fabric is applied to the outside surface of the hull the fabric shall entirely cover the hull skin, gunwale to gunwale and stem to stern, and the entire covering shall be of the same weight of cloth. (*Comment: The intent here is to make sure that people are not deliberately setting out to alter the panel stiffness – if you want to put a structurally relevant reinforcement over the hull then you have to put it over the entire hull, and live with the weight that that entails*).
  - A protective fabric covering may only cover one side of any surface except within 25mm of the edge of a panel. (*Comment: The intent here is to proscribe the use of carbon/wood/carbon panels, but allow the taping into position of side tanks, bulkheads etc on both sides of the join*)

The big picture is that the zephyr is a wooden boat and a new zephyr should rely on its wooden structure to determine its mechanical characteristics. Surface coverings should be protective and/or cosmetic, not structural.

### **Repair and/or restoration of old hulls.**

I guess I’d allow a bit more latitude for use of carbon where its use is clearly justified in order to keep the weight down of a repair on an already on or over weight hull. Given the small number of hulls in regular use we could probably just specify in the rules that any repair to an existing boat that entails (say) more than 0.25 sq M (installed) of carbon reinforcement requires the prior approval of the ZOA – perhaps a new paragraph to this effect.

*(Continued from page 1)*

of the timber core. However, panel stiffness is only one aspect. The global stiffness of a Zephyr is a “total package” of the hull and deck in combination with cockpit fore and aft bulkheads and side bulkheads. A Zephyr with the decent side bulkheads and the forward and aft bulkheads as close to each other as the rules allow will be the stiffest. As an outside layer, carbon fibre is probably superior to glass cloth of the same weight in that it offers better support across the timber planking, so it won’t move or crack as much. Print through of the underlying fibre and timber pattern is less and carbon fibre offers improved “ding resistance”.

Steve Pyatt’s concern about the free use of carbon fibre in Zephyrs is that owners could selectively strengthen the load bearing areas of the boats, thereby creating a “space frame” that improves the transmission of power between the hiking sailor, rig and dagger board. I must admit I find it hard to assess the potential impact of such a strategy on the performance of the boat. If you accept that the main load of the rig is borne by the side stays, then the component vectors of the loads are

vertically down into the hull, and horizontally across the fore-deck. The hull at this point is a pretty strong T beam - a trilaminate, capped by a gunwale and beading. The most vulnerable point is probably the fastening for the chain plates into the hull. Horizontal loads are managed by the two deck beams and the athwartships bulkhead, reinforced by the kingplank and the deck ply. No Zephyr has showed signs of fatigue in this area, suggesting it is plenty strong enough. It could be further reinforced by a carbon fibre coating, but a 6mm deck might be a more effective measure!

The two principal areas of fatigue in the boats are the cockpit “tramp” area and the area where the skippers sits on the side deck. Using carbon fibre to reinforce these areas would aid longevity and reduce the need to replace sections of the deck.

### **The Mistral Class**

The Mistral class is currently considering the role of carbon fibre, currently not allowed the Class Rules, and I have included Des Davis’ view below. His concern is the different modulus of elasticity of timber vs. carbon/epoxy matrix. The

*(Continued on page 5)*

### **RULE CHANGE PROPOSALS**

The following rule changes are proposed to clarify a range of class rules. The proposal would be to issue voting papers in the lead up to the Annual General Meeting and to conclude the voting at the AGM. If the wording could be improved, feel free to offer suggestions.

**That rule 3.3.2 be amended to;**

**3.2.2** Aluminium booms shall be Baverstock BS5 or Standard McKechnie die 57.15 or *NZ Rigging Die F6 57.50mm* round section with track attached, and built to the following specifications:

*Comment: When we changed the rule for the masts to include the NZ Rigging Die, I neglected to include the boom.*

**That 3.5.1 be amended to;**

**3.5.1.** That portion of the blade below an extension of the keelson marked on the leading edge of the rudder shall fit within a rectangle 900 x 292mm.

*Comment; This clarifies the current rule and is line with the original measuring recommendations.*

**That 4.3.2 be amended to;**

**4.3.2** Shells shall be constructed using either triple skin diagonal cold moulding or single skin strip plank, glassed both sides.

- Triple skin diagonal cold moulding; the shell shall be constructed of three skins of **at least 2.2mm** thick approved timber.

*Comment: The initial veneer was one tenth, or 2.5mm. It got rounded down to 2mm in the conversion to metric. Our current veneer thickness of 2.2mm is thus not according to class rules. This change establishes the minimum as 2.2mm and retains the option of an increase should it be indicated at a later stage.*

**That Rule 4.3.3 (Section 4.4 Framing Timbers) be amended to;**

**4.4.3** Hulls shall be supplied by the builder with these framing timbers, side and athwartship bulkheads glued in place permanently.

*Comment: It has been standard practice to supply hulls with side and athwartship bulkheads in place, but the rules do not require this. This aligns the rules with our current practice.*

**That Rules 4.5.3 and 4.5.4 be added to 4.5 Finish and Supply**

**4.5.3** Owners may only replace the decks, coamings, mast hole collar, transom, bulkheads, sidetanks or centrecase components with materials specified for the relevant use in these rules after one year of being issued with a first measurement certificate, except that manufacturing flaws may be made good in consultation with the Class Measurer and Executive. Following any such replacement, the boat must be inspected and approved by a class measurer .

**4.5.4** Other parts of the hull may be replaced only in the case of breakage or deterioration.. All materials used must comply with these class rules.

*Comment: At the moment, the rules do not allow owners to really do much to their boats at all. This outlines the circumstances under which owners can refurbish their boats.*

*(Continued from page 4)*

elasticity of the carbon/epoxy matrix is so low compared to the timber that there is a risk that the two could sheer apart at some stage. On this score, his view is that fibreglass is the best option. Ultimately for the Mistral hulls there is no benefit to using carbon over fibreglass as they must meet the minimum weight irrespective of what is used. Paper Tigers provide an illustrative example. Fully carbon hulls still have to meet the class restrictions and have proved no faster than plywood or fibreglass boats and indeed, the Paper Tiger National Champ for the last 3 years has been a home made ply boat. Generally carbon is most useful under tension; it is awful in compression hence the reason why the Volvo 70's have failures in high cycle flex areas and rod rigging. Carbon fibre in other areas of the boat probably also has a limited impact, as ultimately the boats have to meet minimum weight. Its use as a main-sheet thwart for example, won't add anything to the stiffness of the hull and won't necessarily be any lighter than a timber one, it's just a cost and aesthetics thing. A further aspect is the desire of owners to progress the boats so they look cool and fast to entice new owners/sailors.

**Ron Bull Boats  
ZEPHYR FOILS**

Winter's coming! Now is a good time to start thinking about maintenance of your boat and equipment. We can help!

For further information contact

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Email: ronbullboats@clear.net.nz

**ZEPHYR OWNERS' ASSN  
ANNUAL GENERAL MEETING  
Mt Pleasant Yacht Club, Christchurch  
1930hrs, Friday, July 20th, 2012  
Agenda**

- 1. Apologies**
- 2. Minutes of the previous meeting**
- 3. Matters arising from the previous meeting**
- 4. President's Report**
- 5. Treasurer's Report**
- 6. Secretary's Report**
- 7. Budget and Subscriptions**
- 8. Election of Officers**
  - Patron:
  - President:
  - Secretary:
  - Treasurer:
  - Auditor:
  - Regional Representatives. AZO, HAZO, CZOA.
- 9. General**
  - Rule Changes
  - Building Report
  - Mast/Sail Report
  - National Contest 2012-13
  - Other

**Details on the AGM to follow in later  
West Winds**